



12065 Lebanon Rd.
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Tax I.D. 62-0814289

Est. 1970

Chris Hines
EnCana Oil & Gas - Parachute, CO
143 Diamond Avenue
Parachute, CO 81635

Report Summary

Wednesday June 03, 2015

Report Number: L767403

Samples Received: 05/27/15

Client Project: H23-6-104

Description: H23-6-104 Pit Characterization

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

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REPORT OF ANALYSIS

Chris Hines
EnCana Oil & Gas - Parachute, CO
143 Diamond Avenue
Parachute, CO 81635

June 03, 2015

Date Received : May 27, 2015
Description : H23-6-104 Pit Characterization
Sample ID : 20150522-H23-6-104 PIT (BOT) 8FT
Collected By : Matt Kasten
Collection Date : 05/21/15 13:45

ESC Sample # : L767403-01
Site ID : H23-6-104
Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	05/29/15	1
Chromium, Trivalent	6.2	2.0	mg/kg	Calc.	06/01/15	1
ORP	69.		mV	2580 B-2011	05/29/15	1
pH	9.6	0.10	su	9045D	06/01/15	1
Sodium Adsorption Ratio	5.1			Calc.	06/01/15	1
Specific Conductance	800		umhos/cm	9050AMod	05/29/15	1
Mercury	BDL	0.020	mg/kg	7471A	05/28/15	1
Arsenic	5.6	2.0	mg/kg	6010B	05/30/15	1
Barium	140	0.50	mg/kg	6010B	05/30/15	1
Cadmium	BDL	0.50	mg/kg	6010B	05/30/15	1
Chromium	6.2	1.0	mg/kg	6010B	05/30/15	1
Copper	15.	2.0	mg/kg	6010B	05/30/15	1
Lead	21.	0.50	mg/kg	6010B	05/30/15	1
Nickel	13.	2.0	mg/kg	6010B	05/30/15	1
Selenium	BDL	2.0	mg/kg	6010B	06/01/15	1
Silver	BDL	1.0	mg/kg	6010B	05/30/15	1
Zinc	68.	5.0	mg/kg	6010B	05/30/15	1
Benzene	BDL	0.0025	mg/kg	8021	06/02/15	5
Toluene	BDL	0.025	mg/kg	8021	06/02/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	06/02/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	06/02/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	06/02/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	91.4		% Rec.	8015	06/02/15	1
a,a,a-Trifluorotoluene(PID)	98.2		% Rec.	8021	06/02/15	1
TPH (GC/FID) High Fraction	27.	8.0	mg/kg	8015D/DRO	05/29/15	2
Surrogate recovery(%)						
o-Terphenyl	78.6		% Rec.	8015D/DRO	05/29/15	2
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L767403-01 (PH) - 9.6 at 21.4c



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June 03, 2015

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Sample ID : 20150522-H23-6-104 PIT (BOT) 8FT
Collected By : Matt Kasten
Collection Date : 05/21/15 13:45

ESC Sample # : L767403-01

Site ID : H23-6-104

Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
Surrogate Recovery						
p-Terphenyl-d14	59.0		% Rec.	8270C-SIM	05/31/15	1
Nitrobenzene-d5	65.9		% Rec.	8270C-SIM	05/31/15	1
2-Fluorobiphenyl	60.6		% Rec.	8270C-SIM	05/31/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L767403-01 (PH) - 9.6 at 21.4c



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143 Diamond Avenue
Parachute, CO 81635

June 03, 2015

Date Received : May 27, 2015
Description : H23-6-104 Pit Characterization
Sample ID : 20150522-H23-6-104 PIT (N WALL) 4FT
Collected By : Matt Kasten
Collection Date : 05/21/15 13:50

ESC Sample # : L767403-02

Site ID : H23-6-104

Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	06/02/15	5
Toluene	BDL	0.025	mg/kg	8021	06/02/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	06/02/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	06/02/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	06/02/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	91.5		% Rec.	8015	06/02/15	1
a,a,a-Trifluorotoluene(PID)	98.5		% Rec.	8021	06/02/15	1
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015D/DRO	05/28/15	1
Surrogate recovery(%)						
o-Terphenyl	77.0		% Rec.	8015D/DRO	05/28/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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143 Diamond Avenue
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June 03, 2015

Date Received : May 27, 2015
Description : H23-6-104 Pit Characterization
Sample ID : 20150522-H23-6-104 PIT (E WALL) 4FT
Collected By : Matt Kasten
Collection Date : 05/21/15 13:55

ESC Sample # : L767403-03

Site ID : H23-6-104

Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	06/03/15	5
Toluene	BDL	0.025	mg/kg	8021	06/03/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	06/03/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	06/03/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	06/03/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	91.7		% Rec.	8015	06/03/15	1
a,a,a-Trifluorotoluene(PID)	98.5		% Rec.	8021	06/03/15	1
TPH (GC/FID) High Fraction	5.6	4.0	mg/kg	8015D/DRO	05/28/15	1
Surrogate recovery(%)						
o-Terphenyl	74.2		% Rec.	8015D/DRO	05/28/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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143 Diamond Avenue
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June 03, 2015

Date Received : May 27, 2015
Description : H23-6-104 Pit Characterization
Sample ID : 20150522-H23-6-104 PIT (S WELL) 4FT
Collected By : Matt Kasten
Collection Date : 05/21/15 14:00

ESC Sample # : L767403-04

Site ID : H23-6-104

Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	06/03/15	5
Toluene	BDL	0.025	mg/kg	8021	06/03/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	06/03/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	06/03/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	06/01/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.2		% Rec.	8015	06/01/15	1
a,a,a-Trifluorotoluene(PID)	98.8		% Rec.	8021	06/03/15	1
TPH (GC/FID) High Fraction	26.	4.0	mg/kg	8015D/DRO	05/28/15	1
Surrogate recovery(%)						
o-Terphenyl	71.6		% Rec.	8015D/DRO	05/28/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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143 Diamond Avenue
Parachute, CO 81635

June 03, 2015

Date Received : May 27, 2015
Description : H23-6-104 Pit Characterization
Sample ID : 20150522-H23-6-104 PIT (W WELL) 4FT
Collected By : Matt Kasten
Collection Date : 05/21/15 14:05

ESC Sample # : L767403-05

Site ID : H23-6-104

Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	06/03/15	5
Toluene	BDL	0.025	mg/kg	8021	06/03/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	06/03/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	06/03/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	06/01/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.3		% Rec.	8015	06/01/15	1
a,a,a-Trifluorotoluene(PID)	98.5		% Rec.	8021	06/03/15	1
TPH (GC/FID) High Fraction	4.2	4.0	mg/kg	8015D/DRO	05/28/15	1
Surrogate recovery(%)						
o-Terphenyl	71.2		% Rec.	8015D/DRO	05/28/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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June 03, 2015

Date Received : May 27, 2015
Description : H23-6-104 Pit Characterization
Sample ID : 20150522-H23-6-104 PIT (STOCKPILE)
Collected By : Matt Kasten
Collection Date : 05/21/15 14:20

ESC Sample # : L767403-06
Site ID : H23-6-104
Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	05/29/15	1
Chromium, Trivalent	8.1	2.0	mg/kg	Calc.	06/01/15	1
ORP	91.		mV	2580 B-2011	05/29/15	1
pH	8.3	0.10	su	9045D	06/01/15	1
Sodium Adsorption Ratio	9.5			Calc.	06/01/15	1
Specific Conductance	940		umhos/cm	9050AMod	05/29/15	1
Mercury	BDL	0.020	mg/kg	7471A	05/28/15	1
Arsenic	5.7	2.0	mg/kg	6010B	05/30/15	1
Barium	100	0.50	mg/kg	6010B	05/30/15	1
Cadmium	BDL	0.50	mg/kg	6010B	05/30/15	1
Chromium	8.1	1.0	mg/kg	6010B	05/30/15	1
Copper	18.	2.0	mg/kg	6010B	05/30/15	1
Lead	39.	0.50	mg/kg	6010B	05/30/15	1
Nickel	11.	2.0	mg/kg	6010B	05/30/15	1
Selenium	BDL	2.0	mg/kg	6010B	06/01/15	1
Silver	BDL	1.0	mg/kg	6010B	05/30/15	1
Zinc	71.	5.0	mg/kg	6010B	05/30/15	1
Benzene	BDL	0.0025	mg/kg	8021	06/01/15	5
Toluene	BDL	0.025	mg/kg	8021	06/01/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	06/03/15	5
Total Xylene	0.045	0.0075	mg/kg	8021	06/01/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	06/01/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.5		% Rec.	8015	06/01/15	1
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	06/01/15	1
TPH (GC/FID) High Fraction	12.	4.0	mg/kg	8015D/DRO	05/28/15	1
Surrogate recovery(%)						
o-Terphenyl	68.5		% Rec.	8015D/DRO	05/28/15	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L767403-06 (PH) - 8.3 at 20.4c



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June 03, 2015

Date Received : May 27, 2015
Description : H23-6-104 Pit Characterization
Sample ID : 20150522-H23-6-104 PIT (STOCKPILE)
Collected By : Matt Kasten
Collection Date : 05/21/15 14:20

ESC Sample # : L767403-06

Site ID : H23-6-104

Project # : H23-6-104

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/31/15	1
1-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
2-Methylnaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	05/31/15	1
Surrogate Recovery						
p-Terphenyl-d14	55.3		% Rec.	8270C-SIM	05/31/15	1
Nitrobenzene-d5	60.3		% Rec.	8270C-SIM	05/31/15	1
2-Fluorobiphenyl	56.0		% Rec.	8270C-SIM	05/31/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L767403-06 (PH) - 8.3 at 20.4c