

FORM
4
Rev 12/05State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894 2100 Fax: (303)894 2100



SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form). Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b).

RECEIVED
10/31/2012

1. OGCC Operator Number: 10341	4. Contact Name: Karen LeBaron	Complete the Attachment Checklist
2. Name of Operator: Puckett Land Company	Phone: (303) 763 - 1000	
3. Address: 5460 South Quebec Street, Suite 250 City: Greenwood Village State: CO Zip: 80111	Fax: (303) 763 - 1040	OP OGCC
5. API Number 05-316610 (Location ID)	OGCC Facility ID Number 428032 & 428033	Survey Plat
6. Well/Facility Name: W. & E. RESERVE PITS	7. Well/Facility Number 499-12-67	Directional Survey
8. Location (Qtr/Qt, Sec, Twp, Rng, Meridian): SWSE, Sec 12, T4S-R99W, 6th PM		Surface Eqpm Diagram
9. County: Rio Blanco	10. Field Name: Wildcat	Technical Info Page
11. Federal, Indian or State Lease Number: NA		Other

General Notice

<input type="checkbox"/> CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)											
Change of Surface Footage from Exterior Section Lines:	<table border="1"><tr><td>FNU/FSL</td><td>FEL/FWL</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>	FNU/FSL	FEL/FWL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FNU/FSL	FEL/FWL										
<input type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input type="checkbox"/>										
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>										
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>										
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/>										
Bottomhole location Qtr/Qt, Sec, Twp, Rng, Mer											
Latitude	Distance to nearest property line										
Longitude	Distance to nearest bldg, public rd, utility or RR										
Ground Elevation	Distance to nearest lease line										
	Is location in a High Density Area (rule 603b)? Yes/No										
	Distance to nearest well same formation										
	Surface owner consultation date:										
GPS DATA:											
Date of Measurement	PDOP Reading										
	Instrument Operator's Name										
<input type="checkbox"/> CHANGE SPACING UNIT	<input type="checkbox"/> Remove from surface bond										
Formation	Signed surface use agreement attached										
Formation Code											
Spacing order number											
Unit Acreage											
Unit configuration											
<input type="checkbox"/> CHANGE OF OPERATOR (prior to drilling):	<input type="checkbox"/> CHANGE WELL NAME										
Effective Date:	From:										
Plugging Bond <input type="checkbox"/> Blanket <input type="checkbox"/> Individual	To:										
	Effective Date:										
<input type="checkbox"/> ABANDONED LOCATION:	<input type="checkbox"/> NOTICE OF CONTINUED SHUT IN STATUS										
Was location ever built? <input type="checkbox"/> Yes <input type="checkbox"/> No	Date well shut in or temporarily abandoned:										
Is site ready for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	Has Production Equipment been removed from site? <input type="checkbox"/> Yes <input type="checkbox"/> No										
Date Ready for Inspection:	MIT required if shut in longer than two years. Date of last MIT										
<input type="checkbox"/> SPUD DATE:	<input type="checkbox"/> REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)										
<input type="checkbox"/> SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK	*submit cbl and cement job summaries										
Method used	Cementing tool setting/perf depth										
Cement volume	Cement top										
Cement bottom	Date										
<input type="checkbox"/> RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.											
Final reclamation will commence on approximately	<input type="checkbox"/> Final reclamation is completed and site is ready for inspection.										

Technical Engineering/Environmental Notice

<input type="checkbox"/> Notice of Intent	<input checked="" type="checkbox"/> Report of Work Done
Approximate Start Date:	Date Work Completed: October, 2012
Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)	
<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Pit Closure
	<input type="checkbox"/> E&P Waste Disposal
	<input type="checkbox"/> Beneficial Reuse of E&P Waste
	<input checked="" type="checkbox"/> Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Date: 10/31/12 Email: klebaron@puckettland.com
Print Name: Karen LeBaron Title: Petroleum LandmanCOGCC Approved: Title: FOR Date: Dec 13, 2012
CONDITIONS OF APPROVAL, IF ANYChris Caulfield
EPS
NW Region

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number: _____ API Number: _____

2. Name of Operator: _____ OGCC Facility ID # _____

3. Well/Facility Name: _____ Well/Facility Number: _____

4. Location (QtrQtr, Sec, Twp, Rng, Meridian): _____

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5.

DESCRIBE PROPOSED OR COMPLETED OPERATIONS

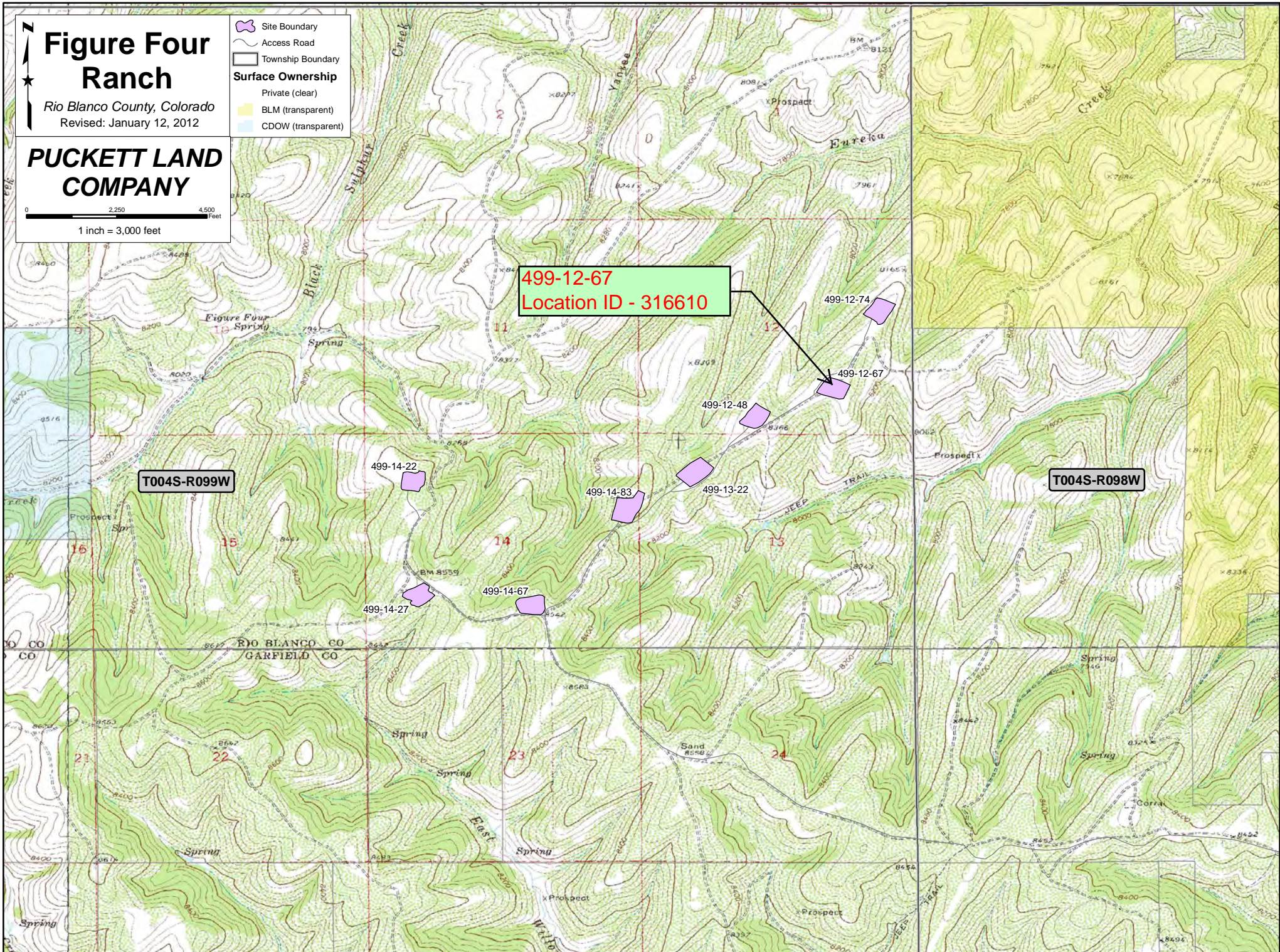
Figure Four Ranch

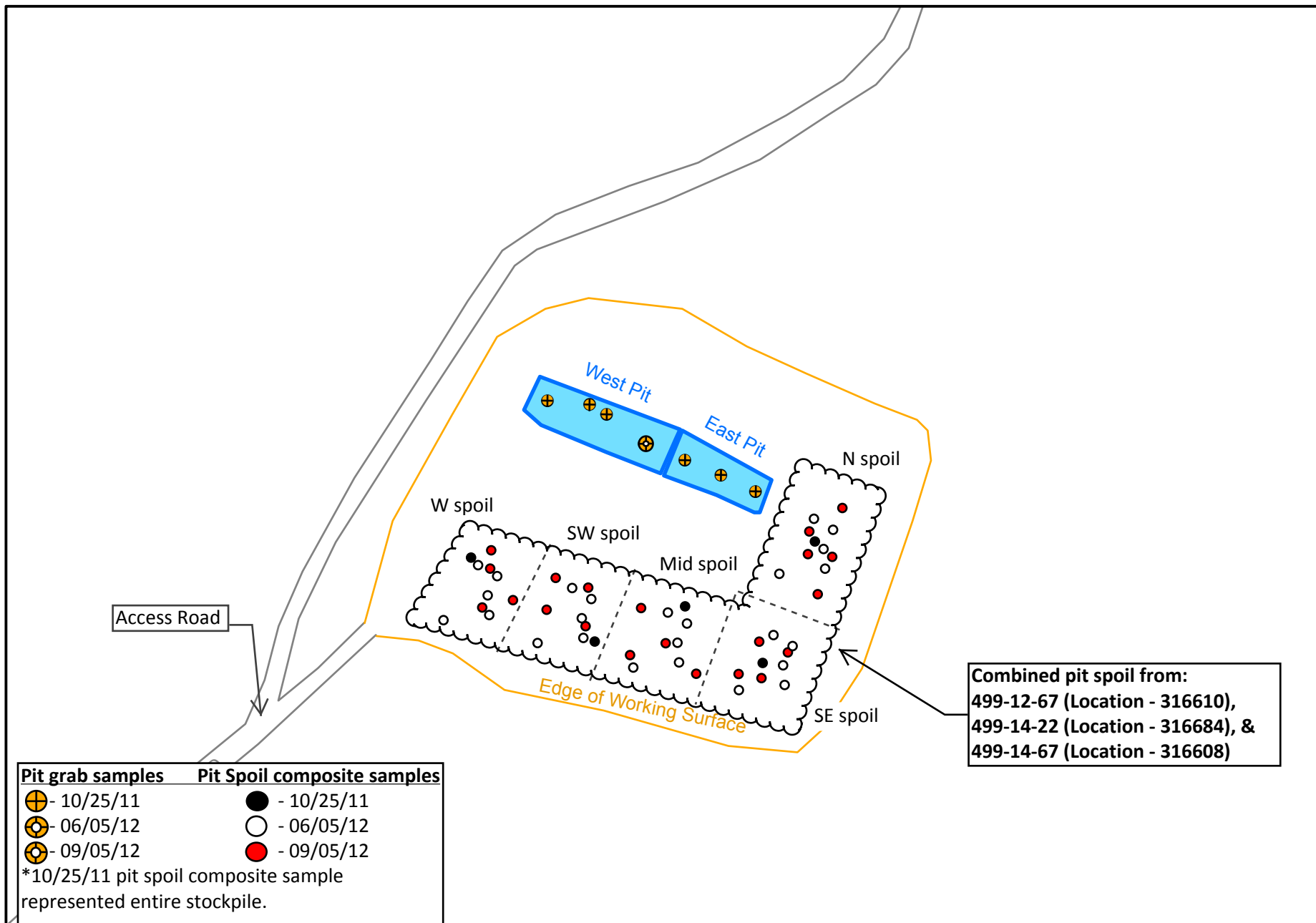
Rio Blanco County, Colorado
Revised: January 12, 2012

**PUCKETT LAND
COMPANY**

0 2,250 4,500 Feet
1 inch = 3,000 feet

- Site Boundary
- Access Road
- Township Boundary
- Surface Ownership
 - Private (clear)
 - BLM (transparent)
 - CDOW (transparent)





499-12-67 Site Diagram
 SWSE, Section 12, T4S, R99W, 6th PM
 Rio Blanco County, Colorado

0 70 140 210 280 350 Feet

1 inch = 150 feet

October 16, 2012



Laboratory Results Summary Table

			Allowable Concentration -->			Organic Compounds in Soil (mg/kg [ppm])																			Inorganics in Soil			Metals in Soil (mg/kg [ppm])													
Location	Sample Date:	Sample Matrix	Matrix Notes	TPH (total volatile and extractable petroleum hydrocarbons)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000	EC (<4 mmhos/cm or 2x background)	SAR (calculation)	pH	Arsenic	Barium - EPA Total Barium	Cadmium	Chromium (III)	Chromium (VI)	Copper	Lead (inorganic)	Mercury	Nickel (soluble salts)	Selenium	Silver	Zinc			
499-12-67	10/25/11	Pit	E Ewall	33	BDL	33	BDL	BDL	BDL	BDL																															
499-12-67	10/25/11	Pit	E mid	63	BDL	63	BDL	BDL	BDL	BDL																															
499-12-67	10/25/11	Pit	E Wbot	10	BDL	10	BDL	BDL	BDL	BDL																															
499-12-67	10/25/11	Pit	W Ewall	540	BDL	540	BDL	BDL	BDL	BDL																															
499-12-67	10/25/11	Pit	W mid	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.66	5	9.3	BDL	240	BDL	38	BDL	11	11	BDL	17	BDL	0.63	50			
499-12-67	10/25/11	Pit	W Nwall	49	BDL	49	BDL	BDL	BDL	BDL																															
499-12-67	10/25/11	Pit	W Wbot	34	BDL	34	BDL	BDL	BDL	BDL																															
499-12-67	10/25/11	Pit	above liner solids	922	42	880	0.091	0.27	0.15	0.9																															
499-12-67	06/05/12	Pit	SE above liner solids	647	17	630	BDL	BDL	0.021	0.013	BDL	0.23	BDL	BDL	BDL	0.012	BDL	BDL	BDL	0.13	BDL	0.21	0.14	3.8	51	8.5	5.3	1600	BDL	26	BDL	46	19	BDL	14	BDL	BDL	46			
499-12-67	06/05/12	Pit	NE above liner solids	9762	62	9700	0.029	BDL	0.052	0.14	0.28	0.92	0.21	BDL	BDL	BDL	BDL	BDL	0.19	0.73	BDL	0.34	0.19	1.9	52	8.5	14	850	BDL	22	BDL	46	26	BDL	21	BDL	BDL	60			
499-12-67	06/05/12	Pit	SW above liner solids	1106.3	6.3	1100	BDL	BDL	0.0088	BDL	BDL	0.51	0.18	BDL	BDL	BDL	BDL	BDL	BDL	0.29	BDL	0.41	0.22	2.7	43	8.3	6.2	1400	BDL	28	BDL	37	16	BDL	13	BDL	BDL	42			
499-12-67	06/05/12	Pit	S above liner solids	600	BDL	600	BDL	BDL	BDL	BDL	0.1	0.21	BDL	BDL	BDL	BDL	BDL	BDL	0.06	0.21	BDL	0.77	0.24	2.5	42	8.5	8.8	3100	BDL	18	BDL	52	15	BDL	14	BDL	BDL	50			
499-12-67	06/05/12	Pit	Middle above liner solids	1800	BDL	1800	BDL	BDL	BDL	BDL	0.099	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.17	BDL	0.77	0.22	2.8	44	8.3	6	1500	BDL	17	BDL	33	12	0.027	14	BDL	BDL	42			
499-12-67	06/05/12	Pit	W Ewall	640	BDL	640	BDL	BDL	0.003	BDL																															
499-12-67	07/10/12	Pit	Combined above liner solids	1800	BDL	1800	BDL	BDL	BDL	BDL																															
499-12-67	09/05/12	Pit	above liner solids [N]	1000	BDL	1000	BDL	BDL	BDL	BDL																															
499-12-67	09/05/12	Pit	above liner solids [SE]	540	BDL	540	BDL	BDL	BDL	BDL																															
499-12-67	09/05/12	Pit	above liner solids [Mid]	790	BDL	790	BDL	BDL	BDL	BDL																															
499-12-67	09/05/12	Pit	above liner solids[SW]	1100	BDL	1100	BDL	BDL	BDL	BDL																															
499-12-67	09/05/12	Pit	above liner solids [W]	1600	BDL	1600	BDL	BDL	BDL	BDL																															
499-12-67	09/05/12	Pit	Wpit Ewall	17	BDL	17	BDL	BDL	BDL	BDL																															



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

Monday November 07, 2011

Report Number: L543819

Samples Received: 10/27/11

Client Project:

Description: West Hawk

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 - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, 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.

REPORT OF ANALYSIS

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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-E.E.WALL-10252011 4-6 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 09:58

ESC Sample # : L543819-01

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	10/28/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	10/28/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/28/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.9		% Rec.	8021/8015	10/28/11	5
a,a,a-Trifluorotoluene(PID)	96.9		% Rec.	8021/8015	10/28/11	5
TPH (GC/FID) High Fraction	33.	4.0	mg/kg	3546/DRO	11/03/11	1
Surrogate recovery(%)						
o-Terphenyl	57.5		% Rec.	3546/DRO	11/03/11	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: 11/07/11 14:10 Printed: 11/07/11 15:13

REPORT OF ANALYSIS

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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-E.MID-10252011 2-4 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 10:12

ESC Sample # : L543819-02

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	10/28/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	10/28/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/28/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	90.1		% Rec.	8021/8015	10/28/11	5
a,a,a-Trifluorotoluene(PID)	91.9		% Rec.	8021/8015	10/28/11	5
TPH (GC/FID) High Fraction	63.	4.0	mg/kg	3546/DRO	11/03/11	1
Surrogate recovery(%)						
o-Terphenyl	60.8		% Rec.	3546/DRO	11/03/11	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: 11/07/11 14:10 Printed: 11/07/11 15:13

REPORT OF ANALYSIS

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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-E.W.BOT-10252011 4-8 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 10:20

ESC Sample # : L543819-03

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	10/28/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	10/28/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/28/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.6		% Rec.	8021/8015	10/28/11	5
a,a,a-Trifluorotoluene(PID)	97.8		% Rec.	8021/8015	10/28/11	5
TPH (GC/FID) High Fraction	10.	4.0	mg/kg	3546/DRO	11/03/11	1
Surrogate recovery(%)						
o-Terphenyl	49.8		% Rec.	3546/DRO	11/03/11	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: 11/07/11 14:10 Printed: 11/07/11 15:13

REPORT OF ANALYSIS

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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-W.E.WALL-10252011 0-12 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 10:28

ESC Sample # : L543819-04

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	10/28/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	10/28/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/28/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.6		% Rec.	8021/8015	10/28/11	5
a,a,a-Trifluorotoluene(PID)	98.0		% Rec.	8021/8015	10/28/11	5
TPH (GC/FID) High Fraction	540	80.	mg/kg	3546/DRO	11/03/11	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	11/03/11	20

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: 11/07/11 14:10 Printed: 11/07/11 15:13

REPORT OF ANALYSIS

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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-W.MID-10252011 1-5 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 10:33

ESC Sample # : L543819-05

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	11/01/11	1
Chromium, Trivalent	38.	2.0	mg/kg	Calc.	10/30/11	1
ORP	85.		mV	2580	10/29/11	1
pH	9.3		su	9045D	10/28/11	1
Sodium Adsorption Ratio	5.0			Calc.	11/01/11	1
Specific Conductance	660		umhos/cm	9050AMod	10/30/11	1
Mercury	BDL	0.020	mg/kg	7471	10/28/11	1
Arsenic	BDL	1.0	mg/kg	6010B	10/30/11	1
Barium	240	0.25	mg/kg	6010B	10/30/11	1
Cadmium	BDL	0.25	mg/kg	6010B	10/30/11	1
Chromium	38.	0.50	mg/kg	6010B	10/30/11	1
Copper	11.	1.0	mg/kg	6010B	10/30/11	1
Lead	11.	0.25	mg/kg	6010B	10/30/11	1
Nickel	17.	1.0	mg/kg	6010B	10/30/11	1
Selenium	BDL	5.0	mg/kg	6010B	10/31/11	5
Silver	0.63	0.50	mg/kg	6010B	10/30/11	1
Zinc	50.	1.5	mg/kg	6010B	10/30/11	1
Benzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	10/28/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	10/28/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/28/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.9		% Rec.	8021/8015	10/28/11	5
a,a,a-Trifluorotoluene(PID)	97.9		% Rec.	8021/8015	10/28/11	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/03/11	1
Surrogate recovery(%)						
o-Terphenyl	65.2		% Rec.	3546/DRO	11/03/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L543819-05 (PH) - 9.31@21.9c



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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-W.MID-10252011 1-5 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 10:33

ESC Sample # : L543819-05

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Naphthalene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
1-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
2-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	11/02/11	1
Surrogate Recovery						
Nitrobenzene-d5	77.0		% Rec.	8270C-SIM	11/02/11	1
2-Fluorobiphenyl	77.5		% Rec.	8270C-SIM	11/02/11	1
p-Terphenyl-d14	72.0		% Rec.	8270C-SIM	11/02/11	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: 11/07/11 14:10 Printed: 11/07/11 15:13
L543819-05 (PH) - 9.31@21.9c



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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-W.N.WALL-10252011 0-4 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 10:38

ESC Sample # : L543819-06

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	10/28/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	10/28/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/28/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.9		% Rec.	8021/8015	10/28/11	5
a,a,a-Trifluorotoluene(PID)	98.1		% Rec.	8021/8015	10/28/11	5
TPH (GC/FID) High Fraction	49.	4.0	mg/kg	3546/DRO	11/03/11	1
Surrogate recovery(%)						
o-Terphenyl	59.2		% Rec.	3546/DRO	11/03/11	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: 11/07/11 14:10 Printed: 11/07/11 15:13

REPORT OF ANALYSIS

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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-PB-W.W.BOT-10252011 0-6 IN
Collected By : Bob Stockton
Collection Date : 10/25/11 10:45

ESC Sample # : L543819-07

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	10/28/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	10/28/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	10/28/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/28/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	99.1		% Rec.	8021/8015	10/28/11	5
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021/8015	10/28/11	5
TPH (GC/FID) High Fraction	34.	4.0	mg/kg	3546/DRO	11/03/11	1
Surrogate recovery(%)						
o-Terphenyl	61.3		% Rec.	3546/DRO	11/03/11	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: 11/07/11 14:10 Printed: 11/07/11 15:13

REPORT OF ANALYSIS

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

November 07, 2011

Date Received : October 27, 2011
Description : West Hawk
Sample ID : WH-12-67-SPOILS-10252011
Collected By : Bob Stockton
Collection Date : 10/25/11 11:09

ESC Sample # : L543819-09

Site ID : 499-12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	0.091	0.025	mg/kg	8021/8015	10/30/11	50
Toluene	0.27	0.25	mg/kg	8021/8015	10/30/11	50
Ethylbenzene	0.15	0.025	mg/kg	8021/8015	10/30/11	50
Total Xylene	0.90	0.075	mg/kg	8021/8015	10/30/11	50
TPH (GC/FID) Low Fraction	42.	5.0	mg/kg	GRO	10/30/11	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.6		% Rec.	8021/8015	10/30/11	50
a,a,a-Trifluorotoluene(PID)	94.7		% Rec.	8021/8015	10/30/11	50
TPH (GC/FID) High Fraction	880	80.	mg/kg	3546/DRO	11/03/11	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	11/03/11	20

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: 11/07/11 14:10 Printed: 11/07/11 15:13

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L543819-04	WG563222	SAMP	o-Terphenyl	R1919253	J7
L543819-05	WG562867	SAMP	Selenium	R1915452	O
	WG562990	SAMP	ORP	R1914773	T8
L543819-09	WG563222	SAMP	o-Terphenyl	R1919253	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out
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.



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

L543819

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

November 07, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
pH	5.60	su			WG562618	10/28/11 12:50
Benzene	< .0005	mg/kg			WG562843	10/28/11 08:19
Ethylbenzene	< .0005	mg/kg			WG562843	10/28/11 08:19
Toluene	< .005	mg/kg			WG562843	10/28/11 08:19
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG562843	10/28/11 08:19
Total Xylene	< .0015	mg/kg			WG562843	10/28/11 08:19
a,a,a-Trifluorotoluene(FID)		% Rec.	101.0	59-128	WG562843	10/28/11 08:19
a,a,a-Trifluorotoluene(PID)		% Rec.	102.3	54-144	WG562843	10/28/11 08:19
Mercury	< .02	mg/kg			WG562820	10/28/11 20:48
Specific Conductance	1.80	umhos/cm			WG563012	10/30/11 10:00
Arsenic	< 1	mg/kg			WG562867	10/30/11 23:31
Barium	< .25	mg/kg			WG562867	10/30/11 23:31
Cadmium	< .25	mg/kg			WG562867	10/30/11 23:31
Chromium	< .5	mg/kg			WG562867	10/30/11 23:31
Copper	< 1	mg/kg			WG562867	10/30/11 23:31
Lead	< .25	mg/kg			WG562867	10/30/11 23:31
Nickel	< 1	mg/kg			WG562867	10/30/11 23:31
Selenium	< 1	mg/kg			WG562867	10/30/11 23:31
Silver	< .5	mg/kg			WG562867	10/30/11 23:31
Zinc	< 1.5	mg/kg			WG562867	10/30/11 23:31
Benzene	< .0005	mg/kg			WG563170	10/30/11 19:51
Ethylbenzene	< .0005	mg/kg			WG563170	10/30/11 19:51
Toluene	< .005	mg/kg			WG563170	10/30/11 19:51
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG563170	10/30/11 19:51
Total Xylene	< .0015	mg/kg			WG563170	10/30/11 19:51
a,a,a-Trifluorotoluene(FID)		% Rec.	94.74	59-128	WG563170	10/30/11 19:51
a,a,a-Trifluorotoluene(PID)		% Rec.	94.86	54-144	WG563170	10/30/11 19:51
Chromium,Hexavalent	< 2	mg/kg			WG562385	11/01/11 11:44
TPH (GC/FID) High Fraction	< 4	ppm			WG562831	11/02/11 17:00
o-Terphenyl		% Rec.	69.83	50-150	WG562831	11/02/11 17:00
TPH (GC/FID) High Fraction	< 4	ppm			WG563222	11/02/11 17:29
o-Terphenyl		% Rec.	80.14	50-150	WG563222	11/02/11 17:29
1-Methylnaphthalene	< .006	mg/kg			WG563275	11/02/11 11:08
2-Chloronaphthalene	< .006	mg/kg			WG563275	11/02/11 11:08
2-Methylnaphthalene	< .006	mg/kg			WG563275	11/02/11 11:08
Acenaphthene	< .006	mg/kg			WG563275	11/02/11 11:08
Acenaphthylene	< .006	mg/kg			WG563275	11/02/11 11:08
Anthracene	< .006	mg/kg			WG563275	11/02/11 11:08
Benzo(a)anthracene	< .006	mg/kg			WG563275	11/02/11 11:08
Benzo(a)pyrene	< .006	mg/kg			WG563275	11/02/11 11:08
Benzo(b)fluoranthene	< .006	mg/kg			WG563275	11/02/11 11:08

* 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

L543819

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

November 07, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzo(g,h,i)perylene	< .006	mg/kg			WG563275	11/02/11 11:08
Benzo(k)fluoranthene	< .006	mg/kg			WG563275	11/02/11 11:08
Chrysene	< .006	mg/kg			WG563275	11/02/11 11:08
Dibenz(a,h)anthracene	< .006	mg/kg			WG563275	11/02/11 11:08
Fluoranthene	< .006	mg/kg			WG563275	11/02/11 11:08
Fluorene	< .006	mg/kg			WG563275	11/02/11 11:08
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG563275	11/02/11 11:08
Naphthalene	< .006	mg/kg			WG563275	11/02/11 11:08
Phenanthrene	< .006	mg/kg			WG563275	11/02/11 11:08
Pyrene	< .006	mg/kg			WG563275	11/02/11 11:08
2-Fluorobiphenyl	% Rec.		66.49	34-129	WG563275	11/02/11 11:08
Nitrobenzene-d5	% Rec.		61.06	14-141	WG563275	11/02/11 11:08
p-Terphenyl-d14	% Rec.		80.15	25-139	WG563275	11/02/11 11:08

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
pH	su	7.00	7.00	0.428	1	L543521-01	WG562618
pH	su	9.00	9.20	1.98*	1	L543822-06	WG562618
Mercury	mg/kg	0	0	0	20	L543822-06	WG562820
ORP	mV	200.	200.	0	20	L543240-01	WG562990
ORP	mV	0	0	0	20	L544020-03	WG562990
Specific Conductance	umhos/cm	370.	370.	0	20	L543822-06	WG563012
Specific Conductance	umhos/cm	160.	160.	0	20	L544028-05	WG563012
Arsenic	mg/kg	2.70	4.70	54.1*	20	L543859-01	WG562867
Barium	mg/kg	73.0	83.5	12.9	20	L543859-01	WG562867
Cadmium	mg/kg	0	0	0	20	L543859-01	WG562867
Chromium	mg/kg	33.0	47.0	35.0*	20	L543859-01	WG562867
Copper	mg/kg	18.0	20.0	12.8	20	L543859-01	WG562867
Lead	mg/kg	30.0	33.0	10.5	20	L543859-01	WG562867
Nickel	mg/kg	13.0	13.0	3.13	20	L543859-01	WG562867
Silver	mg/kg	1.30	1.20	8.00	20	L543859-01	WG562867
Zinc	mg/kg	52.0	60.0	13.5	20	L543859-01	WG562867
Selenium	mg/kg	0	0	0	20	L543859-01	WG562867
Chromium,Hexavalent	mg/kg	0	0	0	20	L544020-03	WG562385
Chromium,Hexavalent	mg/kg	0	0	0	20	L543240-01	WG562385

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
pH	su	7.98	8.00	100.	98-101	WG562618
Benzene	mg/kg	.05	0.0427	85.3	76-113	WG562843
Ethylbenzene	mg/kg	.05	0.0468	93.6	78-115	WG562843
Toluene	mg/kg	.05	0.0464	92.8	76-114	WG562843
Total Xylene	mg/kg	.15	0.138	91.9	81-118	WG562843
a,a,a-Trifluorotoluene(PID)				97.73	54-144	WG562843
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.36	116.	67-135	WG562843

* 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

L543819

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

November 07, 2011

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
a,a,a-Trifluorotoluene(FID)				102.3	59-128	
Mercury	mg/kg	3.77	4.27	113.	71.6-128	WG562820
ORP	mV	229	230.	100.	95.6-104.37	WG562990
Specific Conductance	umhos/cm	427	430.	101.	85-115	WG563012
Arsenic	mg/kg	92.6	87.0	94.0	82.9-117	WG562867
Barium	mg/kg	169	168.	99.4	82.8-117	WG562867
Cadmium	mg/kg	61.8	59.4	96.1	83.3-117	WG562867
Chromium	mg/kg	71.3	68.8	96.5	81.8-118	WG562867
Copper	mg/kg	81.2	84.3	104.	83.9-116	WG562867
Lead	mg/kg	92.4	91.3	98.8	83.3-117	WG562867
Nickel	mg/kg	59.1	58.0	98.1	83.8-116	WG562867
Selenium	mg/kg	89.5	82.8	92.5	79-121	WG562867
Silver	mg/kg	34.4	33.3	96.8	66.3-134	WG562867
Zinc	mg/kg	141	141.	100.	80.9-119	WG562867
Benzene	mg/kg	.05	0.0446	89.1	76-113	WG563170
Ethylbenzene	mg/kg	.05	0.0475	95.0	78-115	WG563170
Toluene	mg/kg	.05	0.0504	101.	76-114	WG563170
Total Xylene	mg/kg	.15	0.137	91.1	81-118	WG563170
a,a,a-Trifluorotoluene(PID)				94.50	54-144	WG563170
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.99	109.	67-135	WG563170
a,a,a-Trifluorotoluene(FID)				100.1	59-128	WG563170
Chromium,Hexavalent	mg/kg	132	153.	116.	50-150	WG562385
TPH (GC/FID) High Fraction	ppm	60	45.8	76.3	50-150	WG562831
o-Terphenyl				71.09	50-150	WG562831
TPH (GC/FID) High Fraction	ppm	60	50.8	84.7	50-150	WG563222
o-Terphenyl				79.36	50-150	WG563222
1-Methylnaphthalene	mg/kg	.033	0.0335	102.	48-113	WG563275
2-Chloronaphthalene	mg/kg	.033	0.0330	100.	51-114	WG563275
2-Methylnaphthalene	mg/kg	.033	0.0281	85.2	44-109	WG563275
Acenaphthene	mg/kg	.033	0.0314	95.1	52-108	WG563275
Acenaphthylene	mg/kg	.033	0.0311	94.2	51-110	WG563275
Anthracene	mg/kg	.033	0.0323	98.0	58-120	WG563275
Benzo(a)anthracene	mg/kg	.033	0.0283	85.8	54-110	WG563275
Benzo(a)pyrene	mg/kg	.033	0.0323	97.8	56-118	WG563275
Benzo(b)fluoranthene	mg/kg	.033	0.0308	93.4	55-114	WG563275
Benzo(g,h,i)perylene	mg/kg	.033	0.0303	91.8	48-130	WG563275
Benzo(k)fluoranthene	mg/kg	.033	0.0322	97.7	55-122	WG563275
Chrysene	mg/kg	.033	0.0311	94.1	57-118	WG563275
Dibenz(a,h)anthracene	mg/kg	.033	0.0301	91.2	53-122	WG563275
Fluoranthene	mg/kg	.033	0.0326	98.7	58-118	WG563275
Fluorene	mg/kg	.033	0.0292	88.5	54-109	WG563275
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0303	91.7	51-125	WG563275
Naphthalene	mg/kg	.033	0.0298	90.2	45-105	WG563275

* 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

L543819

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

November 07, 2011

Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch
		Known	Val	Result			
Phenanthrene	mg/kg	.033		0.0284	86.1	53-114	WG563275
Pyrene	mg/kg	.033		0.0307	92.9	53-121	WG563275
2-Fluorobiphenyl					97.44	34-129	WG563275
Nitrobenzene-d5					89.94	14-141	WG563275
p-Terphenyl-d14					95.24	25-139	WG563275

Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
pH	su	8.00	8.00	100.	98-101	0	20	WG562618
Benzene	mg/kg	0.0473	0.0427	95.0	76-113	10.4	20	WG562843
Ethylbenzene	mg/kg	0.0515	0.0468	103.	78-115	9.61	20	WG562843
Toluene	mg/kg	0.0513	0.0464	102.	76-114	9.98	20	WG562843
Total Xylene	mg/kg	0.153	0.138	102.	81-118	10.4	20	WG562843
a,a,a-Trifluorotoluene(PID)				100.4	54-144			WG562843
TPH (GC/FID) Low Fraction	mg/kg	6.47	6.36	118.	67-135	1.73	20	WG562843
a,a,a-Trifluorotoluene(FID)				101.8	59-128			WG562843
ORP	mV	230.	230.	100.	95.6-104.37	0	20	WG562990
Specific Conductance	umhos/	430.	430.	101.	85-115	0	20	WG563012
Benzene	mg/kg	0.0446	0.0446	89.0	76-113	0.150	20	WG563170
Ethylbenzene	mg/kg	0.0474	0.0475	95.0	78-115	0.180	20	WG563170
Toluene	mg/kg	0.0498	0.0504	100.	76-114	1.11	20	WG563170
Total Xylene	mg/kg	0.136	0.137	90.0	81-118	0.740	20	WG563170
a,a,a-Trifluorotoluene(PID)				93.98	54-144			WG563170
TPH (GC/FID) Low Fraction	mg/kg	6.05	5.99	110.	67-135	0.870	20	WG563170
a,a,a-Trifluorotoluene(FID)				100.2	59-128			WG563170
Chromium,Hexavalent	mg/kg	161.	153.	122.	50-150	5.10	20	WG562385
TPH (GC/FID) High Fraction	ppm	44.6	45.8	74.0	50-150	2.56	25	WG562831
o-Terphenyl				71.22	50-150			WG562831
TPH (GC/FID) High Fraction	ppm	49.7	50.8	83.0	50-150	2.24	25	WG563222
o-Terphenyl				77.90	50-150			WG563222
1-Methylnaphthalene	mg/kg	0.0308	0.0335	93.0	48-113	8.42	24	WG563275
2-Chloronaphthalene	mg/kg	0.0306	0.0330	93.0	51-114	7.68	24	WG563275
2-Methylnaphthalene	mg/kg	0.0262	0.0281	79.0	44-109	7.06	24	WG563275
Acenaphthene	mg/kg	0.0299	0.0314	91.0	52-108	4.79	22	WG563275
Acenaphthylene	mg/kg	0.0293	0.0311	89.0	51-110	6.05	21	WG563275
Anthracene	mg/kg	0.0326	0.0323	99.0	58-120	0.657	20	WG563275
Benzo(a)anthracene	mg/kg	0.0288	0.0283	87.0	54-110	1.74	22	WG563275
Benzo(a)pyrene	mg/kg	0.0317	0.0323	96.0	56-118	1.64	21	WG563275
Benzo(b)fluoranthene	mg/kg	0.0288	0.0308	87.0	55-114	6.91	20	WG563275
Benzo(g,h,i)perylene	mg/kg	0.0298	0.0303	90.0	48-130	1.62	20	WG563275
Benzo(k)fluoranthene	mg/kg	0.0330	0.0322	100.	55-122	2.49	25	WG563275
Chrysene	mg/kg	0.0294	0.0311	89.0	57-118	5.35	20	WG563275

* 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

L543819

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

November 07, 2011

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
Dibenz(a,h)anthracene	mg/kg	0.0298	0.0301	90.0		53-122	1.02	20	WG563275
Fluoranthene	mg/kg	0.0333	0.0326	101.		58-118	2.22	20	WG563275
Fluorene	mg/kg	0.0276	0.0292	84.0		54-109	5.73	20	WG563275
Indeno(1,2,3-cd)pyrene	mg/kg	0.0300	0.0303	91.0		51-125	0.897	21	WG563275
Naphthalene	mg/kg	0.0272	0.0298	82.0		45-105	9.05	24	WG563275
Phenanthrene	mg/kg	0.0278	0.0284	84.0		53-114	2.20	20	WG563275
Pyrene	mg/kg	0.0298	0.0307	90.0		53-121	2.85	20	WG563275
2-Fluorobiphenyl				87.71		34-129			WG563275
Nitrobenzene-d5				80.17		14-141			WG563275
p-Terphenyl-d14				90.65		25-139			WG563275

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Benzene	mg/kg	0.197	0	.05	79.0	32-137	L543822-03	WG562843
Ethylbenzene	mg/kg	0.177	0	.05	71.0	10-150	L543822-03	WG562843
Toluene	mg/kg	0.198	0	.05	79.3	20-142	L543822-03	WG562843
Total Xylene	mg/kg	0.524	0	.15	69.8	16-141	L543822-03	WG562843
a,a,a-Trifluorotoluene(PID)					97.35	54-144		WG562843
TPH (GC/FID) Low Fraction	mg/kg	20.8	0	5.5	75.5	55-109	L543822-03	WG562843
a,a,a-Trifluorotoluene(FID)					101.6	59-128		WG562843
Mercury	mg/kg	0.256	0	.25	102.	70-130	L543822-06	WG562820
Arsenic	mg/kg	46.2	4.70	50	83.0	75-125	L543859-01	WG562867
Barium	mg/kg	125.	83.5	50	83.0	75-125	L543859-01	WG562867
Cadmium	mg/kg	44.0	0	50	88.0	75-125	L543859-01	WG562867
Chromium	mg/kg	80.1	47.0	50	66.2*	75-125	L543859-01	WG562867
Copper	mg/kg	63.6	20.0	50	87.2	75-125	L543859-01	WG562867
Lead	mg/kg	81.1	33.0	50	96.2	75-125	L543859-01	WG562867
Nickel	mg/kg	54.1	13.0	50	82.2	75-125	L543859-01	WG562867
Silver	mg/kg	40.2	1.20	50	78.0	75-125	L543859-01	WG562867
Zinc	mg/kg	101.	60.0	50	82.0	75-125	L543859-01	WG562867
Selenium	mg/kg	17.3	0	50	6.92*	75-125	L543859-01	WG562867
Benzene	mg/kg	0.221	0.0700	.05	60.5	32-137	L544162-08	WG563170
Ethylbenzene	mg/kg	0.175	0.0100	.05	66.2	10-150	L544162-08	WG563170
Toluene	mg/kg	0.204	0	.05	81.6	20-142	L544162-08	WG563170
Total Xylene	mg/kg	0.567	0.0700	.15	66.3	16-141	L544162-08	WG563170
a,a,a-Trifluorotoluene(PID)					94.29	54-144		WG563170
TPH (GC/FID) Low Fraction	mg/kg	25.2	1.33	5.5	86.7	55-109	L544162-08	WG563170
a,a,a-Trifluorotoluene(FID)					98.79	59-128		WG563170
Chromium,Hexavalent	mg/kg	9.24	0	20	46.2*	50-150	L543608-01	WG562385
TPH (GC/FID) High Fraction	ppm	41.8	0	60	69.6	50-150	L543643-02	WG562831
o-Terphenyl					74.95	50-150		WG562831
TPH (GC/FID) High Fraction	ppm	47.1	9.10	60	63.4	50-150	L544085-13	WG563222
o-Terphenyl					63.04	50-150		WG563222

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



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

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

Quality Assurance Report
Level II

Parachute, CO 81635

November 07, 2011

L543819

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.207	0.197	82.9	32-137	4.90	39	L543822-03	WG562843
Ethylbenzene	mg/kg	0.188	0.177	75.0	10-150	5.57	44	L543822-03	WG562843
Toluene	mg/kg	0.205	0.198	82.2	20-142	3.55	42	L543822-03	WG562843
Total Xylene	mg/kg	0.550	0.524	73.3	16-141	4.78	46	L543822-03	WG562843
a,a,a-Trifluorotoluene(PID)				99.23	54-144				WG562843
TPH (GC/FID) Low Fraction	mg/kg	16.2	20.8	58.9	55-109	24.6*	20	L543822-03	WG562843
a,a,a-Trifluorotoluene(FID)				93.08	59-128				WG562843
Mercury	mg/kg	0.250	0.256	100.	70-130	2.37	20	L543822-06	WG562820
Arsenic	mg/kg	52.8	46.2	96.2	75-125	13.3	20	L543859-01	WG562867
Barium	mg/kg	163.	125.	159.*	75-125	26.4*	20	L543859-01	WG562867
Cadmium	mg/kg	49.4	44.0	98.8	75-125	11.6	20	L543859-01	WG562867
Chromium	mg/kg	87.9	80.1	81.8	75-125	9.29	20	L543859-01	WG562867
Copper	mg/kg	67.8	63.6	95.6	75-125	6.39	20	L543859-01	WG562867
Lead	mg/kg	89.6	81.1	113.	75-125	9.96	20	L543859-01	WG562867
Nickel	mg/kg	59.7	54.1	93.4	75-125	9.84	20	L543859-01	WG562867
Silver	mg/kg	44.9	40.2	87.4	75-125	11.0	20	L543859-01	WG562867
Zinc	mg/kg	105.	101.	90.0	75-125	3.88	20	L543859-01	WG562867
Selenium	mg/kg	25.2	17.3	10.1*	75-125	37.2*	20	L543859-01	WG562867
Benzene	mg/kg	0.228	0.221	63.3	32-137	3.21	39	L544162-08	WG563170
Ethylbenzene	mg/kg	0.182	0.175	68.8	10-150	3.65	44	L544162-08	WG563170
Toluene	mg/kg	0.211	0.204	84.4	20-142	3.38	42	L544162-08	WG563170
Total Xylene	mg/kg	0.537	0.567	62.3	16-141	5.46	46	L544162-08	WG563170
a,a,a-Trifluorotoluene(PID)				92.72	54-144				WG563170
TPH (GC/FID) Low Fraction	mg/kg	23.6	25.2	81.1	55-109	6.30	20	L544162-08	WG563170
a,a,a-Trifluorotoluene(FID)				97.98	59-128				WG563170
Chromium,Hexavalent	mg/kg	9.48	9.24	47.4*	50-150	2.56	20	L543608-01	WG562385
TPH (GC/FID) High Fraction	ppm	41.0	41.8	68.4	50-150	1.83	25	L543643-02	WG562831
o-Terphenyl				71.76	50-150				WG562831
TPH (GC/FID) High Fraction	ppm	37.2	47.1	46.9*	50-150	23.4	25	L544085-13	WG563222
o-Terphenyl				47.54*	50-150				WG563222

Batch number /Run number / Sample number cross reference

WG562618: R1913232: L543819-05
WG562843: R1914172: L543819-01 02 03 04 05 06 07
WG562820: R1914303: L543819-05
WG562990: R1914773: L543819-05
WG563012: R1914814: L543819-05
WG562867: R1915452: L543819-05
WG563170: R1915692: L543819-09
WG562385: R1916637: L543819-05
WG563179: R1918074: L543819-05
WG562831: R1919152: L543819-01 02 03
WG563222: R1919253: L543819-04 05 06 07 09
WG563275: R1921792: L543819-05

* * 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

L543819

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

November 07, 2011

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

Report Summary

Tuesday June 12, 2012

Report Number: L579060

Samples Received: 06/07/12

Client Project: 499-12-67

Description: West Hawk 499-12-67

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.

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.

REPORT OF ANALYSIS

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

June 12, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-SEMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 12:41

ESC Sample # : L579060-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	06/12/12	1
Chromium, Trivalent	26.	2.0	mg/kg	Calc.	06/10/12	1
ORP	200		mV	2580	06/10/12	1.1
pH	8.5		su	9045D	06/09/12	1
Sodium Adsorption Ratio	51.			Calc.	06/10/12	1
Specific Conductance	3800		umhos/cm	9050AMod	06/09/12	1
Mercury	BDL	0.020	mg/kg	7471	06/09/12	1
Arsenic	5.3	1.0	mg/kg	6010B	06/10/12	1
Barium	1600	0.25	mg/kg	6010B	06/10/12	1
Cadmium	BDL	0.25	mg/kg	6010B	06/10/12	1
Chromium	26.	0.50	mg/kg	6010B	06/10/12	1
Copper	46.	1.0	mg/kg	6010B	06/10/12	1
Lead	19.	0.25	mg/kg	6010B	06/10/12	1
Nickel	14.	1.0	mg/kg	6010B	06/10/12	1
Selenium	BDL	1.0	mg/kg	6010B	06/10/12	1
Silver	BDL	0.50	mg/kg	6010B	06/10/12	1
Zinc	46.	1.5	mg/kg	6010B	06/10/12	1
Benzene	BDL	0.0025	mg/kg	8021/8015	06/08/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	06/08/12	5
Ethylbenzene	0.021	0.0025	mg/kg	8021/8015	06/08/12	5
Total Xylene	0.013	0.0075	mg/kg	8021/8015	06/08/12	5
TPH (GC/FID) Low Fraction	17.	0.50	mg/kg	GRO	06/08/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	85.8		% Rec.	8021/8015	06/08/12	5
a,a,a-Trifluorotoluene(PID)	93.7		% Rec.	8021/8015	06/08/12	5
TPH (GC/FID) High Fraction	630	80.	mg/kg	3546/DRO	06/12/12	20
Surrogate recovery(%)						
o-Terphenyl	60.0		% Rec.	3546/DRO	06/12/12	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.23	0.0060	mg/kg	8270C-SIM	06/11/12	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Benzo(a)pyrene	0.012	0.0060	mg/kg	8270C-SIM	06/11/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L579060-01 (PH) - 21.7c



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

June 12, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-SEMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 12:41

ESC Sample # : L579060-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Fluorene	0.13	0.0060	mg/kg	8270C-SIM	06/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Naphthalene	0.21	0.0060	mg/kg	8270C-SIM	06/11/12	1
Phenanthrene	0.31	0.0060	mg/kg	8270C-SIM	06/11/12	1
Pyrene	0.14	0.0060	mg/kg	8270C-SIM	06/11/12	1
1-Methylnaphthalene	0.29	0.0060	mg/kg	8270C-SIM	06/11/12	1
2-Methylnaphthalene	0.62	0.030	mg/kg	8270C-SIM	06/12/12	5
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	06/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	107.		% Rec.	8270C-SIM	06/11/12	1
2-Fluorobiphenyl	91.7		% Rec.	8270C-SIM	06/11/12	1
p-Terphenyl-d14	116.		% Rec.	8270C-SIM	06/11/12	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: 06/12/12 16:17 Printed: 06/12/12 16:18
L579060-01 (PH) - 21.7c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L579060-01	WG596975	SAMP	pH	R2204496	T8
	WG596823	SAMP	o-Terphenyl	R2205833	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to 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
06/12/12 at 16:18:09

TSR Signing Reports: 358
R3 - Rush: Two Day

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

Sample: L579060-01 Account: ENCANACO Received: 06/07/12 09:00 Due Date: 06/12/12 00:00 RPT Date: 06/12/12 16:17
Changed due date per JW. AV 6/8



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

L579060

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

June 12, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Ethylbenzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Toluene	< .005	mg/kg			WG596795	06/07/12 23:22
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG596795	06/07/12 23:22
Total Xylene	< .0015	mg/kg			WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(FID)		% Rec.	90.96	59-128	WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(PID)		% Rec.	96.46	54-144	WG596795	06/07/12 23:22
Mercury	< .02	mg/kg			WG596931	06/09/12 12:02
pH	4.99	su			WG596975	06/09/12 14:00
Specific Conductance	1.10	umhos/cm			WG596980	06/09/12 14:50
TPH (GC/FID) High Fraction	< 4	ppm			WG596823	06/11/12 22:51
o-Terphenyl		% Rec.	71.79	50-150	WG596823	06/11/12 22:51
Arsenic	< 1	mg/kg			WG596715	06/10/12 16:56
Barium	< .25	mg/kg			WG596715	06/10/12 16:56
Cadmium	< .25	mg/kg			WG596715	06/10/12 16:56
Chromium	< .5	mg/kg			WG596715	06/10/12 16:56
Copper	< 1	mg/kg			WG596715	06/10/12 16:56
Lead	< .25	mg/kg			WG596715	06/10/12 16:56
Nickel	< 1	mg/kg			WG596715	06/10/12 16:56
Selenium	< 1	mg/kg			WG596715	06/10/12 16:56
Silver	< .5	mg/kg			WG596715	06/10/12 16:56
Zinc	< 1.5	mg/kg			WG596715	06/10/12 16:56
1-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Chloronaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthylene	< .006	mg/kg			WG597038	06/11/12 02:01
Anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(b)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(g,h,i)perylene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(k)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Chrysene	< .006	mg/kg			WG597038	06/11/12 02:01
Dibenz(a,h)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluorene	< .006	mg/kg			WG597038	06/11/12 02:01
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Naphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Phenanthrene	< .006	mg/kg			WG597038	06/11/12 02:01
Pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Fluorobiphenyl		% Rec.	72.97	34-129	WG597038	06/11/12 02:01
Nitrobenzene-d5		% Rec.	74.63	14-141	WG597038	06/11/12 02:01
p-Terphenyl-d14		% Rec.	99.73	25-139	WG597038	06/11/12 02:01
Chromium,Hexavalent	< 2	mg/kg			WG596974	06/12/12 15:02

* 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

L579060

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

June 12, 2012

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Mercury	mg/kg	0.0540	0.0870	47.0*	20	L579071-07	WG596931
ORP	mV	220.	210.	2.35	20	L577173-18	WG597071
ORP	mV	210.	220.	5.61	20	L579061-01	WG597071
pH	su	10.0	10.0	3.73*	1	L578792-01	WG596975
pH	su	12.0	12.0	3.52*	1	L579305-01	WG596975
Specific Conductance	umhos/cm	2400	2500	3.25	20	L579059-01	WG596980
Arsenic	mg/kg	4.80	4.80	0.837	20	L578802-29	WG596715
Barium	mg/kg	160.	200.	21.0*	20	L578802-29	WG596715
Cadmium	mg/kg	0	0	0	20	L578802-29	WG596715
Chromium	mg/kg	10.0	11.0	7.55	20	L578802-29	WG596715
Copper	mg/kg	8.00	8.17	2.60	20	L578802-29	WG596715
Lead	mg/kg	9.30	9.30	0.215	20	L578802-29	WG596715
Nickel	mg/kg	11.0	11.4	3.57	20	L578802-29	WG596715
Selenium	mg/kg	0	0	0	20	L578802-29	WG596715
Silver	mg/kg	0	0	0	20	L578802-29	WG596715
Zinc	mg/kg	28.0	29.6	4.14	20	L578802-29	WG596715
Chromium,Hexavalent	mg/kg	0	0	0	20	L579579-01	WG596974
Chromium,Hexavalent	mg/kg	0	0	0	20	L579057-01	WG596974

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0416	83.1	76-113	WG596795
Ethylbenzene	mg/kg	.05	0.0427	85.4	78-115	WG596795
Toluene	mg/kg	.05	0.0417	83.4	76-114	WG596795
Total Xylene	mg/kg	.15	0.126	83.7	81-118	WG596795
a,a,a-Trifluorotoluene(PID)	mg/kg	5.5	6.66	96.61	54-144	WG596795
TPH (GC/FID) Low Fraction				121.	67-135	WG596795
a,a,a-Trifluorotoluene(FID)				96.98	59-128	WG596795
Mercury	mg/kg	3.77	3.70	98.1	71.6-128	WG596931
ORP	mV	228	232.	102.	95.6-104.	WG597071
pH	su	5.7	5.74	101.	98-101	WG596975
Specific Conductance	umhos/cm	495	489.	98.8	85-115	WG596980
TPH (GC/FID) High Fraction	ppm	60	55.2	92.1	50-150	WG596823
o-Terphenyl				61.75	50-150	WG596823
Arsenic	mg/kg	92.6	93.9	101.	82.9-117	WG596715
Barium	mg/kg	169	171.	101.	82.8-117	WG596715

* 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

L579060

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

June 12, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Cadmium	mg/kg	61.8	60.0	97.1	83.3-117	WG596715
Chromium	mg/kg	71.3	71.3	100.	81.8-118	WG596715
Copper	mg/kg	81.2	81.4	100.	83.9-116	WG596715
Lead	mg/kg	92.4	95.2	103.	83.3-117	WG596715
Nickel	mg/kg	59.1	55.4	93.7	83.8-116	WG596715
Selenium	mg/kg	89.5	89.6	100.	79-121	WG596715
Silver	mg/kg	34.4	32.8	95.3	66.3-134	WG596715
Zinc	mg/kg	141	147.	104.	80.9-119	WG596715
1-Methylnaphthalene	mg/kg	.033	0.0246	74.5	48-113	WG597038
2-Chloronaphthalene	mg/kg	.033	0.0238	72.2	51-114	WG597038
2-Methylnaphthalene	mg/kg	.033	0.0248	75.2	44-109	WG597038
Acenaphthene	mg/kg	.033	0.0245	74.1	52-108	WG597038
Acenaphthylene	mg/kg	.033	0.0253	76.7	51-110	WG597038
Anthracene	mg/kg	.033	0.0301	91.3	58-120	WG597038
Benzo(a)anthracene	mg/kg	.033	0.0273	82.7	54-110	WG597038
Benzo(a)pyrene	mg/kg	.033	0.0289	87.5	56-118	WG597038
Benzo(b)fluoranthene	mg/kg	.033	0.0284	86.0	55-114	WG597038
Benzo(g,h,i)perylene	mg/kg	.033	0.0283	85.7	48-130	WG597038
Benzo(k)fluoranthene	mg/kg	.033	0.0295	89.3	55-122	WG597038
Chrysene	mg/kg	.033	0.0292	88.6	57-118	WG597038
Dibenz(a,h)anthracene	mg/kg	.033	0.0285	86.2	53-122	WG597038
Fluoranthene	mg/kg	.033	0.0306	92.6	58-118	WG597038
Fluorene	mg/kg	.033	0.0260	78.6	54-109	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0285	86.5	51-125	WG597038
Naphthalene	mg/kg	.033	0.0237	71.7	45-105	WG597038
Phenanthrene	mg/kg	.033	0.0291	88.1	53-114	WG597038
Pyrene	mg/kg	.033	0.0289	87.5	53-121	WG597038
2-Fluorobiphenyl				69.77	34-129	WG597038
Nitrobenzene-d5				74.42	14-141	WG597038
p-Terphenyl-d14				102.3	25-139	WG597038
Chromium,Hexavalent	mg/kg	150	155.	103.	50-150	WG596974

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0407	0.0416	81.0	76-113	2.19	20	WG596795
Ethylbenzene	mg/kg	0.0415	0.0427	83.0	78-115	2.71	20	WG596795
Toluene	mg/kg	0.0406	0.0417	81.0	76-114	2.69	20	WG596795
Total Xylene	mg/kg	0.122	0.126	81.0	81-118	2.89	20	WG596795
a,a,a-Trifluorotoluene(PID)				95.90	54-144			WG596795
TPH (GC/FID) Low Fraction	mg/kg	6.64	6.66	121.	67-135	0.290	20	WG596795
a,a,a-Trifluorotoluene(FID)				96.84	59-128			WG596795
ORP	mV	231.	232.	101.	95.6-104.	0.432	20	WG597071
pH	su	5.75	5.74	101.	98-101	0.174	20	WG596975
Specific Conductance	umhos/	489.	489.	99.0	85-115	0	20	WG596980
TPH (GC/FID) High Fraction	ppm	59.0	55.2	98.0	50-150	6.58	25	WG596823
o-Terphenyl				71.56	50-150			WG596823

* Performance of this Analyte is outside of established criteria.

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



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

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

Quality Assurance Report
Level II

Parachute, CO 81635

June 12, 2012

L579060

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
1-Methylnaphthalene	mg/kg	0.0262	0.0246	80.0		48-113	6.45	24	WG597038
2-Chloronaphthalene	mg/kg	0.0247	0.0238	75.0		51-114	3.74	24	WG597038
2-Methylnaphthalene	mg/kg	0.0263	0.0248	80.0		44-109	5.77	24	WG597038
Acenaphthene	mg/kg	0.0264	0.0245	80.0		52-108	7.58	22	WG597038
Acenaphthylene	mg/kg	0.0260	0.0253	79.0		51-110	2.84	21	WG597038
Anthracene	mg/kg	0.0293	0.0301	89.0		58-120	2.84	20	WG597038
Benzo(a)anthracene	mg/kg	0.0278	0.0273	84.0		54-110	1.92	22	WG597038
Benzo(a)pyrene	mg/kg	0.0296	0.0289	90.0		56-118	2.56	21	WG597038
Benzo(b)fluoranthene	mg/kg	0.0293	0.0284	89.0		55-114	3.35	20	WG597038
Benzo(g,h,i)perylene	mg/kg	0.0291	0.0283	88.0		48-130	2.76	20	WG597038
Benzo(k)fluoranthene	mg/kg	0.0302	0.0295	91.0		55-122	2.42	25	WG597038
Chrysene	mg/kg	0.0302	0.0292	92.0		57-118	3.42	20	WG597038
Dibenz(a,h)anthracene	mg/kg	0.0291	0.0285	88.0		53-122	2.09	20	WG597038
Fluoranthene	mg/kg	0.0299	0.0306	90.0		58-118	2.31	20	WG597038
Fluorene	mg/kg	0.0272	0.0260	82.0		54-109	4.82	20	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	0.0292	0.0285	88.0		51-125	2.16	21	WG597038
Naphthalene	mg/kg	0.0247	0.0237	75.0		45-105	4.18	24	WG597038
Phenanthrene	mg/kg	0.0289	0.0291	87.0		53-114	0.726	20	WG597038
Pyrene	mg/kg	0.0296	0.0289	90.0		53-121	2.39	20	WG597038
2-Fluorobiphenyl				75.51		34-129			WG597038
Nitrobenzene-d5				77.83		14-141			WG597038
p-Terphenyl-d14				105.3		25-139			WG597038
Chromium,Hexavalent	mg/kg	139.	155.	93.0		50-150	10.9	20	WG596974

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction	mg/kg	2.92	0	5.5	53.2*	55-109	L579091-03	WG596795
a,a,a-Trifluorotoluene(FID)					92.74	59-128		WG596795
Benzene	mg/kg	0.178	0	.05	71.0	32-137	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0890	0	.05	35.6	10-150	L579054-01	WG596795
Toluene	mg/kg	0.130	0	.05	51.9	20-142	L579054-01	WG596795
Total Xylene	mg/kg	0.241	0	.15	32.1	16-141	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)					86.65	54-144		WG596795
Mercury	mg/kg	0.304	0.0870	.25	86.8	70-130	L579071-07	WG596931
Arsenic	mg/kg	52.5	4.80	50	95.4	75-125	L578802-29	WG596715
Barium	mg/kg	202.	200.	50	4.00*	75-125	L578802-29	WG596715
Cadmium	mg/kg	48.0	0	50	96.0	75-125	L578802-29	WG596715
Chromium	mg/kg	56.2	11.0	50	90.4	75-125	L578802-29	WG596715
Copper	mg/kg	54.4	8.17	50	92.5	75-125	L578802-29	WG596715
Lead	mg/kg	57.3	9.30	50	96.0	75-125	L578802-29	WG596715
Nickel	mg/kg	54.9	11.4	50	87.0	75-125	L578802-29	WG596715
Selenium	mg/kg	45.8	0	50	91.6	75-125	L578802-29	WG596715
Silver	mg/kg	45.3	0	50	90.6	75-125	L578802-29	WG596715
Zinc	mg/kg	75.2	29.6	50	91.2	75-125	L578802-29	WG596715
Chromium,Hexavalent	mg/kg	1.04	0	20	5.20*	50-150	L579061-01	WG596974

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	3.61	2.92	65.7	55-109	21.2*	20	L579091-03	WG596795

* 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

L579060

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

June 12, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
a,a,a-Trifluorotoluene(FID)				93.63	59-128					
Benzene	mg/kg	0.161	0.178	64.3	32-137	9.93	39	L579054-01		WG596795
Ethylbenzene	mg/kg	0.0597	0.0890	23.9	10-150	39.4	44	L579054-01		WG596795
Toluene	mg/kg	0.102	0.130	40.7	20-142	24.3	42	L579054-01		WG596795
Total Xylene	mg/kg	0.160	0.241	21.3	16-141	40.4	46	L579054-01		WG596795
a,a,a-Trifluorotoluene(PID)				84.13	54-144					WG596795
Mercury	mg/kg	0.329	0.304	96.8	70-130	7.90	20	L579071-07		WG596931
Arsenic	mg/kg	52.7	52.5	95.8	75-125	0.380	20	L578802-29		WG596715
Barium	mg/kg	256.	202.	112.	75-125	23.6*	20	L578802-29		WG596715
Cadmium	mg/kg	48.8	48.0	97.6	75-125	1.65	20	L578802-29		WG596715
Chromium	mg/kg	57.2	56.2	92.4	75-125	1.76	20	L578802-29		WG596715
Copper	mg/kg	55.0	54.4	93.7	75-125	1.10	20	L578802-29		WG596715
Lead	mg/kg	59.0	57.3	99.4	75-125	2.92	20	L578802-29		WG596715
Nickel	mg/kg	55.7	54.9	88.6	75-125	1.45	20	L578802-29		WG596715
Selenium	mg/kg	47.2	45.8	94.4	75-125	3.01	20	L578802-29		WG596715
Silver	mg/kg	46.2	45.3	92.4	75-125	1.97	20	L578802-29		WG596715
Zinc	mg/kg	76.3	75.2	93.4	75-125	1.45	20	L578802-29		WG596715
Chromium,Hexavalent	mg/kg	1.84	1.04	9.20*	50-150	55.6*	20	L579061-01		WG596974

Batch number /Run number / Sample number cross reference

WG596795: R2202213: L579060-01
WG596931: R2204215: L579060-01
WG597071: R2204333: L579060-01
WG596975: R2204496: L579060-01
WG596980: R2204533: L579060-01
WG596957: R2205557: L579060-01
WG596823: R2205833: L579060-01
WG596715: R2206253: L579060-01
WG597038: R2206362: L579060-01
WG596974: R2207133: L579060-01

* * 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

L579060

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

June 12, 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 / Matt Kasten
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Tuesday June 12, 2012

Report Number: L579061

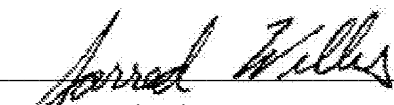
Samples Received: 06/07/12

Client Project: 499-12-67

Description: West Hawk 499-12-67

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.

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.

REPORT OF ANALYSIS

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

June 12, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-NEMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 11:59

ESC Sample # : L579061-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	06/12/12	1
Chromium, Trivalent	22.	2.0	mg/kg	Calc.	06/10/12	1
ORP	220		mV	2580	06/10/12	1.1
pH	8.5		su	9045D	06/09/12	1
Sodium Adsorption Ratio	52.			Calc.	06/10/12	1
Specific Conductance	1900		umhos/cm	9050AMod	06/09/12	1
Mercury	BDL	0.020	mg/kg	7471	06/09/12	1
Arsenic	14.	1.0	mg/kg	6010B	06/10/12	1
Barium	850	0.25	mg/kg	6010B	06/10/12	1
Cadmium	BDL	0.25	mg/kg	6010B	06/10/12	1
Chromium	22.	0.50	mg/kg	6010B	06/10/12	1
Copper	46.	1.0	mg/kg	6010B	06/10/12	1
Lead	26.	0.25	mg/kg	6010B	06/10/12	1
Nickel	21.	1.0	mg/kg	6010B	06/10/12	1
Selenium	BDL	1.0	mg/kg	6010B	06/10/12	1
Silver	BDL	0.50	mg/kg	6010B	06/10/12	1
Zinc	60.	1.5	mg/kg	6010B	06/10/12	1
Benzene	0.029	0.025	mg/kg	8021/8015	06/08/12	50
Toluene	BDL	0.25	mg/kg	8021/8015	06/08/12	50
Ethylbenzene	0.052	0.025	mg/kg	8021/8015	06/08/12	50
Total Xylene	0.14	0.075	mg/kg	8021/8015	06/08/12	50
TPH (GC/FID) Low Fraction	62.	5.0	mg/kg	GRO	06/08/12	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.3		% Rec.	8021/8015	06/08/12	50
a,a,a-Trifluorotoluene(PID)	98.1		% Rec.	8021/8015	06/08/12	50
TPH (GC/FID) High Fraction	9700	200	mg/kg	3546/DRO	06/12/12	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	06/12/12	50
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.92	0.12	mg/kg	8270C-SIM	06/12/12	20
Acenaphthene	0.28	0.12	mg/kg	8270C-SIM	06/12/12	20
Acenaphthylene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Benzo(a)anthracene	0.21	0.12	mg/kg	8270C-SIM	06/12/12	20
Benzo(a)pyrene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L579061-01 (CR6) - Sample shows reducing characteristics with a pH of 8.5 su and ORP of 220mV.

L579061-01 (PH) - 21.6c



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

June 12, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-NEMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 11:59

ESC Sample # : L579061-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Benzo(g,h,i)perylene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Benzo(k)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Chrysene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Dibenz(a,h)anthracene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Fluoranthene	0.19	0.12	mg/kg	8270C-SIM	06/12/12	20
Fluorene	0.73	0.12	mg/kg	8270C-SIM	06/12/12	20
Indeno(1,2,3-cd)pyrene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Naphthalene	0.34	0.12	mg/kg	8270C-SIM	06/12/12	20
Phenanthrene	0.77	0.12	mg/kg	8270C-SIM	06/12/12	20
Pyrene	0.19	0.12	mg/kg	8270C-SIM	06/12/12	20
1-Methylnaphthalene	0.40	0.12	mg/kg	8270C-SIM	06/12/12	20
2-Methylnaphthalene	0.59	0.12	mg/kg	8270C-SIM	06/12/12	20
2-Chloronaphthalene	BDL	0.12	mg/kg	8270C-SIM	06/12/12	20
Surrogate Recovery						
Nitrobenzene-d5	186.		% Rec.	8270C-SIM	06/12/12	20
2-Fluorobiphenyl	33.9		% Rec.	8270C-SIM	06/12/12	20
p-Terphenyl-d14	42.6		% Rec.	8270C-SIM	06/12/12	20

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: 06/12/12 16:17 Printed: 06/12/12 16:18

L579061-01 (CR6) - Sample shows reducing characteristics with a pH of 8.5 su and ORP of 220mV.

L579061-01 (PH) - 21.6c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L579061-01	WG597038	SAMP	Nitrobenzene-d5	R2206362	J7
	WG597038	SAMP	2-Fluorobiphenyl	R2206362	J7
	WG597038	SAMP	p-Terphenyl-d14	R2206362	J7
	WG596975	SAMP	pH	R2204496	T8
	WG596974	SAMP	Chromium, Hexavalent	R2207133	J6J3
	WG596823	SAMP	o-Terphenyl	R2205833	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
J7	Surrogate recovery cannot be used for control limit evaluation due to 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
06/12/12 at 16:18:14

TSR Signing Reports: 358
R3 - Rush: Two Day

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

Sample: L579061-01 Account: ENCANACO Received: 06/07/12 09:00 Due Date: 06/12/12 00:00 RPT Date: 06/12/12 16:17
Changed due date per JW. AV 6/8



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

L579061

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

June 12, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Ethylbenzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Toluene	< .005	mg/kg			WG596795	06/07/12 23:22
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG596795	06/07/12 23:22
Total Xylene	< .0015	mg/kg			WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(FID)		% Rec.	90.96	59-128	WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(PID)		% Rec.	96.46	54-144	WG596795	06/07/12 23:22
Mercury	< .02	mg/kg			WG596931	06/09/12 12:02
pH	4.99	su			WG596975	06/09/12 14:00
Specific Conductance	1.10	umhos/cm			WG596980	06/09/12 14:50
TPH (GC/FID) High Fraction	< 4	ppm			WG596823	06/11/12 22:51
o-Terphenyl		% Rec.	71.79	50-150	WG596823	06/11/12 22:51
Arsenic	< 1	mg/kg			WG596905	06/10/12 12:15
Barium	< .25	mg/kg			WG596905	06/10/12 12:15
Cadmium	< .25	mg/kg			WG596905	06/10/12 12:15
Chromium	< .5	mg/kg			WG596905	06/10/12 12:15
Copper	< 1	mg/kg			WG596905	06/10/12 12:15
Lead	< .25	mg/kg			WG596905	06/10/12 12:15
Nickel	< 1	mg/kg			WG596905	06/10/12 12:15
Selenium	< 1	mg/kg			WG596905	06/10/12 12:15
Silver	< .5	mg/kg			WG596905	06/10/12 12:15
Zinc	< 1.5	mg/kg			WG596905	06/10/12 12:15
1-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Chloronaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthylene	< .006	mg/kg			WG597038	06/11/12 02:01
Anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(b)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(g,h,i)perylene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(k)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Chrysene	< .006	mg/kg			WG597038	06/11/12 02:01
Dibenz(a,h)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluorene	< .006	mg/kg			WG597038	06/11/12 02:01
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Naphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Phenanthrene	< .006	mg/kg			WG597038	06/11/12 02:01
Pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Fluorobiphenyl		% Rec.	72.97	34-129	WG597038	06/11/12 02:01
Nitrobenzene-d5		% Rec.	74.63	14-141	WG597038	06/11/12 02:01
p-Terphenyl-d14		% Rec.	99.73	25-139	WG597038	06/11/12 02:01
Chromium,Hexavalent	< 2	mg/kg			WG596974	06/12/12 15:02

* 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

L579061

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

June 12, 2012

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Mercury	mg/kg	0.0540	0.0870	47.0*	20	L579071-07	WG596931
ORP	mV	220.	210.	2.35	20	L577173-18	WG597071
ORP	mV	210.	220.	5.61	20	L579061-01	WG597071
pH	su	10.0	10.0	3.73*	1	L578792-01	WG596975
pH	su	12.0	12.0	3.52*	1	L579305-01	WG596975
Specific Conductance	umhos/cm	2400	2500	3.25	20	L579059-01	WG596980
Arsenic	mg/kg	9.50	9.50	0.316	20	L579180-03	WG596905
Barium	mg/kg	120.	120.	0.837	20	L579180-03	WG596905
Cadmium	mg/kg	31.0	31.0	1.30	20	L579180-03	WG596905
Chromium	mg/kg	15.0	14.5	0.687	20	L579180-03	WG596905
Copper	mg/kg	58.0	53.7	7.53	20	L579180-03	WG596905
Lead	mg/kg	85.0	79.0	7.20	20	L579180-03	WG596905
Nickel	mg/kg	10.0	9.84	2.61	20	L579180-03	WG596905
Selenium	mg/kg	0	0	0	20	L579180-03	WG596905
Silver	mg/kg	0.870	0.505	52.7*	20	L579180-03	WG596905
Zinc	mg/kg	1200	1200	1.65	20	L579180-03	WG596905
Chromium,Hexavalent	mg/kg	0	0	0	20	L579579-01	WG596974
Chromium,Hexavalent	mg/kg	0	0	0	20	L579057-01	WG596974

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0416	83.1	76-113	WG596795
Ethylbenzene	mg/kg	.05	0.0427	85.4	78-115	WG596795
Toluene	mg/kg	.05	0.0417	83.4	76-114	WG596795
Total Xylene	mg/kg	.15	0.126	83.7	81-118	WG596795
a,a,a-Trifluorotoluene(PID)				96.61	54-144	WG596795
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.66	121.	67-135	WG596795
a,a,a-Trifluorotoluene(FID)				96.98	59-128	WG596795
Mercury	mg/kg	3.77	3.70	98.1	71.6-128	WG596931
ORP	mV	228	232.	102.	95.6-104.	WG597071
pH	su	5.7	5.74	101.	98-101	WG596975
Specific Conductance	umhos/cm	495	489.	98.8	85-115	WG596980
TPH (GC/FID) High Fraction	ppm	60	55.2	92.1	50-150	WG596823
o-Terphenyl				61.75	50-150	WG596823
Arsenic	mg/kg	92.6	93.2	101.	82.9-117	WG596905
Barium	mg/kg	169	169.	100.	82.8-117	WG596905

* 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

L579061

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

June 12, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Cadmium	mg/kg	61.8	64.9	105.	83.3-117	WG596905
Chromium	mg/kg	71.3	72.5	102.	81.8-118	WG596905
Copper	mg/kg	81.2	84.8	104.	83.9-116	WG596905
Lead	mg/kg	92.4	94.2	102.	83.3-117	WG596905
Nickel	mg/kg	59.1	58.2	98.5	83.8-116	WG596905
Selenium	mg/kg	89.5	91.5	102.	79-121	WG596905
Silver	mg/kg	34.4	32.9	95.6	66.3-134	WG596905
Zinc	mg/kg	141	143.	101.	80.9-119	WG596905
1-Methylnaphthalene	mg/kg	.033	0.0246	74.5	48-113	WG597038
2-Chloronaphthalene	mg/kg	.033	0.0238	72.2	51-114	WG597038
2-Methylnaphthalene	mg/kg	.033	0.0248	75.2	44-109	WG597038
Acenaphthene	mg/kg	.033	0.0245	74.1	52-108	WG597038
Acenaphthylene	mg/kg	.033	0.0253	76.7	51-110	WG597038
Anthracene	mg/kg	.033	0.0301	91.3	58-120	WG597038
Benzo(a)anthracene	mg/kg	.033	0.0273	82.7	54-110	WG597038
Benzo(a)pyrene	mg/kg	.033	0.0289	87.5	56-118	WG597038
Benzo(b)fluoranthene	mg/kg	.033	0.0284	86.0	55-114	WG597038
Benzo(g,h,i)perylene	mg/kg	.033	0.0283	85.7	48-130	WG597038
Benzo(k)fluoranthene	mg/kg	.033	0.0295	89.3	55-122	WG597038
Chrysene	mg/kg	.033	0.0292	88.6	57-118	WG597038
Dibenz(a,h)anthracene	mg/kg	.033	0.0285	86.2	53-122	WG597038
Fluoranthene	mg/kg	.033	0.0306	92.6	58-118	WG597038
Fluorene	mg/kg	.033	0.0260	78.6	54-109	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0285	86.5	51-125	WG597038
Naphthalene	mg/kg	.033	0.0237	71.7	45-105	WG597038
Phenanthrene	mg/kg	.033	0.0291	88.1	53-114	WG597038
Pyrene	mg/kg	.033	0.0289	87.5	53-121	WG597038
2-Fluorobiphenyl				69.77	34-129	WG597038
Nitrobenzene-d5				74.42	14-141	WG597038
p-Terphenyl-d14				102.3	25-139	WG597038
Chromium,Hexavalent	mg/kg	150	155.	103.	50-150	WG596974

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0407	0.0416	81.0	76-113	2.19	20	WG596795
Ethylbenzene	mg/kg	0.0415	0.0427	83.0	78-115	2.71	20	WG596795
Toluene	mg/kg	0.0406	0.0417	81.0	76-114	2.69	20	WG596795
Total Xylene	mg/kg	0.122	0.126	81.0	81-118	2.89	20	WG596795
a,a,a-Trifluorotoluene(PID)				95.90	54-144			WG596795
TPH (GC/FID) Low Fraction	mg/kg	6.64	6.66	121.	67-135	0.290	20	WG596795
a,a,a-Trifluorotoluene(FID)				96.84	59-128			WG596795
ORP	mV	231.	232.	101.	95.6-104.	0.432	20	WG597071
pH	su	5.75	5.74	101.	98-101	0.174	20	WG596975
Specific Conductance	umhos/	489.	489.	99.0	85-115	0	20	WG596980
TPH (GC/FID) High Fraction	ppm	59.0	55.2	98.0	50-150	6.58	25	WG596823
o-Terphenyl				71.56	50-150			WG596823

* 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

L579061

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

June 12, 2012

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
1-Methylnaphthalene	mg/kg	0.0262	0.0246	80.0		48-113	6.45	24	WG597038
2-Chloronaphthalene	mg/kg	0.0247	0.0238	75.0		51-114	3.74	24	WG597038
2-Methylnaphthalene	mg/kg	0.0263	0.0248	80.0		44-109	5.77	24	WG597038
Acenaphthene	mg/kg	0.0264	0.0245	80.0		52-108	7.58	22	WG597038
Acenaphthylene	mg/kg	0.0260	0.0253	79.0		51-110	2.84	21	WG597038
Anthracene	mg/kg	0.0293	0.0301	89.0		58-120	2.84	20	WG597038
Benzo(a)anthracene	mg/kg	0.0278	0.0273	84.0		54-110	1.92	22	WG597038
Benzo(a)pyrene	mg/kg	0.0296	0.0289	90.0		56-118	2.56	21	WG597038
Benzo(b)fluoranthene	mg/kg	0.0293	0.0284	89.0		55-114	3.35	20	WG597038
Benzo(g,h,i)perylene	mg/kg	0.0291	0.0283	88.0		48-130	2.76	20	WG597038
Benzo(k)fluoranthene	mg/kg	0.0302	0.0295	91.0		55-122	2.42	25	WG597038
Chrysene	mg/kg	0.0302	0.0292	92.0		57-118	3.42	20	WG597038
Dibenz(a,h)anthracene	mg/kg	0.0291	0.0285	88.0		53-122	2.09	20	WG597038
Fluoranthene	mg/kg	0.0299	0.0306	90.0		58-118	2.31	20	WG597038
Fluorene	mg/kg	0.0272	0.0260	82.0		54-109	4.82	20	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	0.0292	0.0285	88.0		51-125	2.16	21	WG597038
Naphthalene	mg/kg	0.0247	0.0237	75.0		45-105	4.18	24	WG597038
Phenanthrene	mg/kg	0.0289	0.0291	87.0		53-114	0.726	20	WG597038
Pyrene	mg/kg	0.0296	0.0289	90.0		53-121	2.39	20	WG597038
2-Fluorobiphenyl				75.51		34-129			WG597038
Nitrobenzene-d5				77.83		14-141			WG597038
p-Terphenyl-d14				105.3		25-139			WG597038
Chromium,Hexavalent	mg/kg	139.	155.	93.0		50-150	10.9	20	WG596974

Analyte	Units	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res					
TPH (GC/FID) Low Fraction	mg/kg	2.92	0	5.5	53.2*	55-109	L579091-03	WG596795
a,a,a-Trifluorotoluene(FID)					92.74	59-128		WG596795
Benzene	mg/kg	0.178	0	.05	71.0	32-137	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0890	0	.05	35.6	10-150	L579054-01	WG596795
Toluene	mg/kg	0.130	0	.05	51.9	20-142	L579054-01	WG596795
Total Xylene	mg/kg	0.241	0	.15	32.1	16-141	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)					86.65	54-144		WG596795
Mercury	mg/kg	0.304	0.0870	.25	86.8	70-130	L579071-07	WG596931
Arsenic	mg/kg	52.5	9.50	50	86.0	75-125	L579180-03	WG596905
Barium	mg/kg	156.	120.	50	72.0*	75-125	L579180-03	WG596905
Cadmium	mg/kg	75.1	31.0	50	88.2	75-125	L579180-03	WG596905
Chromium	mg/kg	59.2	14.5	50	89.4	75-125	L579180-03	WG596905
Copper	mg/kg	92.2	53.7	50	77.0	75-125	L579180-03	WG596905
Lead	mg/kg	109.	79.0	50	60.0*	75-125	L579180-03	WG596905
Nickel	mg/kg	50.9	9.84	50	82.1	75-125	L579180-03	WG596905
Selenium	mg/kg	40.3	0	50	80.6	75-125	L579180-03	WG596905
Silver	mg/kg	45.5	0.505	50	90.0	75-125	L579180-03	WG596905
Zinc	mg/kg	1140	1200	50	0*	75-125	L579180-03	WG596905
Arsenic	mg/kg	51.4	2.80	50	97.2	75-125	L578909-01	WG596905
Chromium,Hexavalent	mg/kg	1.04	0	20	5.20*	50-150	L579061-01	WG596974

* 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

L579061

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

June 12, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	3.61	2.92	65.7	55-109	21.2*	20	L579091-03	WG596795
a,a,a-Trifluorotoluene(FID)				93.63	59-128				WG596795
Benzene	mg/kg	0.161	0.178	64.3	32-137	9.93	39	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0597	0.0890	23.9	10-150	39.4	44	L579054-01	WG596795
Toluene	mg/kg	0.102	0.130	40.7	20-142	24.3	42	L579054-01	WG596795
Total Xylene	mg/kg	0.160	0.241	21.3	16-141	40.4	46	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)				84.13	54-144				WG596795
Mercury	mg/kg	0.329	0.304	96.8	70-130	7.90	20	L579071-07	WG596931
Arsenic	mg/kg	54.4	52.5	89.8	75-125	3.55	20	L579180-03	WG596905
Barium	mg/kg	152.	156.	64.0*	75-125	2.60	20	L579180-03	WG596905
Cadmium	mg/kg	76.0	75.1	90.0	75-125	1.19	20	L579180-03	WG596905
Chromium	mg/kg	58.2	59.2	87.4	75-125	1.70	20	L579180-03	WG596905
Copper	mg/kg	98.2	92.2	89.0	75-125	6.30	20	L579180-03	WG596905
Lead	mg/kg	125.	109.	92.0	75-125	13.7	20	L579180-03	WG596905
Nickel	mg/kg	52.2	50.9	84.7	75-125	2.52	20	L579180-03	WG596905
Selenium	mg/kg	40.7	40.3	81.4	75-125	0.988	20	L579180-03	WG596905
Silver	mg/kg	44.8	45.5	88.6	75-125	1.55	20	L579180-03	WG596905
Zinc	mg/kg	1240	1140	80.0	75-125	8.40	20	L579180-03	WG596905
Arsenic	mg/kg	48.3	51.4	91.0	75-125	6.22	20	L578909-01	WG596905
Chromium, Hexavalent	mg/kg	1.84	1.04	9.20*	50-150	55.6*	20	L579061-01	WG596974

Batch number /Run number / Sample number cross reference

WG596795: R2202213: L579061-01
WG596931: R2204215: L579061-01
WG597071: R2204333: L579061-01
WG596975: R2204496: L579061-01
WG596980: R2204533: L579061-01
WG596957: R2205557: L579061-01
WG596823: R2205833: L579061-01
WG596905: R2206135: L579061-01
WG597038: R2206362: L579061-01
WG596974: R2207133: L579061-01

* * 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

L579061

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

June 12, 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 / Matt Kasten
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Tuesday June 12, 2012

Report Number: L579052

Samples Received: 06/07/12

Client Project: 499-12-67

Description: West Hawk 499-12-67

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.

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.

REPORT OF ANALYSIS

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

June 12, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-SWMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 15:02

ESC Sample # : L579052-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	06/12/12	1
Chromium, Trivalent	28.	2.0	mg/kg	Calc.	06/10/12	1
ORP	210		mV	2580	06/10/12	1.1
pH	8.3		su	9045D	06/09/12	1
Sodium Adsorption Ratio	43.			Calc.	06/10/12	1
Specific Conductance	2700		umhos/cm	9050AMod	06/08/12	1
Mercury	BDL	0.020	mg/kg	7471	06/09/12	1
Arsenic	6.2	1.0	mg/kg	6010B	06/10/12	1
Barium	1400	0.25	mg/kg	6010B	06/10/12	1
Cadmium	BDL	0.25	mg/kg	6010B	06/10/12	1
Chromium	28.	0.50	mg/kg	6010B	06/10/12	1
Copper	37.	1.0	mg/kg	6010B	06/10/12	1
Lead	16.	0.25	mg/kg	6010B	06/10/12	1
Nickel	13.	1.0	mg/kg	6010B	06/10/12	1
Selenium	BDL	1.0	mg/kg	6010B	06/10/12	1
Silver	BDL	0.50	mg/kg	6010B	06/10/12	1
Zinc	42.	1.5	mg/kg	6010B	06/10/12	1
Benzene	BDL	0.0025	mg/kg	8021/8015	06/08/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	06/08/12	5
Ethylbenzene	0.0088	0.0025	mg/kg	8021/8015	06/08/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	06/08/12	5
TPH (GC/FID) Low Fraction	6.3	0.50	mg/kg	GRO	06/08/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	88.6		% Rec.	8021/8015	06/08/12	5
a,a,a-Trifluorotoluene(PID)	95.0		% Rec.	8021/8015	06/08/12	5
TPH (GC/FID) High Fraction	1100	80.	mg/kg	3546/DRO	06/12/12	20
Surrogate recovery(%)						
o-Terphenyl	66.0		% Rec.	3546/DRO	06/12/12	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.51	0.030	mg/kg	8270C-SIM	06/11/12	5
Acenaphthene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Acenaphthylene	0.39	0.030	mg/kg	8270C-SIM	06/11/12	5
Benzo(a)anthracene	0.18	0.030	mg/kg	8270C-SIM	06/11/12	5
Benzo(a)pyrene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L579052-01 (PH) - 22.7c



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

June 12, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-SWMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 15:02

ESC Sample # : L579052-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Benzo(g,h,i)perylene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Benzo(k)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Chrysene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Dibenz(a,h)anthracene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Fluoranthene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Fluorene	0.29	0.030	mg/kg	8270C-SIM	06/11/12	5
Indeno(1,2,3-cd)pyrene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Naphthalene	0.41	0.030	mg/kg	8270C-SIM	06/11/12	5
Phenanthrene	0.38	0.030	mg/kg	8270C-SIM	06/11/12	5
Pyrene	0.22	0.030	mg/kg	8270C-SIM	06/11/12	5
1-Methylnaphthalene	0.46	0.030	mg/kg	8270C-SIM	06/11/12	5
2-Methylnaphthalene	0.84	0.030	mg/kg	8270C-SIM	06/11/12	5
2-Chloronaphthalene	BDL	0.030	mg/kg	8270C-SIM	06/11/12	5
Surrogate Recovery						
Nitrobenzene-d5	129.		% Rec.	8270C-SIM	06/11/12	5
2-Fluorobiphenyl	120.		% Rec.	8270C-SIM	06/11/12	5
p-Terphenyl-d14	116.		% Rec.	8270C-SIM	06/11/12	5

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: 06/12/12 16:17 Printed: 06/12/12 16:17
L579052-01 (PH) - 22.7c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L579052-01	WG596975	SAMP	pH	R2204496	T8
	WG596823	SAMP	o-Terphenyl	R2205833	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to 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
06/12/12 at 16:18:00

TSR Signing Reports: 358
R3 - Rush: Two Day

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

Sample: L579052-01 Account: ENCANACO Received: 06/07/12 09:00 Due Date: 06/12/12 00:00 RPT Date: 06/12/12 16:17
Changed due date per JW. AV 6/8



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

L579052

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

June 12, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Ethylbenzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Toluene	< .005	mg/kg			WG596795	06/07/12 23:22
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG596795	06/07/12 23:22
Total Xylene	< .0015	mg/kg			WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(FID)		% Rec.	90.96	59-128	WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(PID)		% Rec.	96.46	54-144	WG596795	06/07/12 23:22
Specific Conductance	1.16	umhos/cm			WG596769	06/08/12 13:04
Mercury	< .02	mg/kg			WG596860	06/09/12 10:29
pH	4.99	su			WG596975	06/09/12 14:00
TPH (GC/FID) High Fraction	< 4	ppm			WG596823	06/11/12 22:51
o-Terphenyl		% Rec.	71.79	50-150	WG596823	06/11/12 22:51
Arsenic	< 1	mg/kg			WG596905	06/10/12 12:15
Barium	< .25	mg/kg			WG596905	06/10/12 12:15
Cadmium	< .25	mg/kg			WG596905	06/10/12 12:15
Chromium	< .5	mg/kg			WG596905	06/10/12 12:15
Copper	< 1	mg/kg			WG596905	06/10/12 12:15
Lead	< .25	mg/kg			WG596905	06/10/12 12:15
Nickel	< 1	mg/kg			WG596905	06/10/12 12:15
Selenium	< 1	mg/kg			WG596905	06/10/12 12:15
Silver	< .5	mg/kg			WG596905	06/10/12 12:15
Zinc	< 1.5	mg/kg			WG596905	06/10/12 12:15
1-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Chloronaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthylene	< .006	mg/kg			WG597038	06/11/12 02:01
Anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(b)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(g,h,i)perylene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(k)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Chrysene	< .006	mg/kg			WG597038	06/11/12 02:01
Dibenz(a,h)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluorene	< .006	mg/kg			WG597038	06/11/12 02:01
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Naphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Phenanthrene	< .006	mg/kg			WG597038	06/11/12 02:01
Pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Fluorobiphenyl		% Rec.	72.97	34-129	WG597038	06/11/12 02:01
Nitrobenzene-d5		% Rec.	74.63	14-141	WG597038	06/11/12 02:01
p-Terphenyl-d14		% Rec.	99.73	25-139	WG597038	06/11/12 02:01
Chromium,Hexavalent	< 2	mg/kg			WG596974	06/12/12 15:02

* 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

L579052

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

June 12, 2012

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Specific Conductance	umhos/cm	650.	610.	6.81	20	L578857-01	WG596769
Mercury	mg/kg	0	0	0	20	L579050-01	WG596860
ORP	mV	220.	210.	2.35	20	L577173-18	WG597071
ORP	mV	210.	220.	5.61	20	L579061-01	WG597071
pH	su	10.0	10.0	3.73*	1	L578792-01	WG596975
pH	su	12.0	12.0	3.52*	1	L579305-01	WG596975
Arsenic	mg/kg	9.50	9.50	0.316	20	L579180-03	WG596905
Barium	mg/kg	120.	120.	0.837	20	L579180-03	WG596905
Cadmium	mg/kg	31.0	31.0	1.30	20	L579180-03	WG596905
Chromium	mg/kg	15.0	14.5	0.687	20	L579180-03	WG596905
Copper	mg/kg	58.0	53.7	7.53	20	L579180-03	WG596905
Lead	mg/kg	85.0	79.0	7.20	20	L579180-03	WG596905
Nickel	mg/kg	10.0	9.84	2.61	20	L579180-03	WG596905
Selenium	mg/kg	0	0	0	20	L579180-03	WG596905
Silver	mg/kg	0.870	0.505	52.7*	20	L579180-03	WG596905
Zinc	mg/kg	1200	1200	1.65	20	L579180-03	WG596905
Chromium,Hexavalent	mg/kg	0	0	0	20	L579579-01	WG596974
Chromium,Hexavalent	mg/kg	0	0	0	20	L579057-01	WG596974

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0416	83.1	76-113	WG596795
Ethylbenzene	mg/kg	.05	0.0427	85.4	78-115	WG596795
Toluene	mg/kg	.05	0.0417	83.4	76-114	WG596795
Total Xylene	mg/kg	.15	0.126	83.7	81-118	WG596795
a,a,a-Trifluorotoluene(PID)	mg/kg	5.5	6.66	96.61	54-144	WG596795
TPH (GC/FID) Low Fraction				121.	67-135	WG596795
a,a,a-Trifluorotoluene(FID)				96.98	59-128	WG596795
Specific Conductance	umhos/cm	495	491.	99.2	85-115	WG596769
Mercury	mg/kg	3.77	4.19	111.	71.6-128	WG596860
ORP	mV	228	232.	102.	95.6-104.	WG597071
pH	su	5.7	5.74	101.	98-101	WG596975
TPH (GC/FID) High Fraction	ppm	60	55.2	92.1	50-150	WG596823
o-Terphenyl				61.75	50-150	WG596823
Arsenic	mg/kg	92.6	93.2	101.	82.9-117	WG596905
Barium	mg/kg	169	169.	100.	82.8-117	WG596905

* 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

L579052

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

June 12, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Cadmium	mg/kg	61.8	64.9	105.	83.3-117	WG596905
Chromium	mg/kg	71.3	72.5	102.	81.8-118	WG596905
Copper	mg/kg	81.2	84.8	104.	83.9-116	WG596905
Lead	mg/kg	92.4	94.2	102.	83.3-117	WG596905
Nickel	mg/kg	59.1	58.2	98.5	83.8-116	WG596905
Selenium	mg/kg	89.5	91.5	102.	79-121	WG596905
Silver	mg/kg	34.4	32.9	95.6	66.3-134	WG596905
Zinc	mg/kg	141	143.	101.	80.9-119	WG596905
1-Methylnaphthalene	mg/kg	.033	0.0246	74.5	48-113	WG597038
2-Chloronaphthalene	mg/kg	.033	0.0238	72.2	51-114	WG597038
2-Methylnaphthalene	mg/kg	.033	0.0248	75.2	44-109	WG597038
Acenaphthene	mg/kg	.033	0.0245	74.1	52-108	WG597038
Acenaphthylene	mg/kg	.033	0.0253	76.7	51-110	WG597038
Anthracene	mg/kg	.033	0.0301	91.3	58-120	WG597038
Benzo(a)anthracene	mg/kg	.033	0.0273	82.7	54-110	WG597038
Benzo(a)pyrene	mg/kg	.033	0.0289	87.5	56-118	WG597038
Benzo(b)fluoranthene	mg/kg	.033	0.0284	86.0	55-114	WG597038
Benzo(g,h,i)perylene	mg/kg	.033	0.0283	85.7	48-130	WG597038
Benzo(k)fluoranthene	mg/kg	.033	0.0295	89.3	55-122	WG597038
Chrysene	mg/kg	.033	0.0292	88.6	57-118	WG597038
Dibenz(a,h)anthracene	mg/kg	.033	0.0285	86.2	53-122	WG597038
Fluoranthene	mg/kg	.033	0.0306	92.6	58-118	WG597038
Fluorene	mg/kg	.033	0.0260	78.6	54-109	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0285	86.5	51-125	WG597038
Naphthalene	mg/kg	.033	0.0237	71.7	45-105	WG597038
Phenanthrene	mg/kg	.033	0.0291	88.1	53-114	WG597038
Pyrene	mg/kg	.033	0.0289	87.5	53-121	WG597038
2-Fluorobiphenyl				69.77	34-129	WG597038
Nitrobenzene-d5				74.42	14-141	WG597038
p-Terphenyl-d14				102.3	25-139	WG597038
Chromium, Hexavalent	mg/kg	150	155.	103.	50-150	WG596974

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0407	0.0416	81.0	76-113	2.19	20	WG596795
Ethylbenzene	mg/kg	0.0415	0.0427	83.0	78-115	2.71	20	WG596795
Toluene	mg/kg	0.0406	0.0417	81.0	76-114	2.69	20	WG596795
Total Xylene	mg/kg	0.122	0.126	81.0	81-118	2.89	20	WG596795
a,a,a-Trifluorotoluene(PID)				95.90	54-144			WG596795
TPH (GC/FID) Low Fraction	mg/kg	6.64	6.66	121.	67-135	0.290	20	WG596795
a,a,a-Trifluorotoluene(FID)				96.84	59-128			WG596795
Specific Conductance	umhos/	491.	491.	99.0	85-115	0	20	WG596769
ORP	mV	231.	232.	101.	95.6-104.	0.432	20	WG597071
pH	su	5.75	5.74	101.	98-101	0.174	20	WG596975
TPH (GC/FID) High Fraction	ppm	59.0	55.2	98.0	50-150	6.58	25	WG596823
o-Terphenyl				71.56	50-150			WG596823

* 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

L579052

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

June 12, 2012

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
1-Methylnaphthalene	mg/kg	0.0262	0.0246	80.0		48-113	6.45	24	WG597038
2-Chloronaphthalene	mg/kg	0.0247	0.0238	75.0		51-114	3.74	24	WG597038
2-Methylnaphthalene	mg/kg	0.0263	0.0248	80.0		44-109	5.77	24	WG597038
Acenaphthene	mg/kg	0.0264	0.0245	80.0		52-108	7.58	22	WG597038
Acenaphthylene	mg/kg	0.0260	0.0253	79.0		51-110	2.84	21	WG597038
Anthracene	mg/kg	0.0293	0.0301	89.0		58-120	2.84	20	WG597038
Benzo(a)anthracene	mg/kg	0.0278	0.0273	84.0		54-110	1.92	22	WG597038
Benzo(a)pyrene	mg/kg	0.0296	0.0289	90.0		56-118	2.56	21	WG597038
Benzo(b)fluoranthene	mg/kg	0.0293	0.0284	89.0		55-114	3.35	20	WG597038
Benzo(g,h,i)perylene	mg/kg	0.0291	0.0283	88.0		48-130	2.76	20	WG597038
Benzo(k)fluoranthene	mg/kg	0.0302	0.0295	91.0		55-122	2.42	25	WG597038
Chrysene	mg/kg	0.0302	0.0292	92.0		57-118	3.42	20	WG597038
Dibenz(a,h)anthracene	mg/kg	0.0291	0.0285	88.0		53-122	2.09	20	WG597038
Fluoranthene	mg/kg	0.0299	0.0306	90.0		58-118	2.31	20	WG597038
Fluorene	mg/kg	0.0272	0.0260	82.0		54-109	4.82	20	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	0.0292	0.0285	88.0		51-125	2.16	21	WG597038
Naphthalene	mg/kg	0.0247	0.0237	75.0		45-105	4.18	24	WG597038
Phenanthrene	mg/kg	0.0289	0.0291	87.0		53-114	0.726	20	WG597038
Pyrene	mg/kg	0.0296	0.0289	90.0		53-121	2.39	20	WG597038
2-Fluorobiphenyl				75.51		34-129			WG597038
Nitrobenzene-d5				77.83		14-141			WG597038
p-Terphenyl-d14				105.3		25-139			WG597038
Chromium,Hexavalent	mg/kg	139.	155.	93.0		50-150	10.9	20	WG596974

Analyte	Units	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res					
TPH (GC/FID) Low Fraction	mg/kg	2.92	0	5.5	53.2*	55-109	L579091-03	WG596795
a,a,a-Trifluorotoluene(FID)					92.74	59-128		WG596795
Benzene	mg/kg	0.178	0	.05	71.0	32-137	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0890	0	.05	35.6	10-150	L579054-01	WG596795
Toluene	mg/kg	0.130	0	.05	51.9	20-142	L579054-01	WG596795
Total Xylene	mg/kg	0.241	0	.15	32.1	16-141	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)					86.65	54-144		WG596795
Mercury	mg/kg	0.250	0	.25	100.	70-130	L579050-01	WG596860
Arsenic	mg/kg	52.5	9.50	50	86.0	75-125	L579180-03	WG596905
Barium	mg/kg	156.	120.	50	72.0*	75-125	L579180-03	WG596905
Cadmium	mg/kg	75.1	31.0	50	88.2	75-125	L579180-03	WG596905
Chromium	mg/kg	59.2	14.5	50	89.4	75-125	L579180-03	WG596905
Copper	mg/kg	92.2	53.7	50	77.0	75-125	L579180-03	WG596905
Lead	mg/kg	109.	79.0	50	60.0*	75-125	L579180-03	WG596905
Nickel	mg/kg	50.9	9.84	50	82.1	75-125	L579180-03	WG596905
Selenium	mg/kg	40.3	0	50	80.6	75-125	L579180-03	WG596905
Silver	mg/kg	45.5	0.505	50	90.0	75-125	L579180-03	WG596905
Zinc	mg/kg	1140	1200	50	0*	75-125	L579180-03	WG596905
Arsenic	mg/kg	51.4	2.80	50	97.2	75-125	L578909-01	WG596905
Chromium,Hexavalent	mg/kg	1.04	0	20	5.20*	50-150	L579061-01	WG596974

* 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

L579052

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

June 12, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	3.61	2.92	65.7	55-109	21.2*	20	L579091-03	WG596795
a,a,a-Trifluorotoluene(FID)				93.63	59-128				WG596795
Benzene	mg/kg	0.161	0.178	64.3	32-137	9.93	39	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0597	0.0890	23.9	10-150	39.4	44	L579054-01	WG596795
Toluene	mg/kg	0.102	0.130	40.7	20-142	24.3	42	L579054-01	WG596795
Total Xylene	mg/kg	0.160	0.241	21.3	16-141	40.4	46	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)				84.13	54-144				WG596795
Mercury	mg/kg	0.256	0.250	102.	70-130	2.37	20	L579050-01	WG596860
Arsenic	mg/kg	54.4	52.5	89.8	75-125	3.55	20	L579180-03	WG596905
Barium	mg/kg	152.	156.	64.0*	75-125	2.60	20	L579180-03	WG596905
Cadmium	mg/kg	76.0	75.1	90.0	75-125	1.19	20	L579180-03	WG596905
Chromium	mg/kg	58.2	59.2	87.4	75-125	1.70	20	L579180-03	WG596905
Copper	mg/kg	98.2	92.2	89.0	75-125	6.30	20	L579180-03	WG596905
Lead	mg/kg	125.	109.	92.0	75-125	13.7	20	L579180-03	WG596905
Nickel	mg/kg	52.2	50.9	84.7	75-125	2.52	20	L579180-03	WG596905
Selenium	mg/kg	40.7	40.3	81.4	75-125	0.988	20	L579180-03	WG596905
Silver	mg/kg	44.8	45.5	88.6	75-125	1.55	20	L579180-03	WG596905
Zinc	mg/kg	1240	1140	80.0	75-125	8.40	20	L579180-03	WG596905
Arsenic	mg/kg	48.3	51.4	91.0	75-125	6.22	20	L578909-01	WG596905
Chromium, Hexavalent	mg/kg	1.84	1.04	9.20*	50-150	55.6*	20	L579061-01	WG596974

Batch number /Run number / Sample number cross reference

WG596795: R2202213: L579052-01
WG596769: R2202673: L579052-01
WG596860: R2204214: L579052-01
WG597071: R2204333: L579052-01
WG596975: R2204496: L579052-01
WG596957: R2205557: L579052-01
WG596823: R2205833: L579052-01
WG596905: R2206135: L579052-01
WG597038: R2206362: L579052-01
WG596974: R2207133: L579052-01

* * 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

L579052

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

June 12, 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 / Matt Kasten
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Wednesday June 13, 2012

Report Number: L579059

Samples Received: 06/07/12

Client Project: 499-12-67

Description: West Hawk 499-12-67

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.

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.

REPORT OF ANALYSIS

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

June 13, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-SMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 13:44

ESC Sample # : L579059-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	06/12/12	1
Chromium, Trivalent	18.	2.0	mg/kg	Calc.	06/10/12	1
ORP	200		mV	2580	06/10/12	1.1
pH	8.5		su	9045D	06/09/12	1
Sodium Adsorption Ratio	42.			Calc.	06/10/12	1
Specific Conductance	2500		umhos/cm	9050AMod	06/09/12	1
Mercury	BDL	0.020	mg/kg	7471	06/09/12	1
Arsenic	8.8	1.0	mg/kg	6010B	06/10/12	1
Barium	3100	0.25	mg/kg	6010B	06/10/12	1
Cadmium	BDL	0.25	mg/kg	6010B	06/10/12	1
Chromium	18.	0.50	mg/kg	6010B	06/10/12	1
Copper	52.	1.0	mg/kg	6010B	06/10/12	1
Lead	15.	0.25	mg/kg	6010B	06/10/12	1
Nickel	14.	1.0	mg/kg	6010B	06/10/12	1
Selenium	BDL	1.0	mg/kg	6010B	06/10/12	1
Silver	BDL	0.50	mg/kg	6010B	06/10/12	1
Zinc	50.	1.5	mg/kg	6010B	06/10/12	1
Benzene	BDL	0.0025	mg/kg	8021/8015	06/08/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	06/08/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	06/08/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	06/08/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	06/09/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	99.6		% Rec.	8021/8015	06/09/12	5
a,a,a-Trifluorotoluene(PID)	95.7		% Rec.	8021/8015	06/08/12	5
TPH (GC/FID) High Fraction	600	80.	mg/kg	3546/DRO	06/12/12	20
Surrogate recovery(%)						
o-Terphenyl	17.5		% Rec.	3546/DRO	06/12/12	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.21	0.060	mg/kg	8270C-SIM	06/11/12	10
Acenaphthene	0.10	0.060	mg/kg	8270C-SIM	06/11/12	10
Acenaphthylene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(a)anthracene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(a)pyrene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L579059-01 (PH) - 22.2c



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

June 13, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-SMOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 13:44

ESC Sample # : L579059-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(g,h,i)perylene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(k)fluoranthene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Chrysene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Dibenz(a,h)anthracene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Fluoranthene	0.060	0.060	mg/kg	8270C-SIM	06/11/12	10
Fluorene	0.21	0.060	mg/kg	8270C-SIM	06/11/12	10
Indeno(1,2,3-cd)pyrene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Naphthalene	0.77	0.060	mg/kg	8270C-SIM	06/11/12	10
Phenanthrene	0.47	0.060	mg/kg	8270C-SIM	06/11/12	10
Pyrene	0.24	0.060	mg/kg	8270C-SIM	06/11/12	10
1-Methylnaphthalene	0.89	0.060	mg/kg	8270C-SIM	06/11/12	10
2-Methylnaphthalene	1.9	0.060	mg/kg	8270C-SIM	06/11/12	10
2-Chloronaphthalene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Surrogate Recovery						
Nitrobenzene-d5	88.3		% Rec.	8270C-SIM	06/11/12	10
2-Fluorobiphenyl	98.3		% Rec.	8270C-SIM	06/11/12	10
p-Terphenyl-d14	115.		% Rec.	8270C-SIM	06/11/12	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: 06/13/12 09:23 Printed: 06/13/12 09:24
L579059-01 (PH) - 22.2c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L579059-01	WG596975	SAMP	pH	R2204496	T8
	WG597332	SAMP	o-Terphenyl	R2207493	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to 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
06/13/12 at 09:24:08

TSR Signing Reports: 358
R3 - Rush: Two Day

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

Sample: L579059-01 Account: ENCANACO Received: 06/07/12 09:00 Due Date: 06/12/12 00:00 RPT Date: 06/13/12 09:23
Changed due date per JW. AV 6/8



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

L579059

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

June 13, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Ethylbenzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Toluene	< .005	mg/kg			WG596795	06/07/12 23:22
Total Xylene	< .0015	mg/kg			WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(FID)		% Rec.	90.96	59-128	WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(PID)		% Rec.	96.46	54-144	WG596795	06/07/12 23:22
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG596902	06/08/12 16:56
a,a,a-Trifluorotoluene(FID)		% Rec.	100.2	59-128	WG596902	06/08/12 16:56
a,a,a-Trifluorotoluene(PID)		% Rec.	104.2	54-144	WG596902	06/08/12 16:56
Mercury	< .02	mg/kg			WG596931	06/09/12 12:02
pH	4.99	su			WG596975	06/09/12 14:00
Specific Conductance	1.10	umhos/cm			WG596980	06/09/12 14:50
Arsenic	< 1	mg/kg			WG596715	06/10/12 16:56
Barium	< .25	mg/kg			WG596715	06/10/12 16:56
Cadmium	< .25	mg/kg			WG596715	06/10/12 16:56
Chromium	< .5	mg/kg			WG596715	06/10/12 16:56
Copper	< 1	mg/kg			WG596715	06/10/12 16:56
Lead	< .25	mg/kg			WG596715	06/10/12 16:56
Nickel	< 1	mg/kg			WG596715	06/10/12 16:56
Selenium	< 1	mg/kg			WG596715	06/10/12 16:56
Silver	< .5	mg/kg			WG596715	06/10/12 16:56
Zinc	< 1.5	mg/kg			WG596715	06/10/12 16:56
1-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Chloronaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthylene	< .006	mg/kg			WG597038	06/11/12 02:01
Anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(b)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(g,h,i)perylene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(k)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Chrysene	< .006	mg/kg			WG597038	06/11/12 02:01
Dibenz(a,h)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluorene	< .006	mg/kg			WG597038	06/11/12 02:01
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Naphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Phenanthrene	< .006	mg/kg			WG597038	06/11/12 02:01
Pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Fluorobiphenyl		% Rec.	72.97	34-129	WG597038	06/11/12 02:01
Nitrobenzene-d5		% Rec.	74.63	14-141	WG597038	06/11/12 02:01
p-Terphenyl-d14		% Rec.	99.73	25-139	WG597038	06/11/12 02:01
Chromium,Hexavalent	< 2	mg/kg			WG596974	06/12/12 15:02

* 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

L579059

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

June 13, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) High Fraction	< 4	ppm			WG597332	06/12/12 15:07
o-Terphenyl		% Rec.	71.77	50-150	WG597332	06/12/12 15:07

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Mercury	mg/kg	0.0540	0.0870	47.0*	20	L579071-07	WG596931
ORP	mV	220.	210.	2.35	20	L577173-18	WG597071
ORP	mV	210.	220.	5.61	20	L579061-01	WG597071
pH	su	10.0	10.0	3.73*	1	L578792-01	WG596975
pH	su	12.0	12.0	3.52*	1	L579305-01	WG596975
Specific Conductance	umhos/cm	2400	2500	3.25	20	L579059-01	WG596980
Arsenic	mg/kg	4.80	4.80	0.837	20	L578802-29	WG596715
Barium	mg/kg	160.	200.	21.0*	20	L578802-29	WG596715
Cadmium	mg/kg	0	0	0	20	L578802-29	WG596715
Chromium	mg/kg	10.0	11.0	7.55	20	L578802-29	WG596715
Copper	mg/kg	8.00	8.17	2.60	20	L578802-29	WG596715
Lead	mg/kg	9.30	9.30	0.215	20	L578802-29	WG596715
Nickel	mg/kg	11.0	11.4	3.57	20	L578802-29	WG596715
Selenium	mg/kg	0	0	0	20	L578802-29	WG596715
Silver	mg/kg	0	0	0	20	L578802-29	WG596715
Zinc	mg/kg	28.0	29.6	4.14	20	L578802-29	WG596715
Chromium,Hexavalent	mg/kg	0	0	0	20	L579579-01	WG596974
Chromium,Hexavalent	mg/kg	0	0	0	20	L579057-01	WG596974

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0416	83.1	76-113	WG596795
Ethylbenzene	mg/kg	.05	0.0427	85.4	78-115	WG596795
Toluene	mg/kg	.05	0.0417	83.4	76-114	WG596795
Total Xylene	mg/kg	.15	0.126	83.7	81-118	WG596795
a,a,a-Trifluorotoluene(PID)				96.61	54-144	WG596795
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.93	108.	67-135	WG596902
a,a,a-Trifluorotoluene(FID)				104.5	59-128	WG596902
Mercury	mg/kg	3.77	3.70	98.1	71.6-128	WG596931
ORP	mV	228	232.	102.	95.6-104.	WG597071
pH	su	5.7	5.74	101.	98-101	WG596975
Specific Conductance	umhos/cm	495	489.	98.8	85-115	WG596980

* 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

L579059

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

June 13, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Arsenic	mg/kg	92.6	93.9	101.	82.9-117	WG596715
Barium	mg/kg	169	171.	101.	82.8-117	WG596715
Cadmium	mg/kg	61.8	60.0	97.1	83.3-117	WG596715
Chromium	mg/kg	71.3	71.3	100.	81.8-118	WG596715
Copper	mg/kg	81.2	81.4	100.	83.9-116	WG596715
Lead	mg/kg	92.4	95.2	103.	83.3-117	WG596715
Nickel	mg/kg	59.1	55.4	93.7	83.8-116	WG596715
Selenium	mg/kg	89.5	89.6	100.	79-121	WG596715
Silver	mg/kg	34.4	32.8	95.3	66.3-134	WG596715
Zinc	mg/kg	141	147.	104.	80.9-119	WG596715
1-Methylnaphthalene	mg/kg	.033	0.0246	74.5	48-113	WG597038
2-Chloronaphthalene	mg/kg	.033	0.0238	72.2	51-114	WG597038
2-Methylnaphthalene	mg/kg	.033	0.0248	75.2	44-109	WG597038
Acenaphthene	mg/kg	.033	0.0245	74.1	52-108	WG597038
Acenaphthylene	mg/kg	.033	0.0253	76.7	51-110	WG597038
Anthracene	mg/kg	.033	0.0301	91.3	58-120	WG597038
Benzo(a)anthracene	mg/kg	.033	0.0273	82.7	54-110	WG597038
Benzo(a)pyrene	mg/kg	.033	0.0289	87.5	56-118	WG597038
Benzo(b)fluoranthene	mg/kg	.033	0.0284	86.0	55-114	WG597038
Benzo(g,h,i)perylene	mg/kg	.033	0.0283	85.7	48-130	WG597038
Benzo(k)fluoranthene	mg/kg	.033	0.0295	89.3	55-122	WG597038
Chrysene	mg/kg	.033	0.0292	88.6	57-118	WG597038
Dibenz(a,h)anthracene	mg/kg	.033	0.0285	86.2	53-122	WG597038
Fluoranthene	mg/kg	.033	0.0306	92.6	58-118	WG597038
Fluorene	mg/kg	.033	0.0260	78.6	54-109	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0285	86.5	51-125	WG597038
Naphthalene	mg/kg	.033	0.0237	71.7	45-105	WG597038
Phenanthrene	mg/kg	.033	0.0291	88.1	53-114	WG597038
Pyrene	mg/kg	.033	0.0289	87.5	53-121	WG597038
2-Fluorobiphenyl				69.77	34-129	WG597038
Nitrobenzene-d5				74.42	14-141	WG597038
p-Terphenyl-d14				102.3	25-139	WG597038
Chromium, Hexavalent	mg/kg	150	155.	103.	50-150	WG596974
TPH (GC/FID) High Fraction	ppm	60	49.3	82.2	50-150	WG597332
o-Terphenyl				73.46	50-150	WG597332

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0407	0.0416	81.0	76-113	2.19	20	WG596795
Ethylbenzene	mg/kg	0.0415	0.0427	83.0	78-115	2.71	20	WG596795
Toluene	mg/kg	0.0406	0.0417	81.0	76-114	2.69	20	WG596795
Total Xylene	mg/kg	0.122	0.126	81.0	81-118	2.89	20	WG596795
a,a,a-Trifluorotoluene(PID)				95.90	54-144			WG596795
TPH (GC/FID) Low Fraction	mg/kg	5.84	5.93	106.	67-135	1.43	20	WG596902
a,a,a-Trifluorotoluene(FID)				104.4	59-128			WG596902
ORP	mV	231.	232.	101.	95.6-104.	0.432	20	WG597071

* 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

L579059

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

June 13, 2012

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
pH	su	5.75	5.74	101.		98-101	0.174	20	WG596975
Specific Conductance	umhos/	489.	489.	99.0		85-115	0	20	WG596980
1-Methylnaphthalene	mg/kg	0.0262	0.0246	80.0		48-113	6.45	24	WG597038
2-Chloronaphthalene	mg/kg	0.0247	0.0238	75.0		51-114	3.74	24	WG597038
2-Methylnaphthalene	mg/kg	0.0263	0.0248	80.0		44-109	5.77	24	WG597038
Acenaphthene	mg/kg	0.0264	0.0245	80.0		52-108	7.58	22	WG597038
Acenaphthylene	mg/kg	0.0260	0.0253	79.0		51-110	2.84	21	WG597038
Anthracene	mg/kg	0.0293	0.0301	89.0		58-120	2.84	20	WG597038
Benzo(a)anthracene	mg/kg	0.0278	0.0273	84.0		54-110	1.92	22	WG597038
Benzo(a)pyrene	mg/kg	0.0296	0.0289	90.0		56-118	2.56	21	WG597038
Benzo(b)fluoranthene	mg/kg	0.0293	0.0284	89.0		55-114	3.35	20	WG597038
Benzo(g,h,i)perylene	mg/kg	0.0291	0.0283	88.0		48-130	2.76	20	WG597038
Benzo(k)fluoranthene	mg/kg	0.0302	0.0295	91.0		55-122	2.42	25	WG597038
Chrysene	mg/kg	0.0302	0.0292	92.0		57-118	3.42	20	WG597038
Dibenz(a,h)anthracene	mg/kg	0.0291	0.0285	88.0		53-122	2.09	20	WG597038
Fluoranthene	mg/kg	0.0299	0.0306	90.0		58-118	2.31	20	WG597038
Fluorene	mg/kg	0.0272	0.0260	82.0		54-109	4.82	20	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	0.0292	0.0285	88.0		51-125	2.16	21	WG597038
Naphthalene	mg/kg	0.0247	0.0237	75.0		45-105	4.18	24	WG597038
Phenanthrene	mg/kg	0.0289	0.0291	87.0		53-114	0.726	20	WG597038
Pyrene	mg/kg	0.0296	0.0289	90.0		53-121	2.39	20	WG597038
2-Fluorobiphenyl				75.51		34-129			WG597038
Nitrobenzene-d5				77.83		14-141			WG597038
p-Terphenyl-d14				105.3		25-139			WG597038
Chromium,Hexavalent	mg/kg	139.	155.	93.0		50-150	10.9	20	WG596974
TPH (GC/FID) High Fraction	ppm	54.4	49.3	91.0		50-150	9.79	25	WG597332
o-Terphenyl				82.49		50-150			WG597332

Analyte	Units	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res					
Benzene	mg/kg	0.178	0	.05	71.0	32-137	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0890	0	.05	35.6	10-150	L579054-01	WG596795
Toluene	mg/kg	0.130	0	.05	51.9	20-142	L579054-01	WG596795
Total Xylene	mg/kg	0.241	0	.15	32.1	16-141	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)					86.65	54-144		WG596795
Mercury	mg/kg	0.304	0.0870	.25	86.8	70-130	L579071-07	WG596931
TPH (GC/FID) Low Fraction	mg/kg	444.	56.0	5.5	141.*	55-109	L579217-01	WG596902
Arsenic	mg/kg	52.5	4.80	50	95.4	75-125	L578802-29	WG596715
Barium	mg/kg	202.	200.	50	4.00*	75-125	L578802-29	WG596715
Cadmium	mg/kg	48.0	0	50	96.0	75-125	L578802-29	WG596715
Chromium	mg/kg	56.2	11.0	50	90.4	75-125	L578802-29	WG596715
Copper	mg/kg	54.4	8.17	50	92.5	75-125	L578802-29	WG596715
Lead	mg/kg	57.3	9.30	50	96.0	75-125	L578802-29	WG596715
Nickel	mg/kg	54.9	11.4	50	87.0	75-125	L578802-29	WG596715

* 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

L579059

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

June 13, 2012

Analyte	Units	MS Res	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
			Ref Res						
Selenium	mg/kg	45.8	0		50	91.6	75-125	L578802-29	WG596715
Silver	mg/kg	45.3	0		50	90.6	75-125	L578802-29	WG596715
Zinc	mg/kg	75.2	29.6		50	91.2	75-125	L578802-29	WG596715
Chromium, Hexavalent	mg/kg	1.04	0		20	5.20*	50-150	L579061-01	WG596974

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.161	0.178	64.3	32-137	9.93	39	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0597	0.0890	23.9	10-150	39.4	44	L579054-01	WG596795
Toluene	mg/kg	0.102	0.130	40.7	20-142	24.3	42	L579054-01	WG596795
Total Xylene	mg/kg	0.160	0.241	21.3	16-141	40.4	46	L579054-01	WG596795
a,a,a-Trifluorotoluene (PID)				84.13	54-144				WG596795
Mercury	mg/kg	0.329	0.304	96.8	70-130	7.90	20	L579071-07	WG596931
TPH (GC/FID) Low Fraction	mg/kg	443.	444.	141.*	55-109	0.140	20	L579217-01	WG596902
Arsenic	mg/kg	52.7	52.5	95.8	75-125	0.380	20	L578802-29	WG596715
Barium	mg/kg	256.	202.	112.	75-125	23.6*	20	L578802-29	WG596715
Cadmium	mg/kg	48.8	48.0	97.6	75-125	1.65	20	L578802-29	WG596715
Chromium	mg/kg	57.2	56.2	92.4	75-125	1.76	20	L578802-29	WG596715
Copper	mg/kg	55.0	54.4	93.7	75-125	1.10	20	L578802-29	WG596715
Lead	mg/kg	59.0	57.3	99.4	75-125	2.92	20	L578802-29	WG596715
Nickel	mg/kg	55.7	54.9	88.6	75-125	1.45	20	L578802-29	WG596715
Selenium	mg/kg	47.2	45.8	94.4	75-125	3.01	20	L578802-29	WG596715
Silver	mg/kg	46.2	45.3	92.4	75-125	1.97	20	L578802-29	WG596715
Zinc	mg/kg	76.3	75.2	93.4	75-125	1.45	20	L578802-29	WG596715
Chromium, Hexavalent	mg/kg	1.84	1.04	9.20*	50-150	55.6*	20	L579061-01	WG596974

Batch number /Run number / Sample number cross reference

WG596795: R2202213: L579059-01
WG596902: R2203753: L579059-01
WG596931: R2204215: L579059-01
WG597071: R2204333: L579059-01
WG596975: R2204496: L579059-01
WG596980: R2204533: L579059-01
WG596957: R2205557: L579059-01
WG596715: R2206253: L579059-01
WG597038: R2206362: L579059-01
WG596974: R2207133: L579059-01
WG597332: R2207493: L579059-01

* * 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

L579059

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

June 13, 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 / Matt Kasten
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Wednesday June 13, 2012

Report Number: L579057

Samples Received: 06/07/12

Client Project: 499-12-67

Description: West Hawk 499-12-67

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.

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.

REPORT OF ANALYSIS

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

June 13, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-MID.MOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 14:26

ESC Sample # : L579057-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	06/12/12	1
Chromium, Trivalent	17.	2.0	mg/kg	Calc.	06/10/12	1
ORP	190		mV	2580	06/10/12	1.1
pH	8.3		su	9045D	06/09/12	1
Sodium Adsorption Ratio	44.			Calc.	06/10/12	1
Specific Conductance	2800		umhos/cm	9050AMod	06/08/12	1
Mercury	0.027	0.020	mg/kg	7471	06/09/12	1
Arsenic	6.0	1.0	mg/kg	6010B	06/10/12	1
Barium	1500	0.25	mg/kg	6010B	06/10/12	1
Cadmium	BDL	0.25	mg/kg	6010B	06/10/12	1
Chromium	17.	0.50	mg/kg	6010B	06/10/12	1
Copper	33.	1.0	mg/kg	6010B	06/10/12	1
Lead	12.	0.25	mg/kg	6010B	06/10/12	1
Nickel	14.	1.0	mg/kg	6010B	06/10/12	1
Selenium	BDL	1.0	mg/kg	6010B	06/10/12	1
Silver	BDL	0.50	mg/kg	6010B	06/10/12	1
Zinc	42.	1.5	mg/kg	6010B	06/10/12	1
Benzene	BDL	0.0025	mg/kg	8021/8015	06/08/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	06/08/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	06/08/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	06/08/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	06/08/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	99.6		% Rec.	8021/8015	06/08/12	5
a,a,a-Trifluorotoluene(PID)	96.4		% Rec.	8021/8015	06/08/12	5
TPH (GC/FID) High Fraction	1800	80.	mg/kg	3546/DRO	06/12/12	20
Surrogate recovery(%)						
o-Terphenyl	50.8		% Rec.	3546/DRO	06/12/12	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.20	0.060	mg/kg	8270C-SIM	06/11/12	10
Acenaphthene	0.099	0.060	mg/kg	8270C-SIM	06/11/12	10
Acenaphthylene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(a)anthracene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(a)pyrene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L579057-01 (PH) - 22.8c



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

June 13, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-MID.MOI-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 14:26

ESC Sample # : L579057-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(g,h,i)perylene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Benzo(k)fluoranthene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Chrysene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Dibenz(a,h)anthracene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Fluoranthene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Fluorene	0.17	0.060	mg/kg	8270C-SIM	06/11/12	10
Indeno(1,2,3-cd)pyrene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Naphthalene	0.77	0.060	mg/kg	8270C-SIM	06/11/12	10
Phenanthrene	0.43	0.060	mg/kg	8270C-SIM	06/11/12	10
Pyrene	0.22	0.060	mg/kg	8270C-SIM	06/11/12	10
1-Methylnaphthalene	0.85	0.060	mg/kg	8270C-SIM	06/11/12	10
2-Methylnaphthalene	1.7	0.060	mg/kg	8270C-SIM	06/11/12	10
2-Chloronaphthalene	BDL	0.060	mg/kg	8270C-SIM	06/11/12	10
Surrogate Recovery						
Nitrobenzene-d5	96.3		% Rec.	8270C-SIM	06/11/12	10
2-Fluorobiphenyl	115.		% Rec.	8270C-SIM	06/11/12	10
p-Terphenyl-d14	124.		% Rec.	8270C-SIM	06/11/12	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: 06/13/12 09:23 Printed: 06/13/12 09:24
L579057-01 (PH) - 22.8c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L579057-01	WG596975	SAMP	pH	R2204496	T8
	WG597332	SAMP	o-Terphenyl	R2207493	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to 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
06/13/12 at 09:24:08

TSR Signing Reports: 358
R3 - Rush: Two Day

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

Sample: L579057-01 Account: ENCANACO Received: 06/07/12 09:00 Due Date: 06/12/12 00:00 RPT Date: 06/13/12 09:23
Changed due date per JW. AV 6/8



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

L579057

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

June 13, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Ethylbenzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Toluene	< .005	mg/kg			WG596795	06/07/12 23:22
Total Xylene	< .0015	mg/kg			WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(FID)		% Rec.	90.96	59-128	WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(PID)		% Rec.	96.46	54-144	WG596795	06/07/12 23:22
Specific Conductance	1.16	umhos/cm			WG596769	06/08/12 13:04
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG596902	06/08/12 16:56
a,a,a-Trifluorotoluene(FID)		% Rec.	100.2	59-128	WG596902	06/08/12 16:56
a,a,a-Trifluorotoluene(PID)		% Rec.	104.2	54-144	WG596902	06/08/12 16:56
Mercury	< .02	mg/kg			WG596931	06/09/12 12:02
pH	4.99	su			WG596975	06/09/12 14:00
Arsenic	< 1	mg/kg			WG596715	06/10/12 16:56
Barium	< .25	mg/kg			WG596715	06/10/12 16:56
Cadmium	< .25	mg/kg			WG596715	06/10/12 16:56
Chromium	< .5	mg/kg			WG596715	06/10/12 16:56
Copper	< 1	mg/kg			WG596715	06/10/12 16:56
Lead	< .25	mg/kg			WG596715	06/10/12 16:56
Nickel	< 1	mg/kg			WG596715	06/10/12 16:56
Selenium	< 1	mg/kg			WG596715	06/10/12 16:56
Silver	< .5	mg/kg			WG596715	06/10/12 16:56
Zinc	< 1.5	mg/kg			WG596715	06/10/12 16:56
1-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Chloronaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Methylnaphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthene	< .006	mg/kg			WG597038	06/11/12 02:01
Acenaphthylene	< .006	mg/kg			WG597038	06/11/12 02:01
Anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(a)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(b)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(g,h,i)perylene	< .006	mg/kg			WG597038	06/11/12 02:01
Benzo(k)fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Chrysene	< .006	mg/kg			WG597038	06/11/12 02:01
Dibenz(a,h)anthracene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluoranthene	< .006	mg/kg			WG597038	06/11/12 02:01
Fluorene	< .006	mg/kg			WG597038	06/11/12 02:01
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
Naphthalene	< .006	mg/kg			WG597038	06/11/12 02:01
Phenanthrene	< .006	mg/kg			WG597038	06/11/12 02:01
Pyrene	< .006	mg/kg			WG597038	06/11/12 02:01
2-Fluorobiphenyl		% Rec.	72.97	34-129	WG597038	06/11/12 02:01
Nitrobenzene-d5		% Rec.	74.63	14-141	WG597038	06/11/12 02:01
p-Terphenyl-d14		% Rec.	99.73	25-139	WG597038	06/11/12 02:01
Chromium,Hexavalent	< 2	mg/kg			WG596974	06/12/12 15:02

* Performance of this Analyte is outside of established criteria.

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



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

Parachute, CO 81635

Quality Assurance Report
Level II

L579057

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

June 13, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) High Fraction	< 4	ppm			WG597332	06/12/12 15:07
o-Terphenyl		% Rec.	71.77	50-150	WG597332	06/12/12 15:07

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Specific Conductance	umhos/cm	650.	610.	6.81	20	L578857-01	WG596769
Mercury	mg/kg	0.0540	0.0870	47.0*	20	L579071-07	WG596931
ORP	mV	220.	210.	2.35	20	L577173-18	WG597071
ORP	mV	210.	220.	5.61	20	L579061-01	WG597071
pH	su	10.0	10.0	3.73*	1	L578792-01	WG596975
pH	su	12.0	12.0	3.52*	1	L579305-01	WG596975
Arsenic	mg/kg	4.80	4.80	0.837	20	L578802-29	WG596715
Barium	mg/kg	160.	200.	21.0*	20	L578802-29	WG596715
Cadmium	mg/kg	0	0	0	20	L578802-29	WG596715
Chromium	mg/kg	10.0	11.0	7.55	20	L578802-29	WG596715
Copper	mg/kg	8.00	8.17	2.60	20	L578802-29	WG596715
Lead	mg/kg	9.30	9.30	0.215	20	L578802-29	WG596715
Nickel	mg/kg	11.0	11.4	3.57	20	L578802-29	WG596715
Selenium	mg/kg	0	0	0	20	L578802-29	WG596715
Silver	mg/kg	0	0	0	20	L578802-29	WG596715
Zinc	mg/kg	28.0	29.6	4.14	20	L578802-29	WG596715
Chromium,Hexavalent	mg/kg	0	0	0	20	L579579-01	WG596974
Chromium,Hexavalent	mg/kg	0	0	0	20	L579057-01	WG596974

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0416	83.1	76-113	WG596795
Ethylbenzene	mg/kg	.05	0.0427	85.4	78-115	WG596795
Toluene	mg/kg	.05	0.0417	83.4	76-114	WG596795
Total Xylene	mg/kg	.15	0.126	83.7	81-118	WG596795
a,a,a-Trifluorotoluene(PID)				96.61	54-144	WG596795
Specific Conductance	umhos/cm	495	491.	99.2	85-115	WG596769
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.93	108.	67-135	WG596902
a,a,a-Trifluorotoluene(FID)				104.5	59-128	WG596902
Mercury	mg/kg	3.77	3.70	98.1	71.6-128	WG596931
ORP	mV	228	232.	102.	95.6-104.	WG597071
pH	su	5.7	5.74	101.	98-101	WG596975

* 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

L579057

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

June 13, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Arsenic	mg/kg	92.6	93.9	101.	82.9-117	WG596715
Barium	mg/kg	169	171.	101.	82.8-117	WG596715
Cadmium	mg/kg	61.8	60.0	97.1	83.3-117	WG596715
Chromium	mg/kg	71.3	71.3	100.	81.8-118	WG596715
Copper	mg/kg	81.2	81.4	100.	83.9-116	WG596715
Lead	mg/kg	92.4	95.2	103.	83.3-117	WG596715
Nickel	mg/kg	59.1	55.4	93.7	83.8-116	WG596715
Selenium	mg/kg	89.5	89.6	100.	79-121	WG596715
Silver	mg/kg	34.4	32.8	95.3	66.3-134	WG596715
Zinc	mg/kg	141	147.	104.	80.9-119	WG596715
1-Methylnaphthalene	mg/kg	.033	0.0246	74.5	48-113	WG597038
2-Chloronaphthalene	mg/kg	.033	0.0238	72.2	51-114	WG597038
2-Methylnaphthalene	mg/kg	.033	0.0248	75.2	44-109	WG597038
Acenaphthene	mg/kg	.033	0.0245	74.1	52-108	WG597038
Acenaphthylene	mg/kg	.033	0.0253	76.7	51-110	WG597038
Anthracene	mg/kg	.033	0.0301	91.3	58-120	WG597038
Benzo(a)anthracene	mg/kg	.033	0.0273	82.7	54-110	WG597038
Benzo(a)pyrene	mg/kg	.033	0.0289	87.5	56-118	WG597038
Benzo(b)fluoranthene	mg/kg	.033	0.0284	86.0	55-114	WG597038
Benzo(g,h,i)perylene	mg/kg	.033	0.0283	85.7	48-130	WG597038
Benzo(k)fluoranthene	mg/kg	.033	0.0295	89.3	55-122	WG597038
Chrysene	mg/kg	.033	0.0292	88.6	57-118	WG597038
Dibenz(a,h)anthracene	mg/kg	.033	0.0285	86.2	53-122	WG597038
Fluoranthene	mg/kg	.033	0.0306	92.6	58-118	WG597038
Fluorene	mg/kg	.033	0.0260	78.6	54-109	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0285	86.5	51-125	WG597038
Naphthalene	mg/kg	.033	0.0237	71.7	45-105	WG597038
Phenanthrene	mg/kg	.033	0.0291	88.1	53-114	WG597038
Pyrene	mg/kg	.033	0.0289	87.5	53-121	WG597038
2-Fluorobiphenyl				69.77	34-129	WG597038
Nitrobenzene-d5				74.42	14-141	WG597038
p-Terphenyl-d14				102.3	25-139	WG597038
Chromium, Hexavalent	mg/kg	150	155.	103.	50-150	WG596974
TPH (GC/FID) High Fraction	ppm	60	49.3	82.2	50-150	WG597332
o-Terphenyl				73.46	50-150	WG597332

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0407	0.0416	81.0	76-113	2.19	20	WG596795
Ethylbenzene	mg/kg	0.0415	0.0427	83.0	78-115	2.71	20	WG596795
Toluene	mg/kg	0.0406	0.0417	81.0	76-114	2.69	20	WG596795
Total Xylene	mg/kg	0.122	0.126	81.0	81-118	2.89	20	WG596795
a,a,a-Trifluorotoluene(PID)				95.90	54-144			WG596795
Specific Conductance	umhos/	491.	491.	99.0	85-115	0	20	WG596799
TPH (GC/FID) Low Fraction	mg/kg	5.84	5.93	106.	67-135	1.43	20	WG596902
a,a,a-Trifluorotoluene(FID)				104.4	59-128			WG596902

* 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

L579057

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

June 13, 2012

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
ORP	mV	231.	232.	101.	95.6-104.	0.432	20	WG597071
pH	su	5.75	5.74	101.	98-101	0.174	20	WG596975
1-Methylnaphthalene	mg/kg	0.0262	0.0246	80.0	48-113	6.45	24	WG597038
2-Chloronaphthalene	mg/kg	0.0247	0.0238	75.0	51-114	3.74	24	WG597038
2-Methylnaphthalene	mg/kg	0.0263	0.0248	80.0	44-109	5.77	24	WG597038
Acenaphthene	mg/kg	0.0264	0.0245	80.0	52-108	7.58	22	WG597038
Acenaphthylene	mg/kg	0.0260	0.0253	79.0	51-110	2.84	21	WG597038
Anthracene	mg/kg	0.0293	0.0301	89.0	58-120	2.84	20	WG597038
Benzo(a)anthracene	mg/kg	0.0278	0.0273	84.0	54-110	1.92	22	WG597038
Benzo(a)pyrene	mg/kg	0.0296	0.0289	90.0	56-118	2.56	21	WG597038
Benzo(b)fluoranthene	mg/kg	0.0293	0.0284	89.0	55-114	3.35	20	WG597038
Benzo(g,h,i)perylene	mg/kg	0.0291	0.0283	88.0	48-130	2.76	20	WG597038
Benzo(k)fluoranthene	mg/kg	0.0302	0.0295	91.0	55-122	2.42	25	WG597038
Chrysene	mg/kg	0.0302	0.0292	92.0	57-118	3.42	20	WG597038
Dibenz(a,h)anthracene	mg/kg	0.0291	0.0285	88.0	53-122	2.09	20	WG597038
Fluoranthene	mg/kg	0.0299	0.0306	90.0	58-118	2.31	20	WG597038
Fluorene	mg/kg	0.0272	0.0260	82.0	54-109	4.82	20	WG597038
Indeno(1,2,3-cd)pyrene	mg/kg	0.0292	0.0285	88.0	51-125	2.16	21	WG597038
Naphthalene	mg/kg	0.0247	0.0237	75.0	45-105	4.18	24	WG597038
Phenanthrene	mg/kg	0.0289	0.0291	87.0	53-114	0.726	20	WG597038
Pyrene	mg/kg	0.0296	0.0289	90.0	53-121	2.39	20	WG597038
2-Fluorobiphenyl				75.51	34-129			WG597038
Nitrobenzene-d5				77.83	14-141			WG597038
p-Terphenyl-d14				105.3	25-139			WG597038
Chromium, Hexavalent	mg/kg	139.	155.	93.0	50-150	10.9	20	WG596974
TPH (GC/FID) High Fraction	ppm	54.4	49.3	91.0	50-150	9.79	25	WG597332
o-Terphenyl				82.49	50-150			WG597332

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Benzene	mg/kg	0.178	0	.05	71.0	32-137	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0890	0	.05	35.6	10-150	L579054-01	WG596795
Toluene	mg/kg	0.130	0	.05	51.9	20-142	L579054-01	WG596795
Total Xylene	mg/kg	0.241	0	.15	32.1	16-141	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)					86.65	54-144		WG596795
Mercury	mg/kg	0.304	0.0870	.25	86.8	70-130	L579071-07	WG596931
TPH (GC/FID) Low Fraction	mg/kg	444.	56.0	5.5	141.*	55-109	L579217-01	WG596902
Arsenic	mg/kg	52.5	4.80	50	95.4	75-125	L578802-29	WG596715
Barium	mg/kg	202.	200.	50	4.00*	75-125	L578802-29	WG596715
Cadmium	mg/kg	48.0	0	50	96.0	75-125	L578802-29	WG596715
Chromium	mg/kg	56.2	11.0	50	90.4	75-125	L578802-29	WG596715
Copper	mg/kg	54.4	8.17	50	92.5	75-125	L578802-29	WG596715
Lead	mg/kg	57.3	9.30	50	96.0	75-125	L578802-29	WG596715
Nickel	mg/kg	54.9	11.4	50	87.0	75-125	L578802-29	WG596715

* 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

L579057

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

June 13, 2012

Analyte	Units	MS Res	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
			Ref Res						
Selenium	mg/kg	45.8	0		50	91.6	75-125	L578802-29	WG596715
Silver	mg/kg	45.3	0		50	90.6	75-125	L578802-29	WG596715
Zinc	mg/kg	75.2	29.6		50	91.2	75-125	L578802-29	WG596715
Chromium,Hexavalent	mg/kg	1.04	0		20	5.20*	50-150	L579061-01	WG596974

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.161	0.178	64.3	32-137	9.93	39	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0597	0.0890	23.9	10-150	39.4	44	L579054-01	WG596795
Toluene	mg/kg	0.102	0.130	40.7	20-142	24.3	42	L579054-01	WG596795
Total Xylene	mg/kg	0.160	0.241	21.3	16-141	40.4	46	L579054-01	WG596795
a,a,a-Trifluorotoluene (PID)				84.13	54-144				WG596795
Mercury	mg/kg	0.329	0.304	96.8	70-130	7.90	20	L579071-07	WG596931
TPH (GC/FID) Low Fraction	mg/kg	443.	444.	141.*	55-109	0.140	20	L579217-01	WG596902
Arsenic	mg/kg	52.7	52.5	95.8	75-125	0.380	20	L578802-29	WG596715
Barium	mg/kg	256.	202.	112.	75-125	23.6*	20	L578802-29	WG596715
Cadmium	mg/kg	48.8	48.0	97.6	75-125	1.65	20	L578802-29	WG596715
Chromium	mg/kg	57.2	56.2	92.4	75-125	1.76	20	L578802-29	WG596715
Copper	mg/kg	55.0	54.4	93.7	75-125	1.10	20	L578802-29	WG596715
Lead	mg/kg	59.0	57.3	99.4	75-125	2.92	20	L578802-29	WG596715
Nickel	mg/kg	55.7	54.9	88.6	75-125	1.45	20	L578802-29	WG596715
Selenium	mg/kg	47.2	45.8	94.4	75-125	3.01	20	L578802-29	WG596715
Silver	mg/kg	46.2	45.3	92.4	75-125	1.97	20	L578802-29	WG596715
Zinc	mg/kg	76.3	75.2	93.4	75-125	1.45	20	L578802-29	WG596715
Chromium,Hexavalent	mg/kg	1.84	1.04	9.20*	50-150	55.6*	20	L579061-01	WG596974

Batch number / Run number / Sample number cross reference

WG596795: R2202213: L579057-01
WG596769: R2202673: L579057-01
WG596902: R2203753: L579057-01
WG596931: R2204215: L579057-01
WG597071: R2204333: L579057-01
WG596975: R2204496: L579057-01
WG596957: R2205557: L579057-01
WG596715: R2206253: L579057-01
WG597038: R2206362: L579057-01
WG596974: R2207133: L579057-01
WG597332: R2207493: L579057-01

* * 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

L579057

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

June 13, 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 / Matt Kasten
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Tuesday June 12, 2012

Report Number: L579063

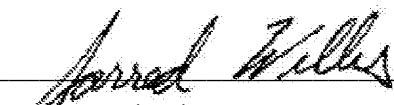
Samples Received: 06/07/12

Client Project: 499-12-67

Description: West Hawk 499-12-67

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.

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.

REPORT OF ANALYSIS

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

June 12, 2012

Date Received : June 07, 2012
Description : West Hawk 499-12-67
Sample ID : 499-12-67-W.PIT-E.WALL-060512
Collected By : Bob Stockton
Collection Date : 06/05/12 11:07

ESC Sample # : L579063-01

Site ID : 499-12-67

Project # : 499-12-67

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	06/08/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	06/08/12	5
Ethylbenzene	0.0030	0.0025	mg/kg	8021/8015	06/08/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	06/08/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	06/08/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	90.0		% Rec.	8021/8015	06/08/12	5
a,a,a-Trifluorotoluene(PID)	95.6		% Rec.	8021/8015	06/08/12	5
TPH (GC/FID) High Fraction	640	20.	mg/kg	3546/DRO	06/12/12	5
Surrogate recovery(%)						
o-Terphenyl	51.0		% Rec.	3546/DRO	06/12/12	5

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: 06/12/12 14:43 Printed: 06/12/12 14:43

Summary of Remarks For Samples Printed
06/12/12 at 14:43:33

TSR Signing Reports: 358
R2 - Rush: Next Day

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

Sample: L579063-01 Account: ENCANACO Received: 06/07/12 09:00 Due Date: 06/11/12 00:00 RPT Date: 06/12/12 14:43
Changed due date per JW. AV 6/8



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

L579063

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

June 12, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Ethylbenzene	< .0005	mg/kg			WG596795	06/07/12 23:22
Toluene	< .005	mg/kg			WG596795	06/07/12 23:22
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG596795	06/07/12 23:22
Total Xylene	< .0015	mg/kg			WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(FID)		% Rec.	90.96	59-128	WG596795	06/07/12 23:22
a,a,a-Trifluorotoluene(PID)		% Rec.	96.46	54-144	WG596795	06/07/12 23:22
TPH (GC/FID) High Fraction	< 4	ppm			WG596823	06/11/12 22:51
o-Terphenyl		% Rec.	71.79	50-150	WG596823	06/11/12 22:51

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0416	83.1	76-113	WG596795
Ethylbenzene	mg/kg	.05	0.0427	85.4	78-115	WG596795
Toluene	mg/kg	.05	0.0417	83.4	76-114	WG596795
Total Xylene	mg/kg	.15	0.126	83.7	81-118	WG596795
a,a,a-Trifluorotoluene(PID)				96.61	54-144	WG596795
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.66	121.	67-135	WG596795
a,a,a-Trifluorotoluene(FID)				96.98	59-128	WG596795
TPH (GC/FID) High Fraction	ppm	60	55.2	92.1	50-150	WG596823
o-Terphenyl				61.75	50-150	WG596823

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0407	0.0416	81.0	76-113	2.19	20	WG596795
Ethylbenzene	mg/kg	0.0415	0.0427	83.0	78-115	2.71	20	WG596795
Toluene	mg/kg	0.0406	0.0417	81.0	76-114	2.69	20	WG596795
Total Xylene	mg/kg	0.122	0.126	81.0	81-118	2.89	20	WG596795
a,a,a-Trifluorotoluene(PID)				95.90	54-144			WG596795
TPH (GC/FID) Low Fraction	mg/kg	6.64	6.66	121.	67-135	0.290	20	WG596795
a,a,a-Trifluorotoluene(FID)				96.84	59-128			WG596795
TPH (GC/FID) High Fraction	ppm	59.0	55.2	98.0	50-150	6.58	25	WG596823
o-Terphenyl				71.56	50-150			WG596823

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction	mg/kg	2.92	0	5.5	53.2*	55-109	L579091-03	WG596795
a,a,a-Trifluorotoluene(FID)					92.74	59-128		WG596795
Benzene	mg/kg	0.178	0	.05	71.0	32-137	L579054-01	WG596795
Ethylbenzene	mg/kg	0.0890	0	.05	35.6	10-150	L579054-01	WG596795
Toluene	mg/kg	0.130	0	.05	51.9	20-142	L579054-01	WG596795
Total Xylene	mg/kg	0.241	0	.15	32.1	16-141	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)					86.65	54-144		WG596795

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	3.61	2.92	65.7	55-109	21.2*	20	L579091-03	WG596795
a,a,a-Trifluorotoluene(FID)				93.63	59-128				WG596795
Benzene	mg/kg	0.161	0.178	64.3	32-137	9.93	39	L579054-01	WG596795

* 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

L579063

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

June 12, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Ethylbenzene	mg/kg	0.0597	0.0890	23.9	10-150	39.4	44	L579054-01	WG596795
Toluene	mg/kg	0.102	0.130	40.7	20-142	24.3	42	L579054-01	WG596795
Total Xylene	mg/kg	0.160	0.241	21.3	16-141	40.4	46	L579054-01	WG596795
a,a,a-Trifluorotoluene(PID)				84.13	54-144				WG596795

Batch number /Run number / Sample number cross reference

WG596795: R2202213: L579063-01
WG596823: R2205833: L579063-01

* * 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

L579063

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

June 12, 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 / Matt Kasten
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Friday July 20, 2012

Report Number: L584555

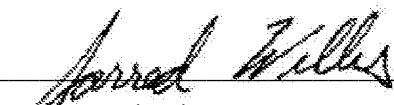
Samples Received: 07/12/12

Client Project:

Description: West Hawk

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.

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.

REPORT OF ANALYSIS

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

July 20, 2012

Date Received : July 12, 2012
Description : West Hawk
Sample ID : 499-12-67-COMBINED SPOILS-071012
Collected By : Bob Stockton
Collection Date : 07/10/12 16:31

ESC Sample # : L584555-01

Site ID : 12-67

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	07/13/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/13/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	07/13/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	07/13/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/13/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.0		% Rec.	8021/8015	07/13/12	5
a,a,a-Trifluorotoluene(PID)	102.		% Rec.	8021/8015	07/13/12	5
TPH (GC/FID) High Fraction	1800	80.	mg/kg	3546/DRO	07/19/12	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	07/19/12	20

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: 07/20/12 14:41 Printed: 07/20/12 14:41

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L584555-01	WG602446	SAMP	o-Terphenyl	R2263413	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

- 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
07/20/12 at 14:41:34

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. Log all PAHs as PAHSIM.

Sample: L584555-01 Account: ENCANACO Received: 07/12/12 09:00 Due Date: 07/19/12 00:00 RPT Date: 07/20/12 14:41



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

L584555

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

July 20, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG602322	07/12/12 16:41
Ethylbenzene	< .0005	mg/kg			WG602322	07/12/12 16:41
Toluene	< .005	mg/kg			WG602322	07/12/12 16:41
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG602322	07/12/12 16:41
Total Xylene	< .0015	mg/kg			WG602322	07/12/12 16:41
a,a,a-Trifluorotoluene(FID)		% Rec.	95.06	59-128	WG602322	07/12/12 16:41
a,a,a-Trifluorotoluene(PID)		% Rec.	101.6	54-144	WG602322	07/12/12 16:41
TPH (GC/FID) High Fraction	< 4	ppm			WG602446	07/18/12 09:55
o-Terphenyl		% Rec.	70.76	50-150	WG602446	07/18/12 09:55

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0501	100.	76-113	WG602322
Ethylbenzene	mg/kg	.05	0.0495	99.0	78-115	WG602322
Toluene	mg/kg	.05	0.0495	99.1	76-114	WG602322
Total Xylene	mg/kg	.15	0.155	103.	81-118	WG602322
a,a,a-Trifluorotoluene(PID)				101.7	54-144	WG602322
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.55	119.	67-135	WG602322
a,a,a-Trifluorotoluene(FID)				101.1	59-128	WG602322
TPH (GC/FID) High Fraction	ppm	60	46.3	77.1	50-150	WG602446
o-Terphenyl				73.26	50-150	WG602446

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0502	0.0501	100.	76-113	0.250	20	WG602322
Ethylbenzene	mg/kg	0.0492	0.0495	98.0	78-115	0.550	20	WG602322
Toluene	mg/kg	0.0491	0.0495	98.0	76-114	0.850	20	WG602322
Total Xylene	mg/kg	0.153	0.155	102.	81-118	1.28	20	WG602322
a,a,a-Trifluorotoluene(PID)				101.5	54-144			WG602322
TPH (GC/FID) Low Fraction	mg/kg	6.54	6.55	119.	67-135	0.0800	20	WG602322
a,a,a-Trifluorotoluene(FID)				101.4	59-128			WG602322
TPH (GC/FID) High Fraction	ppm	46.1	46.3	77.0	50-150	0.338	25	WG602446
o-Terphenyl				73.92	50-150			WG602446

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
Benzene	mg/kg	0.245	0	.05	97.9	32-137	L584393-01	WG602322
Ethylbenzene	mg/kg	0.244	0	.05	97.7	10-150	L584393-01	WG602322
Toluene	mg/kg	0.252	0	.05	101.	20-142	L584393-01	WG602322
Total Xylene	mg/kg	0.764	0	.15	102.	16-141	L584393-01	WG602322
a,a,a-Trifluorotoluene(PID)					101.6	54-144		WG602322
TPH (GC/FID) Low Fraction	mg/kg	29.4	0	5.5	107.	55-109	L584393-01	WG602322
a,a,a-Trifluorotoluene(FID)					101.0	59-128		WG602322
TPH (GC/FID) High Fraction	ppm	48.4	0	60	80.6	50-150	L584602-01	WG602446
o-Terphenyl					66.64	50-150		WG602446

* 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

L584555

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

July 20, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.244	0.245	97.7	32-137	0.180	39	L584393-01	WG602322
Ethylbenzene	mg/kg	0.241	0.244	96.4	10-150	1.28	44	L584393-01	WG602322
Toluene	mg/kg	0.241	0.252	96.6	20-142	4.14	42	L584393-01	WG602322
Total Xylene	mg/kg	0.750	0.764	100.	16-141	1.90	46	L584393-01	WG602322
a,a,a-Trifluorotoluene(PID)	mg/kg	28.4	29.4	101.2	54-144	3.62	20	L584393-01	WG602322
TPH (GC/FID) Low Fraction				103.	55-109				WG602322
a,a,a-Trifluorotoluene(FID)				100.6	59-128				WG602322
TPH (GC/FID) High Fraction	ppm	43.7	48.4	72.8	50-150	10.2	25	L584602-01	WG602446
o-Terphenyl				64.85	50-150				WG602446

Batch number /Run number / Sample number cross reference

WG602322: R2253053: L584555-01
WG602446: R2263413: L584555-01

* * 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

L584555

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

July 20, 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 / Matt Kasten
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Wednesday September 12, 2012

Report Number: L593562

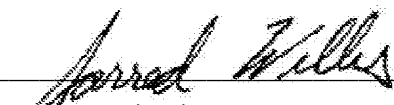
Samples Received: 09/06/12

Client Project: WEST HAWK

Description: 499-12-67-Spoil

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.

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.

REPORT OF ANALYSIS

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

September 12, 2012

Date Received : September 06, 2012
Description : 499-12-67-Spoil
Sample ID : 499-12-67-SPOIL N-090512
Collected By : Bob Stockton
Collection Date : 09/05/12 09:50

ESC Sample # : L593562-01

Site ID : 12-67

Project # : WEST HAWK

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/07/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/07/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/07/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	86.5		% Rec.	8021/8015	09/07/12	5
a,a,a-Trifluorotoluene(PID)	92.1		% Rec.	8021/8015	09/07/12	5
TPH (GC/FID) High Fraction	1000	40.	mg/kg	3546/DRO	09/12/12	10
Surrogate recovery(%)						
o-Terphenyl	68.9		% Rec.	3546/DRO	09/12/12	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: 09/12/12 11:22 Printed: 09/12/12 11:23



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

September 12, 2012

Date Received : September 06, 2012
Description : 499-12-67-Spoil
Sample ID : 499-12-67-SPOIL SE-090512
Collected By : Bob Stockton
Collection Date : 09/05/12 10:05

ESC Sample # : L593562-02

Site ID : 12-67

Project # : WEST HAWK

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/07/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/07/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/07/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	86.6		% Rec.	8021/8015	09/07/12	5
a,a,a-Trifluorotoluene(PID)	92.2		% Rec.	8021/8015	09/07/12	5
TPH (GC/FID) High Fraction	540	20.	mg/kg	3546/DRO	09/11/12	5
Surrogate recovery(%)						
o-Terphenyl	60.8		% Rec.	3546/DRO	09/11/12	5

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: 09/12/12 11:22 Printed: 09/12/12 11:23

REPORT OF ANALYSIS

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

September 12, 2012

Date Received : September 06, 2012
Description : 499-12-67-Spoil
Sample ID : 499-12-67-SPOIL MID-090512
Collected By : Bob Stockton
Collection Date : 09/05/12 10:17

ESC Sample # : L593562-03

Site ID : 12-67

Project # : WEST HAWK

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/07/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/07/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/07/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	87.2		% Rec.	8021/8015	09/07/12	5
a,a,a-Trifluorotoluene(PID)	92.9		% Rec.	8021/8015	09/07/12	5
TPH (GC/FID) High Fraction	790	20.	mg/kg	3546/DRO	09/11/12	5
Surrogate recovery(%)						
o-Terphenyl	63.6		% Rec.	3546/DRO	09/11/12	5

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: 09/12/12 11:22 Printed: 09/12/12 11:23

REPORT OF ANALYSIS

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

September 12, 2012

Date Received : September 06, 2012
Description : 499-12-67-Spoil
Sample ID : 499-12-67-SPOIL SW-090512
Collected By : Bob Stockton
Collection Date : 09/05/12 10:31

ESC Sample # : L593562-04

Site ID : 12-67

Project # : WEST HAWK

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/07/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/07/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/07/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	87.2		% Rec.	8021/8015	09/07/12	5
a,a,a-Trifluorotoluene(PID)	92.7		% Rec.	8021/8015	09/07/12	5
TPH (GC/FID) High Fraction	1100	40.	mg/kg	3546/DRO	09/12/12	10
Surrogate recovery(%)						
o-Terphenyl	77.9		% Rec.	3546/DRO	09/12/12	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: 09/12/12 11:22 Printed: 09/12/12 11:23



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

September 12, 2012

Date Received : September 06, 2012
Description : 499-12-67-Spoil
Sample ID : 499-12-67-SPOIL W-090512
Collected By : Bob Stockton
Collection Date : 09/05/12 10:42

ESC Sample # : L593562-05

Site ID : 12-67

Project # : WEST HAWK

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/07/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/07/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/07/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/07/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	87.0		% Rec.	8021/8015	09/07/12	5
a,a,a-Trifluorotoluene(PID)	92.3		% Rec.	8021/8015	09/07/12	5
TPH (GC/FID) High Fraction	1600	20.	mg/kg	3546/DRO	09/11/12	5
Surrogate recovery(%)						
o-Terphenyl	59.2		% Rec.	3546/DRO	09/11/12	5

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: 09/12/12 11:22 Printed: 09/12/12 11:23

Summary of Remarks For Samples Printed
09/12/12 at 11:23:16

TSR Signing Reports: 358
R2 - Rush: Next Day

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

Sample: L593562-01 Account: ENCANACO Received: 09/06/12 09:00 Due Date: 09/12/12 00:00 RPT Date: 09/12/12 11:22
Changed due date per JW. AV 9/10
Sample: L593562-02 Account: ENCANACO Received: 09/06/12 09:00 Due Date: 09/12/12 00:00 RPT Date: 09/12/12 11:22
Changed due date per JW. AV 9/10
Sample: L593562-03 Account: ENCANACO Received: 09/06/12 09:00 Due Date: 09/12/12 00:00 RPT Date: 09/12/12 11:22
Changed due date per JW. AV 9/10
Sample: L593562-04 Account: ENCANACO Received: 09/06/12 09:00 Due Date: 09/12/12 00:00 RPT Date: 09/12/12 11:22
Changed due date per JW. AV 9/10
Sample: L593562-05 Account: ENCANACO Received: 09/06/12 09:00 Due Date: 09/12/12 00:00 RPT Date: 09/12/12 11:22
Changed due date per JW. AV 9/10



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

L593562

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

September 12, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG611277	09/06/12 20:17
Ethylbenzene	< .0005	mg/kg			WG611277	09/06/12 20:17
Toluene	< .005	mg/kg			WG611277	09/06/12 20:17
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG611277	09/06/12 20:17
Total Xylene	< .0015	mg/kg			WG611277	09/06/12 20:17
a,a,a-Trifluorotoluene(FID)		% Rec.	87.50	59-128	WG611277	09/06/12 20:17
a,a,a-Trifluorotoluene(PID)		% Rec.	93.16	54-144	WG611277	09/06/12 20:17
TPH (GC/FID) High Fraction	< 4	ppm			WG611382	09/11/12 13:24
o-Terphenyl		% Rec.	53.70	50-150	WG611382	09/11/12 13:24
TPH (GC/FID) High Fraction	< 4	ppm			WG611383	09/12/12 09:09
o-Terphenyl		% Rec.	61.13	50-150	WG611383	09/12/12 09:09

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0414	82.7	76-113	WG611277
Ethylbenzene	mg/kg	.05	0.0455	91.0	78-115	WG611277
Toluene	mg/kg	.05	0.0436	87.1	76-114	WG611277
Total Xylene	mg/kg	.15	0.142	94.6	81-118	WG611277
a,a,a-Trifluorotoluene(PID)				95.25	54-144	WG611277
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.04	91.7	67-135	WG611277
a,a,a-Trifluorotoluene(FID)				90.38	59-128	WG611277
TPH (GC/FID) High Fraction	ppm	60	38.8	64.6	50-150	WG611382
o-Terphenyl				63.37	50-150	WG611382
TPH (GC/FID) High Fraction	ppm	60	33.5	55.8	50-150	WG611383
o-Terphenyl				56.45	50-150	WG611383

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0446	0.0414	89.0	76-113	7.46	20	WG611277
Ethylbenzene	mg/kg	0.0488	0.0455	98.0	78-115	6.93	20	WG611277
Toluene	mg/kg	0.0462	0.0436	92.0	76-114	5.85	20	WG611277
Total Xylene	mg/kg	0.152	0.142	101.	81-118	6.66	20	WG611277
a,a,a-Trifluorotoluene(PID)				94.69	54-144			WG611277
TPH (GC/FID) Low Fraction	mg/kg	5.10	5.04	93.0	67-135	1.08	20	WG611277
a,a,a-Trifluorotoluene(FID)				90.78	59-128			WG611277
TPH (GC/FID) High Fraction	ppm	39.8	38.8	66.0	50-150	2.51	25	WG611382
o-Terphenyl				66.01	50-150			WG611382

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Benzene	mg/kg	0.204	0	.05	81.5	32-137	L593560-01	WG611277
Ethylbenzene	mg/kg	0.212	0	.05	85.0	10-150	L593560-01	WG611277
Toluene	mg/kg	0.211	0	.05	84.3	20-142	L593560-01	WG611277
Total Xylene	mg/kg	0.668	0	.15	89.1	16-141	L593560-01	WG611277
a,a,a-Trifluorotoluene(PID)					95.45	54-144		WG611277
TPH (GC/FID) Low Fraction	mg/kg	20.0	0	5.5	72.9	55-109	L593560-01	WG611277

* 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

L593562

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

September 12, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
a,a,a-Trifluorotoluene(FID)					89.57	59-128				

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
Benzene	mg/kg	0.207	0.204	82.8	32-137	1.60	39	L593560-01	WG611277	
Ethylbenzene	mg/kg	0.211	0.212	84.5	10-150	0.590	44	L593560-01	WG611277	
Toluene	mg/kg	0.207	0.211	82.9	20-142	1.76	42	L593560-01	WG611277	
Total Xylene	mg/kg	0.665	0.668	88.7	16-141	0.410	46	L593560-01	WG611277	
a,a,a-Trifluorotoluene(PID)				93.65	54-144					WG611277
TPH (GC/FID) Low Fraction	mg/kg	20.1	20.0	73.0	55-109	0.140	20	L593560-01	WG611277	
a,a,a-Trifluorotoluene(FID)				89.38	59-128					WG611277

Batch number /Run number / Sample number cross reference

WG611277: R2332713: L593562-01 02 03 04 05

WG611382: R2339574: L593562-02 03 05

WG611383: R2341033: L593562-01 04

* * 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

L593562

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

September 12, 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.