



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	Charlie Jensen
2 Name of Operator	Encana Oil & Gas (USA), Inc.	Phone	970-285-2735
3 Address	143 Diamond Ave	Fax	970-285-2705
City	Parachute	State	CO
Zip	81635		
5 API Number	05-045-13406	OGCC Facility ID Number	#278795
6 Well/Facility Name	Encana Well Pad J13W	7 Well/Facility Number	N/A
8 Location (Qtr/Ctr, Sec, Twp, Rng, Meridian)	NESF, Section 13, 7S 93W, 6th		
9 County	Garfield	10 Field Name	MAMM CREEK 52500
11 Federal, Indian or State Lease Number			

Complete the Attachment Checklist

OP OGCC

Survey Plat	
Directional Survey	
Surface Eqmpt Diagram	
Technical Info Page	
Other NOC	<input checked="" type="checkbox"/>

General Notice

CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/ctr is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines:  FRI,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/Ctr, 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: \_\_\_\_\_ PDP Reading: \_\_\_\_\_ Instrument Operator's Name: \_\_\_\_\_

CHANGE SPACING UNIT: Formation: \_\_\_\_\_ Formation Code: \_\_\_\_\_ Spacing order number: \_\_\_\_\_ Unit Acreage: \_\_\_\_\_ Unit configuration: \_\_\_\_\_  Remove from surface bond (Signed surface use agreement attached)

CHANGE OF OPERATOR (prior to drilling): Effective Date: \_\_\_\_\_ Plugging Bond:  Blanket  Individual

CHANGE WELL NAME: From: \_\_\_\_\_ To: \_\_\_\_\_ Effective Date: \_\_\_\_\_ NUMBER: \_\_\_\_\_

ABANDONED LOCATION: Was location ever built?  Yes  No Is site ready for inspection?  Yes  No Date Ready for inspection: \_\_\_\_\_

NOTICE OF CONTINUED SHUT IN STATUS: Date well shut in or temporarily abandoned: \_\_\_\_\_ Has Production Equipment been removed from site?  Yes  No MIT required if shut in longer than two years Date of last MIT: \_\_\_\_\_

SPUD DATE: \_\_\_\_\_  REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK: \*submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

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

Notice of Intent Approximate Start Date: \_\_\_\_\_  Report of Work Done Date Work Completed: 11/27/2012

Details of work must be described in full on Technical Information Page (Page 2 must be submitted)

<input type="checkbox"/> Intent to Recomplete (submit form?)	<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 for Spills and Releases
<input type="checkbox"/> Casing/Cementing Program Change	<input type="checkbox"/> Other: _____	

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

Signed: Charlie Jensen Date: 12/20/12 Email: charles.jensen@encana.com  
 Print Name: Charlie Jensen Title: EHS Environmental Group/Hydrogeologist/Special Projects

OGCC Approved: ACE for Alex Fischer W. Env Super. Date: 1/10/2013  
 CONDITIONS OF APPROVAL, IF ANY:

**TECHNICAL INFORMATION PAGE**



FOR OGCC USE ONLY

1. OGCC Operator Number: _____	API Number: _____
2. Name of Operator: _____	OGCC Facility ID # _____
3. Well/Facility Name: _____	Well/Facility Number: _____
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): _____	

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

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

# NARRATIVE ATTACHMENT

## FORM 4 (SUNDRY NOTICE)

---

**J13W**

Document Date-12/19/12

---

Encana Oil & Gas (USA) Inc. (Encana) is submitting this Sundry Notice (Form 4) in conjunction with the final closure the historical spill of produced water (Spill/Release Tracking#2000705952, Facility #278795) on Encana J13W well pad (Figure 1).

Soil samples were collected on September 21, 2011 in response to Complaint #200310559 and follow-up sampling for the above referenced spill tracking number. Analytical results of the September 2011 sampling event along with a revised Form 27 was submitted to COGCC for sampling to be conducted in 2012. The COGCC approved /sampling activities were followed out on November 27, 2012.

Interseeding activities were conducted on October 10, 2011 prior to ground freezing conditions, to promote additional overall vegetation growth. Five (5) samples points were re-sampled on November 27, 2012 (Figure 2). Per the approved work plan, sample locations 7, 9 (Located on the reclaimed area), 11, 12 and 13 (Located on the pad disturbance area) were sampled at a depth of three (3) feet below ground surface (bgs). Six additional locations were also sampled on November 27, 2012. Sample locations 14-17 (Located on the pad disturbance area), and sample locations 18 and 19 (Located on the reclaimed area) were sampled at a depth of 1 foot bgs, and 3 feet bgs at each location respectively. Laboratory results are presented in the attached summary table (Table 1), and are also provided in the attached laboratory report (Attachment 1).

Analytical results indicate all sample locations are below or at COGCC allowable SAR levels on the reclaimed area, and the J13W disturbed area, location #17 reported SAR at 12. Though the SAR level at this location is at the allowable level identified in Table 910-1; it will be buried greater than three feet bgs of existing pad footprint (during final reclamation material) to assure that material with elevated levels of SAR will have no adverse effect on future re-vegetation efforts in the area.

Based on the site investigation and analytical results, J13W (Facility #: 278795) is in compliance with the standards specified within COGCC Table 910-1. Encana respectfully requests that final closure be granted for COGCC Spill/Release # 2000705952.

This Sundry Notice is also being submitted as the Notification of Completion for Spill/Release # 2000705952. If the information provided here is satisfactory, please provide documentation of the closure of this project.

Attachments:

Topographic Location Map

Site Diagram - location and sample collection points

---



# NARRATIVE ATTACHMENT

## FORM 4 (SUNDRY NOTICE)

---

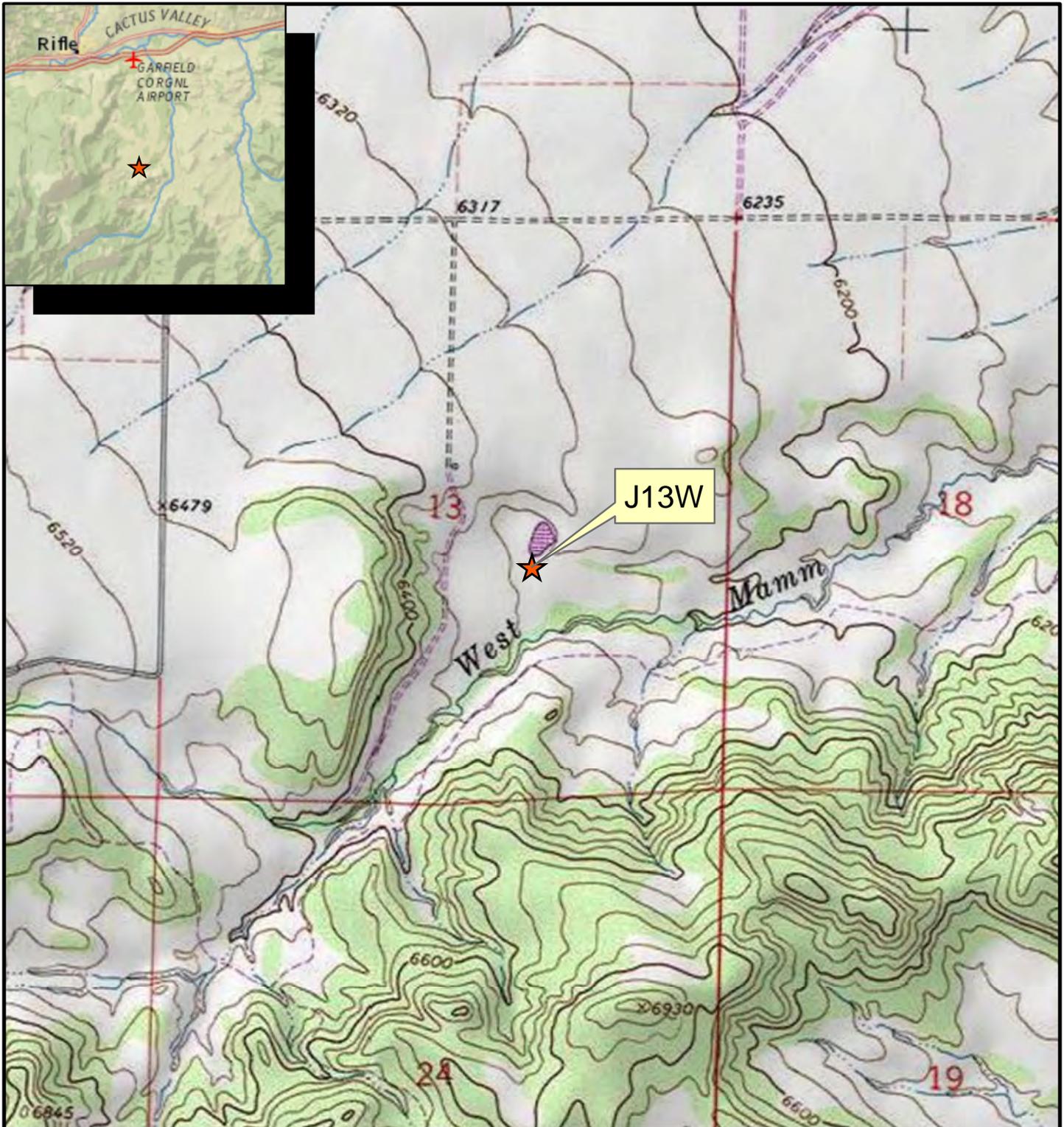
**J13W**

Document Date-12/19/12

---

Laboratory Results Summary Table 1  
Attachment 1-Laboratory Reports

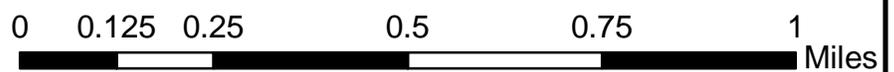




QtrQtr: NESE Sec: 13 Twp: 7S Rng: 93W

**Legend**

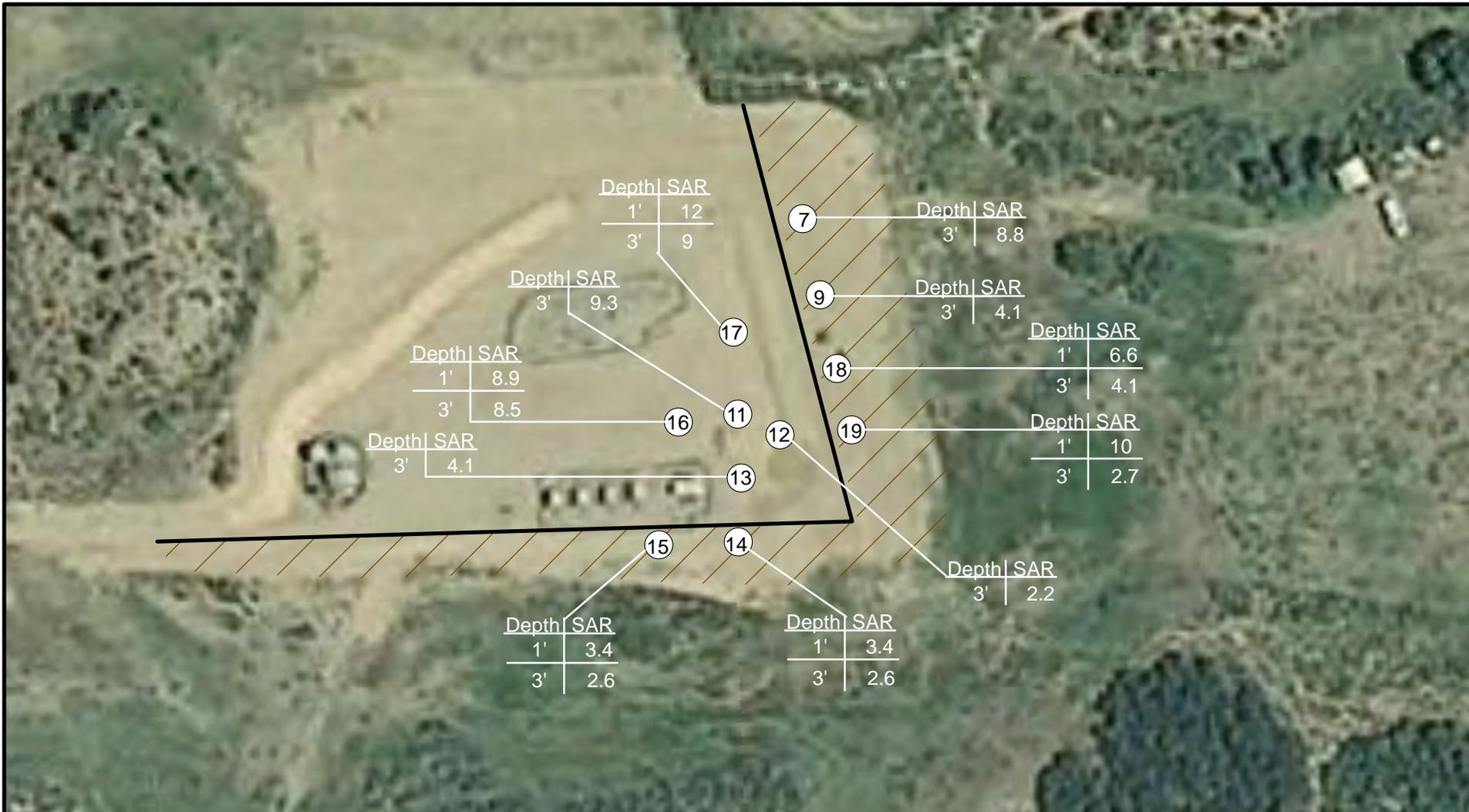
★ J13W Site Location



**Rule** Engineering, LLC  
Solutions to Regulations for Industry



**J13  
Location Map**



### Legend

- Soil Sample Location
- Fence
- ▨ Reclaimed Area



Table 1. Summary of J13W SAR Results

Lab ID	Sample ID	Collect Date	SAR Value	Node Sample Location	Depth (ft) bgs
L608253-01	J13W-SS7-3 FT-112712	11/27/2012	8.8	7	3
L608253-02	J13W-SS9-3 FT-112712	11/27/2012	4.1	9	3
L608253-03	J13W-SS11-3 FT-112712	11/27/2012	9.3	11	3
L608253-04	J13W-SS12-3 FT-112712	11/27/2012	2.2	12	3
L608253-05	J13W-SS13-3 FT-112712	11/27/2012	4.1	13	3
L608253-06	J13W-SS14-1 FT-112712	11/27/2012	11	14	1
L608253-07	J13W-SS14-3 FT-112712	11/27/2012	5.5	14	3
L608253-08	J13W-SS15-1 FT-112712	11/27/2012	3.4	15	1
L608253-09	J13W-SS15-3 FT-112712	11/27/2012	2.6	15	3
L608253-10	J13W-SS16-1 FT-112712	11/27/2012	8.9	16	1
L608253-11	J13W-SS16-3 FT-112712	11/27/2012	8.5	16	3
L608253-12	J13W-SS17-1 FT-112712	11/27/2012	<b>12</b>	17	1
L608253-13	J13W-SS17-3 FT-112712	11/27/2012	9	17	3
L608253-14	J13W-SS18-1 FT-112712	11/27/2012	6.6	18	1
L608253-15	J13W-SS18-3 FT-112712	11/27/2012	4.1	18	3
L608253-16	J13W-SS19-1 FT-112712	11/27/2012	10	19	1
L608253-17	J13W-SS19-3 FT-112712	11/27/2012	2.7	19	3

# Attachment 1



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

Tax I.D. 62-0814289

Est. 1970

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

## Report Summary

Tuesday December 04, 2012

Report Number: L608253

Samples Received: 11/29/12

Client Project: J13W

Description: J13W SAR Sampling

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:

T. Alan Harvill , 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, IA Lab #364

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

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

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



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS7-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 10:20

ESC Sample # : L608253-01  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	8.8			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:36



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS9-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 10:30

ESC Sample # : L608253-02  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	4.1			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:36



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS11-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 10:40

ESC Sample # : L608253-03  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	9.3			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:36



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS12-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 11:00

ESC Sample # : L608253-04  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.2			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS13-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 11:15

ESC Sample # : L608253-05

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	4.1			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS14-1 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 11:30

ESC Sample # : L608253-06

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	11.			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS14-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 11:45

ESC Sample # : L608253-07  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	5.5			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS15-1 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 12:00

ESC Sample # : L608253-08

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	3.4			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS15-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 12:20

ESC Sample # : L608253-09

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.6			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS16-1 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 12:30

ESC Sample # : L608253-10

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	8.9			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS16-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 12:40

ESC Sample # : L608253-11

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	8.5			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS17-1 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 12:50

ESC Sample # : L608253-12  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	12.			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS17-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 12:55

ESC Sample # : L608253-13

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	9.0			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS18-1 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 13:00

ESC Sample # : L608253-14  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	6.6			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS18-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 13:05

ESC Sample # : L608253-15

Site ID : J13W

Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	4.1			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS19-1 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 13:10

ESC Sample # : L608253-16  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	10.			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

December 04, 2012

Date Received : November 29, 2012  
 Description : J13W SAR Sampling  
 Sample ID : J13W-SS19-3 FT-112712  
 Collected By : SRM  
 Collection Date : 11/27/12 13:15

ESC Sample # : L608253-17  
 Site ID : J13W  
 Project # : J13W

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.7			Calc.	12/02/12	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.

Reported: 12/03/12 11:14 Revised: 12/04/12 09:37



**YOUR LAB OF CHOICE**

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

Parachute, CO 81635

Quality Assurance Report  
Level II

L608253

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

December 04, 2012

---

Batch number /Run number / Sample number cross reference

WG625510: R2462298: L608253-01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17

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



**YOUR LAB OF CHOICE**

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

Parachute, CO 81635

Quality Assurance Report  
Level II

L608253

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

December 04, 2012

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

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

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

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

**Encana Oil & Gas (USA)**  
 2717 CR 215, Ste. 100  
 Parachute, CO 81635  
 \*ENCANACO\*  
 ENCANACO-RULEENG

**Billing Information:**  
 Chris Hines  
 2717 County Road 215, Suite 100  
 Parachute, CO 81635  
 970-285-2653  
 (970) 244-8500 Office  
 (970) 623-0995 Cell

Report to: Chris Hines

Email to: christopher.hines@encana.com

**Analysis/Container/Preservative**

Chain of Custody  
 Page 1 of 2



12065 Lebanon Road  
 Mt. Juliet, TN 37122

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

Project Description: J13W SAR SAMPLING City/State Collected: CO

Phone: 970-623-0995 Client Project #: J13W ESC Key: ENCANACO-RULEENG

FAX: Collected by: SRM Site/Facility ID#: J13W 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

Immediately Packed on Ice N  Y

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	SAR	Remarks/Contaminant	Sample # (lab only)
J13W-SS7-3'-112712	Grab	SS	3'	11/27/12	1020	1	X		6607253-01
J13W-SS9-3'-112712	Grab	SS	3'	11/27/12	1030	1	X		02
J13W-SS11-3'-112712	Grab	SS	3'	11/27/12	1040	1	X		03
J13W-SS12-3'-112712	Grab	SS	3'	11/27/12	1100	1	X		04
J13W-SS13-3'-112712	Grab	SS	3'	11/27/12	1115	1	X		05
J13W-SS14-1'-112712	Grab	SS	1'	11/27/12	1130	1	X		06
J13W-SS14-3'-112712	Grab	SS	3'	11/27/12	1145	1	X		07
J13W-SS15-1'-112712	Grab	SS	1'	11/27/12	1200	1	X		08
J13W-SS15-3'-112712	Grab	SS	3'	11/27/12	1220	1	X		09

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

Remarks: 5435 5509 5132

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/28/12	Time: 1200	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) <i>[Signature]</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Temp: 31°C	Bottles Received: 17 402
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 11-29-12	Time: 900
				CoC Seals Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA	pH Checked: NCF:

Encana Oil & Gas (USA)  
 2717 CR 215, Ste. 100  
 Parachute, CO 81635  
 \*ENCANACO\*  
 ENCANACO-RULEENG

Billing Information:  
 Chris Hines  
 2717 County Road 215, Suite 100  
 Parachute, CO 81635  
 970-285-2653  
 (970) 244-8500 Office  
 (970) 623-0995 Cell

Report to: Chris Hines

Email to: christopher.hines@encana.com

Analysis/Container/Preservative

Chain of Custody  
 Page 21 of 22



12065 Lebanon Road  
 Mt. Juliet, TN 37122

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

Project Description: J13W SAR SAMPLING City/State Collected: CO

Phone: 970-623-0995 Client Project #: J13W ESC Key: ENCANACO-RULEENG

FAX: Collected by SRM Site/Facility ID#: J13W 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

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	SAR	Remarks/Contaminant	Sample # (lab only)
J13W-SS16-1'-112712	Grab	SS	1'	11/27/12	1230	1	X		1608 253-10
J13W-SS16-3'-112712	Grab	SS	3'	11/27/12	1240	1	X		11
J13W-SS17-1'-112712	Grab	SS	1'	11/27/12	1250	1	X		12
J13W-SS17-3'-112712	Grab	SS	3'	11/27/12	1255	1	X		13
J13W-SS18-1'-112712	Grab	SS	1'	11/27/12	1300	1	X		14
J13W-SS18-3'-112712	Grab	SS	3'	11/27/12	1305	1	X		15
J13W-SS19-1'-112712	Grab	SS	1'	11/27/12	1310	1	X		16
J13W-SS19-3'-112712	Grab	SS	3'	11/27/12	1315	1	X		17

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

pH \_\_\_\_\_ Temp \_\_\_\_\_

Remarks:

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/28/12	Time: 12:00	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only) <i>[Signature]</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Temp: 5.1°	Bottles Received: 17 42
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 11-29-12	Time: 9:00
				pH Checked:	NCF: