

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 30-043-21177		*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code 40321	*Property Name LYBROOK P28-2306		*Well Number 02H
*OGRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 7211'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot	Feet from the	North/South line	Feet from the	East/West line	County
P	28	23N	6W		348	SOUTH	1252	EAST	SANDOVAL

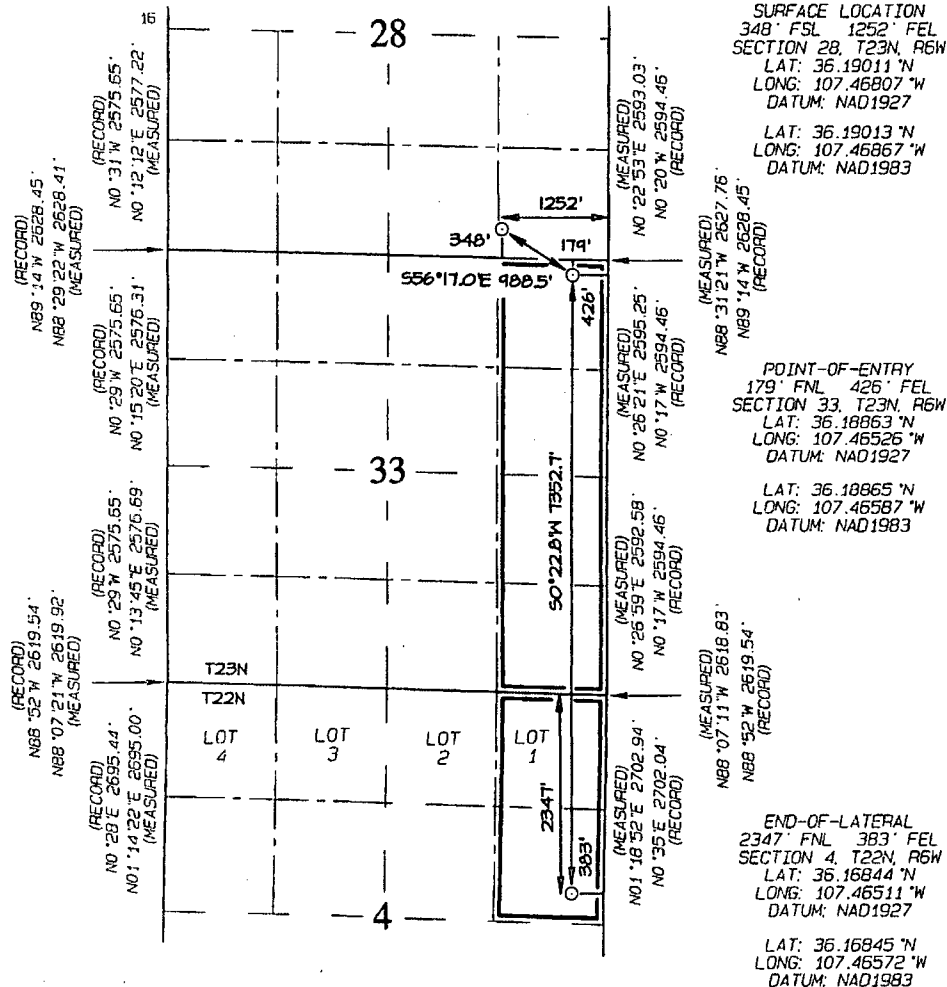
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot	Feet from the	North/South line	Feet from the	East/West line	County
H	4	22N	6W		2347	NORTH	383	EAST	SANDOVAL

*Dedicated Acres 240.83 Acres	E/2 E/2 - Section 33 E/2 NE/4 - Section 4	*Joint or Infill	*Consolidation Code	*Order No. RCVD SEP 26 '14 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: *Katie Wegner*
Date: 9/21/14

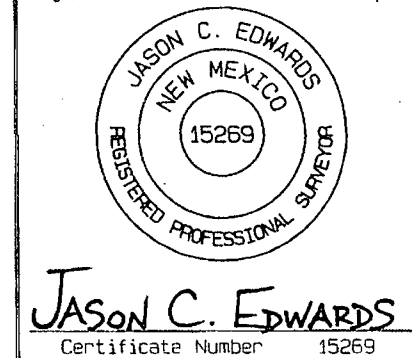
Printed Name: Katie.Wegner@encana.com
E-mail Address:

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: SEPTEMBER 3, 2014
Date of Survey: OCTOBER 2, 2012

Signature and Seal of Professional Surveyor



CONFIDENTIAL

DEVIATION SURVEYS
Well Name: Lybrook P28-2306 02H
API: 30-043-21177

MD (Feet)	Inclination (Degree)
287'	0.20
626'	0.40
940'	0.10
1256'	0.40
1571'	1.10
1887'	1.0
2201'	1.90
2516'	1.30
2831'	0.80
3146'	1.10
3460'	6.2

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

9/2/14
Date

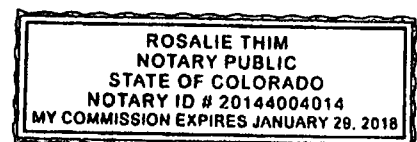
ACKNOWLEDGMENT

State of Colorado
City and County of Denver

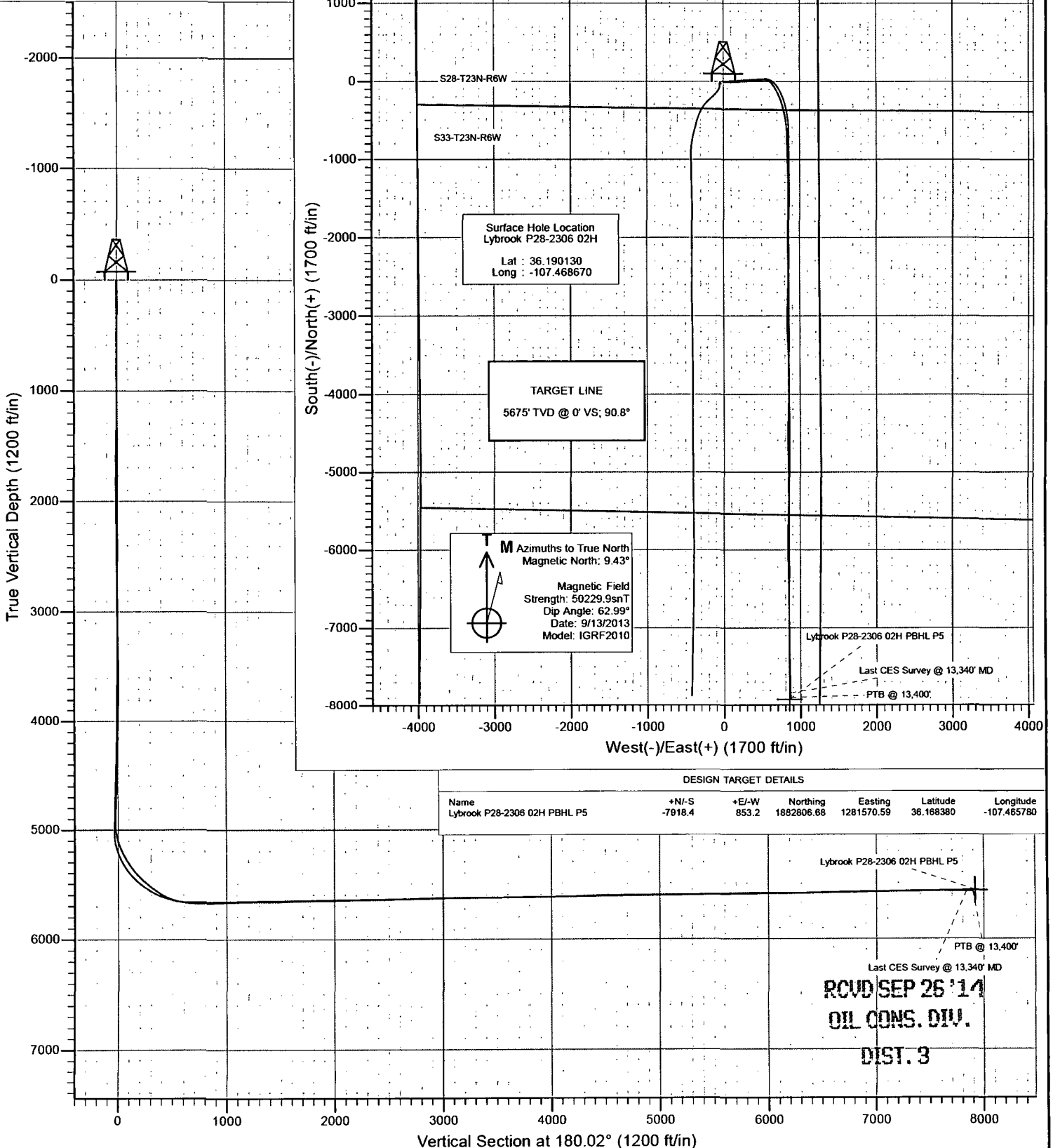
This instrument was acknowledged before me on this 2 day of September 2014 by Cristi Bauer as Attorney in Fact of Encana Oil & Gas (USA) Inc., on behalf of said corporation.

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

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

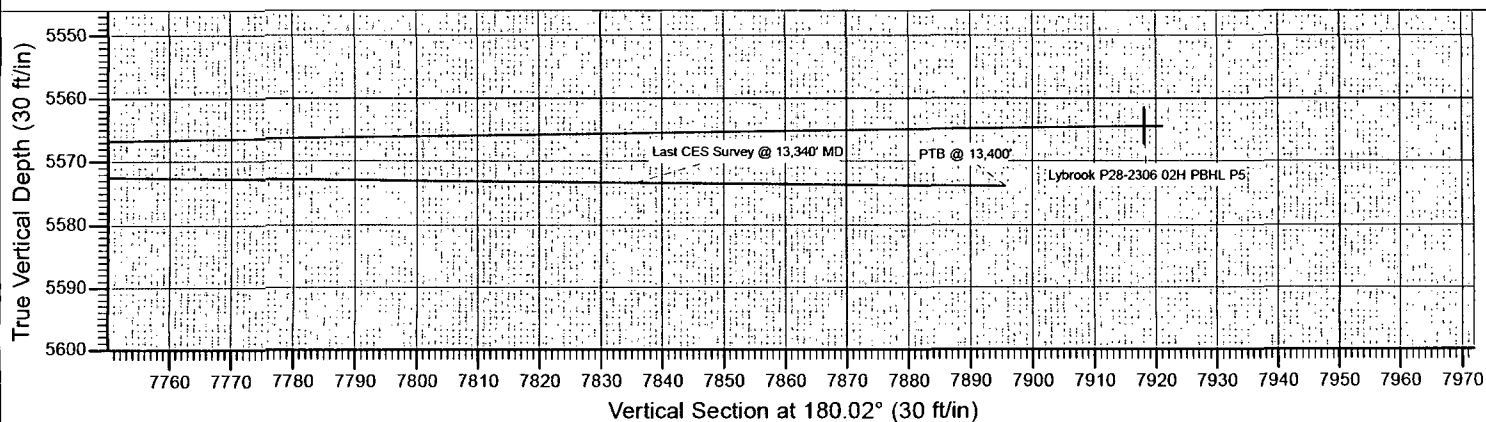
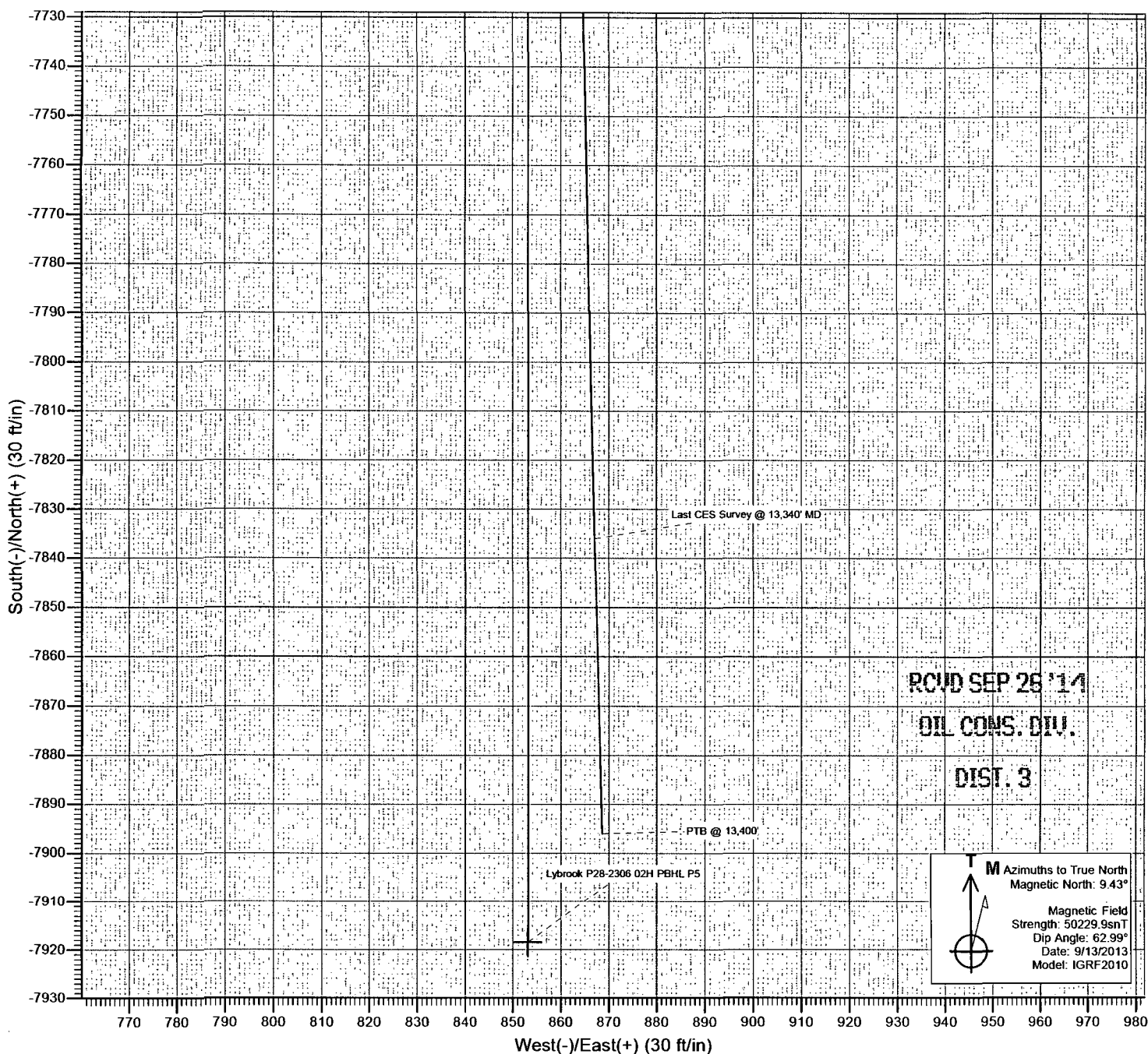


FINAL
Lybrook P28-2306 02H
18" KB @ 7229.0ft (Aztec 1099)
Ground Elevation @ 7211.0
North American Datum 1983
Well Lybrook P28-2306 02H, True North





Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook P28-2306 02H
Wellbore: HZ
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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 P28-2306 02H			
Well Position	+N/-S	0.0 ft	Northing:	1,890,735.22 ft
	+E/-W	0.0 ft	Easting:	1,280,816.97 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Ground Level:	7,211.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	9/13/2013	9.43	62.99	50,230

Design	FINAL			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	180.02

Survey Program	Date 7/24/2014			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
165.0	13,400.0	Survey #1 (HZ)	Geolink MWD	Geolink MWD

Survey									
Measured	Vertical	Vertical	Dogleg	Build	Formations /				
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
165.0	0.40	20.70	165.0	0.5	0.2	-0.5	0.24	0.24	
194.0	0.01	288.70	194.0	0.6	0.2	-0.6	1.38	-1.34	
224.0	0.10	71.50	224.0	0.6	0.3	-0.6	0.36	0.30	
287.0	0.20	198.70	287.0	0.6	0.3	-0.6	0.43	0.16	
350.0	0.20	231.00	350.0	0.4	0.2	-0.4	0.18	0.00	
413.0	0.10	204.50	413.0	0.3	0.0	-0.3	0.19	-0.16	
473.0	0.20	230.00	473.0	0.1	-0.1	-0.1	0.20	0.17	
563.0	0.20	2.10	563.0	0.2	-0.2	-0.2	0.41	0.00	
626.0	0.40	33.50	626.0	0.5	0.0	-0.5	0.40	0.32	
689.0	0.60	19.50	689.0	1.0	0.2	-1.0	0.37	0.32	
752.0	0.40	12.50	752.0	1.5	0.3	-1.5	0.33	-0.32	
815.0	0.40	49.20	815.0	1.9	0.6	-1.9	0.40	0.00	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook P28-2306 02H
Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook P28-2306 02H
TVD Reference: 18' KB @ 7229.0ft (Aztec 1099)
MD Reference: 18' KB @ 7229.0ft (Aztec 1099)
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
877.0	0.30	36.00	877.0	2.1	0.8	-2.1	0.21	-0.16	
940.0	0.10	238.10	940.0	2.3	0.9	-2.3	0.63	-0.32	
1,003.0	0.30	318.10	1,003.0	2.3	0.7	-2.3	0.48	0.32	
1,066.0	0.20	34.00	1,066.0	2.6	0.7	-2.6	0.50	-0.16	
1,129.0	0.40	326.20	1,129.0	2.8	0.6	-2.8	0.59	0.32	
1,192.0	0.30	268.70	1,192.0	3.0	0.3	-3.0	0.55	-0.16	
1,256.0	0.40	301.80	1,256.0	3.1	0.0	-3.1	0.35	0.16	
1,319.0	0.90	316.50	1,319.0	3.6	-0.6	-3.6	0.83	0.79	
1,382.0	1.10	328.40	1,382.0	4.5	-1.2	-4.5	0.46	0.32	
1,445.0	1.10	321.40	1,445.0	5.5	-1.9	-5.5	0.21	0.00	
1,508.0	1.00	308.40	1,507.9	6.3	-2.7	-6.3	0.41	-0.16	
1,571.0	1.10	306.00	1,570.9	7.0	-3.6	-7.0	0.17	0.16	
1,634.0	0.90	297.90	1,633.9	7.6	-4.6	-7.6	0.39	-0.32	
1,697.0	0.80	266.40	1,696.9	7.8	-5.5	-7.8	0.75	-0.16	
1,760.0	0.50	192.20	1,759.9	7.5	-5.9	-7.5	1.30	-0.48	
1,824.0	0.60	235.00	1,823.9	7.0	-6.3	-7.0	0.64	0.16	
1,887.0	1.00	109.50	1,886.9	6.6	-6.0	-6.6	2.28	0.63	
1,950.0	2.00	109.00	1,949.9	6.1	-4.5	-6.1	1.59	1.59	
2,012.0	2.10	111.70	2,011.9	5.3	-2.4	-5.3	0.22	0.16	
2,076.0	2.20	106.10	2,075.8	4.5	-0.1	-4.5	0.36	0.16	
2,138.0	1.80	106.70	2,137.8	3.9	1.9	-3.9	0.65	-0.65	
2,201.0	1.90	106.10	2,200.7	3.4	3.9	-3.4	0.16	0.16	
2,264.0	1.80	107.30	2,263.7	2.8	5.8	-2.8	0.17	-0.16	
2,327.0	1.40	103.50	2,326.7	2.3	7.5	-2.3	0.66	-0.63	
2,390.0	1.50	108.10	2,389.7	1.9	9.1	-1.9	0.24	0.16	
2,453.0	1.50	117.40	2,452.6	1.2	10.6	-1.2	0.39	0.00	
2,516.0	1.30	125.80	2,515.6	0.4	11.9	-0.4	0.45	-0.32	
2,579.0	1.50	127.20	2,578.6	-0.5	13.1	0.5	0.32	0.32	
2,642.0	1.30	126.90	2,641.6	-1.4	14.4	1.4	0.32	-0.32	
2,705.0	1.50	112.40	2,704.6	-2.2	15.7	2.1	0.64	0.32	
2,768.0	1.10	111.60	2,767.5	-2.7	17.0	2.7	0.64	-0.63	
2,831.0	0.80	112.70	2,830.5	-3.1	18.0	3.1	0.48	-0.48	
2,894.0	0.80	111.40	2,893.5	-3.4	18.8	3.4	0.03	0.00	
2,957.0	1.30	112.40	2,956.5	-3.8	19.9	3.8	0.79	0.79	
3,020.0	1.20	121.20	3,019.5	-4.5	21.1	4.5	0.34	-0.16	
3,083.0	1.00	119.50	3,082.5	-5.1	22.1	5.1	0.32	-0.32	
3,146.0	1.10	118.90	3,145.5	-5.6	23.2	5.6	0.16	0.16	
3,208.0	1.70	122.40	3,207.5	-6.4	24.4	6.4	0.98	0.97	
3,271.0	3.20	105.70	3,270.4	-7.4	26.9	7.4	2.61	2.38	
3,334.0	4.40	105.70	3,333.3	-8.5	31.0	8.5	1.90	1.90	
3,397.0	5.40	87.70	3,396.0	-9.1	36.2	9.0	2.89	1.59	
3,460.0	6.20	93.90	3,458.7	-9.2	42.6	9.2	1.61	1.27	
3,523.0	8.00	95.30	3,521.2	-9.8	50.4	9.8	2.87	2.86	
3,585.0	9.10	91.70	3,582.5	-10.3	59.6	10.3	1.97	1.77	
3,649.0	10.20	91.30	3,645.6	-10.6	70.3	10.6	1.72	1.72	
3,713.0	12.40	89.10	3,708.4	-10.6	82.8	10.6	3.50	3.44	
3,776.0	13.70	84.90	3,769.8	-9.9	97.0	9.8	2.55	2.06	
3,839.0	14.20	85.20	3,830.9	-8.6	112.1	8.5	0.80	0.79	
3,902.0	15.20	86.20	3,891.8	-7.4	128.1	7.3	1.64	1.59	
3,964.0	16.70	88.80	3,951.5	-6.7	145.1	6.6	2.68	2.42	
4,027.0	17.20	88.40	4,011.7	-6.2	163.5	6.1	0.81	0.79	
4,090.0	17.30	85.00	4,071.9	-5.1	182.1	5.1	1.61	0.16	
4,153.0	18.40	82.00	4,131.9	-2.9	201.3	2.9	2.28	1.75	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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
4,216.0	19.10	83.40	4,191.5	-0.4	221.4	0.3	1.32	1.11	
4,279.0	19.70	86.50	4,250.9	1.5	242.2	-1.6	1.89	0.95	
4,342.0	20.50	85.60	4,310.1	3.0	263.8	-3.1	1.36	1.27	
4,405.0	22.50	86.30	4,368.7	4.6	286.8	-4.7	3.20	3.17	
4,468.0	24.20	90.00	4,426.6	5.4	311.8	-5.5	3.56	2.70	
4,531.0	25.90	86.70	4,483.6	6.2	338.4	-6.3	3.49	2.70	
4,593.0	26.50	86.70	4,539.3	7.7	365.8	-7.9	0.97	0.97	
4,656.0	25.60	85.50	4,595.9	9.6	393.4	-9.8	1.66	-1.43	
4,718.0	24.70	85.20	4,652.0	11.8	419.6	-11.9	1.47	-1.45	
4,781.0	24.40	85.50	4,709.3	13.9	445.7	-14.0	0.52	-0.48	
4,844.0	24.40	86.40	4,766.7	15.7	471.7	-15.9	0.59	0.00	
4,906.0	24.40	85.00	4,823.1	17.6	497.2	-17.8	0.93	0.00	
4,969.0	24.00	84.10	4,880.6	20.1	522.9	-20.3	0.86	-0.63	
5,032.0	23.80	87.30	4,938.2	22.0	548.4	-22.2	2.08	-0.32	
5,063.0	23.60	95.90	4,966.6	21.7	560.8	-21.9	11.16	-0.65	
5,095.0	23.10	102.30	4,996.0	19.7	573.3	-19.9	8.08	-1.56	
5,126.0	23.00	112.50	5,024.5	16.0	584.8	-16.3	12.87	-0.32	
5,158.0	23.10	118.50	5,053.9	10.7	596.1	-10.9	7.35	0.31	
5,190.0	24.10	125.60	5,083.3	3.9	607.0	-4.1	9.41	3.12	
5,221.0	25.40	130.60	5,111.4	-4.2	617.2	3.9	7.95	4.19	
5,253.0	26.40	135.40	5,140.2	-13.7	627.4	13.5	7.26	3.12	
5,284.0	27.50	139.50	5,167.9	-24.0	636.9	23.8	6.96	3.55	
5,316.0	29.40	142.10	5,196.0	-35.9	646.5	35.6	7.09	5.94	
5,347.0	31.50	144.40	5,222.7	-48.4	655.9	48.2	7.75	6.77	
5,379.0	33.80	146.60	5,249.7	-62.7	665.6	62.4	8.09	7.19	
5,410.0	35.60	146.90	5,275.1	-77.4	675.3	77.2	5.83	5.81	
5,441.0	37.80	148.40	5,300.0	-93.1	685.2	92.8	7.66	7.10	
5,472.0	38.90	151.20	5,324.3	-109.7	694.9	109.5	6.63	3.55	
5,504.0	39.50	153.90	5,349.1	-127.7	704.2	127.4	5.65	1.87	
5,536.0	40.20	155.90	5,373.7	-146.2	712.9	146.0	4.56	2.19	
5,567.0	42.30	157.30	5,397.0	-165.0	721.0	164.7	7.40	6.77	
5,598.0	44.30	157.90	5,419.5	-184.6	729.1	184.4	6.59	6.45	
5,629.0	46.30	153.90	5,441.4	-204.7	738.1	204.5	11.21	6.45	
5,660.0	49.00	159.70	5,462.2	-225.8	747.1	225.5	16.34	8.71	
5,692.0	49.90	161.10	5,483.0	-248.7	755.3	248.4	4.35	2.81	
5,724.0	52.10	162.30	5,503.2	-272.3	763.1	272.0	7.47	6.87	
5,755.0	54.50	162.80	5,521.7	-296.0	770.5	295.7	7.85	7.74	
5,786.0	55.40	163.90	5,539.5	-320.3	777.8	320.1	4.11	2.90	
5,818.0	55.70	164.70	5,557.6	-345.7	784.9	345.5	2.26	0.94	
5,849.0	57.20	166.00	5,574.7	-370.7	791.5	370.4	5.97	4.84	
5,881.0	60.80	167.10	5,591.2	-397.4	797.8	397.1	11.63	11.25	
5,912.0	62.80	167.40	5,605.9	-424.0	803.9	423.8	6.51	6.45	
5,943.0	65.70	169.10	5,619.3	-451.4	809.5	451.1	10.58	9.35	
5,975.0	68.70	170.00	5,631.7	-480.4	814.9	480.1	9.73	9.37	
6,006.0	72.50	170.50	5,642.0	-509.2	819.8	508.9	12.35	12.26	
6,037.0	75.30	171.20	5,650.6	-538.6	824.6	538.3	9.29	9.03	
6,069.0	77.10	173.90	5,658.3	-569.4	828.6	569.1	9.94	5.62	
6,100.0	79.50	174.10	5,664.6	-599.6	831.8	599.3	7.77	7.74	
6,163.0	85.60	176.70	5,672.7	-661.8	836.8	661.5	10.51	9.68	
6,226.0	89.80	179.30	5,675.2	-724.7	839.0	724.4	7.84	6.67	
6,253.0	90.20	179.50	5,675.2	-751.7	839.2	751.4	1.66	1.48	
6,301.0	91.80	179.00	5,674.4	-799.7	839.9	799.4	3.49	3.33	
6,364.0	92.00	179.00	5,672.3	-862.7	841.0	862.4	0.32	0.32	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook P28-2306 02H
Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook P28-2306 02H
TVD Reference: 18' KB @ 7229.0ft (Aztec 1099)
MD Reference: 18' KB @ 7229.0ft (Aztec 1099)
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
6,426.0	92.20	179.30	5,670.0	-924.6	841.9	924.3	0.58	0.32	
6,489.0	91.90	178.80	5,667.8	-987.6	842.9	987.3	0.93	-0.48	
6,552.0	91.70	179.50	5,665.8	-1,050.5	843.9	1,050.2	1.16	-0.32	
6,614.0	91.30	178.90	5,664.2	-1,112.5	844.7	1,112.2	1.16	-0.65	
6,677.0	91.00	179.20	5,662.9	-1,175.5	845.8	1,175.2	0.67	-0.48	
6,740.0	90.80	178.90	5,661.9	-1,238.5	846.8	1,238.2	0.57	-0.32	
6,804.0	89.80	179.00	5,661.6	-1,302.4	848.0	1,302.1	1.57	-1.56	
6,866.0	90.10	179.50	5,661.7	-1,364.4	848.8	1,364.1	0.94	0.48	
6,929.0	90.40	179.60	5,661.4	-1,427.4	849.3	1,427.1	0.50	0.48	
6,992.0	90.60	179.30	5,660.8	-1,490.4	849.9	1,490.1	0.57	0.32	
7,055.0	91.50	179.90	5,659.7	-1,553.4	850.3	1,553.1	1.72	1.43	
7,117.0	92.20	180.30	5,657.7	-1,615.4	850.2	1,615.1	1.30	1.13	
7,180.0	91.50	180.50	5,655.6	-1,678.3	849.8	1,678.1	1.16	-1.11	
7,243.0	90.50	180.10	5,654.5	-1,741.3	849.5	1,741.0	1.71	-1.59	
7,306.0	90.60	180.00	5,653.9	-1,804.3	849.4	1,804.0	0.22	0.16	
7,369.0	90.60	179.40	5,653.3	-1,867.3	849.7	1,867.0	0.95	0.00	
7,431.0	91.00	179.80	5,652.4	-1,929.3	850.2	1,929.0	0.91	0.65	
7,494.0	91.30	180.10	5,651.1	-1,992.3	850.2	1,992.0	0.67	0.48	
7,557.0	91.50	180.20	5,649.6	-2,055.3	850.1	2,055.0	0.35	0.32	
7,620.0	92.00	180.50	5,647.7	-2,118.3	849.7	2,118.0	0.93	0.79	
7,683.0	90.90	180.00	5,646.1	-2,181.2	849.4	2,180.9	1.92	-1.75	
7,746.0	89.80	178.70	5,645.7	-2,244.2	850.1	2,243.9	2.70	-1.75	
7,809.0	89.30	179.30	5,646.2	-2,307.2	851.2	2,306.9	1.24	-0.79	
7,872.0	90.60	179.80	5,646.3	-2,370.2	851.7	2,369.9	2.21	2.06	
7,933.0	91.20	180.20	5,645.3	-2,431.2	851.7	2,430.9	1.18	0.98	
7,994.0	91.20	180.30	5,644.0	-2,492.2	851.5	2,491.9	0.16	0.00	
8,055.0	91.10	180.00	5,642.8	-2,553.2	851.3	2,552.9	0.52	-0.16	
8,116.0	92.10	181.30	5,641.1	-2,614.1	850.6	2,613.9	2.69	1.64	
8,177.0	92.60	182.30	5,638.6	-2,675.1	848.7	2,674.8	1.83	0.82	
8,237.0	91.80	182.00	5,636.3	-2,735.0	846.4	2,734.7	1.42	-1.33	
8,298.0	91.60	182.50	5,634.5	-2,795.9	844.0	2,795.6	0.88	-0.33	
8,359.0	91.90	182.00	5,632.6	-2,856.8	841.7	2,856.5	0.96	0.49	
8,419.0	91.90	182.00	5,630.6	-2,916.8	839.6	2,916.5	0.00	0.00	
8,480.0	91.80	181.00	5,628.7	-2,977.7	838.0	2,977.4	1.65	-0.16	
8,541.0	90.50	179.80	5,627.4	-3,038.7	837.5	3,038.4	2.90	-2.13	
8,602.0	90.40	179.40	5,627.0	-3,099.7	838.0	3,099.4	0.68	-0.16	
8,663.0	90.80	179.20	5,626.3	-3,160.7	838.7	3,160.4	0.73	0.66	
8,724.0	90.10	177.70	5,625.8	-3,221.7	840.4	3,221.4	2.71	-1.15	
8,785.0	89.00	177.60	5,626.3	-3,282.6	842.9	3,282.3	1.81	-1.80	
8,845.0	89.90	177.30	5,626.9	-3,342.5	845.5	3,342.2	1.58	1.50	
8,906.0	89.80	177.10	5,627.0	-3,403.5	848.5	3,403.2	0.37	-0.16	
8,967.0	90.70	178.20	5,626.8	-3,464.4	851.0	3,464.1	2.33	1.48	
9,028.0	91.40	179.30	5,625.7	-3,525.4	852.3	3,525.1	2.14	1.15	
9,088.0	91.70	179.30	5,624.0	-3,585.4	853.1	3,585.1	0.50	0.50	
9,149.0	90.90	179.70	5,622.7	-3,646.3	853.6	3,646.0	1.47	-1.31	
9,210.0	89.80	179.90	5,622.3	-3,707.3	853.8	3,707.0	1.83	-1.80	
9,270.0	89.70	180.10	5,622.5	-3,767.3	853.8	3,767.0	0.37	-0.17	
9,331.0	90.40	180.40	5,622.5	-3,828.3	853.6	3,828.0	1.25	1.15	
9,391.0	90.90	180.60	5,621.8	-3,888.3	853.0	3,888.0	0.90	0.83	
9,452.0	90.70	180.30	5,621.0	-3,949.3	852.5	3,949.0	0.59	-0.33	
9,513.0	90.60	180.00	5,620.3	-4,010.3	852.4	4,010.0	0.52	-0.16	
9,574.0	91.30	180.80	5,619.3	-4,071.3	852.0	4,071.0	1.74	1.15	
9,635.0	91.40	180.90	5,617.8	-4,132.3	851.1	4,132.0	0.23	0.16	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook P28-2306 02H
Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook P28-2306 02H
TVD Reference: 18' KB @ 7229.0ft (Aztec 1099)
MD Reference: 18' KB @ 7229.0ft (Aztec 1099)
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
9,695.0	91.90	181.00	5,616.1	-4,192.2	850.1	4,192.0	0.85	0.83	
9,756.0	92.40	181.40	5,613.8	-4,253.2	848.8	4,252.9	1.05	0.82	
9,816.0	92.80	182.00	5,611.1	-4,313.1	847.0	4,312.8	1.20	0.67	
9,877.0	91.80	181.70	5,608.6	-4,374.0	845.0	4,373.7	1.71	-1.64	
9,938.0	92.20	181.30	5,606.5	-4,435.0	843.4	4,434.7	0.93	0.66	
10,000.0	91.00	181.30	5,604.8	-4,496.9	842.0	4,496.6	1.94	-1.94	
10,061.0	90.70	180.70	5,603.9	-4,557.9	841.0	4,557.6	1.10	-0.49	
10,122.0	90.20	179.40	5,603.4	-4,618.9	840.9	4,618.6	2.28	-0.82	
10,182.0	90.60	179.70	5,603.0	-4,678.9	841.4	4,678.6	0.83	0.67	
10,244.0	90.50	179.10	5,602.4	-4,740.9	842.0	4,740.6	0.98	-0.16	
10,305.0	90.60	178.60	5,601.8	-4,801.9	843.3	4,801.6	0.84	0.16	
10,365.0	90.40	179.20	5,601.3	-4,861.9	844.4	4,861.6	1.05	-0.33	
10,426.0	89.70	179.40	5,601.2	-4,922.9	845.2	4,922.6	1.19	-1.15	
10,487.0	90.00	179.30	5,601.4	-4,983.9	845.9	4,983.6	0.52	0.49	
10,547.0	90.00	178.50	5,601.4	-5,043.8	847.0	5,043.5	1.33	0.00	
10,608.0	90.10	178.50	5,601.3	-5,104.8	848.6	5,104.5	0.16	0.16	
10,671.0	90.60	178.50	5,600.9	-5,167.8	850.3	5,167.5	0.79	0.79	
10,733.0	91.10	178.90	5,600.0	-5,229.8	851.7	5,229.5	1.03	0.81	
10,797.0	90.70	179.60	5,599.0	-5,293.8	852.5	5,293.5	1.26	-0.62	
10,859.0	90.50	180.20	5,598.4	-5,355.8	852.6	5,355.5	1.02	-0.32	
10,922.0	90.90	180.80	5,597.6	-5,418.8	852.1	5,418.5	1.14	0.63	
10,985.0	91.10	180.90	5,596.5	-5,481.7	851.1	5,481.4	0.35	0.32	
11,048.0	91.50	181.70	5,595.1	-5,544.7	849.7	5,544.4	1.42	0.63	
11,110.0	91.80	182.30	5,593.3	-5,606.6	847.5	5,606.3	1.08	0.48	
11,173.0	91.10	181.10	5,591.7	-5,669.6	845.7	5,669.3	2.20	-1.11	
11,236.0	91.10	180.70	5,590.5	-5,732.6	844.7	5,732.3	0.63	0.00	
11,299.0	91.10	180.50	5,589.3	-5,795.6	844.0	5,795.3	0.32	0.00	
11,362.0	91.70	181.10	5,587.7	-5,858.5	843.1	5,858.2	1.35	0.95	
11,424.0	90.40	180.00	5,586.6	-5,920.5	842.5	5,920.2	2.75	-2.10	
11,487.0	89.30	179.10	5,586.8	-5,983.5	843.0	5,983.2	2.26	-1.75	
11,550.0	89.80	179.20	5,587.3	-6,046.5	844.0	6,046.2	0.81	0.79	
11,613.0	90.40	179.10	5,587.1	-6,109.5	844.9	6,109.2	0.97	0.95	
11,676.0	90.00	178.80	5,586.9	-6,172.5	846.1	6,172.2	0.79	-0.63	
11,739.0	89.60	178.80	5,587.1	-6,235.5	847.4	6,235.2	0.63	-0.63	
11,802.0	90.00	178.90	5,587.4	-6,298.5	848.6	6,298.2	0.65	0.63	
11,865.0	90.40	179.10	5,587.1	-6,361.4	849.7	6,361.1	0.71	0.63	
11,927.0	91.10	179.10	5,586.3	-6,423.4	850.7	6,423.1	1.13	1.13	
11,990.0	91.10	179.30	5,585.1	-6,486.4	851.6	6,486.1	0.32	0.00	
12,053.0	91.20	179.10	5,583.9	-6,549.4	852.5	6,549.1	0.35	0.16	
12,116.0	91.50	179.10	5,582.4	-6,612.4	853.5	6,612.1	0.48	0.48	
12,178.0	91.80	179.10	5,580.6	-6,674.3	854.4	6,674.0	0.48	0.48	
12,241.0	91.50	179.80	5,578.8	-6,737.3	855.0	6,737.0	1.21	-0.48	
12,304.0	91.00	180.30	5,577.4	-6,800.3	855.0	6,800.0	1.12	-0.79	
12,366.0	90.90	180.40	5,576.4	-6,862.3	854.6	6,862.0	0.23	-0.16	
12,429.0	90.60	179.80	5,575.5	-6,925.3	854.5	6,925.0	1.06	-0.48	
12,492.0	91.10	180.60	5,574.6	-6,988.3	854.3	6,988.0	1.50	0.79	
12,555.0	90.70	180.10	5,573.6	-7,051.3	853.9	7,051.0	1.02	-0.63	
12,618.0	90.40	179.90	5,573.0	-7,114.3	853.9	7,114.0	0.57	-0.48	
12,681.0	91.30	180.60	5,572.1	-7,177.3	853.6	7,177.0	1.81	1.43	
12,744.0	90.00	179.10	5,571.4	-7,240.3	853.8	7,240.0	3.15	-2.06	
12,807.0	90.00	178.70	5,571.4	-7,303.3	855.0	7,303.0	0.63	0.00	
12,870.0	90.40	179.40	5,571.1	-7,366.2	856.0	7,365.9	1.28	0.63	
12,933.0	90.90	178.00	5,570.4	-7,429.2	857.5	7,428.9	2.36	0.79	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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
12,996.0	91.60	177.80	5,569.1	-7,492.2	859.8	7,491.9	1.16	1.11	
13,059.0	89.30	178.90	5,568.6	-7,555.1	861.6	7,554.8	4.05	-3.65	
13,122.0	88.30	179.00	5,569.9	-7,618.1	862.7	7,617.8	1.60	-1.59	
13,184.0	88.90	178.90	5,571.4	-7,680.1	863.9	7,679.8	0.98	0.97	
13,247.0	89.30	178.90	5,572.4	-7,743.1	865.1	7,742.8	0.63	0.63	
13,310.0	89.40	178.70	5,573.1	-7,806.0	866.4	7,805.7	0.35	0.16	
13,340.0	89.50	178.50	5,573.4	-7,836.0	867.1	7,835.7	0.75	0.33	Last CES Survey @ 13,340' MD
13,400.0	89.50	178.50	5,573.9	-7,896.0	868.7	7,895.7	0.00	0.00	PTB @ 13,400'

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
- Shape									Latitude Longitude
Lybrook P28-2306 02H I	- actual wellpath misses target center by 91.9ft at 13377.6ft MD (5573.7 TVD, -7873.6 N, 868.1 E)	0.00	0.00	5,638.5	-7,874.8	803.0	1,882,851.00	1,281,520.96	36.168500 -107.465950
- Point									
Lybrook P28-2306 02H I	- actual wellpath misses target center by 34.2ft at 6191.4ft MD (5674.4 TVD, -690.1 N, 838.1 E)	0.00	0.00	5,663.6	-691.7	805.7	1,890,033.43	1,281,613.90	36.188230 -107.465940
- Point									
Lybrook P28-2306 02H I	- actual wellpath misses target center by 18.0ft at 6193.5ft MD (5674.5 TVD, -692.2 N, 838.2 E)	0.00	0.00	5,671.3	-691.7	855.9	1,890,032.81	1,281,664.07	36.188230 -107.465770
- Point									
Lybrook P28-2306 02H I	- actual wellpath misses target center by 20.1ft at 6193.2ft MD (5674.5 TVD, -691.9 N, 838.2 E)	0.00	0.00	5,664.9	-691.7	855.9	1,890,032.81	1,281,664.07	36.188230 -107.465770
- Point									
Lybrook P28-2306 02H I	- actual wellpath misses target center by 28.9ft at 13400.0ft MD (5573.9 TVD, -7896.0 N, 868.7 E)	0.00	0.00	5,564.4	-7,918.4	853.2	1,882,806.68	1,281,570.59	36.168380 -107.465780
- Point									
Lybrook P28-2306 02H I	- actual wellpath misses target center by 27.5ft at 13400.0ft MD (5573.9 TVD, -7896.0 N, 868.7 E)	0.00	0.00	5,570.4	-7,918.4	853.2	1,882,806.68	1,281,570.59	36.168380 -107.465780
- Point									
Lybrook P28-2306 02H I	- actual wellpath misses target center by 19.9ft at 6193.2ft MD (5674.5 TVD, -692.0 N, 838.2 E)	0.00	0.00	5,665.3	-691.7	855.9	1,890,032.81	1,281,664.07	36.188230 -107.465770
- Point									
Lybrook P28-2306 02H I	- actual wellpath misses target center by 44.5ft at 13400.0ft MD (5573.9 TVD, -7896.0 N, 868.7 E)	0.00	0.00	5,538.8	-7,918.4	853.2	1,882,806.68	1,281,570.59	36.168380 -107.465780
- Point									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
13,340.0	5,573.4	-7,836.0	867.1	Last CES Survey @ 13,340' MD
13,400.0	5,573.9	-7,896.0	868.7	PTB @ 13,400'

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

Sandoval County, NM

Lybrook

Lybrook P28-2306 02H

HZ

Design: FINAL

Survey Report - Geographic

24 July, 2014

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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 P28-2306 02H			
Well Position	+N/-S	0.0 ft	Northing:	1,890,735.22 ft
	+E/-W	0.0 ft	Easting:	1,280,816.97 ft
Position Uncertainty	0.0 ft		Wellhead Elevation:	ft
			Ground Level:	7,211.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	9/13/2013	9.43	62.99	50,230

Design	FINAL			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	180.02

Survey Program	Date 7/24/2014			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
165.0	13,400.0	Survey #1 (HZ)	Geolink MWD	Geolink MWD

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map			
Depth	(°)	(°)	Depth	(ft)	(ft)	Northing	Easting	Latitude	Longitude	
(ft)			(ft)			(ft)	(ft)			
0.0	0.00	0.00	0.0	0.0	0.0	1,890,735.22	1,280,816.97	36.190130	-107.468670	
165.0	0.40	20.70	165.0	0.5	0.2	1,890,735.75	1,280,817.18	36.190132	-107.468670	
194.0	0.01	288.70	194.0	0.6	0.2	1,890,735.85	1,280,817.22	36.190132	-107.468669	
224.0	0.10	71.50	224.0	0.6	0.3	1,890,735.86	1,280,817.24	36.190132	-107.468669	
287.0	0.20	198.70	287.0	0.6	0.3	1,890,735.77	1,280,817.25	36.190132	-107.468669	
350.0	0.20	231.00	350.0	0.4	0.2	1,890,735.60	1,280,817.13	36.190131	-107.468670	
413.0	0.10	204.50	413.0	0.3	0.0	1,890,735.48	1,280,817.02	36.190131	-107.468670	
473.0	0.20	230.00	473.0	0.1	-0.1	1,890,735.37	1,280,816.92	36.190131	-107.468670	
563.0	0.20	2.10	563.0	0.2	-0.2	1,890,735.43	1,280,816.80	36.190131	-107.468671	
626.0	0.40	33.50	626.0	0.5	0.0	1,890,735.72	1,280,816.93	36.190131	-107.468670	
689.0	0.60	19.50	689.0	1.0	0.2	1,890,736.21	1,280,817.17	36.190133	-107.468670	
752.0	0.40	12.50	752.0	1.5	0.3	1,890,736.73	1,280,817.33	36.190134	-107.468669	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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
815.0	0.40	49.20	815.0	1.9	0.6	1,890,737.09	1,280,817.55	36.190135	-107.468668
877.0	0.30	36.00	877.0	2.1	0.8	1,890,737.36	1,280,817.82	36.190136	-107.468667
940.0	0.10	238.10	940.0	2.3	0.9	1,890,737.46	1,280,817.87	36.190136	-107.468667
1,003.0	0.30	318.10	1,003.0	2.3	0.7	1,890,737.56	1,280,817.71	36.190137	-107.468668
1,066.0	0.20	34.00	1,066.0	2.6	0.7	1,890,737.77	1,280,817.67	36.190137	-107.468668
1,129.0	0.40	326.20	1,129.0	2.8	0.6	1,890,738.05	1,280,817.61	36.190138	-107.468668
1,192.0	0.30	268.70	1,192.0	3.0	0.3	1,890,738.23	1,280,817.32	36.190138	-107.468669
1,256.0	0.40	301.80	1,256.0	3.1	0.0	1,890,738.35	1,280,816.97	36.190139	-107.468670
1,319.0	0.90	316.50	1,319.0	3.6	-0.6	1,890,738.83	1,280,816.45	36.190140	-107.468672
1,382.0	1.10	328.40	1,382.0	4.5	-1.2	1,890,739.71	1,280,815.80	36.190142	-107.468674
1,445.0	1.10	321.40	1,445.0	5.5	-1.9	1,890,740.71	1,280,815.12	36.190145	-107.468677
1,508.0	1.00	308.40	1,507.9	6.3	-2.7	1,890,741.53	1,280,814.32	36.190147	-107.468680
1,571.0	1.10	306.00	1,570.9	7.0	-3.6	1,890,742.24	1,280,813.41	36.190149	-107.468683
1,634.0	0.90	297.90	1,633.9	7.6	-4.6	1,890,742.84	1,280,812.49	36.190151	-107.468686
1,697.0	0.80	266.40	1,696.9	7.8	-5.5	1,890,743.05	1,280,811.62	36.190151	-107.468689
1,760.0	0.50	192.20	1,759.9	7.5	-5.9	1,890,742.76	1,280,811.12	36.190151	-107.468690
1,824.0	0.60	235.00	1,823.9	7.0	-6.3	1,890,742.30	1,280,810.78	36.190149	-107.468692
1,887.0	1.00	109.50	1,886.9	6.6	-6.0	1,890,741.93	1,280,811.02	36.190148	-107.468691
1,950.0	2.00	109.00	1,949.9	6.1	-4.5	1,890,741.37	1,280,812.57	36.190147	-107.468685
2,012.0	2.10	111.70	2,011.9	5.3	-2.4	1,890,740.57	1,280,814.64	36.190145	-107.468678
2,076.0	2.20	106.10	2,075.8	4.5	-0.1	1,890,739.76	1,280,816.90	36.190143	-107.468671
2,138.0	1.80	106.70	2,137.8	3.9	1.9	1,890,739.13	1,280,818.97	36.190141	-107.468664
2,201.0	1.90	106.10	2,200.7	3.4	3.9	1,890,738.53	1,280,820.91	36.190139	-107.468657
2,264.0	1.80	107.30	2,263.7	2.8	5.8	1,890,737.92	1,280,822.85	36.190138	-107.468650
2,327.0	1.40	103.50	2,326.7	2.3	7.5	1,890,737.43	1,280,824.54	36.190136	-107.468645
2,390.0	1.50	108.10	2,389.7	1.9	9.1	1,890,736.97	1,280,826.07	36.190135	-107.468640
2,453.0	1.50	117.40	2,452.6	1.2	10.6	1,890,736.32	1,280,827.57	36.190133	-107.468634
2,516.0	1.30	125.80	2,515.6	0.4	11.9	1,890,735.50	1,280,828.87	36.190131	-107.468630
2,579.0	1.50	127.20	2,578.6	-0.5	13.1	1,890,734.57	1,280,830.10	36.190129	-107.468626
2,642.0	1.30	126.90	2,641.6	-1.4	14.4	1,890,733.63	1,280,831.32	36.190126	-107.468622
2,705.0	1.50	112.40	2,704.6	-2.2	15.7	1,890,732.87	1,280,832.64	36.190124	-107.468617
2,768.0	1.10	111.60	2,767.5	-2.7	17.0	1,890,732.31	1,280,833.96	36.190123	-107.468613
2,831.0	0.80	112.70	2,830.5	-3.1	18.0	1,890,731.91	1,280,834.92	36.190122	-107.468609
2,894.0	0.80	111.40	2,893.5	-3.4	18.8	1,890,731.57	1,280,835.73	36.190121	-107.468607
2,957.0	1.30	112.40	2,956.5	-3.8	19.9	1,890,731.12	1,280,836.80	36.190120	-107.468603
3,020.0	1.20	121.20	3,019.5	-4.5	21.1	1,890,730.49	1,280,838.01	36.190118	-107.468599
3,083.0	1.00	119.50	3,082.5	-5.1	22.1	1,890,729.87	1,280,839.05	36.190116	-107.468595
3,146.0	1.10	118.90	3,145.5	-5.6	23.2	1,890,729.29	1,280,840.05	36.190115	-107.468592
3,208.0	1.70	122.40	3,207.5	-6.4	24.4	1,890,728.50	1,280,841.34	36.190112	-107.468587
3,271.0	3.20	105.70	3,270.4	-7.4	26.9	1,890,727.49	1,280,843.81	36.190110	-107.468579
3,334.0	4.40	105.70	3,333.3	-8.5	31.0	1,890,726.31	1,280,847.81	36.190107	-107.468565
3,397.0	5.40	87.70	3,396.0	-9.1	36.2	1,890,725.71	1,280,853.09	36.190105	-107.468547
3,460.0	6.20	93.90	3,458.7	-9.2	42.6	1,890,725.51	1,280,859.45	36.190105	-107.468526
3,523.0	8.00	95.30	3,521.2	-9.8	50.4	1,890,724.78	1,280,867.20	36.190103	-107.468500
3,585.0	9.10	91.70	3,582.5	-10.3	59.6	1,890,724.12	1,280,876.39	36.190102	-107.468468
3,649.0	10.20	91.30	3,645.6	-10.6	70.3	1,890,723.71	1,280,887.11	36.190101	-107.468432
3,713.0	12.40	89.10	3,708.4	-10.6	82.8	1,890,723.53	1,280,899.64	36.190101	-107.468390
3,776.0	13.70	84.90	3,769.8	-9.9	97.0	1,890,724.12	1,280,913.85	36.190103	-107.468342
3,839.0	14.20	85.20	3,830.9	-8.6	112.1	1,890,725.24	1,280,928.99	36.190107	-107.468290
3,902.0	15.20	86.20	3,891.8	-7.4	128.1	1,890,726.23	1,280,944.95	36.190110	-107.468236
3,964.0	16.70	88.80	3,951.5	-6.7	145.1	1,890,726.75	1,280,961.98	36.190112	-107.468179
4,027.0	17.20	88.40	4,011.7	-6.2	163.5	1,890,726.96	1,280,980.34	36.190113	-107.468116
4,090.0	17.30	85.00	4,071.9	-5.1	182.1	1,890,727.81	1,280,999.00	36.190116	-107.468053
4,153.0	18.40	82.00	4,131.9	-2.9	201.3	1,890,729.77	1,281,018.20	36.190122	-107.467988
4,216.0	19.10	83.40	4,191.5	-0.4	221.4	1,890,732.08	1,281,038.32	36.190129	-107.467920

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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
4,279.0	19.70	86.50	4,250.9	1.5	242.2	1,890,733.65	1,281,059.18	36.190134	-107.467850
4,342.0	20.50	85.60	4,310.1	3.0	263.8	1,890,734.88	1,281,080.79	36.190138	-107.467776
4,405.0	22.50	86.30	4,368.7	4.6	286.8	1,890,736.21	1,281,103.84	36.190143	-107.467698
4,468.0	24.20	90.00	4,426.6	5.4	311.8	1,890,736.68	1,281,128.79	36.190145	-107.467614
4,531.0	25.90	86.70	4,483.6	6.2	338.4	1,890,737.13	1,281,155.45	36.190147	-107.467523
4,593.0	26.50	86.70	4,539.3	7.7	365.8	1,890,738.37	1,281,182.80	36.190151	-107.467431
4,656.0	25.60	85.50	4,595.9	9.6	393.4	1,890,739.90	1,281,210.42	36.190157	-107.467337
4,718.0	24.70	85.20	4,652.0	11.8	419.6	1,890,741.70	1,281,236.71	36.190162	-107.467248
4,781.0	24.40	85.50	4,709.3	13.9	445.7	1,890,743.50	1,281,262.82	36.190168	-107.467160
4,844.0	24.40	86.40	4,766.7	15.7	471.7	1,890,745.01	1,281,288.80	36.190173	-107.467072
4,906.0	24.40	85.00	4,823.1	17.6	497.2	1,890,746.61	1,281,314.37	36.190179	-107.466985
4,969.0	24.00	84.10	4,880.6	20.1	522.9	1,890,748.73	1,281,340.10	36.190185	-107.466898
5,032.0	23.80	87.30	4,938.2	22.0	548.4	1,890,750.33	1,281,365.57	36.190191	-107.466812
5,063.0	23.60	95.90	4,966.6	21.7	560.8	1,890,749.83	1,281,377.99	36.190190	-107.466770
5,095.0	23.10	102.30	4,996.0	19.7	573.3	1,890,747.68	1,281,390.47	36.190184	-107.466728
5,126.0	23.00	112.50	5,024.5	16.0	584.8	1,890,743.92	1,281,401.96	36.190174	-107.466689
5,158.0	23.10	118.50	5,053.9	10.7	596.1	1,890,738.39	1,281,413.19	36.190159	-107.466650
5,190.0	24.10	125.60	5,083.3	3.9	607.0	1,890,731.45	1,281,423.93	36.190141	-107.466614
5,221.0	25.40	130.60	5,111.4	-4.2	617.2	1,890,723.31	1,281,434.03	36.190119	-107.466579
5,253.0	26.40	135.40	5,140.2	-13.7	627.4	1,890,713.65	1,281,444.11	36.190092	-107.466544
5,284.0	27.50	139.50	5,167.9	-24.0	636.9	1,890,703.18	1,281,453.47	36.190064	-107.466512
5,316.0	29.40	142.10	5,196.0	-35.9	646.5	1,890,691.25	1,281,462.95	36.190032	-107.466480
5,347.0	31.50	144.40	5,222.7	-48.4	655.9	1,890,678.54	1,281,472.18	36.189997	-107.466448
5,379.0	33.80	146.60	5,249.7	-62.7	665.6	1,890,664.19	1,281,481.77	36.189958	-107.466415
5,410.0	35.60	146.90	5,275.1	-77.4	675.3	1,890,649.31	1,281,491.26	36.189917	-107.466382
5,441.0	37.80	148.40	5,300.0	-93.1	685.2	1,890,633.53	1,281,500.96	36.189874	-107.466348
5,472.0	38.90	151.20	5,324.3	-109.7	694.9	1,890,616.79	1,281,510.42	36.189829	-107.466316
5,504.0	39.50	153.90	5,349.1	-127.7	704.2	1,890,598.73	1,281,519.52	36.189779	-107.466284
5,536.0	40.20	155.90	5,373.7	-146.2	712.9	1,890,580.05	1,281,527.98	36.189728	-107.466255
5,567.0	42.30	157.30	5,397.0	-165.0	721.0	1,890,561.19	1,281,535.85	36.189677	-107.466227
5,598.0	44.30	157.90	5,419.5	-184.6	729.1	1,890,541.44	1,281,543.70	36.189623	-107.466200
5,629.0	46.30	153.90	5,441.4	-204.7	738.1	1,890,521.23	1,281,552.46	36.189568	-107.466169
5,660.0	49.00	159.70	5,462.2	-225.8	747.1	1,890,500.07	1,281,561.19	36.189510	-107.466139
5,692.0	49.90	161.10	5,483.0	-248.7	755.3	1,890,477.06	1,281,569.05	36.189447	-107.466111
5,724.0	52.10	162.30	5,503.2	-272.3	763.1	1,890,453.36	1,281,576.56	36.189382	-107.466085
5,755.0	54.50	162.80	5,521.7	-296.0	770.5	1,890,429.55	1,281,583.71	36.189317	-107.466059
5,786.0	55.40	163.90	5,539.5	-320.3	777.8	1,890,405.15	1,281,590.67	36.189250	-107.466035
5,818.0	55.70	164.70	5,557.6	-345.7	784.9	1,890,379.66	1,281,597.50	36.189180	-107.466011
5,849.0	57.20	166.00	5,574.7	-370.7	791.5	1,890,354.58	1,281,603.71	36.189112	-107.465988
5,881.0	60.80	167.10	5,591.2	-397.4	797.8	1,890,327.83	1,281,609.75	36.189039	-107.465967
5,912.0	62.80	167.40	5,605.9	-424.0	803.9	1,890,301.11	1,281,615.44	36.188965	-107.465946
5,943.0	65.70	169.10	5,619.3	-451.4	809.5	1,890,273.71	1,281,620.78	36.188890	-107.465927
5,975.0	68.70	170.00	5,631.7	-480.4	814.9	1,890,244.64	1,281,625.76	36.188811	-107.465909
6,006.0	72.50	170.50	5,642.0	-509.2	819.8	1,890,215.77	1,281,630.35	36.188731	-107.465892
6,037.0	75.30	171.20	5,650.6	-538.6	824.6	1,890,186.31	1,281,634.71	36.188651	-107.465876
6,069.0	77.10	173.90	5,658.3	-569.4	828.6	1,890,155.45	1,281,638.35	36.188566	-107.465863
6,100.0	79.50	174.10	5,664.6	-599.6	831.8	1,890,125.23	1,281,641.15	36.188483	-107.465852
6,163.0	85.60	176.70	5,672.7	-661.8	836.8	1,890,062.93	1,281,645.36	36.188312	-107.465835
6,226.0	89.80	179.30	5,675.2	-724.7	839.0	1,890,000.02	1,281,646.77	36.188139	-107.465828
6,253.0	90.20	179.50	5,675.2	-751.7	839.2	1,889,973.02	1,281,646.71	36.188065	-107.465827
6,301.0	91.80	179.00	5,674.4	-799.7	839.9	1,889,925.03	1,281,646.73	36.187933	-107.465824
6,364.0	92.00	179.00	5,672.3	-862.7	841.0	1,889,862.07	1,281,647.04	36.187761	-107.465821
6,426.0	92.20	179.30	5,670.0	-924.6	841.9	1,889,800.11	1,281,647.18	36.187590	-107.465818
6,489.0	91.90	178.80	5,667.8	-987.6	842.9	1,889,737.15	1,281,647.44	36.187417	-107.465814
6,552.0	91.70	179.50	5,665.8	-1,050.5	843.9	1,889,674.18	1,281,647.58	36.187245	-107.465811

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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
6,614.0	91.30	178.90	5,664.2	-1,112.5	844.7	1,889,612.20	1,281,647.67	36.187074	-107.465808
6,677.0	91.00	179.20	5,662.9	-1,175.5	845.8	1,889,549.22	1,281,647.92	36.186901	-107.465804
6,740.0	90.80	178.90	5,661.9	-1,238.5	846.8	1,889,486.22	1,281,648.17	36.186728	-107.465801
6,804.0	89.80	179.00	5,661.6	-1,302.4	848.0	1,889,422.23	1,281,648.54	36.186553	-107.465797
6,866.0	90.10	179.50	5,661.7	-1,364.4	848.8	1,889,360.23	1,281,648.57	36.186382	-107.465794
6,929.0	90.40	179.60	5,661.4	-1,427.4	849.3	1,889,297.23	1,281,648.28	36.186209	-107.465793
6,992.0	90.60	179.30	5,660.8	-1,490.4	849.9	1,889,234.23	1,281,648.09	36.186036	-107.465791
7,055.0	91.50	179.90	5,659.7	-1,553.4	850.3	1,889,171.24	1,281,647.74	36.185863	-107.465789
7,117.0	92.20	180.30	5,657.7	-1,615.4	850.2	1,889,109.28	1,281,646.85	36.185693	-107.465789
7,180.0	91.50	180.50	5,655.6	-1,678.3	849.8	1,889,046.33	1,281,645.62	36.185520	-107.465791
7,243.0	90.50	180.10	5,654.5	-1,741.3	849.5	1,888,983.35	1,281,644.50	36.185347	-107.465792
7,306.0	90.60	180.00	5,653.9	-1,804.3	849.4	1,888,920.36	1,281,643.66	36.185174	-107.465792
7,369.0	90.60	179.40	5,653.3	-1,867.3	849.7	1,888,857.36	1,281,643.19	36.185001	-107.465791
7,431.0	91.00	179.80	5,652.4	-1,929.3	850.2	1,888,795.37	1,281,642.85	36.184831	-107.465790
7,494.0	91.30	180.10	5,651.1	-1,992.3	850.2	1,888,732.39	1,281,642.11	36.184658	-107.465789
7,557.0	91.50	180.20	5,649.6	-2,055.3	850.1	1,888,669.41	1,281,641.16	36.184485	-107.465790
7,620.0	92.00	180.50	5,647.7	-2,118.3	849.7	1,888,606.45	1,281,639.98	36.184312	-107.465791
7,683.0	90.90	180.00	5,646.1	-2,181.2	849.4	1,888,543.48	1,281,638.92	36.184139	-107.465792
7,746.0	89.80	178.70	5,645.7	-2,244.2	850.1	1,888,480.49	1,281,638.84	36.183966	-107.465790
7,809.0	89.30	179.30	5,646.2	-2,307.2	851.2	1,888,417.49	1,281,639.15	36.183793	-107.465786
7,872.0	90.60	179.80	5,646.3	-2,370.2	851.7	1,888,354.49	1,281,638.85	36.183620	-107.465784
7,933.0	91.20	180.20	5,645.3	-2,431.2	851.7	1,888,293.51	1,281,638.08	36.183452	-107.465784
7,994.0	91.20	180.30	5,644.0	-2,492.2	851.5	1,888,232.53	1,281,637.05	36.183285	-107.465785
8,055.0	91.10	180.00	5,642.8	-2,553.2	851.3	1,888,171.55	1,281,636.13	36.183117	-107.465786
8,116.0	92.10	181.30	5,641.1	-2,614.1	850.6	1,888,110.59	1,281,634.67	36.182950	-107.465788
8,177.0	92.60	182.30	5,638.6	-2,675.1	848.7	1,888,049.70	1,281,631.99	36.182782	-107.465795
8,237.0	91.80	182.00	5,636.3	-2,735.0	846.4	1,887,989.82	1,281,628.99	36.182618	-107.465802
8,298.0	91.60	182.50	5,634.5	-2,795.9	844.0	1,887,928.93	1,281,625.83	36.182450	-107.465811
8,359.0	91.90	182.00	5,632.6	-2,856.8	841.7	1,887,868.04	1,281,622.67	36.182283	-107.465819
8,419.0	91.90	182.00	5,630.6	-2,916.8	839.6	1,887,808.14	1,281,619.82	36.182118	-107.465826
8,480.0	91.80	181.00	5,628.7	-2,977.7	838.0	1,887,747.22	1,281,617.46	36.181951	-107.465831
8,541.0	90.50	179.80	5,627.4	-3,038.7	837.5	1,887,686.25	1,281,616.27	36.181784	-107.465833
8,602.0	90.40	179.40	5,627.0	-3,099.7	838.0	1,887,625.25	1,281,615.93	36.181616	-107.465831
8,663.0	90.80	179.20	5,626.3	-3,160.7	838.7	1,887,564.25	1,281,615.91	36.181448	-107.465829
8,724.0	90.10	177.70	5,625.8	-3,221.7	840.4	1,887,503.26	1,281,616.79	36.181281	-107.465823
8,785.0	89.00	177.60	5,626.3	-3,282.6	842.9	1,887,442.29	1,281,618.53	36.181114	-107.465815
8,845.0	89.90	177.30	5,626.9	-3,342.5	845.5	1,887,382.32	1,281,620.45	36.180949	-107.465806
8,906.0	89.80	177.10	5,627.0	-3,403.5	848.5	1,887,321.37	1,281,622.66	36.180782	-107.465795
8,967.0	90.70	178.20	5,626.8	-3,464.4	851.0	1,887,260.39	1,281,624.40	36.180614	-107.465787
9,028.0	91.40	179.30	5,625.7	-3,525.4	852.3	1,887,199.41	1,281,624.96	36.180447	-107.465782
9,088.0	91.70	179.30	5,624.0	-3,585.4	853.1	1,887,139.43	1,281,624.94	36.180282	-107.465780
9,149.0	90.90	179.70	5,622.7	-3,646.3	853.6	1,887,078.44	1,281,624.71	36.180114	-107.465778
9,210.0	89.80	179.90	5,622.3	-3,707.3	853.8	1,887,017.45	1,281,624.15	36.179947	-107.465778
9,270.0	89.70	180.10	5,622.5	-3,767.3	853.8	1,886,957.45	1,281,623.40	36.179782	-107.465778
9,331.0	90.40	180.40	5,622.5	-3,828.3	853.6	1,886,896.46	1,281,622.37	36.179615	-107.465778
9,391.0	90.90	180.60	5,621.8	-3,888.3	853.0	1,886,836.48	1,281,621.09	36.179450	-107.465780
9,452.0	90.70	180.30	5,621.0	-3,949.3	852.5	1,886,775.50	1,281,619.84	36.179282	-107.465782
9,513.0	90.60	180.00	5,620.3	-4,010.3	852.4	1,886,714.51	1,281,618.92	36.179115	-107.465782
9,574.0	91.30	180.80	5,619.3	-4,071.3	852.0	1,886,653.53	1,281,617.73	36.178947	-107.465784
9,635.0	91.40	180.90	5,617.8	-4,132.3	851.1	1,886,592.57	1,281,616.06	36.178780	-107.465787
9,695.0	91.90	181.00	5,616.1	-4,192.2	850.1	1,886,532.62	1,281,614.31	36.178615	-107.465790
9,756.0	92.40	181.40	5,613.8	-4,253.2	848.8	1,886,471.70	1,281,612.27	36.178448	-107.465795
9,816.0	92.80	182.00	5,611.1	-4,313.1	847.0	1,886,411.82	1,281,609.74	36.178283	-107.465801
9,877.0	91.80	181.70	5,608.6	-4,374.0	845.0	1,886,350.93	1,281,607.00	36.178116	-107.465807
9,938.0	92.20	181.30	5,606.5	-4,435.0	843.4	1,886,290.01	1,281,604.64	36.177948	-107.465813

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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	
10,000.0	91.00	181.30	5,604.8	-4,496.9	842.0	1,886,228.07	1,281,602.46	36.177778	-107.465818	
10,061.0	90.70	180.70	5,603.9	-4,557.9	841.0	1,886,167.11	1,281,600.63	36.177611	-107.465821	
10,122.0	90.20	179.40	5,603.4	-4,618.9	840.9	1,886,106.12	1,281,599.81	36.177443	-107.465821	
10,182.0	90.60	179.70	5,603.0	-4,678.9	841.4	1,886,046.12	1,281,599.53	36.177278	-107.465820	
10,244.0	90.50	179.10	5,602.4	-4,740.9	842.0	1,885,984.12	1,281,599.40	36.177108	-107.465818	
10,305.0	90.60	178.60	5,601.8	-4,801.9	843.3	1,885,923.13	1,281,599.85	36.176941	-107.465813	
10,365.0	90.40	179.20	5,601.3	-4,861.9	844.4	1,885,863.13	1,281,600.25	36.176776	-107.465809	
10,426.0	89.70	179.40	5,601.2	-4,922.9	845.2	1,885,802.13	1,281,600.23	36.176608	-107.465807	
10,487.0	90.00	179.30	5,601.4	-4,983.9	845.9	1,885,741.13	1,281,600.16	36.176441	-107.465805	
10,547.0	90.00	178.50	5,601.4	-5,043.8	847.0	1,885,681.13	1,281,600.56	36.176276	-107.465801	
10,608.0	90.10	178.50	5,601.3	-5,104.8	848.6	1,885,620.14	1,281,601.39	36.176108	-107.465795	
10,671.0	90.60	178.50	5,600.9	-5,167.8	850.3	1,885,557.15	1,281,602.24	36.175935	-107.465790	
10,733.0	91.10	178.90	5,600.0	-5,229.8	851.7	1,885,495.16	1,281,602.87	36.175765	-107.465785	
10,797.0	90.70	179.60	5,599.0	-5,293.8	852.5	1,885,431.17	1,281,602.91	36.175589	-107.465782	
10,859.0	90.50	180.20	5,598.4	-5,355.8	852.6	1,885,369.17	1,281,602.24	36.175419	-107.465782	
10,922.0	90.90	180.80	5,597.6	-5,418.8	852.1	1,885,306.19	1,281,600.89	36.175246	-107.465784	
10,985.0	91.10	180.90	5,596.5	-5,481.7	851.1	1,885,243.23	1,281,599.17	36.175073	-107.465787	
11,048.0	91.50	181.70	5,595.1	-5,544.7	849.7	1,885,180.28	1,281,596.95	36.174900	-107.465792	
11,110.0	91.80	182.30	5,593.3	-5,606.6	847.5	1,885,118.38	1,281,594.01	36.174730	-107.465799	
11,173.0	91.10	181.10	5,591.7	-5,669.6	845.7	1,885,055.46	1,281,591.35	36.174557	-107.465805	
11,236.0	91.10	180.70	5,590.5	-5,732.6	844.7	1,884,992.49	1,281,589.57	36.174384	-107.465809	
11,299.0	91.10	180.50	5,589.3	-5,795.6	844.0	1,884,929.52	1,281,588.12	36.174211	-107.465811	
11,362.0	91.70	181.10	5,587.7	-5,858.5	843.1	1,884,866.56	1,281,586.45	36.174038	-107.465814	
11,424.0	90.40	180.00	5,586.6	-5,920.5	842.5	1,884,804.59	1,281,585.08	36.173868	-107.465816	
11,487.0	89.30	179.10	5,586.8	-5,983.5	843.0	1,884,741.59	1,281,584.78	36.173695	-107.465814	
11,550.0	89.80	179.20	5,587.3	-6,046.5	844.0	1,884,678.60	1,281,584.92	36.173522	-107.465811	
11,613.0	90.40	179.10	5,587.1	-6,109.5	844.9	1,884,615.60	1,281,585.07	36.173349	-107.465808	
11,676.0	90.00	178.80	5,586.9	-6,172.5	846.1	1,884,552.60	1,281,585.43	36.173176	-107.465804	
11,739.0	89.60	178.80	5,587.1	-6,235.5	847.4	1,884,489.60	1,281,585.96	36.173003	-107.465800	
11,802.0	90.00	178.90	5,587.4	-6,298.5	848.6	1,884,426.60	1,281,586.43	36.172830	-107.465795	
11,865.0	90.40	179.10	5,587.1	-6,361.4	849.7	1,884,363.60	1,281,586.74	36.172657	-107.465792	
11,927.0	91.10	179.10	5,586.3	-6,423.4	850.7	1,884,301.61	1,281,586.93	36.172487	-107.465788	
11,990.0	91.10	179.30	5,585.1	-6,486.4	851.6	1,884,238.62	1,281,587.02	36.172314	-107.465785	
12,053.0	91.20	179.10	5,583.9	-6,549.4	852.5	1,884,175.63	1,281,587.11	36.172141	-107.465782	
12,116.0	91.50	179.10	5,582.4	-6,612.4	853.5	1,884,112.65	1,281,587.31	36.171968	-107.465779	
12,178.0	91.80	179.10	5,580.6	-6,674.3	854.4	1,884,050.68	1,281,587.50	36.171797	-107.465776	
12,241.0	91.50	179.80	5,578.8	-6,737.3	855.0	1,883,987.70	1,281,587.32	36.171624	-107.465774	
12,304.0	91.00	180.30	5,577.4	-6,800.3	855.0	1,883,924.70	1,281,586.47	36.171451	-107.465774	
12,366.0	90.90	180.40	5,576.4	-6,862.3	854.6	1,883,862.72	1,281,585.31	36.171281	-107.465775	
12,429.0	90.60	179.80	5,575.5	-6,925.3	854.5	1,883,799.73	1,281,584.41	36.171108	-107.465776	
12,492.0	91.10	180.60	5,574.6	-6,988.3	854.3	1,883,736.75	1,281,583.40	36.170935	-107.465776	
12,555.0	90.70	180.10	5,573.6	-7,051.3	853.9	1,883,673.77	1,281,582.22	36.170762	-107.465778	
12,618.0	90.40	179.90	5,573.0	-7,114.3	853.9	1,883,610.78	1,281,581.43	36.170589	-107.465778	
12,681.0	91.30	180.60	5,572.1	-7,177.3	853.6	1,883,547.79	1,281,580.37	36.170416	-107.465779	
12,744.0	90.00	179.10	5,571.4	-7,240.3	853.8	1,883,484.80	1,281,579.74	36.170243	-107.465778	
12,807.0	90.00	178.70	5,571.4	-7,303.3	855.0	1,883,421.80	1,281,580.16	36.170070	-107.465774	
12,870.0	90.40	179.40	5,571.1	-7,366.2	856.0	1,883,358.80	1,281,580.41	36.169897	-107.465770	
12,933.0	90.90	178.00	5,570.4	-7,429.2	857.5	1,883,295.81	1,281,581.05	36.169724	-107.465766	
12,996.0	91.60	177.80	5,569.1	-7,492.2	859.8	1,883,232.85	1,281,582.57	36.169551	-107.465758	
13,059.0	89.30	178.90	5,568.6	-7,555.1	861.6	1,883,169.86	1,281,583.59	36.169378	-107.465752	
13,122.0	88.30	179.00	5,569.9	-7,618.1	862.7	1,883,106.88	1,281,583.95	36.169205	-107.465748	
13,184.0	88.90	178.90	5,571.4	-7,680.1	863.9	1,883,044.90	1,281,584.31	36.169035	-107.465744	
13,247.0	89.30	178.90	5,572.4	-7,743.1	865.1	1,882,981.91	1,281,584.73	36.168862	-107.465740	
13,310.0	89.40	178.70	5,573.1	-7,806.0	866.4	1,882,918.91	1,281,585.26	36.168689	-107.465735	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Well:	Lybrook P28-2306 02H	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
13,340.0	89.50	178.50	5,573.4	-7,836.0	867.1	1,882,888.94	1,281,585.61	36.168607	-107.465733
Last CES Survey @ 13,340' MD									
13,400.0	89.50	178.50	5,573.9	-7,896.0	868.7	1,882,828.95	1,281,586.43	36.168442	-107.465728
PTB @ 13,400'									

Design Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude
Lybrook P28-2306 02H	- Shape	0.00	0.00	5,564.4	-7,918.4	853.2	1,882,806.69	1,281,570.59	36.168380
- actual wellpath misses target center by 28.9ft at 13400.0ft MD (5573.9 TVD, -7896.0 N, 868.7 E)									
- Point									

Design Annotations									
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment					
		+N/-S (ft)	+E/-W (ft)						
13,340.0	5,573.4	-7,836.0	867.1	Last CES Survey @ 13,340' MD					
13,400.0	5,573.9	-7,896.0	868.7	PTB @ 13,400'					

Checked By: _____ Approved By: _____ Date: _____