

CONFIDENTIAL

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (505) 334-6178

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

☐ AMENDED REPORT
☒ As-Drilled

RCVD MAY 30 '13
OIL CONS. DIV.

WELL LOCATION AND ACREAGE DEDICATION PLAT

DIST. 3

¹ API Number 30-043-21127	² Pool Code 42289	³ Pool Name LYBROOK GALLUP
⁴ Property Code 39269	⁵ Property Name LYBROOK A32-2306	⁶ Well Number 01H
⁷ GRID No. 282327	⁸ Operator Name ENCANA OIL & GAS (USA) INC.	⁹ Elevation 7203'

¹⁰ Surface Location

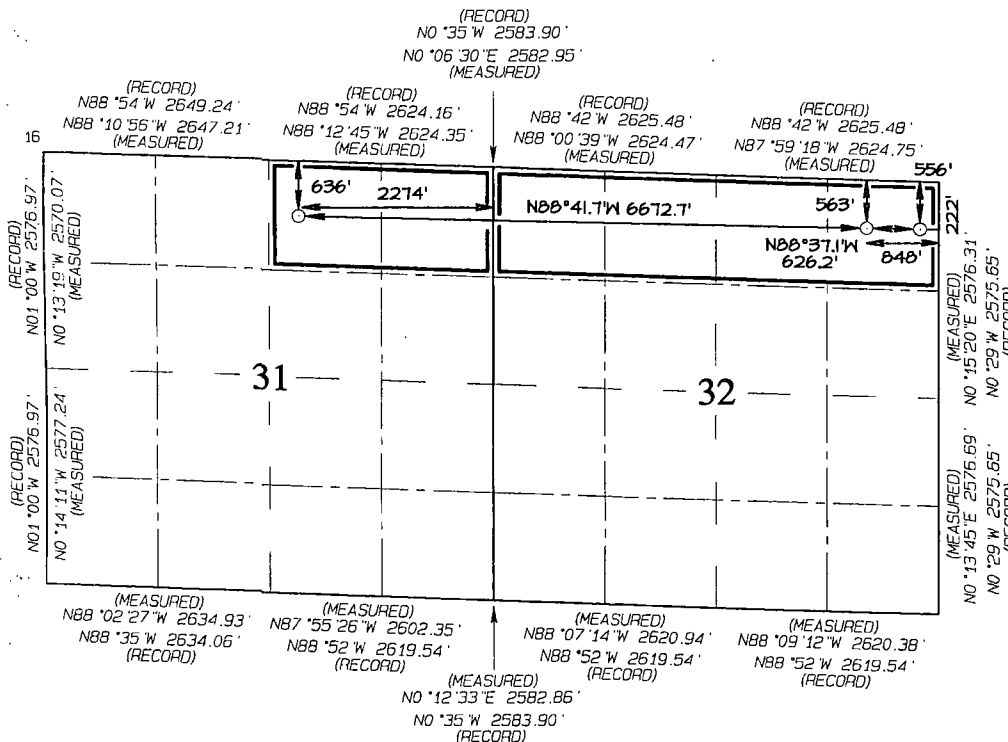
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	32	23N	6W		556	NORTH	222	EAST	SANDOVAL

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	East/West line	County
B	31	23N	6W		636	NORTH	2274	EAST	SANDOVAL

¹² Dedicated Acres 240 Acres	N/2 N/2 - Section 32 N/2 NE/4 - Section 31	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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



END-OF-LATERAL
636' FNL 2274' FEL
SECTION 31, T23N, R6W
LAT: 36.18799°N
LONG: 107.50709°W
DATUM: NAD1927

LAT: 36.18801°N
LONG: 107.50770°W
DATUM: NAD1983

POINT-OF-ENTRY
563' FNL 848' FEL
SECTION 32, T23N, R6W
LAT: 36.18781°N
LONG: 107.48449°W
DATUM: NAD1927

LAT: 36.18782°N
LONG: 107.48509°W
DATUM: NAD1983

SURFACE LOCATION
556' FNL 222' FEL
SECTION 32, T23N, R6W
LAT: 36.18779°N
LONG: 107.48236°W
DATUM: NAD1927

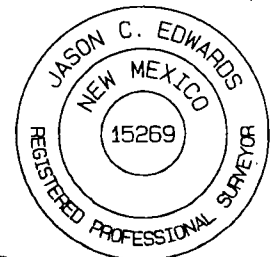
LAT: 36.18780°N
LONG: 107.48297°W
DATUM: NAD1983

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.

Holly Hill 5/28/13
Signature Date
Holly Hill, Regulatory Analyst
Printed Name
holly.hill@encana.com
E-mail Address

18 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.

Date Revised: MAY 15, 2013
Survey Date: DECEMBER 31, 2011
Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

AV

DEVIATION SURVEYS

MD (Feet)	Inclination (Degree)
554	0.9
799	0.4
1104	0.6
1287	0.5
1410	0.8
1723	0.4
2037	0.3
2352	0.8
2666	0.5
2981	0.4
3297	0.5
3611	0.9
4103	0.6
4733	1

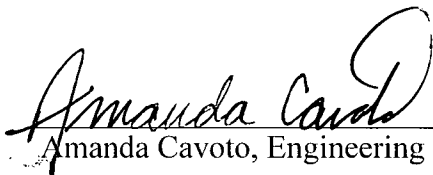
RCVD MAY 30 '13

OIL CONS. DIV.
DIST. 3

CONFIDENTIAL

OPERATOR CERTIFICATION

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



Amanda Cavoto, Engineering Technologist

5/28/13

ACKNOWLEDGMENT

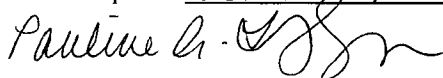
State of Colorado
City and County of Denver

This instrument was acknowledged before me on this 28th day of May, 2013 by Amanda Cavoto as Attorney in Fact of Encana Oil & Gas (USA) Inc., on behalf of said corporation.

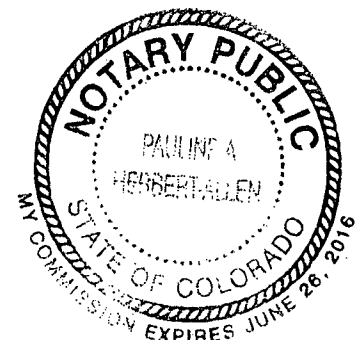
In witness whereof, I hereunto set my hand and official seal.

Notary Public: PAULINE A. HERBERT-ALLEN

My Commission Expires: JUNE 26, 2016

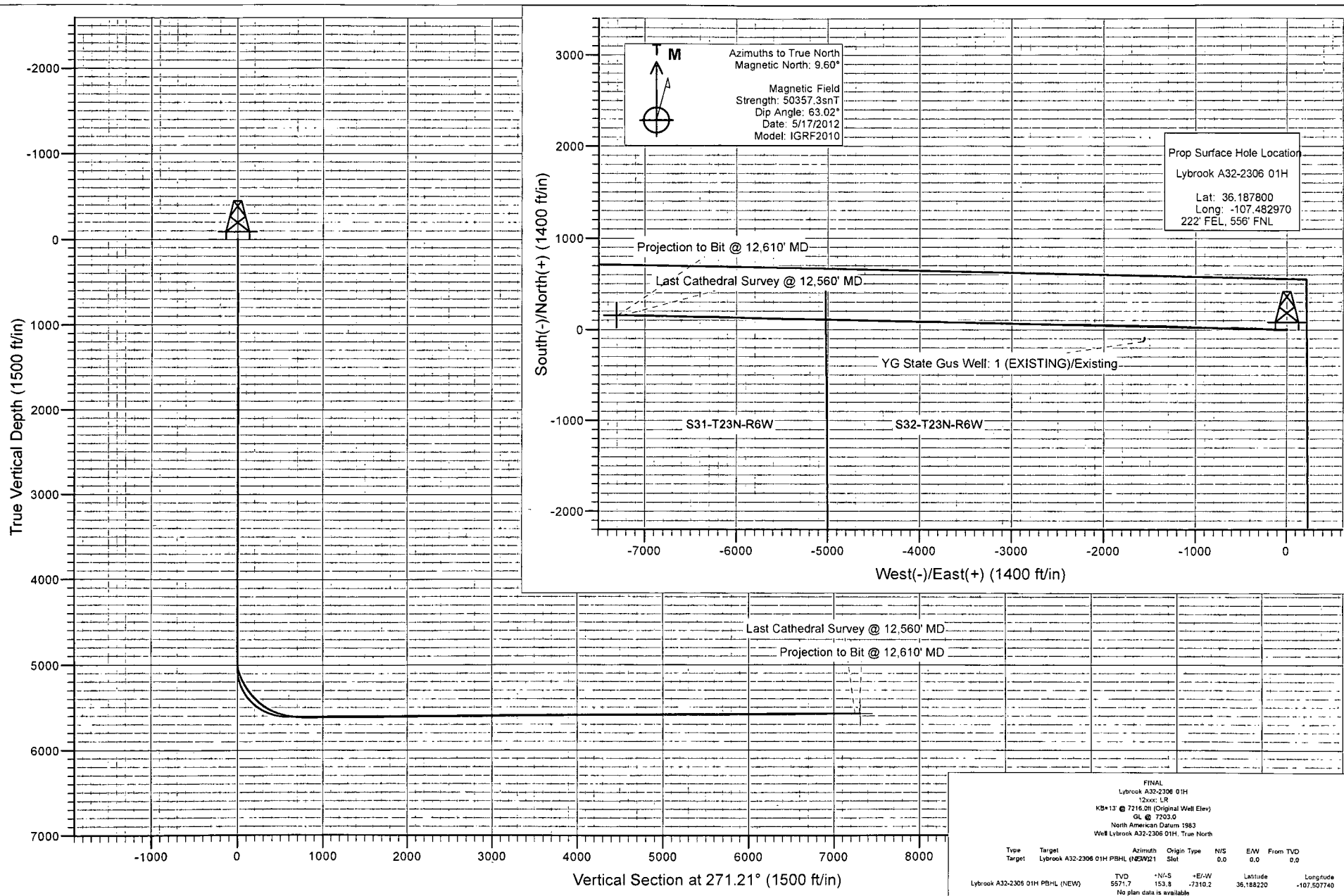


AV





Project: Sandoval County, NM
 Site: Lybrook
 Well: Lybrook A32-2306 01H
 Wellbore: Hz
 Design: FINAL



Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook A32-2306 01H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook A32-2306 01H
TVD Reference: KB=13' @ 7216.0ft (Original Well Elev)
MD Reference: KB=13' @ 7216.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Project: Sandoval 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: Lybrook

Site Position: **From:** Lat/Long **Northings:** 1,882,676.45 ft **Latitude:** 36.168210
Eastings: 1,287,068.90 ft **Longitude:** -107.447150
Position Uncertainty: 0.0 ft **Slot Radius:** 13.200 in **Grid Convergence:** -0.71 °

Well: Lybrook A32-2306 01H

Well Position: **+N/-S** 0.0 ft **Northings:** 1,889,940.32 ft **Latitude:** 36.187800
+E/-W 0.0 ft **Eastings:** 1,276,586.38 ft **Longitude:** -107.482970
Position Uncertainty: 0.0 ft **Wellhead Elevation:** ft **Ground Level:** 7,203.0 ft

Wellbore: Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/17/2012	9.60	63.02	50,357

Design: FINAL

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	271.21

Survey Program **Date** 5/5/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
554.0	12,610.0	Survey #1 (Hz)	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	
554.0	0.90	197.40	554.0	-4.2	-1.3	1.2	0.16	0.16	
616.0	0.90	224.00	616.0	-5.0	-1.8	1.7	0.67	0.00	
677.0	0.70	177.40	677.0	-5.7	-2.1	2.0	1.08	-0.33	
738.0	0.20	332.20	738.0	-6.0	-2.1	2.0	1.45	-0.82	
799.0	0.40	99.50	799.0	-5.9	-2.0	1.8	0.89	0.33	
860.0	0.10	79.70	860.0	-5.9	-1.7	1.6	0.50	-0.49	
921.0	0.60	67.50	921.0	-5.8	-1.4	1.2	0.82	0.82	
982.0	0.50	50.30	982.0	-5.5	-0.9	0.7	0.31	-0.16	
1,043.0	0.30	128.30	1,043.0	-5.4	-0.5	0.4	0.86	-0.33	
1,104.0	0.60	35.90	1,104.0	-5.3	-0.2	0.1	1.12	0.49	
1,165.0	0.80	55.00	1,165.0	-4.8	0.3	-0.4	0.50	0.33	
1,226.0	0.70	68.90	1,225.9	-4.4	1.0	-1.1	0.34	-0.16	

Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Site: Lybrook
 Well: Lybrook A32-2306 01H
 Wellbore: Hz
 Design: FINAL

Local Co-ordinate Reference: Well Lybrook A32-2306 01H
 TVD Reference: KB=13' @ 7216.0ft (Original Well Elev)
 MD Reference: KB=13' @ 7216.0ft (Original Well Elev)
 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
1,287.0	0.50	340.90	1,286.9	-4.0	1.3	-1.4	1.39	-0.33	
1,348.0	1.00	321.30	1,347.9	-3.3	0.9	-0.9	0.91	0.82	
1,410.0	0.80	323.80	1,409.9	-2.6	0.3	-0.3	0.33	-0.32	
1,471.0	1.60	331.20	1,470.9	-1.5	-0.4	0.4	1.33	1.31	
1,534.0	0.80	288.40	1,533.9	-0.6	-1.2	1.2	1.82	-1.27	
1,596.0	0.70	321.50	1,595.9	-0.1	-1.9	1.9	0.71	-0.16	
1,660.0	1.10	297.10	1,659.9	0.5	-2.7	2.7	0.85	0.62	
1,723.0	0.40	242.80	1,722.9	0.6	-3.4	3.4	1.47	-1.11	
1,785.0	0.30	198.60	1,784.9	0.4	-3.7	3.7	0.45	-0.16	
1,848.0	0.10	99.50	1,847.9	0.2	-3.7	3.7	0.53	-0.32	
1,912.0	0.20	170.80	1,911.9	0.1	-3.6	3.6	0.30	0.16	
1,974.0	0.40	231.00	1,973.9	-0.2	-3.7	3.7	0.56	0.32	
2,037.0	0.30	330.40	2,036.9	-0.2	-4.0	4.0	0.85	-0.16	
2,100.0	0.50	335.00	2,099.9	0.2	-4.2	4.2	0.32	0.32	
2,163.0	0.40	332.00	2,162.9	0.7	-4.4	4.4	0.16	-0.16	
2,226.0	0.50	27.00	2,225.9	1.1	-4.4	4.4	0.67	0.16	
2,289.0	0.90	81.50	2,288.9	1.4	-3.8	3.8	1.16	0.63	
2,352.0	0.80	81.40	2,351.9	1.6	-2.8	2.9	0.16	-0.16	
2,415.0	0.30	79.30	2,414.9	1.7	-2.2	2.3	0.79	-0.79	
2,478.0	0.04	66.90	2,477.9	1.7	-2.1	2.1	0.41	-0.41	
2,541.0	0.30	322.80	2,540.9	1.9	-2.1	2.2	0.50	0.41	
2,604.0	0.30	326.60	2,603.9	2.1	-2.3	2.4	0.03	0.00	
2,666.0	0.50	46.30	2,665.9	2.4	-2.2	2.3	0.86	0.32	
2,729.0	0.20	221.10	2,728.9	2.6	-2.1	2.2	1.11	-0.48	
2,792.0	0.30	18.40	2,791.9	2.6	-2.1	2.2	0.78	0.16	
2,855.0	0.10	255.10	2,854.9	2.8	-2.1	2.2	0.58	-0.32	
2,918.0	0.20	227.80	2,917.9	2.7	-2.3	2.3	0.19	0.16	
2,981.0	0.40	296.00	2,980.9	2.7	-2.5	2.6	0.60	0.32	
3,044.0	0.60	279.50	3,043.9	2.9	-3.1	3.1	0.39	0.32	
3,108.0	0.30	232.30	3,107.9	2.8	-3.5	3.6	0.71	-0.47	
3,171.0	0.50	128.60	3,170.9	2.5	-3.4	3.5	1.02	0.32	
3,234.0	0.80	132.30	3,233.8	2.1	-2.9	2.9	0.48	0.48	
3,297.0	0.50	115.90	3,296.8	1.7	-2.3	2.4	0.56	-0.48	
3,360.0	0.50	132.40	3,359.8	1.3	-1.9	1.9	0.23	0.00	
3,423.0	0.60	115.00	3,422.8	1.0	-1.4	1.4	0.31	0.16	
3,486.0	0.90	186.30	3,485.8	0.4	-1.1	1.1	1.44	0.48	
3,548.0	0.50	157.60	3,547.8	-0.3	-1.1	1.1	0.84	-0.65	
3,611.0	0.90	150.50	3,610.8	-1.0	-0.7	0.7	0.65	0.63	
3,675.0	0.80	190.50	3,674.8	-1.9	-0.6	0.5	0.92	-0.16	
3,789.0	0.40	120.80	3,788.8	-2.9	-0.4	0.3	0.67	-0.35	
3,852.0	1.10	61.30	3,851.8	-2.7	0.3	-0.4	1.53	1.11	
3,977.0	1.10	58.40	3,976.8	-1.5	2.4	-2.5	0.04	0.00	
4,103.0	0.60	17.80	4,102.8	-0.2	3.7	-3.7	0.60	-0.40	
4,229.0	0.70	339.40	4,228.8	1.1	3.6	-3.6	0.35	0.08	
4,356.0	0.50	347.30	4,355.8	2.4	3.2	-3.1	0.17	-0.16	
4,482.0	0.40	341.40	4,481.8	3.3	2.9	-2.9	0.09	-0.08	
4,607.0	0.50	203.20	4,606.8	3.2	2.6	-2.5	0.67	0.08	
4,733.0	1.00	190.20	4,732.7	1.6	2.2	-2.1	0.42	0.40	
4,859.0	1.20	192.90	4,858.7	-0.7	1.7	-1.7	0.16	0.16	
4,923.0	1.70	184.90	4,922.7	-2.3	1.4	-1.5	0.84	0.78	
4,954.0	1.80	181.50	4,953.7	-3.3	1.4	-1.5	0.46	0.32	
4,986.0	2.10	223.20	4,985.7	-4.2	1.0	-1.1	4.42	0.94	
5,017.0	6.20	259.20	5,016.6	-4.9	-1.1	1.0	15.05	13.23	

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
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Wellbore: Hz
Design: FINAL

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TVD Reference: KB=13' @ 7216.0ft (Original Well Elev)
MD Reference: KB=13' @ 7216.0ft (Original Well Elev)
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
5,048.0	11.60	267.30	5,047.2	-5.4	-5.8	5.7	17.84	17.42	
5,080.0	16.30	271.30	5,078.2	-5.4	-13.5	13.4	14.98	14.69	
5,112.0	19.40	274.10	5,108.7	-5.0	-23.3	23.2	10.05	9.69	
5,143.0	21.80	273.30	5,137.7	-4.3	-34.2	34.1	7.79	7.74	
5,175.0	24.40	269.90	5,167.2	-3.9	-46.7	46.7	9.13	8.12	
5,206.0	27.10	267.70	5,195.1	-4.2	-60.2	60.1	9.24	8.71	
5,238.0	29.70	268.80	5,223.2	-4.7	-75.4	75.3	8.29	8.12	
5,269.0	31.40	271.00	5,249.9	-4.7	-91.2	91.1	6.56	5.48	
5,301.0	33.30	271.60	5,276.9	-4.3	-108.3	108.2	6.02	5.94	
5,332.0	35.60	271.80	5,302.5	-3.8	-125.8	125.7	7.43	7.42	
5,364.0	37.80	274.40	5,328.2	-2.7	-144.9	144.8	8.42	6.87	
5,395.0	39.80	276.20	5,352.3	-0.9	-164.2	164.2	7.41	6.45	
5,427.0	41.40	275.60	5,376.6	1.2	-185.0	184.9	5.15	5.00	
5,458.0	43.30	275.10	5,399.5	3.1	-205.8	205.8	6.22	6.13	
5,490.0	46.00	273.90	5,422.3	4.9	-228.2	228.2	8.84	8.44	
5,521.0	49.00	272.80	5,443.2	6.2	-251.0	251.1	10.02	9.68	
5,553.0	51.80	272.20	5,463.6	7.3	-275.6	275.7	8.87	8.75	
5,585.0	54.20	272.20	5,482.9	8.3	-301.1	301.3	7.50	7.50	
5,616.0	56.60	272.30	5,500.5	9.3	-326.6	326.8	7.75	7.74	
5,648.0	59.50	271.70	5,517.4	10.2	-353.8	353.9	9.20	9.06	
5,679.0	62.70	271.00	5,532.4	10.9	-380.9	381.0	10.51	10.32	
5,711.0	65.90	270.70	5,546.3	11.3	-409.7	409.9	10.04	10.00	
5,742.0	68.40	272.10	5,558.3	12.0	-438.3	438.4	9.07	8.06	
5,774.0	71.40	272.50	5,569.3	13.2	-468.3	468.5	9.45	9.37	
5,805.0	74.00	273.20	5,578.5	14.7	-497.9	498.1	8.66	8.39	
5,837.0	76.10	273.50	5,586.8	16.5	-528.7	529.0	6.62	6.56	
5,862.0	78.40	273.20	5,592.3	17.9	-553.1	553.3	9.27	9.20	
5,875.0	78.60	267.50	5,594.9	18.0	-565.8	566.1	42.99	1.54	
5,905.0	81.10	267.10	5,600.2	16.6	-595.3	595.5	8.44	8.33	
5,936.0	82.10	267.30	5,604.7	15.1	-625.9	626.1	3.29	3.23	
5,966.0	83.10	268.50	5,608.6	14.0	-655.7	655.8	5.18	3.33	
5,997.0	85.00	269.90	5,611.8	13.6	-686.5	686.6	7.60	6.13	
6,028.0	86.40	270.70	5,614.1	13.7	-717.4	717.5	5.20	4.52	
6,060.0	87.50	271.40	5,615.8	14.3	-749.3	749.5	4.07	3.44	
6,091.0	89.00	271.80	5,616.8	15.2	-780.3	780.5	5.01	4.84	
6,122.0	90.10	271.60	5,617.0	16.1	-811.3	811.5	3.61	3.55	
6,186.0	90.20	272.10	5,616.8	18.2	-875.3	875.5	0.80	0.16	
6,249.0	90.90	272.50	5,616.2	20.7	-938.2	938.4	1.28	1.11	
6,312.0	91.10	272.20	5,615.1	23.3	-1,001.2	1,001.4	0.57	0.32	
6,375.0	90.20	271.80	5,614.4	25.5	-1,064.1	1,064.4	1.56	-1.43	
6,438.0	89.60	271.80	5,614.5	27.5	-1,127.1	1,127.4	0.95	-0.95	
6,501.0	89.80	272.20	5,614.9	29.7	-1,190.0	1,190.4	0.71	0.32	
6,564.0	90.10	271.80	5,614.9	31.9	-1,253.0	1,253.4	0.79	0.48	
6,627.0	90.30	271.10	5,614.7	33.5	-1,316.0	1,316.4	1.16	0.32	
6,690.0	90.20	270.80	5,614.4	34.5	-1,379.0	1,379.4	0.50	-0.16	
6,753.0	90.10	270.90	5,614.3	35.4	-1,442.0	1,442.4	0.22	-0.16	
6,816.0	90.20	271.00	5,614.1	36.5	-1,505.0	1,505.4	0.22	0.16	
6,879.0	90.20	271.20	5,613.9	37.7	-1,567.9	1,568.4	0.32	0.00	
6,942.0	90.40	271.00	5,613.5	38.9	-1,630.9	1,631.4	0.45	0.32	
7,005.0	90.80	271.00	5,612.9	40.0	-1,693.9	1,694.4	0.63	0.63	
7,068.0	91.20	270.30	5,611.8	40.7	-1,756.9	1,757.4	1.28	0.63	
7,131.0	90.90	270.70	5,610.6	41.3	-1,819.9	1,820.4	0.79	-0.48	
7,194.0	90.50	270.90	5,609.9	42.1	-1,882.9	1,883.3	0.71	-0.63	

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook A32-2306 01H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook A32-2306 01H
TVD Reference: KB=13' @ 7216.0ft (Original Well Elev)
MD Reference: KB=13' @ 7216.0ft (Original Well Elev)
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
7,256.0	90.70	272.40	5,609.2	43.9	-1,944.8	1,945.3	2.44	0.32	
7,320.0	89.80	271.70	5,608.9	46.2	-2,008.8	2,009.3	1.78	-1.41	
7,383.0	90.50	271.90	5,608.8	48.2	-2,071.8	2,072.3	1.16	1.11	
7,446.0	90.20	270.60	5,608.4	49.6	-2,134.8	2,135.3	2.12	-0.48	
7,509.0	90.30	270.30	5,608.1	50.1	-2,197.8	2,198.3	0.50	0.16	
7,572.0	90.50	271.00	5,607.7	50.8	-2,260.7	2,261.3	1.16	0.32	
7,635.0	90.00	270.70	5,607.4	51.7	-2,323.7	2,324.3	0.93	-0.79	
7,698.0	90.00	269.80	5,607.4	52.0	-2,386.7	2,387.3	1.43	0.00	
7,761.0	90.40	271.00	5,607.2	52.4	-2,449.7	2,450.3	2.01	0.63	
7,824.0	89.70	270.90	5,607.1	53.5	-2,512.7	2,513.3	1.12	-1.11	
7,887.0	90.20	271.30	5,607.2	54.7	-2,575.7	2,576.3	1.02	0.79	
7,950.0	90.40	270.30	5,606.8	55.6	-2,638.7	2,639.3	1.62	0.32	
8,014.0	90.60	270.60	5,606.3	56.1	-2,702.7	2,703.3	0.56	0.31	
8,077.0	90.50	271.50	5,605.7	57.2	-2,765.7	2,766.3	1.44	-0.16	
8,140.0	89.90	271.70	5,605.5	59.0	-2,828.7	2,829.3	1.00	-0.95	
8,203.0	90.00	271.60	5,605.5	60.8	-2,891.6	2,892.3	0.22	0.16	
8,267.0	90.30	271.70	5,605.3	62.6	-2,955.6	2,956.3	0.49	0.47	
8,330.0	90.80	271.60	5,604.7	64.5	-3,018.6	3,019.3	0.81	0.79	
8,393.0	91.20	271.30	5,603.6	66.0	-3,081.5	3,082.3	0.79	0.63	
8,456.0	90.60	271.10	5,602.6	67.4	-3,144.5	3,145.2	1.00	-0.95	
8,519.0	90.70	272.00	5,601.9	69.1	-3,207.5	3,208.2	1.44	0.16	
8,582.0	90.70	271.90	5,601.2	71.2	-3,270.5	3,271.2	0.16	0.00	
8,646.0	90.00	271.30	5,600.8	73.0	-3,334.4	3,335.2	1.44	-1.09	
8,709.0	89.90	271.80	5,600.8	74.7	-3,397.4	3,398.2	0.81	-0.16	
8,772.0	90.50	271.00	5,600.6	76.2	-3,460.4	3,461.2	1.59	0.95	
8,835.0	90.70	270.70	5,599.9	77.2	-3,523.4	3,524.2	0.57	0.32	
8,897.0	90.60	270.00	5,599.2	77.6	-3,585.4	3,586.2	1.14	-0.16	
8,960.0	90.90	270.00	5,598.4	77.6	-3,648.4	3,649.2	0.48	0.48	
9,023.0	91.20	271.00	5,597.3	78.1	-3,711.4	3,712.2	1.66	0.48	
9,086.0	90.80	271.40	5,596.2	79.4	-3,774.3	3,775.2	0.90	-0.63	
9,149.0	90.80	270.40	5,595.3	80.4	-3,837.3	3,838.2	1.59	0.00	
9,212.0	90.90	270.30	5,594.3	80.8	-3,900.3	3,901.1	0.22	0.16	
9,275.0	90.70	270.70	5,593.5	81.4	-3,963.3	3,964.1	0.71	-0.32	
9,338.0	90.00	271.50	5,593.1	82.6	-4,026.3	4,027.1	1.69	-1.11	
9,401.0	89.70	271.50	5,593.3	84.2	-4,089.3	4,090.1	0.48	-0.48	
9,464.0	90.00	271.20	5,593.4	85.7	-4,152.2	4,153.1	0.67	0.48	
9,527.0	90.70	271.80	5,593.0	87.3	-4,215.2	4,216.1	1.46	1.11	
9,590.0	91.30	271.90	5,591.9	89.4	-4,278.2	4,279.1	0.97	0.95	
9,653.0	90.60	271.80	5,590.9	91.4	-4,341.1	4,342.1	1.12	-1.11	
9,715.0	90.80	271.20	5,590.1	93.0	-4,403.1	4,404.1	1.02	0.32	
9,778.0	90.90	271.30	5,589.2	94.4	-4,466.1	4,467.1	0.22	0.16	
9,841.0	90.40	271.30	5,588.5	95.8	-4,529.1	4,530.1	0.79	-0.79	
9,904.0	90.30	271.30	5,588.1	97.3	-4,592.1	4,593.1	0.16	-0.16	
9,968.0	90.10	271.40	5,587.9	98.8	-4,656.0	4,657.1	0.35	-0.31	
10,030.0	90.20	271.60	5,587.7	100.4	-4,718.0	4,719.1	0.36	0.16	
10,093.0	90.70	271.80	5,587.2	102.3	-4,781.0	4,782.1	0.85	0.79	
10,157.0	89.90	271.20	5,586.9	103.9	-4,845.0	4,846.1	1.56	-1.25	
10,220.0	90.10	271.00	5,586.9	105.1	-4,907.9	4,909.1	0.45	0.32	
10,283.0	91.30	271.40	5,586.1	106.5	-4,970.9	4,972.1	2.01	1.90	
10,346.0	90.60	272.30	5,585.1	108.5	-5,033.9	5,035.1	1.81	-1.11	
10,409.0	89.50	271.00	5,585.0	110.3	-5,096.9	5,098.0	2.70	-1.75	
10,471.0	90.10	270.80	5,585.2	111.3	-5,158.8	5,160.0	1.02	0.97	
10,534.0	90.30	270.80	5,585.0	112.2	-5,221.8	5,223.0	0.32	0.32	

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
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Wellbore: Hz
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TVD Reference: KB=13' @ 7216.0ft (Original Well Elev)
MD Reference: KB=13' @ 7216.0ft (Original Well Elev)
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
10,597.0	90.30	270.30	5,584.7	112.8	-5,284.8	5,286.0	0.79	0.00	
10,660.0	89.70	268.90	5,584.7	112.3	-5,347.8	5,349.0	2.42	-0.95	
10,723.0	90.00	269.80	5,584.8	111.6	-5,410.8	5,412.0	1.51	0.48	
10,786.0	89.60	270.90	5,585.1	112.0	-5,473.8	5,475.0	1.86	-0.63	
10,849.0	90.10	271.00	5,585.2	113.0	-5,536.8	5,538.0	0.81	0.79	
10,912.0	90.50	272.00	5,584.9	114.7	-5,599.8	5,601.0	1.71	0.63	
10,975.0	90.00	271.00	5,584.6	116.3	-5,662.8	5,664.0	1.77	-0.79	
11,038.0	89.60	271.30	5,584.8	117.6	-5,725.8	5,727.0	0.79	-0.63	
11,101.0	89.10	271.20	5,585.6	119.0	-5,788.7	5,790.0	0.81	-0.79	
11,164.0	90.30	272.90	5,585.9	121.2	-5,851.7	5,852.9	3.30	1.90	
11,227.0	90.30	272.80	5,585.6	124.4	-5,914.6	5,915.9	0.16	0.00	
11,290.0	89.90	272.30	5,585.4	127.2	-5,977.6	5,978.9	1.02	-0.63	
11,353.0	90.50	271.20	5,585.2	129.1	-6,040.5	6,041.9	1.99	0.95	
11,416.0	91.10	272.10	5,584.3	130.9	-6,103.5	6,104.9	1.72	0.95	
11,479.0	90.00	272.20	5,583.7	133.3	-6,166.4	6,167.9	1.75	-1.75	
11,542.0	89.60	271.00	5,584.0	135.0	-6,229.4	6,230.9	2.01	-0.63	
11,604.0	89.70	270.20	5,584.3	135.7	-6,291.4	6,292.9	1.30	0.16	
11,668.0	89.30	269.20	5,584.9	135.3	-6,355.4	6,356.8	1.68	-0.62	
11,730.0	90.30	270.30	5,585.1	135.1	-6,417.4	6,418.8	2.40	1.61	
11,794.0	91.20	271.00	5,584.3	135.8	-6,481.4	6,482.8	1.78	1.41	
11,857.0	91.20	271.10	5,583.0	137.0	-6,544.4	6,545.8	0.16	0.00	
11,920.0	91.10	271.60	5,581.7	138.4	-6,607.3	6,608.8	0.81	-0.16	
11,983.0	91.30	272.40	5,580.4	140.6	-6,670.3	6,671.8	1.31	0.32	
12,046.0	90.60	272.70	5,579.3	143.4	-6,733.2	6,734.7	1.21	-1.11	
12,109.0	90.60	271.80	5,578.7	145.9	-6,796.2	6,797.7	1.43	0.00	
12,172.0	89.80	271.50	5,578.5	147.7	-6,859.1	6,860.7	1.36	-1.27	
12,235.0	89.70	271.30	5,578.7	149.3	-6,922.1	6,923.7	0.35	-0.16	
12,298.0	90.50	271.30	5,578.6	150.7	-6,985.1	6,986.7	1.27	1.27	
12,361.0	90.00	271.20	5,578.3	152.1	-7,048.1	7,049.7	0.81	-0.79	
12,424.0	90.30	270.50	5,578.2	153.0	-7,111.1	7,112.7	1.21	0.48	
12,487.0	90.90	270.00	5,577.5	153.3	-7,174.1	7,175.7	1.24	0.95	
12,560.0	90.80	269.20	5,576.4	152.8	-7,247.1	7,248.7	1.10	-0.14	Last Cathedral Survey @ 12,560' MD
12,610.0	90.80	269.20	5,575.7	152.1	-7,297.0	7,298.6	0.00	0.00	Projection to Bit @ 12,610' MD - Lybrook A32-2306 01H



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook A32-2306 01H
Wellbore: Hz
Design: FINAL

Local Co-ordinate Reference: Well Lybrook A32-2306 01H
TVD Reference: KB=13' @ 7216.0ft (Original Well Elev)
MD Reference: KB=13' @ 7216.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Lybrook A32-2306 01H F	0.00	0.00	5,571.7	153.8	-7,310.2	1,890,187.04	1,269,278.70	36.188220	-107.507740
- actual wellpath misses target center by 13.9ft at 12610.0ft MD (5575.7 TVD, 152.1 N, -7297.0 E)									
- Point									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,560.0	5,576.4	152.8	-7,247.1	Last Cathedral Survey @ 12,560' MD
12,610.0	5,575.7	152.1	-7,297.0	Projection to Bit @ 12,610' MD

Checked By: _____ Approved By: _____ Date: _____