

CONFIDENTIAL

DISTRICT I
1626 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Artesia, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3480 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate
District Office

☐ AMENDED REPORT
☒ AS-DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31221		*Pool Code 13379	*Pool Name COUNSELORS GALLUP - DAKOTA
*Property Code 313380	*Property Name LYBROOK 001-2306		*Well Number 02H
*OGRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 6883'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/West line	County
0	1	23N	6W		739'	SOUTH	2512'	EAST	RIO ARRIBA

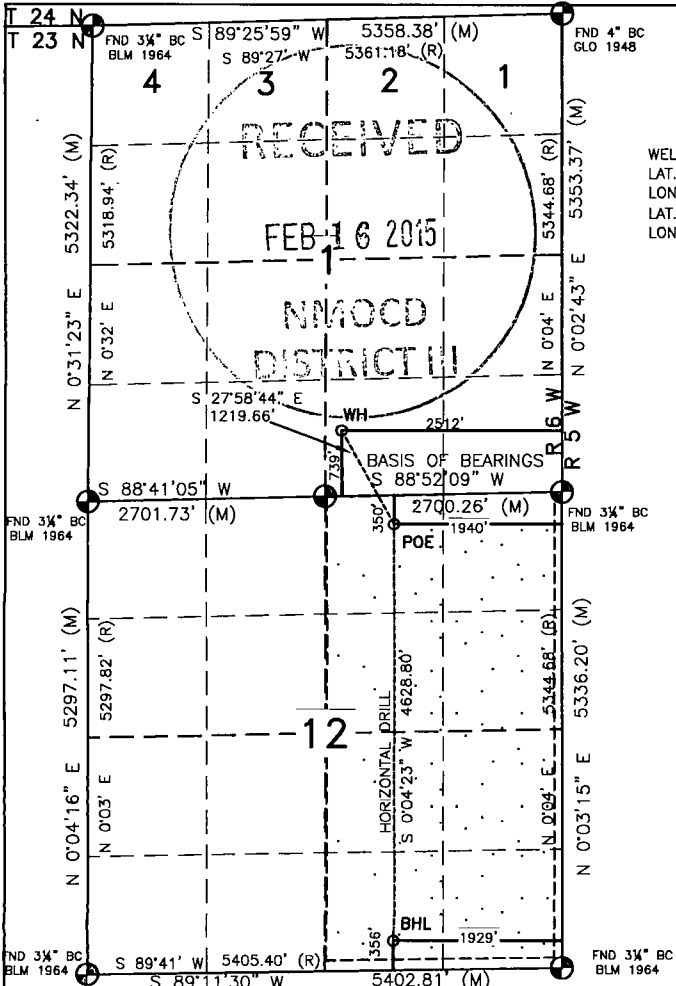
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/West line	County
0	12	23N	6W		356'	SOUTH	1929'	EAST	RIO ARRIBA

*Dedicated Acres 320.00 Acres - E/2 SEC. 12	*Joint or Infill	*Consolidation Code	*Order No. NSL 7138
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



WELL HEAD
LAT. 36.249249° N (NAD83)
LONG. 107.419509° W (NAD83)
LAT. 36.249236° N (NAD27)
LONG. 107.418906° W (NAD27)

ASB POE
LAT. 36.246291° N (NAD83)
LONG. 107.417569° W (NAD83)
LAT. 36.246278° N (NAD27)
LONG. 107.416966° W (NAD27)

ASB BHL
LAT. 36.233580° N (NAD83)
LONG. 107.417552° W (NAD83)
LAT. 36.233566° N (NAD27)
LONG. 107.416949° W (NAD27)

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Katie Wegner 2/9/14
Signature Date

Katie Wegner

Printed Name

Katie.Wegner@encana.com

E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

AS-BUILT SURVEY - DECEMBER 29, 2014

Date of Survey - NOVEMBER 26, 2013

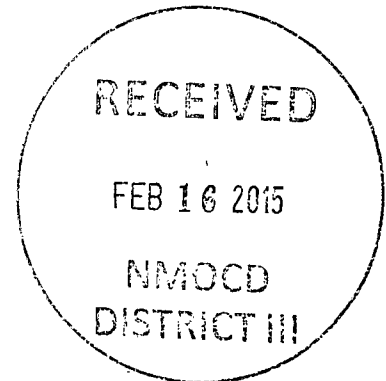
Signature and Seal of Professional Surveyor:

David R. Russell
DAVID R. RUSSELL
REGISTERED PROFESSIONAL LAND SURVEYOR
10201
Certificate Number 10201

DEVIATION SURVEYS
Lybrook 001-2306 02H
30-039-31221

CONFIDENTIAL

MD (Feet)	Inclination (Degree)
793'	0.70
1109'	0.80
1426'	2.50
1742'	2.30
2058'	1.10
2373'	1.00
2690'	1.10
3006'	1.00
3322'	0.90
3638'	0.90
3955'	0.80
4271'	0.70
4707'	12.10



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Cristi Bauer
Cristi Bauer, Operations Technician

2/9/15
Date

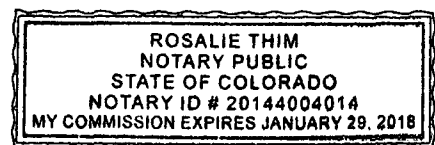
ACKNOWLEDGMENT

State of Colorado
City and County of Denver

This instrument was acknowledged before me on this 9th day of February, 2014 by Cristi Bauer as Operations Technician of Encana Oil & Gas (USA) Inc., authorized agent for Encana Oil & Gas (USA) Inc., on behalf of said corporation.

In witness whereof, I hereunto set my hand and official seal.

Notary Public: Rosalie Thim
My Commission Expires: 1/29/18



Cameron, IC-2_L; -5.9-0.0

Casing 1; 0.00 in; 0.0 ftKB

Conductor; 0.00 in; 60.0 ftKB

Surface; 12 1/4; 539.0

Surface; 9 5/8 in; J-55; 17.8-532.0 ftKB

Surface Casing Cement; 17.9-539.0; Cement

Intermediate; 8 3/4; 4,503.0

Kick-off; Cement Plug; 4,503.0

Cement plug; 4,122.0-5,022.0; Cement

Sidetrack - Sidetrack 1; 4,503.0

Intermediate; 8 3/4; 5,720.0

Intermediate 1; 7 in; J-55; -6.2-5,640.0 ftKB

Intermediate 1 Casing Cement; 0.0-5,640.0; Cement

Perforated; 6,528.0-6,773.0; 12/29/2014

Perforated; 6,857.0-7,108.0; 12/29/2014

Perforated; 7,196.0-7,443.0; 12/28/2014

Perforated; 7,526.0-7,777.0; 12/27/2014

Perforated; 7,861.0-8,112.0; 12/17/2014

Perforated; 8,196.0-8,447.0; 12/17/2014

Production; 6 1/8; 11,153.0

Perforated; 8,531.0-8,782.0; 12/16/2014

Perforated; 8,868.0-9,112.0; 12/16/2014

Perforated; 9,200.0-9,451.0; 12/16/2014

Perforated; 9,535.0-9,792.0; 12/16/2014

Perforated; 9,880.0-10,121.0; 12/16/2014

Perforated; 10,204.0-10,455.0; 12/15/2014

Perforated; 10,539.0-10,790.0; 12/15/2014

Perforated; 10,874.0-11,115.0; 12/06/2014

Production Liner; 4 1/2 in; N80, SB80; 5,552.1-11,151.0 ftKB

Production Liner Casing Cement; 5,516.0-11,151.0; Cement

TD - Sidetrack 1; 11,153.0

RECEIVED

FEB 16 2015

NMOC
DISTRICT III

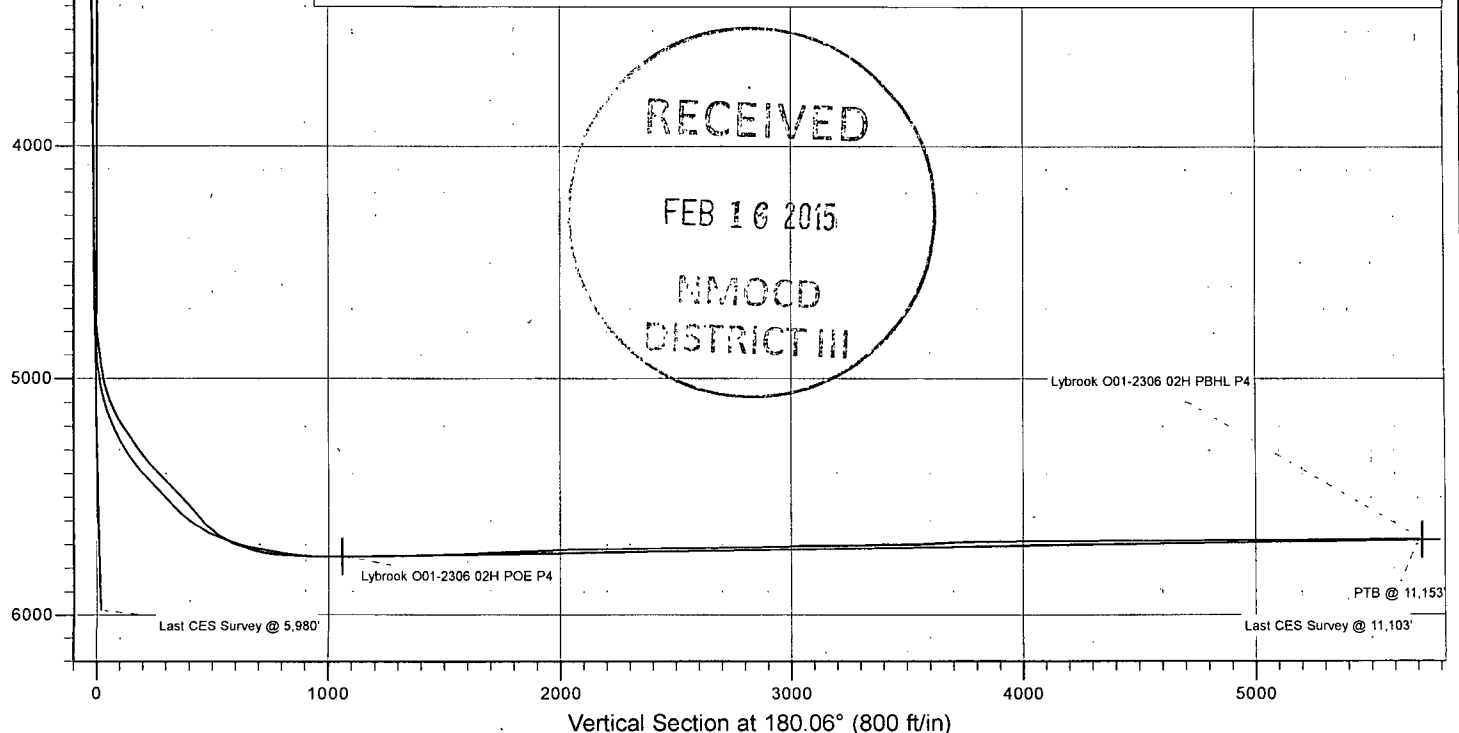
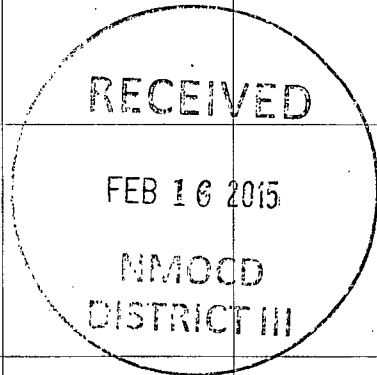
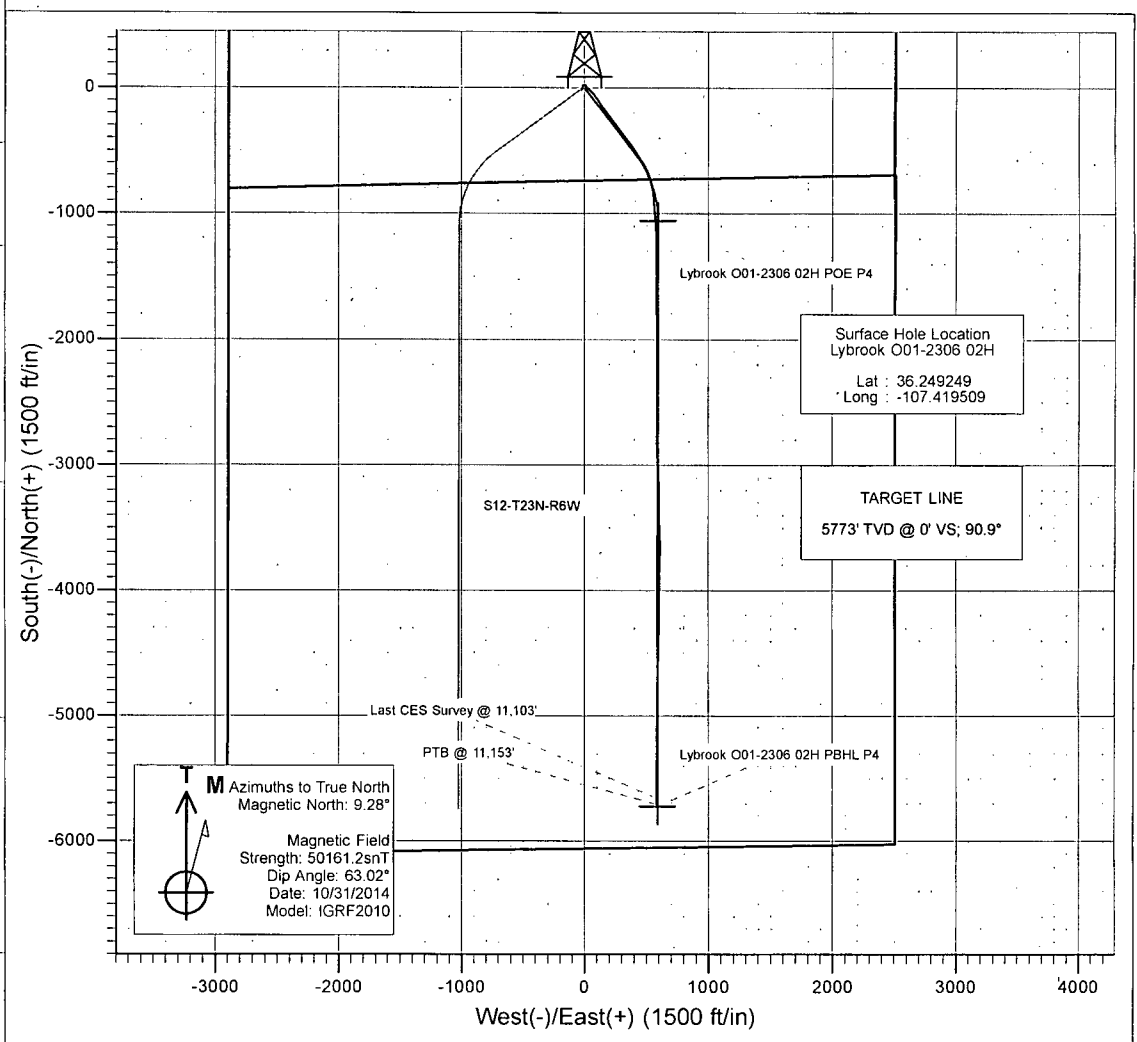
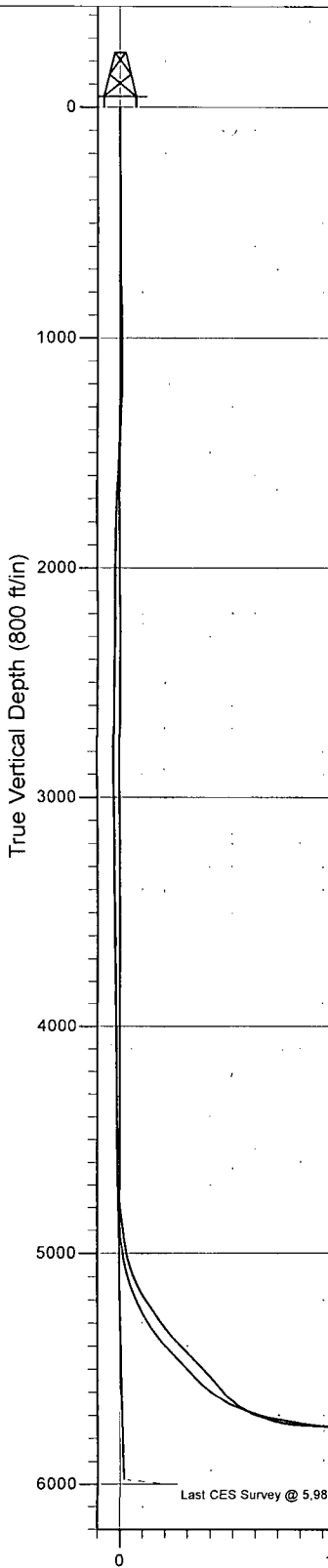
encana.

natural gas

Project: Rio Arriba County, NM
Site: S1-T23N-R6W
Well: Lybrook 001-2306 02H
Wellbore: Hz
Design: FINAL



FINAL
Lybrook 001-2306 02H
334355 145403; LR
18' KB @ 6901.0ft (A1099)
Ground Elevation @ 6883.0
North American Datum 1983
Well Lybrook 001-2306 02H, True North



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Site: S1-T23N-R6W
Well: Lybrook 001-2306 02H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook 001-2306 02H
TVD Reference: 18' KB @ 6901.0ft (A1099)
MD Reference: 18' KB @ 6901.0ft (A1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Project: Rio Arriba County, NM
Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Central Zone

System Datum: Mean Sea Level

Site: S1-T23N-R6W

Site Position: Northing: 1,912,068.06 ft Latitude: 36.249220
From: Lat/Long Easting: 1,295,555.41 ft Longitude: -107.419604
Position Uncertainty: 0.0 ft Slot Radius: 13.200 in Grid Convergence: -0.69 °

Well: Lybrook 001-2306 02H

Well Position: +N/-S 0.0 ft Northing: 1,912,078.28 ft Latitude: 36.249249
+E/-W 0.0 ft Easting: 1,295,583.55 ft Longitude: -107.419509
Position Uncertainty: 0.0 ft Wellhead Elevation: ft Ground Level: 6,883.0 ft

Wellbore: Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/31/2014	9.28	63.02	50,161

Design: FINAL

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 4,460.0
Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
(ft) (ft) (ft) (°)
0.0 0.0 0.0 180.06

Survey Program Date: 11/14/2014

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
603.0	4,460.0	Survey #1 (Pilot Hole)	Geolink MWD	Geolink MWD
4,644.0	11,153.0	Survey #1 (Hz)	Geolink MWD	Geolink MWD

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
603.0	0.90	160.40	603.0	-4.5	1.6	4.5	0.15	0.15	
667.0	0.90	168.20	667.0	-5.4	1.9	5.4	0.19	0.00	
730.0	0.70	168.00	730.0	-6.3	2.0	6.3	0.32	-0.32	
793.0	0.70	175.40	793.0	-7.0	2.2	7.0	0.14	0.00	
856.0	0.60	161.60	856.0	-7.7	2.3	7.7	0.29	-0.16	
920.0	0.70	156.30	919.9	-8.4	2.6	8.4	0.18	0.16	
983.0	0.80	154.80	982.9	-9.2	2.9	9.2	0.16	0.16	
1,046.0	0.80	149.80	1,045.9	-9.9	3.3	9.9	0.11	0.00	
1,109.0	0.80	164.90	1,108.9	-10.8	3.6	10.7	0.33	0.00	
1,173.0	0.60	80.10	1,172.9	-11.1	4.1	11.1	1.49	-0.31	
1,236.0	1.70	19.00	1,235.9	-10.2	4.7	10.2	2.39	1.75	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Site: S1-T23N-R6W
Well: Lybrook 001-2306 02H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook 001-2306 02H
TVD Reference: 18' KB @ 6901.0ft (A1099)
MD Reference: 18' KB @ 6901.0ft (A1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,299.0	2.50	19.00	1,298.9	-8.0	5.5	8.0	1.27	1.27	
1,362.0	2.30	16.00	1,361.8	-5.5	6.3	5.5	0.37	-0.32	
1,426.0	2.50	17.90	1,425.8	-2.9	7.0	2.9	0.34	0.31	
1,489.0	2.60	18.00	1,488.7	-0.3	7.9	0.3	0.16	0.16	
1,552.0	2.50	16.70	1,551.6	2.4	8.7	-2.4	0.18	-0.16	
1,615.0	2.60	16.40	1,614.6	5.1	9.5	-5.1	0.16	0.16	
1,678.0	2.70	15.30	1,677.5	7.9	10.3	-7.9	0.18	0.16	
1,742.0	2.30	359.80	1,741.4	10.6	10.7	-10.7	1.22	-0.62	
1,805.0	2.00	351.00	1,804.4	13.0	10.6	-13.0	0.71	-0.48	
1,868.0	1.80	353.90	1,867.4	15.1	10.3	-15.1	0.35	-0.32	
1,931.0	1.50	345.90	1,930.3	16.8	10.0	-16.9	0.60	-0.48	
1,994.0	1.30	345.90	1,993.3	18.3	9.6	-18.3	0.32	-0.32	
2,058.0	1.10	319.20	2,057.3	19.5	9.0	-19.5	0.92	-0.31	
2,121.0	1.10	302.80	2,120.3	20.3	8.1	-20.3	0.50	0.00	
2,184.0	1.00	304.00	2,183.3	20.9	7.1	-20.9	0.16	-0.16	
2,247.0	0.90	305.30	2,246.3	21.5	6.3	-21.5	0.16	-0.16	
2,310.0	0.80	302.90	2,309.3	22.0	5.5	-22.1	0.17	-0.16	
2,373.0	1.00	297.10	2,372.3	22.5	4.7	-22.5	0.35	0.32	
2,437.0	1.00	294.80	2,436.3	23.0	3.7	-23.0	0.06	0.00	
2,500.0	1.00	281.40	2,499.2	23.4	2.6	-23.4	0.37	0.00	
2,563.0	0.80	292.70	2,562.2	23.6	1.7	-23.6	0.42	-0.32	
2,626.0	0.90	297.40	2,625.2	24.0	0.8	-24.0	0.19	0.16	
2,690.0	1.10	290.80	2,689.2	24.5	-0.2	-24.5	0.36	0.31	
2,753.0	1.10	287.00	2,752.2	24.9	-1.3	-24.9	0.12	0.00	
2,816.0	1.00	283.20	2,815.2	25.2	-2.5	-25.2	0.19	-0.16	
2,879.0	1.00	263.70	2,878.2	25.2	-3.5	-25.2	0.54	0.00	
2,942.0	1.10	244.70	2,941.2	24.9	-4.6	-24.9	0.57	0.16	
3,006.0	1.00	246.90	3,005.2	24.4	-5.7	-24.4	0.17	-0.16	
3,069.0	1.10	257.80	3,068.2	24.1	-6.8	-24.1	0.35	0.16	
3,132.0	1.10	249.20	3,131.1	23.8	-7.9	-23.8	0.26	0.00	
3,196.0	1.10	252.60	3,195.1	23.4	-9.1	-23.3	0.10	0.00	
3,259.0	1.00	248.50	3,258.1	23.0	-10.2	-23.0	0.20	-0.16	
3,322.0	0.90	253.10	3,321.1	22.6	-11.2	-22.6	0.20	-0.16	
3,385.0	0.80	245.40	3,384.1	22.3	-12.1	-22.3	0.24	-0.16	
3,449.0	0.40	217.30	3,448.1	21.9	-12.6	-21.9	0.76	-0.62	
3,512.0	0.60	186.60	3,511.1	21.4	-12.8	-21.4	0.52	0.32	
3,575.0	0.90	193.50	3,574.1	20.6	-12.9	-20.6	0.50	0.48	
3,638.0	0.90	195.30	3,637.1	19.7	-13.2	-19.7	0.04	0.00	
3,702.0	1.00	201.30	3,701.1	18.7	-13.5	-18.7	0.22	0.16	
3,765.0	1.00	193.20	3,764.1	17.6	-13.8	-17.6	0.22	0.00	
3,828.0	0.90	186.60	3,827.1	16.6	-14.0	-16.6	0.24	-0.16	
3,891.0	0.80	166.40	3,890.1	15.7	-14.0	-15.7	0.50	-0.16	
3,955.0	0.80	184.20	3,954.0	14.8	-13.9	-14.8	0.39	0.00	
4,018.0	0.80	192.40	4,017.0	13.9	-14.0	-13.9	0.18	0.00	
4,081.0	0.70	206.90	4,080.0	13.2	-14.3	-13.1	0.34	-0.16	
4,144.0	0.90	203.10	4,143.0	12.4	-14.7	-12.3	0.33	0.32	
4,207.0	0.70	202.70	4,206.0	11.5	-15.0	-11.5	0.32	-0.32	
4,271.0	0.70	198.40	4,270.0	10.8	-15.3	-10.8	0.08	0.00	
4,334.0	0.70	192.40	4,333.0	10.1	-15.5	-10.1	0.12	0.00	
4,397.0	0.60	189.60	4,396.0	9.4	-15.6	-9.4	0.17	-0.16	
4,460.0	0.60	172.80	4,459.0	8.7	-15.6	-8.7	0.28	0.00	
4,644.0	7.50	92.30	4,642.5	7.3	-3.5	-7.3	4.04	3.75	
4,707.0	12.10	105.70	4,704.5	5.3	7.0	-5.3	8.10	7.30	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Site: S1-T23N-R6W
Well: Lybrook O01-2306 02H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook O01-2306 02H
TVD Reference: 18' KB @ 6901.0ft (A1099)
MD Reference: 18' KB @ 6901.0ft (A1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
4,770.0	11.40	116.90	4,766.2	0.7	18.9	-0.7	3.78	-1.11	
4,834.0	11.30	135.10	4,829.0	-6.6	29.0	6.6	5.58	-0.16	
4,897.0	10.60	132.30	4,890.9	-14.9	37.6	14.8	1.40	-1.11	
4,960.0	12.00	131.30	4,952.6	-23.1	46.8	23.0	2.24	2.22	
4,992.0	15.70	137.20	4,983.7	-28.5	52.3	28.4	12.36	11.56	
5,023.0	18.50	137.20	5,013.3	-35.1	58.4	35.1	9.03	9.03	
5,055.0	21.40	140.10	5,043.4	-43.3	65.6	43.3	9.57	9.06	
5,087.0	24.00	142.30	5,072.9	-53.0	73.4	52.9	8.55	8.12	
5,118.0	27.30	145.20	5,100.9	-63.8	81.3	63.7	11.39	10.65	
5,150.0	29.20	144.70	5,129.0	-76.2	90.0	76.1	5.98	5.94	
5,181.0	33.00	144.50	5,155.6	-89.3	99.3	89.1	12.26	12.26	
5,213.0	36.00	144.30	5,182.0	-104.0	109.8	103.9	9.38	9.37	
5,245.0	40.60	143.30	5,207.1	-120.0	121.5	119.9	14.50	14.37	
5,276.0	41.70	144.30	5,230.4	-136.4	133.6	136.3	4.13	3.55	
5,308.0	41.40	143.40	5,254.4	-153.6	146.1	153.4	2.09	-0.94	
5,339.0	40.90	142.20	5,277.7	-169.8	158.4	169.7	3.01	-1.61	
5,371.0	42.90	143.80	5,301.5	-186.9	171.3	186.7	7.09	6.25	
5,403.0	44.00	142.30	5,324.7	-204.5	184.5	204.3	4.71	3.44	
5,434.0	46.50	142.00	5,346.6	-221.9	198.0	221.7	8.09	8.06	
5,466.0	48.60	140.90	5,368.2	-240.3	212.7	240.1	7.04	6.56	
5,498.0	50.60	142.90	5,388.9	-259.5	227.8	259.3	7.86	6.25	
5,529.0	51.60	142.70	5,408.4	-278.7	242.3	278.5	3.26	3.23	
5,592.0	51.30	143.80	5,447.6	-318.2	271.8	317.9	1.45	-0.48	
5,665.0	50.20	142.90	5,493.8	-363.6	305.6	363.2	1.78	-1.51	
5,690.0	49.80	143.30	5,509.9	-378.9	317.1	378.5	2.01	-1.60	
5,753.0	46.90	141.60	5,551.8	-416.2	345.7	415.8	5.03	-4.60	
5,784.0	46.80	142.90	5,573.0	-434.1	359.6	433.7	3.08	-0.32	
5,816.0	47.40	144.30	5,594.8	-452.9	373.5	452.6	3.71	1.87	
5,847.0	50.40	146.60	5,615.1	-472.2	386.7	471.8	11.18	9.68	
5,879.0	54.00	146.50	5,634.7	-493.3	400.7	492.9	11.25	11.25	
5,911.0	58.00	146.50	5,652.6	-515.4	415.3	515.0	12.50	12.50	
5,942.0	61.40	145.80	5,668.3	-537.6	430.2	537.2	11.14	10.97	
5,974.0	65.70	146.60	5,682.5	-561.4	446.2	561.0	13.62	13.44	
6,006.0	69.20	147.40	5,694.8	-586.2	462.2	585.7	11.18	10.94	
6,037.0	71.90	149.60	5,705.1	-611.1	477.5	610.6	10.98	8.71	
6,069.0	74.00	152.80	5,714.5	-637.9	492.2	637.4	11.60	6.56	
6,100.0	76.00	156.40	5,722.5	-665.0	505.1	664.5	12.94	6.45	
6,132.0	78.20	159.50	5,729.7	-693.9	516.8	693.4	11.68	6.87	
6,164.0	81.10	163.00	5,735.4	-723.7	526.9	723.1	14.07	9.06	
6,195.0	82.70	165.20	5,739.8	-753.2	535.3	752.6	8.72	5.16	
6,227.0	83.60	168.30	5,743.6	-784.1	542.6	783.6	10.02	2.81	
6,259.0	84.80	170.50	5,746.8	-815.4	548.4	814.8	7.80	3.75	
6,290.0	85.50	174.30	5,749.5	-846.0	552.5	845.5	12.42	2.26	
6,322.0	87.90	174.90	5,751.3	-877.8	555.5	877.3	7.73	7.50	
6,353.0	88.20	174.70	5,752.4	-908.7	558.3	908.1	1.16	0.97	
6,385.0	88.00	174.90	5,753.4	-940.5	561.2	940.0	0.88	-0.62	
6,417.0	89.10	174.70	5,754.2	-972.4	564.1	971.8	3.49	3.44	
6,448.0	90.10	174.80	5,754.4	-1,003.3	567.0	1,002.7	3.24	3.23	
6,511.0	90.10	175.70	5,754.3	-1,066.1	572.2	1,065.5	1.43	0.00	
6,573.0	91.40	176.60	5,753.5	-1,127.9	576.3	1,127.3	2.55	2.10	
6,635.0	91.10	179.30	5,752.2	-1,189.8	578.6	1,189.2	4.38	-0.48	
6,696.0	91.60	180.30	5,750.7	-1,250.8	578.8	1,250.2	1.83	0.82	
6,756.0	90.90	180.10	5,749.4	-1,310.8	578.6	1,310.2	1.21	-1.17	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Site: S1-T23N-R6W
Well: Lybrook O01-2306 02H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook O01-2306 02H
TVD Reference: 18' KB @ 6901.0ft (A1099)
MD Reference: 18' KB @ 6901.0ft (A1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,817.0	91.20	179.30	5,748.3	-1,371.8	578.9	1,371.2	1.40	0.49	
6,878.0	91.80	180.80	5,746.7	-1,432.8	578.8	1,432.2	2.65	0.98	
6,939.0	91.90	180.20	5,744.7	-1,493.7	578.3	1,493.1	1.00	0.16	
7,000.0	92.00	180.10	5,742.7	-1,554.7	578.1	1,554.1	0.23	0.16	
7,061.0	92.40	179.20	5,740.3	-1,615.7	578.5	1,615.1	1.61	0.66	
7,123.0	92.60	179.30	5,737.6	-1,677.6	579.3	1,677.0	0.36	0.32	
7,184.0	91.60	179.30	5,735.4	-1,738.5	580.1	1,737.9	1.64	-1.64	
7,246.0	91.30	178.90	5,733.8	-1,800.5	581.0	1,799.9	0.81	-0.48	
7,307.0	91.90	179.30	5,732.1	-1,861.5	582.0	1,860.9	1.18	0.98	
7,369.0	92.60	179.30	5,729.7	-1,923.4	582.8	1,922.8	1.13	1.13	
7,430.0	92.80	179.60	5,726.8	-1,984.4	583.3	1,983.8	0.59	0.33	
7,491.0	91.30	179.50	5,724.6	-2,045.3	583.8	2,044.7	2.46	-2.46	
7,553.0	90.60	179.40	5,723.6	-2,107.3	584.4	2,106.7	1.14	-1.13	
7,614.0	90.90	178.60	5,722.8	-2,168.3	585.5	2,167.7	1.40	0.49	
7,676.0	90.70	178.90	5,721.9	-2,230.3	586.8	2,229.7	0.58	-0.32	
7,737.0	90.70	181.80	5,721.2	-2,291.3	586.5	2,290.6	4.75	0.00	
7,798.0	91.10	181.20	5,720.2	-2,352.2	584.9	2,351.6	1.18	0.66	
7,860.0	91.50	180.40	5,718.8	-2,414.2	584.0	2,413.6	1.44	0.65	
7,922.0	89.90	181.00	5,718.1	-2,476.2	583.2	2,475.6	2.76	-2.58	
7,983.0	89.60	180.90	5,718.3	-2,537.2	582.2	2,536.6	0.52	-0.49	
8,044.0	91.10	180.40	5,718.0	-2,598.2	581.5	2,597.6	2.59	2.46	
8,107.0	91.60	180.50	5,716.5	-2,661.2	581.0	2,660.6	0.81	0.79	
8,171.0	92.00	180.30	5,714.5	-2,725.1	580.6	2,724.5	0.70	0.62	
8,234.0	90.40	179.10	5,713.1	-2,788.1	580.9	2,787.5	3.17	-2.54	
8,297.0	89.60	177.80	5,713.1	-2,851.1	582.6	2,850.5	2.42	-1.27	
8,360.0	91.10	178.50	5,712.8	-2,914.1	584.7	2,913.4	2.63	2.38	
8,424.0	91.50	178.30	5,711.3	-2,978.0	586.5	2,977.4	0.70	0.62	
8,487.0	91.90	177.60	5,709.4	-3,040.9	588.7	3,040.3	1.28	0.63	
8,550.0	90.00	177.50	5,708.4	-3,103.9	591.4	3,103.3	3.02	-3.02	
8,613.0	89.70	178.70	5,708.6	-3,166.8	593.5	3,166.2	1.96	-0.48	
8,677.0	91.10	179.20	5,708.1	-3,230.8	594.7	3,230.2	2.32	2.19	
8,740.0	92.00	179.30	5,706.4	-3,293.8	595.5	3,293.2	1.44	1.43	
8,803.0	91.80	179.50	5,704.3	-3,356.8	596.1	3,356.1	0.45	-0.32	
8,866.0	90.10	177.50	5,703.3	-3,419.7	597.8	3,419.1	4.17	-2.70	
8,930.0	90.40	177.30	5,703.0	-3,483.7	600.7	3,483.0	0.56	0.47	
8,993.0	91.70	178.20	5,701.8	-3,546.6	603.2	3,546.0	2.51	2.06	
9,056.0	92.00	179.80	5,699.8	-3,609.6	604.3	3,608.9	2.58	0.48	
9,119.0	92.40	180.10	5,697.4	-3,672.5	604.3	3,671.9	0.79	0.63	
9,183.0	92.20	180.80	5,694.8	-3,736.5	603.8	3,735.8	1.14	-0.31	
9,246.0	92.20	181.20	5,692.4	-3,799.4	602.7	3,798.8	0.63	0.00	
9,309.0	92.10	181.30	5,690.0	-3,862.3	601.3	3,861.7	0.22	-0.16	
9,372.0	90.30	180.80	5,688.7	-3,925.3	600.2	3,924.7	2.97	-2.86	
9,436.0	90.10	180.80	5,688.5	-3,989.3	599.3	3,988.7	0.31	-0.31	
9,499.0	89.70	181.20	5,688.6	-4,052.3	598.2	4,051.7	0.90	-0.63	
9,562.0	90.00	179.60	5,688.8	-4,115.3	597.8	4,114.7	2.58	0.48	
9,625.0	90.10	181.20	5,688.7	-4,178.3	597.3	4,177.7	2.54	0.16	
9,689.0	91.20	182.20	5,688.0	-4,242.3	595.4	4,241.6	2.32	1.72	
9,752.0	91.80	181.70	5,686.3	-4,305.2	593.3	4,304.6	1.24	0.95	
9,815.0	90.60	180.90	5,685.0	-4,368.2	591.8	4,367.5	2.29	-1.90	
9,878.0	89.30	181.20	5,685.1	-4,431.1	590.7	4,430.5	2.12	-2.06	
9,942.0	90.10	180.60	5,685.4	-4,495.1	589.7	4,494.5	1.56	1.25	
10,005.0	90.70	180.80	5,685.0	-4,558.1	588.9	4,557.5	1.00	0.95	
10,068.0	89.70	181.50	5,684.7	-4,621.1	587.7	4,620.5	1.94	-1.59	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Site: S1-T23N-R6W
Well: Lybrook O01-2306 02H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook O01-2306 02H
TVD Reference: 18' KB @ 6901.0ft (A1099)
MD Reference: 18' KB @ 6901.0ft (A1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
10,131.0	90.10	180.40	5,684.9	-4,684.1	586.6	4,683.5	1.86	0.63	
10,195.0	90.90	180.90	5,684.3	-4,748.1	585.9	4,747.5	1.47	1.25	
10,258.0	90.70	180.30	5,683.4	-4,811.1	585.2	4,810.5	1.00	-0.32	
10,321.0	90.40	179.90	5,682.8	-4,874.1	585.1	4,873.5	0.79	-0.48	
10,384.0	90.30	179.40	5,682.4	-4,937.1	585.5	4,936.5	0.81	-0.16	
10,447.0	90.20	180.00	5,682.2	-5,000.1	585.8	4,999.5	0.97	-0.16	
10,511.0	90.30	181.20	5,681.9	-5,064.1	585.2	5,063.5	1.88	0.16	
10,574.0	90.30	180.20	5,681.5	-5,127.1	584.4	5,126.5	1.59	0.00	
10,637.0	90.40	182.10	5,681.2	-5,190.1	583.1	5,189.4	3.02	0.16	
10,700.0	89.90	182.40	5,681.0	-5,253.0	580.7	5,252.4	0.93	-0.79	
10,763.0	90.40	181.50	5,680.8	-5,316.0	578.5	5,315.4	1.63	0.79	
10,827.0	90.50	179.90	5,680.3	-5,380.0	577.7	5,379.4	2.50	0.16	
10,890.0	90.00	180.40	5,680.1	-5,443.0	577.6	5,442.4	1.12	-0.79	
10,953.0	90.40	180.60	5,679.8	-5,506.0	577.0	5,505.4	0.71	0.63	
11,016.0	90.30	179.40	5,679.4	-5,569.0	577.0	5,568.3	1.91	-0.16	
11,080.0	90.70	179.60	5,678.9	-5,633.0	577.6	5,632.3	0.70	0.62	
11,103.0	90.80	179.60	5,678.6	-5,655.9	577.7	5,655.3	0.43	0.43	Last CES Survey @ 11,103'
11,153.0	90.80	179.60	5,677.9	-5,705.9	578.1	5,705.3	0.00	0.00	PTB @ 11,153'

Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Lybrook O01-2306 02H I	- Shape	0.00	0.00	5,756.4	-1,057.6	591.0	1,911,013.61	1,296,161.72	36.246344	-107.417505
	- actual wellpath misses target center by 19.5ft at 6504.2ft MD (5754.3 TVD, -1059.2 N, 571.7 E)									
	- Point									
Lybrook O01-2306 02H I	- Shape	0.00	0.00	5,753.4	-1,057.6	591.0	1,911,013.61	1,296,161.72	36.246344	-107.417505
	- actual wellpath misses target center by 19.4ft at 6504.2ft MD (5754.3 TVD, -1059.2 N, 571.7 E)									
	- Point									
Lybrook O01-2306 02H I	- Shape	0.00	0.00	5,680.1	-5,721.7	585.8	1,906,349.96	1,296,100.22	36.233533	-107.417523
	- actual wellpath misses target center by 17.7ft at 11153.0ft MD (5677.9 TVD, -5705.9 N, 578.1 E)									
	- Point									
Lybrook O01-2306 02H I	- Shape	0.00	0.00	5,683.1	-5,721.7	585.8	1,906,349.96	1,296,100.22	36.233533	-107.417523
	- actual wellpath misses target center by 18.3ft at 11153.0ft MD (5677.9 TVD, -5705.9 N, 578.1 E)									
	- Point									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,103.0	5,678.6	-5,655.9	577.7	Last CES Survey @ 11,103'
11,153.0	5,677.9	-5,705.9	578.1	PTB @ 11,153'

Checked By: _____ Approved By: _____ Date: _____