

State of Colorado
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Lined Earthen Pit Closure

OGCC Operator Number: 100185

Name of Operator: Encana Oil & Gas (USA) Inc.

Address: 2717 County Road 215, Suite 100

City: Parachute State: CO Zip: 81635

Contact Name and Telephone:

Christopher C. Hines

No: 970.285.2635

Fax: 970.285.2705

API Number: Multiple - see attached

County: Garfield

Facility Name: Well Pad E34 496

Facility Number: 414551

Well Name: Multiple - see attached

Well Number: Multiple - see attached

Location (QtrQtr, Sec, Twp, Rng, Meridian): SWNW, Section 34, T4S-R96W, 6th Principle Latitude: see attached Longitude: see attached

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced water was stored in lined pit

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute-Rhone Loams, 5 to 30% slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): see attached

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

8800 square feet

How Determined:

field observations, laboratory data

REMEDIAL WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

See attached.

Describe how source is to be removed:

See attached.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

See attached.



REMEDIAL WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

See attached.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

See attached.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☒ Y ☐ N If yes, describe:

See attached.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

See attached.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 07/29/2010	Date Site Investigation Completed: 09/13/2010	Date Remediation Plan Submitted: 09/28/2010
Remediation Start Date: 07/19/2010	Anticipated Completion Date: Fall 2010 or Spring 2011	Actual Completion Date: Fall 2010 or Spring 2011

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

Print Name: Charles H. Jensen Jr., C.P.G.

Signed: _____

Title: Contract Environmental Coordinator - Hydrogeologist

Date: 09/20/2010

OGCC Approved: _____

Title: for Chris Canfield

Date: 10/26/2010

EPS NW Region

E34 – FORM 27 – LIST OF ATTACHMENTS

1. Form 27 Narrative Document
2. Well Table
3. Topographic Location Map
4. Site Diagram
5. Lab Results Summary Table – Includes analytical results for this location and for arsenic backgrounds on adjacent well pads with similar elevation and soil types.
6. Lab Reports – E34 Well Pad
7. Lab Reports – Arsenic backgrounds from adjacent well pads exceeding results for impacted materials on the E34.



E34 – FORM 27 – PIT CLOSURE NARRATIVE

Date of Discovery 07/29/2010

Potential receptors (water wells within ¼ mi, surface waters, etc.):

According to GIS data provided to Encana Oil & Gas (USA) Inc. (Encana) by the Colorado State Engineers Office, there are no monitoring wells and no permitted water wells within ¼ mile of the well pad.

Two unnamed intermittent tributaries to the Dry Fork (to the east and west) of Stewart Gulch are found within ¼ mile of the E34 well pad.

Describe initial action taken (if previously provided, refer to that form or document):

The lined earthen pits on the E34 well pad were constructed prior to April 1, 2009 and were identified in the plat package submitted with the APD's for this location. This Form 27 complies with COGCC Rules 905 and 909 for conducting a site investigation in support of pit closures. The site investigation identified elevated levels, below the pit liner, of COGCC Table 910-1 constituents. In accordance with COGCC Rule 905.c, a Form 19 was also submitted to document this release. In accordance with COGCC Rule 909.c, this Form 27 also provides a site remediation workplan for remediating the impacted material identified below the pit liner. Composite samples were collected, in accordance with COGCC Rule 910, of the pit bottom and background. A summary of those results is provided as an attachment to this form.

Describe how source is to be removed:

Materials with exceedences of COGCC Table 910-1 were excavated from the pit using heavy equipment. Competent bedrock was encountered at a depth of approximately 20 feet, and no evidence of contaminant migration through the bedrock was visible. Despite the fact that analytical results indicate continued exceedences of Table 910-1 in the removed spoil, it is our position that complete removal of impacted material was achieved when all loose material above the bedrock was removed.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Encana used heavy equipment to remove the lining material and visually impacted soils beneath the liner. On July 29, 2010, a composite soil sample was collected and sent to a certified laboratory for characterization. Upon receipt of laboratory results showing elevated levels of TPH, SAR, and arsenic, further excavation of pit bottom soils commenced. Competent bedrock was encountered during the excavation of the remaining impacted soil. On August 17, 2010, composite soil samples were collected from just above the bedrock horizon and analyzed. TPH concentrations were reported higher than the COGCC standard. On September 13, 2010, with Encana Environmental Department supervision, the pits were scraped down to the competent bedrock, verified by a Professional Geologist. Visual observations and field screening of soils using the photoionization detector (PID) determined that any residual contaminants did not likely seep into the competent bedrock. Additional composite samples were collected and submitted to the laboratory. A summary of laboratory results and complete reports are provided as attachment to this form.



Encana Oil & Gas (USA) Inc.

COGCC – Form 27

Site Investigation and Remediation Workplan Narrative

Page 1 of 3

E34 – FORM 27 – PIT CLOSURE NARRATIVE

Date of Discovery 07/29/2010

Arsenic concentrations for the impacted materials are above the allowable concentration identified in COGCC Table 910-1, but are within the range of background values identified in the area. Therefore no additional remediation for arsenic is recommended. The attached Lab Results Summary Table includes analytical data for impacted materials on this location and for background arsenic concentrations from adjacent well pads with similar elevations and soil types.

Spoil generated during excavation of the pit will be blended with onsite cuttings and clean native fill. The resulting blend will be characterized for compliance with COGCC Table 910-1, and will be documented in the Notification of Completion to be filed within 30 days of successful completion of remediation activities.

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

There is no indication of impacts to groundwater.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Encana plans to permit the closure of these pits and repermit the pits as lined fresh water storage to be used during drilling operations. Interim and final reclamation of the pad will be conducted following the closure of the new fresh water pit.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing. Is further site investigation required? If yes, describe:

A site diagram showing the location of the pits and sample locations is provided as an attachment to this form. A summary of laboratory analyses and full laboratory reports from samples collected during the pit closure are provided as attachment.

Additional investigation will be necessary to verify successful remediation of the excavated pit bottom stockpile. Complete remediation and final laboratory analysis will be provided with the Notification of Completion to be filed within 30 days of demonstrated completion of remediation activities.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

As discussed previously, impacted spoil excavated from the pit during remediation efforts will be blended with onsite cuttings and clean native fill to achieve compliance with COGCC Table 910-1. The remediated blend will be used as backfill in the pit bottom, or placed in the cut slope. All impacted material will be buried below the agronomic zone at a minimum depth of 3 feet. Final disposition of impacted material and laboratory results demonstrating compliance with COGCC Table 910-1 will be provided with the



E34 – FORM 27 – PIT CLOSURE NARRATIVE

Date of Discovery 07/29/2010

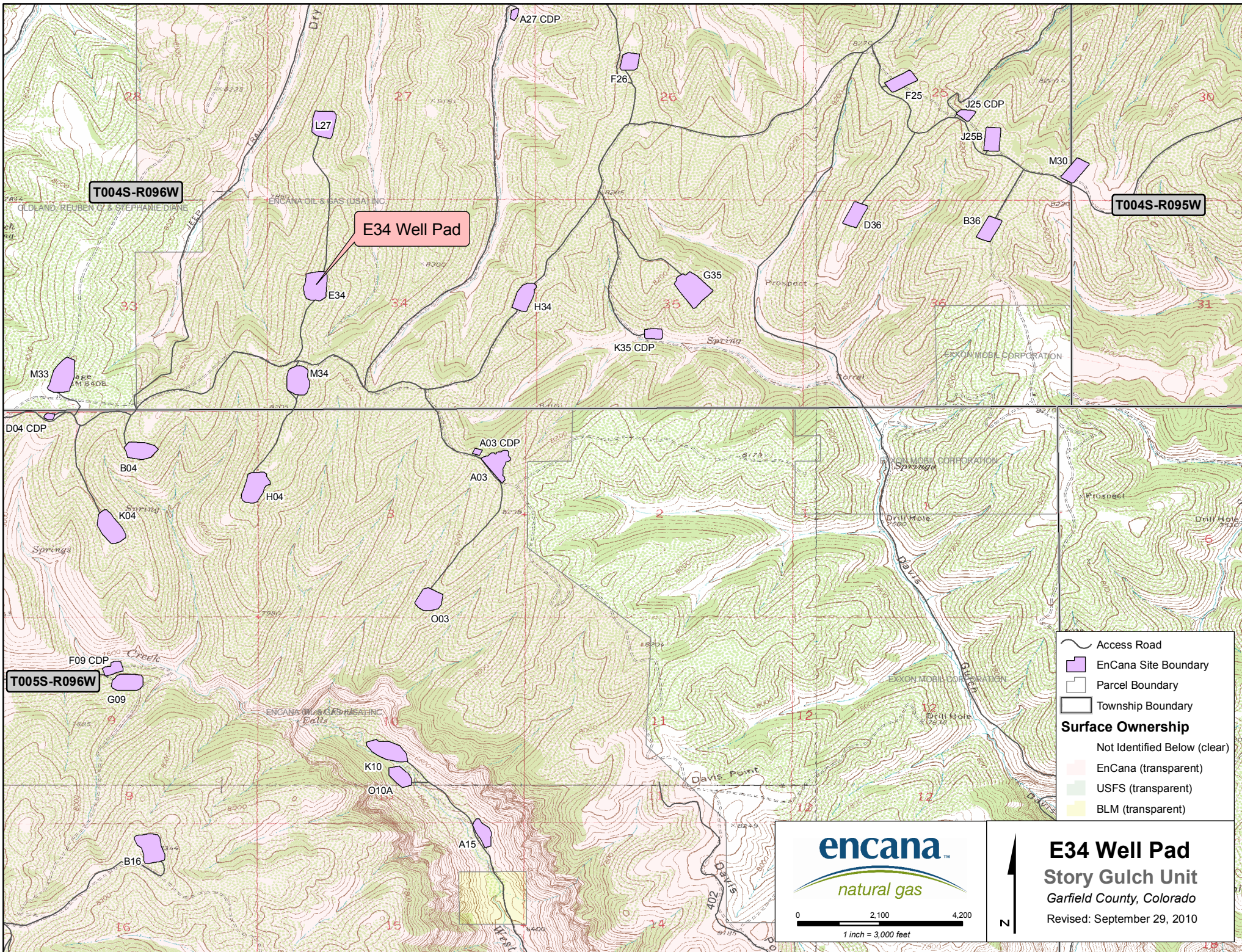
Notification of Completion filed within 30 days of successful completion of remediation activities.



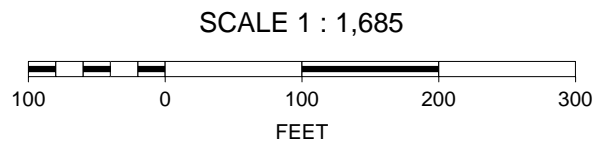
Well Information for the E34 Well Pad

Data Provided by the Colorado Oil & Gas Conservation Commission

Well Number and Name	API Number	lat	long	utm_x	utm_y
CP08B-33 E34 49 DWU	05-045-15092	39.660225	-108.160558	228858	4394822
CP02D-33 E34 49 DWU	05-045-15095	39.660253	-108.160550	228858	4394825
CP01B-33 E34 49 DWU	05-045-15094	39.660280	-108.160547	228859	4394828
CP07D-33 E34 49 DWU	05-045-15093	39.660197	-108.160561	228857	4394819



Encana E34 Well Pad and Pit Diagram



Sample Tracking		Project Tracking																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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12065 Lebanon Rd.
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Tax I.D. 62-0814289

Est. 1970

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

Report Summary

Friday August 06, 2010

Report Number: L471362

Samples Received: 07/30/10

Client Project: E34 Pit Closure

Description: E34 Pit Closure

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

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

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

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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

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

August 06, 2010

Date Received : July 30, 2010
Description : E34 Pit Closure
Sample ID : E34-NW BACK 072910
Collected By : Blair Rollins
Collection Date : 07/29/10 12:00

ESC Sample # : L471362-01

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	4.1	1.0	mg/kg	6010B	08/01/10	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: 08/06/10 17:10 Printed: 08/06/10 17:11

REPORT OF ANALYSIS

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

August 06, 2010

Date Received : July 30, 2010
Description : E34 Pit Closure
Sample ID : E34-SW BACK 072910
Collected By : Blair Rollins
Collection Date : 07/29/10 12:05

ESC Sample # : L471362-02

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	10.	mg/kg	3060A/7196A	08/03/10	5
Chromium, Trivalent	56.	0.50	mg/kg	Calc.	08/01/10	1
ORP	270		mV	2580	08/03/10	1
pH	7.0		su	9045D	08/03/10	1
Sodium Adsorption Ratio	0.38			Calc.	08/04/10	1
Specific Conductance	70.		umhos/cm	9050AMod	08/04/10	1
Mercury	0.027	0.020	mg/kg	7471	08/03/10	1
Arsenic	4.4	1.0	mg/kg	6010B	08/01/10	1
Barium	350	0.25	mg/kg	6010B	08/01/10	1
Cadmium	0.30	0.25	mg/kg	6010B	08/01/10	1
Chromium	56.	0.50	mg/kg	6010B	08/01/10	1
Copper	11.	1.0	mg/kg	6010B	08/01/10	1
Lead	0.78	0.25	mg/kg	6010B	08/01/10	1
Nickel	25.	1.0	mg/kg	6010B	08/01/10	1
Selenium	4.8	1.0	mg/kg	6010B	08/01/10	1
Silver	BDL	0.50	mg/kg	6010B	08/01/10	1
Zinc	39.	1.5	mg/kg	6010B	08/01/10	1
Benzene	BDL	0.0025	mg/kg	8021/8015	07/31/10	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/31/10	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	07/31/10	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	07/31/10	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	07/31/10	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	98.3		% Rec.	8021/8015	07/31/10	5
a,a,a-Trifluorotoluene(PID)	103.		% Rec.	8021/8015	07/31/10	5
TPH (GC/FID) High Fraction	32.	4.0	mg/kg	3546/DRO	08/02/10	1
Surrogate recovery(%)						
o-Terphenyl	75.6		% Rec.	3546/DRO	08/02/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L471362-02 (PH) - 7.0@24.1c



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REPORT OF ANALYSIS

Chris Hines
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Parachute, CO 81635

August 06, 2010

Date Received : July 30, 2010
Description : E34 Pit Closure
Sample ID : E34-SW BACK 072910
Collected By : Blair Rollins
Collection Date : 07/29/10 12:05

ESC Sample # : L471362-02

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Naphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
1-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
2-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/04/10	1
Surrogate Recovery						
Nitrobenzene-d5	103.		% Rec.	8270C-SIM	08/04/10	1
2-Fluorobiphenyl	80.9		% Rec.	8270C-SIM	08/04/10	1
p-Terphenyl-d14	95.3		% Rec.	8270C-SIM	08/04/10	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: 08/06/10 17:10 Printed: 08/06/10 17:11
L471362-02 (PH) - 7.0@24.1c

REPORT OF ANALYSIS

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

August 06, 2010

Date Received : July 30, 2010
Description : E34 Pit Closure
Sample ID : E34-S. PIT 072910
Collected By : Blair Rollins
Collection Date : 07/29/10 12:25

ESC Sample # : L471362-03

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	08/03/10	1
Chromium, Trivalent	54.	0.50	mg/kg	Calc.	08/01/10	1
ORP	190		mV	2580	08/03/10	1
pH	8.2		su	9045D	08/03/10	1
Sodium Adsorption Ratio	20.			Calc.	08/04/10	1
Specific Conductance	1100		umhos/cm	9050AMod	08/04/10	1
Mercury	BDL	0.020	mg/kg	7471	08/03/10	1
Arsenic	2.2	1.0	mg/kg	6010B	08/01/10	1
Barium	350	0.25	mg/kg	6010B	08/01/10	1
Cadmium	BDL	0.25	mg/kg	6010B	08/01/10	1
Chromium	54.	0.50	mg/kg	6010B	08/01/10	1
Copper	8.3	1.0	mg/kg	6010B	08/01/10	1
Lead	9.6	0.25	mg/kg	6010B	08/01/10	1
Nickel	20.	1.0	mg/kg	6010B	08/01/10	1
Selenium	1.6	1.0	mg/kg	6010B	08/01/10	1
Silver	BDL	0.50	mg/kg	6010B	08/01/10	1
Zinc	31.	1.5	mg/kg	6010B	08/01/10	1
Benzene	BDL	0.0025	mg/kg	8021/8015	07/31/10	5
Toluene	BDL	0.025	mg/kg	8021/8015	07/31/10	5
Ethylbenzene	0.0044	0.0025	mg/kg	8021/8015	07/31/10	5
Total Xylene	0.020	0.0075	mg/kg	8021/8015	07/31/10	5
TPH (GC/FID) Low Fraction	12.	0.50	mg/kg	GRO	07/31/10	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.7		% Rec.	8021/8015	07/31/10	5
a,a,a-Trifluorotoluene(PID)	103.		% Rec.	8021/8015	07/31/10	5
TPH (GC/FID) High Fraction	1200	80.	mg/kg	3546/DRO	08/02/10	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	08/02/10	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Acenaphthene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Acenaphthylene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Benzo(a)anthracene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Benzo(a)pyrene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L471362-03 (CR6) - diluted due to dark sample, used sample blank

L471362-03 (SV8270PAHSIM) - Previous run also had high SURR recovery. Matrix effect. Diluted due to mat

L471362-03 (PH) - 8.2@24.3c



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REPORT OF ANALYSIS

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

August 06, 2010

Date Received : July 30, 2010
Description : E34 Pit Closure

Sample ID : E34-S. PIT 072910

Collected By : Blair Rollins
Collection Date : 07/29/10 12:25

ESC Sample # : L471362-03

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Benzo(g,h,i)perylene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Benzo(k)fluoranthene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Chrysene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Dibenz(a,h)anthracene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Fluoranthene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Fluorene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Indeno(1,2,3-cd)pyrene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Naphthalene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Phenanthrene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Pyrene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
1-Methylnaphthalene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
2-Methylnaphthalene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
2-Chloronaphthalene	BDL	0.060	mg/kg	8270C-SIM	08/06/10	10
Surrogate Recovery						
Nitrobenzene-d5	418.		% Rec.	8270C-SIM	08/06/10	10
2-Fluorobiphenyl	105.		% Rec.	8270C-SIM	08/06/10	10
p-Terphenyl-d14	104.		% Rec.	8270C-SIM	08/06/10	10

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L471362-03 (CR6) - diluted due to dark sample, used sample blank

L471362-03 (SV8270PAHSIM) - Previous run also had high SURR recovery. Matrix effect. Diluted due to mat

L471362-03 (PH) - 8.2@24.3c

REPORT OF ANALYSIS

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

August 06, 2010

Date Received : July 30, 2010
Description : E34 Pit Closure
Sample ID : E34-N. PIT 072910
Collected By : Blair Rollins
Collection Date : 07/29/10 13:30

ESC Sample # : L471362-04

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	08/03/10	1
Chromium, Trivalent	20.	0.50	mg/kg	Calc.	08/01/10	1
ORP	340		mV	2580	08/03/10	1
pH	12.		su	9045D	08/03/10	1
Sodium Adsorption Ratio	26.			Calc.	08/04/10	1
Specific Conductance	3600		umhos/cm	9050AMod	08/04/10	1
Mercury	0.021	0.020	mg/kg	7471	08/03/10	1
Arsenic	8.7	5.0	mg/kg	6010B	08/01/10	5
Barium	5400	0.25	mg/kg	6010B	08/01/10	1
Cadmium	0.92	0.25	mg/kg	6010B	08/01/10	1
Chromium	20.	0.50	mg/kg	6010B	08/01/10	1
Copper	15.	1.0	mg/kg	6010B	08/01/10	1
Lead	53.	1.2	mg/kg	6010B	08/01/10	5
Nickel	13.	1.0	mg/kg	6010B	08/01/10	1
Selenium	BDL	5.0	mg/kg	6010B	08/01/10	5
Silver	BDL	0.50	mg/kg	6010B	08/01/10	1
Zinc	67.	7.5	mg/kg	6010B	08/01/10	5
Benzene	0.084	0.0025	mg/kg	8021/8015	07/31/10	5
Toluene	0.19	0.025	mg/kg	8021/8015	07/31/10	5
Ethylbenzene	0.021	0.0025	mg/kg	8021/8015	07/31/10	5
Total Xylene	0.30	0.0075	mg/kg	8021/8015	07/31/10	5
TPH (GC/FID) Low Fraction	7.6	0.50	mg/kg	GRO	07/31/10	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.5		% Rec.	8021/8015	07/31/10	5
a,a,a-Trifluorotoluene(PID)	103.		% Rec.	8021/8015	07/31/10	5
TPH (GC/FID) High Fraction	3700	80.	mg/kg	3546/DRO	08/03/10	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	08/03/10	20
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Acenaphthene	0.18	0.12	mg/kg	8270C-SIM	08/03/10	20
Acenaphthylene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Benzo(a)anthracene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Benzo(a)pyrene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L471362-04 (PH) - 12.0@24.0c



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REPORT OF ANALYSIS

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

August 06, 2010

Date Received : July 30, 2010
Description : E34 Pit Closure

Sample ID : E34-N. PIT 072910

Collected By : Blair Rollins
Collection Date : 07/29/10 13:30

ESC Sample # : L471362-04

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Benzo(g,h,i)perylene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Benzo(k)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Chrysene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Dibenz(a,h)anthracene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Fluorene	0.78	0.12	mg/kg	8270C-SIM	08/03/10	20
Indeno(1,2,3-cd)pyrene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Naphthalene	0.81	0.12	mg/kg	8270C-SIM	08/03/10	20
Phenanthrene	0.52	0.12	mg/kg	8270C-SIM	08/03/10	20
Pyrene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
1-Methylnaphthalene	1.0	0.12	mg/kg	8270C-SIM	08/03/10	20
2-Methylnaphthalene	3.4	0.12	mg/kg	8270C-SIM	08/03/10	20
2-Chloronaphthalene	BDL	0.12	mg/kg	8270C-SIM	08/03/10	20
Surrogate Recovery						
Nitrobenzene-d5	0.00		% Rec.	8270C-SIM	08/03/10	20
2-Fluorobiphenyl	0.00		% Rec.	8270C-SIM	08/03/10	20
p-Terphenyl-d14	0.00		% Rec.	8270C-SIM	08/03/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/06/10 17:10 Printed: 08/06/10 17:11
L471362-04 (PH) - 12.0@24.0c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L471362-03	WG492100	SAMP	Anthracene	R1318649	O
	WG492100	SAMP	Acenaphthene	R1318649	O
	WG492100	SAMP	Acenaphthylene	R1318649	O
	WG492100	SAMP	Benzo(a)anthracene	R1318649	O
	WG492100	SAMP	Benzo(a)pyrene	R1318649	O
	WG492100	SAMP	Benzo(b)fluoranthene	R1318649	O
	WG492100	SAMP	Benzo(g,h,i)perylene	R1318649	O
	WG492100	SAMP	Benzo(k)fluoranthene	R1318649	O
	WG492100	SAMP	Chrysene	R1318649	O
	WG492100	SAMP	Dibenz(a,h)anthracene	R1318649	O
	WG492100	SAMP	Fluoranthene	R1318649	O
	WG492100	SAMP	Fluorene	R1318649	O
	WG492100	SAMP	Indeno(1,2,3-cd)pyrene	R1318649	O
	WG492100	SAMP	Naphthalene	R1318649	O
	WG492100	SAMP	Phenanthrene	R1318649	O
	WG492100	SAMP	Pyrene	R1318649	O
	WG492100	SAMP	1-Methylnaphthalene	R1318649	O
	WG492100	SAMP	2-Methylnaphthalene	R1318649	O
	WG492100	SAMP	2-Chloronaphthalene	R1318649	O
	WG492100	SAMP	Nitrobenzene-d5	R1318649	J1
	WG491253	SAMP	o-Terphenyl	R1309288	J7
L471362-04	WG491238	SAMP	Selenium	R1307316	O
	WG491255	SAMP	Nitrobenzene-d5	R1307009	J7
	WG491255	SAMP	2-Fluorobiphenyl	R1307009	J7
	WG491255	SAMP	p-Terphenyl-d14	R1307009	J7
	WG491253	SAMP	o-Terphenyl	R1309288	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

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
08/06/10 at 17:11:15

TSR Signing Reports: 358
R4 - Rush: Three Day

Create p-key for each project, and enter "project description" as Project Number and Project Name. Log all samples to separate L#s. Log all PAHs as SV8270PAHSIM. Log all BTEX samples by 8021.

Sample: L471362-01 Account: ENCANACO Received: 07/30/10 09:00 Due Date: 08/05/10 00:00 RPT Date: 08/06/10 17:10

Sample: L471362-02 Account: ENCANACO Received: 07/30/10 09:00 Due Date: 08/05/10 00:00 RPT Date: 08/06/10 17:10

Sample: L471362-03 Account: ENCANACO Received: 07/30/10 09:00 Due Date: 08/05/10 00:00 RPT Date: 08/06/10 17:10

Sample: L471362-04 Account: ENCANACO Received: 07/30/10 09:00 Due Date: 08/05/10 00:00 RPT Date: 08/06/10 17:10



YOUR LAB OF CHOICE

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Quality Assurance Report
Level II

L471362

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Tax I.D. 62-0814289

Est. 1970

August 06, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG491279	07/31/10 05:03
Ethylbenzene	< .0005	mg/kg			WG491279	07/31/10 05:03
Toluene	< .005	mg/kg			WG491279	07/31/10 05:03
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG491279	07/31/10 05:03
Total Xylene	< .0015	mg/kg			WG491279	07/31/10 05:03
a,a,a-Trifluorotoluene(FID)		% Rec.	100.2	59-128	WG491279	07/31/10 05:03
a,a,a-Trifluorotoluene(PID)		% Rec.	104.5	54-144	WG491279	07/31/10 05:03
1-Methylnaphthalene	< .006	mg/kg			WG491255	08/01/10 11:05
2-Chloronaphthalene	< .006	mg/kg			WG491255	08/01/10 11:05
2-Methylnaphthalene	< .006	mg/kg			WG491255	08/01/10 11:05
Acenaphthene	< .006	mg/kg			WG491255	08/01/10 11:05
Acenaphthylene	< .006	mg/kg			WG491255	08/01/10 11:05
Anthracene	< .006	mg/kg			WG491255	08/01/10 11:05
Benzo(a)anthracene	< .006	mg/kg			WG491255	08/01/10 11:05
Benzo(a)pyrene	< .006	mg/kg			WG491255	08/01/10 11:05
Benzo(b)fluoranthene	< .006	mg/kg			WG491255	08/01/10 11:05
Benzo(g,h,i)perylene	< .006	mg/kg			WG491255	08/01/10 11:05
Benzo(k)fluoranthene	< .006	mg/kg			WG491255	08/01/10 11:05
Chrysene	< .006	mg/kg			WG491255	08/01/10 11:05
Dibenz(a,h)anthracene	< .006	mg/kg			WG491255	08/01/10 11:05
Fluoranthene	< .006	mg/kg			WG491255	08/01/10 11:05
Fluorene	< .006	mg/kg			WG491255	08/01/10 11:05
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG491255	08/01/10 11:05
Naphthalene	< .006	mg/kg			WG491255	08/01/10 11:05
Phenanthrene	< .006	mg/kg			WG491255	08/01/10 11:05
Pyrene	< .006	mg/kg			WG491255	08/01/10 11:05
2-Fluorobiphenyl		% Rec.	73.36	21-120	WG491255	08/01/10 11:05
Nitrobenzene-d5		% Rec.	62.62	33-114	WG491255	08/01/10 11:05
p-Terphenyl-d14		% Rec.	100.1	18-142	WG491255	08/01/10 11:05
Arsenic	< 1	mg/kg			WG491238	08/01/10 17:26
Barium	< .25	mg/kg			WG491238	08/01/10 17:26
Cadmium	< .25	mg/kg			WG491238	08/01/10 17:26
Chromium	< .5	mg/kg			WG491238	08/01/10 17:26
Copper	< 1	mg/kg			WG491238	08/01/10 17:26
Lead	< .25	mg/kg			WG491238	08/01/10 17:26
Nickel	< 1	mg/kg			WG491238	08/01/10 17:26
Selenium	< 1	mg/kg			WG491238	08/01/10 17:26
Silver	< .5	mg/kg			WG491238	08/01/10 17:26
Zinc	< 1.5	mg/kg			WG491238	08/01/10 17:26
TPH (GC/FID) High Fraction	< 4	ppm			WG491253	08/02/10 14:21
o-Terphenyl		% Rec.	80.11	50-150	WG491253	08/02/10 14:21
Mercury	< .02	mg/kg			WG491179	08/03/10 09:09
pH	6.50	su			WG491330	08/03/10 15:52
Chromium,Hexavalent	< 2	mg/kg			WG491136	08/03/10 16:21
Specific Conductance	2.05	umhos/cm			WG491636	08/04/10 15:00

* Performance of this Analyte is outside of established criteria.

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



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Tax I.D. 62-0814289

Est. 1970

August 06, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
1-Methylnaphthalene	< .006	mg/kg			WG492100	08/05/10 16:25
2-Chloronaphthalene	< .006	mg/kg			WG492100	08/05/10 16:25
2-Methylnaphthalene	< .006	mg/kg			WG492100	08/05/10 16:25
Acenaphthene	< .006	mg/kg			WG492100	08/05/10 16:25
Acenaphthylene	< .006	mg/kg			WG492100	08/05/10 16:25
Anthracene	< .006	mg/kg			WG492100	08/05/10 16:25
Benzo(a)anthracene	< .006	mg/kg			WG492100	08/05/10 16:25
Benzo(a)pyrene	< .006	mg/kg			WG492100	08/05/10 16:25
Benzo(b)fluoranthene	< .006	mg/kg			WG492100	08/05/10 16:25
Benzo(g,h,i)perylene	< .006	mg/kg			WG492100	08/05/10 16:25
Benzo(k)fluoranthene	< .006	mg/kg			WG492100	08/05/10 16:25
Chrysene	< .006	mg/kg			WG492100	08/05/10 16:25
Dibenz(a,h)anthracene	< .006	mg/kg			WG492100	08/05/10 16:25
Fluoranthene	< .006	mg/kg			WG492100	08/05/10 16:25
Fluorene	< .006	mg/kg			WG492100	08/05/10 16:25
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG492100	08/05/10 16:25
Naphthalene	< .006	mg/kg			WG492100	08/05/10 16:25
Phenanthrene	< .006	mg/kg			WG492100	08/05/10 16:25
Pyrene	< .006	mg/kg			WG492100	08/05/10 16:25
2-Fluorobiphenyl		% Rec.	117.2	21-120	WG492100	08/05/10 16:25
Nitrobenzene-d5		% Rec.	113.1	33-114	WG492100	08/05/10 16:25
p-Terphenyl-d14		% Rec.	107.5	18-142	WG492100	08/05/10 16:25

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Arsenic	mg/kg	9.40	9.00	3.92	20		L471390-04	WG491238
Barium	mg/kg	130.	120.	8.00	20		L471390-04	WG491238
Cadmium	mg/kg	0.410	0.390	4.02	20		L471390-04	WG491238
Chromium	mg/kg	13.0	13.0	3.03	20		L471390-04	WG491238
Copper	mg/kg	17.0	16.5	4.15	20		L471390-04	WG491238
Lead	mg/kg	24.0	20.0	19.8	20		L471390-04	WG491238
Nickel	mg/kg	18.0	18.3	1.65	20		L471390-04	WG491238
Selenium	mg/kg	3.60	4.40	18.6	20		L471390-04	WG491238
Silver	mg/kg	0	0	0	20		L471390-04	WG491238
Zinc	mg/kg	56.0	58.0	2.62	20		L471390-04	WG491238
Mercury	mg/kg	0.0320	0.0330	2.45	20		L471200-04	WG491179
pH	su	7.10	7.10	0	1		L471213-01	WG491330
pH	su	0	0	0	1		L471427-01	WG491330
Chromium,Hexavalent	mg/kg	0	0	0	20		L471047-01	WG491136
Chromium,Hexavalent	mg/kg	0	0	0	20		L471362-04	WG491136
ORP	mV	220.	220.	0	20		L471045-01	WG491167
ORP	mV	200.	200.	1.49	20		L471333-01	WG491167
Specific Conductance	umhos/cm	3700	3640	2.17	20		L471362-04	WG491636

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0527	105.	76-113	WG491279

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Ethylbenzene	mg/kg	.05	0.0534	107.	78-115	WG491279
Toluene	mg/kg	.05	0.0534	107.	76-114	WG491279
Total Xylene	mg/kg	.15	0.166	111.	81-118	WG491279
a,a,a-Trifluorotoluene(FID)				99.70	59-128	WG491279
a,a,a-Trifluorotoluene(PID)				103.0	54-144	WG491279
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.00	109.	67-135	WG491279
a,a,a-Trifluorotoluene(FID)				94.17	59-128	WG491279
a,a,a-Trifluorotoluene(PID)				107.7	54-144	WG491279
1-Methylnaphthalene	mg/kg	.033	0.0254	77.1	41-110	WG491255
2-Chloronaphthalene	mg/kg	.033	0.0264	80.1	43-109	WG491255
2-Methylnaphthalene	mg/kg	.033	0.0259	78.4	38-104	WG491255
Acenaphthene	mg/kg	.033	0.0246	74.5	48-103	WG491255
Acenaphthylene	mg/kg	.033	0.0237	71.7	43-106	WG491255
Anthracene	mg/kg	.033	0.0247	74.9	51-110	WG491255
Benzo(a)anthracene	mg/kg	.033	0.0253	76.7	38-126	WG491255
Benzo(a)pyrene	mg/kg	.033	0.0223	67.5	47-118	WG491255
Benzo(b)fluoranthene	mg/kg	.033	0.0223	67.4	47-118	WG491255
Benzo(g,h,i)perylene	mg/kg	.033	0.0225	68.1	40-125	WG491255
Benzo(k)fluoranthene	mg/kg	.033	0.0273	82.6	45-121	WG491255
Chrysene	mg/kg	.033	0.0248	75.2	35-135	WG491255
Dibenz(a,h)anthracene	mg/kg	.033	0.0222	67.4	41-124	WG491255
Fluoranthene	mg/kg	.033	0.0222	67.2	50-114	WG491255
Fluorene	mg/kg	.033	0.0247	74.8	49-109	WG491255
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0222	67.1	40-126	WG491255
Naphthalene	mg/kg	.033	0.0253	76.8	36-100	WG491255
Phenanthrene	mg/kg	.033	0.0242	73.4	46-108	WG491255
Pyrene	mg/kg	.033	0.0263	79.6	30-136	WG491255
2-Fluorobiphenyl				94.93	21-120	WG491255
Nitrobenzene-d5				83.61	33-114	WG491255
p-Terphenyl-d14				105.2	18-142	WG491255
Arsenic	mg/kg	192	167.	87.0	78.6-120.8	WG491238
Barium	mg/kg	420	392.	93.3	78.8-121.4	WG491238
Cadmium	mg/kg	70.1	62.7	89.4	78.5-121.5	WG491238
Chromium	mg/kg	168	157.	93.5	80.4-120.2	WG491238
Copper	mg/kg	122	114.	93.4	81.6-119.7	WG491238
Lead	mg/kg	113	93.4	82.7	77.3-122.1	WG491238
Nickel	mg/kg	74.1	75.4	102.	78.8-121.2	WG491238
Selenium	mg/kg	176	159.	90.3	75.6-125.0	WG491238
Silver	mg/kg	115	105.	91.3	66-133.9	WG491238
Zinc	mg/kg	437	394.	90.2	78.5-121.7	WG491238
TPH (GC/FID) High Fraction	ppm	60	49.7	82.8	50-150	WG491253
o-Terphenyl				101.9	50-150	WG491253
Mercury	mg/kg	8.77	10.4	119.	71.6-127.7	WG491179
pH	su	9.68	9.60	99.2	98.9-102.0	WG491330
Chromium,Hexavalent	mg/kg	100	95.5	95.5	50-143	WG491136

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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
ORP	mV	229	220.	96.1	95.6-104.37	WG491167
Specific Conductance	umhos/cm	406	425.	105.	85-115	WG491636
1-Methylnaphthalene	mg/kg	.033	0.0294	89.2	41-110	WG492100
2-Chloronaphthalene	mg/kg	.033	0.0281	85.1	43-109	WG492100
2-Methylnaphthalene	mg/kg	.033	0.0294	89.2	38-104	WG492100
Acenaphthene	mg/kg	.033	0.0319	96.7	48-103	WG492100
Acenaphthylene	mg/kg	.033	0.0329	99.7	43-106	WG492100
Anthracene	mg/kg	.033	0.0307	93.2	51-110	WG492100
Benzo(a)anthracene	mg/kg	.033	0.0341	103.	38-126	WG492100
Benzo(a)pyrene	mg/kg	.033	0.0323	97.9	47-118	WG492100
Benzo(b)fluoranthene	mg/kg	.033	0.0300	91.0	47-118	WG492100
Benzo(g,h,i)perylene	mg/kg	.033	0.0362	110.	40-125	WG492100
Benzo(k)fluoranthene	mg/kg	.033	0.0347	105.	45-121	WG492100
Chrysene	mg/kg	.033	0.0334	101.	35-135	WG492100
Dibenz(a,h)anthracene	mg/kg	.033	0.0349	106.	41-124	WG492100
Fluoranthene	mg/kg	.033	0.0371	112.	50-114	WG492100
Fluorene	mg/kg	.033	0.0315	95.4	49-109	WG492100
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0352	107.	40-126	WG492100
Naphthalene	mg/kg	.033	0.0292	88.4	36-100	WG492100
Phenanthrene	mg/kg	.033	0.0311	94.4	46-108	WG492100
Pyrene	mg/kg	.033	0.0298	90.3	30-136	WG492100
2-Fluorobiphenyl				122.4*	21-120	WG492100
Nitrobenzene-d5				104.3	33-114	WG492100
p-Terphenyl-d14				112.2	18-142	WG492100

Analyte	Units	Laboratory Control Result	Sample Ref	Duplicate %Rec	Limit	RPD	Limit	Batch
Benzene	mg/kg	0.0518	0.0527	104.	76-113	1.63	20	WG491279
Ethylbenzene	mg/kg	0.0527	0.0534	105.	78-115	1.42	20	WG491279
Toluene	mg/kg	0.0522	0.0534	104.	76-114	2.25	20	WG491279
Total Xylene	mg/kg	0.164	0.166	109.	81-118	1.41	20	WG491279
a,a,a-Trifluorotoluene(FID)				98.76	59-128			WG491279
a,a,a-Trifluorotoluene(PID)				102.0	54-144			WG491279
TPH (GC/FID) Low Fraction	mg/kg	6.29	6.00	114.	67-135	4.68	20	WG491279
a,a,a-Trifluorotoluene(FID)				96.42	59-128			WG491279
a,a,a-Trifluorotoluene(PID)				108.4	54-144			WG491279
1-Methylnaphthalene	mg/kg	0.0260	0.0254	79.0	41-110	2.29	24	WG491255
2-Chloronaphthalene	mg/kg	0.0267	0.0264	81.0	43-109	0.895	21	WG491255
2-Methylnaphthalene	mg/kg	0.0253	0.0259	77.0	38-104	2.12	24	WG491255
Acenaphthene	mg/kg	0.0249	0.0246	76.0	48-103	1.41	20	WG491255
Acenaphthylene	mg/kg	0.0240	0.0237	73.0	43-106	1.34	20	WG491255
Anthracene	mg/kg	0.0249	0.0247	75.0	51-110	0.737	22	WG491255
Benzo(a)anthracene	mg/kg	0.0247	0.0253	75.0	38-126	2.31	20	WG491255
Benzo(a)pyrene	mg/kg	0.0234	0.0223	71.0	47-118	4.97	20	WG491255
Benzo(b)fluoranthene	mg/kg	0.0239	0.0223	72.0	47-118	7.13	29	WG491255
Benzo(g,h,i)perylene	mg/kg	0.0223	0.0225	68.0	40-125	0.652	20	WG491255
Benzo(k)fluoranthene	mg/kg	0.0297	0.0273	90.0	45-121	8.41	31	WG491255
Chrysene	mg/kg	0.0267	0.0248	81.0	35-135	7.45	20	WG491255
Dibenz(a,h)anthracene	mg/kg	0.0220	0.0222	67.0	41-124	0.938	20	WG491255
Fluoranthene	mg/kg	0.0269	0.0222	81.0	50-114	19.3	20	WG491255
Fluorene	mg/kg	0.0248	0.0247	75.0	49-109	0.493	19	WG491255
Indeno(1,2,3-cd)pyrene	mg/kg	0.0219	0.0222	66.0	40-126	0.976	20	WG491255

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Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
Naphthalene	mg/kg	0.0255	0.0253	77.0		36-100	0.748	24	WG491255
Phenanthrene	mg/kg	0.0241	0.0242	73.0		46-108	0.469	21	WG491255
Pyrene	mg/kg	0.0254	0.0263	77.0		30-136	3.24	20	WG491255
2-Fluorobiphenyl				102.8		21-120			WG491255
Nitrobenzene-d5				87.80		33-114			WG491255
p-Terphenyl-d14				114.6		18-142			WG491255
TPH (GC/FID) High Fraction	ppm	48.1	49.7	80.0		50-150	3.19	25	WG491253
o-Terphenyl				97.19		50-150			WG491253
pH	su	9.60	9.60	99.0		98.9-102.0	0	20	WG491330
Chromium, Hexavalent	mg/kg	95.0	95.5	95.0		50-143	0.525	20	WG491136
ORP	mV	220.	220.	96.0		95.6-104.37	0	20	WG491167
Specific Conductance	umhos/	425.	425.	105.		85-115	0	20	WG491636
1-Methylnaphthalene	mg/kg	0.0327	0.0294	99.0		41-110	10.6	24	WG492100
2-Chloronaphthalene	mg/kg	0.0306	0.0281	93.0		43-109	8.65	21	WG492100
2-Methylnaphthalene	mg/kg	0.0327	0.0294	99.0		38-104	10.4	24	WG492100
Acenaphthene	mg/kg	0.0339	0.0319	103.		48-103	6.12	20	WG492100
Acenaphthylene	mg/kg	0.0345	0.0329	104.		43-106	4.71	20	WG492100
Anthracene	mg/kg	0.0325	0.0307	98.0		51-110	5.50	22	WG492100
Benzo(a)anthracene	mg/kg	0.0365	0.0341	110.		38-126	6.76	20	WG492100
Benzo(a)pyrene	mg/kg	0.0338	0.0323	102.		47-118	4.51	20	WG492100
Benzo(b)fluoranthene	mg/kg	0.0342	0.0300	104.		47-118	13.1	29	WG492100
Benzo(g,h,i)perylene	mg/kg	0.0368	0.0362	111.		40-125	1.52	20	WG492100
Benzo(k)fluoranthene	mg/kg	0.0338	0.0347	102.		45-121	2.54	31	WG492100
Chrysene	mg/kg	0.0350	0.0334	106.		35-135	4.62	20	WG492100
Dibenz(a,h)anthracene	mg/kg	0.0357	0.0349	108.		41-124	2.41	20	WG492100
Fluoranthene	mg/kg	0.0351	0.0371	106.		50-114	5.57	20	WG492100
Fluorene	mg/kg	0.0341	0.0315	103.		49-109	7.93	19	WG492100
Indeno(1,2,3-cd)pyrene	mg/kg	0.0358	0.0352	108.		40-126	1.79	20	WG492100
Naphthalene	mg/kg	0.0316	0.0292	96.0		36-100	8.15	24	WG492100
Phenanthrene	mg/kg	0.0332	0.0311	100.		46-108	6.27	21	WG492100
Pyrene	mg/kg	0.0344	0.0298	104.		30-136	14.5	20	WG492100
2-Fluorobiphenyl				106.8		21-120			WG492100
Nitrobenzene-d5				123.6*		33-114			WG492100
p-Terphenyl-d14				120.9		18-142			WG492100

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Benzene	mg/kg	0.239	0	.05	95.6	32-137	L471362-02	WG491279
Ethylbenzene	mg/kg	0.224	0	.05	89.7	10-150	L471362-02	WG491279
Toluene	mg/kg	0.233	0	.05	93.4	20-142	L471362-02	WG491279
Total Xylene	mg/kg	0.701	0	.15	93.4	16-141	L471362-02	WG491279
a,a,a-Trifluorotoluene(FID)					97.83	59-128		WG491279
a,a,a-Trifluorotoluene(PID)					101.6	54-144		WG491279
TPH (GC/FID) Low Fraction	mg/kg	25.2	0	5.5	91.6	55-109	L471362-02	WG491279
a,a,a-Trifluorotoluene(FID)					93.28	59-128		WG491279
a,a,a-Trifluorotoluene(PID)					106.1	54-144		WG491279

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
1-Methylnaphthalene	mg/kg	0.0337	0	.033	102.	19-131	L471241-05	WG491255
2-Chloronaphthalene	mg/kg	0.0342	0	.033	104.	38-117	L471241-05	WG491255
2-Methylnaphthalene	mg/kg	0.0345	0	.033	104.	18-125	L471241-05	WG491255
Acenaphthene	mg/kg	0.0323	0	.033	98.0	31-120	L471241-05	WG491255
Acenaphthylene	mg/kg	0.0314	0	.033	95.2	34-116	L471241-05	WG491255
Anthracene	mg/kg	0.0316	0	.033	95.7	32-131	L471241-05	WG491255
Benzo(a)anthracene	mg/kg	0.0318	0	.033	96.4	32-131	L471241-05	WG491255
Benzo(a)pyrene	mg/kg	0.0311	0	.033	94.2	28-130	L471241-05	WG491255
Benzo(b)fluoranthene	mg/kg	0.0293	0	.033	88.7	37-130	L471241-05	WG491255
Benzo(g,h,i)perylene	mg/kg	0.0366	0	.033	111.	10-134	L471241-05	WG491255
Benzo(k)fluoranthene	mg/kg	0.0325	0	.033	98.5	31-129	L471241-05	WG491255
Chrysene	mg/kg	0.0319	0	.033	96.8	25-137	L471241-05	WG491255
Dibenz(a,h)anthracene	mg/kg	0.0341	0	.033	103.	20-134	L471241-05	WG491255
Fluoranthene	mg/kg	0.0286	0	.033	86.6	27-138	L471241-05	WG491255
Fluorene	mg/kg	0.0313	0	.033	94.9	26-136	L471241-05	WG491255
Indeno(1,2,3-cd)pyrene	mg/kg	0.0349	0	.033	106.	16-135	L471241-05	WG491255
Naphthalene	mg/kg	0.0330	0	.033	100.	22-121	L471241-05	WG491255
Phenanthrene	mg/kg	0.0341	0	.033	103.	27-133	L471241-05	WG491255
Pyrene	mg/kg	0.0376	0	.033	114.	22-133	L471241-05	WG491255
2-Fluorobiphenyl					119.7	21-120		WG491255
Nitrobenzene-d5					114.8*	33-114		WG491255
p-Terphenyl-d14					149.7*	18-142		WG491255
Arsenic	mg/kg	51.2	9.00	50	84.4	75-125	L471390-04	WG491238
Barium	mg/kg	182.	120.	50	124.	75-125	L471390-04	WG491238
Cadmium	mg/kg	41.0	0.390	50	81.2	75-125	L471390-04	WG491238
Chromium	mg/kg	56.7	13.0	50	87.4	75-125	L471390-04	WG491238
Copper	mg/kg	61.8	16.5	50	90.6	75-125	L471390-04	WG491238
Lead	mg/kg	69.1	20.0	50	98.2	75-125	L471390-04	WG491238
Nickel	mg/kg	61.0	18.3	50	85.4	75-125	L471390-04	WG491238
Selenium	mg/kg	44.6	4.40	50	80.4	75-125	L471390-04	WG491238
Silver	mg/kg	43.2	0	50	86.4	75-125	L471390-04	WG491238
Zinc	mg/kg	100.	58.0	50	84.0	75-125	L471390-04	WG491238
TPH (GC/FID) High Fraction	ppm	95.6	77.0	60	31.0*	50-150	L470771-03	WG491253
o-Terphenyl					84.43	50-150		WG491253
Mercury	mg/kg	0.251	0.0330	.25	87.2	70-130	L471200-04	WG491179
Chromium, Hexavalent	mg/kg	19.5	0	20	97.5	50-150	L471045-01	WG491136

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.234	0.239	93.5	32-137	2.19	39	L471362-02	WG491279
Ethylbenzene	mg/kg	0.222	0.224	89.0	10-150	0.740	44	L471362-02	WG491279
Toluene	mg/kg	0.230	0.233	91.8	20-142	1.67	42	L471362-02	WG491279
Total Xylene	mg/kg	0.691	0.701	92.1	16-141	1.39	46	L471362-02	WG491279
a,a,a-Trifluorotoluene(FID)				97.49	59-128				WG491279
a,a,a-Trifluorotoluene(PID)				101.1	54-144				WG491279
TPH (GC/FID) Low Fraction	mg/kg	23.8	25.2	86.5	55-109	5.70	20	L471362-02	WG491279
a,a,a-Trifluorotoluene(FID)				93.25	59-128				WG491279
a,a,a-Trifluorotoluene(PID)				106.0	54-144				WG491279

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

Quality Assurance Report
Level II

Parachute, CO 81635

L471362

August 06, 2010

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
1-Methylnaphthalene	mg/kg	0.0221	0.0337	66.9	19-131	41.9*	30	L471241-05	WG491255
2-Chloronaphthalene	mg/kg	0.0211	0.0342	63.8	38-117	47.6*	26	L471241-05	WG491255
2-Methylnaphthalene	mg/kg	0.0224	0.0345	67.8	18-125	42.5*	29	L471241-05	WG491255
Acenaphthene	mg/kg	0.0214	0.0323	64.8	31-120	40.8*	30	L471241-05	WG491255
Acenaphthylene	mg/kg	0.0207	0.0314	62.6	34-116	41.3*	29	L471241-05	WG491255
Anthracene	mg/kg	0.0219	0.0316	66.5	32-131	36.1*	26	L471241-05	WG491255
Benzo(a)anthracene	mg/kg	0.0212	0.0318	64.3	32-131	39.9*	31	L471241-05	WG491255
Benzo(a)pyrene	mg/kg	0.0214	0.0311	64.7	28-130	37.1*	28	L471241-05	WG491255
Benzo(b)fluoranthene	mg/kg	0.0213	0.0293	64.4	37-130	31.7	41	L471241-05	WG491255
Benzo(g,h,i)perylene	mg/kg	0.0244	0.0366	73.8	10-134	40.2*	26	L471241-05	WG491255
Benzo(k)fluoranthene	mg/kg	0.0210	0.0325	63.7	31-129	42.9*	42	L471241-05	WG491255
Chrysene	mg/kg	0.0221	0.0319	67.1	25-137	36.3*	22	L471241-05	WG491255
Dibenz(a,h)anthracene	mg/kg	0.0227	0.0341	68.7	20-134	40.2*	25	L471241-05	WG491255
Fluoranthene	mg/kg	0.0229	0.0286	69.2	27-138	22.2	35	L471241-05	WG491255
Fluorene	mg/kg	0.0221	0.0313	66.9	26-136	34.6*	30	L471241-05	WG491255
Indeno(1,2,3-cd)pyrene	mg/kg	0.0229	0.0349	69.3	16-135	41.6*	26	L471241-05	WG491255
Naphthalene	mg/kg	0.0220	0.0330	66.6	22-121	40.1*	30	L471241-05	WG491255
Phenanthrene	mg/kg	0.0245	0.0341	74.3	27-133	32.7	36	L471241-05	WG491255
Pyrene	mg/kg	0.0229	0.0376	69.4	22-133	48.4*	33	L471241-05	WG491255
2-Fluorobiphenyl				79.53	21-120				WG491255
Nitrobenzene-d5				72.86	33-114				WG491255
p-Terphenyl-d14				90.34	18-142				WG491255
Arsenic	mg/kg	55.2	51.2	92.4	75-125	7.52	20	L471390-04	WG491238
Barium	mg/kg	192.	182.	144.*	75-125	5.35	20	L471390-04	WG491238
Cadmium	mg/kg	44.5	41.0	88.2	75-125	8.19	20	L471390-04	WG491238
Chromium	mg/kg	61.2	56.7	96.4	75-125	7.63	20	L471390-04	WG491238
Copper	mg/kg	66.5	61.8	100.	75-125	7.33	20	L471390-04	WG491238
Lead	mg/kg	69.0	69.1	98.0	75-125	0.145	20	L471390-04	WG491238
Nickel	mg/kg	65.9	61.0	95.2	75-125	7.72	20	L471390-04	WG491238
Selenium	mg/kg	47.3	44.6	85.8	75-125	5.88	20	L471390-04	WG491238
Silver	mg/kg	46.6	43.2	93.2	75-125	7.57	20	L471390-04	WG491238
Zinc	mg/kg	105.	100.	94.0	75-125	4.88	20	L471390-04	WG491238
TPH (GC/FID) High Fraction	ppm	84.9	95.6	13.1*	50-150	11.9	25	L470771-03	WG491253
o-Terphenyl				81.67	50-150				WG491253
Mercury	mg/kg	0.249	0.251	86.4	70-130	0.800	20	L471200-04	WG491179
Chromium, Hexavalent	mg/kg	18.3	19.5	91.5	50-150	6.35	20	L471045-01	WG491136

Batch number /Run number / Sample number cross reference

WG491279: R1306750: L471362-02 03 04
WG491255: R1307009: L471362-02 04
WG491238: R1307316: L471362-01 02 03 04
WG491253: R1309288: L471362-02 03 04
WG491179: R1310329: L471362-02 03 04
WG491167: R1310928: L471362-02 03 04
WG491330: R1311008: L471362-02 03 04
WG491136: R1311089: L471362-02 03 04
WG491466: R1312148: L471362-02 03 04
WG491636: R1313928: L471362-02 03 04
WG492100: R1318649: L471362-03

* * 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.'



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

Report Summary

Tuesday August 24, 2010

Report Number: L474582

Samples Received: 08/19/10

Client Project: E34 Pit Closure

Description: E34 Pit Closure

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 - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

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

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-SE BACK-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 11:15

ESC Sample # : L474582-01

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	2.7	1.0	mg/kg	6010B	08/20/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

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2717 County Road 215, Suite 100
Parachute, CO 81635

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-E BACK-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 11:20

ESC Sample # : L474582-02

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	2.2	1.0	mg/kg	6010B	08/20/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

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

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-NE BACK-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 11:30

ESC Sample # : L474582-03

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	3.6	1.0	mg/kg	6010B	08/20/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Chris Hines
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
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August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-N PIT-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 11:50

ESC Sample # : L474582-04

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	6.5	1.0	mg/kg	6010B	08/20/10	1
TPH (GC/FID) Low Fraction	20.	5.0	mg/kg	8015D/GRO	08/20/10	50
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	119.		% Rec.	602/8015	08/20/10	50
TPH (GC/FID) High Fraction	5300	200	mg/kg	3546/DRO	08/22/10	50
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	3546/DRO	08/22/10	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

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

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-S PIT-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 12:10

ESC Sample # : L474582-05

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	08/20/10	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	119.		% Rec.	602/8015	08/20/10	5
TPH (GC/FID) High Fraction	2500	80.	mg/kg	3546/DRO	08/22/10	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	3546/DRO	08/22/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Chris Hines
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2717 County Road 215, Suite 100
Parachute, CO 81635

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-SPOILS-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 12:25

ESC Sample # : L474582-06

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	6.6	1.0	mg/kg	6010B	08/20/10	1
TPH (GC/FID) Low Fraction	30.	5.0	mg/kg	8015D/GRO	08/20/10	50
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	119.		% Rec.	602/8015	08/20/10	50
TPH (GC/FID) High Fraction	3100	80.	mg/kg	3546/DRO	08/22/10	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	3546/DRO	08/22/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

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

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-N CUTTINGS-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 12:45

ESC Sample # : L474582-07

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	5.3	2.0	mg/kg	3060A/7196A	08/20/10	1
Chromium, Trivalent	16.	2.0	mg/kg	Calc.	08/20/10	1
ORP	-66.		mV	2580	08/21/10	1
pH	12.		su	9045D	08/20/10	1
Sodium Adsorption Ratio	310			Calc.	08/23/10	10
Specific Conductance	1200		umhos/cm	9050AMod	08/21/10	1
Mercury	0.024	0.020	mg/kg	7471	08/20/10	1
Arsenic	8.2	1.0	mg/kg	6010B	08/20/10	1
Barium	4200	0.25	mg/kg	6010B	08/20/10	1
Cadmium	1.6	0.25	mg/kg	6010B	08/20/10	1
Chromium	21.	0.50	mg/kg	6010B	08/20/10	1
Copper	23.	1.0	mg/kg	6010B	08/20/10	1
Lead	27.	0.25	mg/kg	6010B	08/20/10	1
Nickel	38.	5.0	mg/kg	6010B	08/20/10	5
Selenium	BDL	1.0	mg/kg	6010B	08/20/10	1
Silver	BDL	0.50	mg/kg	6010B	08/20/10	1
Zinc	110	7.5	mg/kg	6010B	08/20/10	5
Benzene	BDL	0.0025	mg/kg	8021/8015	08/19/10	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/19/10	5
Ethylbenzene	0.0051	0.0025	mg/kg	8021/8015	08/19/10	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/19/10	5
TPH (GC/FID) Low Fraction	2.2	0.50	mg/kg	GRO	08/19/10	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/19/10	5
a,a,a-Trifluorotoluene(PID)	106.		% Rec.	8021/8015	08/19/10	5
TPH (GC/FID) High Fraction	300	4.0	mg/kg	3546/DRO	08/20/10	1
Surrogate recovery(%)						
o-Terphenyl	67.4		% Rec.	3546/DRO	08/20/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Acenaphthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Acenaphthylene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(a)anthracene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(a)pyrene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474582-07 (PH) - 12.0@21.2c



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REPORT OF ANALYSIS

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

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-N CUTTINGS-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 12:45

ESC Sample # : L474582-07

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(g,h,i)perylene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(k)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Chrysene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Dibenz(a,h)anthracene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Fluorene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Indeno(1,2,3-cd)pyrene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Naphthalene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Phenanthrene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Pyrene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
1-Methylnaphthalene	0.13	0.12	mg/kg	8270C-SIM	08/23/10	20
2-Methylnaphthalene	0.26	0.12	mg/kg	8270C-SIM	08/23/10	20
2-Chloronaphthalene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Surrogate Recovery						
Nitrobenzene-d5	0.00		% Rec.	8270C-SIM	08/23/10	20
2-Fluorobiphenyl	0.00		% Rec.	8270C-SIM	08/23/10	20
p-Terphenyl-d14	0.00		% Rec.	8270C-SIM	08/23/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L474582-07 (PH) - 12.0@21.2c

REPORT OF ANALYSIS

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

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-S CUTTINGS-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 13:05

ESC Sample # : L474582-08

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	08/20/10	1
Chromium, Trivalent	6.7	2.0	mg/kg	Calc.	08/20/10	1
ORP	-79.		mV	2580	08/21/10	1
pH	8.6		su	9045D	08/20/10	1
Sodium Adsorption Ratio	46.			Calc.	08/23/10	10
Specific Conductance	2900		umhos/cm	9050AMod	08/21/10	1
Mercury	BDL	0.020	mg/kg	7471	08/20/10	1
Arsenic	2.7	1.0	mg/kg	6010B	08/20/10	1
Barium	7000	0.25	mg/kg	6010B	08/20/10	1
Cadmium	BDL	0.25	mg/kg	6010B	08/20/10	1
Chromium	6.7	0.50	mg/kg	6010B	08/20/10	1
Copper	10.	1.0	mg/kg	6010B	08/20/10	1
Lead	7.2	0.25	mg/kg	6010B	08/20/10	1
Nickel	3.5	1.0	mg/kg	6010B	08/20/10	1
Selenium	BDL	1.0	mg/kg	6010B	08/20/10	1
Silver	BDL	0.50	mg/kg	6010B	08/20/10	1
Zinc	27.	1.5	mg/kg	6010B	08/20/10	1
Benzene	BDL	0.0025	mg/kg	8021/8015	08/19/10	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/19/10	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/19/10	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/19/10	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/19/10	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/19/10	5
a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021/8015	08/19/10	5
TPH (GC/FID) High Fraction	65.	4.0	mg/kg	3546/DRO	08/20/10	1
Surrogate recovery(%)						
o-Terphenyl	86.3		% Rec.	3546/DRO	08/20/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Acenaphthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Acenaphthylene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(a)anthracene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(a)pyrene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474582-08 (PH) - 8.6@21.2c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

August 24, 2010

Date Received : August 19, 2010
Description : E34 Pit Closure
Sample ID : E34-S CUTTINGS-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 13:05

ESC Sample # : L474582-08

Site ID :

Project # : E34 Pit Closure

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(g,h,i)perylene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Benzo(k)fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Chrysene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Dibenz(a,h)anthracene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Fluoranthene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Fluorene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Indeno(1,2,3-cd)pyrene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Naphthalene	0.21	0.12	mg/kg	8270C-SIM	08/23/10	20
Phenanthrene	0.16	0.12	mg/kg	8270C-SIM	08/23/10	20
Pyrene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
1-Methylnaphthalene	0.18	0.12	mg/kg	8270C-SIM	08/23/10	20
2-Methylnaphthalene	0.33	0.12	mg/kg	8270C-SIM	08/23/10	20
2-Chloronaphthalene	BDL	0.12	mg/kg	8270C-SIM	08/23/10	20
Surrogate Recovery						
Nitrobenzene-d5	0.00		% Rec.	8270C-SIM	08/23/10	20
2-Fluorobiphenyl	0.00		% Rec.	8270C-SIM	08/23/10	20
p-Terphenyl-d14	0.00		% Rec.	8270C-SIM	08/23/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 08/24/10 16:04 Printed: 08/24/10 16:04
L474582-08 (PH) - 8.6@21.2c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L474582-04	WG494373	SAMP	o-Terphenyl	R1338829	J7
L474582-05	WG494373	SAMP	o-Terphenyl	R1338829	J7
L474582-06	WG494373	SAMP	o-Terphenyl	R1338829	J7
L474582-07	WG494473	SAMP	Nitrobenzene-d5	R1341788	J7
	WG494473	SAMP	2-Fluorobiphenyl	R1341788	J7
	WG494473	SAMP	p-Terphenyl-d14	R1341788	J7
L474582-08	WG494473	SAMP	Nitrobenzene-d5	R1341788	J7
	WG494473	SAMP	2-Fluorobiphenyl	R1341788	J7
	WG494473	SAMP	p-Terphenyl-d14	R1341788	J7

Attachment B
Explanation of QC Qualifier Codes

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

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
08/24/10 at 16:05:00

TSR Signing Reports: 358
R4 - Rush: Three Day

Create p-keys for projects. Enter project name as Project Number and Project Name. Log all samples to separate L#s. See L471333 when COC says see attached list. PAHs = SV8270PAHSIM. BTEX = 8021.

Sample: L474582-01 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04
Sample: L474582-02 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04
Sample: L474582-03 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04
Sample: L474582-04 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04
Sample: L474582-05 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04
Sample: L474582-06 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04
Sample: L474582-07 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04
Sample: L474582-08 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/24/10 00:00 RPT Date: 08/24/10 16:04



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG494211	08/19/10 14:24
Ethylbenzene	< .0005	mg/kg			WG494211	08/19/10 14:24
Toluene	< .005	mg/kg			WG494211	08/19/10 14:24
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG494211	08/19/10 14:24
Total Xylene	< .0015	mg/kg			WG494211	08/19/10 14:24
a,a,a-Trifluorotoluene(FID)		% Rec.	103.3	59-128	WG494211	08/19/10 14:24
a,a,a-Trifluorotoluene(PID)		% Rec.	106.9	54-144	WG494211	08/19/10 14:24
TPH (GC/FID) High Fraction	< 4	ppm			WG494373	08/20/10 08:06
o-Terphenyl		% Rec.	96.56	50-150	WG494373	08/20/10 08:06
Arsenic	< 1	mg/kg			WG494363	08/20/10 11:22
Barium	< .25	mg/kg			WG494363	08/20/10 11:22
Cadmium	< .25	mg/kg			WG494363	08/20/10 11:22
Chromium	< .5	mg/kg			WG494363	08/20/10 11:22
Copper	< 1	mg/kg			WG494363	08/20/10 11:22
Lead	< .25	mg/kg			WG494363	08/20/10 11:22
Nickel	< 1	mg/kg			WG494363	08/20/10 11:22
Selenium	< 1	mg/kg			WG494363	08/20/10 11:22
Silver	< .5	mg/kg			WG494363	08/20/10 11:22
Zinc	< 1.5	mg/kg			WG494363	08/20/10 11:22
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG494250	08/19/10 15:02
a,a,a-Trifluorotoluene(FID)		% Rec.	117.4	59-128	WG494250	08/19/10 15:02
Mercury	< .02	mg/kg			WG494206	08/20/10 13:39
Chromium,Hexavalent	< 2	mg/kg			WG494417	08/20/10 16:21
Specific Conductance	0.750	umhos/cm			WG494637	08/21/10 10:39
1-Methylnaphthalene	< .006	mg/kg			WG494473	08/23/10 11:07
2-Chloronaphthalene	< .006	mg/kg			WG494473	08/23/10 11:07
2-Methylnaphthalene	< .006	mg/kg			WG494473	08/23/10 11:07
Acenaphthene	< .006	mg/kg			WG494473	08/23/10 11:07
Acenaphthylene	< .006	mg/kg			WG494473	08/23/10 11:07
Anthracene	< .006	mg/kg			WG494473	08/23/10 11:07
Benzo(a)anthracene	< .006	mg/kg			WG494473	08/23/10 11:07
Benzo(a)pyrene	< .006	mg/kg			WG494473	08/23/10 11:07
Benzo(b)fluoranthene	< .006	mg/kg			WG494473	08/23/10 11:07
Benzo(g,h,i)perylene	< .006	mg/kg			WG494473	08/23/10 11:07
Benzo(k)fluoranthene	< .006	mg/kg			WG494473	08/23/10 11:07
Chrysene	< .006	mg/kg			WG494473	08/23/10 11:07
Dibenz(a,h)anthracene	< .006	mg/kg			WG494473	08/23/10 11:07
Fluoranthene	< .006	mg/kg			WG494473	08/23/10 11:07
Fluorene	< .006	mg/kg			WG494473	08/23/10 11:07
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG494473	08/23/10 11:07
Naphthalene	< .006	mg/kg			WG494473	08/23/10 11:07
Phenanthrene	< .006	mg/kg			WG494473	08/23/10 11:07
Pyrene	< .006	mg/kg			WG494473	08/23/10 11:07
2-Fluorobiphenyl		% Rec.	79.56	21-120	WG494473	08/23/10 11:07
Nitrobenzene-d5		% Rec.	77.02	33-114	WG494473	08/23/10 11:07

* Performance of this Analyte is outside of established criteria.

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August 24, 2010

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
p-Terphenyl-d14		% Rec.	99.45		18-142		08/23/10 11:07

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Arsenic	mg/kg	4.20	4.31	2.35	20	L474594-04	WG494363
Barium	mg/kg	120.	140.	12.1	20	L474594-04	WG494363
Cadmium	mg/kg	0.310	0.329	5.95	20	L474594-04	WG494363
Chromium	mg/kg	10.0	10.7	5.77	20	L474594-04	WG494363
Copper	mg/kg	8.60	8.88	2.74	20	L474594-04	WG494363
Lead	mg/kg	7.60	7.90	3.61	20	L474594-04	WG494363
Nickel	mg/kg	4.60	4.39	3.58	20	L474594-04	WG494363
Selenium	mg/kg	0	0	0	20	L474594-04	WG494363
Silver	mg/kg	0	0	0	20	L474594-04	WG494363
Zinc	mg/kg	34.0	34.9	4.09	20	L474594-04	WG494363
Mercury	mg/kg	0.0160	0.0150	6.45	20	L474414-10	WG494206
Chromium,Hexavalent	mg/kg	0	0	0	20	L474578-01	WG494417
Specific Conductance	umhos/cm	200.	200.	0.753	20	L474297-01	WG494637
Specific Conductance	umhos/cm	180.	180.	1.32	20	L474701-28	WG494637
ORP	mV	0	0	0	20	L474582-07	WG494729

Analyte	Units	Known Val	Control Sample Result	% Rec	Limit	Batch
Benzene	mg/kg	.05	0.0539	108.	76-113	WG494211
Ethylbenzene	mg/kg	.05	0.0539	108.	78-115	WG494211
Toluene	mg/kg	.05	0.0524	105.	76-114	WG494211
Total Xylene	mg/kg	.15	0.156	104.	81-118	WG494211
a,a,a-Trifluorotoluene(PID)				106.9	54-144	WG494211
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.53	101.	67-135	WG494211
a,a,a-Trifluorotoluene(FID)				108.0	59-128	WG494211
TPH (GC/FID) High Fraction	ppm	60	47.6	79.3	50-150	WG494373
o-Terphenyl				99.69	50-150	WG494373
Arsenic	mg/kg	192	163.	84.9	78.6-120.8	WG494363
Barium	mg/kg	420	370.	88.1	78.8-121.4	WG494363
Cadmium	mg/kg	70.1	58.5	83.5	78.5-121.5	WG494363
Chromium	mg/kg	168	147.	87.5	80.4-120.2	WG494363
Copper	mg/kg	122	115.	94.3	81.6-119.7	WG494363
Lead	mg/kg	113	99.9	88.4	77.3-122.1	WG494363
Nickel	mg/kg	74.1	58.7	79.2	78.8-121.2	WG494363
Selenium	mg/kg	176	145.	82.4	75.6-125.0	WG494363
Silver	mg/kg	115	101.	87.8	66-133.9	WG494363
Zinc	mg/kg	437	376.	86.0	78.5-121.7	WG494363
TPH (GC/FID) Low Fraction	mg/kg	5.5	4.90	89.1	67-135	WG494250
a,a,a-Trifluorotoluene(FID)				77.10	59-128	WG494250

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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Mercury	mg/kg	8.77	10.6	121.	71.6-127.7	WG494206
Chromium, Hexavalent	mg/kg	100	65.2	65.2	50-143	WG494417
Specific Conductance	umhos/cm	406	420.	103.	85-115	WG494637
ORP	mV	229	220.	96.1	95.6-104.37	WG494729
1-Methylnaphthalene	mg/kg	.033	0.0255	77.2	41-110	WG494473
2-Chloronaphthalene	mg/kg	.033	0.0271	82.3	43-109	WG494473
2-Methylnaphthalene	mg/kg	.033	0.0267	81.0	38-104	WG494473
Acenaphthene	mg/kg	.033	0.0268	81.1	48-103	WG494473
Acenaphthylene	mg/kg	.033	0.0263	79.5	43-106	WG494473
Anthracene	mg/kg	.033	0.0296	89.6	51-110	WG494473
Benzo(a)anthracene	mg/kg	.033	0.0285	86.4	38-126	WG494473
Benzo(a)pyrene	mg/kg	.033	0.0275	83.5	47-118	WG494473
Benzo(b)fluoranthene	mg/kg	.033	0.0275	83.2	47-118	WG494473
Benzo(g,h,i)perylene	mg/kg	.033	0.0273	82.7	40-125	WG494473
Benzo(k)fluoranthene	mg/kg	.033	0.0287	87.1	45-121	WG494473
Chrysene	mg/kg	.033	0.0283	85.6	35-135	WG494473
Dibenz(a,h)anthracene	mg/kg	.033	0.0269	81.6	41-124	WG494473
Fluoranthene	mg/kg	.033	0.0302	91.5	50-114	WG494473
Fluorene	mg/kg	.033	0.0279	84.6	49-109	WG494473
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0273	82.8	40-126	WG494473
Naphthalene	mg/kg	.033	0.0230	69.8	36-100	WG494473
Phenanthrene	mg/kg	.033	0.0301	91.3	46-108	WG494473
Pyrene	mg/kg	.033	0.0277	83.9	30-136	WG494473
2-Fluorobiphenyl				84.37	21-120	WG494473
Nitrobenzene-d5				78.37	33-114	WG494473
p-Terphenyl-d14				98.95	18-142	WG494473

Analyte	Units	Laboratory Control Result	Ref	Sample Duplicate %Rec	Limit	RPD	Limit	Batch
Benzene	mg/kg	0.0550	0.0539	110.	76-113	2.06	20	WG494211
Ethylbenzene	mg/kg	0.0536	0.0539	107.	78-115	0.590	20	WG494211
Toluene	mg/kg	0.0528	0.0524	106.	76-114	0.750	20	WG494211
Total Xylene	mg/kg	0.155	0.156	103.	81-118	0.640	20	WG494211
a,a,a-Trifluorotoluene(PID)				107.5	54-144			WG494211
TPH (GC/FID) Low Fraction	mg/kg	6.15	5.53	112.	67-135	10.7	20	WG494211
a,a,a-Trifluorotoluene(FID)				107.6	59-128			WG494211
TPH (GC/FID) High Fraction	ppm	47.2	47.6	79.0	50-150	0.877	25	WG494373
o-Terphenyl				102.4	50-150			WG494373
TPH (GC/FID) Low Fraction	mg/kg	5.00	4.90	91.0	67-135	1.95	20	WG494250
a,a,a-Trifluorotoluene(FID)				76.64	59-128			WG494250
Chromium, Hexavalent	mg/kg	70.9	65.2	71.0	50-143	8.38	20	WG494417
Specific Conductance	umhos/	420.	420.	103.	85-115	0	20	WG494637

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Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
ORP	mV	220.	220.	96.0		95.6-104.37	0	20	WG494729
1-Methylnaphthalene	mg/kg	0.0249	0.0255	75.0		41-110	2.42	24	WG494473
2-Chloronaphthalene	mg/kg	0.0280	0.0271	85.0		43-109	3.19	21	WG494473
2-Methylnaphthalene	mg/kg	0.0255	0.0267	77.0		38-104	4.84	24	WG494473
Acenaphthene	mg/kg	0.0260	0.0268	79.0		48-103	2.81	20	WG494473
Acenaphthylene	mg/kg	0.0255	0.0263	77.0		43-106	2.73	20	WG494473
Anthracene	mg/kg	0.0256	0.0296	78.0		51-110	14.2	22	WG494473
Benzo(a)anthracene	mg/kg	0.0264	0.0285	80.0		38-126	7.63	20	WG494473
Benzo(a)pyrene	mg/kg	0.0257	0.0275	78.0		47-118	6.87	20	WG494473
Benzo(b)fluoranthene	mg/kg	0.0280	0.0275	85.0		47-118	1.74	29	WG494473
Benzo(g,h,i)perylene	mg/kg	0.0252	0.0273	76.0		40-125	8.10	20	WG494473
Benzo(k)fluoranthene	mg/kg	0.0261	0.0287	79.0		45-121	9.51	31	WG494473
Chrysene	mg/kg	0.0264	0.0283	80.0		35-135	6.80	20	WG494473
Dibenz(a,h)anthracene	mg/kg	0.0254	0.0269	77.0		41-124	5.95	20	WG494473
Fluoranthene	mg/kg	0.0287	0.0302	87.0		50-114	4.90	20	WG494473
Fluorene	mg/kg	0.0280	0.0279	85.0		49-109	0.327	19	WG494473
Indeno(1,2,3-cd)pyrene	mg/kg	0.0251	0.0273	76.0		40-126	8.69	20	WG494473
Naphthalene	mg/kg	0.0229	0.0230	69.0		36-100	0.536	24	WG494473
Phenanthrene	mg/kg	0.0283	0.0301	86.0		46-108	6.31	21	WG494473
Pyrene	mg/kg	0.0241	0.0277	73.0		30-136	13.8	20	WG494473
2-Fluorobiphenyl				81.75		21-120			WG494473
Nitrobenzene-d5				76.93		33-114			WG494473
p-Terphenyl-d14				89.13		18-142			WG494473

Analyte	Units	MS Res	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
			Ref Res						
Benzene	mg/kg	0.224	0.00110	.05	89.2		32-137	L474297-01	WG494211
Ethylbenzene	mg/kg	0.172	0	.05	68.9		10-150	L474297-01	WG494211
Toluene	mg/kg	0.175	0	.05	69.9		20-142	L474297-01	WG494211
Total Xylene	mg/kg	0.510	0.0200	.15	65.3		16-141	L474297-01	WG494211
a,a,a-Trifluorotoluene(PID)					106.2		54-144		WG494211
TPH (GC/FID) Low Fraction	mg/kg	25.5	5.40	5.5	73.1		55-109	L474297-01	WG494211
a,a,a-Trifluorotoluene(FID)					104.7		59-128		WG494211
Arsenic	mg/kg	47.7	4.31	50	86.8		75-125	L474594-04	WG494363
Barium	mg/kg	178.	140.	50	76.0		75-125	L474594-04	WG494363
Cadmium	mg/kg	43.2	0.329	50	85.7		75-125	L474594-04	WG494363
Chromium	mg/kg	56.1	10.7	50	90.8		75-125	L474594-04	WG494363
Copper	mg/kg	55.4	8.88	50	93.0		75-125	L474594-04	WG494363
Lead	mg/kg	51.7	7.90	50	87.6		75-125	L474594-04	WG494363
Nickel	mg/kg	50.5	4.39	50	92.2		75-125	L474594-04	WG494363
Selenium	mg/kg	39.9	0	50	79.8		75-125	L474594-04	WG494363
Silver	mg/kg	44.2	0	50	88.4		75-125	L474594-04	WG494363
Zinc	mg/kg	77.6	34.9	50	85.4		75-125	L474594-04	WG494363
TPH (GC/FID) Low Fraction	mg/kg	4.48	0.295	5.5	76.0		55-109	L474454-03	WG494250
a,a,a-Trifluorotoluene(FID)					81.92		59-128		WG494250
Mercury	mg/kg	0.258	0.0150	.25	97.2		70-130	L474414-10	WG494206
Chromium,Hexavalent	mg/kg	3.30	0	20	16.5*		50-150	L474578-02	WG494417

* 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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EnCana Oil & Gas Inc. - CO
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August 24, 2010

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.233	0.224	92.7	32-137	3.79	39	L474297-01	WG494211
Ethylbenzene	mg/kg	0.182	0.172	73.0	10-150	5.76	44	L474297-01	WG494211
Toluene	mg/kg	0.180	0.175	72.0	20-142	2.88	42	L474297-01	WG494211
Total Xylene	mg/kg	0.528	0.510	67.7	16-141	3.47	46	L474297-01	WG494211
a,a,a-Trifluorotoluene(PID)				107.0	54-144				WG494211
TPH (GC/FID) Low Fraction	mg/kg	24.0	25.5	67.6	55-109	6.14	20	L474297-01	WG494211
a,a,a-Trifluorotoluene(FID)				104.6	59-128				WG494211
Arsenic	mg/kg	46.3	47.7	84.0	75-125	2.98	20	L474594-04	WG494363
Barium	mg/kg	162.	178.	44.0*	75-125	9.41	20	L474594-04	WG494363
Cadmium	mg/kg	42.0	43.2	83.3	75-125	2.82	20	L474594-04	WG494363
Chromium	mg/kg	55.6	56.1	89.8	75-125	0.895	20	L474594-04	WG494363
Copper	mg/kg	55.1	55.4	92.4	75-125	0.543	20	L474594-04	WG494363
Lead	mg/kg	50.4	51.7	85.0	75-125	2.55	20	L474594-04	WG494363
Nickel	mg/kg	48.4	50.5	88.0	75-125	4.25	20	L474594-04	WG494363
Selenium	mg/kg	38.6	39.9	77.2	75-125	3.31	20	L474594-04	WG494363
Silver	mg/kg	43.9	44.2	87.8	75-125	0.681	20	L474594-04	WG494363
Zinc	mg/kg	76.1	77.6	82.4	75-125	1.95	20	L474594-04	WG494363
TPH (GC/FID) Low Fraction	mg/kg	4.66	4.48	79.4	55-109	4.02	20	L474454-03	WG494250
a,a,a-Trifluorotoluene(FID)				82.92	59-128				WG494250
Mercury	mg/kg	0.240	0.258	90.0	70-130	7.23	20	L474414-10	WG494206
Chromium,Hexavalent	mg/kg	1.02	3.30	5.10*	50-150	106.*	20	L474578-02	WG494417

Batch number /Run number / Sample number cross reference

WG494211: R1338388: L474582-07 08
WG494373: R1338829: L474582-04 05 06 07 08
WG494363: R1339409: L474582-01 02 03 04 06 07 08
WG494250: R1339648: L474582-04 05 06
WG494206: R1339868: L474582-07 08
WG494417: R1340248: L474582-07 08
WG494637: R1341252: L474582-07 08
WG494729: R1341448: L474582-07 08
WG494369: R1341464: L474582-07 08
WG494473: R1341788: L474582-07 08
WG494411: R1342309: L474582-07 08

* * Calculations are performed prior to rounding of reported values .
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August 24, 2010

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

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

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

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



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

Report Summary

Thursday September 16, 2010

Report Number: L478532b

Samples Received: 09/14/10

Client Project:

Description:

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jayred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

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REPORT OF ANALYSIS

Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

September 16, 2010

Date Received : September 14, 2010
Description :

Sample ID : E34-N PIT BOTTOM

Collected By : C. Jensen
Collection Date : 09/13/10 11:15

ESC Sample # : L478532-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	09/14/10	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	103.		% Rec.	602/8015	09/14/10	5
TPH (GC/FID) High Fraction	1400	80.	mg/kg	3546/DRO	09/15/10	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	3546/DRO	09/15/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 09/16/10 09:19 Printed: 09/16/10 09:19



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REPORT OF ANALYSIS

Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

September 16, 2010

Date Received : September 14, 2010
Description :

Sample ID : E34-S PIT BOTTOM

Collected By : C. Jensen
Collection Date : 09/13/10 11:15

ESC Sample # : L478532-04

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	09/14/10	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	102.		% Rec.	602/8015	09/14/10	5
TPH (GC/FID) High Fraction	780	80.	mg/kg	3546/DRO	09/15/10	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	3546/DRO	09/15/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 09/16/10 09:19 Printed: 09/16/10 09:19

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L478532-03	WG498283	SAMP	o-Terphenyl	R1377348	J7
L478532-04	WG498283	SAMP	o-Terphenyl	R1377348	J7

Attachment B
Explanation of QC Qualifier Codes

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

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
09/16/10 at 09:19:39

TSR Signing Reports: 358
R3 - Rush: Two Day

Sample: L478532-01 Account: ENCANACO Received: 09/14/10 09:00 Due Date: 09/16/10 00:00 RPT Date: 09/16/10 09:19
Sample: L478532-02 Account: ENCANACO Received: 09/14/10 09:00 Due Date: 09/16/10 00:00 RPT Date: 09/16/10 09:19
Sample: L478532-03 Account: ENCANACO Received: 09/14/10 09:00 Due Date: 09/16/10 00:00 RPT Date: 09/16/10 09:19
Sample: L478532-04 Account: ENCANACO Received: 09/14/10 09:00 Due Date: 09/16/10 00:00 RPT Date: 09/16/10 09:19
Sample: L478532-05 Account: ENCANACO Received: 09/14/10 09:00 Due Date: 09/16/10 00:00 RPT Date: 09/16/10 09:19



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September 16, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG498225	09/14/10 16:28
a,a,a-Trifluorotoluene(FID)		% Rec.	104.2	59-128	WG498225	09/14/10 16:28
TPH (GC/FID) High Fraction	< 4	ppm			WG498283	09/15/10 11:18
o-Terphenyl		% Rec.	58.76	50-150	WG498283	09/15/10 11:18
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG498364	09/15/10 12:48
a,a,a-Trifluorotoluene(FID)		% Rec.	101.4	59-128	WG498364	09/15/10 12:48

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.67	103.	67-135	WG498225
a,a,a-Trifluorotoluene(FID)				104.5	59-128	WG498225
TPH (GC/FID) High Fraction	ppm	60	48.2	80.3	50-150	WG498283
o-Terphenyl				69.39	50-150	WG498283
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.19	94.3	67-135	WG498364
a,a,a-Trifluorotoluene(FID)				108.8	59-128	WG498364

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) Low Fraction	mg/kg	6.06	5.67	110.	67-135	6.66	20	WG498225
a,a,a-Trifluorotoluene(FID)				105.4	59-128			WG498225
TPH (GC/FID) High Fraction	ppm	47.0	48.2	78.0	50-150	2.60	25	WG498283
o-Terphenyl				69.67	50-150			WG498283
TPH (GC/FID) Low Fraction	mg/kg	5.58	5.19	101.	67-135	7.23	20	WG498364
a,a,a-Trifluorotoluene(FID)				110.7	59-128			WG498364

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction	mg/kg	26.1	0	5.5	94.8	55-109	L478525-01	WG498225
a,a,a-Trifluorotoluene(FID)					101.7	59-128		WG498225
TPH (GC/FID) High Fraction	ppm	45.6	0	60	76.0	50-150	L478212-01	WG498283
o-Terphenyl					66.60	50-150		WG498283
TPH (GC/FID) Low Fraction	mg/kg	18.9	0	5.5	68.7	55-109	L478532-01	WG498364
a,a,a-Trifluorotoluene(FID)					103.7	59-128		WG498364

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	27.7	26.1	101.	55-109	5.95	20	L478525-01	WG498225
a,a,a-Trifluorotoluene(FID)				103.8	59-128				WG498225

* Performance of this Analyte is outside of established criteria.

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September 16, 2010

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) High Fraction	ppm	45.5	45.6	75.9	50-150	0.188	25	L478212-01	WG498283
o-Terphenyl				67.69	50-150				WG498283
TPH (GC/FID) Low Fraction	mg/kg	18.5	18.9	67.4	55-109	1.89	20	L478532-01	WG498364
a,a,a-Trifluorotoluene(FID)				103.4	59-128				WG498364

Batch number /Run number / Sample number cross reference

WG498225: R1375668: L478532-02 03 04 05
WG498283: R1377348: L478532-01 02 03 04 05
WG498364: R1377408: L478532-01

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

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



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



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

Report Summary

Friday July 30, 2010

Report Number: L470853

Samples Received: 07/28/10

Client Project:

Description: H34 Pit Closure

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

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

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

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REPORT OF ANALYSIS

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

July 30, 2010

Date Received : July 28, 2010
Description : H34 Pit Closure
Sample ID : H34-SE BACK-072610
Collected By : Blair Rollins
Collection Date : 07/26/10 14:50

ESC Sample # : L470853-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	16.	1.0	mg/kg	6010B	07/29/10	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: 07/30/10 15:00 Printed: 07/30/10 15:01

Summary of Remarks For Samples Printed
07/30/10 at 15:01:13

TSR Signing Reports: 358
R3 - Rush: Two Day

Log all samples to separate L#s. Log all PAHs as SV8270PAHSIM. Log all BTEX samples by 8021.

Sample: L470853-01 Account: ENCANACO Received: 07/28/10 09:00 Due Date: 07/30/10 00:00 RPT Date: 07/30/10 15:00



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
2717 County Road 215, Suite 100
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Quality Assurance Report
Level II

L470853

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July 30, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed			
		Units	% Rec						
Arsenic	< 1	mg/kg			WG490725	07/29/10 10:33			
Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch		
		Result	Duplicate						
Arsenic	mg/kg	7.20	6.90	4.67	20	L470846-01	WG490725		
Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch			
		Known Val	Result						
Arsenic	mg/kg	192	173.	90.1	78.6-120.8	WG490725			
Analyte	Units	Matrix Spike		% Rec	Limit	Ref Samp	Batch		
		MS Res	Ref Res						
Arsenic	mg/kg	52.1	6.90	50	90.4	75-125	L470846-01	WG490725	
Analyte	Units	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch	
		MSD	Ref						
Arsenic	mg/kg	51.1	52.1	88.4	75-125	1.94	20	L470846-01	WG490725

Batch number /Run number / Sample number cross reference

WG490725: R1304568: L470853-01

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



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July 30, 2010

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

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

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

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



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Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Monday August 23, 2010

Report Number: L474577

Samples Received: 08/19/10

Client Project: M34 PIT CLOSURE

Description: M34 Pit Closure

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

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

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REPORT OF ANALYSIS

Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

August 23, 2010

Date Received : August 19, 2010
Description : M34 Pit Closure
Sample ID : M34-SE BACK-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 13:25

ESC Sample # : L474577-01

Site ID :

Project # : M34 PIT CLOSURE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	4.3	1.0	mg/kg	6010B	08/21/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/23/10 16:47 Printed: 08/23/10 16:53



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REPORT OF ANALYSIS

Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

August 23, 2010

Date Received : August 19, 2010
Description : M34 Pit Closure
Sample ID : M34-S BACK-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 13:30

ESC Sample # : L474577-02

Site ID :

Project # : M34 PIT CLOSURE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	14.	1.0	mg/kg	6010B	08/21/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Reported: 08/23/10 16:47 Printed: 08/23/10 16:53



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REPORT OF ANALYSIS

Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

August 23, 2010

Date Received : August 19, 2010
Description : M34 Pit Closure
Sample ID : M34-SW BACK-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 13:35

ESC Sample # : L474577-03

Site ID :

Project # : M34 PIT CLOSURE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	5.1	1.0	mg/kg	6010B	08/21/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/23/10 16:47 Printed: 08/23/10 16:53

REPORT OF ANALYSIS

Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

August 23, 2010

Date Received : August 19, 2010
Description : M34 Pit Closure
Sample ID : M34-S PIT-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 14:10

ESC Sample # : L474577-04

Site ID :

Project # : M34 PIT CLOSURE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	3.6	1.0	mg/kg	6010B	08/20/10	1
Benzene	BDL	0.0025	mg/kg	8021/8015	08/19/10	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/19/10	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	08/19/10	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/19/10	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	08/19/10	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/19/10	5
a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021/8015	08/19/10	5
TPH (GC/FID) High Fraction	2000	80.	mg/kg	3546/DRO	08/22/10	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	08/22/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/23/10 16:47 Printed: 08/23/10 16:53

REPORT OF ANALYSIS

Chris Hines or Brad Kieding
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

August 23, 2010

Date Received : August 19, 2010
Description : M34 Pit Closure
Sample ID : M34-N PIT-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 14:30

ESC Sample # : L474577-05

Site ID :

Project # : M34 PIT CLOSURE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	5.9	1.0	mg/kg	6010B	08/20/10	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	08/20/10	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	118.		% Rec.	602/8015	08/20/10	5
TPH (GC/FID) High Fraction	3000	80.	mg/kg	3546/DRO	08/22/10	20
Surrogate recovery(%) o-Terphenyl	0.00		% Rec.	3546/DRO	08/22/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

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

August 23, 2010

Date Received : August 19, 2010
Description : M34 Pit Closure
Sample ID : M34-SPOILS-081710
Collected By : Blair Rollins
Collection Date : 08/17/10 14:50

ESC Sample # : L474577-06

Site ID :

Project # : M34 PIT CLOSURE

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	5.4	1.0	mg/kg	6010B	08/20/10	1
Benzene	BDL	0.0025	mg/kg	8021/8015	08/19/10	5
Toluene	BDL	0.025	mg/kg	8021/8015	08/19/10	5
Ethylbenzene	0.0026	0.0025	mg/kg	8021/8015	08/19/10	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	08/19/10	5
TPH (GC/FID) Low Fraction	3.1	0.50	mg/kg	GRO	08/19/10	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	08/19/10	5
a,a,a-Trifluorotoluene(PID)	105.		% Rec.	8021/8015	08/19/10	5
TPH (GC/FID) High Fraction	1400	80.	mg/kg	3546/DRO	08/22/10	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	08/22/10	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/23/10 16:47 Printed: 08/23/10 16:53

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L474577-04	WG494373	SAMP	o-Terphenyl	R1338829	J7
L474577-05	WG494373	SAMP	o-Terphenyl	R1338829	J7
L474577-06	WG494373	SAMP	o-Terphenyl	R1338829	J7

Attachment B
Explanation of QC Qualifier Codes

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

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
08/23/10 at 16:53:22

TSR Signing Reports: 358
R3 - Rush: Two Day

Create p-keys for projects. Enter project name as Project Number and Project Name. Log all samples to separate L#s. See L471333 when COC says see attached list. PAHs = SV8270PAHSIM. BTEX = 8021.

Sample: L474577-01 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/23/10 00:00 RPT Date: 08/23/10 16:47

Sample: L474577-02 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/23/10 00:00 RPT Date: 08/23/10 16:47

Sample: L474577-03 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/23/10 00:00 RPT Date: 08/23/10 16:47

Sample: L474577-04 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/23/10 00:00 RPT Date: 08/23/10 16:47

Sample: L474577-05 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/23/10 00:00 RPT Date: 08/23/10 16:47

Sample: L474577-06 Account: ENCANACO Received: 08/19/10 09:00 Due Date: 08/23/10 00:00 RPT Date: 08/23/10 16:47



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Quality Assurance Report
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Est. 1970

August 23, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG494211	08/19/10 14:24
Ethylbenzene	< .0005	mg/kg			WG494211	08/19/10 14:24
Toluene	< .005	mg/kg			WG494211	08/19/10 14:24
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG494211	08/19/10 14:24
Total Xylene	< .0015	mg/kg			WG494211	08/19/10 14:24
a,a,a-Trifluorotoluene(FID)		% Rec.	103.3	59-128	WG494211	08/19/10 14:24
a,a,a-Trifluorotoluene(PID)		% Rec.	106.9	54-144	WG494211	08/19/10 14:24
TPH (GC/FID) High Fraction	< 4	ppm			WG494373	08/20/10 08:06
o-Terphenyl		% Rec.	96.56	50-150	WG494373	08/20/10 08:06
Arsenic	< 1	mg/kg			WG494363	08/20/10 11:22
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG494250	08/19/10 15:02
a,a,a-Trifluorotoluene(FID)		% Rec.	117.4	59-128	WG494250	08/19/10 15:02
Arsenic	< 1	mg/kg			WG494361	08/21/10 13:00
Arsenic	< 1	mg/kg			WG494575	08/22/10 09:47

Analyte	Units	Result	Duplicate		Limit	Ref Samp	Batch
			Duplicate	RPD			
Arsenic	mg/kg	4.20	4.31	2.35	20	L474594-04	WG494363
Arsenic	mg/kg	11.0	11.3	3.60	20	L474438-07	WG494361
Arsenic	mg/kg	16.0	14.0	12.1	20	L474577-02	WG494575

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0539	108.	76-113	WG494211
Ethylbenzene	mg/kg	.05	0.0539	108.	78-115	WG494211
Toluene	mg/kg	.05	0.0524	105.	76-114	WG494211
Total Xylene	mg/kg	.15	0.156	104.	81-118	WG494211
a,a,a-Trifluorotoluene(PID)				106.9	54-144	WG494211
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.53	101.	67-135	WG494211
a,a,a-Trifluorotoluene(FID)				108.0	59-128	WG494211
TPH (GC/FID) High Fraction	ppm	60	47.6	79.3	50-150	WG494373
o-Terphenyl				99.69	50-150	WG494373
Arsenic	mg/kg	192	163.	84.9	78.6-120.8	WG494363
TPH (GC/FID) Low Fraction	mg/kg	5.5	4.90	89.1	67-135	WG494250
a,a,a-Trifluorotoluene(FID)				77.10	59-128	WG494250

* 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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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Arsenic	mg/kg	192	164.	85.4	78.6-120.8	WG494361
Arsenic	mg/kg	192	205.	107.	78.6-120.8	WG494575

Analyte	Units	Laboratory Control Result	Ref	Sample Duplicate %Rec	Limit	RPD	Limit	Batch
Benzene	mg/kg	0.0550	0.0539	110.	76-113	2.06	20	WG494211
Ethylbenzene	mg/kg	0.0536	0.0539	107.	78-115	0.590	20	WG494211
Toluene	mg/kg	0.0528	0.0524	106.	76-114	0.750	20	WG494211
Total Xylene	mg/kg	0.155	0.156	103.	81-118	0.640	20	WG494211
a,a,a-Trifluorotoluene(PID)				107.5	54-144			WG494211
TPH (GC/FID) Low Fraction	mg/kg	6.15	5.53	112.	67-135	10.7	20	WG494211
a,a,a-Trifluorotoluene(FID)				107.6	59-128			WG494211
TPH (GC/FID) High Fraction	ppm	47.2	47.6	79.0	50-150	0.877	25	WG494373
o-Terphenyl				102.4	50-150			WG494373
TPH (GC/FID) Low Fraction	mg/kg	5.00	4.90	91.0	67-135	1.95	20	WG494250
a,a,a-Trifluorotoluene(FID)				76.64	59-128			WG494250

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Benzene	mg/kg	0.224	0.00110	.05	89.2	32-137	L474297-01	WG494211
Ethylbenzene	mg/kg	0.172	0	.05	68.9	10-150	L474297-01	WG494211
Toluene	mg/kg	0.175	0	.05	69.9	20-142	L474297-01	WG494211
Total Xylene	mg/kg	0.510	0.0200	.15	65.3	16-141	L474297-01	WG494211
a,a,a-Trifluorotoluene(PID)					106.2	54-144		WG494211
TPH (GC/FID) Low Fraction	mg/kg	25.5	5.40	5.5	73.1	55-109	L474297-01	WG494211
a,a,a-Trifluorotoluene(FID)					104.7	59-128		WG494211
Arsenic	mg/kg	47.7	4.31	50	86.8	75-125	L474594-04	WG494363
TPH (GC/FID) Low Fraction	mg/kg	4.48	0.295	5.5	76.0	55-109	L474454-03	WG494250
a,a,a-Trifluorotoluene(FID)					81.92	59-128		WG494250
Arsenic	mg/kg	58.5	11.3	10	94.4	75-125	L474438-07	WG494361
Arsenic	mg/kg	56.2	14.0	50	84.4	75-125	L474577-02	WG494575

Analyte	Units	MSD	Ref	Matrix Spike Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Benzene	mg/kg	0.233	0.224	92.7	32-137	3.79	39	L474297-01	WG494211
Ethylbenzene	mg/kg	0.182	0.172	73.0	10-150	5.76	44	L474297-01	WG494211
Toluene	mg/kg	0.180	0.175	72.0	20-142	2.88	42	L474297-01	WG494211
Total Xylene	mg/kg	0.528	0.510	67.7	16-141	3.47	46	L474297-01	WG494211
a,a,a-Trifluorotoluene(PID)				107.0	54-144				WG494211
TPH (GC/FID) Low Fraction	mg/kg	24.0	25.5	67.6	55-109	6.14	20	L474297-01	WG494211
a,a,a-Trifluorotoluene(FID)				104.6	59-128				WG494211

* 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 or Brad Kieding
2717 County Road 215, Suite 100

Parachute, CO 81635

Quality Assurance Report
Level II

L474577

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 23, 2010

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Arsenic	mg/kg	46.3	47.7	84.0	75-125	2.98	20	L474594-04	WG494363
TPH (GC/FID) Low Fraction	mg/kg	4.66	4.48	79.4	55-109	4.02	20	L474454-03	WG494250
a,a,a-Trifluorotoluene(FID)				82.92	59-128				WG494250
Arsenic	mg/kg	57.0	58.5	91.4	75-125	2.60	20	L474438-07	WG494361
Arsenic	mg/kg	57.6	56.2	87.2	75-125	2.46	20	L474577-02	WG494575

Batch number /Run number / Sample number cross reference

WG494211: R1338388: L474577-04 06
WG494373: R1338829: L474577-04 05 06
WG494363: R1339409: L474577-04 05 06
WG494250: R1339648: L474577-05
WG494361: R1341331: L474577-01 03
WG494575: R1341551: L474577-02

* * 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.