

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

District II
911 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

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

CONFIDENTIAL

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-043-21141		Pool Code 42289		Pool Name LYBROOK GALLUP	
Property Code 40046		Property Name LYBROOK E29-2306			Well Number 01H
GRID No. 282327		Operator Name ENCANA OIL & GAS (USA) INC.			Elevation 7080'

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
D	29	23N	6W		1276	NORTH	330	WEST	SANDOVAL

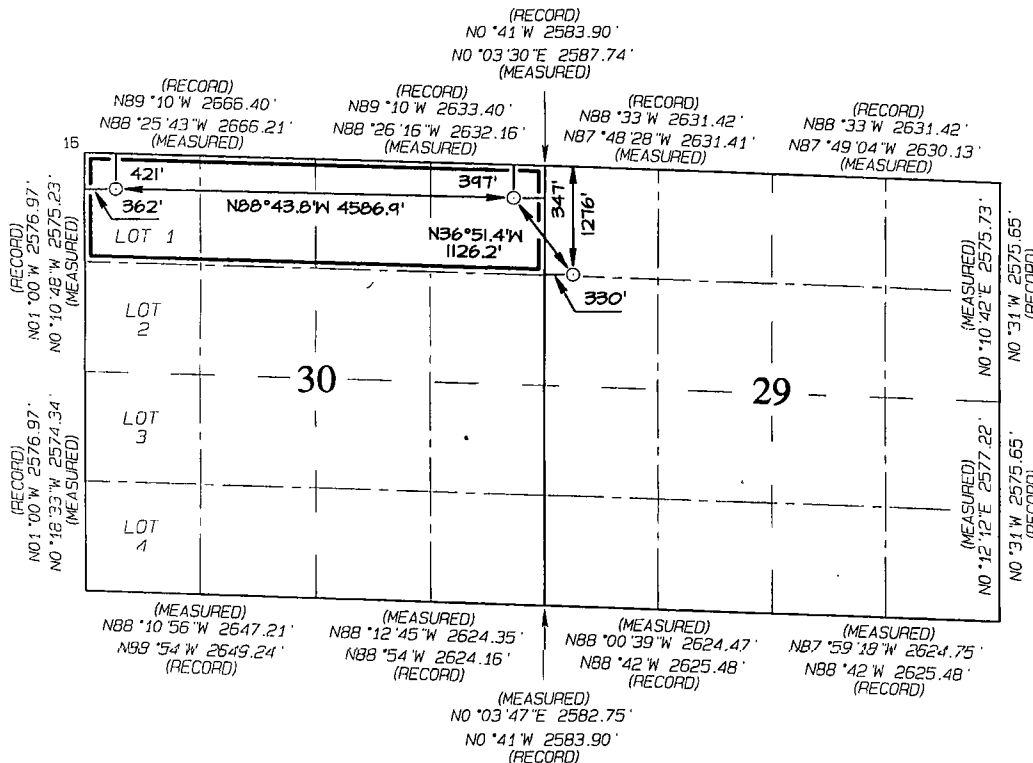
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	30	23N	6W	1	421	NORTH	362	WEST	SANDOVAL

Dedicated Acres 160.97 Acres N/2 N/2 - Section 30					Joint or Infill	Consolidation Code	Order No.	RCVD SEP 30 '13 OIL CONS. DIV.	
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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

DIST. 3



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.

Signature: *Robynn Haden* Date: *9/26/13*
Printed Name: Robynn Haden
E-mail Address: robyn.haden@encana.com

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: SEPT 17, 2013
Survey Date: SEPT 25, 2012

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

END-OF-LATERAL
421' FNL 362' FWL
SECTION 30, T23N, R6W
LAT: 36.20286°N
LONG: 107.51632°W
DATUM: NAD1927

POINT-OF-ENTRY
397' FNL 347' FEL
SECTION 30, T23N, R6W
LAT: 36.20275°N
LONG: 107.50078°W
DATUM: NAD1927

SURFACE LOCATION
1276' FNL 330' FWL
SECTION 29, T23N, R6W
LAT: 36.20030°N
LONG: 107.49845°W
DATUM: NAD1927

LAT: 36.20288°N
LONG: 107.51693°W
DATUM: NAD1983

LAT: 36.20276°N
LONG: 107.50138°W
DATUM: NAD1983

LAT: 36.20031°N
LONG: 107.49905°W
DATUM: NAD1983

DEVIATION SURVEYS

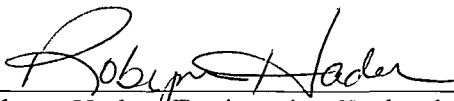
CONFIDENTIAL

MD (Feet)	Inclination (Degree)
555	.60
799	.50
1105	.70
1411	.60
1725	.80
2040	.40
2355	.40
2669	.90
2984	.60
3299	.80
3613	.10
3928	.20
4244	.30
4558	.50
4868	.70

RCVD SEP 30 '13
OIL CONS. DIV.
DIST. 3

OPERATOR CERTIFICATION

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


Robynn Haden, Engineering Technologist

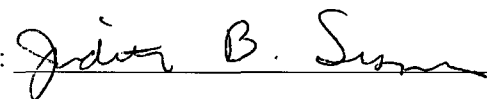
9/26/13
9/26/13

ACKNOWLEDGMENT

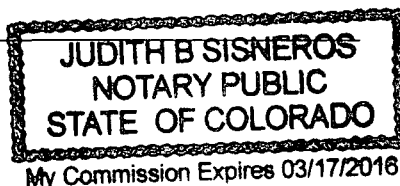
State of Colorado
City and County of Denver

This instrument was acknowledged before me on this 26th day of September 2013 by Robynn Haden 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: 

My Commission Expires: _____

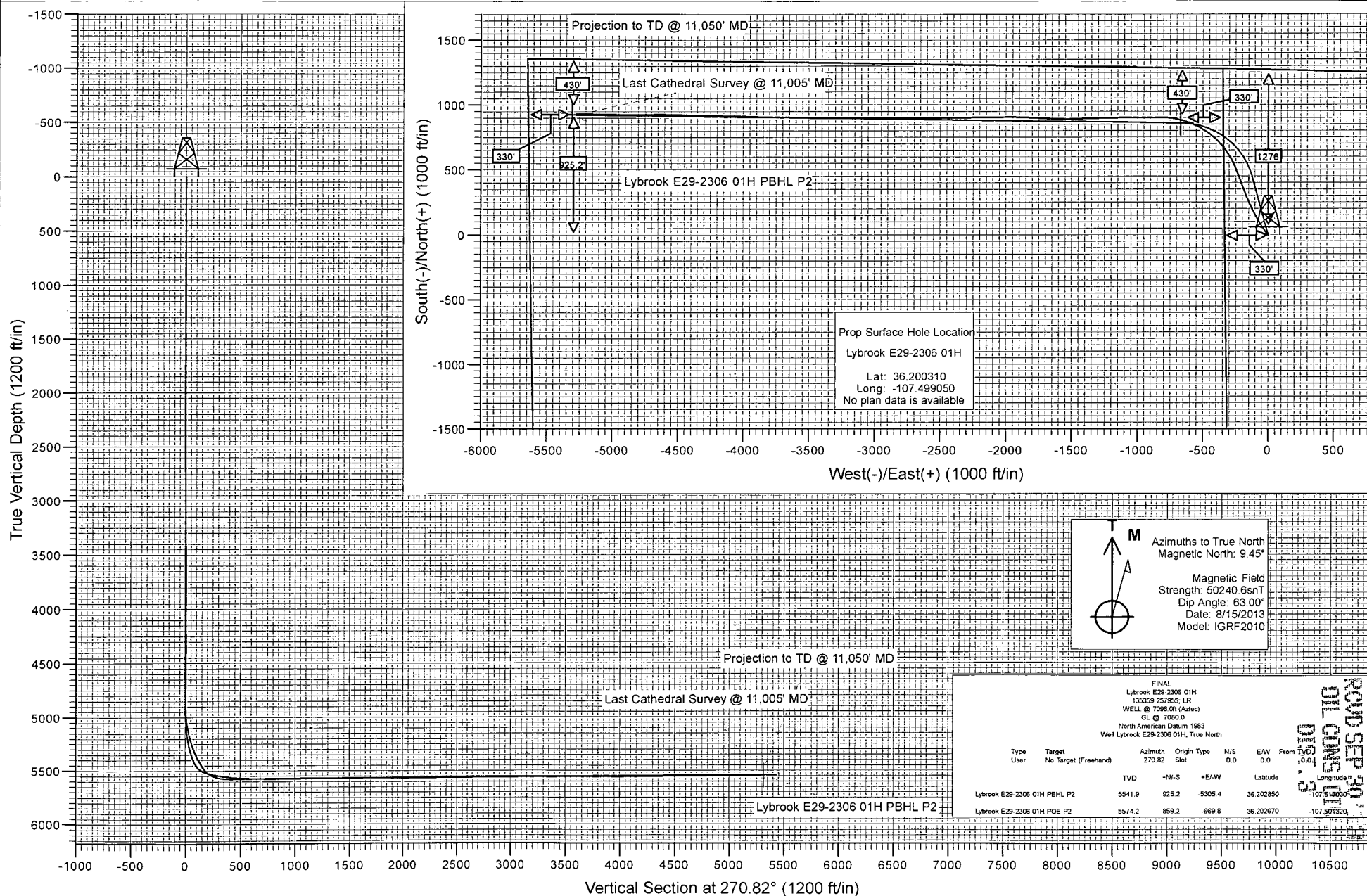


My Commission Expires 03/17/2016

AV



Project: Sandoval County, NM
 Site: Lybrook
 Well: Lybrook E29-2306 01H
 Wellbore: Hz
 Design: FINAL



ROAD SEP 30 2013
 01:05:10
 D:\CATHEDRAL

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook E29-2306 01H
Wellbore: Hz
Design: Hz

Local Co-ordinate Reference: Well Lybrook E29-2306 01H
TVD Reference: WELL @ 7096.0ft (Aztec)
MD Reference: WELL @ 7096.0ft (Aztec)
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:		Northing:	1,882,676.45 ft	Latitude:	36.168210
From:	Lat/Long	Easting:	1,287,068.90 ft	Longitude:	-107.447150
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.71 °

Well	Lybrook E29-2306 01H					
Well Position	+N/-S	0.0 ft	Northing:	1,894,555.16 ft	Latitude:	36.200310
	+E/-W	0.0 ft	Easting:	1,271,899.78 ft	Longitude:	-107.499050
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,080.0 ft	

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/15/2013	9.45	63.00	50,241

Design	Hz			
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	270.82

Survey Program		Date	8/26/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
555.0	11,050.0	Survey #1 (Hz)	Geolink MWD	Geolink MWD	

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	
555.0	0.60	341.20	555.0	2.8	-0.9	1.0	0.11	0.11	
616.0	0.50	9.50	616.0	3.3	-1.0	1.0	0.47	-0.16	
677.0	0.50	348.90	677.0	3.8	-1.0	1.1	0.29	0.00	
738.0	0.50	356.10	738.0	4.4	-1.1	1.1	0.10	0.00	
799.0	0.50	332.50	799.0	4.9	-1.2	1.3	0.34	0.00	
860.0	0.60	343.40	860.0	5.4	-1.4	1.5	0.24	0.16	
921.0	0.80	327.80	921.0	6.1	-1.7	1.8	0.45	0.33	
982.0	0.80	319.90	982.0	6.8	-2.2	2.3	0.18	0.00	
1,043.0	0.50	46.70	1,043.0	7.3	-2.3	2.4	1.51	-0.49	
1,105.0	0.70	59.20	1,105.0	7.7	-1.8	1.9	0.38	0.32	
1,166.0	0.70	69.20	1,166.0	8.0	-1.1	1.3	0.20	0.00	
1,228.0	0.40	149.50	1,228.0	7.9	-0.7	0.8	1.20	-0.48	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook E29-2306 01H
Wellbore: Hz
Design: Hz

Local Co-ordinate Reference: Well Lybrook E29-2306 01H
TVD Reference: WELL @ 7096.0ft (Aztec)
MD Reference: WELL @ 7096.0ft (Aztec)
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
1,289.0	0.50	121.50	1,289.0	7.6	-0.3	0.4	0.39	0.16	
1,350.0	0.60	135.70	1,350.0	7.2	0.1	0.0	0.28	0.16	
1,411.0	0.60	166.80	1,410.9	6.7	0.4	-0.3	0.53	0.00	
1,473.0	0.70	160.20	1,472.9	6.0	0.6	-0.5	0.20	0.16	
1,536.0	0.80	169.50	1,535.9	5.2	0.8	-0.7	0.25	0.16	
1,599.0	0.70	155.20	1,598.9	4.4	1.1	-1.0	0.34	-0.16	
1,662.0	0.70	165.30	1,661.9	3.7	1.3	-1.3	0.20	0.00	
1,725.0	0.80	159.80	1,724.9	2.9	1.6	-1.5	0.20	0.16	
1,788.0	0.90	139.50	1,787.9	2.1	2.0	-2.0	0.50	0.16	
1,851.0	0.60	170.10	1,850.9	1.4	2.4	-2.4	0.78	-0.48	
1,914.0	0.70	163.60	1,913.9	0.8	2.6	-2.6	0.20	0.16	
1,977.0	0.60	197.40	1,976.9	0.1	2.6	-2.6	0.62	-0.16	
2,040.0	0.40	180.80	2,039.9	-0.5	2.5	-2.5	0.39	-0.32	
2,103.0	0.50	172.50	2,102.9	-1.0	2.5	-2.5	0.19	0.16	
2,166.0	0.50	165.80	2,165.9	-1.5	2.6	-2.7	0.09	0.00	
2,229.0	0.40	187.00	2,228.9	-2.0	2.7	-2.7	0.31	-0.16	
2,292.0	0.40	211.90	2,291.9	-2.4	2.5	-2.6	0.27	0.00	
2,355.0	0.40	207.00	2,354.9	-2.8	2.3	-2.4	0.05	0.00	
2,418.0	0.50	208.70	2,417.9	-3.2	2.1	-2.1	0.16	0.16	
2,481.0	0.60	180.60	2,480.9	-3.8	1.9	-2.0	0.45	0.16	
2,544.0	0.60	180.50	2,543.9	-4.4	1.9	-2.0	0.00	0.00	
2,606.0	0.80	187.20	2,605.9	-5.2	1.9	-2.0	0.35	0.32	
2,669.0	0.90	344.20	2,668.9	-5.2	1.7	-1.8	2.64	0.16	
2,732.0	0.90	358.60	2,731.9	-4.2	1.5	-1.6	0.36	0.00	
2,795.0	0.80	352.30	2,794.9	-3.3	1.5	-1.5	0.22	-0.16	
2,858.0	0.70	359.90	2,857.9	-2.4	1.4	-1.5	0.22	-0.16	
2,921.0	0.80	1.30	2,920.9	-1.6	1.4	-1.4	0.16	0.16	
2,984.0	0.60	343.40	2,983.9	-0.9	1.3	-1.4	0.47	-0.32	
3,047.0	0.70	309.10	3,046.8	-0.3	0.9	-1.0	0.63	0.16	
3,110.0	0.70	301.80	3,109.8	0.2	0.3	-0.3	0.14	0.00	
3,173.0	0.70	272.90	3,172.8	0.4	-0.4	0.4	0.55	0.00	
3,236.0	0.70	272.00	3,235.8	0.4	-1.2	1.2	0.02	0.00	
3,299.0	0.80	243.30	3,298.8	0.2	-1.9	1.9	0.61	0.16	
3,362.0	0.70	246.60	3,361.8	-0.1	-2.7	2.7	0.17	-0.16	
3,425.0	0.70	269.10	3,424.8	-0.3	-3.4	3.4	0.43	0.00	
3,488.0	0.10	279.50	3,487.8	-0.3	-3.9	3.9	0.96	-0.95	
3,551.0	0.20	168.60	3,550.8	-0.4	-3.9	3.9	0.40	0.16	
3,613.0	0.10	297.70	3,612.8	-0.5	-3.9	3.9	0.44	-0.16	
3,676.0	0.10	330.60	3,675.8	-0.4	-4.0	4.0	0.09	0.00	
3,739.0	0.20	298.00	3,738.8	-0.3	-4.1	4.1	0.20	0.16	
3,802.0	0.20	119.50	3,801.8	-0.3	-4.1	4.1	0.63	0.00	
3,865.0	0.10	274.60	3,864.8	-0.3	-4.1	4.1	0.47	-0.16	
3,928.0	0.20	251.30	3,927.8	-0.4	-4.2	4.2	0.18	0.16	
3,991.0	0.04	279.50	3,990.8	-0.4	-4.4	4.4	0.26	-0.25	
4,054.0	0.04	279.50	4,053.8	-0.4	-4.4	4.4	0.00	0.00	
4,118.0	0.30	273.70	4,117.8	-0.4	-4.6	4.6	0.41	0.41	
4,181.0	0.10	255.50	4,180.8	-0.4	-4.8	4.8	0.33	-0.32	
4,244.0	0.30	37.20	4,243.8	-0.3	-4.8	4.8	0.61	0.32	
4,307.0	0.20	55.90	4,306.8	-0.1	-4.6	4.6	0.20	-0.16	
4,369.0	0.30	82.10	4,368.8	0.0	-4.3	4.3	0.24	0.16	
4,433.0	0.30	68.30	4,432.8	0.1	-4.0	4.0	0.11	0.00	
4,496.0	0.20	152.00	4,495.8	0.1	-3.8	3.8	0.54	-0.16	
4,558.0	0.50	129.50	4,557.8	-0.2	-3.5	3.5	0.52	0.48	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook E29-2306 01H
Wellbore: Hz
Design: Hz

Local Co-ordinate Reference: Well Lybrook E29-2306 01H
TVD Reference: WELL @ 7096.0ft (Aztec)
MD Reference: WELL @ 7096.0ft (Aztec)
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
4,621.0	0.40	138.00	4,620.8	-0.5	-3.2	3.2	0.19	-0.16	
4,684.0	0.20	134.60	4,683.8	-0.8	-3.0	2.9	0.32	-0.32	
4,747.0	0.40	184.70	4,746.8	-1.1	-2.9	2.9	0.50	0.32	
4,810.0	0.40	172.10	4,809.8	-1.5	-2.9	2.9	0.14	0.00	
4,868.0	0.70	172.40	4,867.8	-2.1	-2.8	2.8	0.52	0.52	
4,922.0	0.80	296.10	4,921.8	-2.2	-3.1	3.1	2.45	0.19	
4,953.0	3.30	323.60	4,952.8	-1.4	-3.8	3.8	8.44	8.06	
4,984.0	6.20	325.60	4,983.7	0.7	-5.3	5.3	9.37	9.35	
5,016.0	9.00	327.10	5,015.4	4.2	-7.6	7.7	8.77	8.75	
5,047.0	13.20	323.50	5,045.8	9.1	-11.1	11.2	13.73	13.55	
5,079.0	14.50	325.60	5,076.9	15.3	-15.5	15.7	4.36	4.06	
5,110.0	17.10	326.10	5,106.7	22.3	-20.2	20.6	8.40	8.39	
5,141.0	19.80	326.90	5,136.1	30.5	-25.6	26.1	8.75	8.71	
5,173.0	22.80	327.70	5,165.9	40.3	-31.9	32.5	9.42	9.37	
5,205.0	25.30	327.90	5,195.1	51.3	-38.9	39.6	7.82	7.81	
5,236.0	27.80	327.40	5,222.9	63.0	-46.3	47.2	8.10	8.06	
5,268.0	30.20	327.50	5,250.8	76.1	-54.6	55.7	7.50	7.50	
5,299.0	32.80	328.40	5,277.3	89.8	-63.2	64.5	8.52	8.39	
5,331.0	35.70	329.20	5,303.7	105.2	-72.5	74.0	9.17	9.06	
5,362.0	38.60	330.00	5,328.4	121.4	-82.0	83.7	9.48	9.35	
5,394.0	41.30	331.10	5,353.0	139.3	-92.1	94.1	8.72	8.44	
5,425.0	44.20	332.10	5,375.7	157.8	-102.1	104.4	9.61	9.35	
5,457.0	47.10	332.90	5,398.1	178.1	-112.7	115.2	9.24	9.06	
5,488.0	50.20	333.30	5,418.6	198.8	-123.2	126.0	10.05	10.00	
5,520.0	53.40	334.60	5,438.4	221.4	-134.2	137.4	10.50	10.00	
5,551.0	55.90	335.20	5,456.3	244.3	-145.0	148.4	8.22	8.06	
5,583.0	59.00	336.90	5,473.5	269.0	-155.9	159.7	10.67	9.69	
5,614.0	62.60	337.60	5,488.6	293.9	-166.4	170.5	11.78	11.61	
5,646.0	65.90	337.80	5,502.5	320.6	-177.3	181.9	10.33	10.31	
5,677.0	69.40	337.60	5,514.3	347.1	-188.2	193.1	11.31	11.29	
5,709.0	73.00	337.50	5,524.6	375.1	-199.7	205.1	11.25	11.25	
5,740.0	76.70	338.30	5,532.7	402.8	-211.0	216.7	12.19	11.94	
5,772.0	78.90	339.30	5,539.5	432.0	-222.3	228.5	7.53	6.88	
5,803.0	80.50	340.10	5,545.0	460.6	-232.9	239.4	5.75	5.16	
5,835.0	82.70	340.40	5,549.7	490.4	-243.6	250.6	6.94	6.87	
5,866.0	82.20	337.60	5,553.8	519.1	-254.6	262.0	9.10	-1.61	
5,898.0	82.20	334.40	5,558.1	548.0	-267.5	275.3	9.91	0.00	
5,929.0	81.80	331.50	5,562.4	575.4	-281.4	289.6	9.35	-1.29	
5,961.0	82.90	328.80	5,566.7	602.9	-297.2	305.8	9.04	3.44	
5,993.0	85.30	326.70	5,570.0	629.8	-314.2	323.2	9.94	7.50	
6,025.0	86.00	323.30	5,572.4	655.9	-332.5	341.9	10.82	2.19	
6,057.0	86.40	320.70	5,574.5	681.1	-352.2	361.9	8.20	1.25	
6,088.0	88.60	317.50	5,575.9	704.5	-372.4	382.5	12.52	7.10	
6,120.0	89.40	314.40	5,576.4	727.5	-394.7	405.0	10.00	2.50	
6,151.0	89.20	311.40	5,576.8	748.6	-417.4	428.1	9.70	-0.65	
6,182.0	90.30	308.30	5,577.0	768.4	-441.2	452.1	10.61	3.55	
6,214.0	91.30	305.80	5,576.5	787.7	-466.7	477.9	8.41	3.12	
6,245.0	91.50	302.80	5,575.8	805.2	-492.3	503.8	9.70	0.65	
6,277.0	90.40	299.50	5,575.2	821.7	-519.7	531.4	10.87	-3.44	
6,308.0	89.50	296.90	5,575.3	836.4	-547.0	558.9	8.88	-2.90	
6,335.0	90.00	294.00	5,575.4	848.0	-571.4	583.5	10.90	1.85	
6,366.0	90.00	292.00	5,575.4	860.1	-599.9	612.2	6.45	0.00	
6,398.0	90.70	289.40	5,575.2	871.4	-629.9	642.3	8.41	2.19	
6,429.0	90.00	286.00	5,575.0	880.8	-659.4	671.9	11.20	-2.26	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook E29-2306 01H
Wellbore: Hz
Design: Hz

Local Co-ordinate Reference: Well Lybrook E29-2306 01H
TVD Reference: WELL @ 7096.0ft (Aztec)
MD Reference: WELL @ 7096.0ft (Aztec)
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
6,461.0	89.50	282.80	5,575.1	888.8	-690.4	703.0	10.12	-1.56	
6,492.0	89.60	278.50	5,575.4	894.5	-720.8	733.6	13.87	0.32	
6,524.0	90.20	274.90	5,575.4	898.2	-752.6	765.4	11.41	1.87	
6,555.0	89.90	270.90	5,575.4	899.8	-783.6	796.4	12.94	-0.97	
6,618.0	91.00	270.40	5,574.9	900.5	-846.5	859.3	1.92	1.75	
6,682.0	91.10	269.80	5,573.7	900.6	-910.5	923.3	0.95	0.16	
6,745.0	90.50	270.10	5,572.8	900.6	-973.5	986.3	1.06	-0.95	
6,807.0	89.90	269.80	5,572.6	900.5	-1,035.5	1,048.3	1.08	-0.97	
6,871.0	90.50	270.50	5,572.4	900.7	-1,099.5	1,112.3	1.44	0.94	
6,934.0	90.60	268.70	5,571.8	900.2	-1,162.5	1,175.3	2.86	0.16	
6,997.0	90.60	267.90	5,571.1	898.4	-1,225.5	1,238.2	1.27	0.00	
7,060.0	90.80	267.70	5,570.4	895.9	-1,288.4	1,301.1	0.45	0.32	
7,122.0	90.80	267.80	5,569.5	893.5	-1,350.4	1,363.0	0.16	0.00	
7,186.0	90.70	268.50	5,568.7	891.4	-1,414.3	1,427.0	1.10	-0.16	
7,247.0	91.10	268.50	5,567.7	889.8	-1,475.3	1,487.9	0.66	0.66	
7,310.0	91.00	269.60	5,566.6	888.8	-1,538.3	1,550.9	1.75	-0.16	
7,373.0	91.10	271.80	5,565.4	889.6	-1,601.3	1,613.8	3.50	0.16	
7,436.0	89.70	273.20	5,565.0	892.3	-1,664.2	1,676.8	3.14	-2.22	
7,499.0	90.10	273.20	5,565.1	895.8	-1,727.1	1,739.8	0.63	0.63	
7,561.0	89.60	272.90	5,565.2	899.1	-1,789.0	1,801.7	0.94	-0.81	
7,624.0	88.70	272.50	5,566.2	902.1	-1,851.9	1,864.7	1.56	-1.43	
7,687.0	88.60	270.70	5,567.7	903.9	-1,914.9	1,927.6	2.86	-0.16	
7,750.0	90.00	269.70	5,568.4	904.1	-1,977.9	1,990.6	2.73	2.22	
7,813.0	90.80	269.70	5,568.0	903.8	-2,040.9	2,053.6	1.27	1.27	
7,876.0	91.80	269.40	5,566.6	903.3	-2,103.9	2,116.6	1.66	1.59	
7,939.0	90.80	269.30	5,565.1	902.5	-2,166.9	2,179.6	1.60	-1.59	
8,003.0	89.70	268.40	5,564.8	901.3	-2,230.9	2,243.5	2.22	-1.72	
8,066.0	90.10	267.60	5,565.0	899.1	-2,293.8	2,306.4	1.42	0.63	
8,129.0	90.20	268.60	5,564.8	897.0	-2,356.8	2,369.4	1.60	0.16	
8,192.0	90.50	269.30	5,564.4	895.8	-2,419.8	2,432.3	1.21	0.48	
8,255.0	90.70	269.90	5,563.7	895.4	-2,482.8	2,495.3	1.00	0.32	
8,318.0	90.00	269.90	5,563.4	895.3	-2,545.8	2,558.3	1.11	-1.11	
8,381.0	90.20	269.90	5,563.3	895.2	-2,608.8	2,621.3	0.32	0.32	
8,444.0	90.50	270.20	5,562.9	895.2	-2,671.8	2,684.3	0.67	0.48	
8,507.0	90.40	270.10	5,562.4	895.4	-2,734.8	2,747.3	0.22	-0.16	
8,569.0	90.20	270.70	5,562.0	895.8	-2,796.8	2,809.3	1.02	-0.32	
8,633.0	90.20	270.80	5,561.8	896.6	-2,860.8	2,873.3	0.16	0.00	
8,696.0	90.10	270.50	5,561.7	897.4	-2,923.7	2,936.3	0.50	-0.16	
8,759.0	90.30	270.10	5,561.4	897.7	-2,986.7	2,999.3	0.71	0.32	
8,822.0	90.50	269.40	5,561.0	897.4	-3,049.7	3,062.3	1.16	0.32	
8,885.0	90.00	269.90	5,560.7	897.0	-3,112.7	3,125.3	1.12	-0.79	
8,948.0	90.20	268.80	5,560.6	896.3	-3,175.7	3,188.2	1.77	0.32	
9,011.0	90.20	269.40	5,560.4	895.3	-3,238.7	3,251.2	0.95	0.00	
9,074.0	90.30	270.60	5,560.1	895.3	-3,301.7	3,314.2	1.91	0.16	
9,137.0	90.40	270.10	5,559.7	895.7	-3,364.7	3,377.2	0.81	0.16	
9,200.0	90.80	270.80	5,559.1	896.2	-3,427.7	3,440.2	1.28	0.63	
9,263.0	90.20	270.50	5,558.5	896.9	-3,490.7	3,503.2	1.06	-0.95	
9,326.0	90.40	271.80	5,558.2	898.2	-3,553.7	3,566.2	2.09	0.32	
9,389.0	90.30	271.50	5,557.8	900.0	-3,616.6	3,629.2	0.50	-0.16	
9,452.0	90.50	271.10	5,557.4	901.4	-3,679.6	3,692.2	0.71	0.32	
9,515.0	90.40	270.70	5,556.9	902.4	-3,742.6	3,755.2	0.65	-0.16	
9,578.0	90.30	271.50	5,556.5	903.6	-3,805.6	3,818.2	1.28	-0.16	
9,641.0	89.40	272.00	5,556.7	905.6	-3,868.6	3,881.1	1.63	-1.43	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook E29-2306 01H
Wellbore: Hz
Design: Hz

Local Co-ordinate Reference: Well Lybrook E29-2306 01H
TVD Reference: WELL @ 7096.0ft (Aztec)
MD Reference: WELL @ 7096.0ft (Aztec)
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
9,704.0	89.10	271.80	5,557.5	907.6	-3,931.5	3,944.1	0.57	-0.48	
9,767.0	89.70	271.70	5,558.1	909.6	-3,994.5	4,007.1	0.97	0.95	
9,830.0	90.50	271.00	5,558.0	911.0	-4,057.5	4,070.1	1.69	1.27	
9,893.0	91.00	271.70	5,557.2	912.5	-4,120.5	4,133.1	1.37	0.79	
9,956.0	90.90	271.40	5,556.2	914.2	-4,183.4	4,196.1	0.50	-0.16	
10,019.0	90.00	271.50	5,555.7	915.8	-4,246.4	4,259.1	1.44	-1.43	
10,082.0	89.90	271.20	5,555.7	917.3	-4,309.4	4,322.1	0.50	-0.16	
10,145.0	90.50	271.50	5,555.5	918.8	-4,372.4	4,385.1	1.06	0.95	
10,208.0	90.70	272.50	5,554.8	921.0	-4,435.3	4,448.1	1.62	0.32	
10,271.0	91.20	271.90	5,553.8	923.4	-4,498.3	4,511.0	1.24	0.79	
10,334.0	90.90	270.00	5,552.6	924.5	-4,561.3	4,574.0	3.05	-0.48	
10,397.0	90.50	270.20	5,551.9	924.6	-4,624.2	4,637.0	0.71	-0.63	
10,460.0	90.40	269.40	5,551.4	924.4	-4,687.2	4,700.0	1.28	-0.16	
10,524.0	90.70	269.20	5,550.8	923.6	-4,751.2	4,764.0	0.56	0.47	
10,587.0	90.80	269.60	5,549.9	922.9	-4,814.2	4,826.9	0.65	0.16	
10,649.0	90.40	270.10	5,549.3	922.7	-4,876.2	4,888.9	1.03	-0.65	
10,712.0	89.90	271.30	5,549.1	923.5	-4,939.2	4,951.9	2.06	-0.79	
10,775.0	90.70	271.50	5,548.8	925.1	-5,002.2	5,014.9	1.31	1.27	
10,839.0	89.60	271.40	5,548.6	926.7	-5,066.2	5,078.9	1.73	-1.72	
10,902.0	90.00	271.00	5,548.8	928.0	-5,129.2	5,141.9	0.90	0.63	
10,964.0	90.80	271.40	5,548.4	929.3	-5,191.1	5,203.9	1.44	1.29	
11,005.0	91.20	271.40	5,547.7	930.3	-5,232.1	5,244.9	0.98	0.98	Last Cathedral Survey @ 11,005' MD
11,050.0	91.50	271.40	5,546.6	931.4	-5,277.1	5,289.9	0.67	0.67	Projection to TD @ 11,050' MD

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook E29-2306 01H
Wellbore: Hz
Design: Hz

Local Co-ordinate Reference: Well Lybrook E29-2306 01H
TVD Reference: WELL @ 7096.0ft (Aztec)
MD Reference: WELL @ 7096.0ft (Aztec)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Lybrook E29-2306 01H F - survey misses target center by 29.3ft at 11050.0ft MD (5546.6 TVD, 931.4 N, -5277.1 E) - Point	0.00	0.00	5,541.9	925.2	-5,305.4	1,895,548.64	1,266,606.78	36.202850	-107.517030
Lybrook E29-2306 01H F - survey misses target center by 23.6ft at 6433.7ft MD (5575.0 TVD, 882.1 N, -663.9 E) - Point	0.00	0.00	5,574.2	859.2	-669.8	1,895,422.93	1,271,241.09	36.202670	-107.501320
Lybrook E29-2306 01H F - survey misses target center by 29.3ft at 11050.0ft MD (5546.6 TVD, 931.4 N, -5277.1 E) - Point	0.00	0.00	5,541.9	925.2	-5,305.4	1,895,548.64	1,266,606.78	36.202850	-107.517030
Lybrook E29-2306 01H F - survey misses target center by 23.6ft at 6433.7ft MD (5575.0 TVD, 882.1 N, -663.9 E) - Point	0.00	0.00	5,574.2	859.2	-669.8	1,895,422.93	1,271,241.09	36.202670	-107.501320

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
11,005.0	5,547.7	930.3	-5,232.1	Last Cathedral Survey @ 11,005' MD
11,050.0	5,546.6	931.4	-5,277.1	Projection to TD @ 11,050' MD

Checked By: _____ Approved By: _____ Date: _____