

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- 103-09794	OGCC Facility ID Number 316106	Survey Plat
6. Well/Facility Name: Cathedral Federal #22-15	7. Well/Facility Number 22-15	Directional Survey
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): SWSE, Sec 22, 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: 44689		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	
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 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: 7/17/12	
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: 6-24-13 Email: charles.jensen@Encana.com
Print Name: Charles Jensen Title: Environmental Field Coordinator

COGCC Approved: Title: Date:

CONDITIONS OF APPROVAL, IF ANY:



TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

- | | |
|--|-----------------------------|
| 1. OGCC Operator Number: 100185 | API Number: 05-103-09794 |
| 2. Name of Operator: Encana Oil and Gas (USA) | OGCC Facility ID # 316106 |
| 3. Well/Facility Name: Cathedral Federal #22-15 | Well/Facility Number: 22-15 |
| 4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SWSE, Sec 22, 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 22-15)

Document Date-6/24/2013

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 #22-15 (COGCC facility #316106, COGCC remediation #7184). 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 17, 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 125 cubic yards of excavated material was removed from the pit and laid out in ten (10) inches tall (65' x 65') 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 #22-15 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 (5.8 ppm) and SAR (40). Though the arsenic concentration in the soil is above the allowable concentration identified in Table 910-1, the concentration is close to the range of arsenic background values (1.1 – 1.6 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. Please see Table 1 and Attachment A for analytical results.

Though the elevated arsenic and SAR level of the returned spoil material within the excavated footprint area is above the allowable level 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 SAR and arsenic will have no adverse



NARRATIVE ATTACHMENT

FORM 4 (SUNDRY NOTICE)

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Document Date-6/24/2013

effect on future re-vegetation efforts and receptors in the area. Please see Table 1 and Attachment A for analytical results.

Conclusion

Based on the site investigation and analytical results, the culvert pit associated with the Cathedral Federal Unit #22-15 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 #7184.

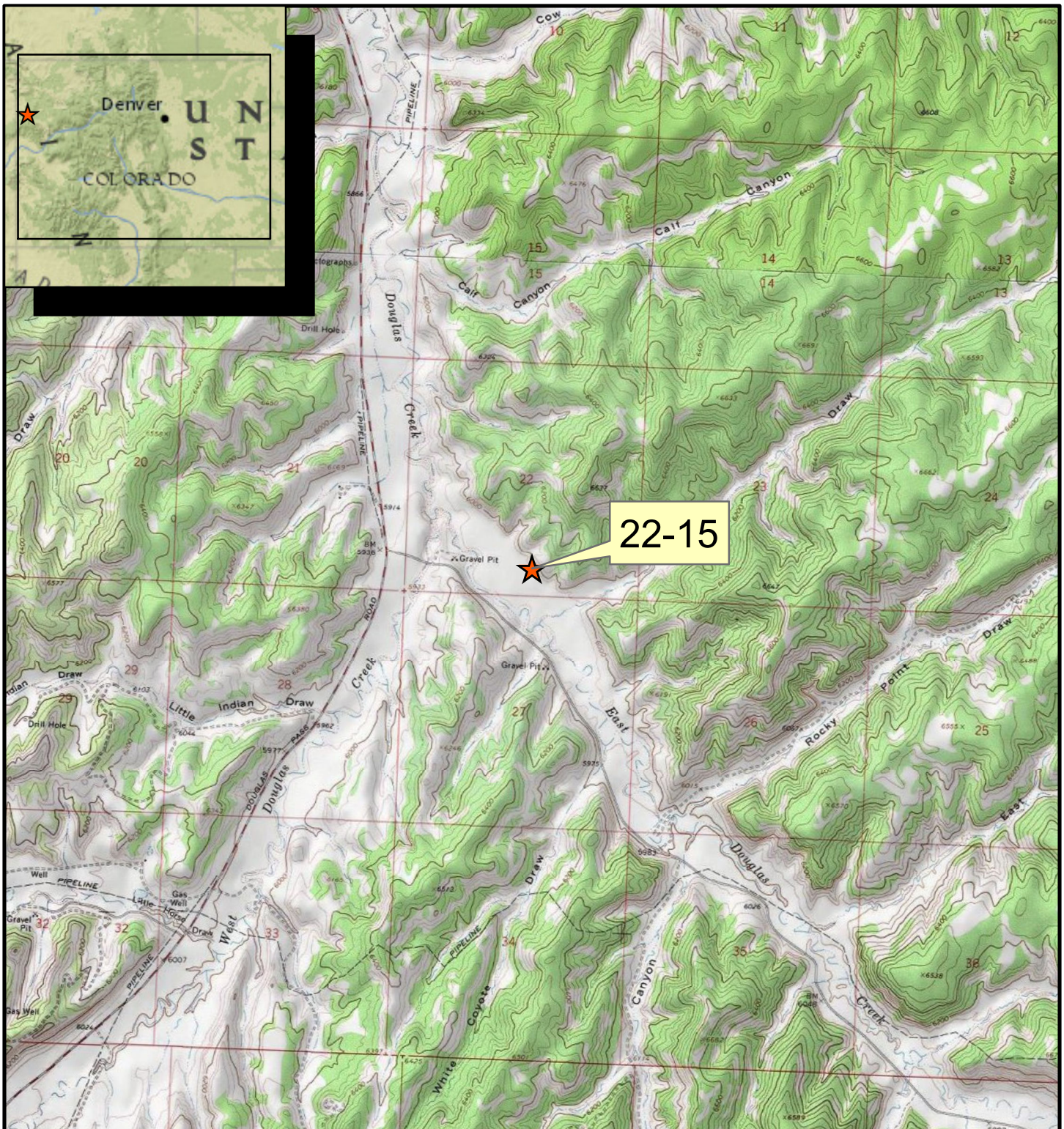
NOTIFICATION OF COMPLETION

This Sundry Notice is also being submitted as the Notification of Completion for Remediation #7184. If the information provided here is satisfactory, please provide documentation of the closure of this remediation project.

ATTACHMENTS

Topographic Location Map (Figure 1)
22-15 Aerial map with sample locations (Figure 2)
22-15 Site Diagram of Excavation and sample locations (Figure 3)
Laboratory Results Summary Table 1 – 22-15 Site Investigation (Table 1)
Attachment A- Laboratory Reports





Legend

★ 22-15 Site Location



0 0.25 0.5 1 1.5 Miles

Rule Engineering, LLC
Solutions to Regulations for Industry



22-15
Site Location Map

DATE: 8/29/2012 JG FILE: \\Encana\Figures\Rangely\22-15\120829 Figure 1.pdf

FIGURE: 1



Legend

★ Soil Sample Location

0 37.5 75 150 225 Feet



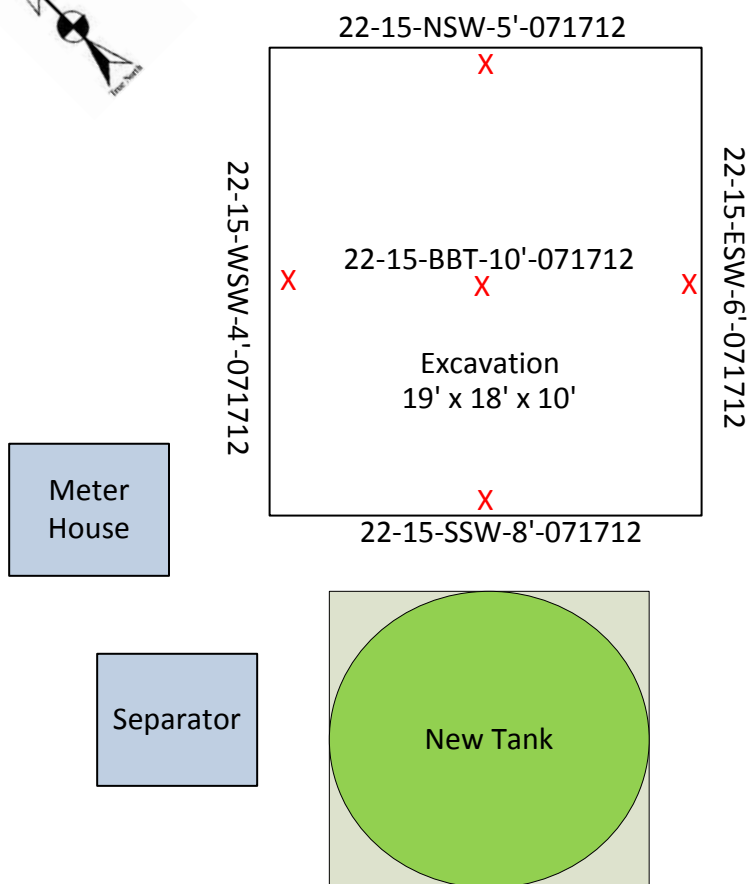
Rule Engineering, LLC
Solutions to Regulations for Industry



22-15
Sample Location Map

DATE: 8/29/2012 JG FILE: \\EnCana\Figures\Rangely\22-15\120829 Figure 2.pdf

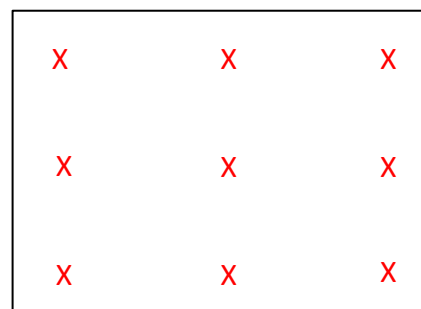
FIGURE: 2



Direction of
Flow



22-15-ETS-071712



Lift
65' x 65'

Legend
X-Sample



Well: Figure 3. 22-15 Site Diagram

Area: Cathedral Federal Unit

Legal: SWSE, Sec 22, 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
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Tax I.D. 62-0814289

Est. 1970

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

Report Summary

Friday August 03, 2012

Report Number: L585898


Samples Received: 07/19/12

Client Project: 22-15

Description: 22-15 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:


Jarred Willis , ESC Representative

Laboratory Certification Numbers

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

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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REPORT OF ANALYSIS

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-NSW-5FT-071712
Collected By : SRM
Collection Date : 07/17/12 09:45

ESC Sample # : L585898-01

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/21/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	07/21/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/21/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.7		% Rec.	8021/8015	07/21/12	5
a,a,a-Trifluorotoluene(PID)	98.8		% Rec.	8021/8015	07/21/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	07/21/12	1
Surrogate recovery(%)						
o-Terphenyl	73.0		% Rec.	3546/DRO	07/21/12	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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REPORT OF ANALYSIS

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-ESW-6FT-071712
Collected By : SRM
Collection Date : 07/17/12 10:00

ESC Sample # : L585898-02

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/21/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	07/21/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/21/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.8		% Rec.	8021/8015	07/21/12	5
a,a,a-Trifluorotoluene(PID)	99.0		% Rec.	8021/8015	07/21/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	07/21/12	1
Surrogate recovery(%)						
o-Terphenyl	51.1		% Rec.	3546/DRO	07/21/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-WSW-4FT-071712
Collected By : SRM
Collection Date : 07/17/12 10:30

ESC Sample # : L585898-03

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/21/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	07/21/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/21/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.6		% Rec.	8021/8015	07/21/12	5
a,a,a-Trifluorotoluene(PID)	98.8		% Rec.	8021/8015	07/21/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	07/21/12	1
Surrogate recovery(%)						
o-Terphenyl	50.3		% Rec.	3546/DRO	07/21/12	1

BDL - Below Detection Limit

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REPORT OF ANALYSIS

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-BBT-10FT-071712
Collected By : SRM
Collection Date : 07/17/12 10:45

ESC Sample # : L585898-04

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/21/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	07/21/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/21/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.8		% Rec.	8021/8015	07/21/12	5
a,a,a-Trifluorotoluene(PID)	99.1		% Rec.	8021/8015	07/21/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	07/23/12	1
Surrogate recovery(%)						
o-Terphenyl	86.8		% Rec.	3546/DRO	07/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-SSW-8FT-071712
Collected By : SRM
Collection Date : 07/17/12 10:15

ESC Sample # : L585898-05

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/21/12	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	07/21/12	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	07/21/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/21/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.6		% Rec.	8021/8015	07/21/12	5
a,a,a-Trifluorotoluene(PID)	99.0		% Rec.	8021/8015	07/21/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	07/21/12	1
Surrogate recovery(%)						
o-Terphenyl	52.4		% Rec.	3546/DRO	07/21/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-ETS-071712 5-9IN
Collected By : SRM
Collection Date : 07/17/12 11:15

ESC Sample # : L585898-06
Site ID : 22-15
Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	07/23/12	1
Chromium, Trivalent	10.	0.50	mg/kg	Calc.	07/27/12	1
ORP	240		mV	2580	07/21/12	1
pH	7.7		su	9045D	07/20/12	1
Sodium Adsorption Ratio	40.			Calc.	07/25/12	1
Specific Conductance	3400		umhos/cm	9050AMod	07/23/12	1
Mercury	0.021	0.020	mg/kg	7471	07/21/12	1
Arsenic	5.8	1.0	mg/kg	6010B	07/27/12	1
Barium	110	0.25	mg/kg	6010B	07/27/12	1
Cadmium	BDL	0.25	mg/kg	6010B	07/27/12	1
Chromium	10.	0.50	mg/kg	6010B	07/27/12	1
Copper	17.	1.0	mg/kg	6010B	07/27/12	1
Lead	19.	0.25	mg/kg	6010B	07/27/12	1
Nickel	11.	1.0	mg/kg	6010B	07/27/12	1
Selenium	BDL	1.0	mg/kg	6010B	07/27/12	1
Silver	BDL	0.50	mg/kg	6010B	07/27/12	1
Zinc	63.	1.5	mg/kg	6010B	07/27/12	1
Benzene	0.0055	0.0025	mg/kg	8021/8015	07/21/12	5
Toluene	0.077	0.025	mg/kg	8021/8015	07/21/12	5
Ethylbenzene	0.010	0.0025	mg/kg	8021/8015	07/21/12	5
Total Xylene	0.10	0.0075	mg/kg	8021/8015	07/21/12	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/21/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.0		% Rec.	8021/8015	07/21/12	5
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021/8015	07/21/12	5
TPH (GC/FID) High Fraction	26.	4.0	mg/kg	3546/DRO	07/23/12	1
Surrogate recovery(%)						
o-Terphenyl	74.0		% Rec.	3546/DRO	07/23/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L585898-06 (PH) - 7.7@21.4c



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REPORT OF ANALYSIS

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-ETS-071712 5-9IN
Collected By : SRM
Collection Date : 07/17/12 11:15

ESC Sample # : L585898-06

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Naphthalene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
1-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
2-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	07/25/12	1
Surrogate Recovery						
Nitrobenzene-d5	54.9		% Rec.	8270C-SIM	07/25/12	1
2-Fluorobiphenyl	55.2		% Rec.	8270C-SIM	07/25/12	1
p-Terphenyl-d14	59.8		% Rec.	8270C-SIM	07/25/12	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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L585898-06 (PH) - 7.7@21.4c



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Est. 1970

REPORT OF ANALYSIS

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-BG1N-6IN-071712
Collected By : SRM
Collection Date : 07/17/12 09:10

ESC Sample # : L585898-07

Site ID : 22-15

Project # : 22-15

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

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-BG2E-6IN-071712
Collected By : SRM
Collection Date : 07/17/12 09:20

ESC Sample # : L585898-08

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	1.1	1.0	mg/kg	6010B	08/02/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-BG3S-6IN-071712
Collected By : SRM
Collection Date : 07/17/12 09:30

ESC Sample # : L585898-09

Site ID : 22-15

Project # : 22-15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	1.6	1.0	mg/kg	6010B	08/02/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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

August 03, 2012

Date Received : July 19, 2012
Description : 22-15 Site Clearance
Sample ID : 22-15-BG4W-6IN-071712
Collected By : SRM
Collection Date : 07/17/12 09:40

ESC Sample # : L585898-10

Site ID : 22-15

Project # : 22-15

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

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L585898-06	WG603576	SAMP	pH	R2265315	T8
	WG603681	SAMP	ORP	R2266754	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.



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
pH	7.11	su			WG603576	07/20/12 14:15
Benzene	< .0005	mg/kg			WG603597	07/20/12 14:48
Ethylbenzene	< .0005	mg/kg			WG603597	07/20/12 14:48
Toluene	< .005	mg/kg			WG603597	07/20/12 14:48
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG603597	07/20/12 14:48
Total Xylene	< .0015	mg/kg			WG603597	07/20/12 14:48
a,a,a-Trifluorotoluene(FID)		% Rec.	93.72	59-128	WG603597	07/20/12 14:48
a,a,a-Trifluorotoluene(PID)		% Rec.	99.09	54-144	WG603597	07/20/12 14:48
Mercury	< .02	mg/kg			WG603749	07/21/12 12:25
Chromium,Hexavalent	< 2	mg/kg			WG603725	07/23/12 12:02
TPH (GC/FID) High Fraction	< 4	ppm			WG603599	07/21/12 00:41
o-Terphenyl		% Rec.	60.50	50-150	WG603599	07/21/12 00:41
Specific Conductance	2.17	umhos/cm			WG603840	07/23/12 17:34
1-Methylnaphthalene	< .006	mg/kg			WG603815	07/24/12 10:12
2-Chloronaphthalene	< .006	mg/kg			WG603815	07/24/12 10:12
2-Methylnaphthalene	< .006	mg/kg			WG603815	07/24/12 10:12
Acenaphthene	< .006	mg/kg			WG603815	07/24/12 10:12
Acenaphthylene	< .006	mg/kg			WG603815	07/24/12 10:12
Anthracene	< .006	mg/kg			WG603815	07/24/12 10:12
Benzo(a)anthracene	< .006	mg/kg			WG603815	07/24/12 10:12
Benzo(a)pyrene	< .006	mg/kg			WG603815	07/24/12 10:12
Benzo(b)fluoranthene	< .006	mg/kg			WG603815	07/24/12 10:12
Benzo(g,h,i)perylene	< .006	mg/kg			WG603815	07/24/12 10:12
Benzo(k)fluoranthene	< .006	mg/kg			WG603815	07/24/12 10:12
Chrysene	< .006	mg/kg			WG603815	07/24/12 10:12
Dibenz(a,h)anthracene	< .006	mg/kg			WG603815	07/24/12 10:12
Fluoranthene	< .006	mg/kg			WG603815	07/24/12 10:12
Fluorene	< .006	mg/kg			WG603815	07/24/12 10:12
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG603815	07/24/12 10:12
Naphthalene	< .006	mg/kg			WG603815	07/24/12 10:12
Phenanthrene	< .006	mg/kg			WG603815	07/24/12 10:12
Pyrene	< .006	mg/kg			WG603815	07/24/12 10:12
2-Fluorobiphenyl		% Rec.	68.23	34-129	WG603815	07/24/12 10:12
Nitrobenzene-d5		% Rec.	60.82	14-141	WG603815	07/24/12 10:12
p-Terphenyl-d14		% Rec.	74.03	25-139	WG603815	07/24/12 10:12
Arsenic	< 1	mg/kg			WG603581	07/27/12 06:01
Barium	< .25	mg/kg			WG603581	07/27/12 06:01
Cadmium	< .25	mg/kg			WG603581	07/27/12 06:01
Chromium	< .5	mg/kg			WG603581	07/27/12 06:01
Copper	< 1	mg/kg			WG603581	07/27/12 06:01
Lead	< .25	mg/kg			WG603581	07/27/12 06:01
Nickel	< 1	mg/kg			WG603581	07/27/12 06:01
Selenium	< 1	mg/kg			WG603581	07/27/12 06:01
Silver	< .5	mg/kg			WG603581	07/27/12 06:01
Zinc	< 1.5	mg/kg			WG603581	07/27/12 06:01

* 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 03, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Arsenic	< 1	mg/kg			WG604796	08/02/12 19:03

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
pH	su	8.10	8.10	0.370	1	L585285-93	WG603576
pH	su	9.80	9.80	0.512	1	L585909-01	WG603576
Mercury	mg/kg	0	0	0	20	L585840-02	WG603749
ORP	mV	240.	220.	6.59	20	L585715-08	WG603681
ORP	mV	88.0	97.0	9.73	20	L585900-12	WG603681
Chromium, Hexavalent	mg/kg	0	0	0	20	L585715-17	WG603725
Chromium, Hexavalent	mg/kg	0	0	0	20	L586108-06	WG603725
Specific Conductance	umhos/cm	380.	330.	13.8	20	L585352-05	WG603840
Specific Conductance	umhos/cm	1400	1400	1.42	20	L586202-02	WG603840
Arsenic	mg/kg	1.40	0.490	95.7*	20	L585895-05	WG603581
Barium	mg/kg	4.70	4.90	3.53	20	L585895-05	WG603581
Cadmium	mg/kg	0	0	0	20	L585895-05	WG603581
Chromium	mg/kg	3.80	3.80	0.263	20	L585895-05	WG603581
Copper	mg/kg	0	0	0	20	L585895-05	WG603581
Nickel	mg/kg	3.50	3.50	0.286	20	L585895-05	WG603581
Selenium	mg/kg	0	0	0	20	L585895-05	WG603581
Zinc	mg/kg	8.70	9.02	3.27	20	L585895-05	WG603581
Silver	mg/kg	0	0	0	20	L585895-05	WG603581
Lead	mg/kg	0	0	0	20	L585895-05	WG603581
Arsenic	mg/kg	3.40	2.40	35.3*	20	L586720-01	WG604796

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
pH	su	5.7	5.76	101.*	98-101	WG603576
Benzene	mg/kg	.05	0.0501	100.	76-113	WG603597
Ethylbenzene	mg/kg	.05	0.0509	102.	78-115	WG603597
Toluene	mg/kg	.05	0.0495	99.0	76-114	WG603597
Total Xylene	mg/kg	.15	0.149	99.5	81-118	WG603597
a,a,a-Trifluorotoluene(PID)				98.86	54-144	WG603597
TPH (GC/FID) Low Fraction	mg/kg	5.5	7.24	132.	67-135	WG603597
a,a,a-Trifluorotoluene(FID)				96.82	59-128	WG603597
Mercury	mg/kg	12.4	14.2	115.	71.6-128	WG603749
ORP	mV	228	224.	98.2	95.6-104.	WG603681

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chromium, Hexavalent	mg/kg	150	126.	84.0	50-150	WG603725
TPH (GC/FID) High Fraction	ppm	60	46.2	77.0	50-150	WG603599
o-Terphenyl				59.27	50-150	WG603599
Specific Conductance	umhos/cm	495	511.	103.	85-115	WG603840
1-Methylnaphthalene	mg/kg	.033	0.0260	78.7	48-113	WG603815
2-Chloronaphthalene	mg/kg	.033	0.0256	77.5	51-114	WG603815
2-Methylnaphthalene	mg/kg	.033	0.0249	75.5	44-109	WG603815
Acenaphthene	mg/kg	.033	0.0262	79.3	52-108	WG603815
Acenaphthylene	mg/kg	.033	0.0260	78.6	51-110	WG603815
Anthracene	mg/kg	.033	0.0272	82.4	58-120	WG603815
Benzo(a)anthracene	mg/kg	.033	0.0278	84.4	54-110	WG603815
Benzo(a)pyrene	mg/kg	.033	0.0255	77.2	56-118	WG603815
Benzo(b)fluoranthene	mg/kg	.033	0.0259	78.4	55-114	WG603815
Benzo(g,h,i)perylene	mg/kg	.033	0.0240	72.7	48-130	WG603815
Benzo(k)fluoranthene	mg/kg	.033	0.0273	82.7	55-122	WG603815
Chrysene	mg/kg	.033	0.0268	81.3	57-118	WG603815
Dibenz(a,h)anthracene	mg/kg	.033	0.0245	74.4	53-122	WG603815
Fluoranthene	mg/kg	.033	0.0290	87.9	58-118	WG603815
Fluorene	mg/kg	.033	0.0264	80.0	54-109	WG603815
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0240	72.7	51-125	WG603815
Naphthalene	mg/kg	.033	0.0251	76.0	45-105	WG603815
Phenanthrene	mg/kg	.033	0.0261	79.2	53-114	WG603815
Pyrene	mg/kg	.033	0.0252	76.3	53-121	WG603815
2-Fluorobiphenyl				75.19	34-129	WG603815
Nitrobenzene-d5				71.53	14-141	WG603815
p-Terphenyl-d14				75.96	25-139	WG603815
Arsenic	mg/kg	237	239.	101.	83.1-117	WG603581
Barium	mg/kg	252	261.	104.	84.1-116	WG603581
Cadmium	mg/kg	191	187.	97.9	83.2-117	WG603581
Chromium	mg/kg	128	130.	102.	81.3-118	WG603581
Copper	mg/kg	123	128.	104.	83.7-116	WG603581
Lead	mg/kg	103	113.	110.	83.1-117	WG603581
Nickel	mg/kg	118	112.	94.9	82-118	WG603581
Selenium	mg/kg	110	110.	100.	78.7-122	WG603581
Silver	mg/kg	47.3	46.7	98.7	66.2-134	WG603581
Zinc	mg/kg	183	181.	98.9	82-118	WG603581
Arsenic	mg/kg	237	221.	93.2	83.1-117	WG604796

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
pH	su	5.74	5.76	101.	98-101	0.348	20	WG603576
Benzene	mg/kg	0.0506	0.0501	101.	76-113	0.950	20	WG603597
Ethylbenzene	mg/kg	0.0511	0.0509	102.	78-115	0.380	20	WG603597
Toluene	mg/kg	0.0499	0.0495	100.	76-114	0.770	20	WG603597
Total Xylene	mg/kg	0.149	0.149	100.	81-118	0.130	20	WG603597
a,a,a-Trifluorotoluene(PID)				99.22	54-144			WG603597

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) Low Fraction	mg/kg	7.32	7.24	133.	67-135	1.08	20	WG603597
a,a,a-Trifluorotoluene(FID)				96.85	59-128			WG603597
ORP	mV	223.	224.	98.0	95.6-104.	0.447	20	WG603681
Chromium,Hexavalent	mg/kg	129.	126.	86.0	50-150	2.35	20	WG603725
TPH (GC/FID) High Fraction	ppm	44.8	46.2	75.0	50-150	3.08	23	WG603599
o-Terphenyl				57.73	50-150			WG603599
Specific Conductance	umhos/	510.	511.	103.	85-115	0.196	20	WG603840
1-Methylnaphthalene	mg/kg	0.0257	0.0260	78.0	48-113	1.05	24	WG603815
2-Chloronaphthalene	mg/kg	0.0261	0.0256	79.0	51-114	2.01	24	WG603815
2-Methylnaphthalene	mg/kg	0.0249	0.0249	75.0	44-109	0.0326	24	WG603815
Acenaphthene	mg/kg	0.0259	0.0262	78.0	52-108	1.01	22	WG603815
Acenaphthylene	mg/kg	0.0256	0.0260	78.0	51-110	1.39	21	WG603815
Anthracene	mg/kg	0.0276	0.0272	84.0	58-120	1.56	20	WG603815
Benzo(a)anthracene	mg/kg	0.0284	0.0278	86.0	54-110	2.13	22	WG603815
Benzo(a)pyrene	mg/kg	0.0266	0.0255	80.0	56-118	4.20	21	WG603815
Benzo(b)fluoranthene	mg/kg	0.0267	0.0259	81.0	55-114	3.12	20	WG603815
Benzo(g,h,i)perylene	mg/kg	0.0244	0.0240	74.0	48-130	1.78	20	WG603815
Benzo(k)fluoranthene	mg/kg	0.0285	0.0273	86.0	55-122	4.43	25	WG603815
Chrysene	mg/kg	0.0279	0.0268	84.0	57-118	3.83	20	WG603815
Dibenz(a,h)anthracene	mg/kg	0.0247	0.0245	75.0	53-122	0.773	20	WG603815
Fluoranthene	mg/kg	0.0293	0.0290	89.0	58-118	1.02	20	WG603815
Fluorene	mg/kg	0.0268	0.0264	81.0	54-109	1.36	20	WG603815
Indeno(1,2,3-cd)pyrene	mg/kg	0.0247	0.0240	75.0	51-125	2.91	21	WG603815
Naphthalene	mg/kg	0.0249	0.0251	75.0	45-105	0.864	24	WG603815
Phenanthrene	mg/kg	0.0272	0.0261	82.0	53-114	3.98	20	WG603815
Pyrene	mg/kg	0.0254	0.0252	77.0	53-121	0.690	20	WG603815
2-Fluorobiphenyl				78.49	34-129			WG603815
Nitrobenzene-d5				71.94	14-141			WG603815
p-Terphenyl-d14				75.59	25-139			WG603815

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Benzene	mg/kg	0.235	0	.05	93.9	32-137	L585883-01	WG603597
Ethylbenzene	mg/kg	0.236	0	.05	94.3	10-150	L585883-01	WG603597
Toluene	mg/kg	0.234	0	.05	93.4	20-142	L585883-01	WG603597
Total Xylene	mg/kg	0.687	0	.15	91.6	16-141	L585883-01	WG603597
a,a,a-Trifluorotoluene(PID)					98.65	54-144		WG603597
TPH (GC/FID) Low Fraction	mg/kg	30.8	0	5.5	112.*	55-109	L585883-01	WG603597
a,a,a-Trifluorotoluene(FID)					95.24	59-128		WG603597
Mercury	mg/kg	0.272	0	.25	109.	80-120	L585840-02	WG603749
Chromium,Hexavalent	mg/kg	17.1	0	20	85.5	50-150	L585715-17	WG603725
TPH (GC/FID) High Fraction	ppm	48.4	1.73	60	77.8	50-150	L585118-13	WG603599

* Performance of this Analyte is outside of established criteria.

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Blake Ford
1125 Escalante Drive

Rangely, CO 81648-3600

Quality Assurance Report
Level II

L585898

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 03, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
o-Terphenyl					58.67	50-150		
1-Methylnaphthalene	mg/kg	0.0252	0	.033	76.5	25-155	L585849-08	WG603815
2-Chloronaphthalene	mg/kg	0.0255	0	.033	77.2	31-153	L585849-08	WG603815
2-Methylnaphthalene	mg/kg	0.0238	0	.033	72.0	22-172	L585849-08	WG603815
Acenaphthene	mg/kg	0.0262	0	.033	79.5	43-133	L585849-08	WG603815
Acenaphthylene	mg/kg	0.0261	0	.033	78.9	42-146	L585849-08	WG603815
Anthracene	mg/kg	0.0277	0	.033	84.0	38-153	L585849-08	WG603815
Benzo(a)anthracene	mg/kg	0.0296	0	.033	89.7	31-142	L585849-08	WG603815
Benzo(a)pyrene	mg/kg	0.0266	0	.033	80.7	26-152	L585849-08	WG603815
Benzo(b)fluoranthene	mg/kg	0.0270	0	.033	81.9	10-188	L585849-08	WG603815
Benzo(g,h,i)perylene	mg/kg	0.0235	0	.033	71.1	10-176	L585849-08	WG603815
Benzo(k)fluoranthene	mg/kg	0.0277	0	.033	83.8	22-163	L585849-08	WG603815
Chrysene	mg/kg	0.0275	0	.033	83.4	26-146	L585849-08	WG603815
Dibenz(a,h)anthracene	mg/kg	0.0244	0	.033	73.9	10-160	L585849-08	WG603815
Fluoranthene	mg/kg	0.0290	0	.033	88.0	23-160	L585849-08	WG603815
Fluorene	mg/kg	0.0273	0	.033	82.6	44-143	L585849-08	WG603815
Indeno(1,2,3-cd)pyrene	mg/kg	0.0241	0	.033	72.9	10-157	L585849-08	WG603815
Naphthalene	mg/kg	0.0242	0	.033	73.5	22-156	L585849-08	WG603815
Phenanthrene	mg/kg	0.0267	0	.033	81.0	23-164	L585849-08	WG603815
Pyrene	mg/kg	0.0263	0	.033	79.7	12-170	L585849-08	WG603815
2-Fluorobiphenyl					76.09	34-129		WG603815
Nitrobenzene-d5					71.19	14-141		WG603815
p-Terphenyl-d14					80.87	25-139		WG603815
Arsenic	mg/kg	52.0	0.490	50	103.	75-125	L585895-05	WG603581
Barium	mg/kg	57.5	4.90	50	105.	75-125	L585895-05	WG603581
Cadmium	mg/kg	51.7	0	50	103.	75-125	L585895-05	WG603581
Chromium	mg/kg	54.3	3.80	50	101.	75-125	L585895-05	WG603581
Copper	mg/kg	52.7	0	50	105.	75-125	L585895-05	WG603581
Nickel	mg/kg	50.3	3.50	50	93.6	75-125	L585895-05	WG603581
Selenium	mg/kg	48.6	0	50	97.2	75-125	L585895-05	WG603581
Zinc	mg/kg	60.1	9.02	50	102.	75-125	L585895-05	WG603581
Silver	mg/kg	49.5	0	50	99.0	75-125	L585895-05	WG603581
Lead	mg/kg	50.7	0	50	101.	75-125	L585895-05	WG603581
Arsenic	mg/kg	43.1	2.40	50	81.4	75-125	L586720-01	WG604796

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.221	0.235	88.5	32-137	5.97	39	L585883-01	WG603597
Ethylbenzene	mg/kg	0.216	0.236	86.3	10-150	8.92	44	L585883-01	WG603597
Toluene	mg/kg	0.216	0.234	86.2	20-142	8.04	42	L585883-01	WG603597
Total Xylene	mg/kg	0.628	0.687	83.8	16-141	8.99	46	L585883-01	WG603597
a,a,a-Trifluorotoluene(PID)				98.19	54-144				WG603597
TPH (GC/FID) Low Fraction	mg/kg	28.8	30.8	105.	55-109	6.74	20	L585883-01	WG603597
a,a,a-Trifluorotoluene(FID)				94.77	59-128				WG603597
Mercury	mg/kg	0.238	0.272	95.2	80-120	13.3	20	L585840-02	WG603749
Chromium,Hexavalent	mg/kg	16.3	17.1	81.5	50-150	4.79	20	L585715-17	WG603725
TPH (GC/FID) High Fraction	ppm	41.7	48.4	66.6	50-150	14.9	40	L585118-13	WG603599
o-Terphenyl				51.99	50-150				WG603599

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Blake Ford
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Rangely, CO 81648-3600

Quality Assurance Report
Level II

L585898

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Tax I.D. 62-0814289

Est. 1970

August 03, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
1-Methylnaphthalene	mg/kg	0.0248	0.0252	75.2	25-155	1.64	27	L585849-08	WG603815
2-Chloronaphthalene	mg/kg	0.0242	0.0255	73.4	31-153	5.12	22	L585849-08	WG603815
2-Methylnaphthalene	mg/kg	0.0235	0.0238	71.3	22-172	0.976	29	L585849-08	WG603815
Acenaphthene	mg/kg	0.0251	0.0262	76.2	43-133	4.25	26	L585849-08	WG603815
Acenaphthylene	mg/kg	0.0255	0.0261	77.2	42-146	2.21	22	L585849-08	WG603815
Anthracene	mg/kg	0.0262	0.0277	79.5	38-153	5.46	27	L585849-08	WG603815
Benzo(a)anthracene	mg/kg	0.0275	0.0296	83.2	31-142	7.46	31	L585849-08	WG603815
Benzo(a)pyrene	mg/kg	0.0259	0.0266	78.5	26-152	2.73	32	L585849-08	WG603815
Benzo(b)fluoranthene	mg/kg	0.0266	0.0270	80.5	10-188	1.68	33	L585849-08	WG603815
Benzo(g,h,i)perylene	mg/kg	0.0235	0.0235	71.1	10-176	0.0260	30	L585849-08	WG603815
Benzo(k)fluoranthene	mg/kg	0.0260	0.0277	78.9	22-163	6.00	29	L585849-08	WG603815
Chrysene	mg/kg	0.0268	0.0275	81.2	26-146	2.64	30	L585849-08	WG603815
Dibenz(a,h)anthracene	mg/kg	0.0240	0.0244	72.7	10-160	1.64	39	L585849-08	WG603815
Fluoranthene	mg/kg	0.0274	0.0290	83.1	23-160	5.65	22	L585849-08	WG603815
Fluorene	mg/kg	0.0258	0.0273	78.1	44-143	5.63	23	L585849-08	WG603815
Indeno(1,2,3-cd)pyrene	mg/kg	0.0238	0.0241	72.0	10-157	1.19	40	L585849-08	WG603815
Naphthalene	mg/kg	0.0237	0.0242	71.9	22-156	2.17	27	L585849-08	WG603815
Phenanthrene	mg/kg	0.0256	0.0267	77.6	23-164	4.30	25	L585849-08	WG603815
Pyrene	mg/kg	0.0251	0.0263	76.0	12-170	4.71	24	L585849-08	WG603815
2-Fluorobiphenyl				73.64	34-129				WG603815
Nitrobenzene-d5				71.00	14-141				WG603815
p-Terphenyl-d14				73.75	25-139				WG603815
Arsenic	mg/kg	52.0	52.0	103.	75-125	0	20	L585895-05	WG603581
Barium	mg/kg	55.0	57.5	100.	75-125	4.44	20	L585895-05	WG603581
Cadmium	mg/kg	51.5	51.7	103.	75-125	0.388	20	L585895-05	WG603581
Chromium	mg/kg	53.1	54.3	98.6	75-125	2.23	20	L585895-05	WG603581
Copper	mg/kg	52.0	52.7	104.	75-125	1.34	20	L585895-05	WG603581
Nickel	mg/kg	50.1	50.3	93.2	75-125	0.398	20	L585895-05	WG603581
Selenium	mg/kg	48.7	48.6	97.4	75-125	0.206	20	L585895-05	WG603581
Zinc	mg/kg	59.5	60.1	101.	75-125	1.00	20	L585895-05	WG603581
Silver	mg/kg	47.3	49.5	94.6	75-125	4.55	20	L585895-05	WG603581
Lead	mg/kg	48.5	50.7	97.0	75-125	4.44	20	L585895-05	WG603581
Arsenic	mg/kg	47.6	43.1	90.4	75-125	9.92	20	L586720-01	WG604796

Batch number /Run number / Sample number cross reference

WG603576: R2265315: L585898-06
WG603597: R2265873: L585898-01 02 03 04 05 06
WG603749: R2266233: L585898-06
WG603681: R2266754: L585898-06
WG603599: R2267454: L585898-01 02 03 04 05 06
WG603725: R2267673: L585898-06
WG603840: R2268793: L585898-06
WG603815: R2270593: L585898-06
WG603925: R2273096: L585898-06
WG603581: R2274993: L585898-06
WG604796: R2286593: L585898-07 08 09 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

BTEXGRO / DRO - 8021/8015

SV8270PAHSIM - 8270SIM

SPCON - 9050AMod

SAR - Calc.

RCRA8 Metals + Cu, Ni, and Zn - 6010/7470

CR6SS - 3060A/7196 ,CR3 - Calc.

AS

J212

Chain of Custody
 Page 1 of 2



12065 Lebanon Road
 Mt. Juliet, TN 37122

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07-0036

CoCode ENCANRCO (lab use only)

Template/Prelogin

Shipped Via:

Project Description: 22-15-Site Clearance

City/State Collected

Phone: (970) 675-4414
 FAX:

Client Project #: 22-15

ESC Key: ENCANRCO

Collected by: SRM

Site/Facility ID#: 22-15

P.O.#:

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day.....200%
 Next Day.....100%
 Two Day50%
 Three Day25%

Date Results Needed:

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No. of Cntrs

Immediately Packed on Ice N Y ☒

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)
22-15-BG1N-6"-071712	Grab	SS	6"	7/17/12	0910	1								PLEASE HOLD	
22-15-BG2E-6"-071712	Grab	SS	6"	7/17/12	0920	1									
22-15-BG3S-6"-071712	Grab	SS	6"	7/17/12	0930	1									
22-15-BG4W-6"-071712	Grab	SS	6"	7/17/12	0940	1									
22-15-NSW-5'-071712	Grab	SS	5'	7/17/12	0945	2	X								L585898-01
22-15-ESW-6'-071712	Grab	SS	6'	7/17/12	1000	2	X								-02
22-15-WSW-4'-071712	Grab	SS	4'	7/17/12	1030	2	X								-03
22-15-BBT-10'-071712	Grab	SS	10'	7/17/12	1045	2	X								-04
22-15-SSW-8'-071712	Grab	SS	8'	7/17/12	1015	2	X								-05

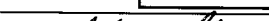






*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

pH _____ Temp _____

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

Flow _____ Other _____

Relinquished by: (Signature)	Date: 7/18/12	Time: 1400	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: JF (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1	Bottles Received: 17-44
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 07-17-12	Time: 0900
				pH Checked:	NCF:

Relinquished by: (Signature) 	Date: 7/18/12	Time: 1400	Received by: (Signature) 	Samples returned via: <input checked="" type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: JP (lab use only) 
Relinquished by: (Signature) 	Date:	Time:	Received by: (Signature) 	Temp: 3.1	Bottles Received: 17-402
Relinquished by: (Signature) 	Date:	Time:	Received for lab by: (Signature) 	Date: 7-19-12	Time: 0900
			CoC Seals Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA		
			pH Checked:		NCF:

Susan Peach

From: Andy Vann
Sent: Thursday, July 26, 2012 1:49 PM
To: Reporting
Subject: FW: Add the HOLD samples received from *ENCANRCO-RULEENG*

Please scan with coc. Thanks

From: Jarred Willis
Sent: Thursday, July 26, 2012 11:38 AM
To: Login
Subject: Add the HOLD samples received from *ENCANRCO-RULEENG*

We received 4 SS per login on the L#s listed below from *ENCANRCO-RULEENG* that were marked on the COC to be on HOLD. All of these samples should be marked with a "BG" in the sample ID. Please log all of these samples for ASICP, and add them to the original L#s that they were received with. Do NOT create completely new L#s for these. Change due date to 8/2.

L586506
L586499
L585898
L585883
L585527
L585111 - Add to L585652. Do NOT add to L585111.

Thanks,
Jarred Willis
Technical Service Representative (TSR)
E-mail: jwillis@esclabsciences.com
Phone: 800-767-5859 Ext. 9678
Direct: (615) 773-9678
www.esclabsciences.com

