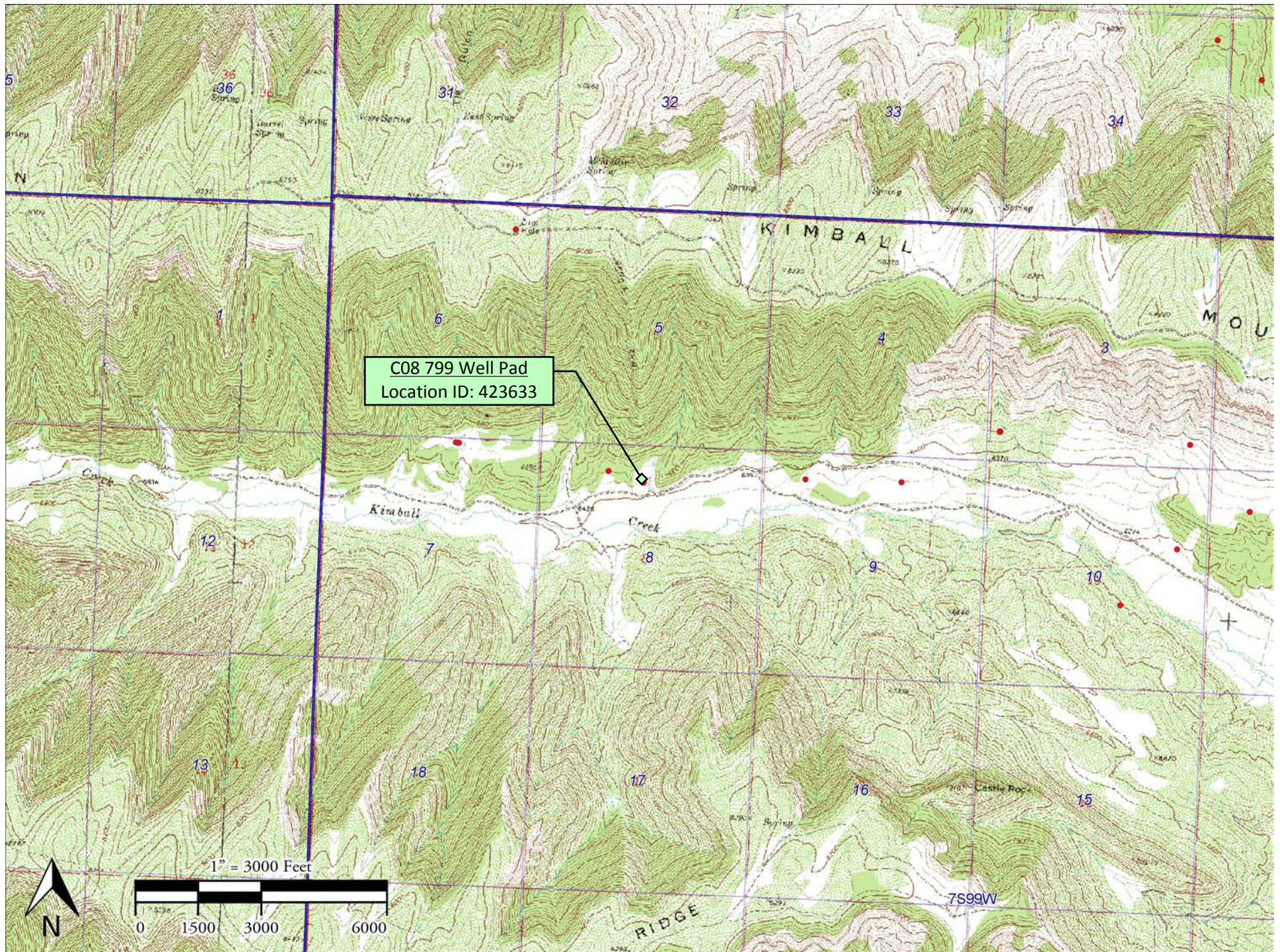


C08 799 Well Pad Location Map



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

Allowable Concentration -->				Organic Compounds in Soil (mg/kg [ppm])																	Inorganics in Soil			Metals in Soil (mg/kg [ppm])																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Location	Sample Date:	Sample Matrix	Matrix Notes	500	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

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

Report Summary

Tuesday April 24, 2012

Report Number: L570580

Samples Received: 04/18/12

Client Project:

Description: C08 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:



Jayred 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.

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REPORT OF ANALYSIS

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

April 24, 2012

Date Received : April 18, 2012
Description : C08 Cuttings
Sample ID : C08-CUT1-041712 12 IN
Collected By : Matt Kasten
Collection Date : 04/17/12 13:15

ESC Sample # : L570580-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	04/24/12	1
Chromium, Trivalent	8.7	2.0	mg/kg	Calc.	04/20/12	1
ORP	200		mV	2580	04/21/12	1
pH	8.5		su	9045D	04/19/12	1
Sodium Adsorption Ratio	27.			Calc.	04/23/12	1
Specific Conductance	2100		umhos/cm	9050AMod	04/19/12	1
Mercury	0.089	0.020	mg/kg	7471	04/20/12	1
Arsenic	2.0	1.0	mg/kg	6010B	04/20/12	1
Barium	4600	0.50	mg/kg	6010B	04/20/12	2
Cadmium	0.39	0.25	mg/kg	6010B	04/20/12	1
Chromium	8.7	0.50	mg/kg	6010B	04/20/12	1
Copper	14.	1.0	mg/kg	6010B	04/20/12	1
Lead	4.0	0.25	mg/kg	6010B	04/20/12	1
Nickel	3.1	1.0	mg/kg	6010B	04/20/12	1
Selenium	BDL	1.0	mg/kg	6010B	04/20/12	1
Silver	BDL	0.50	mg/kg	6010B	04/20/12	1
Zinc	35.	1.5	mg/kg	6010B	04/20/12	1
Benzene	0.052	0.0025	mg/kg	8021/8015	04/19/12	5
Toluene	0.30	0.025	mg/kg	8021/8015	04/19/12	5
Ethylbenzene	0.030	0.0025	mg/kg	8021/8015	04/19/12	5
Total Xylene	0.34	0.0075	mg/kg	8021/8015	04/19/12	5
TPH (GC/FID) Low Fraction	5.6	0.50	mg/kg	GRO	04/19/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.1		% Rec.	8021/8015	04/19/12	5
a,a,a-Trifluorotoluene(PID)	95.3		% Rec.	8021/8015	04/19/12	5
TPH (GC/FID) High Fraction	1100	80.	mg/kg	3546/DRO	04/23/12	20
Surrogate recovery(%)						
o-Terphenyl	1870		% Rec.	3546/DRO	04/23/12	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Acenaphthene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Acenaphthylene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(a)anthracene	0.14	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(a)pyrene	BDL	0.30	mg/kg	8270C-SIM	04/24/12	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L570580-01 (SV8270PAHSIM) - Dilution due to matrix
L570580-01 (PH) - 8.5@19.0c



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

April 24, 2012

Date Received : April 18, 2012
Description : C08 Cuttings
Sample ID : C08-CUT1-041712 12 IN
Collected By : Matt Kasten
Collection Date : 04/17/12 13:15

ESC Sample # : L570580-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.30	mg/kg	8270C-SIM	04/24/12	50
Benzo(g,h,i)perylene	BDL	0.30	mg/kg	8270C-SIM	04/24/12	50
Benzo(k)fluoranthene	BDL	0.30	mg/kg	8270C-SIM	04/24/12	50
Chrysene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Dibenz(a,h)anthracene	BDL	0.30	mg/kg	8270C-SIM	04/24/12	50
Fluoranthene	0.44	0.12	mg/kg	8270C-SIM	04/20/12	20
Fluorene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Indeno(1,2,3-cd)pyrene	BDL	0.30	mg/kg	8270C-SIM	04/24/12	50
Naphthalene	0.17	0.12	mg/kg	8270C-SIM	04/20/12	20
Phenanthrene	0.38	0.12	mg/kg	8270C-SIM	04/20/12	20
Pyrene	0.26	0.12	mg/kg	8270C-SIM	04/20/12	20
1-Methylnaphthalene	0.19	0.12	mg/kg	8270C-SIM	04/20/12	20
2-Methylnaphthalene	0.31	0.12	mg/kg	8270C-SIM	04/20/12	20
2-Chloronaphthalene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Surrogate Recovery						
Nitrobenzene-d5	406.		% Rec.	8270C-SIM	04/20/12	20
2-Fluorobiphenyl	82.6		% Rec.	8270C-SIM	04/20/12	20
p-Terphenyl-d14	203.		% Rec.	8270C-SIM	04/20/12	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 04/24/12 17:01 Printed: 04/24/12 17:02
L570580-01 (SV8270PAHSIM) - Dilution due to matrix
L570580-01 (PH) - 8.5@19.0c

REPORT OF ANALYSIS

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

April 24, 2012

Date Received : April 18, 2012
Description : C08 Cuttings
Sample ID : C08-CUT2-041712 12 IN
Collected By : Matt Kasten
Collection Date : 04/17/12 13:40

ESC Sample # : L570580-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	2.3	1.0	mg/kg	6010B	04/22/12	1
Benzene	BDL	0.025	mg/kg	8021/8015	04/19/12	50
Toluene	BDL	0.25	mg/kg	8021/8015	04/19/12	50
Ethylbenzene	0.072	0.025	mg/kg	8021/8015	04/19/12	50
Total Xylene	0.53	0.075	mg/kg	8021/8015	04/19/12	50
TPH (GC/FID) Low Fraction	24.	5.0	mg/kg	GRO	04/19/12	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.9		% Rec.	8021/8015	04/19/12	50
a,a,a-Trifluorotoluene(PID)	98.4		% Rec.	8021/8015	04/19/12	50
TPH (GC/FID) High Fraction	1900	80.	mg/kg	3546/DRO	04/23/12	20
Surrogate recovery(%)						
o-Terphenyl	1700		% Rec.	3546/DRO	04/23/12	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.17	0.12	mg/kg	8270C-SIM	04/20/12	20
Acenaphthene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Acenaphthylene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(a)anthracene	0.21	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(a)pyrene	BDL	0.30	mg/kg	8270C-SIM	04/23/12	50
Benzo(b)fluoranthene	BDL	0.30	mg/kg	8270C-SIM	04/23/12	50
Benzo(g,h,i)perylene	BDL	0.30	mg/kg	8270C-SIM	04/23/12	50
Benzo(k)fluoranthene	BDL	0.30	mg/kg	8270C-SIM	04/23/12	50
Chrysene	0.19	0.12	mg/kg	8270C-SIM	04/20/12	20
Dibenz(a,h)anthracene	BDL	0.30	mg/kg	8270C-SIM	04/23/12	50
Fluoranthene	0.61	0.12	mg/kg	8270C-SIM	04/20/12	20
Fluorene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Indeno(1,2,3-cd)pyrene	BDL	0.30	mg/kg	8270C-SIM	04/23/12	50
Naphthalene	0.26	0.12	mg/kg	8270C-SIM	04/20/12	20
Phenanthrene	0.56	0.12	mg/kg	8270C-SIM	04/20/12	20
Pyrene	0.39	0.12	mg/kg	8270C-SIM	04/20/12	20
1-Methylnaphthalene	0.38	0.12	mg/kg	8270C-SIM	04/20/12	20
2-Methylnaphthalene	0.56	0.12	mg/kg	8270C-SIM	04/20/12	20
2-Chloronaphthalene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Surrogate Recovery						
Nitrobenzene-d5	400.		% Rec.	8270C-SIM	04/20/12	20
2-Fluorobiphenyl	79.5		% Rec.	8270C-SIM	04/20/12	20
p-Terphenyl-d14	268.		% Rec.	8270C-SIM	04/20/12	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 04/24/12 17:01 Printed: 04/24/12 17:02

REPORT OF ANALYSIS

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

April 24, 2012

Date Received : April 18, 2012
Description : C08 Cuttings
Sample ID : C08-CUT3-041712 12 IN
Collected By : Matt Kasten
Collection Date : 04/17/12 13:45

ESC Sample # : L570580-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	7.0	1.0	mg/kg	6010B	04/22/12	1
Benzene	0.014	0.0025	mg/kg	8021/8015	04/19/12	5
Toluene	0.091	0.025	mg/kg	8021/8015	04/19/12	5
Ethylbenzene	0.013	0.0025	mg/kg	8021/8015	04/19/12	5
Total Xylene	0.12	0.0075	mg/kg	8021/8015	04/19/12	5
TPH (GC/FID) Low Fraction	3.0	0.50	mg/kg	GRO	04/19/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.5		% Rec.	8021/8015	04/19/12	5
a,a,a-Trifluorotoluene(PID)	97.9		% Rec.	8021/8015	04/19/12	5
TPH (GC/FID) High Fraction	720	80.	mg/kg	3546/DRO	04/23/12	20
Surrogate recovery(%)						
o-Terphenyl	973.		% Rec.	3546/DRO	04/23/12	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Acenaphthene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Acenaphthylene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(a)anthracene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(a)pyrene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(b)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(g,h,i)perylene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Benzo(k)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Chrysene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Dibenz(a,h)anthracene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Fluoranthene	0.22	0.12	mg/kg	8270C-SIM	04/20/12	20
Fluorene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Indeno(1,2,3-cd)pyrene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Naphthalene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Phenanthrene	0.18	0.12	mg/kg	8270C-SIM	04/20/12	20
Pyrene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
1-Methylnaphthalene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
2-Methylnaphthalene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
2-Chloronaphthalene	BDL	0.12	mg/kg	8270C-SIM	04/20/12	20
Surrogate Recovery						
Nitrobenzene-d5	153.		% Rec.	8270C-SIM	04/20/12	20
2-Fluorobiphenyl	77.5		% Rec.	8270C-SIM	04/20/12	20
p-Terphenyl-d14	92.7		% Rec.	8270C-SIM	04/20/12	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 04/24/12 17:01 Printed: 04/24/12 17:02
L570580-03 (SV8270PAHSIM) - Dilution due to matrix

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L570580-01	WG588361	SAMP	Benzo(a)pyrene	R2133414	O
	WG588361	SAMP	Benzo(b)fluoranthene	R2133414	O
	WG588361	SAMP	Benzo(g,h,i)perylene	R2133414	O
	WG588361	SAMP	Benzo(k)fluoranthene	R2133414	O
	WG588361	SAMP	Dibenz(a,h)anthracene	R2133414	O
	WG588361	SAMP	Indeno(1,2,3-cd)pyrene	R2133414	O
	WG588361	SAMP	Nitrobenzene-d5	R2133414	J7
	WG588361	SAMP	2-Fluorobiphenyl	R2133414	J7
	WG588361	SAMP	p-Terphenyl-d14	R2133414	J7
	WG588406	SAMP	pH	R2130673	T8
	WG588816	SAMP	ORP	R2135533	T8
	WG588877	SAMP	o-Terphenyl	R2135875	J7
L570580-02	WG588551	SAMP	Benzo(a)pyrene	R2135534	O
	WG588551	SAMP	Benzo(b)fluoranthene	R2135534	O
	WG588551	SAMP	Benzo(g,h,i)perylene	R2135534	O
	WG588551	SAMP	Benzo(k)fluoranthene	R2135534	O
	WG588551	SAMP	Dibenz(a,h)anthracene	R2135534	O
	WG588551	SAMP	Indeno(1,2,3-cd)pyrene	R2135534	O
	WG588551	SAMP	Nitrobenzene-d5	R2135534	J7
	WG588551	SAMP	2-Fluorobiphenyl	R2135534	J7
	WG588551	SAMP	p-Terphenyl-d14	R2135534	J7
	WG588877	SAMP	o-Terphenyl	R2135875	J7
L570580-03	WG588551	SAMP	Nitrobenzene-d5	R2135534	J7
	WG588551	SAMP	2-Fluorobiphenyl	R2135534	J7
	WG588551	SAMP	p-Terphenyl-d14	R2135534	J7
	WG588877	SAMP	o-Terphenyl	R2135875	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
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.
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
04/24/12 at 17:02:21

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: L570580-01 Account: ENCANACO Received: 04/18/12 09:00 Due Date: 04/25/12 00:00 RPT Date: 04/24/12 17:01

Sample: L570580-02 Account: ENCANACO Received: 04/18/12 09:00 Due Date: 04/25/12 00:00 RPT Date: 04/24/12 17:01

Sample: L570580-03 Account: ENCANACO Received: 04/18/12 09:00 Due Date: 04/25/12 00:00 RPT Date: 04/24/12 17:01



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

L570580

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

April 24, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
pH	5.95	su			WG588406	04/19/12 11:25
Specific Conductance	0.920	umhos/cm			WG588405	04/19/12 16:35
Benzene	< .0005	mg/kg			WG588461	04/19/12 14:55
Ethylbenzene	< .0005	mg/kg			WG588461	04/19/12 14:55
Toluene	< .005	mg/kg			WG588461	04/19/12 14:55
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG588461	04/19/12 14:55
Total Xylene	< .0015	mg/kg			WG588461	04/19/12 14:55
a,a,a-Trifluorotoluene(FID)		% Rec.	96.35	59-128	WG588461	04/19/12 14:55
a,a,a-Trifluorotoluene(PID)		% Rec.	100.8	54-144	WG588461	04/19/12 14:55
Mercury	< .02	mg/kg			WG588577	04/20/12 10:10
1-Methylnaphthalene	< .006	mg/kg			WG588361	04/19/12 10:45
2-Chloronaphthalene	< .006	mg/kg			WG588361	04/19/12 10:45
2-Methylnaphthalene	< .006	mg/kg			WG588361	04/19/12 10:45
Acenaphthene	< .006	mg/kg			WG588361	04/19/12 10:45
Acenaphthylene	< .006	mg/kg			WG588361	04/19/12 10:45
Anthracene	< .006	mg/kg			WG588361	04/19/12 10:45
Benzo(a)anthracene	< .006	mg/kg			WG588361	04/19/12 10:45
Benzo(a)pyrene	< .006	mg/kg			WG588361	04/19/12 10:45
Benzo(b)fluoranthene	< .006	mg/kg			WG588361	04/19/12 10:45
Benzo(g,h,i)perylene	< .006	mg/kg			WG588361	04/19/12 10:45
Benzo(k)fluoranthene	< .006	mg/kg			WG588361	04/19/12 10:45
Chrysene	< .006	mg/kg			WG588361	04/19/12 10:45
Dibenz(a,h)anthracene	< .006	mg/kg			WG588361	04/19/12 10:45
Fluoranthene	< .006	mg/kg			WG588361	04/19/12 10:45
Fluorene	< .006	mg/kg			WG588361	04/19/12 10:45
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG588361	04/19/12 10:45
Naphthalene	< .006	mg/kg			WG588361	04/19/12 10:45
Phenanthrene	< .006	mg/kg			WG588361	04/19/12 10:45
Pyrene	< .006	mg/kg			WG588361	04/19/12 10:45
2-Fluorobiphenyl		% Rec.	74.46	34-129	WG588361	04/19/12 10:45
Nitrobenzene-d5		% Rec.	61.58	14-141	WG588361	04/19/12 10:45
p-Terphenyl-d14		% Rec.	90.45	25-139	WG588361	04/19/12 10:45
Arsenic	< 1	mg/kg			WG588495	04/20/12 12:58
Barium	< .25	mg/kg			WG588495	04/20/12 12:58
Cadmium	< .25	mg/kg			WG588495	04/20/12 12:58
Chromium	< .5	mg/kg			WG588495	04/20/12 12:58
Copper	< 1	mg/kg			WG588495	04/20/12 12:58
Lead	< .25	mg/kg			WG588495	04/20/12 12:58
Nickel	< 1	mg/kg			WG588495	04/20/12 12:58
Selenium	< 1	mg/kg			WG588495	04/20/12 12:58
Silver	< .5	mg/kg			WG588495	04/20/12 12:58
Zinc	< 1.5	mg/kg			WG588495	04/20/12 12:58
Arsenic	< 1	mg/kg			WG588438	04/22/12 13:27
1-Methylnaphthalene	< .006	mg/kg			WG588551	04/20/12 09:48
2-Chloronaphthalene	< .006	mg/kg			WG588551	04/20/12 09:48

* Performance of this Analyte is outside of established criteria.

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Quality Assurance Report
Level II

L570580

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

April 24, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
2-Methylnaphthalene	< .006	mg/kg			WG588551	04/20/12 09:48
Acenaphthene	< .006	mg/kg			WG588551	04/20/12 09:48
Acenaphthylene	< .006	mg/kg			WG588551	04/20/12 09:48
Anthracene	< .006	mg/kg			WG588551	04/20/12 09:48
Benzo(a)anthracene	< .006	mg/kg			WG588551	04/20/12 09:48
Benzo(a)pyrene	< .006	mg/kg			WG588551	04/20/12 09:48
Benzo(b)fluoranthene	< .006	mg/kg			WG588551	04/20/12 09:48
Benzo(g,h,i)perylene	< .006	mg/kg			WG588551	04/20/12 09:48
Benzo(k)fluoranthene	< .006	mg/kg			WG588551	04/20/12 09:48
Chrysene	< .006	mg/kg			WG588551	04/20/12 09:48
Dibenz(a,h)anthracene	< .006	mg/kg			WG588551	04/20/12 09:48
Fluoranthene	< .006	mg/kg			WG588551	04/20/12 09:48
Fluorene	< .006	mg/kg			WG588551	04/20/12 09:48
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG588551	04/20/12 09:48
Naphthalene	< .006	mg/kg			WG588551	04/20/12 09:48
Phenanthrene	< .006	mg/kg			WG588551	04/20/12 09:48
Pyrene	< .006	mg/kg			WG588551	04/20/12 09:48
2-Fluorobiphenyl		% Rec.	81.58	34-129	WG588551	04/20/12 09:48
Nitrobenzene-d5		% Rec.	73.55	14-141	WG588551	04/20/12 09:48
p-Terphenyl-d14		% Rec.	114.7	25-139	WG588551	04/20/12 09:48
TPH (GC/FID) High Fraction	< 4	ppm			WG588877	04/23/12 07:23
o-Terphenyl		% Rec.	70.61	50-150	WG588877	04/23/12 07:23
Chromium,Hexavalent	< 2	mg/kg			WG588793	04/24/12 11:08

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
pH	su	5.20	5.20		0.385	1	L570310-43	WG588406
pH	su	8.40	8.50		1.18*	1	L570580-01	WG588406
Specific Conductance	umhos/cm	100.	110.		7.55	20	L570559-09	WG588405
Specific Conductance	umhos/cm	140.	140.		2.82	20	L570586-15	WG588405
Mercury	mg/kg	0.0490	0.0590		19.3	20	L570801-01	WG588577
Arsenic	mg/kg	21.0	28.0		29.5*	20	L570523-03	WG588495
Barium	mg/kg	43.0	49.0		14.0	20	L570523-03	WG588495
Cadmium	mg/kg	8.20	7.60		8.08	20	L570523-03	WG588495
Chromium	mg/kg	7.00	7.30		4.20	20	L570523-03	WG588495
Copper	mg/kg	19.0	21.8		12.7	20	L570523-03	WG588495
Lead	mg/kg	58.0	83.0		34.8*	20	L570523-03	WG588495
Selenium	mg/kg	0	0		0	20	L570523-03	WG588495
Silver	mg/kg	0	0		0	20	L570523-03	WG588495
Nickel	mg/kg	20.0	0		NA	20	L570523-03	WG588495
Zinc	mg/kg	240.	0		NA	20	L570523-03	WG588495
Arsenic	mg/kg	7.60	8.50		11.6	20	L570586-13	WG588438
ORP	mV	190.	200.		4.60	20	L570580-01	WG588816
ORP	mV	0	0		0	20	L571106-01	WG588816

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L570580

April 24, 2012

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Chromium,Hexavalent	mg/kg	0	0		0	20	L571106-01	WG588793
Chromium,Hexavalent	mg/kg	0	0		0	20	L570580-01	WG588793

Analyte	Units	Laboratory Control		Sample Result	% Rec	Limit	Batch
		Known Val					
pH	su	6.04		6.04	100.	98-101	WG588406
Specific Conductance	umhos/cm	459		451.	98.3	85-115	WG588405
Benzene	mg/kg	.05		0.0466	93.2	76-113	WG588461
Ethylbenzene	mg/kg	.05		0.0476	95.3	78-115	WG588461
Toluene	mg/kg	.05		0.0466	93.1	76-114	WG588461
Total Xylene	mg/kg	.15		0.144	96.3	81-118	WG588461
a,a,a-Trifluorotoluene(PID)					99.21	54-144	WG588461
TPH (GC/FID) Low Fraction	mg/kg	5.5		5.55	101.	67-135	WG588461
a,a,a-Trifluorotoluene(FID)					102.7	59-128	WG588461
Mercury	mg/kg	3.77		3.19	84.6	71.6-128	WG588577
1-Methylnaphthalene	mg/kg	.033		0.0229	69.3	48-113	WG588361
2-Chloronaphthalene	mg/kg	.033		0.0262	79.3	51-114	WG588361
2-Methylnaphthalene	mg/kg	.033		0.0236	71.6	44-109	WG588361
Acenaphthene	mg/kg	.033		0.0266	80.6	52-108	WG588361
Acenaphthylene	mg/kg	.033		0.0263	79.8	51-110	WG588361
Anthracene	mg/kg	.033		0.0270	81.9	58-120	WG588361
Benzo(a)anthracene	mg/kg	.033		0.0277	83.8	54-110	WG588361
Benzo(a)pyrene	mg/kg	.033		0.0267	80.8	56-118	WG588361
Benzo(b)fluoranthene	mg/kg	.033		0.0254	77.0	55-114	WG588361
Benzo(g,h,i)perylene	mg/kg	.033		0.0290	87.7	48-130	WG588361
Benzo(k)fluoranthene	mg/kg	.033		0.0274	83.0	55-122	WG588361
Chrysene	mg/kg	.033		0.0261	79.2	57-118	WG588361
Dibenz(a,h)anthracene	mg/kg	.033		0.0296	89.6	53-122	WG588361
Fluoranthene	mg/kg	.033		0.0287	87.0	58-118	WG588361
Fluorene	mg/kg	.033		0.0251	76.1	54-109	WG588361
Indeno(1,2,3-cd)pyrene	mg/kg	.033		0.0298	90.4	51-125	WG588361
Naphthalene	mg/kg	.033		0.0233	70.5	45-105	WG588361
Phenanthrene	mg/kg	.033		0.0244	73.9	53-114	WG588361
Pyrene	mg/kg	.033		0.0252	76.4	53-121	WG588361
2-Fluorobiphenyl					70.60	34-129	WG588361
Nitrobenzene-d5					70.77	14-141	WG588361
p-Terphenyl-d14					93.17	25-139	WG588361
Arsenic	mg/kg	92.6		85.8	92.7	82.9-117	WG588495
Barium	mg/kg	169		162.	95.9	82.8-117	WG588495
Cadmium	mg/kg	61.8		58.6	94.8	83.3-117	WG588495
Chromium	mg/kg	71.3		66.0	92.6	81.8-118	WG588495
Copper	mg/kg	81.2		80.5	99.1	83.9-116	WG588495
Lead	mg/kg	92.4		87.8	95.0	83.3-117	WG588495
Nickel	mg/kg	59.1		56.1	94.9	83.8-116	WG588495
Selenium	mg/kg	89.5		84.6	94.5	79-121	WG588495
Silver	mg/kg	34.4		32.4	94.2	66.3-134	WG588495
Zinc	mg/kg	141		131.	92.9	80.9-119	WG588495

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Level II

Parachute, CO 81635

L570580

April 24, 2012

Analyte	Units	Laboratory Control	Sample	% Rec	Limit	Batch
		Known Val	Result			
Arsenic	mg/kg	92.6	101.	109.	82.9-117	WG588438
1-Methylnaphthalene	mg/kg	.033	0.0265	80.4	48-113	WG588551
2-Chloronaphthalene	mg/kg	.033	0.0255	77.2	51-114	WG588551
2-Methylnaphthalene	mg/kg	.033	0.0266	80.7	44-109	WG588551
Acenaphthene	mg/kg	.033	0.0261	79.2	52-108	WG588551
Acenaphthylene	mg/kg	.033	0.0267	80.8	51-110	WG588551
Anthracene	mg/kg	.033	0.0284	86.2	58-120	WG588551
Benzo(a)anthracene	mg/kg	.033	0.0305	92.6	54-110	WG588551
Benzo(a)pyrene	mg/kg	.033	0.0317	96.0	56-118	WG588551
Benzo(b)fluoranthene	mg/kg	.033	0.0310	94.1	55-114	WG588551
Benzo(g,h,i)perylene	mg/kg	.033	0.0297	89.9	48-130	WG588551
Benzo(k)fluoranthene	mg/kg	.033	0.0303	91.9	55-122	WG588551
Chrysene	mg/kg	.033	0.0280	85.0	57-118	WG588551
Dibenz(a,h)anthracene	mg/kg	.033	0.0294	89.2	53-122	WG588551
Fluoranthene	mg/kg	.033	0.0310	93.9	58-118	WG588551
Fluorene	mg/kg	.033	0.0275	83.4	54-109	WG588551
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0301	91.1	51-125	WG588551
Naphthalene	mg/kg	.033	0.0243	73.7	45-105	WG588551
Phenanthrene	mg/kg	.033	0.0260	78.8	53-114	WG588551
Pyrene	mg/kg	.033	0.0280	84.8	53-121	WG588551
2-Fluorobiphenyl				81.27	34-129	WG588551
Nitrobenzene-d5				77.86	14-141	WG588551
p-Terphenyl-d14				107.7	25-139	WG588551
ORP	mV	228	226.	99.1	95.6-104.	WG588816
TPH (GC/FID) High Fraction	ppm	60	40.7	67.8	50-150	WG588877
o-Terphenyl				69.72	50-150	WG588877
Chromium,Hexavalent	mg/kg	150	152.	101.	50-150	WG588793

Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
pH	su	6.03	6.04	100.	98-101	0.166	20	WG588406
Specific Conductance	umhos/	450.	451.	98.0	85-115	0.222	20	WG588405
Benzene	mg/kg	0.0461	0.0466	92.0	76-113	1.04	20	WG588461
Ethylbenzene	mg/kg	0.0469	0.0476	94.0	78-115	1.46	20	WG588461
Toluene	mg/kg	0.0460	0.0466	92.0	76-114	1.22	20	WG588461
Total Xylene	mg/kg	0.142	0.144	95.0	81-118	1.73	20	WG588461
a,a,a-Trifluorotoluene(PID)				98.64	54-144			WG588461
TPH (GC/FID) Low Fraction	mg/kg	5.60	5.55	102.	67-135	0.920	20	WG588461
a,a,a-Trifluorotoluene(FID)				102.2	59-128			WG588461
1-Methylnaphthalene	mg/kg	0.0261	0.0229	79.0	48-113	13.1	24	WG588361
2-Chloronaphthalene	mg/kg	0.0271	0.0262	82.0	51-114	3.69	24	WG588361
2-Methylnaphthalene	mg/kg	0.0259	0.0236	78.0	44-109	9.04	24	WG588361
Acenaphthene	mg/kg	0.0287	0.0266	87.0	52-108	7.51	22	WG588361

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Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
Acenaphthylene	mg/kg	0.0283	0.0263	86.0		51-110	7.20	21	WG588361
Anthracene	mg/kg	0.0281	0.0270	85.0		58-120	3.95	20	WG588361
Benzo(a)anthracene	mg/kg	0.0259	0.0277	78.0		54-110	6.50	22	WG588361
Benzo(a)pyrene	mg/kg	0.0258	0.0267	78.0		56-118	3.21	21	WG588361
Benzo(b)fluoranthene	mg/kg	0.0288	0.0254	87.0		55-114	12.6	20	WG588361
Benzo(g,h,i)perylene	mg/kg	0.0293	0.0290	89.0		48-130	1.28	20	WG588361
Benzo(k)fluoranthene	mg/kg	0.0271	0.0274	82.0		55-122	0.997	25	WG588361
Chrysene	mg/kg	0.0252	0.0261	76.0		57-118	3.52	20	WG588361
Dibenz(a,h)anthracene	mg/kg	0.0293	0.0296	89.0		53-122	1.02	20	WG588361
Fluoranthene	mg/kg	0.0267	0.0287	81.0		58-118	7.23	20	WG588361
Fluorene	mg/kg	0.0267	0.0251	81.0		54-109	6.05	20	WG588361
Indeno(1,2,3-cd)pyrene	mg/kg	0.0297	0.0298	90.0		51-125	0.337	21	WG588361
Naphthalene	mg/kg	0.0241	0.0233	73.0		45-105	3.72	24	WG588361
Phenanthrene	mg/kg	0.0259	0.0244	78.0		53-114	5.93	20	WG588361
Pyrene	mg/kg	0.0255	0.0252	77.0		53-121	1.21	20	WG588361
2-Fluorobiphenyl				86.14		34-129			WG588361
Nitrobenzene-d5				67.60		14-141			WG588361
p-Terphenyl-d14				90.75		25-139			WG588361
1-Methylnaphthalene	mg/kg	0.0277	0.0265	84.0		48-113	4.19	24	WG588551
2-Chloronaphthalene	mg/kg	0.0268	0.0255	81.0		51-114	4.96	24	WG588551
2-Methylnaphthalene	mg/kg	0.0277	0.0266	84.0		44-109	3.83	24	WG588551
Acenaphthene	mg/kg	0.0267	0.0261	81.0		52-108	2.00	22	WG588551
Acenaphthylene	mg/kg	0.0281	0.0267	85.0		51-110	5.40	21	WG588551
Anthracene	mg/kg	0.0302	0.0284	92.0		58-120	6.02	20	WG588551
Benzo(a)anthracene	mg/kg	0.0311	0.0305	94.0		54-110	1.91	22	WG588551
Benzo(a)pyrene	mg/kg	0.0328	0.0317	99.0		56-118	3.48	21	WG588551
Benzo(b)fluoranthene	mg/kg	0.0312	0.0310	95.0		55-114	0.649	20	WG588551
Benzo(g,h,i)perylene	mg/kg	0.0310	0.0297	94.0		48-130	4.28	20	WG588551
Benzo(k)fluoranthene	mg/kg	0.0321	0.0303	97.0		55-122	5.55	25	WG588551
Chrysene	mg/kg	0.0296	0.0280	90.0		57-118	5.24	20	WG588551
Dibenz(a,h)anthracene	mg/kg	0.0309	0.0294	94.0		53-122	4.99	20	WG588551
Fluoranthene	mg/kg	0.0322	0.0310	97.0		58-118	3.68	20	WG588551
Fluorene	mg/kg	0.0283	0.0275	86.0		54-109	2.90	20	WG588551
Indeno(1,2,3-cd)pyrene	mg/kg	0.0315	0.0301	96.0		51-125	4.83	21	WG588551
Naphthalene	mg/kg	0.0259	0.0243	78.0		45-105	6.37	24	WG588551
Phenanthrene	mg/kg	0.0284	0.0260	86.0		53-114	8.66	20	WG588551
Pyrene	mg/kg	0.0287	0.0280	87.0		53-121	2.42	20	WG588551
2-Fluorobiphenyl				85.78		34-129			WG588551
Nitrobenzene-d5				84.19		14-141			WG588551
p-Terphenyl-d14				112.4		25-139			WG588551
ORP	mV	227.	226.	100.		95.6-104.	0.442	20	WG588816
TPH (GC/FID) High Fraction	ppm	45.7	40.7	76.0		50-150	11.5	25	WG588877
o-Terphenyl				75.15		50-150			WG588877
Chromium,Hexavalent	mg/kg	152.	152.	101.		50-150	0	20	WG588793

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Benzene	mg/kg	0.227	0	.05	90.7	32-137	L570487-03	WG588461
Ethylbenzene	mg/kg	0.230	0	.05	92.0	10-150	L570487-03	WG588461
Toluene	mg/kg	0.228	0	.05	91.3	20-142	L570487-03	WG588461

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Total Xylene	mg/kg	0.698	0	.15	93.1	16-141	L570487-03	WG588461
a,a,a-Trifluorotoluene(PID)					98.53	54-144		WG588461
TPH (GC/FID) Low Fraction	mg/kg	25.9	0.0927	5.5	93.8	55-109	L570487-03	WG588461
a,a,a-Trifluorotoluene(FID)					102.4	59-128		WG588461
Mercury	mg/kg	0.344	0.0590	.25	114.	70-130	L570801-01	WG588577
1-Methylnaphthalene	mg/kg	0.0293	0	.033	88.8	25-155	L570548-04	WG588361
2-Chloronaphthalene	mg/kg	0.0288	0	.033	87.4	31-153	L570548-04	WG588361
2-Methylnaphthalene	mg/kg	0.0293	0	.033	88.8	22-172	L570548-04	WG588361
Acenaphthene	mg/kg	0.0287	0	.033	86.9	43-133	L570548-04	WG588361
Acenaphthylene	mg/kg	0.0299	0	.033	90.6	42-146	L570548-04	WG588361
Anthracene	mg/kg	0.0299	0	.033	90.6	38-153	L570548-04	WG588361
Benzo(a)anthracene	mg/kg	0.0311	0	.033	94.1	31-142	L570548-04	WG588361
Benzo(a)pyrene	mg/kg	0.0317	0	.033	96.2	26-152	L570548-04	WG588361
Benzo(b)fluoranthene	mg/kg	0.0313	0	.033	94.8	10-188	L570548-04	WG588361
Benzo(g,h,i)perylene	mg/kg	0.0274	0	.033	83.0	10-176	L570548-04	WG588361
Benzo(k)fluoranthene	mg/kg	0.0298	0	.033	90.3	22-163	L570548-04	WG588361
Chrysene	mg/kg	0.0289	0	.033	87.6	26-146	L570548-04	WG588361
Dibenz(a,h)anthracene	mg/kg	0.0283	0	.033	85.9	10-160	L570548-04	WG588361
Fluoranthene	mg/kg	0.0318	0	.033	96.3	23-160	L570548-04	WG588361
Fluorene	mg/kg	0.0293	0	.033	88.9	44-143	L570548-04	WG588361
Indeno(1,2,3-cd)pyrene	mg/kg	0.0291	0	.033	88.1	10-157	L570548-04	WG588361
Naphthalene	mg/kg	0.0280	0	.033	84.9	22-156	L570548-04	WG588361
Phenanthrene	mg/kg	0.0294	0	.033	89.0	23-164	L570548-04	WG588361
Pyrene	mg/kg	0.0283	0	.033	85.6	12-170	L570548-04	WG588361
2-Fluorobiphenyl					89.29	34-129		WG588361
Nitrobenzene-d5					87.02	14-141		WG588361
p-Terphenyl-d14					101.0	25-139		WG588361
Arsenic	mg/kg	68.0	28.0	50	80.0	75-125	L570523-03	WG588495
Barium	mg/kg	99.4	49.0	50	101.	75-125	L570523-03	WG588495
Cadmium	mg/kg	51.8	7.60	50	88.4	75-125	L570523-03	WG588495
Chromium	mg/kg	52.3	7.30	50	90.0	75-125	L570523-03	WG588495
Copper	mg/kg	67.4	21.8	50	91.2	75-125	L570523-03	WG588495
Lead	mg/kg	102.	83.0	50	38.0*	75-125	L570523-03	WG588495
Selenium	mg/kg	42.9	0	50	85.8	75-125	L570523-03	WG588495
Silver	mg/kg	46.7	0	50	93.4	75-125	L570523-03	WG588495
Nickel	mg/kg	61.7	0	50	61.7*	75-125	L570523-03	WG588495
Zinc	mg/kg	214.	0	50	214.*	75-125	L570523-03	WG588495
Arsenic	mg/kg	94.3	63.0	50	62.6*	75-125	L570544-01	WG588495
Barium	mg/kg	327.	320.	50	14.0*	75-125	L570544-01	WG588495
Cadmium	mg/kg	43.1	0	50	86.2	75-125	L570544-01	WG588495
Chromium	mg/kg	106.	96.0	50	20.0*	75-125	L570544-01	WG588495
Lead	mg/kg	45.4	3.50	50	83.8	75-125	L570544-01	WG588495
Selenium	mg/kg	39.8	0	50	79.6	75-125	L570544-01	WG588495
Silver	mg/kg	45.1	0	25	90.2	75-125	L570544-01	WG588495
Arsenic	mg/kg	48.1	8.50	10	79.2	75-125	L570586-13	WG588438
1-Methylnaphthalene	mg/kg	0.0329	0	.033	99.6	25-155	L570801-01	WG588551
2-Chloronaphthalene	mg/kg	0.0241	0	.033	73.0	31-153	L570801-01	WG588551
2-Methylnaphthalene	mg/kg	0.0374	0.00640	.033	93.8	22-172	L570801-01	WG588551
Acenaphthene	mg/kg	0.0246	0	.033	74.6	43-133	L570801-01	WG588551

* Performance of this Analyte is outside of established criteria.

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Est. 1970

April 24, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Acenaphthylene	mg/kg	0.0244	0	.033	73.9	42-146	L570801-01	WG588551
Anthracene	mg/kg	0.0273	0	.033	82.6	38-153	L570801-01	WG588551
Benzo(a)anthracene	mg/kg	0.0273	0	.033	82.8	31-142	L570801-01	WG588551
Benzo(a)pyrene	mg/kg	0.0279	0	.033	84.6	26-152	L570801-01	WG588551
Benzo(b)fluoranthene	mg/kg	0.0340	0	.033	103.	10-188	L570801-01	WG588551
Benzo(g,h,i)perylene	mg/kg	0.00988	0	.033	29.9	10-176	L570801-01	WG588551
Benzo(k)fluoranthene	mg/kg	0.0292	0	.033	88.6	22-163	L570801-01	WG588551
Chrysene	mg/kg	0.0247	0	.033	75.0	26-146	L570801-01	WG588551
Dibenz(a,h)anthracene	mg/kg	0.0127	0	.033	38.5	10-160	L570801-01	WG588551
Fluoranthene	mg/kg	0.0329	0	.033	99.6	23-160	L570801-01	WG588551
Fluorene	mg/kg	0.0287	0	.033	86.9	44-143	L570801-01	WG588551
Indeno(1,2,3-cd)pyrene	mg/kg	0.0136	0	.033	41.3	10-157	L570801-01	WG588551
Naphthalene	mg/kg	0.0265	0	.033	80.4	22-156	L570801-01	WG588551
Phenanthrene	mg/kg	0.0280	0	.033	85.0	23-164	L570801-01	WG588551
Pyrene	mg/kg	0.0257	0	.033	78.0	12-170	L570801-01	WG588551
2-Fluorobiphenyl					70.80	34-129		WG588551
Nitrobenzene-d5					72.87	14-141		WG588551
p-Terphenyl-d14					103.9	25-139		WG588551
Chromium, Hexavalent	mg/kg	1.48	1.20	20	1.40*	50-150	L570911-01	WG588793
TPH (GC/FID) High Fraction	ppm	156.	180.	60	0*	50-150	L570600-03	WG588877
o-Terphenyl					42.79*	50-150		WG588877

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.233	0.227	93.1	32-137	2.58	39	L570487-03	WG588461
Ethylbenzene	mg/kg	0.231	0.230	92.2	10-150	0.260	44	L570487-03	WG588461
Toluene	mg/kg	0.228	0.228	91.2	20-142	0.100	42	L570487-03	WG588461
Total Xylene	mg/kg	0.697	0.698	92.9	16-141	0.160	46	L570487-03	WG588461
a,a,a-Trifluorotoluene(PID)				98.56	54-144				WG588461
TPH (GC/FID) Low Fraction	mg/kg	24.7	25.9	89.4	55-109	4.72	20	L570487-03	WG588461
a,a,a-Trifluorotoluene(FID)				101.5	59-128				WG588461
Mercury	mg/kg	0.373	0.344	126.	70-130	8.09	20	L570801-01	WG588577
1-Methylnaphthalene	mg/kg	0.0283	0.0293	85.7	25-155	3.51	27	L570548-04	WG588361
2-Chloronaphthalene	mg/kg	0.0281	0.0288	85.1	31-153	2.69	22	L570548-04	WG588361
2-Methylnaphthalene	mg/kg	0.0282	0.0293	85.6	22-172	3.71	29	L570548-04	WG588361
Acenaphthene	mg/kg	0.0276	0.0287	83.6	43-133	3.87	26	L570548-04	WG588361
Acenaphthylene	mg/kg	0.0290	0.0299	87.8	42-146	3.20	22	L570548-04	WG588361
Anthracene	mg/kg	0.0280	0.0299	84.8	38-153	6.68	27	L570548-04	WG588361
Benzo(a)anthracene	mg/kg	0.0300	0.0311	90.9	31-142	3.46	31	L570548-04	WG588361
Benzo(a)pyrene	mg/kg	0.0306	0.0317	92.7	26-152	3.67	32	L570548-04	WG588361
Benzo(b)fluoranthene	mg/kg	0.0308	0.0313	93.3	10-188	1.62	33	L570548-04	WG588361
Benzo(g,h,i)perylene	mg/kg	0.0265	0.0274	80.3	10-176	3.31	30	L570548-04	WG588361
Benzo(k)fluoranthene	mg/kg	0.0282	0.0298	85.6	22-163	5.38	29	L570548-04	WG588361
Chrysene	mg/kg	0.0281	0.0289	85.1	26-146	2.96	30	L570548-04	WG588361
Dibenz(a,h)anthracene	mg/kg	0.0274	0.0283	83.1	10-160	3.22	39	L570548-04	WG588361
Fluoranthene	mg/kg	0.0303	0.0318	91.7	23-160	4.87	22	L570548-04	WG588361
Fluorene	mg/kg	0.0288	0.0293	87.3	44-143	1.85	23	L570548-04	WG588361
Indeno(1,2,3-cd)pyrene	mg/kg	0.0280	0.0291	84.8	10-157	3.85	40	L570548-04	WG588361
Naphthalene	mg/kg	0.0269	0.0280	81.7	22-156	3.85	27	L570548-04	WG588361
Phenanthrene	mg/kg	0.0271	0.0294	82.1	23-164	8.07	25	L570548-04	WG588361

* Performance of this Analyte is outside of established criteria.

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



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Tax I.D. 62-0814289

Est. 1970

April 24, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Pyrene	mg/kg	0.0271	0.0283	82.2	12-170	4.12	24	L570548-04	WG588361
2-Fluorobiphenyl				86.86	34-129				WG588361
Nitrobenzene-d5				85.34	14-141				WG588361
p-Terphenyl-d14				96.63	25-139				WG588361
Arsenic	mg/kg	78.2	68.0	100.	75-125	14.0	20	L570523-03	WG588495
Barium	mg/kg	94.0	99.4	90.0	75-125	5.58	20	L570523-03	WG588495
Cadmium	mg/kg	53.0	51.8	90.8	75-125	2.29	20	L570523-03	WG588495
Chromium	mg/kg	46.5	52.3	78.4	75-125	11.7	20	L570523-03	WG588495
Copper	mg/kg	68.6	67.4	93.6	75-125	1.76	20	L570523-03	WG588495
Lead	mg/kg	108.	102.	50.0*	75-125	5.71	20	L570523-03	WG588495
Selenium	mg/kg	43.6	42.9	87.2	75-125	1.62	20	L570523-03	WG588495
Silver	mg/kg	42.5	46.7	85.0	75-125	9.42	20	L570523-03	WG588495
Nickel	mg/kg	75.2	61.7	75.2	75-125	19.7	20	L570523-03	WG588495
Zinc	mg/kg	326.	214.	326.*	75-125	41.5*	20	L570523-03	WG588495
Arsenic	mg/kg	97.8	94.3	69.6*	75-125	3.64	20	L570544-01	WG588495
Barium	mg/kg	338.	327.	36.0*	75-125	3.31	20	L570544-01	WG588495
Cadmium	mg/kg	42.6	43.1	85.2	75-125	1.17	20	L570544-01	WG588495
Chromium	mg/kg	107.	106.	22.0*	75-125	0.939	20	L570544-01	WG588495
Lead	mg/kg	45.6	45.4	84.2	75-125	0.440	20	L570544-01	WG588495
Selenium	mg/kg	39.7	39.8	79.4	75-125	0.252	20	L570544-01	WG588495
Silver	mg/kg	45.6	45.1	91.2	75-125	1.10	20	L570544-01	WG588495
Arsenic	mg/kg	52.9	48.1	88.8	75-125	9.50	20	L570586-13	WG588438
1-Methylnaphthalene	mg/kg	0.0307	0.0329	93.0	25-155	6.82	27	L570801-01	WG588551
2-Chloronaphthalene	mg/kg	0.0218	0.0241	66.0	31-153	9.98	22	L570801-01	WG588551
2-Methylnaphthalene	mg/kg	0.0347	0.0374	85.7	22-172	7.42	29	L570801-01	WG588551
Acenaphthene	mg/kg	0.0256	0.0246	77.5	43-133	3.71	26	L570801-01	WG588551
Acenaphthylene	mg/kg	0.0250	0.0244	75.7	42-146	2.44	22	L570801-01	WG588551
Anthracene	mg/kg	0.0233	0.0273	70.5	38-153	15.8	27	L570801-01	WG588551
Benzo(a)anthracene	mg/kg	0.0265	0.0273	80.4	31-142	2.91	31	L570801-01	WG588551
Benzo(a)pyrene	mg/kg	0.0276	0.0279	83.7	26-152	1.02	32	L570801-01	WG588551
Benzo(b)fluoranthene	mg/kg	0.0318	0.0340	96.2	10-188	6.72	33	L570801-01	WG588551
Benzo(g,h,i)perylene	mg/kg	0.0117	0.00988	35.3	10-176	16.5	30	L570801-01	WG588551
Benzo(k)fluoranthene	mg/kg	0.0298	0.0292	90.2	22-163	1.88	29	L570801-01	WG588551
Chrysene	mg/kg	0.0244	0.0247	73.9	26-146	1.47	30	L570801-01	WG588551
Dibenz(a,h)anthracene	mg/kg	0.0142	0.0127	43.0	10-160	11.1	39	L570801-01	WG588551
Fluoranthene	mg/kg	0.0269	0.0329	81.6	23-160	19.8	22	L570801-01	WG588551
Fluorene	mg/kg	0.0310	0.0287	93.8	44-143	7.71	23	L570801-01	WG588551
Indeno(1,2,3-cd)pyrene	mg/kg	0.0154	0.0136	46.5	10-157	11.8	40	L570801-01	WG588551
Naphthalene	mg/kg	0.0256	0.0265	77.6	22-156	3.58	27	L570801-01	WG588551
Phenanthrene	mg/kg	0.0268	0.0280	81.1	23-164	4.63	25	L570801-01	WG588551
Pyrene	mg/kg	0.0267	0.0257	80.8	12-170	3.46	24	L570801-01	WG588551
2-Fluorobiphenyl				66.95	34-129				WG588551
Nitrobenzene-d5				80.72	14-141				WG588551
p-Terphenyl-d14				109.6	25-139				WG588551
Chromium, Hexavalent	mg/kg	0.720	1.48	0*	50-150	69.1*	20	L570911-01	WG588793
TPH (GC/FID) High Fraction	ppm	153.	156.	0*	50-150	1.55	25	L570600-03	WG588877
o-Terphenyl				52.48	50-150				WG588877

* Performance of this Analyte is outside of established criteria.
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April 24, 2012

Batch number /Run number / Sample number cross reference

WG588406: R2130673: L570580-01
WG588405: R2131773: L570580-01
WG588461: R2131873: L570580-01 02 03
WG588577: R2133334: L570580-01
WG588361: R2133414: L570580-01
WG588495: R2133974: L570580-01
WG588438: R2135475: L570580-02 03
WG588816: R2135533: L570580-01
WG588551: R2135534: L570580-02 03
WG588877: R2135875: L570580-01 02 03
WG588874: R2135973: L570580-01
WG588793: R2138193: L570580-01

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

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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.



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Project Manager
EnCana Oil & Gas Inc. - CO
143 Diamond Avenue
Parachute, CO 81635

Report Summary

Tuesday August 06, 2013

Report Number: L649227


Samples Received: 07/31/13

Client Project: C08

Description: C08 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:


Jarred 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.

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REPORT OF ANALYSIS

Project Manager
EnCana Oil & Gas Inc. - CO
143 Diamond Avenue
Parachute, CO 81635

August 06, 2013

Date Received : July 31, 2013
Description : C08 Cuttings
Sample ID : 073013-C08(CUT) 12 IN
Collected By : Matt Kasten
Collection Date : 07/30/13 09:50

ESC Sample # : L649227-01

Site ID : C08

Project # : C08

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) High Fraction	310	80.	mg/kg	8015D/DRO	08/06/13	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	8015D/DRO	08/06/13	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 08/06/13 14:56 Printed: 08/06/13 15:00

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L649227-01	WG675248	SAMP	o-Terphenyl	R2769620	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

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

Definitions

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- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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 August 12, 2013

Report Number: L650465


Samples Received: 08/07/13

Client Project:

Description: C08 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:


Jarred 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.

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REPORT OF ANALYSIS

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

August 12, 2013

Date Received : August 07, 2013
Description : C08 Cuttings
Sample ID : 080613-C08 (CUT1) 12 IN
Collected By : Matt Kasten
Collection Date : 08/06/13 11:45

ESC Sample # : L650465-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) High Fraction	700	80.	mg/kg	8015D/DRO	08/11/13	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	8015D/DRO	08/11/13	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 08/12/13 13:26 Printed: 08/12/13 13:26



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REPORT OF ANALYSIS

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

August 12, 2013

Date Received : August 07, 2013
Description : C08 Cuttings
Sample ID : 080613-C08 (CUT2) 12 IN
Collected By : Matt Kasten
Collection Date : 08/06/13 12:00

ESC Sample # : L650465-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) High Fraction	500	80.	mg/kg	8015D/DRO	08/11/13	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	8015D/DRO	08/11/13	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/12/13 13:26 Printed: 08/12/13 13:26



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REPORT OF ANALYSIS

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

August 12, 2013

Date Received : August 07, 2013
Description : C08 Cuttings
Sample ID : 080613-C08 (CUT3) 12 IN
Collected By : Matt Kasten
Collection Date : 08/06/13 12:10

ESC Sample # : L650465-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) High Fraction	380	80.	mg/kg	8015D/DRO	08/11/13	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	8015D/DRO	08/11/13	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/12/13 13:26 Printed: 08/12/13 13:26

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L650465-01	WG675843	SAMP	o-Terphenyl	R2776929	J7
L650465-02	WG675843	SAMP	o-Terphenyl	R2776929	J7
L650465-03	WG675843	SAMP	o-Terphenyl	R2776929	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

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Summary of Remarks For Samples Printed
08/12/13 at 13:26:23

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.

Sample: L650465-01 Account: ENCANACO Received: 08/07/13 09:00 Due Date: 08/14/13 00:00 RPT Date: 08/12/13 13:26

Sample: L650465-02 Account: ENCANACO Received: 08/07/13 09:00 Due Date: 08/14/13 00:00 RPT Date: 08/12/13 13:26

Sample: L650465-03 Account: ENCANACO Received: 08/07/13 09:00 Due Date: 08/14/13 00:00 RPT Date: 08/12/13 13:26