

FORM
4
Rev 12/05

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax:(303)894-2109



DE	ET	OE	ES

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.)

1. OGCC Operator Number: 100185	4. Contact Name Charles Jensen	Complete the Attachment Checklist OP OGCC
2. Name of Operator: Encana Oil and Gas (USA)	Phone: 970-285-2735	
3. Address: 143 Diamond Ave City: Parachute State: CO Zip:81635	Fax: 970-285-2705	
5. API Number 05- 103-08010	OGCC Facility ID Number 316162	Survey Plat
6. Well/Facility Name: Cathedral Federal #33-1	7. Well/Facility Number 33-1	Directional Survey
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): NWSW, Sec 33, 02S, 101W, 6th PM		Surface Eqpmt Diagram
9. County: Rio Blanco	10. Field Name: Cathedral Federal Unit	Technical Info Page
11. Federal, Indian or State Lease Number: 44364		Other NOC

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:		FNL/FSL	FEL/FWL
Change of Surface Footage to Exterior Section Lines:			
Change of Bottomhole Footage from Exterior Section Lines:			
Change of Bottomhole Footage to Exterior Section Lines:			attach directional survey
Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer _____			
Latitude _____	Distance to nearest property line _____	Distance to nearest bldg, public rd, utility or RR _____	
Longitude _____	Distance to nearest lease line _____	Is location in a High Density Area (rule 603b)? Yes/No <input type="checkbox"/>	
Ground Elevation _____	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	Formation Code	Spacing order number	Signed surface use agreement attached
<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
<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: 07/25/12	
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"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested	<input checked="" type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input type="checkbox"/> Other: _____	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: 6-24-2013 Email: charles.jensen@Encana.com
Print Name: Charles Jensen Title: Environmental Field Coordinator

COGCC Approved: _____ Title: _____ Date: _____

CONDITIONS OF APPROVAL, IF ANY:



Page 2

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

- | | |
|--|----------------------------|
| 1. OGCC Operator Number: 100185 | API Number: 05-103-08010 |
| 2. Name of Operator: Encana Oil and Gas (USA) | OGCC Facility ID # 316162 |
| 3. Well/Facility Name: Cathedral Federal #33-1 | Well/Facility Number: 33-1 |
| 4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWSW, Sec 33, 02S, 101W, 6th PM | |

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

See Attached.

NARRATIVE ATTACHMENT

FORM 4 (SUNDRY NOTICE)

Culvert Pit Closure (CFU 33-1)

Document Date-06/24/2013

Introduction

Encana Oil & Gas (USA) Inc. (Encana) is submitting this Form 4 Sundry Notice to request final closure status for the culvert pit associated with the Cathedral Federal Unit #33-1 (COGCC facility #316162, COGCC remediation #7186). The site investigation was conducted by a third party contractor as authorized by Encana personnel and in accordance with the approved Form 27 previously submitted for this location. All samples were collected in accordance with Encana's Environmental Compliance Group's Sampling Procedures. The analytical results for the respective soil samples are provided in Table 1 and Attachment A of this submittal. The text below provides the details of the site investigation. For a visual description of the site please refer to Figures 1, 2, and 3 – Site Maps.

Assessment Activities

July 25, 2012 - The excavated soil surrounding the culvert pit was screened utilizing a photoionization detector (PID) prior to collecting soil samples for laboratory analysis. The culvert pit (steel ring, soil, cement bottom) was carefully removed using a trackhoe and placed onsite for later recycling or disposal. It should be noted that there was no liquid associated with the culvert pit during the time of removal. A grab sample was collected directly from the lowest point of the culvert pit after excavation was completed. In addition, four (4) grab samples were collected, one from each excavated sidewall. Approximately 120 cubic yards of excavated material was removed from the pit and laid out in one (1) foot tall (47' x 39') lift for evaluation of impacts. The excavated material was sampled by way of a nine (9) point composite sample. Following analytical sample review, the excavated material was pushed back into the excavated area. Four (4) background samples were collected from approximately six (6) inches beneath the grounds surface for analysis with regards to arsenic.

Analytical Review

Sample results indicate that soil within the culvert pit footprint on Encana's Cathedral Federal Unit #33-1 well pad, had organic constituents' concentrations of the excavated area and excavated material below or within COGCC Table 910-1. Analytical results indicated the excavated material exceeded COGCC Table 910-1 allowable concentrations for arsenic (1.2 ppm), EC (5.00 mmhos/cm), and SAR (12). Though the arsenic concentration in the soil is above the allowable concentration identified in Table 910-1, the concentration is within the range of arsenic background values (2.1 – 3.9 ppm) in this area. Based on these results and footnote 1 to COGCC Table 910-1, Encana requests that the COGCC consider the higher range of background arsenic value(s) as the allowable concentration for this constituent.

Though the elevated arsenic, SAR and EC levels of the returned spoil material is above the allowable levels identified in Table 910-1; it will be buried greater than three feet bgs of existing pad footprint material to assure that material with elevated levels of arsenic, SAR and EC will have no adverse effect on future re-vegetation efforts in the area. Please see Table 1 and Attachment A for analytical results.



NARRATIVE ATTACHMENT

FORM 4 (SUNDRY NOTICE)

Culvert Pit Closure (CFU 33-1)

Document Date-06/24/2013

Conclusion

Based on the site investigation and analytical results, the culvert pit associated with the Cathedral Federal Unit #33-1 is in compliance with the standards specified within COGCC Table 910-1. Encana respectfully requests that final closure be granted for the respective pit, COGCC remediation #7186.

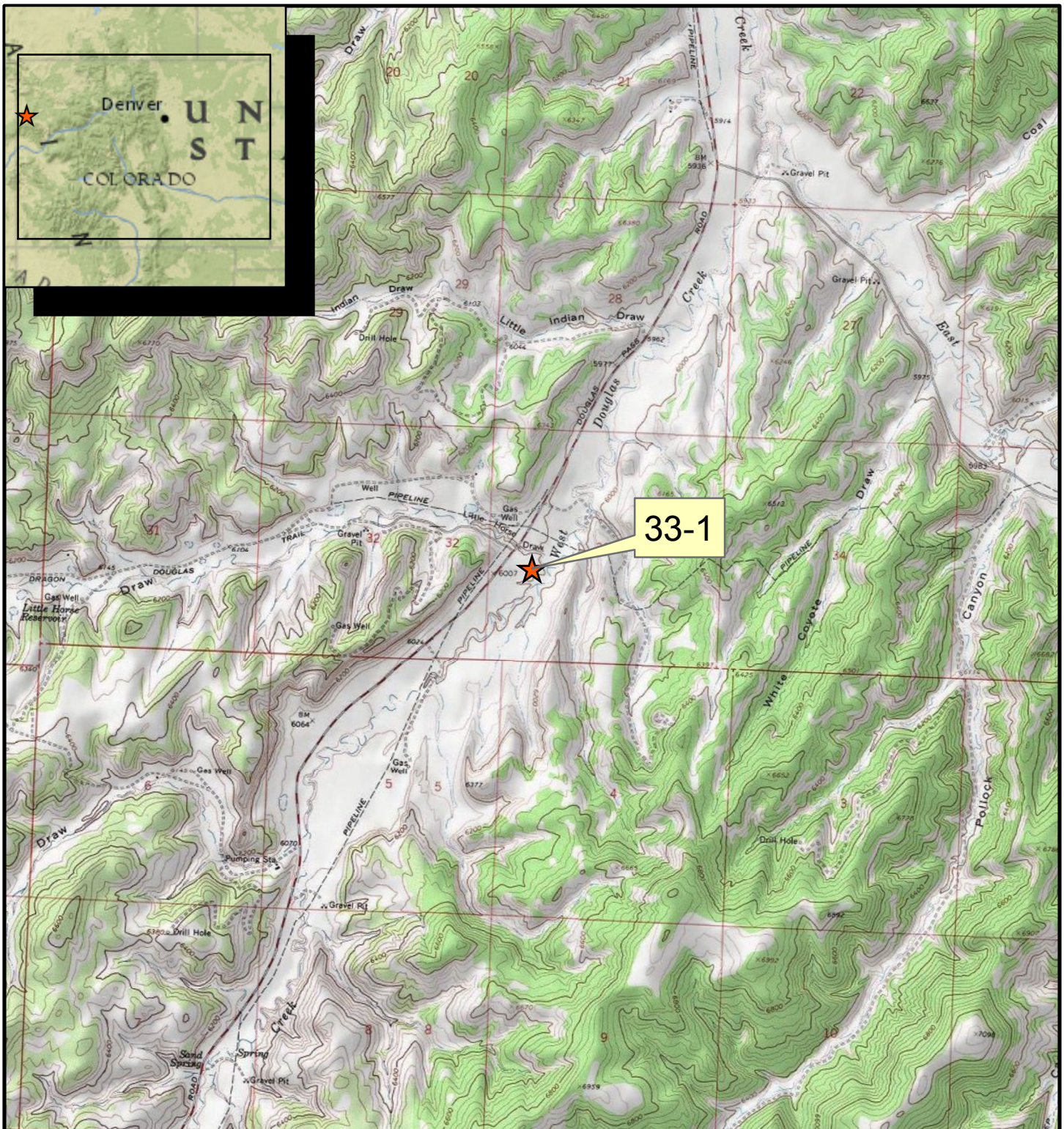
NOTIFICATION OF COMPLETION

This Sundry Notice is also being submitted as the Notification of Completion for Remediation #7186. If the information provided here is satisfactory, please provide documentation of the closure of this remediation project.

ATTACHMENTS

Topographic Location Map (Figure 1)
33-1 Aerial map with sample locations (Figure 2)
33-1 Site Diagram of Excavation and sample locations (Figure 3)
Laboratory Results Summary Table 1 – 33-1 Site Investigation (Table 1)
Attachment A- Laboratory Reports





Legend

★ 33-1 Site Location



0 0.25 0.5 1 1.5 Miles

Rule Engineering, LLC
Solutions to Regulations for Industry



33-1
Site Location Map

DATE: 9/05/2012 JG FILE: \\Encana\Figures\Rangely\33-1120905 Site Location Map.pdf

FIGURE: 1



Legend

★ Soil Sample Location

0 37.5 75 150 225 Feet



Rule Engineering, LLC
Solutions to Regulations for Industry



33-1
Sample Location Map

DATE: 9/05/2012 JG FILE: \\EnCana\Figures\Rangely\33-1\120905 Sample Location Map.pdf FIGURE: 2

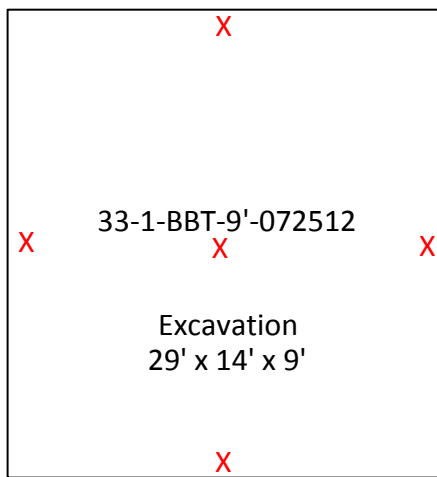
Meter House

Separator

Well



33-1-WSW-7'-072512



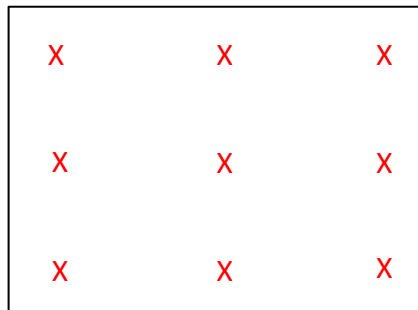
33-1-ESW-7'-072512

33-1-SSW-3'-072512

Direction of Flow



33-1-ETS-072512



Lift
47' x 39'

Legend
X-Sample



Well: Figure 3. 33-1 Site Diagram

Area: Cathedral Federal Unit

Legal: NWSW, Sec 33, 02S, 101W, 6th PM

Date: 09/13/12

Drawn By: Brad Ward

Revision Date:

Scale: None

Attachment A



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

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

Report Summary

Monday August 13, 2012

Report Number: L587706

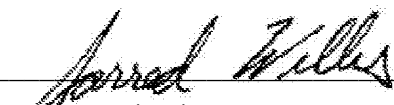
Samples Received: 08/01/12

Client Project: 33-1

Description: 33-1 Site Clearance

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.



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-BGIN-6 IN-072512
Collected By : Brad Ward
Collection Date : 07/25/12 09:15

ESC Sample # : L587706-01

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	3.9	1.0	mg/kg	6010B	08/02/12	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.

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Reported: 08/07/12 14:45 Revised: 08/13/12 17:24



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-BGZE-6 IN-072512
Collected By : Brad Ward
Collection Date : 07/25/12 09:30

ESC Sample # : L587706-02

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	2.7	1.0	mg/kg	6010B	08/02/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/07/12 14:45 Revised: 08/13/12 17:24



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-BG3S-6 IN-072512
Collected By : Brad Ward
Collection Date : 07/25/12 09:35

ESC Sample # : L587706-03

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	2.1	1.0	mg/kg	6010B	08/02/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-BG4W-6 IN-072512
Collected By : Brad Ward
Collection Date : 07/25/12 09:45

ESC Sample # : L587706-04

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	3.0	1.0	mg/kg	6010B	08/02/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/07/12 14:45 Revised: 08/13/12 17:24

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-NSW-3 FT-072512
Collected By : Brad Ward
Collection Date : 07/25/12 13:55

ESC Sample # : L587706-05

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/02/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/02/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/02/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	104.		% Rec.	8021/8015	08/02/12	5
a,a,a-Trifluorotoluene(PID)	108.		% Rec.	8021/8015	08/02/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	08/07/12	1
Surrogate recovery(%)						
o-Terphenyl	63.5		% Rec.	3546/DRO	08/07/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/07/12 14:45 Revised: 08/13/12 17:24

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-ESW-7 FT-072512
Collected By : Brad Ward
Collection Date : 07/25/12 12:42

ESC Sample # : L587706-06

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/02/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/02/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/02/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/02/12	5
a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021/8015	08/02/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	08/03/12	1
Surrogate recovery(%)						
o-Terphenyl	65.2		% Rec.	3546/DRO	08/03/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/07/12 14:45 Revised: 08/13/12 17:24

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-SSW-3 FT-072512
Collected By : Brad Ward
Collection Date : 07/25/12 13:12

ESC Sample # : L587706-07

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/02/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/02/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/02/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/02/12	5
a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021/8015	08/02/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	08/06/12	1
Surrogate recovery(%)						
o-Terphenyl	68.0		% Rec.	3546/DRO	08/06/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/08/12 17:09 Revised: 08/13/12 17:24

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-WSW-7 FT-072512
Collected By : Brad Ward
Collection Date : 07/25/12 13:04

ESC Sample # : L587706-08

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/02/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/02/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/02/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/02/12	5
a,a,a-Trifluorotoluene(PID)	108.		% Rec.	8021/8015	08/02/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	08/03/12	1
Surrogate recovery(%)						
o-Terphenyl	56.0		% Rec.	3546/DRO	08/03/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 08/08/12 17:09 Revised: 08/13/12 17:25

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance
Sample ID : 33-1-BBT-9 FT-072512
Collected By : Brad Ward
Collection Date : 07/25/12 14:16

ESC Sample # : L587706-09

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/02/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/02/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/02/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/02/12	5
a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021/8015	08/02/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	08/07/12	1
Surrogate recovery(%)						
o-Terphenyl	56.4		% Rec.	3546/DRO	08/07/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 08/08/12 17:09 Revised: 08/13/12 17:25

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance

Sample ID : 33-1-ETS-072512

Collected By : Brad Ward
Collection Date : 07/25/12 15:07

ESC Sample # : L587706-10

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	08/03/12	1
Chromium, Trivalent	12.	0.50	mg/kg	Calc.	08/06/12	1
ORP	220		mV	2580	08/08/12	1
pH	8.1		su	9045D	08/02/12	1
Sodium Adsorption Ratio	12.			Calc.	08/08/12	1
Specific Conductance	5000		umhos/cm	9050AMod	08/08/12	1
Mercury	0.024	0.020	mg/kg	7471	08/02/12	1
Arsenic	1.2	1.0	mg/kg	6010B	08/06/12	1
Barium	110	0.25	mg/kg	6010B	08/06/12	1
Cadmium	BDL	0.25	mg/kg	6010B	08/06/12	1
Chromium	12.	0.50	mg/kg	6010B	08/06/12	1
Copper	14.	1.0	mg/kg	6010B	08/06/12	1
Lead	11.	0.25	mg/kg	6010B	08/06/12	1
Nickel	12.	1.0	mg/kg	6010B	08/06/12	1
Selenium	BDL	1.0	mg/kg	6010B	08/06/12	1
Silver	BDL	0.50	mg/kg	6010B	08/06/12	1
Zinc	54.	1.5	mg/kg	6010B	08/06/12	1
Benzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/02/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/02/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/02/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/02/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	104.		% Rec.	8021/8015	08/02/12	5
a,a,a-Trifluorotoluene(PID)	108.		% Rec.	8021/8015	08/02/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	08/03/12	1
Surrogate recovery(%)						
o-Terphenyl	50.5		% Rec.	3546/DRO	08/03/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L587706-10 (PH) - 8.1@20.9c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Blake Ford
EnCana Oil & Gas - Rangely, CO
1125 Escalante Drive
Rangely, CO 81648-3600

August 13, 2012

Date Received : August 01, 2012
Description : 33-1 Site Clearance

Sample ID : 33-1-ETS-072512

Collected By : Brad Ward
Collection Date : 07/25/12 15:07

ESC Sample # : L587706-10

Site ID : 33-1

Project # : 33-1

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Naphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
1-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
2-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/03/12	1
Surrogate Recovery						
Nitrobenzene-d5	78.6		% Rec.	8270C-SIM	08/03/12	1
2-Fluorobiphenyl	84.6		% Rec.	8270C-SIM	08/03/12	1
p-Terphenyl-d14	83.1		% Rec.	8270C-SIM	08/03/12	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: 08/08/12 17:09 Revised: 08/13/12 17:25
L587706-10 (PH) - 8.1@20.9c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L587706-10	WG605671	SAMP	pH	R2285513	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
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
08/13/12 at 17:25:02

TSR Signing Reports: 358
R5 - Desired TAT

Sample: L587706-01 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/07/12 14:45
Sample: L587706-02 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/07/12 14:45
Sample: L587706-03 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/07/12 14:45
Sample: L587706-04 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/07/12 14:45
Sample: L587706-05 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/07/12 14:45
Sample: L587706-06 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/07/12 14:45
Sample: L587706-07 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/08/12 17:09
Sample: L587706-08 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/08/12 17:09
Sample: L587706-09 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/08/12 17:09
Sample: L587706-10 Account: ENCANRCO Received: 08/01/12 09:00 Due Date: 08/08/12 00:00 RPT Date: 08/08/12 17:09



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Blake Ford
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Quality Assurance Report
Level II

L587706

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Est. 1970

August 13, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG605620	08/01/12 20:51
Ethylbenzene	< .0005	mg/kg			WG605620	08/01/12 20:51
Toluene	< .005	mg/kg			WG605620	08/01/12 20:51
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG605620	08/01/12 20:51
Total Xylene	< .0015	mg/kg			WG605620	08/01/12 20:51
a,a,a-Trifluorotoluene(FID)		% Rec.	104.3	59-128	WG605620	08/01/12 20:51
a,a,a-Trifluorotoluene(PID)		% Rec.	108.1	54-144	WG605620	08/01/12 20:51
pH	6.59	su			WG605671	08/02/12 13:25
Mercury	< .02	mg/kg			WG605646	08/02/12 10:44
Arsenic	< 1	mg/kg			WG605796	08/02/12 20:09
Chromium,Hexavalent	< 2	mg/kg			WG605451	08/03/12 10:41
1-Methylnaphthalene	< .006	mg/kg			WG605770	08/03/12 11:12
2-Chloronaphthalene	< .006	mg/kg			WG605770	08/03/12 11:12
2-Methylnaphthalene	< .006	mg/kg			WG605770	08/03/12 11:12
Acenaphthene	< .006	mg/kg			WG605770	08/03/12 11:12
Acenaphthylene	< .006	mg/kg			WG605770	08/03/12 11:12
Anthracene	< .006	mg/kg			WG605770	08/03/12 11:12
Benzo(a)anthracene	< .006	mg/kg			WG605770	08/03/12 11:12
Benzo(a)pyrene	< .006	mg/kg			WG605770	08/03/12 11:12
Benzo(b)fluoranthene	< .006	mg/kg			WG605770	08/03/12 11:12
Benzo(g,h,i)perylene	< .006	mg/kg			WG605770	08/03/12 11:12
Benzo(k)fluoranthene	< .006	mg/kg			WG605770	08/03/12 11:12
Chrysene	< .006	mg/kg			WG605770	08/03/12 11:12
Dibenz(a,h)anthracene	< .006	mg/kg			WG605770	08/03/12 11:12
Fluoranthene	< .006	mg/kg			WG605770	08/03/12 11:12
Fluorene	< .006	mg/kg			WG605770	08/03/12 11:12
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG605770	08/03/12 11:12
Naphthalene	< .006	mg/kg			WG605770	08/03/12 11:12
Phenanthrene	< .006	mg/kg			WG605770	08/03/12 11:12
Pyrene	< .006	mg/kg			WG605770	08/03/12 11:12
2-Fluorobiphenyl		% Rec.	76.93	34-129	WG605770	08/03/12 11:12
Nitrobenzene-d5		% Rec.	69.62	14-141	WG605770	08/03/12 11:12
p-Terphenyl-d14		% Rec.	77.19	25-139	WG605770	08/03/12 11:12
TPH (GC/FID) High Fraction	< 4	ppm			WG605636	08/03/12 00:13
o-Terphenyl		% Rec.	55.17	50-150	WG605636	08/03/12 00:13
Arsenic	< 1	mg/kg			WG605994	08/06/12 21:55
Barium	< .25	mg/kg			WG605994	08/06/12 21:55
Cadmium	< .25	mg/kg			WG605994	08/06/12 21:55
Chromium	< .5	mg/kg			WG605994	08/06/12 21:55
Copper	< 1	mg/kg			WG605994	08/06/12 21:55
Lead	< .25	mg/kg			WG605994	08/06/12 21:55
Nickel	< 1	mg/kg			WG605994	08/06/12 21:55
Selenium	< 1	mg/kg			WG605994	08/06/12 21:55
Silver	< .5	mg/kg			WG605994	08/06/12 21:55
Zinc	< 1.5	mg/kg			WG605994	08/06/12 21:55

* Performance of this Analyte is outside of established criteria.

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



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August 13, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) High Fraction	< 4	ppm			WG606128	08/06/12 21:12
o-Terphenyl		% Rec.	55.90	50-150	WG606128	08/06/12 21:12
Specific Conductance	1.63	umhos/cm			WG606278	08/08/12 09:21

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
ORP	mV	210.	210.	0.475	20	L587564-01	WG606576
ORP	mV	110.	110.	3.70	20	L588405-10	WG606576
pH	su	9.40	9.30	1.18*	1	L587460-01	WG605671
pH	su	7.90	7.90	0.379	1	L587734-04	WG605671
Mercury	mg/kg	0.0750	0.0540	32.0*	20	L587541-10	WG605646
Arsenic	mg/kg	4.50	4.30	4.77	20	L587704-03	WG605796
Chromium,Hexavalent	mg/kg	0	0	0	20	L587342-06	WG605451
Chromium,Hexavalent	mg/kg	0	0	0	20	L587542-05	WG605451
Arsenic	mg/kg	0	0	0	20	L587993-08	WG605994
Barium	mg/kg	23.0	22.4	4.37	20	L587993-08	WG605994
Cadmium	mg/kg	0	0.00547	NA	20	L587993-08	WG605994
Chromium	mg/kg	10.0	11.1	8.45	20	L587993-08	WG605994
Copper	mg/kg	2.20	2.22	1.36	20	L587993-08	WG605994
Lead	mg/kg	7.30	7.32	0.273	20	L587993-08	WG605994
Nickel	mg/kg	4.00	4.12	4.21	20	L587993-08	WG605994
Selenium	mg/kg	0	0	0	20	L587993-08	WG605994
Silver	mg/kg	0	0.0104	NA	20	L587993-08	WG605994
Zinc	mg/kg	8.10	8.84	8.49	20	L587993-08	WG605994
Specific Conductance	umhos/cm	2000	2000	0	20	L587460-02	WG606278
Specific Conductance	umhos/cm	4600	4300	7.78	20	L588405-10	WG606278
ORP	mV	210.	210.	0.475	20	L587564-01	WG606576
ORP	mV	110.	110.	3.70	20	L588405-10	WG606576

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
ORP	mV	228	228.	100.	95.6-104.	WG606576
Benzene	mg/kg	.05	0.0507	101.	76-113	WG605620
Ethylbenzene	mg/kg	.05	0.0523	105.	78-115	WG605620
Toluene	mg/kg	.05	0.0513	103.	76-114	WG605620
Total Xylene	mg/kg	.15	0.158	105.	81-118	WG605620
a,a,a-Trifluorotoluene(PID)				108.5	54-144	WG605620
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.80	105.	67-135	WG605620
a,a,a-Trifluorotoluene(FID)				107.5	59-128	WG605620

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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
pH	su	5.7	5.75	101.	98-101	WG605671
Mercury	mg/kg	12.4	13.3	107.	71.6-128	WG605646
Arsenic	mg/kg	237	218.	92.0	83.1-117	WG605796
Chromium, Hexavalent	mg/kg	150	129.	86.0	50-150	WG605451
1-Methylnaphthalene	mg/kg	.033	0.0240	72.8	48-113	WG605770
2-Chloronaphthalene	mg/kg	.033	0.0254	77.0	51-114	WG605770
2-Methylnaphthalene	mg/kg	.033	0.0226	68.6	44-109	WG605770
Acenaphthene	mg/kg	.033	0.0255	77.4	52-108	WG605770
Acenaphthylene	mg/kg	.033	0.0265	80.3	51-110	WG605770
Anthracene	mg/kg	.033	0.0267	80.9	58-120	WG605770
Benzo(a)anthracene	mg/kg	.033	0.0292	88.5	54-110	WG605770
Benzo(a)pyrene	mg/kg	.033	0.0277	83.9	56-118	WG605770
Benzo(b)fluoranthene	mg/kg	.033	0.0303	91.7	55-114	WG605770
Benzo(g,h,i)perylene	mg/kg	.033	0.0312	94.5	48-130	WG605770
Benzo(k)fluoranthene	mg/kg	.033	0.0303	91.9	55-122	WG605770
Chrysene	mg/kg	.033	0.0272	82.5	57-118	WG605770
Dibenz(a,h)anthracene	mg/kg	.033	0.0313	94.8	53-122	WG605770
Fluoranthene	mg/kg	.033	0.0292	88.3	58-118	WG605770
Fluorene	mg/kg	.033	0.0257	77.8	54-109	WG605770
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0311	94.3	51-125	WG605770
Naphthalene	mg/kg	.033	0.0234	71.0	45-105	WG605770
Phenanthrene	mg/kg	.033	0.0239	72.3	53-114	WG605770
Pyrene	mg/kg	.033	0.0264	79.9	53-121	WG605770
2-Fluorobiphenyl				79.67	34-129	WG605770
Nitrobenzene-d5				76.30	14-141	WG605770
p-Terphenyl-d14				81.08	25-139	WG605770
TPH (GC/FID) High Fraction	ppm	60	39.1	65.2	50-150	WG605636
o-Terphenyl				60.73	50-150	WG605636
Arsenic	mg/kg	237	203.	85.7	83.1-117	WG605994
Barium	mg/kg	252	229.	90.9	84.1-116	WG605994
Cadmium	mg/kg	191	171.	89.5	83.2-117	WG605994
Chromium	mg/kg	128	116.	90.6	81.3-118	WG605994
Copper	mg/kg	123	113.	91.9	83.7-116	WG605994
Lead	mg/kg	103	89.2	86.6	83.1-117	WG605994
Nickel	mg/kg	118	107.	90.7	82-118	WG605994
Selenium	mg/kg	110	95.9	87.2	78.7-122	WG605994
Silver	mg/kg	47.3	42.2	89.2	66.2-134	WG605994
Zinc	mg/kg	183	163.	89.1	82-118	WG605994
TPH (GC/FID) High Fraction	ppm	60	45.1	75.1	50-150	WG606128
o-Terphenyl				54.89	50-150	WG606128
Specific Conductance	umhos/cm	495	499.	101.	85-115	WG606278

* Performance of this Analyte is outside of established criteria.
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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
ORP	mV	228	228.	100.	95.6-104.	WG606576

Analyte	Units	Laboratory Control Result	Sample Duplicate Ref	%Rec	Limit	RPD	Limit	Batch
ORP	mV	229.	228.	100.	95.6-104.	0.438	20	WG606576
Benzene	mg/kg	0.0516	0.0507	103.	76-113	1.64	20	WG605620
Ethylbenzene	mg/kg	0.0531	0.0523	106.	78-115	1.54	20	WG605620
Toluene	mg/kg	0.0521	0.0513	104.	76-114	1.54	20	WG605620
Total Xylene	mg/kg	0.161	0.158	107.	81-118	2.27	20	WG605620
a,a,a-Trifluorotoluene(PID)				108.5	54-144			WG605620
TPH (GC/FID) Low Fraction	mg/kg	5.94	5.80	108.	67-135	2.37	20	WG605620
a,a,a-Trifluorotoluene(FID)				107.2	59-128			WG605620
pH	su	5.76	5.75	101.	98-101	0.174	20	WG605671
Chromium,Hexavalent	mg/kg	137.	129.	91.0	50-150	6.02	20	WG605451
1-Methylnaphthalene	mg/kg	0.0271	0.0240	82.0	48-113	12.0	24	WG605770
2-Chloronaphthalene	mg/kg	0.0265	0.0254	80.0	51-114	4.10	24	WG605770
2-Methylnaphthalene	mg/kg	0.0262	0.0226	79.0	44-109	14.6	24	WG605770
Acenaphthene	mg/kg	0.0269	0.0255	82.0	52-108	5.25	22	WG605770
Acenaphthylene	mg/kg	0.0276	0.0265	84.0	51-110	4.06	21	WG605770
Anthracene	mg/kg	0.0290	0.0267	88.0	58-120	8.35	20	WG605770
Benzo(a)anthracene	mg/kg	0.0306	0.0292	93.0	54-110	4.64	22	WG605770
Benzo(a)pyrene	mg/kg	0.0298	0.0277	90.0	56-118	7.25	21	WG605770
Benzo(b)fluoranthene	mg/kg	0.0272	0.0303	82.0	55-114	10.8	20	WG605770
Benzo(g,h,i)perylene	mg/kg	0.0332	0.0312	100.	48-130	6.19	20	WG605770
Benzo(k)fluoranthene	mg/kg	0.0290	0.0303	88.0	55-122	4.49	25	WG605770
Chrysene	mg/kg	0.0301	0.0272	91.0	57-118	10.2	20	WG605770
Dibenz(a,h)anthracene	mg/kg	0.0321	0.0313	97.0	53-122	2.67	20	WG605770
Fluoranthene	mg/kg	0.0267	0.0292	81.0	58-118	8.67	20	WG605770
Fluorene	mg/kg	0.0282	0.0257	86.0	54-109	9.43	20	WG605770
Indeno(1,2,3-cd)pyrene	mg/kg	0.0316	0.0311	96.0	51-125	1.44	21	WG605770
Naphthalene	mg/kg	0.0259	0.0234	78.0	45-105	9.88	24	WG605770
Phenanthrene	mg/kg	0.0272	0.0239	82.0	53-114	13.0	20	WG605770
Pyrene	mg/kg	0.0288	0.0264	87.0	53-121	8.61	20	WG605770
2-Fluorobiphenyl				80.67	34-129			WG605770
Nitrobenzene-d5				77.79	14-141			WG605770
p-Terphenyl-d14				83.87	25-139			WG605770
TPH (GC/FID) High Fraction	ppm	42.2	39.1	70.0	50-150	7.50	20	WG605636
o-Terphenyl				65.93	50-150			WG605636
TPH (GC/FID) High Fraction	ppm	40.1	45.1	67.0	50-150	11.7	23	WG606128
o-Terphenyl				54.43	50-150			WG606128
Specific Conductance	umhos/	494.	499.	100.	85-115	1.01	20	WG606278
ORP	mV	229.	228.	100.	95.6-104.	0.438	20	WG606576

* 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 - Rangely, CO
Blake Ford
1125 Escalante Drive

Rangely, CO 81648-3600

Quality Assurance Report
Level II

L587706

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

August 13, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Benzene	mg/kg	0.0494	0	.05	98.8	32-137	L587720-01	WG605620
Ethylbenzene	mg/kg	0.0508	0	.05	102.	10-150	L587720-01	WG605620
Toluene	mg/kg	0.0502	0	.05	100.	20-142	L587720-01	WG605620
Total Xylene	mg/kg	0.153	0	.15	102.	16-141	L587720-01	WG605620
a,a,a-Trifluorotoluene(PID)					107.1	54-144		WG605620
TPH (GC/FID) Low Fraction	mg/kg	5.33	0	5.5	96.9	55-109	L587720-01	WG605620
a,a,a-Trifluorotoluene(FID)					106.2	59-128		WG605620
Mercury	mg/kg	0.340	0.0540	.25	114.	80-120	L587541-10	WG605646
Arsenic	mg/kg	32.3	4.30	50	56.0*	75-125	L587704-03	WG605796
Chromium,Hexavalent	mg/kg	11.0	0	20	55.0	50-150	L587460-03	WG605451
TPH (GC/FID) High Fraction	ppm	87.6	63.0	60	41.1*	50-150	L587704-06	WG605636
o-Terphenyl					64.69	50-150		WG605636
1-Methylnaphthalene	mg/kg	0.0554	0.0340	.033	64.9	25-155	L587971-06	WG605770
2-Chloronaphthalene	mg/kg	0.0204	0.00620	.033	42.9	31-153	L587971-06	WG605770
2-Methylnaphthalene	mg/kg	0.101	0.0780	.033	68.7	22-172	L587971-06	WG605770
Acenaphthene	mg/kg	0.0267	0.00680	.033	60.3	43-133	L587971-06	WG605770
Acenaphthylene	mg/kg	0.0246	0	.033	74.6	42-146	L587971-06	WG605770
Anthracene	mg/kg	0.0319	0.0120	.033	60.2	38-153	L587971-06	WG605770
Benzo(a)anthracene	mg/kg	0.0533	0.0350	.033	55.4	31-142	L587971-06	WG605770
Benzo(a)pyrene	mg/kg	0.0499	0.0320	.033	54.2	26-152	L587971-06	WG605770
Benzo(b)fluoranthene	mg/kg	0.135	0.0920	.033	129.	10-188	L587971-06	WG605770
Benzo(g,h,i)perylene	mg/kg	0.0131	0.00890	.033	12.6	10-176	L587971-06	WG605770
Benzo(k)fluoranthene	mg/kg	0.0437	0.0290	.033	44.7	22-163	L587971-06	WG605770
Chrysene	mg/kg	0.0595	0.0410	.033	56.0	26-146	L587971-06	WG605770
Dibenz(a,h)anthracene	mg/kg	0.00796	0	.033	24.1	10-160	L587971-06	WG605770
Fluoranthene	mg/kg	0.0877	0.0610	.033	80.8	23-160	L587971-06	WG605770
Fluorene	mg/kg	0.0434	0.0210	.033	67.9	44-143	L587971-06	WG605770
Indeno(1,2,3-cd)pyrene	mg/kg	0.0144	0.00970	.033	14.2	10-157	L587971-06	WG605770
Naphthalene	mg/kg	0.0548	0.0290	.033	78.3	22-156	L587971-06	WG605770
Phenanthrene	mg/kg	0.0696	0.0500	.033	59.5	23-164	L587971-06	WG605770
Pyrene	mg/kg	0.0677	0.0450	.033	68.9	12-170	L587971-06	WG605770
2-Fluorobiphenyl					70.14	34-129		WG605770
Nitrobenzene-d5					58.92	14-141		WG605770
p-Terphenyl-d14					79.09	25-139		WG605770
Arsenic	mg/kg	39.7	0	50	79.4	75-125	L587993-08	WG605994
Barium	mg/kg	69.4	22.4	50	94.0	75-125	L587993-08	WG605994
Cadmium	mg/kg	44.9	0.00547	50	89.8	75-125	L587993-08	WG605994
Chromium	mg/kg	56.4	11.1	50	90.6	75-125	L587993-08	WG605994
Copper	mg/kg	47.5	2.22	50	90.6	75-125	L587993-08	WG605994
Lead	mg/kg	51.8	7.32	50	89.0	75-125	L587993-08	WG605994
Nickel	mg/kg	48.6	4.12	50	89.0	75-125	L587993-08	WG605994
Selenium	mg/kg	38.5	0	50	77.0	75-125	L587993-08	WG605994
Silver	mg/kg	43.9	0.0104	50	87.8	75-125	L587993-08	WG605994
Zinc	mg/kg	55.2	8.84	50	92.7	75-125	L587993-08	WG605994
TPH (GC/FID) High Fraction	ppm	75.7	11.7	60	107.	50-150	L588164-06	WG606128

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Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report
Level II

L587706

August 13, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
o-Terphenyl					67.05	50-150				
Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
Benzene	mg/kg	0.0446	0.0494	89.2	32-137	10.2	39	L587720-01		WG605620
Ethylbenzene	mg/kg	0.0450	0.0508	90.0	10-150	12.0	44	L587720-01		WG605620
Toluene	mg/kg	0.0448	0.0502	89.6	20-142	11.3	42	L587720-01		WG605620
Total Xylene	mg/kg	0.136	0.153	90.6	16-141	12.1	46	L587720-01		WG605620
a,a,a-Trifluorotoluene(PID)				108.4	54-144					WG605620
TPH (GC/FID) Low Fraction	mg/kg	4.64	5.33	84.4	55-109	13.8	20	L587720-01		WG605620
a,a,a-Trifluorotoluene(FID)				105.7	59-128					WG605620
Mercury	mg/kg	0.321	0.340	107.	80-120	5.75	20	L587541-10		WG605646
Arsenic	mg/kg	34.0	32.3	59.4*	75-125	5.13	20	L587704-03		WG605796
Chromium,Hexavalent	mg/kg	10.4	11.0	52.0	50-150	5.61	20	L587460-03		WG605451
TPH (GC/FID) High Fraction	ppm	86.0	87.6	38.4*	50-150	1.85	20	L587704-06		WG605636
o-Terphenyl				69.60	50-150					WG605636
1-Methylnaphthalene	mg/kg	0.0963	0.0554	189.*	25-155	53.9*	27	L587971-06		WG605770
2-Chloronaphthalene	mg/kg	0.0258	0.0204	59.3	31-153	23.4*	22	L587971-06		WG605770
2-Methylnaphthalene	mg/kg	0.175	0.101	295.*	22-172	54.1*	29	L587971-06		WG605770
Acenaphthene	mg/kg	0.0342	0.0267	83.1	43-133	24.7	26	L587971-06		WG605770
Acenaphthylene	mg/kg	0.0279	0.0246	84.7	42-146	12.6	22	L587971-06		WG605770
Anthracene	mg/kg	0.0415	0.0319	89.4	38-153	26.3	27	L587971-06		WG605770
Benzo(a)anthracene	mg/kg	0.0640	0.0533	87.9	31-142	18.3	31	L587971-06		WG605770
Benzo(a)pyrene	mg/kg	0.0618	0.0499	90.2	26-152	21.3	32	L587971-06		WG605770
Benzo(b)fluoranthene	mg/kg	0.172	0.135	242.*	10-188	24.4	33	L587971-06		WG605770
Benzo(g,h,i)perylene	mg/kg	0.0139	0.0131	15.3	10-176	6.59	30	L587971-06		WG605770
Benzo(k)fluoranthene	mg/kg	0.0439	0.0437	45.2	22-163	0.398	29	L587971-06		WG605770
Chrysene	mg/kg	0.0650	0.0595	72.8	26-146	8.88	30	L587971-06		WG605770
Dibenz(a,h)anthracene	mg/kg	0.00926	0.00796	28.1	10-160	15.1	39	L587971-06		WG605770
Fluoranthene	mg/kg	0.0970	0.0877	109.	23-160	10.1	22	L587971-06		WG605770
Fluorene	mg/kg	0.0524	0.0434	95.2	44-143	18.8	23	L587971-06		WG605770
Indeno(1,2,3-cd)pyrene	mg/kg	0.0167	0.0144	21.1	10-157	14.7	40	L587971-06		WG605770
Naphthalene	mg/kg	0.0702	0.0548	125.	22-156	24.5	27	L587971-06		WG605770
Phenanthrene	mg/kg	0.0923	0.0696	128.	23-164	28.0*	25	L587971-06		WG605770
Pyrene	mg/kg	0.101	0.0677	168.	12-170	38.9*	24	L587971-06		WG605770
2-Fluorobiphenyl				80.69	34-129					WG605770
Nitrobenzene-d5				94.58	14-141					WG605770
p-Terphenyl-d14				122.7	25-139					WG605770
Arsenic	mg/kg	38.6	39.7	77.2	75-125	2.81	20	L587993-08		WG605994
Barium	mg/kg	70.4	69.4	96.0	75-125	1.43	20	L587993-08		WG605994
Cadmium	mg/kg	45.5	44.9	91.0	75-125	1.33	20	L587993-08		WG605994
Chromium	mg/kg	56.9	56.4	91.6	75-125	0.883	20	L587993-08		WG605994
Copper	mg/kg	47.8	47.5	91.2	75-125	0.630	20	L587993-08		WG605994
Lead	mg/kg	50.9	51.8	87.2	75-125	1.75	20	L587993-08		WG605994
Nickel	mg/kg	47.8	48.6	87.4	75-125	1.66	20	L587993-08		WG605994
Selenium	mg/kg	37.8	38.5	75.6	75-125	1.83	20	L587993-08		WG605994

* Performance of this Analyte is outside of established criteria.

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YOUR LAB OF CHOICE

EnCana Oil & Gas - Rangely, CO
Blake Ford
1125 Escalante Drive

Rangely, CO 81648-3600

Quality Assurance Report
Level II

L587706

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

August 13, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Silver	mg/kg	44.3	43.9	88.6	75-125	0.907	20	L587993-08	WG605994
Zinc	mg/kg	56.1	55.2	94.5	75-125	1.62	20	L587993-08	WG605994
TPH (GC/FID) High Fraction	ppm	82.7	75.7	118.	50-150	8.81	40	L588164-06	WG606128
o-Terphenyl				66.77	50-150				WG606128

Batch number /Run number / Sample number cross reference

WG605620: R2285238: L587706-05 06 07 08 09 10
WG605671: R2285513: L587706-10
WG605646: R2285673: L587706-10
WG605796: R2286537: L587706-01 02 03 04
WG605451: R2287173: L587706-10
WG605770: R2287493: L587706-10
WG605636: R2287593: L587706-06 08 10
WG605994: R2292953: L587706-10
WG606128: R2293435: L587706-05 07 09
WG605897: R2294553: L587706-10
WG606278: R2294633: L587706-10
WG606576: R2295493: L587706-10

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

* Performance of this Analyte is outside of established criteria.

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

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

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

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

Encana Oil & Gas
1125 Escalante Drive
Rangely, CO 81648-3600
ENCANRCO

Billing Information:

Blake Ford
1125 Escalante Drive
Rangely, CO 81648-3600
(970) 675-4414

Report to:

Blake Ford

Email to:

blake.ford@encana.com

Analysis/Container/Preservative

Chain of Custody
Page 1 of 1



12065 Lebanon Road
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

E033

CoCode ENCANRCO (lab use only)

Template/Prelogin

Shipped Via:

Project Description: 33-1 Site Clearance

City/State Collected: Rangely CO

Phone: (970) 675-4414
FAX:

Client Project #: 33-1

ESC Key: ENCANRCO

Collected by: Brad Ward

Site/Facility ID#: 33-1

P.O.#:

Collected by (signature):

[Signature]

Rush? (Lab MUST Be Notified)

Same Day.....200%
Next Day.....100%
Two Day.....50%
Three Day.....25%

Date Results Needed:

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.
of
Cntrs

Immediately Packed on Ice N ☒

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEXGRO / DRO - 8021/8015	SV8270PAHSIM - 8270SIM	SPCON - 9050AMod	SAR - Calc.	RCRA8 Metals + Cu, Ni, and Zn - 6010/7470	CR6SS - 3060A/7196, CR3 - Calc.	SAR, As	Remarks/Contaminant	Sample # (lab only)
33-1-BGIN-6"-072512	G	SS	6"	07/31/12	0915	1							X	As Only	587706-01
33-1-BGZE-6"-072512	G	SS	6"		0930	1							X		02
33-1-BG3S-6"-072512	G	SS	6"		0935	1							X		03
33-1-BG4W-6"-072512	G	SS	6"		0945	1							X		04
33-1-NSW-3'-072512	G	SS	3'		1355	2	X								05
33-1-ESW-7'-072512	G	SS	7'		1242	2	X								06

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Please CC:smann@ruleengineering.com; bward@ruelengineering.com

5040 0633
3898

pH Temp

Flow Other

Relinquished by: (Signature) <i>[Signature]</i>	Date: 07/31/12	Time: 0700	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: <i>JS</i> (lab use only)
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Temp: <i>3.1</i>	Bottles Received: <i>8-4oz</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: <i>8-1-12</i>	Time: <i>0910</i>
				pH Checked:	NCF:

CoC Seals Intact: *1* N NA

Encana Oil & Gas
1125 Escalante Drive
Rangely, CO 81648-3600
ENCANRCO

Billing Information:
Blake Ford
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Rangely, CO 81648-3600
(970) 675-4414

Report to: Blake Ford
Email to: blake.ford@encana.com

Analysis/Container/Preservative



12065 Lebanon Road
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Phone: (615) 758-5858
Fax: (615) 758-5859

F153

CoCode ENCANRCO (lab use only)

Template/Prelogin

Shipped Via:

Remarks/Contaminant Sample # (lab only)

Project Description: 33-1 Site Clearance City/State Collected: Rangely CO

Phone: (970) 675-4414 Client Project #: 33-1 ESC Key: ENCANRCO

Collected by: Brad Ward Site/Facility ID#: 33-1 P.O.#:

Collected by (signature): [Signature] Rush? (Lab MUST Be Notified)
Immediately Packed on Ice N [X] Same Day.....200%
Next Day.....100%
Two Day.....50%
Three Day.....25%
Date Results Needed:
Email? No [X] Yes
FAX? No Yes

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEXGRO / DRO - 8021/8015	SV8270PAHSIM - 8270SIM	SPCON - 9050AMod	SAR - Calc.	RCRA8 Metals + Cu, Ni, and Zn - 6010/7470	CR6SS - 3060A/7196, CR3 - Calc.	As	Remarks/Contaminant	Sample # (lab only)
33-1-SSW-3'-072512	G	SS	3'	7/25/12	1312	2	X								587701-21
33-1-WSW-7'-072512	G	SS	7'	7/25/12	1304	2	X								62
33-1-BRT-9'-072512	G	SS	9'	7/25/12	1416	2	X								33
33-1-ETS-072512	Comp	SS	3-9"	7/25/12	1507	3	X	X	X	X	X	X	X	As Only	41

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Please CC:smann@ruleengineering.com; bward@ruelengineering.com

5060 0633 pH 3854
Flow Other

Relinquished by: (Signature) [Signature]	Date: 07/31/12 Time: 0700	Received by: (Signature) [Signature]	Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: JF (lab use only)
Relinquished by: (Signature) [Signature]	Date: Time:	Received by: (Signature) [Signature]	Temp: 31' Bottles Received: 9-402	CoC Seals Intact: Y N NA
Relinquished by: (Signature) [Signature]	Date: Time:	Received for lab by: (Signature) [Signature]	Date: 8-1-12 Time: 0900	pH Checked: NCF: