

			Analytes (BDL = Below Detection Limit; ND = Non Detect)																																			
Allowable Concentration -->				Organic Compounds in Soil (mg/kg [ppm])																	Inorganics in Soil			Metals in Soil (mg/kg [ppm])														
Location	Sample Date:	Sample Matrix	Matrix Notes	TPH (total volatile and extractable petroleum hydrocarbons)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000	EC (<4 mmhos/cm or 2x background)	SAR (calculation)	pH	Arsenic	Barium - EPA Total Barium	Cadmium	Chromium (III)	Chromium (VI)	Copper	Lead (inorganic)	Mercury	Nickel (soluble salts)	Selenium	Silver	Zinc
D09A	08/06/09	Cuttings		292.8			ND	ND	ND	ND	ND	0.0416	0.452	0.815	0.22	0.215	0.609	0.103	0.534	ND	0.181	0.082	0.267	2.81	8.61	7.7	9.6		0.45	17.1	1.5	31.4	12.7	0.036	15.2	1.2	0.29	63.6
D09A	10/09/09	Cuttings		98.3	24.6	73.7	0.0048	0.0058	ND	0.0051	ND	0.0261	0.208	0.334	0.08	0.0995	0.255	0.0255	0.31	0.0289	0.063	0.016	0.185	0.268	6.47	9	11.2		0.56	17.1	0.87	23.8	13.8	0.025	16.8	0.15	0.26	68.4



08/19/09

Technical Report for

EnCana

EnCana Oil & Gas (USA) Inc.

D09A

Accutest Job Number: T35045

Sampling Date: 08/06/09

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: 71



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

EnCana Oil & Gas (USA) Inc.
Project No: D09A

Job No: T35045

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T35045-1	08/06/09	10:00 CH	08/07/09	SO	Soil	D09A_BACKGROUND_080609
T35045-1A	08/06/09	10:00 CH	08/07/09	AQ	Water Extract	D09A_BACKGROUND_080609
T35045-1B	08/06/09	10:00 CH	08/07/09	SO	Soil	D09A_BACKGROUND_080609
T35045-1C	08/06/09	10:00 CH	08/07/09	SO	Soil	D09A_BACKGROUND_080609
T35045-2	08/06/09	09:30 CH	08/07/09	SO	Soil	D09A_CUTTINGS_080609
T35045-2A	08/06/09	09:30 CH	08/07/09	AQ	Water Extract	D09A_CUTTINGS_080609
T35045-2B	08/06/09	09:30 CH	08/07/09	SO	Soil	D09A CUTTINGS_080609
T35045-2C	08/06/09	09:30 CH	08/07/09	SO	Soil	09A_CUTTINGS_080609

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



IT'S ALL IN THE CHEMISTRY

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	D09A_BACKGROUND_080609			Date Sampled:	08/06/09
Lab Sample ID:	T35045-1			Date Received:	08/07/09
Matrix:	SO - Soil			Percent Solids:	94.5
Method:	SW846 8260B				
Project:	EnCana Oil & Gas (USA) Inc.				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0019748.D	1	08/14/09	AH	n/a	n/a	VM792
Run #2							

	Initial Weight	Final Volume
Run #1	5.71 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.6	0.65	ug/kg	
108-88-3	Toluene	ND	4.6	0.88	ug/kg	
100-41-4	Ethylbenzene	ND	4.6	0.84	ug/kg	
1330-20-7	Xylene (total)	ND	14	1.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-121%
2037-26-5	Toluene-D8	104%		76-132%
460-00-4	4-Bromofluorobenzene	130%		73-165%
17060-07-0	1,2-Dichloroethane-D4	80%		57-122%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: D09A_BACKGROUND_080609
Lab Sample ID: T35045-1
Matrix: SO - Soil
Method: SW846 8270C TX1005
Project: EnCana Oil & Gas (USA) Inc.

Date Sampled: 08/06/09
Date Received: 08/07/09
Percent Solids: 94.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J12500.D	1	08/10/09	SC	08/10/09	OP12716	EJ577
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	170	48	ug/kg	
208-96-8	Acenaphthylene	ND	170	41	ug/kg	
120-12-7	Anthracene	ND	170	34	ug/kg	
56-55-3	Benzo(a)anthracene	ND	170	67	ug/kg	
50-32-8	Benzo(a)pyrene	ND	170	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	170	43	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	170	41	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	170	33	ug/kg	
218-01-9	Chrysene	ND	170	38	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	170	93	ug/kg	
206-44-0	Fluoranthene	ND	170	36	ug/kg	
86-73-7	Fluorene	ND	170	48	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170	63	ug/kg	
90-12-0	1-Methylnaphthalene	ND	170	41	ug/kg	
91-57-6	2-Methylnaphthalene	ND	170	55	ug/kg	
91-20-3	Naphthalene	ND	170	35	ug/kg	
85-01-8	Phenanthrene	ND	170	47	ug/kg	
129-00-0	Pyrene	ND	170	34	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		18-104%
321-60-8	2-Fluorobiphenyl	77%		21-114%
1718-51-0	Terphenyl-d14	103%		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:	D09A_BACKGROUND_080609				
Lab Sample ID:	T35045-1			Date Sampled:	08/06/09
Matrix:	SO - Soil			Date Received:	08/07/09
Method:	SW846 8015			Percent Solids:	94.5
Project:	EnCana Oil & Gas (USA) Inc.				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE046612.D	1	08/12/09	JL	n/a	n/a	GEE2364
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.25 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	11.1	5.3	0.32	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		46-127%
98-08-8	aaa-Trifluorotoluene	113%		44-120%

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:	D09A_BACKGROUND_080609			Date Sampled:	08/06/09
Lab Sample ID:	T35045-1			Date Received:	08/07/09
Matrix:	SO - Soil			Percent Solids:	94.5
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	CC214362.D	1	08/11/09	SS	08/10/09	OP12717	GCC937
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	9.55	8.7	2.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	72%		33-115%		

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

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:	D09A_BACKGROUND_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-1	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	94.5
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	10.4	0.58	0.12	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Cadmium	0.54	0.29	0.058	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Chromium	23.0	0.58	0.040	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Copper	19.9	1.4	0.075	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Lead	13.2	0.58	0.23	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Mercury	0.027	0.017	0.00066	mg/kg	1	08/18/09	08/18/09	NS	SW846 7471A ² SW846 7471A ⁴
Nickel	17.2	2.3	0.075	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Selenium	1.1	0.58	0.14	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Silver	0.24 B	0.58	0.046	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³
Zinc	63.3	1.2	0.23	mg/kg	1	08/15/09	08/17/09	NS	SW846 6010B ¹ SW846 3050B ³

- (1) Instrument QC Batch: MA4236
- (2) Instrument QC Batch: MA4240
- (3) Prep QC Batch: MP10079
- (4) Prep QC Batch: MP10091

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:	D09A_BACKGROUND_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-1	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	94.5
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.0 B	2.0	mg/kg	1	08/13/09 07:30	KD	SW846 3060/7196A
Chromium, Trivalent ^a	22.0	2.6	mg/kg	1	08/17/09 00:26	NS	SW846 6010/7196A M
Solids, Percent	94.5		%	1	08/10/09	MR	SM 2540B M
Specific Conductivity	384	1.0	umhos/cm	1	08/12/09 15:30	KD	EPA 120.1
pH	7.7		su	1	08/08/09 12:00	EV	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	D09A_BACKGROUND_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-1A	Date Received:	08/07/09
Matrix:	AQ - Water Extract	Percent Solids:	94.5
Project:	EnCana Oil & Gas (USA) Inc.		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Boron	1180	200	4.2	ug/l	1	08/14/09	08/15/09 NS	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4234
(2) Prep QC Batch: MP10059

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:	D09A_BACKGROUND_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-1B	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	94.5
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Barium	267	10	0.031	mg/kg	1	08/11/09	08/15/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4234
(2) Prep QC Batch: MP10048

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:	D09A_BACKGROUND_080609			Date Sampled:	08/06/09
Lab Sample ID:	T35045-1C			Date Received:	08/07/09
Matrix:	SO - Soil			Percent Solids:	94.5
Project:	EnCana Oil & Gas (USA) Inc.				

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	105	25	0.18	mg/l	5	08/10/09	08/10/09	NS	SW846 6010B ¹	SW846 3010A ²
Magnesium	24.9 B	25	0.039	mg/l	5	08/10/09	08/10/09	NS	SW846 6010B ¹	SW846 3010A ²
Sodium	19.9 B	25	0.67	mg/l	5	08/10/09	08/10/09	NS	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4222
(2) Prep QC Batch: MP10047

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:	D09A_BACKGROUND_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-1C	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	94.5
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.453		ratio	1	08/10/09 14:30	NS	LADNR29B

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	D09A_CUTTINGS_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-2	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	83.5
Method:	SW846 8260B		
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0019749.D	1	08/14/09	AH	n/a	n/a	VM792
Run #2							

	Initial Weight	Final Volume
Run #1	5.66 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.3	0.74	ug/kg	
108-88-3	Toluene	ND	5.3	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.3	0.96	ug/kg	
1330-20-7	Xylene (total)	ND	16	2.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-121%
2037-26-5	Toluene-D8	93%		76-132%
460-00-4	4-Bromofluorobenzene	105%		73-165%
17060-07-0	1,2-Dichloroethane-D4	82%		57-122%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: D09A_CUTTINGS_080609
Lab Sample ID: T35045-2
Matrix: SO - Soil
Method: SW846 8270C TX1005
Project: EnCana Oil & Gas (USA) Inc.

Date Sampled: 08/06/09
Date Received: 08/07/09
Percent Solids: 83.5

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J12505.D	1	08/10/09	SC	08/10/09	OP12716	EJ577
Run #2							

Run #	Initial Weight	Final Volume
Run #1	31.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	190	53	ug/kg	
208-96-8	Acenaphthylene	ND	190	46	ug/kg	
120-12-7	Anthracene	41.6	190	37	ug/kg	J
56-55-3	Benzo(a)anthracene	452	190	74	ug/kg	
50-32-8	Benzo(a)pyrene	215	190	31	ug/kg	
205-99-2	Benzo(b)fluoranthene	815	190	48	ug/kg	
191-24-2	Benzo(g,h,i)perylene	224	190	46	ug/kg	
207-08-9	Benzo(k)fluoranthene	223	190	36	ug/kg	
218-01-9	Chrysene	609	190	42	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	103	190	100	ug/kg	J
206-44-0	Fluoranthene	534	190	40	ug/kg	
86-73-7	Fluorene	ND	190	53	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	181	190	69	ug/kg	J
90-12-0	1-Methylnaphthalene	70.1	190	45	ug/kg	J
91-57-6	2-Methylnaphthalene	165	190	61	ug/kg	J
91-20-3	Naphthalene	81.8	190	39	ug/kg	J
85-01-8	Phenanthrene	314	190	52	ug/kg	
129-00-0	Pyrene	267	190	37	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	59%		18-104%
321-60-8	2-Fluorobiphenyl	66%		21-114%
1718-51-0	Terphenyl-d14	107%		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:	D09A_CUTTINGS_080609			Date Sampled:	08/06/09					
Lab Sample ID:	T35045-2			Date Received:	08/07/09					
Matrix:	SO - Soil			Percent Solids:	83.5					
Method:	SW846 8015									
Project:	EnCana Oil & Gas (USA) Inc.									

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE046613.D	1	08/12/09	JL	n/a	n/a	GEE2364
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.53 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	18.8	6.4	0.38	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	111%		46-127%
98-08-8	aaa-Trifluorotoluene	113%		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

Page 1 of 1

Client Sample ID:	D09A_CUTTINGS_080609	
Lab Sample ID:	T35045-2	Date Sampled: 08/06/09
Matrix:	SO - Soil	Date Received: 08/07/09
Method:	SW846 8015 M SW846 3550B	Percent Solids: 83.5
Project:	EnCana Oil & Gas (USA) Inc.	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC214368.D	1	08/11/09	SS	08/10/09	OP12717	GCC937
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	274	9.9	3.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		33-115%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	D09A_CUTTINGS_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-2	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	83.5
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9.6	0.71	0.14	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Cadmium	0.45	0.35	0.071	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Chromium	18.6	0.71	0.050	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Copper	31.4	1.8	0.092	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Lead	12.7	0.71	0.28	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Mercury	0.036	0.018	0.00073	mg/kg	1	08/18/09	08/18/09 NS	SW846 7471A ²	SW846 7471A ⁴
Nickel	15.2	2.8	0.092	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Selenium	1.2	0.71	0.17	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Silver	0.29 B	0.71	0.057	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³
Zinc	63.6	1.4	0.28	mg/kg	1	08/15/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA4236
- (2) Instrument QC Batch: MA4240
- (3) Prep QC Batch: MP10079
- (4) Prep QC Batch: MP10091

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:	D09A_CUTTINGS_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-2	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	83.5
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	08/13/09 07:30	KD	SW846 3060/7196A
Chromium, Trivalent ^a	17.1	2.7	mg/kg	1	08/17/09 00:33	NS	SW846 6010/7196A M
Solids, Percent	83.5		%	1	08/11/09	MR	SM 2540B M
Specific Conductivity	2810	1.0	umhos/cm	1	08/12/09 15:30	KD	EPA 120.1
pH	7.7		su	1	08/08/09 12:00	EV	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	D09A_CUTTINGS_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-2A	Date Received:	08/07/09
Matrix:	AQ - Water Extract	Percent Solids:	83.5
Project:	EnCana Oil & Gas (USA) Inc.		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Boron	1530	200	4.2	ug/l	1	08/14/09	08/15/09 NS	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4234
(2) Prep QC Batch: MP10059

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:	D09A CUTTINGS_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-2B	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	83.5
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Barium	18700	590	1.8	mg/kg	50	08/11/09	08/17/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4238
(2) Prep QC Batch: MP10048

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:	09A_CUTTINGS_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-2C	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	83.5
Project:	EnCana Oil & Gas (USA) Inc.		

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	411	25	0.18	mg/l	5	08/10/09	08/10/09 NS	SW846 6010B ¹	SW846 3010A ²
Magnesium	32.6	25	0.039	mg/l	5	08/10/09	08/10/09 NS	SW846 6010B ¹	SW846 3010A ²
Sodium	675	25	0.67	mg/l	5	08/10/09	08/10/09 NS	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4222
(2) Prep QC Batch: MP10047

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:	09A_CUTTINGS_080609	Date Sampled:	08/06/09
Lab Sample ID:	T35045-2C	Date Received:	08/07/09
Matrix:	SO - Soil	Percent Solids:	83.5
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	8.61		ratio	1	08/10/09 16:31	NS	LADNR29B

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

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

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

Client / Reporting Information		Project Information		Requested Analyses		Matrix Codes	
Company Name EnCana Oil & Gas (USA) Inc.		Project Name / No. D09A Background & Cuttings				DW - Drinking Water GW - Ground Water WW - Wastewater SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid SOL - Other Solid	
Project Contact Chris Hines E-Mail: christopher.hines@encana.com		Bill to Invoice Attn.					
Address 2717 County Road 215, Suite 100		Address					
City Parachute, CO 81635		City State					
Phone No. 970.285.2653		Fax No.					
Sample's Name		Client Purchase Order #					
Accutest Sample #	Field ID / Point of Collection	Collection		Number of preserved bottles		LAB USE ONLY	
		Date	Time	Matrix	# of bottles		
	D09A - Background - 080609	8/6/09	1000	SO	3		
	D09A - Cuttings - 080609	8/6/09	0930	SO	3		
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: _____ Commercial "A" <input type="checkbox"/> State Forms Commercial "B" <input type="checkbox"/> EDD Format Reduced Tier 1 <input type="checkbox"/> Other Full Data Package <input type="checkbox"/> Commercial "A" = Results Only Commercial "B" = Results & Standard QC		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: [Signature]	Date Time: 8/6/09 1700	Received By: 1	Relinquished By: 2	Date Time: 8/9/09	Received By: 2	Date Time: 8/9/09	
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4	Date Time:	
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable <input type="checkbox"/>	On Ice <input type="checkbox"/>	Cooler Temp. 3.0°C	

T35045: Chain of Custody

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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	2.2 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 mmhos/cm or 2x background	9050
Sodium Adsorption Ratio (SAR)	<12 ¹	LADR28B
pH	6-9	9045C
Metals in Soils		
Arsenic	0.38 mg/kg ²	6010B
Barium (LDR True Total Barium)	15,000 mg/kg ²	6010B
Boron (Hot Water Soluble)	2 mg/kg ²	6010B
Cadmium	70 mg/kg ^{2,3}	6010B
Chromium (III)	120,000 mg/kg ²	6010B
Chromium (VI)	23 mg/kg ^{2,3}	6010B
Copper	3,100 mg/kg ²	6010B
Lead (inorganic)	400 mg/kg ²	6010B
Mercury	23 mg/kg ²	6010B
Nickel (soluble salts)	1,600 mg/kg ^{2,3}	6010B
Selenium	380 mg/kg ^{2,3}	6010B
Silver	380 mg/kg ²	6010BB
Zinc	23,000 mg/kg ^{2,3}	6010B
Liquid Hydrocarbons in Soils and Ground Water		
Liquid hydrocarbons including condensate and oil	Below detection level	Visual

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.

¹ COGCC allowable concentrations based on Table 910-1. Consideration shall be given to background levels in native soils.

SAMPLE INSPECTION FORM

Accutest Job Number: T35045 Client: Enlana Date/Time Received: 06/07/09 0930
 # of Coolers Received: 1 Thermometer #: 1B-1 Temperature Adjustment Factor: +0.4
 Cooler Temps: #1: 3.0 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____
 Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other
 Airbill Numbers: _____

COOLER INFORMATION

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

CHAIN OF CUSTODY

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

SAMPLE INFORMATION

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

TRIP BLANK INFORMATION

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

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

Summary of Discrepancies:

1. 1 of 3 bottles for sample 2 (calting?) received broken
inside the cooler

TECHNICIAN SIGNATURE/DATE: [Signature] 06/11/09

INFORMATION AND SAMPLE LABELING VERIFIED BY: [Signature]

CORRECTIVE ACTIONS

Client Representative Notified: _____ Date: _____

By Accutest Representative: _____ Via: Phone Email

Client Instructions: _____

i:\mwalker\form\samplemanagement

T35045: Chain of Custody

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3.1 3

CLIENT: En Cana INITIALS: FF

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: DI 7: MeOH 8: Other
LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer
Rev 8/13/01 ewp

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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: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM792-MB	M0019742.D	1	08/14/09	AH	n/a	n/a	VM792

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

T35045-1, T35045-2

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	86% 70-121%
2037-26-5	Toluene-D8	93% 76-132%
460-00-4	4-Bromofluorobenzene	103% 73-165%
17060-07-0	1,2-Dichloroethane-D4	78% 57-122%

Blank Spike Summary

Job Number: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM792-BS	M0019740.D	1	08/14/09	AH	n/a	n/a	VM792

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

T35045-1, T35045-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	40.4	81	70-114
100-41-4	Ethylbenzene	50	39.8	80	60-119
108-88-3	Toluene	50	40.0	80	68-115
1330-20-7	Xylene (total)	150	121	81	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	74%	70-121%
2037-26-5	Toluene-D8	81%	76-132%
460-00-4	4-Bromofluorobenzene	89%	73-165%
17060-07-0	1,2-Dichloroethane-D4	68%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T35445-1MS	M0019744.D	1	08/14/09	AH	n/a	n/a	VM792
T35445-1MSD	M0019745.D	1	08/14/09	AH	n/a	n/a	VM792
T35445-1	M0019743.D	1	08/14/09	AH	n/a	n/a	VM792

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

T35045-1, T35045-2

CAS No.	Compound	T35445-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		56.4	35.4	63*	38.2	68*	8	70-114/38
100-41-4	Ethylbenzene	ND		56.4	26.7	47*	31.2	56*	16	60-119/40
108-88-3	Toluene	ND		56.4	38.1	68	42.7	77	11	68-115/38
1330-20-7	Xylene (total)	ND		169	51.4	30*	64.6	39*	23	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T35445-1	Limits
1868-53-7	Dibromofluoromethane	72%	74%	86%	70-121%
2037-26-5	Toluene-D8	94%	97%	107%	76-132%
460-00-4	4-Bromofluorobenzene	132%	134%	143%	73-165%
17060-07-0	1,2-Dichloroethane-D4	66%	69%	78%	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: T35045

Account: ENCACOP EnCana

Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12716-MB	J12495.D	1	08/10/09	SC	08/10/09	OP12716	EJ577

The QC reported here applies to the following samples:

Method: SW846 8270C

T35045-1, T35045-2

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	62% 26-124%
4165-62-2	Phenol-d5	64% 19-106%
118-79-6	2,4,6-Tribromophenol	71% 18-129%
4165-60-0	Nitrobenzene-d5	62% 18-104%
321-60-8	2-Fluorobiphenyl	67% 21-114%
1718-51-0	Terphenyl-d14	80% 24-149%

Blank Spike Summary

Page 1 of 1

Job Number: T35045**Account:** ENCACOP EnCana**Project:** EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12716-BS	J12496.D	1	08/10/09	SC	08/10/09	OP12716	EJ577

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

T35045-1, T35045-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	1670	1500	90	53-106
208-96-8	Acenaphthylene	1670	1550	93	61-121
120-12-7	Anthracene	1670	1540	92	66-105
56-55-3	Benzo(a)anthracene	1670	1560	94	62-113
50-32-8	Benzo(a)pyrene	1670	1420	85	61-118
205-99-2	Benzo(b)fluoranthene	1670	1730	104	67-110
191-24-2	Benzo(g,h,i)perylene	1670	1250	75	57-124
207-08-9	Benzo(k)fluoranthene	1670	1730	104	65-116
218-01-9	Chrysene	1670	1570	94	71-106
53-70-3	Dibenzo(a,h)anthracene	1670	1300	78	59-123
206-44-0	Fluoranthene	1670	1810	109	64-114
86-73-7	Fluorene	1670	1600	96	65-99
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1300	78	51-133
90-12-0	1-Methylnaphthalene	1670	1440	86	56-94
91-57-6	2-Methylnaphthalene	1670	1540	92	48-101
91-20-3	Naphthalene	1670	1380	83	57-94
85-01-8	Phenanthrene	1670	1560	94	66-102
129-00-0	Pyrene	1670	1480	89	49-117

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	79%	26-124%
4165-62-2	Phenol-d5	82%	19-106%
118-79-6	2,4,6-Tribromophenol	86%	18-129%
4165-60-0	Nitrobenzene-d5	80%	18-104%
321-60-8	2-Fluorobiphenyl	84%	21-114%
1718-51-0	Terphenyl-d14	90%	24-149%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T35045

Account: ENCACOP EnCana

Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12716-MS	J12513.D	1	08/10/09	SC	08/10/09	OP12716	EJ577
OP12716-MSD ^a	J12514.D	1	08/10/09	SC	08/10/09	OP12716	EJ577
T34962-3	J12512.D	1	08/10/09	SC	08/10/09	OP12716	EJ577

The QC reported here applies to the following samples:

Method: SW846 8270C

T35045-1, T35045-2

CAS No.	Compound	T34962-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		2130	1480	70	1320	62	11	53-106/49
208-96-8	Acenaphthylene	ND		2130	1510	71	1360	64	10	61-121/49
120-12-7	Anthracene	ND		2130	1580	74	1430	67	10	66-105/40
56-55-3	Benzo(a)anthracene	ND		2130	1530	72	1420	67	7	62-113/43
50-32-8	Benzo(a)pyrene	ND		2130	1350	63	1180	55*	13	61-118/44
205-99-2	Benzo(b)fluoranthene	ND		2130	1340	63*	1330	63*	1	67-110/42
191-24-2	Benzo(g,h,i)perylene	ND		2130	1960	92	1920	90	2	57-124/50
207-08-9	Benzo(k)fluoranthene	ND		2130	1390	65	1240	58*	11	65-116/37
218-01-9	Chrysene	ND		2130	1490	70*	1440	68*	3	71-106/39
53-70-3	Dibenzo(a,h)anthracene	ND		2130	1840	86	1860	87	1	59-123/37
206-44-0	Fluoranthene	ND		2130	824	39*	764	36*	8	64-114/45
86-73-7	Fluorene	ND		2130	1440	68	1280	60*	12	65-99/42
193-39-5	Indeno(1,2,3-cd)pyrene	ND		2130	1830	86	1800	85	2	51-133/55
90-12-0	1-Methylnaphthalene	276		2130	1490	57	1310	49*	13	56-94/49
91-57-6	2-Methylnaphthalene	495		2130	1750	59	1480	46*	17	48-101/48
91-20-3	Naphthalene	197	J	2130	1490	61	1340	54*	11	57-94/49
85-01-8	Phenanthrene	139	J	2130	1660	71	1450	62*	14	66-102/47
129-00-0	Pyrene	ND		2130	2630	124*	2160	102	20	49-117/46

CAS No.	Surrogate Recoveries	MS	MSD	T34962-3	Limits
4165-60-0	Nitrobenzene-d5	56%	27%	31%	18-104%
321-60-8	2-Fluorobiphenyl	70%	32%	47%	21-114%
1718-51-0	Terphenyl-d14	137%	55%	125%	24-149%

(a) Recoveries were adjusted for double spiking.



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: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2364-MB	EE046606.D	1	08/12/09	JL	n/a	n/a	GEE2364

The QC reported here applies to the following samples:

Method: SW846 8015

T35045-1, T35045-2

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

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	102%
98-08-8	aaa-Trifluorotoluene	111%

Blank Spike Summary

Job Number: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2364-BS	EE046604.D	1	08/12/09	JL	n/a	n/a	GEE2364

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

T35045-1, T35045-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.392	98	78-115

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	106%	46-127%
98-08-8	aaa-Trifluorotoluene	118%	44-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T34962-1MS	EE046608.D	1	08/12/09	JL	n/a	n/a	GEE2364
T34962-1MSD	EE046609.D	1	08/12/09	JL	n/a	n/a	GEE2364
T34962-1	EE046607.D	1	08/12/09	JL	n/a	n/a	GEE2364

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

T35045-1, T35045-2

CAS No.	Compound	T34962-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	16.4		26.9	41.3	93	41.1	92	0	78-115/14

CAS No.	Surrogate Recoveries	MS	MSD	T34962-1	Limits
460-00-4	4-Bromofluorobenzene	109%	109%	104%	46-127%
98-08-8	aaa-Trifluorotoluene	116%	114%	112%	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: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12717-MB	CC214354.D	1	08/11/09	SS	08/10/09	OP12717	GCC937

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

T35045-1, T35045-2

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	69% 33-115%

Blank Spike Summary

Job Number: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12717-BS	CC214357.D	1	08/11/09	SS	08/10/09	OP12717	GCC937

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

T35045-1, T35045-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	32.4	28.8	89	45-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	72%	33-115%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T35045
Account: ENCACOP EnCana
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12717-MS	CC214355.D	1	08/11/09	SS	08/10/09	OP12717	GCC937
OP12717-MSD	CC214356.D	1	08/11/09	SS	08/10/09	OP12717	GCC937
T35044-1	CC214358.D	1	08/11/09	SS	08/10/09	OP12717	GCC937

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

T35045-1, T35045-2

CAS No.	Compound	T35044-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	7.12	J	35	33.4	75	35.1	82	5	45-107/34

CAS No.	Surrogate Recoveries	MS	MSD	T35044-1	Limits
84-15-1	o-Terphenyl	80%	80%	83%	33-115%



Metals Analysis

QC Data Summaries

Includes the following where applicable:

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10047
Matrix Type: AQUEOUS

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

Prep Date: 08/10/09

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	82.9	<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	4.8	<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	68.9	<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 MP10047: T35045-1C, T35045-2C

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

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T35045
 Account: ENCACOP - EnCana
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10047
 Matrix Type: AQUEOUS

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

Prep Date: 08/10/09

Metal	T35045-1C Original DUP		RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	105000	105000	0.0	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium	24900	25000	0.4	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	19900	20400	2.5	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10047: T35045-1C, T35045-2C

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

8.1.2
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10048
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 08/11/09

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	0.047	<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 MP10048: T35045-1B, T35045-2B

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: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10048
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 08/11/09 08/11/09

Metal	T35045-1B Original	DUP	RPD	QC Limits	T35045-1B Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium	267	309	14.6	0-20	267	278	20.8	52.8 (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 MP10048: T35045-1B, T35045-2B

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: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10048
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 08/11/09

Metal	T35045-1B Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	267	296	20.7	140.3(a)	6.3	20
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10048: T35045-1B, T35045-2B

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: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 6010B
Units: mg/kg

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	17.7	2	88.3	80-120
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10048
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/11/09

Metal	T35045-1B		QC	
	Original	SDL 1:5	%DIF	Limits
Aluminum				
Antimony				
Arsenic				
Barium	5250	6210	18.3*(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 MP10048: T35045-1B, T35045-2B

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

8.2.4
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10059
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/14/09

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	-24	<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 MP10059: T35045-1A, T35045-2A

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: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10059
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

08/14/09

08/14/09

Metal	T34949-1A			QC	T34949-1A		Spikelot		QC
	Original	DUP	RPD	Limits	Original	MS	MPTW4	% Rec	Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Boron	1590	1070	39.1*	0-20	1590	3100	1590	95.1	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 MP10059: T35045-1A, T35045-2A

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: T35045
 Account: ENCACOP - EnCana
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10059
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/14/09

Metal	T34949-1A Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron	1590	2810	1600	76.3N	9.8	20
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10059: T35045-1A, T35045-2A

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

8.3.2
8

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 6010B
Units: ug/l

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	1850	1600	115.6	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: T35045
 Account: ENCACOP - EnCana
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10059
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/14/09

Metal	T34949-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	803	804	0.2	0-10
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10059: T35045-1A, T35045-2A

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: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10079
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 08/15/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.82	2.2		
Antimony	0.50	.11	.14		
Arsenic	0.50	.089	.1	0.015	<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	-0.0085	<0.50
Cobalt	2.5	.025	.09		
Copper	1.3	.029	.065	0.031	<1.3
Iron	5.0	.65	1.1		
Lead	0.50	.079	.2	0.0075	<0.50
Magnesium	250	.34	.58		
Manganese	0.75	.01	.035		
Molybdenum	0.50	.048	.075		
Nickel	2.0	.048	.065	-0.024	<2.0
Potassium	250	2.7	16		
Selenium	0.50	.16	.12	-0.030	<0.50
Silver	0.50	.043	.04	-0.0015	<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	-0.0080	<1.0

Associated samples MP10079: T35045-1, T35045-2

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: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10079
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

08/15/09

08/15/09

Metal	T34950-1 Original	DUP	RPD	QC Limits	T34950-1 Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum	anr								
Antimony	anr								
Arsenic	17.2	21.6	22.7*(a)	0-20	17.2	31.2	23.7	59.0N	80-120
Barium	anr								
Beryllium	anr								
Boron	anr								
Cadmium	0.69	0.64	7.5	0-20	0.69	15.9	23.7	64.1N	80-120
Calcium	anr								
Chromium	27.6	25.2	9.1	0-20	27.6	39.8	23.7	51.4N	80-120
Cobalt									
Copper	33.7	32.6	3.3	0-20	33.7	44.2	23.7	44.2N	80-120
Iron	anr								
Lead	21.4	20.6	3.8	0-20	21.4	32.4	23.7	46.3N	80-120
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	19.6	18.4	6.3	0-20	19.6	31.4	23.7	49.7N	80-120
Potassium	anr								
Selenium	1.4	1.6	13.3	0-20	1.4	17.4	23.7	67.4N	80-120
Silver	0.30	0.26	14.3	0-20	0.30	17.0	23.7	70.3N	80-120
Sodium	anr								
Strontium									
Thallium	anr								
Tin	anr								
Titanium	anr								
Vanadium	anr								
Zinc	75.9	71.4	6.1	0-20	75.9	85.4	23.7	40.0N	80-120

Associated samples MP10079: T35045-1, T35045-2

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) High RPD due to possible sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10079
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 08/15/09

Metal	T34950-1 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	17.2	41.1	23.4	102.3	27.4 (a)	20
Barium	anr					
Beryllium	anr					
Boron	anr					
Cadmium	0.69	17.2	23.4	70.7N	7.9	20
Calcium	anr					
Chromium	27.6	62.6	23.4	149.8N	44.5 (b)	20
Cobalt						
Copper	33.7	50.8	23.4	73.2N	13.9	20
Iron	anr					
Lead	21.4	35.7	23.4	61.2N	9.7	20
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	19.6	38.5	23.4	80.9	20.3 (c)	20
Potassium	anr					
Selenium	1.4	18.5	23.4	73.2N	6.1	20
Silver	0.30	18.8	23.4	79.2N	10.1	20
Sodium	anr					
Strontium						
Thallium	anr					
Tin	anr					
Titanium	anr					
Vanadium	anr					
Zinc	75.9	90.2	23.4	61.2N	5.5	20

Associated samples MP10079: T35045-1, T35045-2

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) High RPD due to possible matrix interference.

(b) Serial dilution indicates possible matrix interference.

(c) High RPD due to possible matrix interference.
sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10079
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 08/15/09

Metal	LCS Result	Spikelot MPLCD050	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	244	280	87.1	81-119
Barium	anr			
Beryllium	anr			
Boron	anr			
Cadmium	156	182	85.7	82-118
Calcium	anr			
Chromium	130	142	91.5	81-120
Cobalt				
Copper	118	132	89.4	83-117
Iron	anr			
Lead	62.6	72.2	86.7	82-118
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	135	155	87.1	83-117
Potassium	anr			
Selenium	147	165	89.1	78-123
Silver	114	126	90.5	66-134
Sodium	anr			
Strontium	anr			
Thallium	anr			
Tin	anr			
Titanium	anr			
Vanadium	anr			
Zinc	300	346	86.7	79-121

Associated samples MP10079: T35045-1, T35045-2

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.4.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10079
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/15/09

Metal	T34950-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	311	381	22.7*(a)	0-10
Barium	anr			
Beryllium	anr			
Boron	anr			
Cadmium	12.5	14.0	11.9*(a)	0-10
Calcium	anr			
Chromium	498	606	21.8*(a)	0-10
Cobalt				
Copper	608	691	13.7*(a)	0-10
Iron	anr			
Lead	386	473	22.5*(a)	0-10
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	354	438	23.6*(a)	0-10
Potassium	anr			
Selenium	25.5	31.6	23.8 (b)	0-10
Silver	5.50	7.30	32.7 (b)	0-10
Sodium	anr			
Strontium				
Thallium	anr			
Tin	anr			
Titanium	anr			
Vanadium	anr			
Zinc	1370	1720	25.4*(a)	0-10

Associated samples MP10079: T35045-1, T35045-2

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: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10091
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 08/18/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.017	.0041	.00066	0.0	<0.017

Associated samples MP10091: T35045-1, T35045-2

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

8.5.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T35045
 Account: ENCACOP - EnCana
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10091
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 08/18/09 08/18/09

Metal	T34950-1 Original DUP		RPD	QC Limits	T34950-1 Original MS		Spikelot HGTXWS1 % Rec		QC Limits
Mercury	0.0	0.038	200.0*(a	0-20	0.0	0.24	0.247	97.1	75-125

Associated samples MP10091: T35045-1, T35045-2

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.

8.5.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T35045
 Account: ENCACOP - EnCana
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10091
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 08/18/09

Metal	T34950-1 Original	MSD	Spikelot HGTXWS1	% Rec	MSD RPD	QC Limit
-------	----------------------	-----	---------------------	-------	------------	-------------

Mercury	0.0	0.25	0.223	112.3	4.1	
---------	-----	------	-------	-------	-----	--

Associated samples MP10091: T35045-1, T35045-2

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

8.5.2

8

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 7471A
Units: mg/kg

Prep Date: 08/18/09

Metal	LCS Result	Spikelot HGLCD050 % Rec	QC Limits
Mercury	8.9	8.48	105.0 66-132

Associated samples MP10091: T35045-1, T35045-2

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



General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T35045
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	GN17662	2.0	<2.0	mg/kg	40	40.7	101.7	80-120%
Specific Conductivity	GN17680	1.0	<1.0	umhos/cm				

Associated Samples:
Batch GN17662: T35045-1, T35045-2
Batch GN17680: T35045-1, T35045-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T35045
Account: ENCACOP - EnCana
Project: EnCana Oil & Gas (USA) Inc.

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN17662	T34949-1	mg/kg	1.2 B	<2.0	13.4	0-20%
Solids, Percent	GN17658	T35146-1	%	86.8	86.2	0.7	0-20%
Solids, Percent	GN17668	T35162-20	%	77.4	77.1	0.4	0-20%
Specific Conductivity	GN17680	T34950-1	umhos/cm	445	444	0.2	0-20%
pH	GN17651	T35045-2	su	7.7	7.7	0.1	0-20%

Associated Samples:

Batch GN17651: T35045-1, T35045-2

Batch GN17658: T35045-1

Batch GN17662: T35045-1, T35045-2

Batch GN17668: T35045-2

Batch GN17680: T35045-1, T35045-2

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T35045
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	GN17662	T34949-1	mg/kg	1.2 B	40	37.8	91.6	75-125%

Associated Samples:

Batch GN17662: T35045-1, T35045-2

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



10/23/09

Technical Report for

ENCANA

EnCana Oil & Gas (USA) Inc.

D09A Cuttings Sample

Accutest Job Number: T39650

Sampling Date: 10/09/09

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: T39650

EnCana Oil & Gas (USA) Inc.
Project No: D09A Cuttings Sample

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
T39650-1	10/09/09	10:15 BK	10/10/09	SO	Soil	D09A-RLPCUT-100909
T39650-1A	10/09/09	10:15 BK	10/10/09	SO	Soil	D09A-RLPCUT-100909
T39650-1B	10/09/09	10:15 BK	10/10/09	SO	Soil	D09A-RLPCUT-100909
T39650-1C	10/09/09	10:15 BK	10/10/09	SO	Soil	D09A-RLPCUT-100909

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

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: ENCANA

Job No T39650

Site: EnCana Oil & Gas (USA) Inc.

Report Date 10/22/2009 7:26:53 PM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 10/09/2009 and were received at Accutest on 10/10/2009 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of T39650. 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: VM868
------------------	------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T40006-8MS, T40006-8MSD were used as the QC samples indicated.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO	Batch ID: OP13235
------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) T39625-1MS, T39625-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Acenaphthene are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Acenaphthene, Fluorene are outside control limits. Probable cause due to matrix interference.
- Sample(s) OP13235-MS, OP13235-MSD have surrogates outside control limits. Probable cause due to matrix interference.
- T39650-1: Internal standards are not within the advisory limits due to matrix interference. Confirmed by reanalysis.

Volatiles by GC By Method SW846 8015

Matrix SO	Batch ID: GEE2467
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) T39878-1MS, T39878-1MSD 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: OP13234

- 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) T39625-1MSD, T39625-1MS, T39625-1MSD 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) OP13234-MS, OP13234-MSD have surrogates outside control limits. Probable cause due to matrix interference.
- OP13234-MS-MSD for o-Terphenyl: Outside control limits due to dilution.

Metals By Method SW846 6010B

Matrix AQ

Batch ID: MP10475

- 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) T39648-1ADUP, T39648-1AMS, T39648-1AMSD, T39648-1ASDL were used as the QC samples for metals.

Matrix AQ

Batch ID: MP10481

- 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) T39648-1CDUP were used as the QC samples for metals.

Matrix SO

Batch ID: MP10472

- 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) T39647-1BDUP, T39647-1BMS, T39647-1BMSD, T39647-1BSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Barium are outside control limits for sample MP10472-SD1. Probable cause due to sample homogeneity.

Matrix SO

Batch ID: MP10500

- 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) T39627-1DUP, T39627-1MS, T39627-1MSD, T39627-1SDL, T39627-1DUP were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Arsenic, Cadmium, Chromium, Selenium, Silver are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Arsenic, Cadmium, Chromium, Lead, Nickel, Selenium, Silver are outside control limits. Probable cause due to matrix interference.
- RPD(s) for Duplicate for Arsenic, Cadmium, Silver are outside control limits for sample MP10500-D1. High RPD due to possible sample nonhomogeneity.
- RPD(s) for Serial Dilution for Silver, Arsenic, Chromium, Copper, Lead, Nickel, Zinc are outside control limits for sample MP10500-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 7471A

Matrix SO	Batch ID: MP10506
------------------	--------------------------

- 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) T39876-1DUP, T39876-1MS, T39876-1MSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 120.1

Matrix AQ	Batch ID: GN18318
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39188-1DUP were used as the QC samples for Specific Conductivity.

Wet Chemistry By Method LADNR29B

Matrix SO	Batch ID: MP10481
------------------	--------------------------

- T39650-1C 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: GN18325
------------------	--------------------------

- Sample(s) T39780-1DUP were used as the QC samples for Solids, Percent.

Wet Chemistry By Method SW846 3060/7196A

Matrix SO	Batch ID: GN18307
------------------	--------------------------

- All method blanks for this batch meet method specific criteria.
- Sample(s) T39188-1DUP, T39188-1MS were used as the QC samples for Chromium, Hexavalent.

Wet Chemistry By Method SW846 6010/7196A M

Matrix SO	Batch ID: R19441
------------------	-------------------------

- T39650-1 for Chromium, Trivalent: Calculated as: $(\text{Chromium}) - (\text{Chromium, Hexavalent})$

Wet Chemistry By Method SW846 9045C

Matrix SO	Batch ID: GN18328
------------------	--------------------------

- Sample(s) T39650-1DUP were used as the QC samples for pH.

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



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	D09A-RLPCUT-100909	Date Sampled:	10/09/09
Lab Sample ID:	T39650-1	Date Received:	10/10/09
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8260B		
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0021554.D	1	10/21/09	JL	n/a	n/a	VM868
Run #2							

	Initial Weight	Final Volume
Run #1	5.15 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4.8	5.6	0.78	ug/kg	J
108-88-3	Toluene	5.8	5.6	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.6	1.0	ug/kg	
1330-20-7	Xylene (total)	5.1	17	2.3	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		70-121%
2037-26-5	Toluene-D8	106%		76-132%
460-00-4	4-Bromofluorobenzene	122%		73-165%
17060-07-0	1,2-Dichloroethane-D4	70%		57-122%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	D09A-RLPCUT-100909		
Lab Sample ID:	T39650-1	Date Sampled:	10/09/09
Matrix:	SO - Soil	Date Received:	10/10/09
Method:	SW846 8270C BY SIM SW846 3550B	Percent Solids:	87.4
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	P06536.D	1	10/13/09	GJ	10/13/09	OP13235	EP319
Run #2 ^a	P06535.D	5	10/13/09	GJ	10/13/09	OP13235	EP319

	Initial Weight	Final Volume
Run #1	30.6 g	1.0 ml
Run #2	30.6 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	7.5	1.3	ug/kg	
208-96-8	Acenaphthylene	ND	7.5	2.6	ug/kg	
120-12-7	Anthracene	26.1	7.5	1.4	ug/kg	
56-55-3	Benzo(a)anthracene	208	7.5	1.2	ug/kg	
50-32-8	Benzo(a)pyrene	99.5	7.5	4.0	ug/kg	
205-99-2	Benzo(b)fluoranthene	334	7.5	4.0	ug/kg	
191-24-2	Benzo(g,h,i)perylene	71.9	7.5	7.5	ug/kg	
207-08-9	Benzo(k)fluoranthene	83.6	7.5	4.9	ug/kg	
218-01-9	Chrysene	255	7.5	1.8	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	25.5	7.5	7.2	ug/kg	
206-44-0	Fluoranthene	310	7.5	1.6	ug/kg	
86-73-7	Fluorene	28.9	7.5	2.6	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	63.0	7.5	5.6	ug/kg	
90-12-0	1-Methylnaphthalene	7.9	7.5	1.4	ug/kg	
91-57-6	2-Methylnaphthalene	55.8	7.5	1.3	ug/kg	
91-20-3	Naphthalene	16.0	7.5	1.1	ug/kg	
85-01-8	Phenanthrene	208	7.5	1.0	ug/kg	
129-00-0	Pyrene	185	7.5	2.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	52%	36%	10-127%
321-60-8	2-Fluorobiphenyl	90%	101%	11-133%
1718-51-0	Terphenyl-d14	131%	124%	15-187%

(a) Internal standards are not within the advisory 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: D09A-RLPCUT-100909
Lab Sample ID: T39650-1
Matrix: SO - Soil
Method: SW846 8015
Project: EnCana Oil & Gas (USA) Inc.

Date Sampled: 10/09/09
Date Received: 10/10/09
Percent Solids: 87.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE048736.D	2	10/21/09	FI	n/a	n/a	GEE2467
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.02 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	24.6	13	0.77	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	115%		46-127%
98-08-8	aaa-Trifluorotoluene	114%		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: D09A-RLPCUT-100909**Lab Sample ID:** T39650-1**Date Sampled:** 10/09/09**Matrix:** SO - Soil**Date Received:** 10/10/09**Method:** SW846 8015 M SW846 3550B**Percent Solids:** 87.4**Project:** EnCana Oil & Gas (USA) Inc.

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC215769.D	1	10/14/09	SS	10/13/09	OP13234	GCC979
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	73.7	9.4	3.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	55%		33-115%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: D09A-RLPCUT-100909
Lab Sample ID: T39650-1
Matrix: SO - Soil
Project: EnCana Oil & Gas (USA) Inc.

Date Sampled: 10/09/09
Date Received: 10/10/09
Percent Solids: 87.4

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.2	0.63	0.13	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Cadmium	0.56	0.32	0.063	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Chromium	18.0	0.63	0.044	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Copper	23.8	1.6	0.082	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Lead	13.8	0.63	0.25	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Mercury	0.025	0.018	0.00069	mg/kg	1	10/22/09	10/22/09 TW	SW846 7471A ²	SW846 7471A ⁴
Nickel	16.8	2.5	0.082	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Selenium	0.15 U	0.63	0.15	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Silver	0.26 B	0.63	0.051	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³
Zinc	68.4	1.3	0.25	mg/kg	1	10/21/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA4349

(2) Instrument QC Batch: MA4351

(3) Prep QC Batch: MP10500

(4) Prep QC Batch: MP10506

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:	D09A-RLPCUT-100909	Date Sampled:	10/09/09
Lab Sample ID:	T39650-1	Date Received:	10/10/09
Matrix:	SO - Soil	Percent Solids:	87.4
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.87 B	2.0	mg/kg	1	10/14/09 12:00	KD	SW846 3060/7196A
Chromium, Trivalent ^a	17.1	2.6	mg/kg	1	10/22/09 01:31	NS	SW846 6010/7196A M
Solids, Percent	87.4		%	1	10/14/09	AA	SM 2540 G
Specific Conductivity	268	1.0	umhos/cm	1	10/14/09 15:30	KD	EPA 120.1
pH	9.0		su	1	10/15/09 09:30	EV	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	D09A-RLPCUT-100909	Date Sampled:	10/09/09
Lab Sample ID:	T39650-1A	Date Received:	10/10/09
Matrix:	SO - Soil	Percent Solids:	87.4
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	1.16	0.20	0.0042	mg/l	1	10/16/09	10/20/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4348
(2) Prep QC Batch: MP10475

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:	D09A-RLPCUT-100909	Date Sampled:	10/09/09
Lab Sample ID:	T39650-1B	Date Received:	10/10/09
Matrix:	SO - Soil	Percent Solids:	87.4
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Barium ^a	11900	110	0.34	mg/kg	10	10/16/09	10/22/09 NS	SW846 6010B ¹	SW846 3050B ²

- (1) Instrument QC Batch: MA4349
(2) Prep QC Batch: MP10472

(a) Prep Method LDNR29B

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:	D09A-RLPCUT-100909	Date Sampled:	10/09/09
Lab Sample ID:	T39650-1C	Date Received:	10/10/09
Matrix:	SO - Soil	Percent Solids:	87.4
Project:	EnCana Oil & Gas (USA) Inc.		

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	1790	25	0.18	mg/l	5	10/19/09	10/20/09 NS	SW846 6010B ¹	SW846 3050B ³
Magnesium	76.8	25	0.039	mg/l	5	10/19/09	10/20/09 NS	SW846 6010B ¹	SW846 3050B ³
Sodium	1030	50	1.3	mg/l	10	10/19/09	10/20/09 NS	SW846 6010B ²	SW846 3050B ³

- (1) Instrument QC Batch: MA4345
(2) Instrument QC Batch: MA4348
(3) Prep QC Batch: MP10481

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:	D09A-RLPCUT-100909		
Lab Sample ID:	T39650-1C	Date Sampled:	10/09/09
Matrix:	SO - Soil	Date Received:	10/10/09
		Percent Solids:	87.4
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	6.47		ratio	1	10/20/09 15:14	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 #	T 77650

[illegible]

T39650: Chain of Custody

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Table 1:
CONTAMINANTS OF CONCERN: Allowable Concentrations and Sampling Methods (COGCC Table 910-1)

CONTAMINANT OF CONCERN	CONCENTRATIONS	ANALYTICAL METHOD (SW846)
Organic Compounds in Soil		
TPH (total volatile and extractable petroleum hydrocarbons)	500 mg/kg	8015
Benzene	0.17 mg/kg ¹	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	2.2 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 mmhos/cm or 2x background	9050
Sodium Adsorption Ratio (SAR)	<12 ²	LAQNR28B
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 ¹	6010B
Cadmium	70 mg/kg ^{1a}	6010B
Chromium (III)	120,000 mg/kg ²	6010B
Chromium (VI)	23 mg/kg ^{1a}	6010B
Copper	3,100 mg/kg ²	6010B
Lead (inorganic)	400 mg/kg ²	6010B
Mercury	23 mg/kg ²	6010B
Nickel (soluble salts)	1,500 mg/kg ^{1a}	6010B
Selenium	980 mg/kg ^{1a}	6010B
Silver	380 mg/kg ²	6010BB
Zinc	23,000 mg/kg ^{1a}	6010B
Liquid Hydrocarbons in Soils and Ground Water		
Liquid hydrocarbons including condensate and oil	Below detection level	Visual

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.

¹ COGCC allowable concentrations based on Table 910-1. Consideration shall be given to background levels in native soils.

SAMPLE INSPECTION FORM

Accutest Job Number: T39650 Client: EnCana Oil & Gas Date/Time Received: 12/10/07 12:15
 # of Coolers Received: 1 Thermometer #: 12-1 Temperature Adjustment Factor: +0.4
 Cooler Temps: #1: 1.2 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____
 Method of Delivery: EXPRESS UPS Accutest Courier Greyhound Delivery Other
 Airbill Numbers: _____

COOLER INFORMATION

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

CHAIN OF CUSTODY

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

SAMPLE INFORMATION

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

TRIP BLANK INFORMATION

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

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

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: _____

INFORMATION AND SAMPLE LABELING VERIFIED BY: _____

CORRECTIVE ACTIONS

Client Representative Notified: _____ Date: _____
 By Accutest Representative: _____ Via: Phone Email
 Client Instructions: _____

i:\mwalker\form\samplemanagement

SAMPLE RECEIPT LOG

JOB #: T39650 DATE/TIME RECEIVED: 10/10/09 1215

CLIENT: En Cong O. I d. 792 INITIALS: ET

[illegible]

LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

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T39650: Chain of Custody

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GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM868-MB	M0021540.D 1		10/21/09	JL	n/a	n/a	VM868

The QC reported here applies to the following samples:

Method: SW846 8260B

T39650-1

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	111% 70-121%
2037-26-5	Toluene-D8	99% 76-132%
460-00-4	4-Bromofluorobenzene	93% 73-165%
17060-07-0	1,2-Dichloroethane-D4	99% 57-122%

Blank Spike Summary

Page 1 of 1

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM868-BS	M0021538.D	1	10/21/09	JL	n/a	n/a	VM868

The QC reported here applies to the following samples:

Method: SW846 8260B

T39650-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	50.8	102	70-114
100-41-4	Ethylbenzene	50	49.8	100	60-119
108-88-3	Toluene	50	47.4	95	68-115
1330-20-7	Xylene (total)	150	152	101	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	70-121%
2037-26-5	Toluene-D8	101%	76-132%
460-00-4	4-Bromofluorobenzene	97%	73-165%
17060-07-0	1,2-Dichloroethane-D4	102%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T40006-8MS	M0021549.D	1	10/21/09	JL	n/a	n/a	VM868
T40006-8MSD	M0021550.D	1	10/21/09	JL	n/a	n/a	VM868
T40006-8	M0021548.D	1	10/21/09	JL	n/a	n/a	VM868

The QC reported here applies to the following samples:

Method: SW846 8260B

T39650-1

CAS No.	Compound	T40006-8 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		57.8	49.0	85	57.0	100	15	70-114/38
100-41-4	Ethylbenzene	ND		57.8	56.4	98	63.4	111	12	60-119/40
108-88-3	Toluene	1.3	J	57.8	56.4	95	62.9	108	11	68-115/38
1330-20-7	Xylene (total)	ND		173	170	98	190	111	11	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T40006-8	Limits
1868-53-7	Dibromofluoromethane	83%	86%	83%	70-121%
2037-26-5	Toluene-D8	102%	97%	103%	76-132%
460-00-4	4-Bromofluorobenzene	105%	98%	105%	73-165%
17060-07-0	1,2-Dichloroethane-D4	79%	84%	73%	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: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13235-MB	P06522.D	1	10/13/09	GJ	10/13/09	OP13235	EP319

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T39650-1

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

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	60% 10-127%
321-60-8	2-Fluorobiphenyl	56% 11-133%
1718-51-0	Terphenyl-d14	73% 15-187%

Blank Spike Summary

Page 1 of 1

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13235-BS	P06523.D	1	10/13/09	GJ	10/13/09	OP13235	EP319

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T39650-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	167	67.8	41	18-118
208-96-8	Acenaphthylene	167	97.0	58	35-125
120-12-7	Anthracene	167	128	77	24-116
56-55-3	Benzo(a)anthracene	167	130	78	32-132
50-32-8	Benzo(a)pyrene	167	117	70	36-130
205-99-2	Benzo(b)fluoranthene	167	116	70	35-134
191-24-2	Benzo(g,h,i)perylene	167	128	77	18-149
207-08-9	Benzo(k)fluoranthene	167	137	82	30-131
218-01-9	Chrysene	167	137	82	37-124
53-70-3	Dibenzo(a,h)anthracene	167	121	73	23-150
206-44-0	Fluoranthene	167	134	80	28-118
86-73-7	Fluorene	167	132	79	32-106
193-39-5	Indeno(1,2,3-cd)pyrene	167	124	74	18-150
90-12-0	1-Methylnaphthalene	167	57.6	35	10-128
91-57-6	2-Methylnaphthalene	167	98.9	59	28-113
91-20-3	Naphthalene	167	53.8	32	31-106
85-01-8	Phenanthrene	167	127	76	37-112
129-00-0	Pyrene	167	129	77	24-132

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	59%	10-127%
321-60-8	2-Fluorobiphenyl	51%	11-133%
1718-51-0	Terphenyl-d14	74%	15-187%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13235-MS	P06528.D	1	10/13/09	GJ	10/13/09	OP13235	EP319
OP13235-MSD	P06529.D	1	10/13/09	GJ	10/13/09	OP13235	EP319
T39625-1 ^a	P06527.D	1	10/13/09	GJ	10/13/09	OP13235	EP319

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T39650-1

CAS No.	Compound	T39625-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		193	376	195*	467	245*	22	10-153/80
208-96-8	Acenaphthylene	ND		193	167	86	162	85	3	10-144/71
120-12-7	Anthracene	5.0	J	193	160	80	154	78	4	10-176/57
56-55-3	Benzo(a)anthracene	ND		193	160	83	165	87	3	10-174/73
50-32-8	Benzo(a)pyrene	ND		193	134	69	138	72	3	10-182/74
205-99-2	Benzo(b)fluoranthene	ND		193	136	70	145	76	6	10-188/86
191-24-2	Benzo(g,h,i)perylene	ND		193	128	66	125	66	2	10-150/62
207-08-9	Benzo(k)fluoranthene	ND		193	154	80	157	82	2	10-170/94
218-01-9	Chrysene	ND		193	151	78	156	82	3	10-165/73
53-70-3	Dibenzo(a,h)anthracene	ND		193	133	69	131	69	2	10-192/74
206-44-0	Fluoranthene	2.6	J	193	173	88	179	93	3	10-141/73
86-73-7	Fluorene	49.9		193	263	110	379	173*	36	10-164/72
193-39-5	Indeno(1,2,3-cd)pyrene	ND		193	131	68	130	68	1	10-150/73
90-12-0	1-Methylnaphthalene	ND		193	24.0	12	20.1	11	18	10-154/82
91-57-6	2-Methylnaphthalene	3.9	J	193	73.0	36	80.9	40	10	10-171/75
91-20-3	Naphthalene	6.0	J	193	45.7	21	38.9	17	16	10-138/82
85-01-8	Phenanthrene	10.5		193	182	89	180	89	1	10-191/77
129-00-0	Pyrene	6.1	J	193	184	92	184	93	0	10-150/66

CAS No.	Surrogate Recoveries	MS	MSD	T39625-1	Limits
4165-60-0	Nitrobenzene-d5	61%	66%	51%	10-127%
321-60-8	2-Fluorobiphenyl	436% *	436% *	374% * ^b	11-133%
1718-51-0	Terphenyl-d14	96%	95%	86%	15-187%

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

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



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: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2467-MB	EE048731.D	1	10/21/09	FI	n/a	n/a	GEE2467

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

T39650-1

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	103% 46-127%
98-08-8	aaa-Trifluorotoluene	108% 44-120%

Blank Spike Summary

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2467-BS	EE048726.D	1	10/21/09	FI	n/a	n/a	GEE2467

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

T39650-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.370	93	78-115

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	101%	46-127%
98-08-8	aaa-Trifluorotoluene	111%	44-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T39878-1MS	EE048737.D	1	10/21/09	FI	n/a	n/a	GEE2467
T39878-1MSD	EE048738.D	1	10/21/09	FI	n/a	n/a	GEE2467
T39878-1	EE048732.D	1	10/21/09	FI	n/a	n/a	GEE2467

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

T39650-1

CAS No.	Compound	T39878-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		24.4	24.7	101	23.7	97	4	78-115/14

CAS No.	Surrogate Recoveries	MS	MSD	T39878-1	Limits
460-00-4	4-Bromofluorobenzene	112%	110%	101%	46-127%
98-08-8	aaa-Trifluorotoluene	117%	112%	110%	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: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13234-MB	CC215717.D 1		10/13/09	SS	10/13/09	OP13234	GCC977

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

T39650-1

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	48% 33-115%

8.1.1
8

Blank Spike Summary

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13234-BS	CC215718.D 1		10/13/09	SS	10/13/09	OP13234	GCC977

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

T39650-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	22.3	67	45-107

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

8.2.1
8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T39650
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13234-MS	CC215719.D	10	10/13/09	SS	10/13/09	OP13234	GCC977
OP13234-MSD	CC215724.D	10	10/13/09	SS	10/13/09	OP13234	GCC977
T39625-1	CC215721.D	10	10/13/09	SS	10/13/09	OP13234	GCC977

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

T39650-1

CAS No.	Compound	T39625-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	207		38.5	259	135* a	279	187* a	7	45-107/34

CAS No.	Surrogate Recoveries	MS	MSD	T39625-1	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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10472
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/16/09

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	0.15	<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 MP10472: T39650-1B

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10472
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/16/09

10/16/09

Metal	T39647-1B Original DUP		RPD	QC Limits	T39647-1B Original MS		Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium	250	261	4.3	0-20	250	282	27.1	118.3	80-120
Beryllium									
Boron									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP10472: T39650-1B

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10472
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/16/09

Metal	T39647-1B Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	250	265	25.6	58.6 (a)	6.2	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 MP10472: T39650-1B

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10472
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/16/09

10/16/09

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits	LCS Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic								
Barium	20.0	20	100.0	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 MP10472: T39650-1B

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T39650
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10472
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 10/16/09

Metal	T39647-1B Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	3820	4320	12.9*(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 MP10472: T39650-1B

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10475
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/16/09

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	-43	<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 MP10475: T39650-1A

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10475
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

10/16/09

10/16/09

Metal	T39648-1A			QC	T39648-1A		Spikelot		QC
	Original	DUP	RPD	Limits	Original	MS	MPTW4	% Rec	Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Boron	917	753	19.6	0-20	917	2880	1000	100.0	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 MP10475: T39650-1A

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: T39650
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10475
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 10/16/09

Metal	T39648-1A Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron	917	3150	1000	111.0	9.0	20
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10475: T39650-1A

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: T39650
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	2060	1000	103.2	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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10475
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/16/09

Metal	T39648-1A		QC	
	Original	SDL 1:5	%DIF	Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	464	455	2.0	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 MP10475: T39650-1A

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10481
Matrix Type: AQUEOUS

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

Prep Date: 10/19/09

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	317	<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	67.0	<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	486	<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 MP10481: T39650-1C

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10481
Matrix Type: AQUEOUS

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

Prep Date: 10/19/09

Metal	T39648-1C Original DUP		RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	441000	392000	11.8	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium	35800	32000	11.2	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	63900	56500	12.3	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10481: T39650-1C

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10500
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/21/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.82	2.2		
Antimony	0.50	.11	.14		
Arsenic	0.50	.089	.1	0.082	<0.50
Barium	10	.007	.03		
Beryllium	0.25	.0055	.01		
Boron	5.0	.054	.11		
Cadmium	0.25	.013	.05	0.0070	<0.25
Calcium	250	.27	.86		
Chromium	0.50	.055	.035	-0.010	<0.50
Cobalt	2.5	.025	.09		
Copper	1.3	.029	.065	0.0065	<1.3
Iron	5.0	.65	1.1		
Lead	0.50	.079	.2	-0.033	<0.50
Magnesium	250	.34	.58		
Manganese	0.75	.01	.035		
Molybdenum	0.50	.048	.075		
Nickel	2.0	.048	.065	0.022	<2.0
Potassium	250	2.7	16		
Selenium	0.50	.16	.12	0.037	<0.50
Silver	0.50	.043	.04	-0.0030	<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	-0.013	<1.0

Associated samples MP10500: T39650-1

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10500
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

10/21/09

10/21/09

Metal	T39627-1 Original	DUP	RPD	QC Limits	T39627-1 Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	7.3	5.9	21.2*(a)	0-20	7.3	29.9	29.3	77.1N	80-120
Barium	anr								
Beryllium									
Boron	anr								
Cadmium	0.0	0.087	200.0(b)	0-20	0.0	23.4	29.3	79.8N	80-120
Calcium									
Chromium	17.2	18.0	4.5	0-20	17.2	40.5	29.3	79.5N	80-120
Cobalt									
Copper	13.1	13.6	3.7	0-20	13.1	40.3	29.3	92.8	80-120
Iron									
Lead	10.4	10.9	4.7	0-20	10.4	34.7	29.3	82.9	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel	20.0	22.8	13.1	0-20	20.0	47.1	29.3	92.5	80-120
Potassium									
Selenium	0.0	0.0	NC	0-20	0.0	22.4	29.3	76.4N	80-120
Silver	0.14	0.099	34.3 (b)	0-20	0.14	18.4	29.3	62.3N	80-120
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	41.0	42.6	3.8	0-20	41.0	66.7	29.3	87.7	80-120

Associated samples MP10500: T39650-1

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10500
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/21/09

Metal	T39627-1 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	7.3	26.8	26.6	73.3N	10.9	20
Barium	anr					
Beryllium						
Boron	anr					
Cadmium	0.0	21.0	26.6	78.9N	10.8	20
Calcium						
Chromium	17.2	38.3	26.6	79.3N	5.6	20
Cobalt						
Copper	13.1	36.6	26.6	88.3	9.6	20
Iron						
Lead	10.4	31.5	26.6	79.3N	9.7	20
Magnesium						
Manganese						
Molybdenum						
Nickel	20.0	41.2	26.6	79.7N	13.4	20
Potassium						
Selenium	0.0	20.0	26.6	75.2N	11.3	20
Silver	0.14	16.5	26.6	61.5N	10.9	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	41.0	63.0	26.6	82.7	5.7	20

Associated samples MP10500: T39650-1

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: T39650
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10500
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 10/21/09

Metal	LCS Result	Spikelot MPLCD054	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	137	158	86.7	82-118
Barium	anr			
Beryllium				
Boron	anr			
Cadmium	154	187	82.4	82-118
Calcium				
Chromium	76.5	89.5	85.5	79-121
Cobalt				
Copper	118	129	91.5	84-117
Iron				
Lead	146	172	84.9	79-120
Magnesium				
Manganese				
Molybdenum				
Nickel	85.0	99	85.9	81-119
Potassium				
Selenium	126	148	85.1	78-121
Silver	58.0	66	87.9	66-134
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	324	394	82.2	80-119

Associated samples MP10500: T39650-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10500
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/21/09

Metal	T39627-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	109	140	28.0*(a)	0-10
Barium	anr			
Beryllium				
Boron	anr			
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	256	308	20.3*(a)	0-10
Cobalt				
Copper	194	221	13.9*(a)	0-10
Iron				
Lead	155	191	23.0*(a)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	296	364	22.7*(a)	0-10
Potassium				
Selenium	0.00	0.00	NC	0-10
Silver	2.11	0.00	100.0(b)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	609	776	27.4*(a)	0-10

Associated samples MP10500: T39650-1

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10506
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 10/22/09

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.017	.0041	.00066	-0.0040	<0.017

Associated samples MP10506: T39650-1

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: T39650
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10506
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 10/22/09 10/22/09

Metal	T39876-1		QC	T39876-1		Spikelot	% Rec	QC
	Original	DUP	RPD	Original	MS	HGTXWS1		Limits
Mercury	0.019	0.022	14.6	0-20	0.019 0.28	0.257	101.7	75-125

Associated samples MP10506: T39650-1

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39650
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10506
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 10/22/09

Metal	T39876-1 Original	MSD	Spikelot HGTXWS1	% Rec	MSD RPD	QC Limit
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Mercury	0.019	0.32	0.283	106.3	13.3	
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Associated samples MP10506: T39650-1

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: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 7471A
Units: mg/kg

Metal	LCS Result	Spikelot HGLCD054 % Rec	QC Limits
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Associated samples MP10506: T39650-1

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



General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T39650
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	GN18307	2.0	<2.0	mg/kg	40	39.7	99.8	80-120%
Specific Conductivity	GN18318	1.0	<1.0	umhos/cm				

Associated Samples:
Batch GN18307: T39650-1
Batch GN18318: T39650-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T39650
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN18307	T39188-1	mg/kg	1.1	<2.0	0.9	0-20%
Solids, Percent	GN18325	T39780-1	%	80.3	80.1	0.2	0-5%
Specific Conductivity	GN18318	T39188-1	umhos/cm	1950	1950	0.0	0-20%
pH	GN18328	T39650-1	su	9.0	9.0	0.0	0-20%

Associated Samples:

Batch GN18307: T39650-1

Batch GN18318: T39650-1

Batch GN18325: T39650-1

Batch GN18328: T39650-1

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T39650
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	GN18307	T39188-1	mg/kg	1.1	40	35.7	86.6	75-125%

Associated Samples:
Batch GN18307: T39650-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits