

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: (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

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-043-21178		*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code 40416	*Property Name LYBROOK M28-2306		*Well Number 01H
*GRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 7220'

10 Surface Location

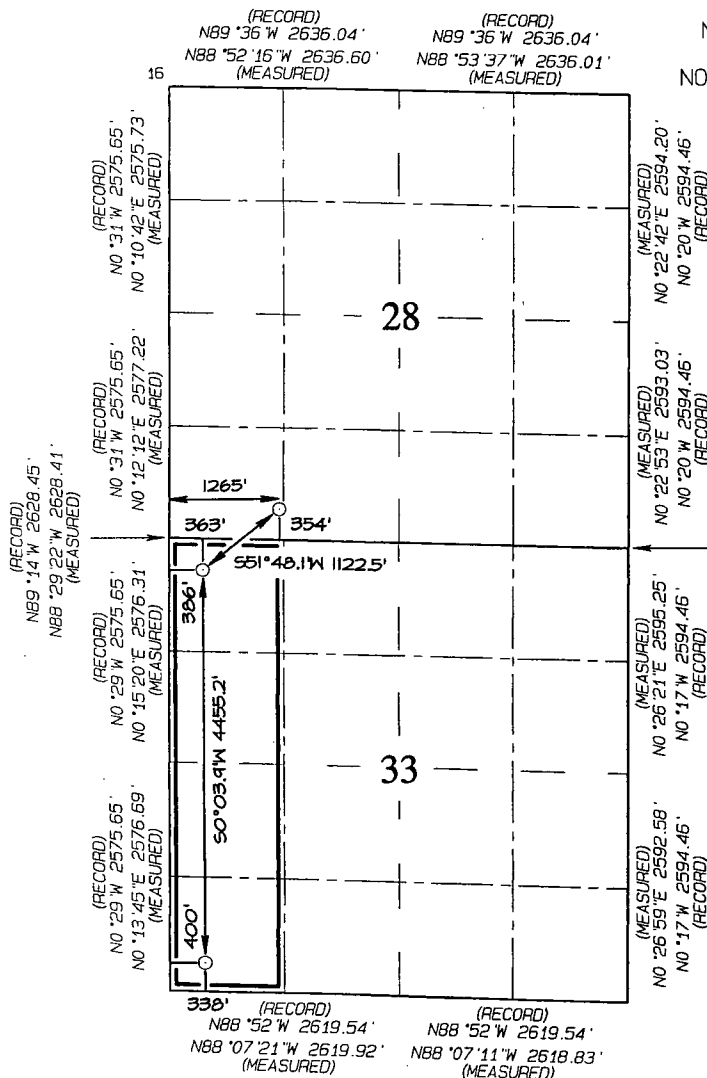
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	28	23N	6W		354	SOUTH	1265	WEST	SANDOVAL

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
M	33	23N	6W		338	SOUTH	400	WEST	SANDOVAL

*Dedicated Acres 160.00 Acres W/2 W/2 - Section 33	*Joint or Infill	*Consolidation Code	*Order No. OIL CONS. DIV DIST. 3
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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



SURFACE LOCATION
354' FSL 1265' FWL
SECTION 28, T23N, R6W
LAT: 36.19023°N
LONG: 107.47735°W
DATUM: NAD1927

LAT: 36.19024°N
LONG: 107.47796°W
DATUM: NAD1983

POINT-OF-ENTRY
363' FNL 386' FWL
SECTION 33, T23N, R6W
LAT: 36.18829°N
LONG: 107.48031°W
DATUM: NAD1927

LAT: 36.18831°N
LONG: 107.48092°W
DATUM: NAD1983

END-OF-LATERAL
338' FSL 400' FWL
SECTION 33, T23N, R6W
LAT: 36.17606°N
LONG: 107.48014°W
DATUM: NAD1927

LAT: 36.17607°N
LONG: 107.48074°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.

Signature: *Brenda R. Linster* Date: 09-10-14
Printed Name: Brenda R. Linster
E-mail Address: brenda.linster@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: JULY 1, 2014
Survey Date: SEPTEMBER 5, 2012

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

DEVIATION SURVEYS
Well Name Lybrook M28-2306 01H
API 30-043-21178

CONFIDENTIAL

MD (Feet)	Inclination (Degree)
759'	0.70
1075'	0.70
1391'	0.60
1708'	0.60
2024'	0.80
2338'	1.00
2654'	1.40
2970'	1.10
3320'	0.30
3636'	0.70
3951'	1.30
4266'	1.20
4583'	0.10
4899'	1.00
5057'	8.90

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

9/10/14
Date

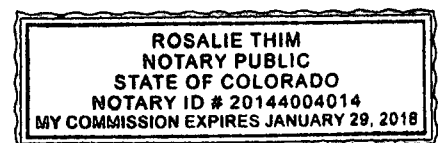
ACKNOWLEDGMENT

State of Colorado
City and County of Denver

This instrument was acknowledged before me on this 10th day of September, 2014 by Cristi Bauer as Attorney in Fact of Encana Oil & Gas (USA) Inc., on behalf of said corporation.

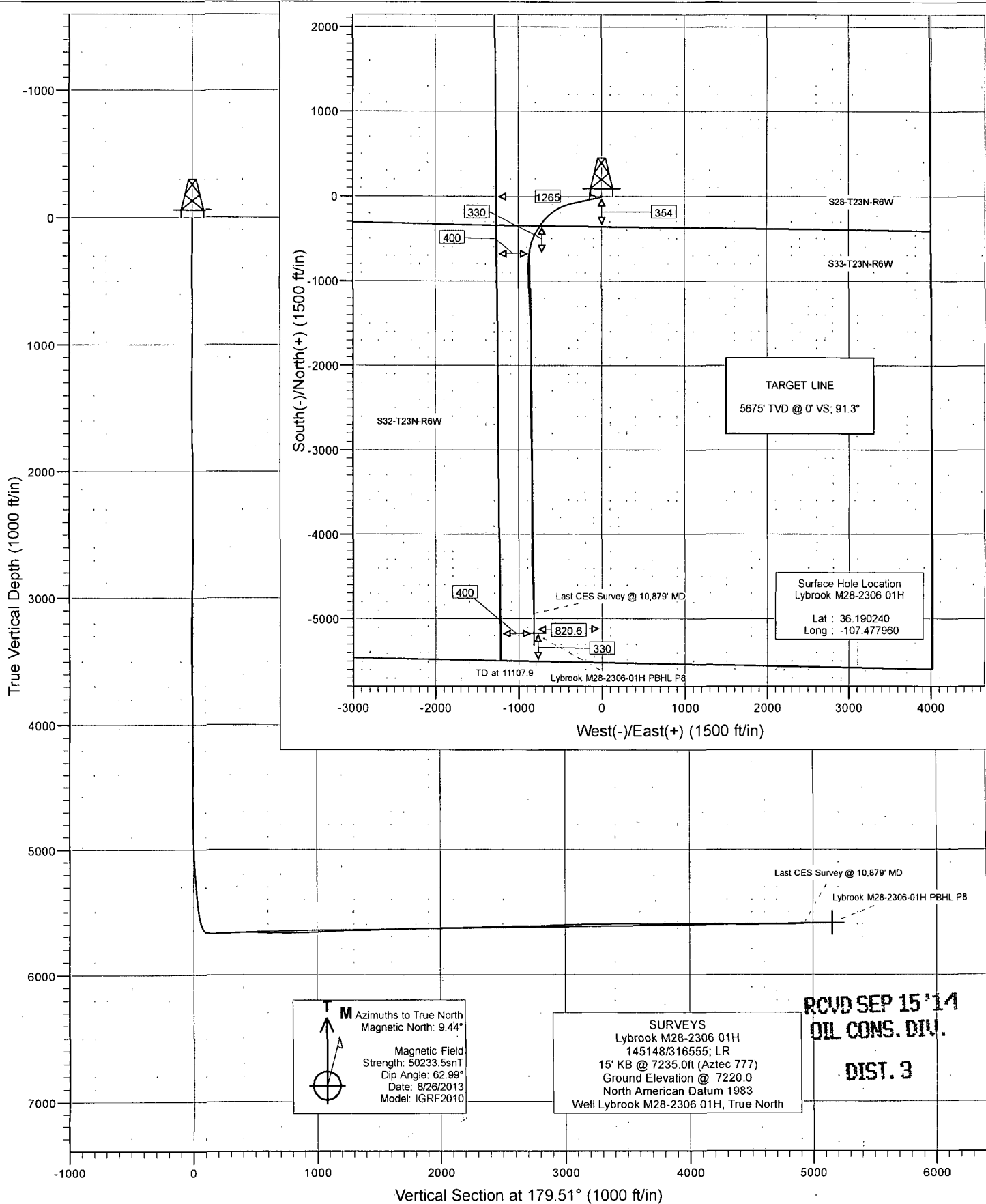
In witness whereof, I hereunto set my hand and official seal.

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



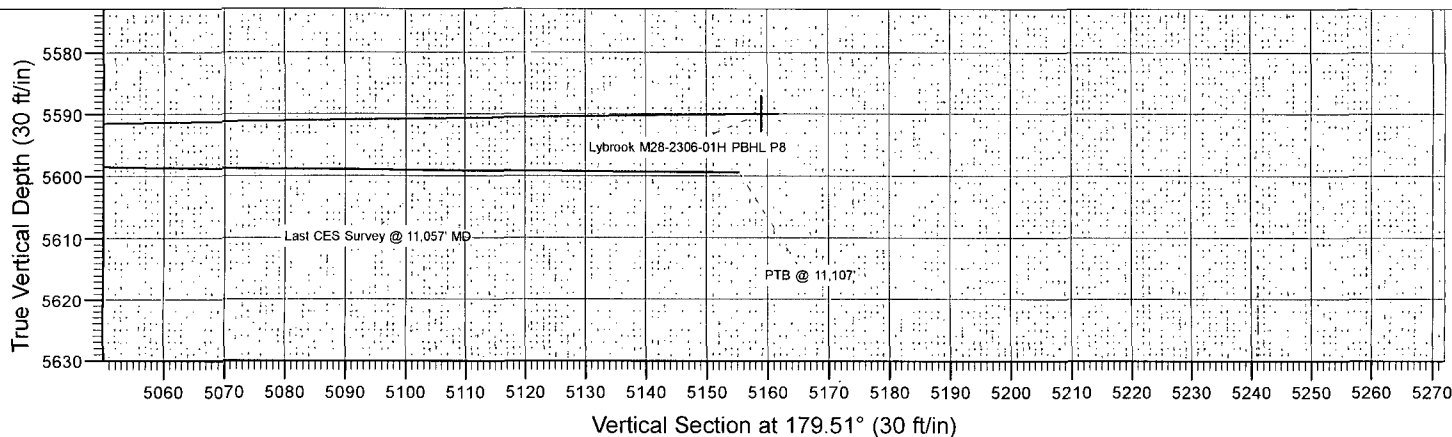
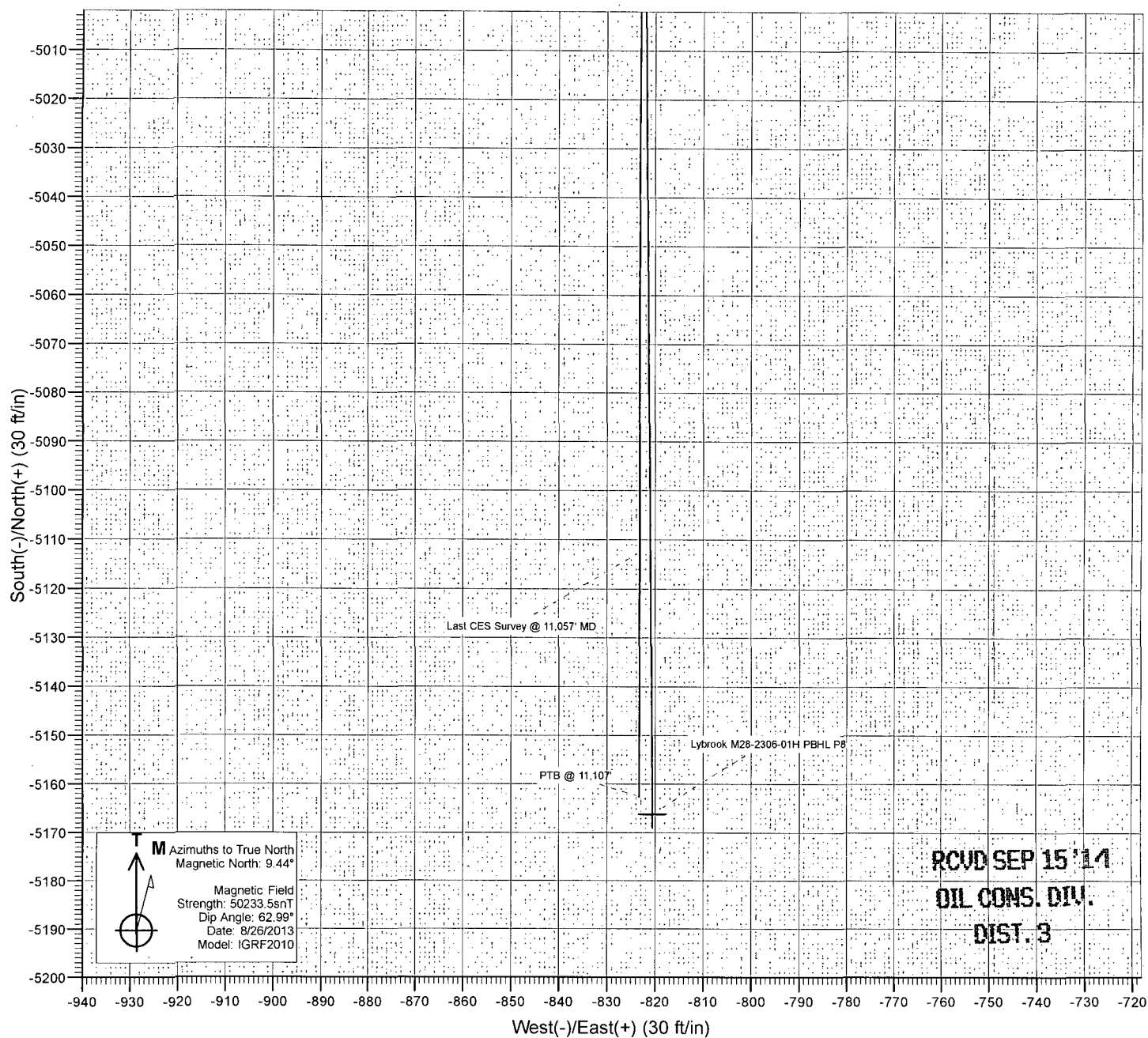


Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook M28-2306 01H
Wellbore: HZ
Design: SURVEYS





Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook M28-2306 01H
Wellbore: HZ
Design: FINAL



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	Sandoval County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

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 M28-2306 01H					
Well Position	+N/-S	0.0 ft	Northing:	1,890,809.83 ft	Latitude:	36.190240
	+E/-W	0.0 ft	Easting:	1,278,076.07 ft	Longitude:	-107.477960
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,220.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/26/2013	9.44	62.99	50,234

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	179.51

Survey Program	Date 6/20/2014			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
569.0	11,107.0	Survey #1 (HZ)	Geolink MWD	Geolink MWD

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Formations /
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Comments
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
569.0	0.50	269.80	569.0	0.0	-2.5	0.0	0.09	0.09	
632.0	0.50	263.00	632.0	0.0	-3.0	0.0	0.09	0.00	
696.0	0.50	262.70	696.0	-0.1	-3.6	0.1	0.00	0.00	
759.0	0.70	248.60	759.0	-0.3	-4.2	0.3	0.39	0.32	
822.0	0.90	250.20	822.0	-0.6	-5.0	0.6	0.32	0.32	
885.0	1.10	247.70	885.0	-1.0	-6.1	0.9	0.32	0.32	
949.0	0.50	4.40	949.0	-0.9	-6.6	0.9	2.18	-0.94	
1,012.0	0.70	3.80	1,012.0	-0.3	-6.6	0.2	0.32	0.32	
1,075.0	0.70	335.80	1,075.0	0.4	-6.7	-0.5	0.54	0.00	
1,139.0	0.70	339.70	1,139.0	1.2	-7.0	-1.2	0.07	0.00	
1,202.0	0.70	345.30	1,201.9	1.9	-7.2	-2.0	0.11	0.00	
1,265.0	0.70	347.30	1,264.9	2.6	-7.4	-2.7	0.04	0.00	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
1,328.0	0.70	336.70	1,327.9	3.4	-7.6	-3.4	0.21	0.00	
1,391.0	0.60	327.70	1,390.9	4.0	-8.0	-4.1	0.23	-0.16	
1,455.0	0.50	312.60	1,454.9	4.5	-8.4	-4.6	0.27	-0.16	
1,518.0	0.40	179.50	1,517.9	4.4	-8.6	-4.5	1.31	-0.16	
1,581.0	0.80	189.50	1,580.9	3.8	-8.6	-3.9	0.65	0.63	
1,644.0	0.80	202.20	1,643.9	3.0	-8.9	-3.0	0.28	0.00	
1,708.0	0.60	207.50	1,707.9	2.2	-9.2	-2.3	0.33	-0.31	
1,771.0	1.90	194.40	1,770.9	0.9	-9.6	-1.0	2.10	2.06	
1,834.0	2.30	186.70	1,833.9	-1.3	-10.0	1.2	0.78	0.63	
1,897.0	0.60	165.10	1,896.8	-2.9	-10.1	2.8	2.79	-2.70	
1,961.0	0.70	82.30	1,960.8	-3.2	-9.6	3.1	1.35	0.16	
2,024.0	0.80	83.60	2,023.8	-3.1	-8.8	3.0	0.16	0.16	
2,087.0	1.00	95.90	2,086.8	-3.1	-7.8	3.0	0.44	0.32	
2,150.0	1.00	99.30	2,149.8	-3.2	-6.7	3.2	0.09	0.00	
2,212.0	1.10	103.20	2,211.8	-3.4	-5.6	3.4	0.20	0.16	
2,275.0	1.20	94.50	2,274.8	-3.6	-4.3	3.6	0.32	0.16	
2,338.0	1.00	92.10	2,337.8	-3.7	-3.1	3.7	0.33	-0.32	
2,402.0	1.00	100.60	2,401.8	-3.8	-2.0	3.8	0.23	0.00	
2,465.0	1.20	95.70	2,464.8	-4.0	-0.8	4.0	0.35	0.32	
2,528.0	1.00	37.60	2,527.7	-3.6	0.2	3.6	1.72	-0.32	
2,591.0	1.30	31.90	2,590.7	-2.6	0.9	2.6	0.51	0.48	
2,654.0	1.40	32.50	2,653.7	-1.3	1.7	1.3	0.16	0.16	
2,717.0	1.20	29.10	2,716.7	-0.1	2.4	0.1	0.34	-0.32	
2,780.0	1.20	337.50	2,779.7	1.1	2.5	-1.1	1.66	0.00	
2,844.0	1.30	327.90	2,843.7	2.3	1.8	-2.3	0.36	0.16	
2,907.0	1.30	320.40	2,906.7	3.5	1.0	-3.5	0.27	0.00	
2,970.0	1.10	322.90	2,969.6	4.5	0.2	-4.5	0.33	-0.32	
3,067.0	0.90	307.60	3,066.6	5.7	-1.0	-5.7	0.34	-0.21	
3,131.0	0.70	300.40	3,130.6	6.2	-1.7	-6.2	0.35	-0.31	
3,194.0	0.40	284.40	3,193.6	6.5	-2.3	-6.5	0.53	-0.48	
3,257.0	0.40	279.40	3,256.6	6.6	-2.7	-6.6	0.06	0.00	
3,320.0	0.30	247.30	3,319.6	6.5	-3.1	-6.6	0.34	-0.16	
3,383.0	0.60	256.30	3,382.6	6.4	-3.6	-6.4	0.49	0.48	
3,446.0	0.60	245.60	3,445.6	6.2	-4.2	-6.2	0.18	0.00	
3,510.0	0.70	221.60	3,509.6	5.7	-4.7	-5.8	0.45	0.16	
3,573.0	0.70	207.90	3,572.6	5.1	-5.2	-5.2	0.27	0.00	
3,636.0	0.70	201.00	3,635.6	4.4	-5.5	-4.5	0.13	0.00	
3,699.0	0.80	196.10	3,698.6	3.6	-5.8	-3.7	0.19	0.16	
3,762.0	0.80	206.00	3,761.6	2.8	-6.1	-2.9	0.22	0.00	
3,825.0	0.90	189.50	3,824.6	1.9	-6.3	-2.0	0.42	0.16	
3,888.0	1.00	125.60	3,887.6	1.1	-6.0	-1.2	1.60	0.16	
3,951.0	1.30	103.00	3,950.6	0.6	-4.8	-0.7	0.85	0.48	
4,014.0	1.30	91.70	4,013.5	0.5	-3.4	-0.5	0.41	0.00	
4,077.0	1.30	98.90	4,076.5	0.3	-2.0	-0.3	0.26	0.00	
4,140.0	1.40	100.40	4,139.5	0.1	-0.5	-0.1	0.17	0.16	
4,203.0	1.60	101.00	4,202.5	-0.2	1.1	0.2	0.32	0.32	
4,266.0	1.20	102.60	4,265.5	-0.5	2.6	0.6	0.64	-0.63	
4,330.0	0.50	88.00	4,329.5	-0.7	3.5	0.7	1.14	-1.09	
4,393.0	0.30	358.50	4,392.5	-0.5	3.8	0.5	0.92	-0.32	
4,456.0	0.30	359.90	4,455.5	-0.2	3.8	0.2	0.01	0.00	
4,520.0	0.20	9.00	4,519.5	0.1	3.8	-0.1	0.17	-0.16	
4,583.0	0.10	99.30	4,582.5	0.2	3.9	-0.2	0.36	-0.16	
4,646.0	0.20	107.10	4,645.5	0.2	4.0	-0.1	0.16	0.16	

Survey Report

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Design:	FINAL	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
4,710.0	0.30	79.00	4,709.5	0.2	4.3	-0.1	0.24	0.16	
4,773.0	0.50	94.30	4,772.5	0.2	4.7	-0.1	0.36	0.32	
4,836.0	0.80	109.50	4,835.5	0.0	5.4	0.0	0.55	0.48	
4,899.0	1.00	199.90	4,898.5	-0.7	5.7	0.7	2.04	0.32	
4,931.0	1.50	203.80	4,930.4	-1.3	5.4	1.4	1.58	1.56	
4,963.0	2.60	222.00	4,962.4	-2.2	4.7	2.3	3.95	3.44	
4,994.0	4.90	237.90	4,993.4	-3.5	3.1	3.5	8.07	7.42	
5,026.0	7.10	249.90	5,025.2	-4.9	0.1	4.9	7.88	6.87	
5,057.0	8.90	257.10	5,055.9	-6.1	-4.0	6.0	6.63	5.81	
5,089.0	11.30	257.80	5,087.4	-7.3	-9.5	7.2	7.51	7.50	
5,120.0	13.20	257.80	5,117.7	-8.7	-15.9	8.5	6.13	6.13	
5,152.0	15.20	256.00	5,148.7	-10.4	-23.6	10.2	6.40	6.25	
5,184.0	17.10	256.80	5,179.4	-12.5	-32.2	12.3	5.98	5.94	
5,215.0	18.80	255.40	5,208.9	-14.8	-41.5	14.5	5.66	5.48	
5,247.0	21.00	254.70	5,239.0	-17.6	-52.0	17.2	6.92	6.87	
5,279.0	22.50	256.10	5,268.7	-20.6	-63.5	20.1	4.96	4.69	
5,310.0	23.60	260.20	5,297.3	-23.1	-75.3	22.5	6.28	3.55	
5,342.0	24.30	261.60	5,326.5	-25.2	-88.2	24.4	2.82	2.19	
5,374.0	25.40	261.20	5,355.5	-27.2	-101.5	26.3	3.48	3.44	
5,395.0	25.40	262.01	5,374.5	-28.5	-110.4	27.5	1.65	0.00	
5,405.0	25.40	262.40	5,383.5	-29.1	-114.6	28.1	1.67	0.00	
5,438.0	25.70	259.60	5,413.3	-31.3	-128.7	30.2	3.77	0.91	
5,469.0	26.10	256.10	5,441.2	-34.2	-141.9	32.9	5.10	1.29	
5,500.0	29.60	255.40	5,468.6	-37.7	-155.9	36.4	11.34	11.29	
5,532.0	33.50	255.50	5,495.9	-41.9	-172.1	40.5	12.19	12.19	
5,563.0	37.60	256.30	5,521.1	-46.3	-189.6	44.7	13.31	13.23	
5,595.0	41.70	256.60	5,545.7	-51.1	-209.5	49.3	12.83	12.81	
5,627.0	46.50	257.30	5,568.7	-56.1	-231.2	54.1	15.08	15.00	
5,658.0	51.80	257.40	5,589.0	-61.2	-254.0	59.1	17.09	17.09	
5,690.0	57.30	257.30	5,607.5	-67.0	-279.5	64.6	17.20	17.19	
5,721.0	63.30	256.40	5,622.9	-73.1	-305.7	70.5	19.52	19.35	
5,753.0	68.50	256.60	5,635.9	-79.9	-334.1	77.0	16.26	16.25	
5,785.0	71.60	255.80	5,646.8	-87.1	-363.3	84.0	9.97	9.69	
5,816.0	74.80	254.70	5,655.8	-94.6	-392.0	91.3	10.87	10.32	
5,848.0	78.70	252.50	5,663.1	-103.4	-421.8	99.8	13.90	12.19	
5,880.0	82.50	250.50	5,668.4	-113.4	-451.8	109.6	13.38	11.87	
5,911.0	86.50	247.90	5,671.3	-124.4	-480.6	120.3	15.37	12.90	
5,943.0	88.30	244.30	5,672.8	-137.4	-509.8	133.0	12.57	5.62	
5,975.0	89.70	240.40	5,673.3	-152.2	-538.2	147.6	12.95	4.37	
6,006.0	89.90	236.50	5,673.5	-168.4	-564.6	163.6	12.60	0.65	
6,038.0	90.60	232.90	5,673.3	-186.9	-590.7	181.8	11.46	2.19	
6,070.0	91.90	230.30	5,672.6	-206.8	-615.7	201.5	9.08	4.06	
6,101.0	92.30	227.40	5,671.5	-227.2	-639.1	221.7	9.44	1.29	
6,133.0	92.00	224.20	5,670.3	-249.4	-662.0	243.8	10.04	-0.94	
6,164.0	91.20	221.20	5,669.4	-272.2	-683.0	266.4	10.01	-2.58	
6,196.0	90.90	217.70	5,668.8	-296.9	-703.3	290.9	10.98	-0.94	
6,227.0	92.20	216.00	5,668.0	-321.7	-721.9	315.5	6.90	4.19	
6,259.0	93.00	215.80	5,666.5	-347.6	-740.7	341.3	2.58	2.50	
6,291.0	92.20	213.60	5,665.1	-373.9	-758.9	367.4	7.31	-2.50	
6,315.0	90.90	211.20	5,664.4	-394.1	-771.7	387.5	11.37	-5.42	
6,348.0	90.40	209.60	5,664.1	-422.6	-788.4	415.9	5.08	-1.51	
6,379.0	91.10	208.50	5,663.7	-449.7	-803.5	442.8	4.21	2.26	
6,411.0	89.30	204.70	5,663.5	-478.3	-817.8	471.3	13.14	-5.62	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
6,443.0	87.30	202.30	5,664.5	-507.6	-830.5	500.5	9.76	-6.25	
6,474.0	85.70	199.50	5,666.4	-536.5	-841.6	529.3	10.39	-5.16	
6,506.0	86.90	196.60	5,668.4	-566.9	-851.5	559.6	9.79	3.75	
6,538.0	90.70	193.20	5,669.1	-597.8	-859.7	590.4	15.93	11.87	
6,569.0	92.40	189.20	5,668.3	-628.2	-865.7	620.8	14.02	5.48	
6,601.0	91.90	186.00	5,667.1	-659.9	-869.9	652.4	10.11	-1.56	
6,633.0	87.50	185.50	5,667.2	-691.7	-873.1	684.2	13.84	-13.75	
6,664.0	86.70	185.10	5,668.8	-722.5	-876.0	715.0	2.88	-2.58	
6,696.0	89.60	183.10	5,669.8	-754.4	-878.3	746.9	11.01	9.06	
6,727.0	91.10	181.40	5,669.7	-785.4	-879.5	777.9	7.31	4.84	
6,757.0	91.40	180.70	5,669.0	-815.4	-880.1	807.8	2.54	1.00	
6,818.0	92.20	179.00	5,667.1	-876.4	-879.9	868.8	3.08	1.31	
6,879.0	92.90	179.60	5,664.4	-937.3	-879.2	929.7	1.51	1.15	
6,940.0	92.30	179.20	5,661.6	-998.2	-878.5	990.7	1.18	-0.98	
7,000.0	91.90	178.40	5,659.4	-1,058.2	-877.3	1,050.6	1.49	-0.67	
7,061.0	92.30	178.50	5,657.2	-1,119.1	-875.6	1,111.6	0.68	0.66	
7,122.0	93.00	178.50	5,654.4	-1,180.0	-874.0	1,172.5	1.15	1.15	
7,183.0	92.60	178.30	5,651.4	-1,240.9	-872.3	1,233.4	0.73	-0.66	
7,244.0	90.70	177.00	5,649.6	-1,301.9	-869.8	1,294.4	3.77	-3.11	
7,305.0	90.70	176.80	5,648.9	-1,362.8	-866.5	1,355.3	0.33	0.00	
7,366.0	92.20	176.20	5,647.3	-1,423.6	-862.8	1,416.2	2.65	2.46	
7,427.0	92.50	176.20	5,644.8	-1,484.4	-858.8	1,477.0	0.49	0.49	
7,488.0	93.10	176.00	5,641.8	-1,545.2	-854.6	1,537.9	1.04	0.98	
7,549.0	92.20	177.40	5,639.0	-1,606.1	-851.1	1,598.7	2.73	-1.48	
7,610.0	92.10	179.00	5,636.7	-1,667.0	-849.2	1,659.7	2.63	-0.16	
7,670.0	90.80	179.80	5,635.2	-1,727.0	-848.6	1,719.6	2.54	-2.17	
7,731.0	91.10	180.00	5,634.2	-1,787.9	-848.5	1,780.6	0.59	0.49	
7,792.0	91.60	180.10	5,632.8	-1,848.9	-848.5	1,841.6	0.84	0.82	
7,853.0	91.40	181.10	5,631.2	-1,909.9	-849.1	1,902.6	1.67	-0.33	
7,914.0	90.10	181.60	5,630.4	-1,970.9	-850.6	1,963.5	2.28	-2.13	
7,977.0	90.60	181.90	5,630.0	-2,033.9	-852.5	2,026.5	0.93	0.79	
8,040.0	90.50	180.90	5,629.4	-2,096.8	-854.0	2,089.5	1.60	-0.16	
8,103.0	91.10	180.70	5,628.5	-2,159.8	-854.9	2,152.4	1.00	0.95	
8,166.0	91.50	180.50	5,627.1	-2,222.8	-855.6	2,215.4	0.71	0.63	
8,229.0	92.10	180.60	5,625.1	-2,285.8	-856.2	2,278.4	0.97	0.95	
8,291.0	91.20	180.00	5,623.3	-2,347.7	-856.5	2,340.3	1.74	-1.45	
8,355.0	91.40	179.70	5,621.9	-2,411.7	-856.3	2,404.3	0.56	0.31	
8,418.0	92.10	179.40	5,619.9	-2,474.7	-855.9	2,467.3	1.21	1.11	
8,480.0	92.70	179.40	5,617.3	-2,536.6	-855.2	2,529.2	0.97	0.97	
8,544.0	90.70	178.10	5,615.4	-2,600.6	-853.8	2,593.2	3.73	-3.12	
8,606.0	90.40	177.70	5,614.8	-2,662.5	-851.5	2,655.2	0.81	-0.48	
8,669.0	90.80	177.80	5,614.2	-2,725.5	-849.1	2,718.1	0.65	0.63	
8,732.0	92.00	178.60	5,612.6	-2,788.4	-847.1	2,781.1	2.29	1.90	
8,795.0	91.60	179.10	5,610.7	-2,851.4	-845.8	2,844.1	1.02	-0.63	
8,859.0	92.10	178.80	5,608.6	-2,915.3	-844.6	2,908.0	0.91	0.78	
8,922.0	90.80	179.40	5,607.0	-2,978.3	-843.7	2,971.0	2.27	-2.06	
8,985.0	91.20	179.60	5,605.9	-3,041.3	-843.1	3,034.0	0.71	0.63	
9,048.0	91.40	178.30	5,604.5	-3,104.3	-842.0	3,097.0	2.09	0.32	
9,111.0	91.80	178.10	5,602.7	-3,167.2	-840.0	3,159.9	0.71	0.63	
9,174.0	91.90	178.70	5,600.7	-3,230.2	-838.2	3,222.9	0.97	0.16	
9,237.0	91.10	179.60	5,599.0	-3,293.1	-837.3	3,285.9	1.91	-1.27	
9,300.0	91.50	179.40	5,597.6	-3,356.1	-836.7	3,348.8	0.71	0.63	
9,363.0	90.80	180.30	5,596.3	-3,419.1	-836.6	3,411.8	1.81	-1.11	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
9,426.0	89.00	180.60	5,596.5	-3,482.1	-837.1	3,474.8	2.90	-2.86	
9,489.0	89.20	180.80	5,597.4	-3,545.1	-837.8	3,537.8	0.45	0.32	
9,553.0	89.40	180.60	5,598.2	-3,609.1	-838.6	3,601.8	0.44	0.31	
9,616.0	89.70	180.20	5,598.7	-3,672.1	-839.1	3,664.8	0.79	0.48	
9,679.0	90.40	180.10	5,598.7	-3,735.1	-839.2	3,727.8	1.12	1.11	
9,742.0	91.40	180.20	5,597.7	-3,798.1	-839.4	3,790.7	1.60	1.59	
9,805.0	90.00	179.30	5,596.9	-3,861.1	-839.1	3,853.7	2.64	-2.22	
9,868.0	89.20	180.50	5,597.3	-3,924.0	-839.0	3,916.7	2.29	-1.27	
9,931.0	89.70	180.50	5,597.9	-3,987.0	-839.5	3,979.7	0.79	0.79	
9,994.0	90.30	181.10	5,597.9	-4,050.0	-840.4	4,042.7	1.35	0.95	
10,057.0	89.30	181.20	5,598.2	-4,113.0	-841.7	4,105.7	1.60	-1.59	
10,121.0	89.20	180.80	5,599.0	-4,177.0	-842.8	4,169.6	0.64	-0.16	
10,184.0	89.40	180.60	5,599.8	-4,240.0	-843.6	4,232.6	0.45	0.32	
10,247.0	88.30	179.40	5,601.0	-4,303.0	-843.6	4,295.6	2.58	-1.75	
10,311.0	88.50	177.70	5,602.8	-4,366.9	-842.0	4,359.6	2.67	0.31	
10,374.0	90.60	177.10	5,603.3	-4,429.9	-839.1	4,422.5	3.47	3.33	
10,437.0	91.10	176.60	5,602.4	-4,492.8	-835.6	4,485.5	1.12	0.79	
10,500.0	90.80	177.80	5,601.3	-4,555.7	-832.6	4,548.4	1.96	-0.48	
10,563.0	91.20	178.40	5,600.2	-4,618.6	-830.5	4,611.4	1.14	0.63	
10,627.0	90.00	178.70	5,599.6	-4,682.6	-828.9	4,675.3	1.93	-1.87	
10,690.0	90.00	178.50	5,599.6	-4,745.6	-827.3	4,738.3	0.32	0.00	
10,753.0	90.60	178.60	5,599.2	-4,808.6	-825.7	4,801.3	0.97	0.95	
10,816.0	91.20	178.50	5,598.3	-4,871.5	-824.1	4,864.3	0.97	0.95	
10,879.0	90.40	179.50	5,597.4	-4,934.5	-823.0	4,927.3	2.03	-1.27	
10,943.0	89.20	180.40	5,597.6	-4,998.5	-823.0	4,991.3	2.34	-1.87	
11,006.0	89.20	180.00	5,598.5	-5,061.5	-823.2	5,054.3	0.63	0.00	
11,057.0	89.60	180.10	5,599.0	-5,112.5	-823.2	5,105.3	0.81	0.78	Last CES Survey @ 11,057' MD
11,107.0	89.60	180.10	5,599.4	-5,162.5	-823.3	5,155.3	0.00	0.00	PTB @ 11,107'

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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 M28-2306-01H - actual wellpath misses target center by 32.8ft at 11107.0ft MD (5599.4 TVD, -5162.5 N, -823.3 E) - Point	0.00	0.00	5,566.9	-5,166.1	-820.6	1,885,654.51	1,277,190.20	36.176050	-107.480740
Lybrook M28-2306-01H - actual wellpath misses target center by 24.7ft at 6609.7ft MD (5666.9 TVD, -668.5 N, -870.8 E) - Point	0.00	0.00	5,645.4	-669.9	-858.8	1,890,150.88	1,277,208.86	36.188400	-107.480870
Lybrook M28-2306-01H - actual wellpath misses target center by 7.1ft at 11107.0ft MD (5599.4 TVD, -5162.5 N, -823.3 E) - Point	0.00	0.00	5,593.9	-5,166.1	-820.6	1,885,654.51	1,277,190.20	36.176050	-107.480740
Lybrook M28-2306-01H - actual wellpath misses target center by 166.5ft at 11107.0ft MD (5599.4 TVD, -5162.5 N, -823.3 E) - Point	0.00	0.00	5,664.0	-5,169.8	-670.0	1,885,648.96	1,277,340.68	36.176040	-107.480230
Lybrook M28-2306-01H - actual wellpath misses target center by 18.6ft at 6609.7ft MD (5666.9 TVD, -668.6 N, -870.8 E) - Point	0.00	0.00	5,652.7	-669.9	-858.8	1,890,150.88	1,277,208.86	36.188400	-107.480870
Lybrook M28-2306-01H - actual wellpath misses target center by 10.5ft at 11107.0ft MD (5599.4 TVD, -5162.5 N, -823.3 E) - Point	0.00	0.00	5,589.9	-5,166.1	-820.6	1,885,654.51	1,277,190.20	36.176050	-107.480740
Lybrook M28-2306-01H - actual wellpath misses target center by 158.5ft at 11107.0ft MD (5599.4 TVD, -5162.5 N, -823.3 E) - Point	0.00	0.00	5,639.0	-5,169.8	-670.0	1,885,648.96	1,277,340.68	36.176040	-107.480230
Lybrook M28-2306-01H - actual wellpath misses target center by 15.8ft at 6609.8ft MD (5666.9 TVD, -668.6 N, -870.8 E) - Point	0.00	0.00	5,656.7	-669.9	-858.8	1,890,150.88	1,277,208.86	36.188400	-107.480870
Lybrook M28-2306-01H - actual wellpath misses target center by 162.7ft at 6593.6ft MD (5667.3 TVD, -652.5 N, -869.1 E) - Point	0.00	0.00	5,654.7	-673.5	-708.3	1,890,145.33	1,277,359.31	36.188390	-107.480360
Lybrook M28-2306-01H - actual wellpath misses target center by 162.7ft at 6592.7ft MD (5667.4 TVD, -651.6 N, -869.0 E) - Point	0.00	0.00	5,679.7	-673.5	-708.3	1,890,145.33	1,277,359.31	36.188390	-107.480360

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,057.0	5,599.0	-5,112.5	-823.2	Last CES Survey @ 11,057' MD
11,107.0	5,599.4	-5,162.5	-823.3	PTB @ 11,107'

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

Sandoval County, NM

Lybrook

Lybrook M28-2306 01H

HZ

Design: FINAL

Survey Report - Geographic

20 June, 2014

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	Sandoval County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

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 M28-2306 01H			
Well Position	+N/-S	0.0 ft	Northing:	1,890,809.83 ft
	+E/-W	0.0 ft	Easting:	1,278,076.07 ft
Position Uncertainty	0.0 ft		Wellhead Elevation:	ft
			Ground Level:	7,220.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/26/2013	9.44	62.99	50,234

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	179.51

Survey Program	Date 6/20/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
569.0	11,107.0	Survey #1 (HZ)	Geolink MWD	Geolink MWD

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	1,890,809.83	1,278,076.07	36.190240	-107.477960
569.0	0.50	269.80	569.0	0.0	-2.5	1,890,809.85	1,278,073.59	36.190240	-107.477969
632.0	0.50	263.00	632.0	0.0	-3.0	1,890,809.82	1,278,073.04	36.190240	-107.477971
696.0	0.50	262.70	696.0	-0.1	-3.6	1,890,809.76	1,278,072.49	36.190240	-107.477972
759.0	0.70	248.60	759.0	-0.3	-4.2	1,890,809.59	1,278,071.85	36.190239	-107.477975
822.0	0.90	250.20	822.0	-0.6	-5.0	1,890,809.30	1,278,071.03	36.190238	-107.477977
885.0	1.10	247.70	885.0	-1.0	-6.1	1,890,808.91	1,278,070.00	36.190237	-107.477981
949.0	0.50	4.40	949.0	-0.9	-6.6	1,890,808.96	1,278,069.45	36.190237	-107.477983
1,012.0	0.70	3.80	1,012.0	-0.3	-6.6	1,890,809.62	1,278,069.51	36.190239	-107.477983
1,075.0	0.70	335.80	1,075.0	0.4	-6.7	1,890,810.36	1,278,069.38	36.190241	-107.477983
1,139.0	0.70	339.70	1,139.0	1.2	-7.0	1,890,811.09	1,278,069.10	36.190243	-107.477984
1,202.0	0.70	345.30	1,201.9	1.9	-7.2	1,890,811.82	1,278,068.87	36.190245	-107.477985

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
1,265.0	0.70	347.30	1,264.9	2.6	-7.4	1,890,812.57	1,278,068.70	36.190247	-107.477985
1,328.0	0.70	336.70	1,327.9	3.4	-7.6	1,890,813.30	1,278,068.47	36.190249	-107.477986
1,391.0	0.60	327.70	1,390.9	4.0	-8.0	1,890,813.94	1,278,068.15	36.190251	-107.477987
1,455.0	0.50	312.60	1,454.9	4.5	-8.4	1,890,814.42	1,278,067.77	36.190252	-107.477989
1,518.0	0.40	179.50	1,517.9	4.4	-8.6	1,890,814.39	1,278,067.57	36.190252	-107.477989
1,581.0	0.80	189.50	1,580.9	3.8	-8.6	1,890,813.73	1,278,067.49	36.190251	-107.477990
1,644.0	0.80	202.20	1,643.9	3.0	-8.9	1,890,812.90	1,278,067.24	36.190248	-107.477990
1,708.0	0.60	207.50	1,707.9	2.2	-9.2	1,890,812.19	1,278,066.91	36.190246	-107.477991
1,771.0	1.90	194.40	1,770.9	0.9	-9.6	1,890,810.89	1,278,066.48	36.190243	-107.477993
1,834.0	2.30	186.70	1,833.9	-1.3	-10.0	1,890,808.63	1,278,066.05	36.190236	-107.477994
1,897.0	0.60	165.10	1,896.8	-2.9	-10.1	1,890,807.05	1,278,065.97	36.190232	-107.477994
1,961.0	0.70	82.30	1,960.8	-3.2	-9.6	1,890,806.78	1,278,066.44	36.190231	-107.477993
2,024.0	0.80	83.60	2,023.8	-3.1	-8.8	1,890,806.87	1,278,067.26	36.190232	-107.477990
2,087.0	1.00	95.90	2,086.8	-3.1	-7.8	1,890,806.85	1,278,068.24	36.190232	-107.477987
2,150.0	1.00	99.30	2,149.8	-3.2	-6.7	1,890,806.69	1,278,069.33	36.190231	-107.477983
2,212.0	1.10	103.20	2,211.8	-3.4	-5.6	1,890,806.45	1,278,070.44	36.190231	-107.477979
2,275.0	1.20	94.50	2,274.8	-3.6	-4.3	1,890,806.24	1,278,071.68	36.190230	-107.477975
2,338.0	1.00	92.10	2,337.8	-3.7	-3.1	1,890,806.16	1,278,072.89	36.190230	-107.477971
2,402.0	1.00	100.60	2,401.8	-3.8	-2.0	1,890,806.02	1,278,073.99	36.190230	-107.477967
2,465.0	1.20	95.70	2,464.8	-4.0	-0.8	1,890,805.84	1,278,075.19	36.190229	-107.477963
2,528.0	1.00	37.60	2,527.7	-3.6	0.2	1,890,806.20	1,278,076.18	36.190230	-107.477960
2,591.0	1.30	31.90	2,590.7	-2.6	0.9	1,890,807.23	1,278,076.91	36.190233	-107.477957
2,654.0	1.40	32.50	2,653.7	-1.3	1.7	1,890,808.47	1,278,077.72	36.190236	-107.477955
2,717.0	1.20	29.10	2,716.7	-0.1	2.4	1,890,809.69	1,278,078.47	36.190240	-107.477952
2,780.0	1.20	337.50	2,779.7	1.1	2.5	1,890,810.88	1,278,078.55	36.190243	-107.477952
2,844.0	1.30	327.90	2,843.7	2.3	1.8	1,890,812.12	1,278,077.92	36.190246	-107.477954
2,907.0	1.30	320.40	2,906.7	3.5	1.0	1,890,813.28	1,278,077.10	36.190250	-107.477957
2,970.0	1.10	322.90	2,969.6	4.5	0.2	1,890,814.33	1,278,076.30	36.190252	-107.477960
3,067.0	0.90	307.60	3,066.6	5.7	-1.0	1,890,815.55	1,278,075.15	36.190256	-107.477964
3,131.0	0.70	300.40	3,130.6	6.2	-1.7	1,890,816.06	1,278,074.42	36.190257	-107.477966
3,194.0	0.40	284.40	3,193.6	6.5	-2.3	1,890,816.32	1,278,073.87	36.190258	-107.477968
3,257.0	0.40	279.40	3,256.6	6.6	-2.7	1,890,816.42	1,278,073.45	36.190258	-107.477969
3,320.0	0.30	247.30	3,319.6	6.5	-3.1	1,890,816.39	1,278,073.08	36.190258	-107.477971
3,383.0	0.60	256.30	3,382.6	6.4	-3.6	1,890,816.26	1,278,072.60	36.190258	-107.477972
3,446.0	0.60	245.60	3,445.6	6.2	-4.2	1,890,816.05	1,278,071.98	36.190257	-107.477974
3,510.0	0.70	221.60	3,509.6	5.7	-4.7	1,890,815.63	1,278,071.41	36.190256	-107.477976
3,573.0	0.70	207.90	3,572.6	5.1	-5.2	1,890,815.00	1,278,070.96	36.190254	-107.477978
3,636.0	0.70	201.00	3,635.6	4.4	-5.5	1,890,814.31	1,278,070.64	36.190252	-107.477979
3,699.0	0.80	196.10	3,698.6	3.6	-5.8	1,890,813.53	1,278,070.37	36.190250	-107.477980
3,762.0	0.80	206.00	3,761.6	2.8	-6.1	1,890,812.72	1,278,070.04	36.190248	-107.477981
3,825.0	0.90	189.50	3,824.6	1.9	-6.3	1,890,811.84	1,278,069.76	36.190245	-107.477982
3,888.0	1.00	125.60	3,887.6	1.1	-6.0	1,890,811.03	1,278,070.11	36.190243	-107.477981
3,951.0	1.30	103.00	3,950.6	0.6	-4.8	1,890,810.53	1,278,071.25	36.190242	-107.477977
4,014.0	1.30	91.70	4,013.5	0.5	-3.4	1,890,810.33	1,278,072.66	36.190241	-107.477972
4,077.0	1.30	98.90	4,076.5	0.3	-2.0	1,890,810.18	1,278,074.08	36.190241	-107.477967
4,140.0	1.40	100.40	4,139.5	0.1	-0.5	1,890,809.91	1,278,075.54	36.190240	-107.477962
4,203.0	1.60	101.00	4,202.5	-0.2	1.1	1,890,809.59	1,278,077.15	36.190239	-107.477957
4,266.0	1.20	102.60	4,265.5	-0.5	2.6	1,890,809.25	1,278,078.66	36.190239	-107.477951
4,330.0	0.50	88.00	4,329.5	-0.7	3.5	1,890,809.11	1,278,079.59	36.190238	-107.477948
4,393.0	0.30	358.50	4,392.5	-0.5	3.8	1,890,809.28	1,278,079.86	36.190239	-107.477947
4,456.0	0.30	359.90	4,455.5	-0.2	3.8	1,890,809.61	1,278,079.86	36.190240	-107.477947
4,520.0	0.20	9.00	4,519.5	0.1	3.8	1,890,809.88	1,278,079.88	36.190240	-107.477947
4,583.0	0.10	99.30	4,582.5	0.2	3.9	1,890,809.98	1,278,079.95	36.190241	-107.477947
4,646.0	0.20	107.10	4,645.5	0.2	4.0	1,890,809.94	1,278,080.11	36.190241	-107.477947
4,710.0	0.30	79.00	4,709.5	0.2	4.3	1,890,809.94	1,278,080.38	36.190241	-107.477946

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude Longitude		
4,773.0	0.50	94.30	4,772.5	0.2	4.7	1,890,809.94	1,278,080.82	36.190241	-107.477944	
4,836.0	0.80	109.50	4,835.5	0.0	5.4	1,890,809.77	1,278,081.51	36.190240	-107.477942	
4,899.0	1.00	199.90	4,898.5	-0.7	5.7	1,890,809.10	1,278,081.72	36.190238	-107.477941	
4,931.0	1.50	203.80	4,930.4	-1.3	5.4	1,890,808.46	1,278,081.45	36.190237	-107.477942	
4,963.0	2.60	222.00	4,962.4	-2.2	4.7	1,890,807.54	1,278,080.79	36.190234	-107.477944	
4,994.0	4.90	237.90	4,993.4	-3.5	3.1	1,890,806.34	1,278,079.18	36.190231	-107.477950	
5,026.0	7.10	249.90	5,025.2	-4.9	0.1	1,890,804.97	1,278,076.15	36.190227	-107.477960	
5,057.0	8.90	257.10	5,055.9	-6.1	-4.0	1,890,803.83	1,278,071.99	36.190223	-107.477974	
5,089.0	11.30	257.80	5,087.4	-7.3	-9.5	1,890,802.68	1,278,066.50	36.190220	-107.477992	
5,120.0	13.20	257.80	5,117.7	-8.7	-15.9	1,890,801.37	1,278,060.05	36.190216	-107.478014	
5,152.0	15.20	256.00	5,148.7	-10.4	-23.6	1,890,799.68	1,278,052.39	36.190211	-107.478040	
5,184.0	17.10	256.80	5,179.4	-12.5	-32.2	1,890,797.70	1,278,043.71	36.190206	-107.478069	
5,215.0	18.80	255.40	5,208.9	-14.8	-41.5	1,890,795.52	1,278,034.41	36.190199	-107.478101	
5,247.0	21.00	254.70	5,239.0	-17.6	-52.0	1,890,792.84	1,278,023.86	36.190192	-107.478136	
5,279.0	22.50	256.10	5,268.7	-20.6	-63.5	1,890,790.00	1,278,012.34	36.190183	-107.478175	
5,310.0	23.60	260.20	5,297.3	-23.1	-75.3	1,890,787.67	1,278,000.44	36.190177	-107.478216	
5,342.0	24.30	261.60	5,326.5	-25.2	-88.2	1,890,785.78	1,277,987.59	36.190171	-107.478259	
5,374.0	25.40	261.20	5,355.5	-27.2	-101.5	1,890,783.94	1,277,974.27	36.190165	-107.478304	
5,395.0	25.40	262.01	5,374.5	-28.5	-110.4	1,890,782.74	1,277,965.34	36.190162	-107.478334	
5,405.0	25.40	262.40	5,383.5	-29.1	-114.6	1,890,782.21	1,277,961.08	36.190160	-107.478349	
5,438.0	25.70	259.60	5,413.3	-31.3	-128.7	1,890,780.16	1,277,947.01	36.190154	-107.478396	
5,469.0	26.10	256.10	5,441.2	-34.2	-141.9	1,890,777.47	1,277,933.74	36.190146	-107.478441	
5,500.0	29.60	255.40	5,468.6	-37.7	-155.9	1,890,774.08	1,277,919.67	36.190136	-107.478489	
5,532.0	33.50	255.50	5,495.9	-41.9	-172.1	1,890,770.08	1,277,903.41	36.190125	-107.478544	
5,563.0	37.60	256.30	5,521.1	-46.3	-189.6	1,890,765.92	1,277,885.88	36.190113	-107.478603	
5,595.0	41.70	256.60	5,545.7	-51.1	-209.5	1,890,761.39	1,277,865.97	36.190100	-107.478670	
5,627.0	46.50	257.30	5,568.7	-56.1	-231.2	1,890,756.65	1,277,844.22	36.190086	-107.478744	
5,658.0	51.80	257.40	5,589.0	-61.2	-254.0	1,890,751.80	1,277,821.28	36.190072	-107.478821	
5,690.0	57.30	257.30	5,607.5	-67.0	-279.5	1,890,746.42	1,277,795.79	36.190056	-107.478907	
5,721.0	63.30	256.40	5,622.9	-73.1	-305.7	1,890,740.62	1,277,769.51	36.190039	-107.478996	
5,753.0	68.50	256.60	5,635.9	-79.9	-334.1	1,890,734.17	1,277,741.03	36.190021	-107.479092	
5,785.0	71.60	255.80	5,646.8	-87.1	-363.3	1,890,727.36	1,277,711.73	36.190001	-107.479191	
5,816.0	74.80	254.70	5,655.8	-94.6	-392.0	1,890,720.17	1,277,682.95	36.189980	-107.479288	
5,848.0	78.70	252.50	5,663.1	-103.4	-421.8	1,890,711.75	1,277,652.97	36.189956	-107.479390	
5,880.0	82.50	250.50	5,668.4	-113.4	-451.8	1,890,702.11	1,277,622.91	36.189928	-107.479491	
5,911.0	86.50	247.90	5,671.3	-124.4	-480.6	1,890,691.52	1,277,593.94	36.189898	-107.479589	
5,943.0	88.30	244.30	5,672.8	-137.4	-509.8	1,890,678.94	1,277,564.56	36.189863	-107.479688	
5,975.0	89.70	240.40	5,673.3	-152.2	-538.2	1,890,664.46	1,277,536.04	36.189822	-107.479784	
6,006.0	89.90	236.50	5,673.5	-168.4	-564.6	1,890,648.57	1,277,509.42	36.189777	-107.479873	
6,038.0	90.60	232.90	5,673.3	-186.9	-590.7	1,890,630.42	1,277,483.08	36.189727	-107.479962	
6,070.0	91.90	230.30	5,672.6	-206.8	-615.7	1,890,610.87	1,277,457.76	36.189672	-107.480047	
6,101.0	92.30	227.40	5,671.5	-227.2	-639.1	1,890,590.78	1,277,434.18	36.189616	-107.480126	
6,133.0	92.00	224.20	5,670.3	-249.4	-662.0	1,890,568.78	1,277,410.97	36.189555	-107.480203	
6,164.0	91.20	221.20	5,669.4	-272.2	-683.0	1,890,546.28	1,277,389.68	36.189492	-107.480275	
6,196.0	90.90	217.70	5,668.8	-296.9	-703.3	1,890,521.84	1,277,369.04	36.189425	-107.480343	
6,227.0	92.20	216.00	5,668.0	-321.7	-721.9	1,890,497.28	1,277,350.14	36.189356	-107.480406	
6,259.0	93.00	215.80	5,666.5	-347.6	-740.7	1,890,471.62	1,277,331.07	36.189285	-107.480470	
6,291.0	92.20	213.60	5,665.1	-373.9	-758.9	1,890,445.58	1,277,312.54	36.189213	-107.480532	
6,315.0	90.90	211.20	5,664.4	-394.1	-771.7	1,890,425.49	1,277,299.44	36.189157	-107.480575	
6,348.0	90.40	209.60	5,664.1	-422.6	-788.4	1,890,397.23	1,277,282.37	36.189079	-107.480632	
6,379.0	91.10	208.50	5,663.7	-449.7	-803.5	1,890,370.32	1,277,266.98	36.189005	-107.480683	
6,411.0	89.30	204.70	5,663.5	-478.3	-817.8	1,890,341.90	1,277,252.29	36.188926	-107.480731	
6,443.0	87.30	202.30	5,664.5	-507.6	-830.5	1,890,312.73	1,277,239.17	36.188846	-107.480775	
6,474.0	85.70	199.50	5,666.4	-536.5	-841.6	1,890,283.99	1,277,227.77	36.188766	-107.480812	
6,506.0	86.90	196.60	5,668.4	-566.9	-851.5	1,890,253.76	1,277,217.50	36.188683	-107.480845	

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
6,538.0	90.70	193.20	5,669.1	-597.8	-859.7	1,890,222.96	1,277,208.88	36.188598	-107.480873
6,569.0	92.40	189.20	5,668.3	-628.2	-865.7	1,890,192.64	1,277,202.48	36.188515	-107.480894
6,601.0	91.90	186.00	5,667.1	-659.9	-869.9	1,890,161.01	1,277,197.85	36.188428	-107.480908
6,633.0	87.50	185.50	5,667.2	-691.7	-873.1	1,890,129.22	1,277,194.24	36.188340	-107.480919
6,664.0	86.70	185.10	5,668.8	-722.5	-876.0	1,890,098.43	1,277,190.99	36.188255	-107.480929
6,696.0	89.60	183.10	5,669.8	-754.4	-878.3	1,890,066.57	1,277,188.30	36.188168	-107.480936
6,727.0	91.10	181.40	5,669.7	-785.4	-879.5	1,890,035.61	1,277,186.70	36.188083	-107.480940
6,757.0	91.40	180.70	5,669.0	-815.4	-880.1	1,890,005.63	1,277,185.77	36.188000	-107.480942
6,818.0	92.20	179.00	5,667.1	-876.4	-879.9	1,889,944.67	1,277,185.15	36.187833	-107.480942
6,879.0	92.90	179.60	5,664.4	-937.3	-879.2	1,889,883.73	1,277,185.13	36.187666	-107.480939
6,940.0	92.30	179.20	5,661.6	-998.2	-878.5	1,889,822.79	1,277,184.99	36.187498	-107.480937
7,000.0	91.90	178.40	5,659.4	-1,058.2	-877.3	1,889,762.83	1,277,185.49	36.187334	-107.480933
7,061.0	92.30	178.50	5,657.2	-1,119.1	-875.6	1,889,701.88	1,277,186.37	36.187166	-107.480927
7,122.0	93.00	178.50	5,654.4	-1,180.0	-874.0	1,889,640.95	1,277,187.19	36.186999	-107.480922
7,183.0	92.60	178.30	5,651.4	-1,240.9	-872.3	1,889,580.03	1,277,188.12	36.186832	-107.480916
7,244.0	90.70	177.00	5,649.6	-1,301.9	-869.8	1,889,519.09	1,277,189.85	36.186664	-107.480908
7,305.0	90.70	176.80	5,648.9	-1,362.8	-866.5	1,889,458.14	1,277,192.38	36.186497	-107.480896
7,366.0	92.20	176.20	5,647.3	-1,423.6	-862.8	1,889,397.24	1,277,195.33	36.186330	-107.480884
7,427.0	92.50	176.20	5,644.8	-1,484.4	-858.8	1,889,336.38	1,277,198.60	36.186163	-107.480870
7,488.0	93.10	176.00	5,641.8	-1,545.2	-854.6	1,889,275.54	1,277,201.97	36.185996	-107.480856
7,549.0	92.20	177.40	5,639.0	-1,606.1	-851.1	1,889,214.67	1,277,204.71	36.185829	-107.480844
7,610.0	92.10	179.00	5,636.7	-1,667.0	-849.2	1,889,153.73	1,277,205.86	36.185661	-107.480838
7,670.0	90.80	179.80	5,635.2	-1,727.0	-848.6	1,889,093.75	1,277,205.72	36.185497	-107.480835
7,731.0	91.10	180.00	5,634.2	-1,787.9	-848.5	1,889,032.76	1,277,205.06	36.185329	-107.480835
7,792.0	91.60	180.10	5,632.8	-1,848.9	-848.5	1,888,971.78	1,277,204.23	36.185162	-107.480835
7,853.0	91.40	181.10	5,631.2	-1,909.9	-849.1	1,888,910.82	1,277,202.82	36.184994	-107.480837
7,914.0	90.10	181.60	5,630.4	-1,970.9	-850.6	1,888,849.87	1,277,200.61	36.184827	-107.480842
7,977.0	90.60	181.90	5,630.0	-2,033.9	-852.5	1,888,786.93	1,277,197.89	36.184654	-107.480849
8,040.0	90.50	180.90	5,629.4	-2,096.8	-854.0	1,888,723.98	1,277,195.56	36.184481	-107.480854
8,103.0	91.10	180.70	5,628.5	-2,159.8	-854.9	1,888,661.00	1,277,193.88	36.184308	-107.480857
8,166.0	91.50	180.50	5,627.1	-2,222.8	-855.6	1,888,598.04	1,277,192.42	36.184135	-107.480859
8,229.0	92.10	180.60	5,625.1	-2,285.8	-856.2	1,888,535.08	1,277,191.02	36.183962	-107.480861
8,291.0	91.20	180.00	5,623.3	-2,347.7	-856.5	1,888,473.12	1,277,189.91	36.183791	-107.480862
8,355.0	91.40	179.70	5,621.9	-2,411.7	-856.3	1,888,409.14	1,277,189.27	36.183616	-107.480862
8,418.0	92.10	179.40	5,619.9	-2,474.7	-855.9	1,888,346.17	1,277,188.97	36.183443	-107.480860
8,480.0	92.70	179.40	5,617.3	-2,536.6	-855.2	1,888,284.23	1,277,188.83	36.183273	-107.480858
8,544.0	90.70	178.10	5,615.4	-2,600.6	-853.8	1,888,220.26	1,277,189.42	36.183097	-107.480853
8,606.0	90.40	177.70	5,614.8	-2,662.5	-851.5	1,888,158.28	1,277,190.91	36.182927	-107.480845
8,669.0	90.80	177.80	5,614.2	-2,725.5	-849.1	1,888,095.31	1,277,192.58	36.182754	-107.480837
8,732.0	92.00	178.60	5,612.6	-2,788.4	-847.1	1,888,032.34	1,277,193.77	36.182581	-107.480830
8,795.0	91.60	179.10	5,610.7	-2,851.4	-845.8	1,887,969.37	1,277,194.23	36.182408	-107.480826
8,859.0	92.10	178.80	5,608.6	-2,915.3	-844.6	1,887,905.41	1,277,194.60	36.182232	-107.480822
8,922.0	90.80	179.40	5,607.0	-2,978.3	-843.7	1,887,842.43	1,277,194.79	36.182059	-107.480819
8,985.0	91.20	179.60	5,605.9	-3,041.3	-843.1	1,887,779.44	1,277,194.54	36.181886	-107.480817
9,048.0	91.40	178.30	5,604.5	-3,104.3	-842.0	1,887,716.46	1,277,194.90	36.181713	-107.480813
9,111.0	91.80	178.10	5,602.7	-3,167.2	-840.0	1,887,653.49	1,277,196.08	36.181541	-107.480806
9,174.0	91.90	178.70	5,600.7	-3,230.2	-838.2	1,887,590.54	1,277,197.04	36.181368	-107.480800
9,237.0	91.10	179.60	5,599.0	-3,293.1	-837.3	1,887,527.56	1,277,197.18	36.181195	-107.480797
9,300.0	91.50	179.40	5,597.6	-3,356.1	-836.7	1,887,464.57	1,277,196.93	36.181022	-107.480795
9,363.0	90.80	180.30	5,596.3	-3,419.1	-836.6	1,887,401.59	1,277,196.30	36.180849	-107.480795
9,426.0	89.00	180.60	5,596.5	-3,482.1	-837.1	1,887,338.61	1,277,195.00	36.180676	-107.480796
9,489.0	89.20	180.80	5,597.4	-3,545.1	-837.8	1,887,275.64	1,277,193.44	36.180503	-107.480799
9,553.0	89.40	180.60	5,598.2	-3,609.1	-838.6	1,887,211.66	1,277,191.85	36.180327	-107.480802
9,616.0	89.70	180.20	5,598.7	-3,672.1	-839.1	1,887,148.67	1,277,190.61	36.180154	-107.480803
9,679.0	90.40	180.10	5,598.7	-3,735.1	-839.2	1,887,085.68	1,277,189.65	36.179981	-107.480804

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook M28-2306 01H
Project:	Sandoval County, NM	TVD Reference:	15' KB @ 7235.0ft (Aztec 777)
Site:	Lybrook	MD Reference:	15' KB @ 7235.0ft (Aztec 777)
Well:	Lybrook M28-2306 01H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
9,742.0	91.40	180.20	5,597.7	-3,798.1	-839.4	1,887,022.70	1,277,188.68	36.179808	-107.480804
9,805.0	90.00	179.30	5,596.9	-3,861.1	-839.1	1,886,959.71	1,277,188.16	36.179635	-107.480803
9,868.0	89.20	180.50	5,597.3	-3,924.0	-839.0	1,886,896.71	1,277,187.47	36.179462	-107.480803
9,931.0	89.70	180.50	5,597.9	-3,987.0	-839.5	1,886,833.73	1,277,186.13	36.179289	-107.480805
9,994.0	90.30	181.10	5,597.9	-4,050.0	-840.4	1,886,770.75	1,277,184.45	36.179116	-107.480808
10,057.0	89.30	181.20	5,598.2	-4,113.0	-841.7	1,886,707.79	1,277,182.39	36.178943	-107.480812
10,121.0	89.20	180.80	5,599.0	-4,177.0	-842.8	1,886,643.82	1,277,180.46	36.178767	-107.480816
10,184.0	89.40	180.60	5,599.8	-4,240.0	-843.6	1,886,580.85	1,277,178.90	36.178594	-107.480818
10,247.0	88.30	179.40	5,601.0	-4,303.0	-843.6	1,886,517.87	1,277,178.10	36.178421	-107.480818
10,311.0	88.50	177.70	5,602.8	-4,366.9	-842.0	1,886,453.90	1,277,178.91	36.178245	-107.480813
10,374.0	90.60	177.10	5,603.3	-4,429.9	-839.1	1,886,390.94	1,277,180.97	36.178072	-107.480803
10,437.0	91.10	176.60	5,602.4	-4,492.8	-835.6	1,886,328.00	1,277,183.63	36.177900	-107.480791
10,500.0	90.80	177.80	5,601.3	-4,555.7	-832.6	1,886,265.05	1,277,185.91	36.177727	-107.480781
10,563.0	91.20	178.40	5,600.2	-4,618.6	-830.5	1,886,202.08	1,277,187.21	36.177554	-107.480774
10,627.0	90.00	178.70	5,599.6	-4,682.6	-828.9	1,886,138.09	1,277,188.02	36.177378	-107.480768
10,690.0	90.00	178.50	5,599.6	-4,745.6	-827.3	1,886,075.09	1,277,188.76	36.177205	-107.480763
10,753.0	90.60	178.60	5,599.2	-4,808.6	-825.7	1,886,012.10	1,277,189.55	36.177032	-107.480758
10,816.0	91.20	178.50	5,598.3	-4,871.5	-824.1	1,885,949.11	1,277,190.35	36.176859	-107.480752
10,879.0	90.40	179.50	5,597.4	-4,934.5	-823.0	1,885,886.12	1,277,190.65	36.176686	-107.480749
10,943.0	89.20	180.40	5,597.6	-4,998.5	-823.0	1,885,822.10	1,277,189.90	36.176510	-107.480748
11,006.0	89.20	180.00	5,598.5	-5,061.5	-823.2	1,885,759.12	1,277,188.88	36.176337	-107.480749
11,057.0	89.60	180.10	5,599.0	-5,112.5	-823.2	1,885,708.15	1,277,188.19	36.176197	-107.480749
Last CES Survey @ 11,057' MD									
11,107.0	89.60	180.10	5,599.4	-5,162.5	-823.3	1,885,658.15	1,277,187.47	36.176060	-107.480750
PTB @ 11,107'									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Lybrook M28-2306-01H	0.00	0.00	5,589.9	-5,166.1	-820.6	1,885,654.51	1,277,190.20	36.176050	-107.480740
- hit/miss target									
- Shape									
- actual wellpath misses target center by 10.5ft at 11107.0ft MD (5599.4 TVD, -5162.5 N, -823.3 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
11,057.0	5,599.0	-5,112.5	-823.2	Last CES Survey @ 11,057' MD	
11,107.0	5,599.4	-5,162.5	-823.3	PTB @ 11,107'	

Checked By: _____	Approved By: _____	Date: _____
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