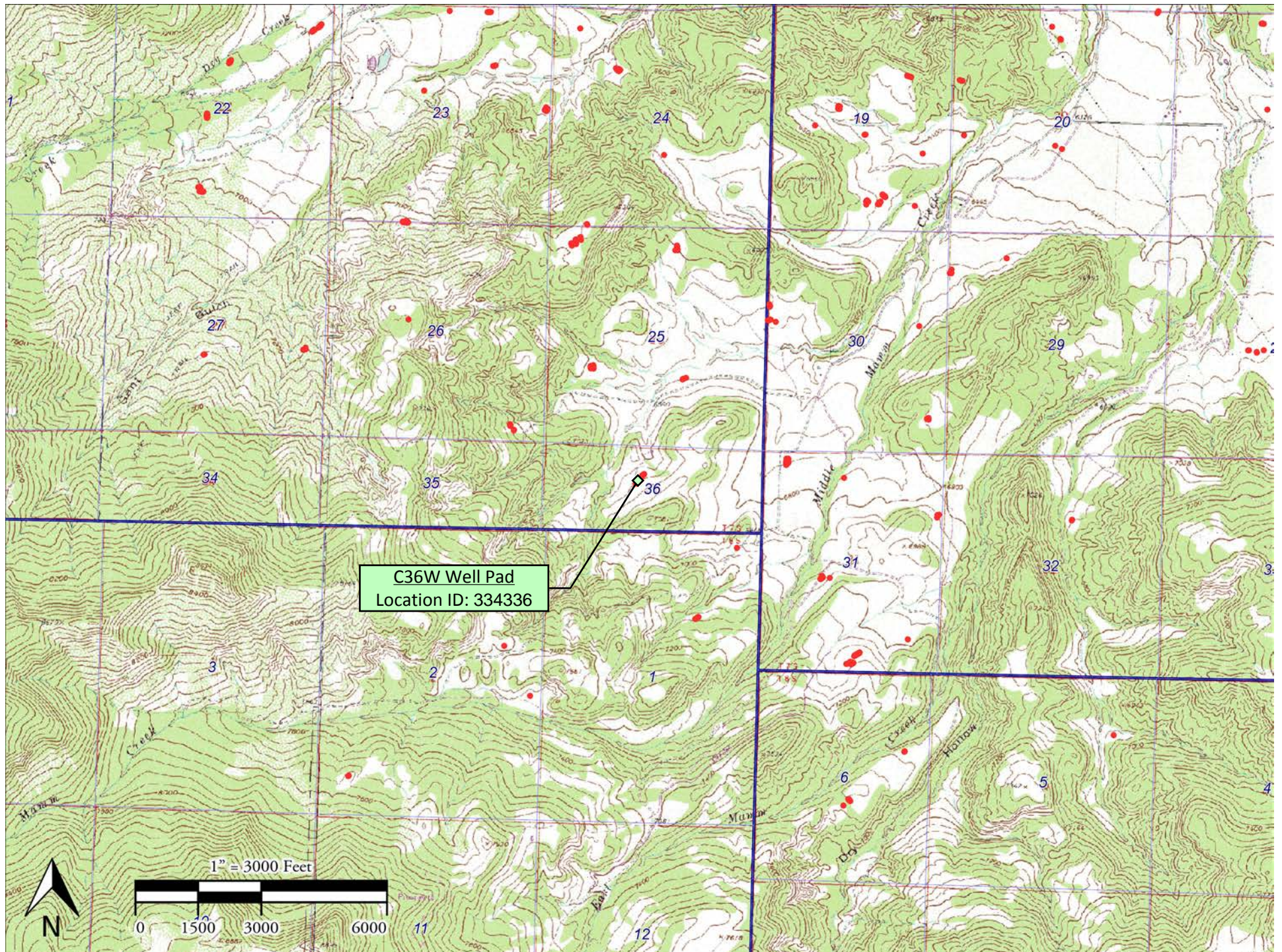


C36W Well Pad Location Map



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	500			0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000		(<12)	(6-9)	0.39	15000	70	120000	23	3100	400	23	1600	390	390	23000
				TPH (total volatile and extractable petroleum hydrocarbons)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Benzo(A)pyrene	Chrysene	Dibenzo(A,H)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3,C,D)pyrene	Naphthalene	Pyrene	EC (<4 mmhos/cm or 2x background)	SAR (calculation)	pH	Arsenic	Barium - EPA Total Barium	Cadmium	Chromium (III)	Chromium (VI)	Copper	Lead (inorganic)	Mercury	Nickel (soluble salts)	Selenium	Silver	Zinc
C36W	05/13/09	Cuttings		340			0.62	1.1	0.091	0.63	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.1	BDL	0.12	BDL	0.0065	39	12	2.8		2.1	22	BDL	16	16	BDL	13	3.5	BDL	54
C36W	11/04/09	Cuttings		120.9	15.9	105	0.0021	0.0032	ND	ND	ND	0.0035	0.0086	0.0126	0.01	ND	0.0117	ND	0.0091	ND	ND	0.086	0.0285	1.24	15.4	11.2	6		0.84	16.7	1.4	19.2	12.6	0.044	14	0.62	0.21	53.4



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Est. 1970

Brad Kieding
Encana
2717 Co. Rd. 215
Parachute, CO 81635

Report Summary

Wednesday May 27, 2009

Report Number: L402773

Samples Received: 05/15/09

Client Project: 8270.382 08113132

Description: Site Clearance Report

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:

John D. Blackman, 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

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

1 Samples Reported: 05/27/09 12:25 Printed: 05/27/09 12:25

Page 1 of 5



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REPORT OF ANALYSIS

Brad Kieding
Encana
2717 Co. Rd. 215
Parachute, CO 81635

May 27, 2009

Date Received : May 15, 2009
Description : AFE 08113132 Site Clearance Report
Sample ID : C36NW CUTTINGS
Collected By : BWK
Collection Date : 05/13/09 10:50

ESC Sample # : L402773-01

Site ID :

Project # : 8270.382 08113132

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	05/22/09	1
Chromium, Trivalent	22.	0.50	mg/kg	Calc.	05/21/09	1
ORP	63.		mV	2580	05/19/09	1
pH	12.		su	9045D	05/20/09	1
Sodium Adsorption Ratio	39.			Calc.	05/19/09	1
Specific Conductance	6.5		umhos/cm	9050AMod	05/18/09	1
Mercury	BDL	0.020	mg/kg	7471	05/16/09	1
Arsenic	2.8	1.0	mg/kg	6010B	05/21/09	1
Barium	5900	0.25	mg/kg	6010B	05/21/09	1
Boron	22.	10.	mg/kg	6010B	05/26/09	1
Cadmium	2.1	0.25	mg/kg	6010B	05/21/09	1
Chromium	22.	0.50	mg/kg	6010B	05/21/09	1
Copper	16.	1.0	mg/kg	6010B	05/21/09	1
Lead	16.	0.25	mg/kg	6010B	05/21/09	1
Nickel	13.	1.0	mg/kg	6010B	05/21/09	1
Selenium	3.5	1.0	mg/kg	6010B	05/21/09	1
Silver	BDL	2.5	mg/kg	6010B	05/22/09	5
Zinc	54.	1.5	mg/kg	6010B	05/21/09	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	05/18/09	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	92.3		% Rec.	602/8015	05/18/09	5
Benzene	0.62	0.050	mg/kg	8260B	05/18/09	50
Toluene	1.1	0.25	mg/kg	8260B	05/18/09	50
Ethylbenzene	0.091	0.050	mg/kg	8260B	05/18/09	50
Total Xylenes	0.63	0.15	mg/kg	8260B	05/18/09	50
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	05/18/09	50
Dibromofluoromethane	95.7		% Rec.	8260B	05/18/09	50
a,a,a-Trifluorotoluene	97.9		% Rec.	8260B	05/18/09	50
4-Bromofluorobenzene	97.3		% Rec.	8260B	05/18/09	50
TPH (GC/FID) High Fraction	340	4.0	mg/kg	3546/DRO	05/20/09	1
Surrogate recovery(%) o-Terphenyl	66.4		% Rec.	3546/DRO	05/20/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L402773-01 (PAH BY GCMS) - Dilution due to matrix
L402773-01 (PH) - 12.10@21.3c



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REPORT OF ANALYSIS

Brad Kieding
Encana
2717 Co. Rd. 215
Parachute, CO 81635

May 27, 2009

Date Received : May 15, 2009
Description : AFE 08113132 Site Clearance Report
Sample ID : C36NW CUTTINGS
Collected By : BWK
Collection Date : 05/13/09 10:50

ESC Sample # : L402773-01

Site ID :

Project # : 8270.382 08113132

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.033	mg/kg	8270C	05/20/09	1
Acenaphthene	BDL	0.033	mg/kg	8270C	05/20/09	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	05/20/09	1
Benzo(a)anthracene	BDL	0.16	mg/kg	8270C	05/22/09	5
Benzo(a)pyrene	BDL	0.033	mg/kg	8270C	05/20/09	1
Benzo(b)fluoranthene	BDL	0.033	mg/kg	8270C	05/20/09	1
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	05/20/09	1
Benzo(k)fluoranthene	BDL	0.033	mg/kg	8270C	05/20/09	1
Chrysene	BDL	0.16	mg/kg	8270C	05/22/09	5
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	05/20/09	1
Fluoranthene	BDL	0.033	mg/kg	8270C	05/20/09	1
Fluorene	0.10	0.033	mg/kg	8270C	05/20/09	1
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	05/20/09	1
Naphthalene	0.12	0.033	mg/kg	8270C	05/20/09	1
Phenanthrene	0.14	0.033	mg/kg	8270C	05/20/09	1
Pyrene	BDL	0.16	mg/kg	8270C	05/22/09	5
Surrogate Recovery						
Nitrobenzene-d5	51.1		% Rec.	8270C	05/20/09	1
2-Fluorobiphenyl	66.4		% Rec.	8270C	05/20/09	1
p-Terphenyl-d14	83.6		% Rec.	8270C	05/22/09	5

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: 05/27/09 12:25 Printed: 05/27/09 12:25
L402773-01 (PAH BY GCMS) - Dilution due to matrix
L402773-01 (PH) - 12.10@21.3c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L402773-01	WG422162	SAMP	Silver	R752406	0

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
05/27/09 at 12:25:53

TSR Signing Reports: 151
R5 - Desired TAT

AFE - 4021929; JDE - 8715.692. Put AFE or JDE after sample ids. 10/4/07 JB.

Sample: L402773-01 Account: ENCRCO Received: 05/15/09 09:00 Due Date: 05/22/09 00:00 RPT Date: 05/27/09 12:25
Refer to L402771, L402772 - Added ASICP and DRO per JB. 5/18 JCR



11/19/09

Technical Report for

ENCANA

EnCana Oil & Gas (USA) Inc.

Encana C36W Cuttings

Accutest Job Number: T41586

Sampling Date: 11/04/09

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: 64



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: T41586

EnCana Oil & Gas (USA) Inc.
Project No: Encana C36W Cuttings

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
T41586-1	11/04/09	13:30	KR	11/04/09	SO	Soil	ENCANA_C36W_CUTTINGS_110409
T41586-1A	11/04/09	13:30	KR	11/04/09	SO	Soil	ENCANA_C36W_CUTTINGS_110409
T41586-1B	11/04/09	13:30	KR	11/04/09	SO	Soil	ENCANA_C36W_CUTTINGS_110409
T41586-1C	11/04/09	13:30	KR	11/04/09	SO	Soil	ENCANA_C36W_CUTTINGS_110409

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

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: ENCANA

Job No T41586

Site: EnCana Oil & Gas (USA) Inc.

Report Date 11/19/2009 2:03:08 PM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 11/04/2009 and were received at Accutest on 11/04/2009 properly preserved, at 4.6 Deg. C and intact. These Samples received an Accutest job number of T41586. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

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

Volatiles by GCMS By Method SW846 8260B

Matrix SO	Batch ID: VM889
------------------	------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) T41479-14MS, T41479-14MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T41586-1 have surrogates outside control limits. Outside control limits. There are no target compounds associated with this surrogate.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO	Batch ID: OP13440
------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) T40701-6RMS, T40701-6RMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Naphthalene are outside control limits. Probable cause due to matrix interference.
- T41586-1: Internal standards are not within the advisory limits due to a matrix interference. Confirmed by reanalysis.

Volatiles by GC By Method SW846 8015

Matrix SO	Batch ID: GEE2499
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) T41710-1MS, T41710-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846 8015 M

Matrix SO	Batch ID: OP13458
------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T41656-1MSD, T41656-1MS, T41656-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for TPH (C10-C28) are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Sample(s) OP13458-MS, OP13458-MSD, T41586-1 have surrogates outside control limits. Outside control limits due to dilution.

Metals By Method SW846 6010B

Matrix AQ

Batch ID: MP10654

- 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) T39947-4CDUP were used as the QC samples for metals.

Matrix AQ

Batch ID: MP10656

- 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) T39947-4ADUP, T39947-4AMS, T39947-4AMSD, T39947-4ASDL were used as the QC samples for metals.

Matrix SO

Batch ID: MP10612

- 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) T41666-1DUP, T41666-1MS, T41666-1MSD, T41666-1SDL, T41666-1DUP were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Chromium, Nickel, Zinc are outside control limits. Probable cause due to matrix interference.
- RPD(s) for Duplicate for Arsenic, Cadmium, Silver are outside control limits for sample MP10612-D1. High RPD due to possible sample nonhomogeneity.
- RPD(s) for Serial Dilution for Selenium, Silver, Arsenic, Chromium, Copper, Lead, Nickel, Zinc are outside control limits for sample MP10612-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix SO

Batch ID: MP10655

- 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) T41706-1BDUP, T41706-1BMSD, T41706-1BSDL were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Barium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Barium are outside control limits for sample MP10655-SD1. Probable cause due to sample homogeneity.

Metals By Method SW846 7471A

Matrix SO

Batch ID: MP10625

- 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) T41586-1MS, T41586-1MSD, T41586-1DUP were used as the QC samples for metals.
- RPD(s) for Duplicate for Mercury are outside control limits for sample MP10625-D1. High RPD due to possible matrix interference.

Wet Chemistry By Method EPA 120.1

Matrix AQ

Batch ID: GN18661

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T41438-1DUP were used as the QC samples for Specific Conductivity.

Wet Chemistry By Method LADNR29B

Matrix SO

Batch ID: MP10654

- T41586-1C for Sodium Adsorption Ratio: Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

Wet Chemistry By Method SM 2540 G

Matrix SO

Batch ID: GN18721

- Sample(s) T41696-1DUP were used as the QC samples for Solids, Percent.

Wet Chemistry By Method SW846 3060/7196A

Matrix SO

Batch ID: GN18647

- All method blanks for this batch meet method specific criteria.
- Sample(s) T41438-1DUP, T41438-1MS were used as the QC samples for Chromium, Hexavalent.

Wet Chemistry By Method SW846 6010/7196A M

Matrix SO

Batch ID: R19649

- T41586-1 for Chromium, Trivalent: Calculated as: $(\text{Chromium}) - (\text{Chromium, Hexavalent})$

Wet Chemistry By Method SW846 9045C

Matrix SO

Batch ID: GN18662

- Sample(s) T41789-14DUP 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:	ENCANA_C36W_CUTTINGS_110409			Date Sampled:	11/04/09
Lab Sample ID:	T41586-1			Date Received:	11/04/09
Matrix:	SO - Soil			Percent Solids:	81.5
Method:	SW846 8260B				
Project:	EnCana Oil & Gas (USA) Inc.				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0022062.D	1	11/10/09	AH	n/a	n/a	VM889
Run #2							

	Initial Weight	Final Volume
Run #1	5.24 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.1	5.9	0.82	ug/kg	J
108-88-3	Toluene	3.2	5.9	1.1	ug/kg	J
100-41-4	Ethylbenzene	ND	5.9	1.1	ug/kg	
1330-20-7	Xylene (total)	ND	18	2.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	67% ^a		70-121%
2037-26-5	Toluene-D8	120%		76-132%
460-00-4	4-Bromofluorobenzene	118%		73-165%
17060-07-0	1,2-Dichloroethane-D4	89%		57-122%

(a) Outside control limits. There are no target compounds associated with this surrogate.

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:	ENCANA_C36W_CUTTINGS_110409		
Lab Sample ID:	T41586-1	Date Sampled:	11/04/09
Matrix:	SO - Soil	Date Received:	11/04/09
Method:	SW846 8270C BY SIM SW846 3550B	Percent Solids:	81.5
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	H35985.D	1	11/11/09	SC	11/10/09	OP13440	EH1935
Run #2 ^a	H35987.D	10	11/11/09	SC	11/10/09	OP13440	EH1935

	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	ND	8.0	1.4	ug/kg	
208-96-8	Acenaphthylene	ND	8.0	2.8	ug/kg	
120-12-7	Anthracene	3.5	8.0	1.5	ug/kg	J
56-55-3	Benzo(a)anthracene	8.6	8.0	1.3	ug/kg	
50-32-8	Benzo(a)pyrene	ND	8.0	4.3	ug/kg	
205-99-2	Benzo(b)fluoranthene	12.6	8.0	4.3	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	8.0	8.0	ug/kg	
207-08-9	Benzo(k)fluoranthene	6.9	8.0	5.2	ug/kg	J
218-01-9	Chrysene	11.7	8.0	2.0	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	8.0	7.8	ug/kg	
206-44-0	Fluoranthene	9.1	8.0	1.8	ug/kg	
86-73-7	Fluorene	ND	8.0	2.8	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	8.0	6.0	ug/kg	
90-12-0	1-Methylnaphthalene	38.2	8.0	1.5	ug/kg	
91-57-6	2-Methylnaphthalene	59.4	8.0	1.4	ug/kg	
91-20-3	Naphthalene	86.4	8.0	1.2	ug/kg	
85-01-8	Phenanthrene	49.1	8.0	1.1	ug/kg	
129-00-0	Pyrene	28.5	8.0	2.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%	59%	10-127%
321-60-8	2-Fluorobiphenyl	44%	87%	11-133%
1718-51-0	Terphenyl-d14	156%	76%	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:	ENCANA_C36W_CUTTINGS_110409				
Lab Sample ID:	T41586-1	Date Sampled:	11/04/09		
Matrix:	SO - Soil	Date Received:	11/04/09		
Method:	SW846 8015	Percent Solids:	81.5		
Project:	EnCana Oil & Gas (USA) Inc.				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE049397.D	1	11/13/09	FI	n/a	n/a	GEE2499
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.01 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	15.9	7.3	0.44	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	118%		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:	ENCANA_C36W_CUTTINGS_110409					Date Sampled:	11/04/09
Lab Sample ID:	T41586-1					Date Received:	11/04/09
Matrix:	SO - Soil					Percent Solids:	81.5
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	CC216446.D	10	11/12/09	SS	11/11/09	OP13458	GCC1004
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	105	100	33	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
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: ENCANA_C36W_CUTTINGS_110409**Lab Sample ID:** T41586-1**Date Sampled:** 11/04/09**Matrix:** SO - Soil**Date Received:** 11/04/09**Percent Solids:** 81.5**Project:** EnCana Oil & Gas (USA) Inc.

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.0	0.64	0.13	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Cadmium	0.84	0.32	0.064	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Chromium	18.1	0.64	0.045	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Copper	19.2	1.6	0.084	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Lead	12.6	0.64	0.26	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Mercury	0.044	0.020	0.00080	mg/kg	1	11/11/09	11/11/09 TW	SW846 7471A ¹	SW846 7471A ⁴
Nickel	14.0	2.6	0.084	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Selenium	0.62 B	0.64	0.15	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Silver	0.21 B	0.64	0.051	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³
Zinc	53.4	1.3	0.26	mg/kg	1	11/09/09	11/12/09 NS	SW846 6010B ²	SW846 3050B ³

(1) Instrument QC Batch: MA4388

(2) Instrument QC Batch: MA4389

(3) Prep QC Batch: MP10612

(4) Prep QC Batch: MP10625

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:	ENCANA_C36W_CUTTINGS_110409	Date Sampled:	11/04/09
Lab Sample ID:	T41586-1	Date Received:	11/04/09
Matrix:	SO - Soil	Percent Solids:	81.5
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.4 B	2.0	mg/kg	1	11/10/09 12:00	KD	SW846 3060/7196A
Chromium, Trivalent ^a	16.7	2.6	mg/kg	1	11/12/09 06:29	NS	SW846 6010/7196A M
Solids, Percent	81.5		%	1	11/13/09	AA	SM 2540 G
Specific Conductivity	1240	1.0	umhos/cm	1	11/10/09 15:00	KD	EPA 120.1
pH	11.2		su	1	11/10/09 13:00	EV	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

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3

Client Sample ID:	ENCANA_C36W_CUTTINGS_110409					Date Sampled:	11/04/09			
Lab Sample ID:	T41586-1A					Date Received:	11/04/09			
Matrix:	SO - Soil					Percent Solids:	81.5			
Project:	EnCana Oil & Gas (USA) Inc.									

Hot Water Soluble Boron Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Boron	0.897	0.20	0.0041	mg/l	1	11/15/09	11/16/09 NS	SW846 6010B ¹	LADNR 29B ²

(1) Instrument QC Batch: MA4397
(2) Prep QC Batch: MP10656

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:	ENCANA_C36W_CUTTINGS_110409			Date Sampled:	11/04/09
Lab Sample ID:	T41586-1B			Date Received:	11/04/09
Matrix:	SO - Soil			Percent Solids:	81.5
Project:	EnCana Oil & Gas (USA) Inc.				

Total True Barium Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Barium	10400	120	0.36	mg/kg	10	11/15/09	11/18/09 NS	SW846 6010B ¹	LADNR 29B ²

(1) Instrument QC Batch: MA4401
(2) Prep QC Batch: MP10655

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:	ENCANA_C36W_CUTTINGS_110409					Date Sampled:	11/04/09			
Lab Sample ID:	T41586-1C					Date Received:	11/04/09			
Matrix:	SO - Soil					Percent Solids:	81.5			
Project:	EnCana Oil & Gas (USA) Inc.									

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	508	25	0.18	mg/l	5	11/15/09	11/16/09	NS	SW846 6010B ¹	LADNR 29B ²
Magnesium	0.479 B	25	0.039	mg/l	5	11/15/09	11/16/09	NS	SW846 6010B ¹	LADNR 29B ²
Sodium	1260	50	1.3	mg/l	10	11/15/09	11/16/09	NS	SW846 6010B ¹	LADNR 29B ²

(1) Instrument QC Batch: MA4397
(2) Prep QC Batch: MP10654

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:	ENCANA_C36W_CUTTINGS_110409	Date Sampled:	11/04/09
Lab Sample ID:	T41586-1C	Date Received:	11/04/09
Matrix:	SO - Soil	Percent Solids:	81.5
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	15.4		ratio	1	11/16/09 13:48	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.accutest.com

Client / Reporting Information Company Name: <u>EnCana Oil & Gas</u> Street Address: <u>2717 County Road 215</u> City: <u>Parachute CO</u> State: <u>CO</u> Zip: <u>81635</u> Project Contact: <u>Chris Hines</u> E-mail: _____ Phone #: <u>970 285 2739</u> Fax #: _____ Sample(s) Name(s): <u>Kris Rowe</u> Phone #: _____		Project Information Project Name: <u>EnCana C36W Cuttings</u> Street: _____ Billing Information (If different from Report to): Company Name: _____ Project #: _____ Street Address: _____ Client Purchase Order #: _____ City: _____ State: _____ Zip: _____ Project Manager: _____ Attention: _____		Requested Analyses Matrix Codes: <div style="font-size: small;"> DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank </div>	
Accutest Sample # Field ID / Point of Collection: <u>EnCana-C36W-Cuttings-110409</u>		Collection Date: <u>11/4/09</u> Time: <u>1330</u> Sampled By: <u>KR</u> Matrix: <u>SO</u> # of bottles: <u>2</u>		Number of preserved bottles HCl _____ HNO3 _____ H2SO4 _____ DI Water _____ MCHN _____ TSP _____ NH4SO4 _____ OTHER _____	
Turnaround Time (Business days): _____		Data Deliverable Information: _____		Comments / Special Instructions: _____	
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 4 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day EMERGENCY <small>Emergency & Rush T/A data available VIA Leblink</small>		Approved By (Accutest PM): / Date: _____ _____ _____ _____		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> TRRP <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> EDD Format <input type="checkbox"/> FULT1 (Level 3+4) <input type="checkbox"/> Other _____ <input type="checkbox"/> REDT1 (Level 3+4) <input type="checkbox"/> Commercial "C" <small>Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial "C" = Results + QC & Surrogate Summary</small>	
Sample Custody must be documented below each time samples change possession, including courier delivery.					
Relinquished by Sampler: <u>1</u> <u>[Signature]</u> Date Time: <u>11/4/09 1700</u>		Received By: <u>1</u> <u>[Signature]</u> Date Time: <u>11/5/09</u>		Relinquished By: <u>2</u> <u>[Signature]</u> Date Time: <u>11/5/09</u>	
Relinquished by Sampler: <u>3</u> _____ Date Time: _____		Received By: <u>3</u> _____ Date Time: _____		Relinquished By: <u>4</u> _____ Date Time: _____	
Relinquished by: <u>5</u> _____ Date Time: _____		Received By: <u>5</u> _____ Date Time: _____		Custody Seal # _____ <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact Preserved where applicable: <input type="checkbox"/> On Ice: <u>21</u> Cooler Temp.: <u>4.6</u>	

T41586: Chain of Custody
Page 1 of 4

Table 1:

Contaminants of Concern: Allowable Concentrations and Sampling Methods (COGCC Table 910-1)

CONTAMINANT OF CONCERN	CONCENTRATIONS ¹		ANALYTICAL METHOD (SW846)
	Organic Compounds in Soil		
TPH (Total Volatile and extractable petroleum hydrocarbons)	500 mg/kg	8015	
Benzene	0.17 mg/kg ²	8260B	
Toluene	85 mg/kg ²	8260B	
Ethylbenzene	100 mg/kg ²	8260B	
Xylenes (Total)	175 mg/kg ²	8260B	
Acenaphthene	1,000 mg/kg ²	8270C	
Anthracene	1,000 mg/kg ²	8270C	
Benzo(A)anthracene	0.22 mg/kg ²	8270C	
Benzo(B)fluoranthene	0.22 mg/kg ²	8270C	
Benzo(K)fluoranthene	0.22 mg/kg ²	8270C	
Benzo(A)pyrene	0.022 mg/kg ²	8270C	
Chrysene	22 mg/kg ²	8270C	
Dibenz(A,H)anthracene	0.022 mg/kg ²	8270C	
Fluoranthene	1,000 mg/kg ²	8270C	
Fluorene	1,000 mg/kg ²	8270C	
Indeno(1,2,3-CD)pyrene	0.22 mg/kg ²	8270C	
Naphthalene	23 mg/kg ²	8270C	
Pyrene	1,000 mg/kg ²	8270C	
Inorganics in Soils			
Electrical Conductivity (EC)	<4 mmho/cm or 2X background	9050	
Sodium Adsorption Ratio (SAR)	<12 ³	LADNR28B	
pH	6-9	9045C	
Metals in Soils			
Arsenic	0.35 mg/kg ²	6010B	
Barium (LDNR True Total Barium)	15,000 mg/kg ²	6010B	
Boron (Hot Water Soluble)	2 mg/l ²	6010B	
Cadmium	70 mg/kg ²⁵	6010B	
Chromium (III)	120,000 mg/kg ²	6010B	
Chromium (VI)	23 mg/kg ²⁵	6010B	
Copper	3,100 mg/kg ²	6010B	
Lead (Inorganic)	400 mg/kg ²	6010B	
Mercury	23 mg/kg ²	6010B	
Nickel (leachable salts)	1,600 mg/kg ²⁵	6010B	
Selenium	350 mg/kg ²	6010B	
Silver	350 mg/kg ²	6010B	
Zinc	23,000 mg/kg ²⁶	6010B	
Liquid Hydrocarbons in Soils and Ground Water			
Liquid hydrocarbons including condensate and oil	Below detection level	Visual	
NOTE: ¹ ORCOC recommends that the listed version of EPA SW-846 methods be used.			

COGCC recommends that the latest version of EPA SW-846 analytical methods be used where possible and that analyses of samples be performed by laboratories that maintain state or national accreditation programs.
^a COGCC allowable concentrations based on Table 910-1. Consideration shall be given to background levels in native soils.

SAMPLE INSPECTION FORM

Accutest Job Number: T41586 Client: EnCana Oil & Gas Date/Time Received: 11/5/09 0900
 # of Coolers Received: 1 Thermometer #: 12-1 Temperature Adjustment Factor: +0.4
 Cooler Temps: #1: 4.6 #2: #3: #4: #5: #6: #7: #8:
 Method of Delivery: (FEDEX) UPS Accutest Courier Greyhound Delivery Other
 Airbill Numbers:

COOLER INFORMATION

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

CHAIN OF CUSTODY

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

SAMPLE INFORMATION

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

TRIP BLANK INFORMATION

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

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

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: [Signature] 11/5/09 0900

INFORMATION AND SAMPLE LABELING VERIFIED BY: GC11-59

CORRECTIVE ACTIONS

Client Representative Notified:

Date:

By Accutest Representative:

Via:

Phone

Email

Client Instructions:

i:\mwalker\form\samplmanagemnt

T41586: Chain of Custody

Page 3 of 4

JOB #: T41586 DATE/TIME RECEIVED: 11/5/09 0900
CLIENT: En Cng Oil & Gas INITIALS: FF

[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 ewp

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GC/MS 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: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM889-MB	M0022045.D 1		11/10/09	AH	n/a	n/a	VM889

The QC reported here applies to the following samples:

Method: SW846 8260B

T41586-1

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	101% 70-121%
2037-26-5	Toluene-D8	115% 76-132%
460-00-4	4-Bromofluorobenzene	112% 73-165%
17060-07-0	1,2-Dichloroethane-D4	92% 57-122%

Blank Spike Summary

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM889-BS	M0022043.D 1		11/10/09	AH	n/a	n/a	VM889

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

T41586-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.8	96	70-114
100-41-4	Ethylbenzene	50	50.7	101	60-119
108-88-3	Toluene	50	51.8	104	68-115
1330-20-7	Xylene (total)	150	153	102	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	70-121%
2037-26-5	Toluene-D8	116%	76-132%
460-00-4	4-Bromofluorobenzene	111%	73-165%
17060-07-0	1,2-Dichloroethane-D4	93%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T41479-14MS	M0022049.D	1	11/10/09	AH	n/a	n/a	VM889
T41479-14MSD	M0022050.D	1	11/10/09	AH	n/a	n/a	VM889
T41479-14	M0022048.D	1	11/10/09	AH	n/a	n/a	VM889

The QC reported here applies to the following samples:

Method: SW846 8260B

T41586-1

CAS No.	Compound	T41479-14 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	5.3	U	47.8	40.2	84	40.6	83	1	70-114/38
100-41-4	Ethylbenzene	5.3	U	47.8	40.9	86	40.6	83	1	60-119/40
108-88-3	Toluene	5.3	U	47.8	41.2	86	41.5	85	1	68-115/38
1330-20-7	Xylene (total)	16	U	143	124	86	124	85	0	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T41479-14	Limits
1868-53-7	Dibromofluoromethane	98%	98%	102%	70-121%
2037-26-5	Toluene-D8	113%	113%	115%	76-132%
460-00-4	4-Bromofluorobenzene	107%	110%	110%	73-165%
17060-07-0	1,2-Dichloroethane-D4	88%	91%	94%	57-122%



GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13440-MB	H35949.D	1	11/10/09	SC	11/10/09	OP13440	EH1934

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T41586-1

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
118-79-6	2,4,6-Tribromophenol	72% 18-129%
4165-60-0	Nitrobenzene-d5	71% 10-127%
321-60-8	2-Fluorobiphenyl	72% 11-133%
1718-51-0	Terphenyl-d14	88% 15-187%

Blank Spike Summary

Page 1 of 1

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13440-BS	H35950.D	1	11/10/09	SC	11/10/09	OP13440	EH1934

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T41586-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	167	119	71	18-118
208-96-8	Acenaphthylene	167	102	61	35-125
120-12-7	Anthracene	167	130	78	24-116
56-55-3	Benzo(a)anthracene	167	152	91	32-132
50-32-8	Benzo(a)pyrene	167	117	70	36-130
205-99-2	Benzo(b)fluoranthene	167	107	64	35-134
191-24-2	Benzo(g,h,i)perylene	167	110	66	18-149
207-08-9	Benzo(k)fluoranthene	167	154	92	30-131
218-01-9	Chrysene	167	111	67	37-124
53-70-3	Dibenzo(a,h)anthracene	167	114	68	23-150
206-44-0	Fluoranthene	167	140	84	28-118
86-73-7	Fluorene	167	93.7	56	32-106
193-39-5	Indeno(1,2,3-cd)pyrene	167	116	70	18-150
90-12-0	1-Methylnaphthalene	167	90.7	54	10-128
91-57-6	2-Methylnaphthalene	167	87.0	52	28-113
91-20-3	Naphthalene	167	122	73	31-106
85-01-8	Phenanthrene	167	118	71	37-112
129-00-0	Pyrene	167	116	70	24-132

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	62%	10-127%
321-60-8	2-Fluorobiphenyl	45%	11-133%
1718-51-0	Terphenyl-d14	75%	15-187%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13440-MS	H35958.D	1	11/10/09	SC	11/10/09	OP13440	EH1934
OP13440-MSD	H35959.D	1	11/10/09	SC	11/10/09	OP13440	EH1934
T40701-6R	H35956.D	1	11/10/09	SC	11/10/09	OP13440	EH1934

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T41586-1

CAS No.	Compound	T40701-6R ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		199	138	69	128	64	8	10-153/80
208-96-8	Acenaphthylene	ND		199	149	75	134	68	11	10-144/71
120-12-7	Anthracene	ND		199	140	70	138	70	1	10-176/57
56-55-3	Benzo(a)anthracene	ND		199	167	84	151	76	10	10-174/73
50-32-8	Benzo(a)pyrene	ND		199	134	67	124	62	8	10-182/74
205-99-2	Benzo(b)fluoranthene	ND		199	149	75	119	60	22	10-188/86
191-24-2	Benzo(g,h,i)perylene	ND		199	199	100	168	85	17	10-150/62
207-08-9	Benzo(k)fluoranthene	ND		199	139	70	154	78	10	10-170/94
218-01-9	Chrysene	ND		199	136	68	131	66	4	10-165/73
53-70-3	Dibenzo(a,h)anthracene	ND		199	198	100	165	83	18	10-192/74
206-44-0	Fluoranthene	2.3	J	199	162	80	151	75	7	10-141/73
86-73-7	Fluorene	ND		199	191	96	167	84	13	10-164/72
193-39-5	Indeno(1,2,3-cd)pyrene	ND		199	195	98	166	84	16	10-150/73
90-12-0	1-Methylnaphthalene	214		199	285	36	365	76	25	10-154/82
91-57-6	2-Methylnaphthalene	281		199	416	68	484	102	15	10-171/75
91-20-3	Naphthalene	180		199	187	4*	299	60	46	10-138/82
85-01-8	Phenanthrene	7.4	J	199	138	66	130	62	6	10-191/77
129-00-0	Pyrene	3.2	J	199	150	74	154	76	3	10-150/66

CAS No.	Surrogate Recoveries	MS	MSD	T40701-6R	Limits
4165-60-0	Nitrobenzene-d5	99%	59%	90%	10-127%
321-60-8	2-Fluorobiphenyl	52%	36%	36%	11-133%
1718-51-0	Terphenyl-d14	98%	107%	117%	15-187%



GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2499-MB	EE049386.D	1	11/13/09	FI	n/a	n/a	GEE2499

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

T41586-1

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	96%	46-127%
98-08-8	aaa-Trifluorotoluene	106%	44-120%

Blank Spike Summary

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2499-BS	EE049382.D	1	11/12/09	FI	n/a	n/a	GEE2499

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

T41586-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.355	89	78-115

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	99%	46-127%
98-08-8	aaa-Trifluorotoluene	110%	44-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T41710-1MS	EE049392.D	1	11/13/09	FI	n/a	n/a	GEE2499
T41710-1MSD	EE049393.D	1	11/13/09	FI	n/a	n/a	GEE2499
T41710-1	EE049391.D	1	11/13/09	FI	n/a	n/a	GEE2499

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

T41586-1

CAS No.	Compound	T41710-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		23.7	22.9	96	21.6	91	6	78-115/14

CAS No.	Surrogate Recoveries	MS	MSD	T41710-1	Limits
460-00-4	4-Bromofluorobenzene	104%	107%	95%	46-127%
98-08-8	aaa-Trifluorotoluene	103%	110%	106%	44-120%

7.3.1
7



GC Semi-volatiles

QC Data Summaries

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Includes the following where applicable:

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

Method Blank Summary

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13458-MB	CC216441.D 1		11/12/09	SS	11/11/09	OP13458	GCC1004

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

T41586-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.2	2.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	40% 33-115%

8.1.1
8

Blank Spike Summary

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13458-BS	CC216442.D 1		11/12/09	SS	11/11/09	OP13458	GCC1004

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

T41586-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	32.4	21.4	66	45-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	43%	33-115%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T41586
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13458-MS	CC216443.D	10	11/12/09	SS	11/11/09	OP13458	GCC1004
OP13458-MSD	CC216444.D	10	11/12/09	SS	11/11/09	OP13458	GCC1004
T41656-1	CC216445.D	10	11/12/09	SS	11/11/09	OP13458	GCC1004

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

T41586-1

CAS No.	Compound	T41656-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	381		40.1	505	309* a	485	262* a	4	45-107/34

CAS No.	Surrogate Recoveries	MS	MSD	T41656-1	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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10612
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/09/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.82	2.2		
Antimony	0.50	.11	.14		
Arsenic	0.50	.089	.1	-0.091	<0.50
Barium	10	.007	.03		
Beryllium	0.25	.0055	.01		
Boron	5.0	.054	.11		
Cadmium	0.25	.013	.05	-0.0095	<0.25
Calcium	250	.27	.86		
Chromium	0.50	.055	.035	0.0010	<0.50
Cobalt	2.5	.025	.09		
Copper	1.3	.029	.065	-0.020	<1.3
Iron	5.0	.65	1.1		
Lead	0.50	.079	.2	-0.014	<0.50
Magnesium	250	.34	.58		
Manganese	0.75	.01	.035		
Molybdenum	0.50	.048	.075		
Nickel	2.0	.048	.065	0.096	<2.0
Potassium	250	2.7	16		
Selenium	0.50	.16	.12	0.019	<0.50
Silver	0.50	.043	.04	0.0080	<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	0.0	<1.0

Associated samples MP10612: T41586-1

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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10612
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

11/09/09

11/09/09

	T41666-1			QC	T41666-1		Spikelot		QC
Metal	Original	DUP	RPD	Limits	Original	MS	MPTW4	% Rec	Limits
Aluminum									
Antimony									
Arsenic	13.9	10	32.6* (a)	0-20	13.9	34.1	24.4	82.7	80-120
Barium	anr								
Beryllium									
Boron	anr								
Cadmium	0.64	0.45	34.9 (b)	0-20	0.64	20.6	24.4	81.7	80-120
Calcium									
Chromium	11.8	11.6	1.7	0-20	11.8	30.8	24.4	77.8N	80-120
Cobalt									
Copper	10.9	10.4	4.7	0-20	10.9	35.3	24.4	99.9	80-120
Iron									
Lead	10.7	10	6.8	0-20	10.7	31.9	24.4	86.8	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel	9.3	8.2	12.6	0-20	9.3	28.1	24.4	76.9N	80-120
Potassium									
Selenium	0.44	0.37	17.3	0-20	0.44	21.7	24.4	87.0	80-120
Silver	0.22	0.16	31.6 (b)	0-20	0.22	20.4	24.4	82.6	80-120
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	36.8	31.8	14.6	0-20	36.8	53.4	24.4	67.9N	80-120

Associated samples MP10612: T41586-1

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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10612
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/09/09

Metal	T41666-1 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	13.9	29.5	4.77	326.8N	14.5	20
Barium	anr					
Beryllium						
Boron	anr					
Cadmium	0.64	19.2	4.77	388.8N	7.0	20
Calcium						
Chromium	11.8	28.0	4.77	339.4N	9.5	20
Cobalt						
Copper	10.9	30.9	4.77	419.0N	13.3	20
Iron						
Lead	10.7	29.7	4.77	398.1N	7.1	20
Magnesium						
Manganese						
Molybdenum						
Nickel	9.3	27.3	4.77	377.1N	2.9	20
Potassium						
Selenium	0.44	20.0	4.77	409.8N	8.2	20
Silver	0.22	18.8	4.77	389.3N	8.2	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	36.8	50.6	4.77	289.1(a)	5.4	20

Associated samples MP10612: T41586-1

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) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T41586
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10612
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 11/09/09

Metal	LCS Result	Spikelot MPLCD054	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	150	158	94.9	82-118
Barium	anr			
Beryllium				
Boron	anr			
Cadmium	161	187	86.1	82-118
Calcium				
Chromium	77.6	89.5	86.7	79-121
Cobalt				
Copper	128	129	99.2	84-117
Iron				
Lead	156	172	90.7	79-120
Magnesium				
Manganese				
Molybdenum				
Nickel	87.5	99	88.4	81-119
Potassium				
Selenium	138	148	93.2	78-121
Silver	60.1	66	91.1	66-134
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	338	394	85.8	80-119

Associated samples MP10612: T41586-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10612
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 11/09/09

Metal	T41666-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	217	248	14.4*(a)	0-10
Barium	anr			
Beryllium				
Boron	anr			
Cadmium	10.0	9.40	6.1	0-10
Calcium				
Chromium	184	217	18.0*(a)	0-10
Cobalt				
Copper	170	188	10.3*(a)	0-10
Iron				
Lead	167	200	19.5*(a)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	145	185	27.6*(a)	0-10
Potassium				
Selenium	6.88	0.00	100.0(b)	0-10
Silver	3.48	5.15	48.0 (b)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	574	719	25.2*(a)	0-10

Associated samples MP10612: T41586-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Serial dilution indicates possible matrix interference.

(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10625
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/11/09

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.017	.0041	.00066	-0.0011	<0.017

Associated samples MP10625: T41586-1

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: T41586
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10625
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date:

11/11/09

11/11/09

Metal	T41586-1		QC	T41586-1		Spikelot	% Rec	QC
	Original	DUP	RPD	Original	MS	HGTXWS1		Limits
Mercury	0.044	0.024	58.8*(a)	0-20	0.044 0.33	0.302	94.6	75-125

Associated samples MP10625: T41586-1

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 matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T41586
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10625
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 11/11/09

Metal	T41586-1		SpikeLot		MSD	QC
	Original	MSD	HGTXWS1	% Rec	RPD	Limit
Mercury	0.044	0.31	0.288	92.5	6.3	

Associated samples MP10625: T41586-1

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

Login Number: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 7471A
Units: mg/kg

Metal	LCS Result	Spikelot HGLCD054 % Rec	QC Limits
Mercury	6.9	7.34	94.0
			72-128

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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10654
Matrix Type: AQUEOUS

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

Prep Date: 11/15/09

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	92.0	<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	9.4	<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	79.6	<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 MP10654: T41586-1C

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: T41586
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10654
 Matrix Type: AQUEOUS

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

Prep Date: 11/15/09

Metal	T39947-4C Original DUP		RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	234000	208000	11.8	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium	5050	4460	12.4	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	1650000	1520000	12.9	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10654: T41586-1C

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10655
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/15/09

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	0.097	<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 MP10655: T41586-1B

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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10655
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/15/09

11/15/09

Metal	T41706-1B Original DUP		RPD	QC Limits	T41706-1B Original MS		Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium	269	255	5.3	0-20	269	288	31.4	60.5 (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 MP10655: T41586-1B

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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10655
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/15/09

Metal	T41706-1B Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	269	288	30.4	62.6 (a)	0.0	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 MP10655: T41586-1B

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.

SERIAL DILUTION RESULTS SUMMARY

Login Number: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10655
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 11/15/09

Metal	T41706-1B		QC	
	Original	SDL 1:5	%DIF	Limits
Aluminum				
Antimony				
Arsenic				
Barium	3490	4110	17.8*(a)	0-10
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10655: T41586-1B

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10656
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 11/15/09

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	-47	<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 MP10656: T41586-1A

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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10656
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

11/15/09

11/15/09

	T39947-4A			QC	T39947-4A		Spikelot		QC
Metal	Original	DUP	RPD	Limits	Original	MS	MPTW4	% Rec	Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Boron	253	251	0.8	0-20	253	2260	1000	102.7	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 MP10656: T41586-1A

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: T41586
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10656
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/15/09

Metal	T39947-4A Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron	253	2130	1000	93.7	5.9	20
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10656: T41586-1A

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: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Prep Date: 11/15/09

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	1990	1000	99.7	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 MP10656: T41586-1A

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T41586
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10656
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/15/09

Metal	T39947-4A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	128	122	4.1	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 MP10656: T41586-1A

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

9.5.4
 9



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: T41586
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	GN18647	2.0	<2.0	mg/kg	40	42.1	105.3	80-120%
Specific Conductivity	GN18661	1.0	<1.0	umhos/cm				

Associated Samples:
Batch GN18647: T41586-1
Batch GN18661: T41586-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T41586
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN18647	T41438-1	mg/kg	<2.0	<2.0	1.8	0-20%
Solids, Percent	GN18721	T41696-1	%	89.6	91.4	2.0	0-5%
Specific Conductivity	GN18661	T41438-1	umhos/cm	493	496	0.6	0-20%
pH	GN18662	T41789-14	su	6.5	6.5	0.0	0-20%

Associated Samples:

Batch GN18647: T41586-1

Batch GN18661: T41586-1

Batch GN18662: T41586-1

Batch GN18721: T41586-1

Batch MP10654: T41586-1C

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T41586
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	GN18647	T41438-1	mg/kg	<2.0	40	38.0	90.4	75-125%

Associated Samples:

Batch GN18647: T41586-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits