



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
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Tax I.D. 62-0814289

Est. 1970

Forrest Thorniley
EnCana Oil & Gas - Longmont, CO
3601 Stagecoach Rd
Longmont, CO 80504

Report Summary

Wednesday December 10, 2014

Report Number: L736743


Samples Received: 12/03/14

Client Project: Geist McCoy

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:


Jared Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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

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REPORT OF ANALYSIS

Forrest Thorniley
 EnCana Oil & Gas - Longmont, CO
 3601 Stagecoach Rd
 Longmont, CO 80504

December 10, 2014

Date Received : December 03, 2014
 Description :
 Sample ID : 2E-5H 6IN
 Collected By : Forrest Thorniley
 Collection Date : 12/01/14 13:30

ESC Sample # : L736743-01
 Site ID : GEIST MCCOY
 Project # : Geist McCoy

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium,Hexavalent	BDL	2.0	mg/kg	3060A/7196A	12/09/14	1
Chromium,Trivalent	11.	2.0	mg/kg	Calc.	12/10/14	1
ORP	82.		mV	2580 B-2011	12/06/14	1
pH	7.6		su	9045D	12/04/14	1
Sodium Adsorption Ratio	1.1			Calc.	12/05/14	1
Specific Conductance	510		umhos/cm	9050AMod	12/04/14	1
Mercury	BDL	0.020	mg/kg	7471	12/04/14	1
Arsenic	5.4	2.0	mg/kg	6010B	12/05/14	1
Barium	4400	0.50	mg/kg	6010B	12/05/14	1
Cadmium	BDL	0.50	mg/kg	6010B	12/05/14	1
Chromium	11.	1.0	mg/kg	6010B	12/05/14	1
Copper	9.0	2.0	mg/kg	6010B	12/05/14	1
Lead	7.4	0.50	mg/kg	6010B	12/05/14	1
Nickel	6.2	2.0	mg/kg	6010B	12/05/14	1
Selenium	BDL	2.0	mg/kg	6010B	12/05/14	1
Silver	BDL	1.0	mg/kg	6010B	12/05/14	1
Zinc	28.	5.0	mg/kg	6010B	12/05/14	1
Benzene	BDL	0.0025	mg/kg	8021	12/06/14	5
Toluene	BDL	0.025	mg/kg	8021	12/06/14	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	12/06/14	5
Total Xylene	BDL	0.0075	mg/kg	8021	12/06/14	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	12/06/14	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.4		% Rec.	8015	12/06/14	5
a,a,a-Trifluorotoluene(PID)	102.		% Rec.	8021	12/06/14	5
TPH (GC/FID) High Fraction	170	4.0	mg/kg	3546/DRO	12/04/14	1
Surrogate recovery(%)						
o-Terphenyl	56.0		% Rec.	3546/DRO	12/04/14	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.011	0.0060	mg/kg	8270C-SIM	12/05/14	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Benzo(a)anthracene	0.0086	0.0060	mg/kg	8270C-SIM	12/05/14	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 L736743-01 (PH) - 7.6@19.3c



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ESC Sample # : L736743-01
 Site ID : GEIST MCCOY
 Project # : Geist McCoy

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	12/05/14	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	12/05/14	1
Phenanthrene	0.0093	0.0060	mg/kg	8270C-SIM	12/05/14	1
Pyrene	0.012	0.0060	mg/kg	8270C-SIM	12/05/14	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	12/05/14	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	12/05/14	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	12/05/14	1
Surrogate Recovery						
Nitrobenzene-d5	143.		% Rec.	8270C-SIM	12/05/14	1
2-Fluorobiphenyl	106.		% Rec.	8270C-SIM	12/05/14	1
p-Terphenyl-d14	108.		% Rec.	8270C-SIM	12/05/14	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: 12/10/14 15:00 Printed: 12/10/14 15:01
 L736743-01 (PH) - 7.6@19.3c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L736743-01	WG758034	SAMP	TPH (GC/FID) High Fraction	R3008295	J5

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high

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
12/10/14 at 15:01:09

TSR Signing Reports: 358
R5 - Desired TAT

Log all BTEX waters as V8260BTEX unless specified otherwise. Enter depths for all samples as part of sample ID. Try not to report benzene as BDL above a 5x dilution.

Sample: L736743-01 Account: ENCANLCO Received: 12/03/14 09:00 Due Date: 12/10/14 00:00 RPT Date: 12/10/14 15:00