

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

Location	Sample Date:	Sample Matrix	Matrix Notes	Allowable Concentration -->	Organic Compounds in Soil (mg/kg [ppm])																	Inorganics in Soil			Metals in Soil (mg/kg [ppm])														
					TPH (total volatile and extractable petroleum hydrocarbons)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Benzo(A)pyrene	Chrysene	Dibenzo(A,H)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-C,D)pyrene	Naphthalene	Pyrene	EC (<4 mmhos/cm or 2x background)	SAR (calculation)	pH	Arsenic	Barium - EPA Total Barium	Cadmium	Chromium (III)	Chromium (VI)	Copper	Lead (inorganic)	Mercury	Nickel (soluble salts)	Selenium	Silver	Zinc
K19CNE	03/13/12	Cuttings	Composite 1 (910)	500	310.87	0.87	310	0.0034	BDL	BDL	BDL	0.012	0.011	BDL	0.0062	BDL	BDL	BDL	BDL	0.014	0.053	BDL	0.16	BDL	2.1	23	8.7	3.2	6200	0.34	10	BDL	12	5.9	0.02	7.7	1.8	BDL	38
K19CNE	03/13/12	Cuttings	Composite 2	500	174.4	4.4	170	0.005	BDL	BDL	BDL	0.007	0.0094	BDL	0.0092	BDL	BDL	BDL	BDL	0.027	0.047	BDL	0.22	BDL				3.1											
K19CNE	03/13/12	Cuttings	Composite 3	500	244.5	4.5	240	0.0077	BDL	BDL	0.0089	BDL	BDL	BDL	0.01	BDL	0.012	BDL	BDL	BDL	0.085	BDL	0.25	BDL				2.1											
K19CNE	05/13/13	Cuttings	composite 1 (910)	500	112.4	2.4	110	0.0082	BDL	BDL	0.0099	BDL	BDL	BDL	BDL	BDL	0.0069	0.0067	BDL	0.02	BDL	0.068	0.0074	1.7	2.5	8.9	3.1	9800	BDL	12	BDL	14	7.6	0.028	7.7	1.4	BDL	40	
K19CNE	05/13/13	Cuttings	composite 2	500	182.4	2.4	180	0.0072	BDL	BDL	0.009	BDL	BDL	BDL	BDL	0.01	BDL	BDL	BDL	0.019	BDL	0.099	0.0068	1.6	18	8.8	2.6												
K19CNE	05/13/13	Cuttings	composite 3	500	77.8	1.8	76	0.015	BDL	0.0034	0.013	BDL	0.022	BDL	BDL	BDL	0.0083	BDL	BDL	0.019	BDL	0.071	BDL	2	21	9	3.9												



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

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

Report Summary

Wednesday March 21, 2012

Report Number: L564894


Samples Received: 03/14/12

Client Project:

Description: K19CNE Cuttings

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

Entire Report Reviewed By:


Jared Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

March 21, 2012

Date Received : March 14, 2012
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT1-031312 12 IN
 Collected By : Matt Kasten
 Collection Date : 03/13/12 09:30

ESC Sample # : L564894-01
 Site ID :
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium,Hexavalent	BDL	2.0	mg/kg	3060A/7196A	03/20/12	1
Chromium,Trivalent	10.	2.0	mg/kg	Calc.	03/15/12	1
ORP	130		mV	2580	03/15/12	1
pH	8.7		su	9045D	03/17/12	1
Sodium Adsorption Ratio	23.			Calc.	03/19/12	1
Specific Conductance	2100		umhos/cm	9050AMod	03/15/12	1
Mercury	0.020	0.020	mg/kg	7471	03/16/12	1
Arsenic	3.2	1.0	mg/kg	6010B	03/15/12	1
Barium	6200	1.2	mg/kg	6010B	03/16/12	5
Cadmium	0.34	0.25	mg/kg	6010B	03/15/12	1
Chromium	10.	0.50	mg/kg	6010B	03/15/12	1
Copper	12.	1.0	mg/kg	6010B	03/15/12	1
Lead	5.9	0.25	mg/kg	6010B	03/15/12	1
Nickel	7.7	1.0	mg/kg	6010B	03/15/12	1
Selenium	1.8	1.0	mg/kg	6010B	03/15/12	1
Silver	BDL	0.50	mg/kg	6010B	03/15/12	1
Zinc	38.	1.5	mg/kg	6010B	03/15/12	1
Benzene	0.0034	0.0025	mg/kg	8021/8015	03/14/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	03/14/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	03/14/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	03/14/12	5
TPH (GC/FID) Low Fraction	0.87	0.50	mg/kg	GRO	03/14/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.1		% Rec.	8021/8015	03/14/12	5
a,a,a-Trifluorotoluene(PID)	86.2		% Rec.	8021/8015	03/14/12	5
TPH (GC/FID) High Fraction	310	4.0	mg/kg	3546/DRO	03/15/12	1
Surrogate recovery(%)						
o-Terphenyl	81.3		% Rec.	3546/DRO	03/15/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.011	0.0060	mg/kg	8270C-SIM	03/16/12	1
Acenaphthene	0.012	0.0060	mg/kg	8270C-SIM	03/16/12	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Benzo(a)anthracene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 L564894-01 (PH) - 8.7@22.3c



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

March 21, 2012

Date Received : March 14, 2012
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT1-031312 12 IN
 Collected By : Matt Kasten
 Collection Date : 03/13/12 09:30

ESC Sample # : L564894-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	0.0062	0.0060	mg/kg	8270C-SIM	03/16/12	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Chrysene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Fluoranthene	0.014	0.0060	mg/kg	8270C-SIM	03/16/12	1
Fluorene	0.053	0.0060	mg/kg	8270C-SIM	03/16/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Naphthalene	0.16	0.0060	mg/kg	8270C-SIM	03/16/12	1
Phenanthrene	0.090	0.0060	mg/kg	8270C-SIM	03/16/12	1
Pyrene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
1-Methylnaphthalene	0.10	0.0060	mg/kg	8270C-SIM	03/16/12	1
2-Methylnaphthalene	0.47	0.060	mg/kg	8270C-SIM	03/19/12	10
2-Chloronaphthalene	0.0094	0.0060	mg/kg	8270C-SIM	03/16/12	1
Surrogate Recovery						
Nitrobenzene-d5	53.1		% Rec.	8270C-SIM	03/16/12	1
2-Fluorobiphenyl	79.0		% Rec.	8270C-SIM	03/16/12	1
p-Terphenyl-d14	129.		% Rec.	8270C-SIM	03/19/12	10

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 03/21/12 16:36 Printed: 03/21/12 16:37
 L564894-01 (PH) - 8.7@22.3c



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

March 21, 2012

Date Received : March 14, 2012
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT2-031312 12 IN
 Collected By : Matt Kasten
 Collection Date : 03/13/12 10:05

ESC Sample # : L564894-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	3.1	1.0	mg/kg	6010B	03/16/12	1
Benzene	0.0050	0.0025	mg/kg	8021/8015	03/14/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	03/14/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	03/14/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	03/14/12	5
TPH (GC/FID) Low Fraction	4.4	0.50	mg/kg	GRO	03/14/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.0		% Rec.	8021/8015	03/14/12	5
a,a,a-Trifluorotoluene(PID)	86.3		% Rec.	8021/8015	03/14/12	5
TPH (GC/FID) High Fraction	170	4.0	mg/kg	3546/DRO	03/15/12	1
Surrogate recovery(%)						
o-Terphenyl	65.5		% Rec.	3546/DRO	03/15/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.0094	0.0060	mg/kg	8270C-SIM	03/16/12	1
Acenaphthene	0.0073	0.0060	mg/kg	8270C-SIM	03/16/12	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Benzo(a)anthracene	BDL	0.24	mg/kg	8270C-SIM	03/21/12	40
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Benzo(b)fluoranthene	0.0092	0.0060	mg/kg	8270C-SIM	03/16/12	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Chrysene	BDL	0.24	mg/kg	8270C-SIM	03/21/12	40
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Fluoranthene	0.027	0.0060	mg/kg	8270C-SIM	03/16/12	1
Fluorene	0.047	0.0060	mg/kg	8270C-SIM	03/16/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	03/16/12	1
Naphthalene	0.22	0.060	mg/kg	8270C-SIM	03/19/12	10
Phenanthrene	0.090	0.0060	mg/kg	8270C-SIM	03/16/12	1
Pyrene	BDL	0.24	mg/kg	8270C-SIM	03/21/12	40
1-Methylnaphthalene	0.16	0.060	mg/kg	8270C-SIM	03/19/12	10
2-Methylnaphthalene	0.47	0.060	mg/kg	8270C-SIM	03/19/12	10
2-Chloronaphthalene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Surrogate Recovery						
Nitrobenzene-d5	89.9		% Rec.	8270C-SIM	03/19/12	10
2-Fluorobiphenyl	77.4		% Rec.	8270C-SIM	03/16/12	1
p-Terphenyl-d14	188.		% Rec.	8270C-SIM	03/21/12	40

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 03/21/12 16:36 Printed: 03/21/12 16:37
 L564894-02 (SV8270PAHSIM) - Dilution due to matrix



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

March 21, 2012

Date Received : March 14, 2012
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT3-031312 12 IN
 Collected By : Matt Kasten
 Collection Date : 03/13/12 10:30

ESC Sample # : L564894-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	2.1	1.0	mg/kg	6010B	03/16/12	1
Benzene	0.0077	0.0025	mg/kg	8021/8015	03/14/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	03/14/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	03/14/12	5
Total Xylene	0.0089	0.0075	mg/kg	8021/8015	03/14/12	5
TPH (GC/FID) Low Fraction	4.5	0.50	mg/kg	GRO	03/14/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	94.1		% Rec.	8021/8015	03/14/12	5
a,a,a-Trifluorotoluene(PID)	85.5		% Rec.	8021/8015	03/14/12	5
TPH (GC/FID) High Fraction	240	4.0	mg/kg	3546/DRO	03/15/12	1
Surrogate recovery(%)						
o-Terphenyl	103.		% Rec.	3546/DRO	03/15/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Acenaphthene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Acenaphthylene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Benzo(a)anthracene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Benzo(a)pyrene	0.012	0.0060	mg/kg	8270C-SIM	03/20/12	1
Benzo(b)fluoranthene	0.010	0.0060	mg/kg	8270C-SIM	03/20/12	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	03/20/12	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	03/20/12	1
Chrysene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	03/20/12	1
Fluoranthene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Fluorene	0.085	0.060	mg/kg	8270C-SIM	03/19/12	10
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	03/20/12	1
Naphthalene	0.25	0.060	mg/kg	8270C-SIM	03/19/12	10
Phenanthrene	0.17	0.060	mg/kg	8270C-SIM	03/19/12	10
Pyrene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
1-Methylnaphthalene	0.22	0.060	mg/kg	8270C-SIM	03/19/12	10
2-Methylnaphthalene	0.59	0.060	mg/kg	8270C-SIM	03/19/12	10
2-Chloronaphthalene	BDL	0.060	mg/kg	8270C-SIM	03/19/12	10
Surrogate Recovery						
Nitrobenzene-d5	57.5		% Rec.	8270C-SIM	03/19/12	10
2-Fluorobiphenyl	102.		% Rec.	8270C-SIM	03/19/12	10
p-Terphenyl-d14	216.		% Rec.	8270C-SIM	03/19/12	10

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 03/21/12 16:36 Printed: 03/21/12 16:37

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L564894-01	WG583276	SAMP	pH	R2079433	T8
L564894-02	WG582808	SAMP	Benzo(a)anthracene	R2078553	O
	WG582808	SAMP	Chrysene	R2078553	O
	WG582808	SAMP	Pyrene	R2078553	O
	WG582808	SAMP	p-Terphenyl-d14	R2078553	J7
L564894-03	WG582931	SAMP	Arsenic	R2078959	P1
	WG582808	SAMP	p-Terphenyl-d14	R2078553	J1

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
03/21/12 at 16:37:24

TSR Signing Reports: 358
R5 - Desired TAT

Try not to report benzene as BDL above a 250x dilution. ONLY log soil samples under this account. Waters get logged under ENCRCO.

Sample: L564894-01 Account: ENCANACO Received: 03/14/12 09:00 Due Date: 03/21/12 00:00 RPT Date: 03/21/12 16:36

Sample: L564894-02 Account: ENCANACO Received: 03/14/12 09:00 Due Date: 03/21/12 00:00 RPT Date: 03/21/12 16:36

Sample: L564894-03 Account: ENCANACO Received: 03/14/12 09:00 Due Date: 03/21/12 00:00 RPT Date: 03/21/12 16:36



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report
Level II

L564894

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

March 21, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Specific Conductance	1.42	umhos/cm			WG582987	03/15/12 21:42
TPH (GC/FID) High Fraction	< 4	ppm			WG582897	03/15/12 16:34
o-Terphenyl		% Rec.	85.02	50-150	WG582897	03/15/12 16:34
Arsenic	< 1	mg/kg			WG582825	03/15/12 20:32
Barium	< .25	mg/kg			WG582825	03/15/12 20:32
Cadmium	< .25	mg/kg			WG582825	03/15/12 20:32
Chromium	< .5	mg/kg			WG582825	03/15/12 20:32
Copper	< 1	mg/kg			WG582825	03/15/12 20:32
Lead	< .25	mg/kg			WG582825	03/15/12 20:32
Nickel	< 1	mg/kg			WG582825	03/15/12 20:32
Selenium	< 1	mg/kg			WG582825	03/15/12 20:32
Silver	< .5	mg/kg			WG582825	03/15/12 20:32
Zinc	< 1.5	mg/kg			WG582825	03/15/12 20:32
1-Methylnaphthalene	< .006	mg/kg			WG582808	03/16/12 16:17
2-Chloronaphthalene	< .006	mg/kg			WG582808	03/16/12 16:17
2-Methylnaphthalene	< .006	mg/kg			WG582808	03/16/12 16:17
Acenaphthene	< .006	mg/kg			WG582808	03/16/12 16:17
Acenaphthylene	< .006	mg/kg			WG582808	03/16/12 16:17
Anthracene	< .006	mg/kg			WG582808	03/16/12 16:17
Benzo(a)anthracene	< .006	mg/kg			WG582808	03/16/12 16:17
Benzo(a)pyrene	< .006	mg/kg			WG582808	03/16/12 16:17
Benzo(b)fluoranthene	< .006	mg/kg			WG582808	03/16/12 16:17
Benzo(g,h,i)perylene	< .006	mg/kg			WG582808	03/16/12 16:17
Benzo(k)fluoranthene	< .006	mg/kg			WG582808	03/16/12 16:17
Chrysene	< .006	mg/kg			WG582808	03/16/12 16:17
Dibenz(a,h)anthracene	< .006	mg/kg			WG582808	03/16/12 16:17
Fluoranthene	< .006	mg/kg			WG582808	03/16/12 16:17
Fluorene	< .006	mg/kg			WG582808	03/16/12 16:17
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG582808	03/16/12 16:17
Naphthalene	< .006	mg/kg			WG582808	03/16/12 16:17
Phenanthrene	< .006	mg/kg			WG582808	03/16/12 16:17
Pyrene	< .006	mg/kg			WG582808	03/16/12 16:17
2-Fluorobiphenyl		% Rec.	93.27	34-129	WG582808	03/16/12 16:17
Nitrobenzene-d5		% Rec.	89.27	14-141	WG582808	03/16/12 16:17
p-Terphenyl-d14		% Rec.	112.6	25-139	WG582808	03/16/12 16:17
Mercury	< .02	mg/kg			WG583096	03/16/12 17:00
Arsenic	< 1	mg/kg			WG582931	03/16/12 19:29
Benzene	< .0005	mg/kg			WG582787	03/14/12 18:36
Ethylbenzene	< .0005	mg/kg			WG582787	03/14/12 18:36
Toluene	< .005	mg/kg			WG582787	03/14/12 18:36
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG582787	03/14/12 18:36
Total Xylene	< .0015	mg/kg			WG582787	03/14/12 18:36
a,a,a-Trifluorotoluene(FID)		% Rec.	97.61	59-128	WG582787	03/14/12 18:36
a,a,a-Trifluorotoluene(PID)		% Rec.	87.88	54-144	WG582787	03/14/12 18:36
pH	4.50	su			WG583276	03/17/12 13:38

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report
Level II

L564894

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

March 21, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chromium,Hexavalent	< 2	mg/kg			WG583086	03/20/12 14:06

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
ORP	mV	180.	180.	1.68	20	L564687-01	WG582840
ORP	mV	130.	130.	1.55	20	L564894-01	WG582840
Specific Conductance	umhos/cm	1100	1200	8.70	20	L564482-40	WG582987
Specific Conductance	umhos/cm	1900	2100	9.48	20	L564894-01	WG582987
Barium	mg/kg	88.0	130.	38.9*	20	L564901-01	WG582825
Chromium	mg/kg	19.0	20.0	6.72	20	L564901-01	WG582825
Copper	mg/kg	7.80	8.07	3.92	20	L564901-01	WG582825
Nickel	mg/kg	11.0	12.2	6.78	20	L564901-01	WG582825
Silver	mg/kg	0	0	0	20	L564901-01	WG582825
Zinc	mg/kg	46.0	50.2	9.17	20	L564901-01	WG582825
Arsenic	mg/kg	10.0	9.70	2.64	20	L564901-01	WG582825
Cadmium	mg/kg	0.580	0.650	12.2	20	L564901-01	WG582825
Lead	mg/kg	16.0	17.0	2.99	20	L564901-01	WG582825
Selenium	mg/kg	5.10	0	NA	20	L564901-01	WG582825
Mercury	mg/kg	0	0	0	20	L564964-03	WG583096
Arsenic	mg/kg	1.60	2.10	25.8*	20	L564894-03	WG582931
pH	su	1.50	1.50	1.98*	1	L564626-02	WG583276
pH	su	8.00	8.00	0	1	L565233-01	WG583276
Chromium,Hexavalent	mg/kg	9.40	8.40	11.7	20	L564687-13	WG583086
Chromium,Hexavalent	mg/kg	0	0	0	20	L564599-01	WG583086

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
ORP	mV	228	228.	100.	95.6-104.37	WG582840
Specific Conductance	umhos/cm	350	346.	98.9	85-115	WG582987
TPH (GC/FID) High Fraction o-Terphenyl	ppm	60	38.7	64.6 77.44	50-150 50-150	WG582897 WG582897
Arsenic	mg/kg	92.6	86.0	92.9	82.9-117	WG582825
Barium	mg/kg	169	161.	95.3	82.8-117	WG582825
Cadmium	mg/kg	61.8	60.5	97.9	83.3-117	WG582825
Chromium	mg/kg	71.3	72.6	102.	81.8-118	WG582825
Copper	mg/kg	81.2	81.0	99.8	83.9-116	WG582825
Lead	mg/kg	92.4	88.0	95.2	83.3-117	WG582825
Nickel	mg/kg	59.1	55.1	93.2	83.8-116	WG582825
Selenium	mg/kg	89.5	84.5	94.4	79-121	WG582825

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report
Level II

L564894

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

March 21, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Silver	mg/kg	34.4	29.8	86.6	66.3-134	WG582825
Zinc	mg/kg	141	136.	96.5	80.9-119	WG582825
1-Methylnaphthalene	mg/kg	.033	0.0297	90.0	48-113	WG582808
2-Chloronaphthalene	mg/kg	.033	0.0305	92.3	51-114	WG582808
2-Methylnaphthalene	mg/kg	.033	0.0299	90.7	44-109	WG582808
Acenaphthene	mg/kg	.033	0.0260	78.8	52-108	WG582808
Acenaphthylene	mg/kg	.033	0.0291	88.3	51-110	WG582808
Anthracene	mg/kg	.033	0.0317	95.9	58-120	WG582808
Benzo(a)anthracene	mg/kg	.033	0.0349	106.	54-110	WG582808
Benzo(a)pyrene	mg/kg	.033	0.0342	103.	56-118	WG582808
Benzo(b)fluoranthene	mg/kg	.033	0.0351	106.	55-114	WG582808
Benzo(g,h,i)perylene	mg/kg	.033	0.0363	110.	48-130	WG582808
Benzo(k)fluoranthene	mg/kg	.033	0.0346	105.	55-122	WG582808
Chrysene	mg/kg	.033	0.0344	104.	57-118	WG582808
Dibenz(a,h)anthracene	mg/kg	.033	0.0338	103.	53-122	WG582808
Fluoranthene	mg/kg	.033	0.0329	99.8	58-118	WG582808
Fluorene	mg/kg	.033	0.0309	93.6	54-109	WG582808
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0353	107.	51-125	WG582808
Naphthalene	mg/kg	.033	0.0268	81.3	45-105	WG582808
Phenanthrene	mg/kg	.033	0.0302	91.6	53-114	WG582808
Pyrene	mg/kg	.033	0.0336	102.	53-121	WG582808
2-Fluorobiphenyl				90.65	34-129	WG582808
Nitrobenzene-d5				89.59	14-141	WG582808
p-Terphenyl-d14				103.6	25-139	WG582808
Mercury	mg/kg	3.77	4.75	126.	71.6-128	WG583096
Arsenic	mg/kg	92.6	93.5	101.	82.9-117	WG582931
Benzene	mg/kg	.05	0.0483	96.5	76-113	WG582787
Ethylbenzene	mg/kg	.05	0.0511	102.	78-115	WG582787
Toluene	mg/kg	.05	0.0488	97.5	76-114	WG582787
Total Xylene	mg/kg	.15	0.154	103.	81-118	WG582787
a,a,a-Trifluorotoluene(PID)				103.2	54-144	WG582787
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.76	123.	67-135	WG582787
a,a,a-Trifluorotoluene(FID)				99.50	59-128	WG582787
pH	su	7.98	8.00	100.	98-101	WG583276
Chromium,Hexavalent	mg/kg	203	146.	71.9	50-150	WG583086

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
ORP	mV	229.	228.	100.	95.6-104.37	0.438	20	WG582840
Specific Conductance	umhos/	345.	346.	98.0	85-115	0.289	20	WG582987
TPH (GC/FID) High Fraction	ppm	38.7	38.7	64.0	50-150	0.0413	25	WG582897
o-Terphenyl				75.31	50-150			WG582897

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report
Level II

L564894

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

March 21, 2012

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec	%Rec				
1-Methylnaphthalene	mg/kg	0.0265	0.0297	80.0		48-113	11.3	24	WG582808
2-Chloronaphthalene	mg/kg	0.0287	0.0305	87.0		51-114	6.01	24	WG582808
2-Methylnaphthalene	mg/kg	0.0277	0.0299	84.0		44-109	7.61	24	WG582808
Acenaphthene	mg/kg	0.0251	0.0260	76.0		52-108	3.36	22	WG582808
Acenaphthylene	mg/kg	0.0285	0.0291	86.0		51-110	2.32	21	WG582808
Anthracene	mg/kg	0.0308	0.0317	93.0		58-120	2.61	20	WG582808
Benzo(a)anthracene	mg/kg	0.0353	0.0349	107.		54-110	1.07	22	WG582808
Benzo(a)pyrene	mg/kg	0.0337	0.0342	102.		56-118	1.29	21	WG582808
Benzo(b)fluoranthene	mg/kg	0.0347	0.0351	105.		55-114	1.10	20	WG582808
Benzo(g,h,i)perylene	mg/kg	0.0350	0.0363	106.		48-130	3.64	20	WG582808
Benzo(k)fluoranthene	mg/kg	0.0339	0.0346	102.		55-122	2.30	25	WG582808
Chrysene	mg/kg	0.0344	0.0344	104.		57-118	0.0313	20	WG582808
Dibenz(a,h)anthracene	mg/kg	0.0331	0.0338	100.		53-122	2.31	20	WG582808
Fluoranthene	mg/kg	0.0319	0.0329	97.0		58-118	3.04	20	WG582808
Fluorene	mg/kg	0.0302	0.0309	91.0		54-109	2.29	20	WG582808
Indeno(1,2,3-cd)pyrene	mg/kg	0.0345	0.0353	105.		51-125	2.19	21	WG582808
Naphthalene	mg/kg	0.0255	0.0268	77.0		45-105	5.15	24	WG582808
Phenanthrene	mg/kg	0.0291	0.0302	88.0		53-114	3.66	20	WG582808
Pyrene	mg/kg	0.0338	0.0336	102.		53-121	0.707	20	WG582808
2-Fluorobiphenyl				86.01		34-129			WG582808
Nitrobenzene-d5				81.43		14-141			WG582808
p-Terphenyl-d14				103.6		25-139			WG582808
Benzene	mg/kg	0.0462	0.0483	92.0		76-113	4.33	20	WG582787
Ethylbenzene	mg/kg	0.0491	0.0511	98.0		78-115	4.02	20	WG582787
Toluene	mg/kg	0.0470	0.0488	94.0		76-114	3.70	20	WG582787
Total Xylene	mg/kg	0.149	0.154	99.0		81-118	3.65	20	WG582787
a,a,a-Trifluorotoluene(PID)				101.2		54-144			WG582787
TPH (GC/FID) Low Fraction	mg/kg	6.61	6.76	120.		67-135	2.22	20	WG582787
a,a,a-Trifluorotoluene(FID)				106.4		59-128			WG582787
pH	su	8.00	8.00	100.		98-101	0	20	WG583276
Chromium,Hexavalent	mg/kg	136.	146.	67.0		50-150	7.09	20	WG583086

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
TPH (GC/FID) High Fraction	ppm	67.6	44.0	60	39.3*	50-150	L564766-01	WG582897
o-Terphenyl					80.38	50-150		WG582897
Barium	mg/kg	130.	130.	50	0*	75-125	L564901-01	WG582825
Chromium	mg/kg	65.9	20.0	50	91.8	75-125	L564901-01	WG582825
Copper	mg/kg	55.3	8.07	50	94.5	75-125	L564901-01	WG582825
Nickel	mg/kg	53.1	12.2	50	81.8	75-125	L564901-01	WG582825
Silver	mg/kg	43.3	0	50	86.6	75-125	L564901-01	WG582825
Zinc	mg/kg	96.8	50.2	50	93.2	75-125	L564901-01	WG582825
Arsenic	mg/kg	54.2	9.70	10	89.0	75-125	L564901-01	WG582825
Cadmium	mg/kg	46.4	0.650	10	91.5	75-125	L564901-01	WG582825
Lead	mg/kg	62.0	17.0	10	90.0	75-125	L564901-01	WG582825
Selenium	mg/kg	45.3	0	10	90.6	75-125	L564901-01	WG582825
1-Methylnaphthalene	mg/kg	0.0281	0	.033	85.2	25-155	L564718-02	WG582808
2-Chloronaphthalene	mg/kg	0.0305	0	.033	92.6	31-153	L564718-02	WG582808

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report
Level II

L564894

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

March 21, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
2-Methylnaphthalene	mg/kg	0.0285	0	.033	86.3	22-172	L564718-02	WG582808
Acenaphthene	mg/kg	0.0257	0	.033	78.0	43-133	L564718-02	WG582808
Acenaphthylene	mg/kg	0.0296	0	.033	89.7	42-146	L564718-02	WG582808
Anthracene	mg/kg	0.0278	0	.033	84.3	38-153	L564718-02	WG582808
Benzo(a)anthracene	mg/kg	0.0357	0	.033	108.	31-142	L564718-02	WG582808
Benzo(a)pyrene	mg/kg	0.0347	0	.033	105.	26-152	L564718-02	WG582808
Benzo(b)fluoranthene	mg/kg	0.0488	0	.033	148.	10-188	L564718-02	WG582808
Benzo(g,h,i)perylene	mg/kg	0.0159	0	.033	48.0	10-176	L564718-02	WG582808
Benzo(k)fluoranthene	mg/kg	0.0472	0	.033	143.	22-163	L564718-02	WG582808
Chrysene	mg/kg	0.0346	0	.033	105.	26-146	L564718-02	WG582808
Dibenz(a,h)anthracene	mg/kg	0.0134	0	.033	40.5	10-160	L564718-02	WG582808
Fluoranthene	mg/kg	0.0338	0	.033	102.	23-160	L564718-02	WG582808
Fluorene	mg/kg	0.0306	0	.033	92.7	44-143	L564718-02	WG582808
Indeno(1,2,3-cd)pyrene	mg/kg	0.0127	0	.033	38.5	10-157	L564718-02	WG582808
Naphthalene	mg/kg	0.0257	0	.033	77.7	22-156	L564718-02	WG582808
Phenanthrene	mg/kg	0.0272	0	.033	82.5	23-164	L564718-02	WG582808
Pyrene	mg/kg	0.0359	0	.033	109.	12-170	L564718-02	WG582808
2-Fluorobiphenyl					84.39	34-129		WG582808
Nitrobenzene-d5					81.48	14-141		WG582808
p-Terphenyl-d14					113.7	25-139		WG582808
Mercury	mg/kg	0.248	0	.25	99.2	70-130	L564964-03	WG583096
Arsenic	mg/kg	49.2	2.10	50	94.2	75-125	L564894-03	WG582931
TPH (GC/FID) Low Fraction	mg/kg	27.3	0	5.5	99.3	55-109	L564888-01	WG582787
a,a,a-Trifluorotoluene(FID)					93.57	59-128		WG582787
Benzene	mg/kg	0.207	0	.05	82.9	32-137	L564888-01	WG582787
Ethylbenzene	mg/kg	0.216	0	.05	86.4	10-150	L564888-01	WG582787
Toluene	mg/kg	0.213	0	.05	85.1	20-142	L564888-01	WG582787
Total Xylene	mg/kg	0.672	0	.15	89.6	16-141	L564888-01	WG582787
a,a,a-Trifluorotoluene(PID)					88.98	54-144		WG582787
Chromium,Hexavalent	mg/kg	308.	330.	20	0*	50-150	L564687-05	WG583086

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) High Fraction	ppm	53.6	67.6	16.0*	50-150	23.1	25	L564766-01	WG582897
o-Terphenyl				71.25	50-150				WG582897
Barium	mg/kg	139.	130.	18.0*	75-125	6.69	20	L564901-01	WG582825
Chromium	mg/kg	70.7	65.9	101.	75-125	7.03	20	L564901-01	WG582825
Copper	mg/kg	58.2	55.3	100.	75-125	5.11	20	L564901-01	WG582825
Nickel	mg/kg	56.7	53.1	89.0	75-125	6.56	20	L564901-01	WG582825
Silver	mg/kg	45.4	43.3	90.8	75-125	4.74	20	L564901-01	WG582825
Zinc	mg/kg	104.	96.8	108.	75-125	7.17	20	L564901-01	WG582825
Arsenic	mg/kg	60.7	54.2	102.	75-125	11.3	20	L564901-01	WG582825
Cadmium	mg/kg	53.6	46.4	106.	75-125	14.4	20	L564901-01	WG582825
Lead	mg/kg	71.0	62.0	108.	75-125	13.5	20	L564901-01	WG582825
Selenium	mg/kg	53.7	45.3	107.	75-125	17.0	20	L564901-01	WG582825

1-Methylnaphthalene mg/kg 0.0285 0.0281 86.3 25-155 1.22 27 L564718-02 WG582808

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report
Level II

L564894

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

March 21, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit Ref	Samp	Batch
			Ref	%Rec					
2-Chloronaphthalene	mg/kg	0.0311	0.0305	94.3	31-153	1.86	22	L564718-02	WG582808
2-Methylnaphthalene	mg/kg	0.0296	0.0285	89.8	22-172	4.03	29	L564718-02	WG582808
Acenaphthene	mg/kg	0.0265	0.0257	80.2	43-133	2.73	26	L564718-02	WG582808
Acenaphthylene	mg/kg	0.0302	0.0296	91.4	42-146	1.90	22	L564718-02	WG582808
Anthracene	mg/kg	0.0287	0.0278	87.0	38-153	3.12	27	L564718-02	WG582808
Benzo(a)anthracene	mg/kg	0.0342	0.0357	104.	31-142	4.25	31	L564718-02	WG582808
Benzo(a)pyrene	mg/kg	0.0341	0.0347	103.	26-152	1.65	32	L564718-02	WG582808
Benzo(b)fluoranthene	mg/kg	0.0457	0.0488	138.	10-188	6.63	33	L564718-02	WG582808
Benzo(g,h,i)perylene	mg/kg	0.0131	0.0159	39.6	10-176	19.3	30	L564718-02	WG582808
Benzo(k)fluoranthene	mg/kg	0.0467	0.0472	142.	22-163	0.972	29	L564718-02	WG582808
Chrysene	mg/kg	0.0323	0.0346	97.8	26-146	6.89	30	L564718-02	WG582808
Dibenz(a,h)anthracene	mg/kg	0.0134	0.0134	40.7	10-160	0.504	39	L564718-02	WG582808
Fluoranthene	mg/kg	0.0326	0.0338	98.8	23-160	3.64	22	L564718-02	WG582808
Fluorene	mg/kg	0.0317	0.0306	96.2	44-143	3.71	23	L564718-02	WG582808
Indeno(1,2,3-cd)pyrene	mg/kg	0.0133	0.0127	40.2	10-157	4.21	40	L564718-02	WG582808
Naphthalene	mg/kg	0.0263	0.0257	79.7	22-156	2.44	27	L564718-02	WG582808
Phenanthrene	mg/kg	0.0269	0.0272	81.6	23-164	1.17	25	L564718-02	WG582808
Pyrene	mg/kg	0.0349	0.0359	106.	12-170	2.85	24	L564718-02	WG582808
2-Fluorobiphenyl				89.85	34-129				WG582808
Nitrobenzene-d5				86.14	14-141				WG582808
p-Terphenyl-d14				109.4	25-139				WG582808
Mercury	mg/kg	0.259	0.248	104.	70-130	4.34	20	L564964-03	WG583096
Arsenic	mg/kg	47.7	49.2	91.2	75-125	3.10	20	L564894-03	WG582931
TPH (GC/FID) Low Fraction	mg/kg	25.1	27.3	91.4	55-109	8.25	20	L564888-01	WG582787
a,a,a-Trifluorotoluene(FID)				92.50	59-128				WG582787
Benzene	mg/kg	0.192	0.207	76.9	32-137	7.55	39	L564888-01	WG582787
Ethylbenzene	mg/kg	0.194	0.216	77.7	10-150	10.6	44	L564888-01	WG582787
Toluene	mg/kg	0.192	0.213	77.0	20-142	10.1	42	L564888-01	WG582787
Total Xylene	mg/kg	0.609	0.672	81.2	16-141	9.82	46	L564888-01	WG582787
a,a,a-Trifluorotoluene(PID)				89.28	54-144				WG582787
Chromium,Hexavalent	mg/kg	319.	308.	0*	50-150	3.51	20	L564687-05	WG583086

Batch number /Run number / Sample number cross reference

WG582840: R2075573: L564894-01
 WG582987: R2076553: L564894-01
 WG582897: R2076694: L564894-01 02 03
 WG582825: R2077693: L564894-01
 WG582808: R2078553: L564894-01 02 03
 WG583096: R2078775: L564894-01
 WG582931: R2078959: L564894-02 03
 WG582787: R2078994: L564894-01 02 03
 WG583276: R2079433: L564894-01
 WG582929: R2080294: L564894-01
 WG583086: R2081193: L564894-01

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



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report
Level II

L564894

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

March 21, 2012

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

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

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

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



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Chris Hines
EnCana Oil & Gas Inc. - CO
143 Diamond Avenue
Parachute, CO 81635

Report Summary

Monday May 20, 2013

Report Number: L635591


Samples Received: 05/14/13

Client Project: K19CNE

Description: K19CNE Cuttings

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

Entire Report Reviewed By:


Jared Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Hines
 EnCana Oil & Gas Inc. - CO
 143 Diamond Avenue
 Parachute, CO 81635

May 20, 2013

Date Received : May 14, 2013
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT 1-051313
 Collected By : Matt Kasten
 Collection Date : 05/13/13 08:55

ESC Sample # : L635591-01
 Site ID : K19CNE
 Project # : K19CNE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Standard Plate Count	20000		col/g	9215B	05/15/13	10000
Nitrate	BDL	1.0	mg/kg	9056	05/15/13	1
Sulfate	90.	50.	mg/kg	9056	05/15/13	1
Chromium,Hexavalent	BDL	4.0	mg/kg	3060A/7196A	05/16/13	2
Chromium,Trivalent	12.	0.50	mg/kg	Calc.	05/16/13	1
ORP	-60.		mV	2580 B-2011	05/17/13	1
pH	8.9		su	9045D	05/17/13	1
Sodium Adsorption Ratio	2.5			Calc.	05/18/13	1
Specific Conductance	1700		umhos/cm	9050AMod	05/16/13	1
Mercury	0.028	0.020	mg/kg	7471	05/15/13	1
Arsenic	3.1	1.0	mg/kg	6010B	05/16/13	1
Barium	9800	1.2	mg/kg	6010B	05/16/13	5
Cadmium	BDL	0.25	mg/kg	6010B	05/16/13	1
Chromium	12.	0.50	mg/kg	6010B	05/16/13	1
Copper	14.	1.0	mg/kg	6010B	05/16/13	1
Iron	11000	5.0	mg/kg	6010B	05/16/13	1
Lead	7.6	0.25	mg/kg	6010B	05/16/13	1
Nickel	7.7	1.0	mg/kg	6010B	05/16/13	1
Selenium	1.4	1.0	mg/kg	6010B	05/16/13	1
Silver	BDL	0.50	mg/kg	6010B	05/16/13	1
Zinc	40.	1.5	mg/kg	6010B	05/16/13	1
Benzene	0.0082	0.0025	mg/kg	8021/8015	05/16/13	5
Toluene	BDL	0.025	mg/kg	8021/8015	05/16/13	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	05/16/13	5
Total Xylene	0.0099	0.0075	mg/kg	8021/8015	05/16/13	5
TPH (GC/FID) Low Fraction	2.4	0.50	mg/kg	GRO	05/16/13	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	104.		% Rec.	8021/8015	05/16/13	5
a,a,a-Trifluorotoluene(PID)	105.		% Rec.	8021/8015	05/16/13	5
TPH (GC/FID) High Fraction	110	4.0	mg/kg	8015D/DRO	05/17/13	1
Surrogate recovery(%)						
o-Terphenyl	60.6		% Rec.	8015D/DRO	05/17/13	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 L635591-01 (PH) - 8.9@22.1c



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Hines
 EnCana Oil & Gas Inc. - CO
 143 Diamond Avenue
 Parachute, CO 81635

May 20, 2013

Date Received : May 14, 2013
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT 1-051313
 Collected By : Matt Kasten
 Collection Date : 05/13/13 08:55

ESC Sample # : L635591-01
 Site ID : K19CNE
 Project # : K19CNE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Chrysene	0.0069	0.0060	mg/kg	8270C-SIM	05/16/13	1
Dibenz(a,h)anthracene	0.0067	0.0060	mg/kg	8270C-SIM	05/16/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Fluorene	0.020	0.0060	mg/kg	8270C-SIM	05/16/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Naphthalene	0.068	0.020	mg/kg	8270C-SIM	05/16/13	1
Phenanthrene	0.046	0.0060	mg/kg	8270C-SIM	05/16/13	1
Pyrene	0.0074	0.0060	mg/kg	8270C-SIM	05/16/13	1
1-Methylnaphthalene	0.045	0.020	mg/kg	8270C-SIM	05/16/13	1
2-Methylnaphthalene	0.15	0.020	mg/kg	8270C-SIM	05/16/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/16/13	1
Surrogate Recovery						
Nitrobenzene-d5	44.3		% Rec.	8270C-SIM	05/16/13	1
2-Fluorobiphenyl	92.2		% Rec.	8270C-SIM	05/16/13	1
p-Terphenyl-d14	104.		% Rec.	8270C-SIM	05/16/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/20/13 17:33 Printed: 05/20/13 17:34
 L635591-01 (PH) - 8.9@22.1c



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Hines
 EnCana Oil & Gas Inc. - CO
 143 Diamond Avenue
 Parachute, CO 81635

May 20, 2013

Date Received : May 14, 2013
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT 2-051313
 Collected By : Matt Kasten
 Collection Date : 05/13/13 09:15

ESC Sample # : L635591-02
 Site ID : K19CNE
 Project # : K19CNE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Standard Plate Count	58000		col/g	9215B	05/15/13	10000
Nitrate	BDL	1.0	mg/kg	9056	05/15/13	1
Sulfate	230	50.	mg/kg	9056	05/15/13	1
pH	8.8		su	9045D	05/17/13	1
Sodium Adsorption Ratio	18.			Calc.	05/18/13	1
Specific Conductance	1600		umhos/cm	9050AMod	05/16/13	1
Arsenic	2.6	1.0	mg/kg	6010B	05/16/13	1
Iron	11000	5.0	mg/kg	6010B	05/16/13	1
Benzene	0.0072	0.0025	mg/kg	8021/8015	05/16/13	5
Toluene	BDL	0.025	mg/kg	8021/8015	05/16/13	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	05/16/13	5
Total Xylene	0.0090	0.0075	mg/kg	8021/8015	05/16/13	5
TPH (GC/FID) Low Fraction	2.4	0.50	mg/kg	GRO	05/16/13	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	106.		% Rec.	8021/8015	05/16/13	5
a,a,a-Trifluorotoluene(PID)	105.		% Rec.	8021/8015	05/16/13	5
TPH (GC/FID) High Fraction	180	4.0	mg/kg	8015D/DRO	05/17/13	1
Surrogate recovery(%)						
o-Terphenyl	62.6		% Rec.	8015D/DRO	05/17/13	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Chrysene	0.010	0.0060	mg/kg	8270C-SIM	05/17/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Fluorene	0.019	0.0060	mg/kg	8270C-SIM	05/17/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/17/13	1
Naphthalene	0.099	0.020	mg/kg	8270C-SIM	05/17/13	1
Phenanthrene	0.043	0.0060	mg/kg	8270C-SIM	05/17/13	1
Pyrene	0.0068	0.0060	mg/kg	8270C-SIM	05/17/13	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 L635591-02 (PH) - 8.8@22.1c



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Hines
 EnCana Oil & Gas Inc. - CO
 143 Diamond Avenue
 Parachute, CO 81635

May 20, 2013

Date Received : May 14, 2013
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT 2-051313
 Collected By : Matt Kasten
 Collection Date : 05/13/13 09:15

ESC Sample # : L635591-02
 Site ID : K19CNE
 Project # : K19CNE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1-Methylnaphthalene	0.058	0.020	mg/kg	8270C-SIM	05/17/13	1
2-Methylnaphthalene	0.18	0.020	mg/kg	8270C-SIM	05/17/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/17/13	1
Surrogate Recovery						
Nitrobenzene-d5	120.		% Rec.	8270C-SIM	05/17/13	1
2-Fluorobiphenyl	98.5		% Rec.	8270C-SIM	05/17/13	1
p-Terphenyl-d14	131.		% Rec.	8270C-SIM	05/17/13	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/20/13 17:33 Printed: 05/20/13 17:34
 L635591-02 (PH) - 8.8@22.1c



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Hines
 EnCana Oil & Gas Inc. - CO
 143 Diamond Avenue
 Parachute, CO 81635

May 20, 2013

Date Received : May 14, 2013
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT 3-051313
 Collected By : Matt Kasten
 Collection Date : 05/13/13 09:35

ESC Sample # : L635591-03
 Site ID : K19CNE
 Project # : K19CNE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Standard Plate Count	94000		col/g	9215B	05/15/13	10000
Nitrate	BDL	1.0	mg/kg	9056	05/15/13	1
Sulfate	460	50.	mg/kg	9056	05/15/13	1
pH	9.0		su	9045D	05/17/13	1
Sodium Adsorption Ratio	21.			Calc.	05/18/13	1
Specific Conductance	2000		umhos/cm	9050AMod	05/16/13	1
Arsenic	3.9	1.0	mg/kg	6010B	05/17/13	1
Iron	13000	5.0	mg/kg	6010B	05/17/13	1
Benzene	0.015	0.0025	mg/kg	8021/8015	05/16/13	5
Toluene	BDL	0.025	mg/kg	8021/8015	05/16/13	5
Ethylbenzene	0.0034	0.0025	mg/kg	8021/8015	05/16/13	5
Total Xylene	0.013	0.0075	mg/kg	8021/8015	05/16/13	5
TPH (GC/FID) Low Fraction	1.8	0.50	mg/kg	GRO	05/16/13	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	105.		% Rec.	8021/8015	05/16/13	5
a,a,a-Trifluorotoluene(PID)	105.		% Rec.	8021/8015	05/16/13	5
TPH (GC/FID) High Fraction	76.	4.0	mg/kg	8015D/DRO	05/17/13	1
Surrogate recovery(%)						
o-Terphenyl	55.5		% Rec.	8015D/DRO	05/17/13	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.022	0.0060	mg/kg	8270C-SIM	05/16/13	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Chrysene	0.0083	0.0060	mg/kg	8270C-SIM	05/16/13	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Fluorene	0.019	0.0060	mg/kg	8270C-SIM	05/16/13	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1
Naphthalene	0.071	0.020	mg/kg	8270C-SIM	05/16/13	1
Phenanthrene	0.045	0.0060	mg/kg	8270C-SIM	05/16/13	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/16/13	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 L635591-03 (PH) - 9.0@22.0c



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Chris Hines
 EnCana Oil & Gas Inc. - CO
 143 Diamond Avenue
 Parachute, CO 81635

May 20, 2013

Date Received : May 14, 2013
 Description : K19CNE Cuttings
 Sample ID : K19CNE-CUT 3-051313
 Collected By : Matt Kasten
 Collection Date : 05/13/13 09:35

ESC Sample # : L635591-03
 Site ID : K19CNE
 Project # : K19CNE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1-Methylnaphthalene	0.053	0.020	mg/kg	8270C-SIM	05/16/13	1
2-Methylnaphthalene	0.15	0.020	mg/kg	8270C-SIM	05/16/13	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/16/13	1
Surrogate Recovery						
Nitrobenzene-d5	73.4		% Rec.	8270C-SIM	05/16/13	1
2-Fluorobiphenyl	95.0		% Rec.	8270C-SIM	05/16/13	1
p-Terphenyl-d14	95.1		% Rec.	8270C-SIM	05/16/13	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 Note:

The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/20/13 17:33 Printed: 05/20/13 17:34
 L635591-03 (PH) - 9.0@22.0c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L635591-01	WG661237	SAMP	Dibenz(a,h)anthracene	R2672701	V3
	WG661237	SAMP	Nitrobenzene-d5	R2672701	J2
	WG661521	SAMP	ORP	R2673704	T8
	WG662176	SAMP	Standard Plate Count	R2676864	T8
	WG661310	SAMP	Chromium,Hexavalent	R2672361	O
L635591-02	WG661237	SAMP	p-Terphenyl-d14	R2675821	J1
	WG662176	SAMP	Standard Plate Count	R2676864	T8
L635591-03	WG662176	SAMP	Standard Plate Count	R2676864	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.
V3	(ESC) - Additional QC Info: The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

Qualifier Report Information

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

Definitions

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

Summary of Remarks For Samples Printed
05/20/13 at 17:34:14

TSR Signing Reports: 358
R5 - Desired TAT

Log ALL samples for EDD (COGCC EDD). Log all PAHs as PAHSIM. DRO and DRO-SGT needed if TPH is listed twice on COC, one being TPH-GEL EXTRACT. Try not to report benzene as BDL above a 250x dilution.

Sample: L635591-01 Account: ENCANACO Received: 05/14/13 09:00 Due Date: 05/21/13 00:00 RPT Date: 05/20/13 17:33

Sample: L635591-02 Account: ENCANACO Received: 05/14/13 09:00 Due Date: 05/21/13 00:00 RPT Date: 05/20/13 17:33

Sample: L635591-03 Account: ENCANACO Received: 05/14/13 09:00 Due Date: 05/21/13 00:00 RPT Date: 05/20/13 17:33



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
 Chris Hines
 143 Diamond Avenue
 Parachute, CO 81635

Quality Assurance Report
 Level II
 L635591

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Mercury	< .02	mg/kg			WG661233	05/15/13 08:51
Nitrate	< 1	mg/kg			WG661112	05/15/13 09:49
Sulfate	< 50	mg/kg			WG661112	05/15/13 09:49
Chromium,Hexavalent	< 2	mg/kg			WG661310	05/16/13 13:04
Benzene	< .0005	mg/kg			WG661322	05/16/13 06:03
Ethylbenzene	< .0005	mg/kg			WG661322	05/16/13 06:03
Toluene	< .005	mg/kg			WG661322	05/16/13 06:03
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG661322	05/16/13 06:03
Total Xylene	< .0015	mg/kg			WG661322	05/16/13 06:03
a,a,a-Trifluorotoluene(FID)		% Rec.	105.4	59-128	WG661322	05/16/13 06:03
a,a,a-Trifluorotoluene(PID)		% Rec.	106.3	54-144	WG661322	05/16/13 06:03
Arsenic	< 1	mg/kg			WG661424	05/16/13 12:19
Barium	< .25	mg/kg			WG661424	05/16/13 12:19
Cadmium	< .25	mg/kg			WG661424	05/16/13 12:19
Chromium	< .5	mg/kg			WG661424	05/16/13 12:19
Copper	< 1	mg/kg			WG661424	05/16/13 12:19
Iron	< 5	mg/kg			WG661424	05/16/13 12:19
Lead	< .25	mg/kg			WG661424	05/16/13 12:19
Nickel	< 1	mg/kg			WG661424	05/16/13 12:19
Selenium	< 1	mg/kg			WG661424	05/16/13 12:19
Silver	< .5	mg/kg			WG661424	05/16/13 12:19
Zinc	< 1.5	mg/kg			WG661424	05/16/13 12:19
Specific Conductance	5.90	umhos/cm			WG661522	05/16/13 17:17
1-Methylnaphthalene	< .02	mg/kg			WG661237	05/16/13 12:29
2-Chloronaphthalene	< .02	mg/kg			WG661237	05/16/13 12:29
2-Methylnaphthalene	< .02	mg/kg			WG661237	05/16/13 12:29
Acenaphthene	< .006	mg/kg			WG661237	05/16/13 12:29
Acenaphthylene	< .006	mg/kg			WG661237	05/16/13 12:29
Anthracene	< .006	mg/kg			WG661237	05/16/13 12:29
Benzo(a)anthracene	< .006	mg/kg			WG661237	05/16/13 12:29
Benzo(a)pyrene	< .006	mg/kg			WG661237	05/16/13 12:29
Benzo(b)fluoranthene	< .006	mg/kg			WG661237	05/16/13 12:29
Benzo(g,h,i)perylene	< .006	mg/kg			WG661237	05/16/13 12:29
Benzo(k)fluoranthene	< .006	mg/kg			WG661237	05/16/13 12:29
Chrysene	< .006	mg/kg			WG661237	05/16/13 12:29
Dibenz(a,h)anthracene	< .006	mg/kg			WG661237	05/16/13 12:29
Fluoranthene	< .006	mg/kg			WG661237	05/16/13 12:29
Fluorene	< .006	mg/kg			WG661237	05/16/13 12:29
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG661237	05/16/13 12:29
Naphthalene	< .02	mg/kg			WG661237	05/16/13 12:29
Phenanthrene	< .006	mg/kg			WG661237	05/16/13 12:29
Pyrene	< .006	mg/kg			WG661237	05/16/13 12:29
2-Fluorobiphenyl		% Rec.	88.70	70-130	WG661237	05/16/13 12:29
Nitrobenzene-d5		% Rec.	101.0	70-130	WG661237	05/16/13 12:29
p-Terphenyl-d14		% Rec.	96.10	70-130	WG661237	05/16/13 12:29

* Performance of this Analyte is outside of established criteria.
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
143 Diamond Avenue
Parachute, CO 81635

Quality Assurance Report
Level II
L635591

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) High Fraction o-Terphenyl	< 4	mg/kg	79.40	50-150	WG661686	05/17/13 12:47
TPH (GC/FID) High Fraction o-Terphenyl	< 4	mg/kg	79.50	50-150	WG661549	05/17/13 13:16

Analyte	Units	Duplicate			Limit	Ref Samp	Batch
		Result	Duplicate	RPD			
Mercury	mg/kg	0	0.0131	6.19	20	L635547-02	WG661233
Sulfate	mg/kg	160.	160.	0	20	L635414-01	WG661112
Nitrate	mg/kg	0	0	0	20	L635562-01	WG661112
Chromium,Hexavalent	mg/kg	0	0	0	20	L635428-01	WG661310
Arsenic	mg/kg	1.30	1.72	27.8*	20	L635530-01	WG661424
Barium	mg/kg	5.30	4.83	9.28	20	L635530-01	WG661424
Cadmium	mg/kg	0	0.0268	NA	20	L635530-01	WG661424
Chromium	mg/kg	4.60	4.30	6.74	20	L635530-01	WG661424
Copper	mg/kg	1.40	1.75	22.2*	20	L635530-01	WG661424
Iron	mg/kg	1900	2250	16.9	20	L635530-01	WG661424
Lead	mg/kg	3.00	2.82	6.19	20	L635530-01	WG661424
Nickel	mg/kg	0	0	0	20	L635530-01	WG661424
Selenium	mg/kg	0	0.285	NA	20	L635530-01	WG661424
Silver	mg/kg	0	0	0	20	L635530-01	WG661424
Zinc	mg/kg	8.90	7.70	14.5	20	L635530-01	WG661424
ORP	mV	220.	220.	2.30	20	L635075-01	WG661521
ORP	mV	90.0	90.0	0	20	L635789-18	WG661521
Specific Conductance	umhos/cm	1800	2000	10.5	20	L635591-03	WG661522
pH	su	6.90	7.00	1.58*	1	L635789-15	WG661678
pH	su	6.30	6.20	1.44*	1	L635789-16	WG661678

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Mercury	mg/kg	12.4	12.8	103.	71.6-128	WG661233
Nitrate	mg/kg	20	20.0	100.	80-120	WG661112
Sulfate	mg/kg	200	209.	105.	85-115	WG661112
Chromium,Hexavalent	mg/kg	146	150.	103.	80-120	WG661310
Benzene	mg/kg	.05	0.0462	92.5	76-113	WG661322
Ethylbenzene	mg/kg	.05	0.0518	104.	78-115	WG661322
Toluene	mg/kg	.05	0.0484	96.8	76-114	WG661322

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
143 Diamond Avenue
Parachute, CO 81635

Quality Assurance Report
Level II
L635591

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Total Xylene	mg/kg	.15	0.162	108.	81-118	WG661322
a,a,a-Trifluorotoluene(FID)				105.9	59-128	WG661322
a,a,a-Trifluorotoluene(PID)				107.4	54-144	WG661322
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.92	108.	67-135	WG661322
a,a,a-Trifluorotoluene(FID)				108.5	59-128	WG661322
a,a,a-Trifluorotoluene(PID)				113.4	54-144	WG661322
Arsenic	mg/kg	237	233.	98.3	83.1-117	WG661424
Barium	mg/kg	252	246.	97.6	84.1-116	WG661424
Cadmium	mg/kg	191	174.	91.1	83.2-117	WG661424
Chromium	mg/kg	128	128.	100.	81.3-118	WG661424
Copper	mg/kg	123	122.	99.2	83.7-116	WG661424
Iron	mg/kg	13100	13200	101.	50.8-150	WG661424
Lead	mg/kg	103	99.4	96.5	83.1-117	WG661424
Nickel	mg/kg	118	109.	92.4	82-118	WG661424
Selenium	mg/kg	110	108.	98.2	78.7-122	WG661424
Silver	mg/kg	47.3	48.7	103.	66.2-134	WG661424
Zinc	mg/kg	183	176.	96.2	82-118	WG661424
ORP	mV	228	227.	99.6	95.6-104.	WG661521
Specific Conductance	umhos/cm	878	890.	101.	85-115	WG661522
pH	su	5.79	5.83	101.	98.3-101.7	WG661678
1-Methylnaphthalene	mg/kg	.08	0.0694	86.7	70-130	WG661237
2-Chloronaphthalene	mg/kg	.08	0.0734	91.8	70-130	WG661237
2-Methylnaphthalene	mg/kg	.08	0.0663	82.9	70-130	WG661237
Acenaphthene	mg/kg	.08	0.0730	91.3	70-130	WG661237
Acenaphthylene	mg/kg	.08	0.0706	88.2	70-130	WG661237
Anthracene	mg/kg	.08	0.0725	90.6	70-130	WG661237
Benzo(a)anthracene	mg/kg	.08	0.0761	95.1	70-130	WG661237
Benzo(a)pyrene	mg/kg	.08	0.0715	89.4	70-130	WG661237
Benzo(b)fluoranthene	mg/kg	.08	0.0715	89.4	70-130	WG661237
Benzo(g,h,i)perylene	mg/kg	.08	0.0804	101.	70-130	WG661237
Benzo(k)fluoranthene	mg/kg	.08	0.0736	92.0	70-130	WG661237
Chrysene	mg/kg	.08	0.0789	98.6	70-130	WG661237
Dibenz(a,h)anthracene	mg/kg	.08	0.0747	93.4	70-130	WG661237
Fluoranthene	mg/kg	.08	0.0746	93.2	70-130	WG661237
Fluorene	mg/kg	.08	0.0686	85.7	70-130	WG661237
Indeno(1,2,3-cd)pyrene	mg/kg	.08	0.0770	96.2	70-130	WG661237
Naphthalene	mg/kg	.08	0.0699	87.4	70-130	WG661237
Phenanthrene	mg/kg	.08	0.0718	89.8	70-130	WG661237
Pyrene	mg/kg	.08	0.0824	103.	70-130	WG661237
2-Fluorobiphenyl				88.80	70-130	WG661237
Nitrobenzene-d5				102.0	70-130	WG661237
p-Terphenyl-d14				102.0	70-130	WG661237
TPH (GC/FID) High Fraction	mg/kg	60	49.9	83.2	50-150	WG661686
o-Terphenyl				86.70	50-150	WG661686
TPH (GC/FID) High Fraction	mg/kg	60	51.5	85.9	50-150	WG661549

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
 Chris Hines
 143 Diamond Avenue
 Parachute, CO 81635

Quality Assurance Report
 Level II

L635591

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
o-Terphenyl					87.20	50-150		
Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Nitrate	mg/kg	19.6	20.0	98.0	80-120	2.02	20	WG661112
Sulfate	mg/kg	205.	209.	102.	85-115	1.93	20	WG661112
Chromium,Hexavalent	mg/kg	151.	150.	103.	80-120	0.664	20	WG661310
Benzene	mg/kg	0.0466	0.0462	93.0	76-113	0.840	20	WG661322
Ethylbenzene	mg/kg	0.0522	0.0518	104.	78-115	0.770	20	WG661322
Toluene	mg/kg	0.0488	0.0484	98.0	76-114	0.800	20	WG661322
Total Xylene	mg/kg	0.164	0.162	109.	81-118	0.840	20	WG661322
a,a,a-Trifluorotoluene(FID)				105.4	59-128			WG661322
a,a,a-Trifluorotoluene(PID)				106.8	54-144			WG661322
TPH (GC/FID) Low Fraction	mg/kg	6.23	5.92	113.	67-135	5.15	20	WG661322
a,a,a-Trifluorotoluene(FID)				108.6	59-128			WG661322
a,a,a-Trifluorotoluene(PID)				113.5	54-144			WG661322
ORP	mV	225.	227.	99.0	95.6-104.	0.885	20	WG661521
Specific Conductance	umhos/	870.	890.	99.0	85-115	2.27	20	WG661522
pH	su	5.83	5.83	101.	98.3-101.7	0	20	WG661678
1-Methylnaphthalene	mg/kg	0.0694	0.0694	87.0	70-130	0.0400	25	WG661237
2-Chloronaphthalene	mg/kg	0.0702	0.0734	88.0	70-130	4.51	25	WG661237
2-Methylnaphthalene	mg/kg	0.0667	0.0663	83.0	70-130	0.650	25	WG661237
Acenaphthene	mg/kg	0.0707	0.0730	88.0	70-130	3.20	25	WG661237
Acenaphthylene	mg/kg	0.0685	0.0706	86.0	70-130	2.99	25	WG661237
Anthracene	mg/kg	0.0711	0.0725	89.0	70-130	1.89	25	WG661237
Benzo(a)anthracene	mg/kg	0.0727	0.0761	91.0	70-130	4.50	25	WG661237
Benzo(a)pyrene	mg/kg	0.0700	0.0715	87.0	70-130	2.18	25	WG661237
Benzo(b)fluoranthene	mg/kg	0.0698	0.0715	87.0	70-130	2.40	25	WG661237
Benzo(g,h,i)perylene	mg/kg	0.0749	0.0804	94.0	70-130	7.13	25	WG661237
Benzo(k)fluoranthene	mg/kg	0.0697	0.0736	87.0	70-130	5.46	25	WG661237
Chrysene	mg/kg	0.0773	0.0789	97.0	70-130	2.06	25	WG661237
Dibenz(a,h)anthracene	mg/kg	0.0696	0.0747	87.0	70-130	7.15	25	WG661237
Fluoranthene	mg/kg	0.0733	0.0746	92.0	70-130	1.77	25	WG661237
Fluorene	mg/kg	0.0670	0.0686	84.0	70-130	2.31	25	WG661237
Indeno(1,2,3-cd)pyrene	mg/kg	0.0719	0.0770	90.0	70-130	6.81	25	WG661237
Naphthalene	mg/kg	0.0676	0.0699	84.0	70-130	3.44	25	WG661237
Phenanthrene	mg/kg	0.0700	0.0718	87.0	70-130	2.55	25	WG661237
Pyrene	mg/kg	0.0730	0.0824	91.0	70-130	12.0	25	WG661237
2-Fluorobiphenyl				86.20	70-130			WG661237
Nitrobenzene-d5				89.20	70-130			WG661237
p-Terphenyl-d14				92.90	70-130			WG661237
TPH (GC/FID) High Fraction	mg/kg	53.5	49.9	89.0	50-150	6.87	20	WG661686
o-Terphenyl				93.50	50-150			WG661686

* Performance of this Analyte is outside of established criteria.
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
143 Diamond Avenue

Parachute, CO 81635

Quality Assurance Report
Level II

L635591

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) High Fraction	mg/kg	50.0	51.5	83.0	50-150	2.96	20	WG661549
o-Terphenyl				86.10	50-150			WG661549

Analyte	Units	MS Res	Matrix Spike			Limit	Ref Samp	Batch
			Ref Res	TV	% Rec			
Mercury	mg/kg	0.274	0.0131	.25	104.	80-120	L635547-02	WG661233
Sulfate	mg/kg	522.	67.0	500	91.0	80-120	L635414-02	WG661112
Chromium, Hexavalent	mg/kg	21.1	1.70	20	97.0	75-125	L635636-01	WG661310
Benzene	mg/kg	0.205	0.000688	.05	81.6	32-137	L635486-01	WG661322
Ethylbenzene	mg/kg	0.217	0.000700	.05	86.4	10-150	L635486-01	WG661322
Toluene	mg/kg	0.209	0.00146	.05	83.0	20-142	L635486-01	WG661322
Total Xylene	mg/kg	0.678	0.00172	.15	90.2	16-141	L635486-01	WG661322
a, a, a-Trifluorotoluene (FID)					104.1	59-128		WG661322
a, a, a-Trifluorotoluene (PID)					106.3	54-144		WG661322
TPH (GC/FID) Low Fraction	mg/kg	24.7	0	5.5	89.8	55-109	L635486-01	WG661322
a, a, a-Trifluorotoluene (FID)					104.5	59-128		WG661322
a, a, a-Trifluorotoluene (PID)					109.9	54-144		WG661322
Arsenic	mg/kg	47.3	1.72	50	91.2	75-125	L635530-01	WG661424
Barium	mg/kg	57.8	4.83	50	106.	75-125	L635530-01	WG661424
Cadmium	mg/kg	44.9	0.0268	50	89.7	75-125	L635530-01	WG661424
Chromium	mg/kg	53.7	4.30	50	98.8	75-125	L635530-01	WG661424
Copper	mg/kg	48.9	1.75	50	94.3	75-125	L635530-01	WG661424
Iron	mg/kg	2370	2250	50	240.*	75-125	L635530-01	WG661424
Lead	mg/kg	52.0	2.82	50	98.4	75-125	L635530-01	WG661424
Nickel	mg/kg	43.5	0	50	87.0	75-125	L635530-01	WG661424
Selenium	mg/kg	45.4	0.285	50	90.2	75-125	L635530-01	WG661424
Silver	mg/kg	46.8	0	50	93.6	75-125	L635530-01	WG661424
Zinc	mg/kg	54.8	7.70	50	94.2	75-125	L635530-01	WG661424
1-Methylnaphthalene	mg/kg	0.230	0.146	.08	105.	70-130	L635619-03	WG661237
2-Chloronaphthalene	mg/kg	0.0817	0	.08	102.	70-130	L635619-03	WG661237
2-Methylnaphthalene	mg/kg	0.471	0.362	.08	136.*	70-130	L635619-03	WG661237
Acenaphthene	mg/kg	0.0809	0.000986	.08	99.9	70-130	L635619-03	WG661237
Acenaphthylene	mg/kg	0.0795	0	.08	99.4	70-130	L635619-03	WG661237
Anthracene	mg/kg	0.0831	0	.08	104.	70-130	L635619-03	WG661237
Benzo(a)anthracene	mg/kg	0.0811	0	.08	101.	70-130	L635619-03	WG661237
Benzo(a)pyrene	mg/kg	0.0795	0	.08	99.3	70-130	L635619-03	WG661237
Benzo(b)fluoranthene	mg/kg	0.0824	0	.08	103.	70-130	L635619-03	WG661237
Benzo(g,h,i)perylene	mg/kg	0.0751	0	.08	93.8	70-130	L635619-03	WG661237
Benzo(k)fluoranthene	mg/kg	0.0713	0	.08	89.2	70-130	L635619-03	WG661237
Chrysene	mg/kg	0.0808	0	.08	101.	70-130	L635619-03	WG661237
Dibenz(a,h)anthracene	mg/kg	0.0791	0	.08	98.9	70-130	L635619-03	WG661237
Fluoranthene	mg/kg	0.0846	0	.08	106.	70-130	L635619-03	WG661237
Fluorene	mg/kg	0.0831	0	.08	104.	70-130	L635619-03	WG661237
Indeno(1,2,3-cd)pyrene	mg/kg	0.0778	0	.08	97.3	70-130	L635619-03	WG661237
Naphthalene	mg/kg	0.836	0.692	.08	181.*	70-130	L635619-03	WG661237
Phenanthrene	mg/kg	0.0804	0.000609	.08	99.8	70-130	L635619-03	WG661237
Pyrene	mg/kg	0.0773	0	.08	96.6	70-130	L635619-03	WG661237

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
143 Diamond Avenue
Parachute, CO 81635

Quality Assurance Report
Level II
L635591

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
2-Fluorobiphenyl					80.50	70-130		
Nitrobenzene-d5					95.30	70-130		
p-Terphenyl-d14					93.10	70-130		
TPH (GC/FID) High Fraction	mg/kg	49.6	0.0294	60	82.5	50-150	L635852-20	WG661686
o-Terphenyl					82.10	50-150		WG661686
TPH (GC/FID) High Fraction	mg/kg	44.1	0.104	60	73.3	50-150	L635852-02	WG661549
o-Terphenyl					69.30	50-150		WG661549

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/kg	0.248	0.274	94.1	80-120	9.89	20	L635547-02	WG661233
Chromium,Hexavalent	mg/kg	20.6	21.1	94.5	75-125	2.40	20	L635636-01	WG661310
Benzene	mg/kg	0.212	0.205	84.4	32-137	3.46	39	L635486-01	WG661322
Ethylbenzene	mg/kg	0.226	0.217	90.0	10-150	3.99	44	L635486-01	WG661322
Toluene	mg/kg	0.215	0.209	85.2	20-142	2.70	42	L635486-01	WG661322
Total Xylene	mg/kg	0.703	0.678	93.5	16-141	3.60	46	L635486-01	WG661322
a,a,a-Trifluorotoluene(FID)				104.7	59-128				WG661322
a,a,a-Trifluorotoluene(PID)				104.8	54-144				WG661322
TPH (GC/FID) Low Fraction	mg/kg	24.3	24.7	88.5	55-109	1.42	20	L635486-01	WG661322
a,a,a-Trifluorotoluene(FID)				104.2	59-128				WG661322
a,a,a-Trifluorotoluene(PID)				109.4	54-144				WG661322
Arsenic	mg/kg	43.4	47.3	83.4	75-125	8.60	20	L635530-01	WG661424
Barium	mg/kg	54.1	57.8	98.5	75-125	6.61	20	L635530-01	WG661424
Cadmium	mg/kg	42.3	44.9	84.5	75-125	5.96	20	L635530-01	WG661424
Chromium	mg/kg	49.6	53.7	90.6	75-125	7.94	20	L635530-01	WG661424
Copper	mg/kg	45.8	48.9	88.1	75-125	6.55	20	L635530-01	WG661424
Iron	mg/kg	2340	2370	180.*	75-125	1.27	20	L635530-01	WG661424
Lead	mg/kg	48.5	52.0	91.4	75-125	6.97	20	L635530-01	WG661424
Nickel	mg/kg	40.2	43.5	80.4	75-125	7.89	20	L635530-01	WG661424
Selenium	mg/kg	42.1	45.4	83.6	75-125	7.54	20	L635530-01	WG661424
Silver	mg/kg	43.7	46.8	87.4	75-125	6.85	20	L635530-01	WG661424
Zinc	mg/kg	58.3	54.8	101.	75-125	6.19	20	L635530-01	WG661424
1-Methylnaphthalene	mg/kg	0.222	0.230	94.6	70-130	3.70	25	L635619-03	WG661237
2-Chloronaphthalene	mg/kg	0.0717	0.0817	89.6	70-130	13.0	25	L635619-03	WG661237
2-Methylnaphthalene	mg/kg	0.438	0.471	94.9	70-130	7.22	25	L635619-03	WG661237
Acenaphthene	mg/kg	0.0751	0.0809	92.6	70-130	7.47	25	L635619-03	WG661237
Acenaphthylene	mg/kg	0.0741	0.0795	92.6	70-130	7.05	25	L635619-03	WG661237
Anthracene	mg/kg	0.0775	0.0831	96.8	70-130	7.07	25	L635619-03	WG661237
Benzo(a)anthracene	mg/kg	0.0779	0.0811	97.4	70-130	3.97	25	L635619-03	WG661237
Benzo(a)pyrene	mg/kg	0.0745	0.0795	93.1	70-130	6.47	25	L635619-03	WG661237
Benzo(b)fluoranthene	mg/kg	0.0684	0.0824	85.4	70-130	18.6	25	L635619-03	WG661237
Benzo(g,h,i)perylene	mg/kg	0.0702	0.0751	87.8	70-130	6.63	25	L635619-03	WG661237
Benzo(k)fluoranthene	mg/kg	0.0754	0.0713	94.2	70-130	5.52	25	L635619-03	WG661237
Chrysene	mg/kg	0.0764	0.0808	95.4	70-130	5.71	25	L635619-03	WG661237
Dibenz(a,h)anthracene	mg/kg	0.0746	0.0791	93.3	70-130	5.84	25	L635619-03	WG661237
Fluoranthene	mg/kg	0.0784	0.0846	98.0	70-130	7.64	25	L635619-03	WG661237
Fluorene	mg/kg	0.0775	0.0831	96.9	70-130	6.96	25	L635619-03	WG661237
Indeno(1,2,3-cd)pyrene	mg/kg	0.0729	0.0778	91.1	70-130	6.55	25	L635619-03	WG661237

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
143 Diamond Avenue

Parachute, CO 81635

Quality Assurance Report
Level II

L635591

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
Naphthalene	mg/kg	0.755	0.836	79.0	70-130	10.2	25	L635619-03		WG661237
Phenanthrene	mg/kg	0.0753	0.0804	93.3	70-130	6.64	25	L635619-03		WG661237
Pyrene	mg/kg	0.0736	0.0773	92.0	70-130	4.88	25	L635619-03		WG661237
2-Fluorobiphenyl				72.90	70-130					WG661237
Nitrobenzene-d5				87.00	70-130					WG661237
p-Terphenyl-d14				85.50	70-130					WG661237
TPH (GC/FID) High Fraction o-Terphenyl	mg/kg	49.0	49.6	81.7 80.50	50-150 50-150	1.05	20	L635852-20		WG661686 WG661686
TPH (GC/FID) High Fraction o-Terphenyl	mg/kg	50.4	44.1	83.8 78.80	50-150 50-150	13.4	20	L635852-02		WG661549 WG661549

Serial Dilution

Batch number /Run number / Sample number cross reference

WG661233: R2671301: L635591-01
 WG661112: R2672183: L635591-01 02 03
 WG661310: R2672361: L635591-01
 WG661237: R2672701 R2674783 R2675821: L635591-01 03 02
 WG661322: R2672941: L635591-01 02 03
 WG661424: R2673100: L635591-01 02
 WG661521: R2673704: L635591-01
 WG661522: R2673720: L635591-01 02 03
 WG661678: R2674383: L635591-01 02 03
 WG661643: R2676542: L635591-01 02 03
 WG662176: R2676864: L635591-01 02 03
 WG661595: R2676926: L635591-03
 WG661549: R2677141: L635591-02 03
 WG661686: R2677142: L635591-01

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



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
143 Diamond Avenue

Parachute, CO 81635

Quality Assurance Report
Level II

L635591

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 20, 2013

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

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

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

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