

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

RCVD JUN 17 '13

OIL CONS. DIV.
DIST. 3

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-043-21126		*Pool Code 42289		*Pool Name LYBROOK GALLUP	
*Property Code 39271		*Property Name LYBROOK H32-2306			*Well Number 01H
*GRID No. 282327		*Operator Name ENCANA OIL & GAS (USA) INC.			*Elevation 7196'

10 Surface Location

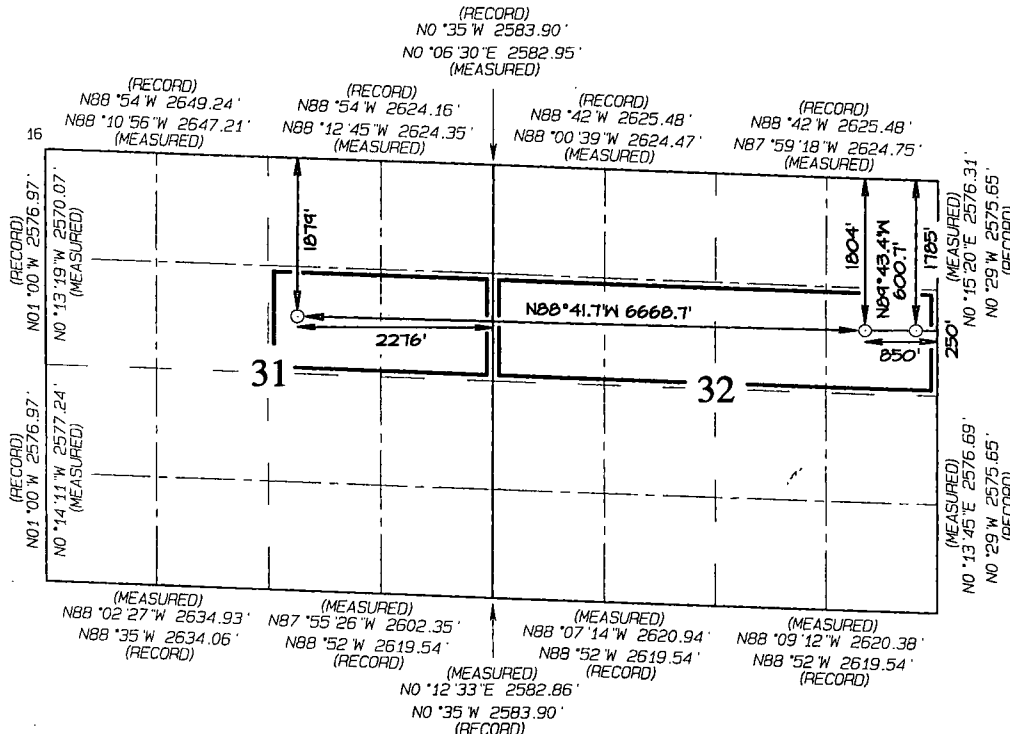
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	32	23N	6W		1785	NORTH	250	EAST	SANDOVAL

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	31	23N	6W		1879	NORTH	2276	EAST	SANDOVAL

12 Dedicated Acres 240 Acres		S/2 N/2 - Section 32 S/2 NE/4 - Section 31		13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE
BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



END-OF-LATERAL
1879' FNL 2276' FEL
SECTION 31, T23N, R6W
LAT: 36.18458°N
LONG: 107.50705°W
DATUM: NAD1927

LAT: 36.18459°N
LONG: 107.50766°W
DATUM: NAD1983

POINT-OF-ENTRY
1804' FNL 850' FEL
SECTION 32, T23N, R6W
LAT: 36.18440°N
LONG: 107.48446°W
DATUM: NAD1927

LAT: 36.18442°N
LONG: 107.48506°W
DATUM: NAD1983

SURFACE LOCATION
1785' FNL 250' FEL
SECTION 32, T23N, R6W
LAT: 36.18442°N
LONG: 107.48242°W
DATUM: NAD1927

LAT: 36.18443°N
LONG: 107.48303°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: Robynn Haden Date: 6/14/13
Printed Name: Robynn Haden
E-mail Address: robynn.haden@encana.com

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

Date Revised: MARCH 27, 2013
Survey Date: DECEMBER 31, 2011

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

DEVIATION SURVEYS

MD (Feet)	Inclination (Degree)
561	.80
867	.50
1233	.01
1541	.80
1856	.60
2171	.60
2486	.40
2801	.70
3115	.80
3430	.40
3745	.20
4060	.90
4376	.60
4690	.70
4953	1.00

OIL CONS. DIV DIST. 3
JUN 17 2013

OPERATOR CERTIFICATION

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


Robynn Haden, Engineering Technologist

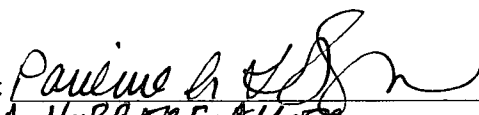
6/14/13
6/14/13

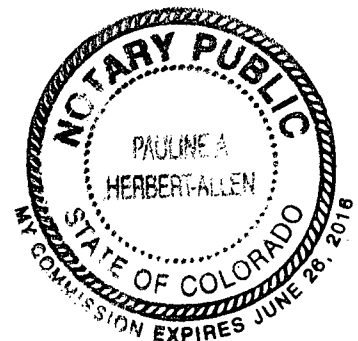
ACKNOWLEDGMENT

State of Colorado
City and County of Denver

This instrument was acknowledged before me on this 14th day of June, 2013 by Robynn Haden as Attorney in Fact of Encana Oil & Gas (USA) Inc., on behalf of said corporation.

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

Notary Public: 
PAULINE A. HERBERT-ALLEN
My Commission Expires: June 26, 2016





Cathedral Energy Services
Survey Report

OIL CONS. DIV DIST. 3

JUN 17 2013

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook H32-2306 01H
Project:	Sandoval County, NM	TVD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Site:	Lybrook	MD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Well:	Lybrook H32-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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 H32-2306 01H					
Well Position	+N/-S	0.0 ft	Northing:	1,888,713.73 ft	Latitude:	36.184430
	+E/-W	0.0 ft	Easting:	1,276,553.08 ft	Longitude:	-107.483030
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,196.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/23/2013	9.50	63.00	50,279

Design	Hz			
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	271.21

Survey Program		Date: 3/18/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
561.0	12,575.0	Survey #1 (Hz)	MWD	Geolink MWD

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
561.0	0.80	219.30	561.0	-3.0	-2.5	2.4	0.14	0.14	
622.0	0.50	219.90	622.0	-3.6	-2.9	2.8	0.49	-0.49	
683.0	0.40	203.70	683.0	-4.0	-3.2	3.1	0.26	-0.16	
775.0	0.50	198.10	775.0	-4.6	-3.4	3.3	0.12	0.11	
867.0	0.50	204.00	867.0	-5.4	-3.7	3.6	0.06	0.00	
958.0	0.30	204.10	958.0	-6.0	-4.0	3.9	0.22	-0.22	
1,050.0	0.01	99.50	1,050.0	-6.2	-4.1	3.9	0.33	-0.32	
1,110.0	0.04	323.50	1,110.0	-6.2	-4.1	3.9	0.08	0.05	
1,172.0	0.40	205.70	1,172.0	-6.4	-4.2	4.0	0.68	0.58	
1,233.0	0.01	99.50	1,233.0	-6.5	-4.3	4.1	0.66	-0.64	
1,294.0	0.60	28.05	1,294.0	-6.3	-4.1	4.0	0.98	0.97	
1,355.0	0.70	0.80	1,355.0	-5.6	-4.0	3.8	0.53	0.16	



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook H32-2306 01H
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Site:	Lybrook	MD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Well:	Lybrook H32-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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
1,416.0	0.90	0.70	1,416.0	-4.8	-3.9	3.8	0.33	0.33	
1,478.0	0.80	359.00	1,477.9	-3.8	-3.9	3.9	0.17	-0.16	
1,541.0	0.80	350.80	1,540.9	-3.0	-4.0	4.0	0.18	0.00	
1,604.0	0.70	340.10	1,603.9	-2.2	-4.2	4.2	0.27	-0.16	
1,667.0	0.90	314.80	1,666.9	-1.5	-4.7	4.7	0.64	0.32	
1,730.0	1.00	316.10	1,729.9	-0.7	-5.4	5.4	0.16	0.16	
1,793.0	0.40	335.50	1,792.9	-0.1	-5.9	5.9	1.01	-0.95	
1,856.0	0.60	99.50	1,855.9	0.0	-5.7	5.7	1.41	0.32	
1,919.0	1.00	130.50	1,918.9	-0.4	-4.9	4.9	0.91	0.63	
1,982.0	1.20	111.40	1,981.9	-1.0	-3.9	3.9	0.66	0.32	
2,045.0	0.80	120.20	2,044.9	-1.4	-2.9	2.9	0.68	-0.63	
2,108.0	0.40	124.50	2,107.9	-1.8	-2.3	2.3	0.64	-0.63	
2,171.0	0.60	138.10	2,170.9	-2.2	-1.9	1.9	0.37	0.32	
2,234.0	0.80	166.70	2,233.9	-2.8	-1.6	1.6	0.63	0.32	
2,297.0	0.70	160.80	2,296.9	-3.6	-1.4	1.3	0.20	-0.16	
2,360.0	0.30	108.20	2,359.9	-4.0	-1.1	1.0	0.90	-0.63	
2,423.0	0.40	134.00	2,422.9	-4.2	-0.8	0.7	0.29	0.16	
2,486.0	0.40	54.20	2,485.9	-4.3	-0.5	0.4	0.81	0.00	
2,549.0	0.30	32.00	2,548.9	-4.0	-0.2	0.1	0.26	-0.16	
2,611.0	0.40	114.70	2,610.9	-3.9	0.1	-0.2	0.76	0.16	
2,675.0	0.40	93.50	2,674.9	-4.1	0.5	-0.6	0.23	0.00	
2,738.0	0.60	99.50	2,737.9	-4.1	1.1	-1.1	0.33	0.32	
2,801.0	0.70	82.70	2,800.9	-4.1	1.8	-1.8	0.34	0.16	
2,863.0	0.10	78.20	2,862.9	-4.1	2.2	-2.3	0.97	-0.97	
2,926.0	0.00	0.00	2,925.9	-4.1	2.2	-2.3	0.16	-0.16	
2,989.0	0.20	196.10	2,988.9	-4.2	2.2	-2.3	0.32	0.32	
3,052.0	0.40	194.30	3,051.9	-4.5	2.1	-2.2	0.32	0.32	
3,115.0	0.80	187.00	3,114.9	-5.1	2.0	-2.1	0.65	0.63	
3,178.0	0.70	197.60	3,177.8	-5.9	1.9	-2.0	0.27	-0.16	
3,241.0	0.40	246.50	3,240.8	-6.4	1.5	-1.7	0.84	-0.48	
3,304.0	0.40	238.40	3,303.8	-6.6	1.1	-1.3	0.09	0.00	
3,367.0	0.20	140.70	3,366.8	-6.8	1.0	-1.2	0.75	-0.32	
3,430.0	0.40	132.00	3,429.8	-7.0	1.3	-1.4	0.32	0.32	
3,493.0	0.40	93.10	3,492.8	-7.2	1.6	-1.8	0.42	0.00	
3,556.0	0.70	32.40	3,555.8	-6.9	2.1	-2.2	0.97	0.48	
3,619.0	0.60	39.80	3,618.8	-6.3	2.5	-2.6	0.21	-0.16	
3,682.0	0.50	87.00	3,681.8	-6.0	3.0	-3.1	0.71	-0.16	
3,745.0	0.20	22.90	3,744.8	-5.9	3.3	-3.4	0.71	-0.48	
3,808.0	0.50	32.70	3,807.8	-5.6	3.5	-3.6	0.48	0.48	
3,871.0	0.80	93.80	3,870.8	-5.4	4.1	-4.2	1.13	0.48	
3,934.0	0.70	75.90	3,933.8	-5.3	4.9	-5.0	0.40	-0.16	
3,997.0	0.90	92.00	3,996.8	-5.2	5.7	-5.9	0.47	0.32	
4,060.0	0.90	76.40	4,059.8	-5.1	6.7	-6.8	0.39	0.00	
4,123.0	0.50	32.10	4,122.8	-4.8	7.3	-7.4	1.02	-0.63	
4,186.0	0.30	300.30	4,185.8	-4.5	7.4	-7.4	0.94	-0.32	
4,249.0	0.09	359.30	4,248.8	-4.3	7.2	-7.3	0.42	-0.33	
4,312.0	0.60	61.40	4,311.8	-4.1	7.5	-7.6	0.89	0.81	
4,376.0	0.60	62.10	4,375.8	-3.8	8.1	-8.2	0.01	0.00	
4,438.0	0.50	67.80	4,437.8	-3.6	8.6	-8.7	0.18	-0.16	
4,501.0	0.10	29.90	4,500.8	-3.4	8.9	-9.0	0.68	-0.63	
4,564.0	0.50	284.50	4,563.8	-3.3	8.7	-8.7	0.85	0.63	
4,627.0	0.70	287.60	4,626.8	-3.1	8.0	-8.1	0.32	0.32	
4,690.0	0.70	286.40	4,689.8	-2.9	7.3	-7.4	0.02	0.00	



Cathedral Energy Services

Survey Report

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Well:	Lybrook H32-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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
4,753.0	0.90	287.90	4,752.8	-2.6	6.5	-6.5	0.32	0.32	
4,816.0	0.70	274.80	4,815.8	-2.4	5.6	-5.7	0.43	-0.32	
4,909.0	0.40	267.10	4,908.8	-2.4	4.7	-4.8	0.33	-0.32	
4,922.0	0.50	279.00	4,921.8	-2.4	4.6	-4.7	1.05	0.77	
4,953.0	1.00	265.00	4,952.8	-2.4	4.2	-4.3	1.71	1.61	
4,985.0	3.70	273.10	4,984.7	-2.4	2.9	-3.0	8.48	8.44	
5,016.0	7.50	279.10	5,015.6	-2.0	-0.1	0.1	12.39	12.26	
5,047.0	11.00	280.00	5,046.2	-1.2	-5.0	5.0	11.30	11.29	
5,079.0	13.80	277.00	5,077.4	-0.2	-11.8	11.8	8.98	8.75	
5,110.0	16.20	273.60	5,107.4	0.6	-19.8	19.8	8.24	7.74	
5,142.0	19.20	272.00	5,137.8	1.0	-29.5	29.5	9.50	9.37	
5,173.0	22.10	271.50	5,166.9	1.4	-40.4	40.5	9.37	9.35	
5,205.0	24.60	271.00	5,196.2	1.6	-53.1	53.1	7.84	7.81	
5,236.0	27.30	269.90	5,224.1	1.7	-66.7	66.7	8.85	8.71	
5,268.0	29.50	268.30	5,252.2	1.5	-81.9	81.9	7.27	6.87	
5,299.0	32.40	266.50	5,278.8	0.7	-97.8	97.8	9.82	9.35	
5,330.0	35.10	267.00	5,304.6	-0.2	-115.0	115.0	8.76	8.71	
5,362.0	37.80	267.60	5,330.3	-1.1	-134.0	133.9	8.51	8.44	
5,394.0	40.80	266.80	5,355.1	-2.1	-154.2	154.2	9.51	9.37	
5,425.0	44.20	266.20	5,378.0	-3.4	-175.1	175.0	11.05	10.97	
5,457.0	47.70	267.70	5,400.2	-4.6	-198.1	198.0	11.44	10.94	
5,488.0	50.80	269.10	5,420.4	-5.3	-221.6	221.4	10.57	10.00	
5,519.0	53.40	269.80	5,439.5	-5.5	-246.0	245.9	8.57	8.39	
5,551.0	56.00	270.30	5,458.0	-5.5	-272.1	272.0	8.22	8.12	
5,582.0	58.40	270.40	5,474.8	-5.3	-298.2	298.0	7.75	7.74	
5,614.0	60.70	270.70	5,491.0	-5.0	-325.8	325.6	7.23	7.19	
5,645.0	63.70	271.20	5,505.4	-4.6	-353.2	353.0	9.78	9.68	
5,677.0	66.20	271.80	5,519.0	-3.8	-382.2	382.0	7.99	7.81	
5,708.0	67.90	271.60	5,531.1	-3.0	-410.7	410.6	5.52	5.48	
5,740.0	70.20	271.90	5,542.5	-2.1	-440.6	440.4	7.24	7.19	
5,772.0	72.90	272.30	5,552.6	-1.0	-470.9	470.8	8.52	8.44	
5,803.0	75.50	272.80	5,561.1	0.4	-500.7	500.6	8.53	8.39	
5,818.0	76.90	273.10	5,564.7	1.1	-515.3	515.2	9.53	9.33	
5,844.0	78.80	270.90	5,570.1	2.0	-540.7	540.6	11.04	7.31	
5,874.0	79.80	271.20	5,575.7	2.5	-570.1	570.0	3.48	3.33	
5,905.0	81.60	270.20	5,580.7	2.9	-600.7	600.6	6.62	5.81	
5,935.0	84.10	270.90	5,584.4	3.2	-630.5	630.4	8.65	8.33	
5,966.0	85.20	270.90	5,587.3	3.7	-661.3	661.3	3.55	3.55	
5,996.0	86.70	270.70	5,589.4	4.1	-691.3	691.2	5.04	5.00	
6,027.0	88.50	270.70	5,590.7	4.5	-722.2	722.2	5.81	5.81	
6,060.0	89.10	270.90	5,591.4	5.0	-755.2	755.2	1.92	1.82	
6,123.0	90.40	271.10	5,591.7	6.0	-818.2	818.1	2.09	2.06	
6,186.0	90.80	271.40	5,591.1	7.4	-881.2	881.1	0.79	0.63	
6,249.0	89.90	272.50	5,590.7	9.6	-944.1	944.1	2.26	-1.43	
6,311.0	90.70	271.80	5,590.3	11.9	-1,006.1	1,006.1	1.71	1.29	
6,375.0	90.50	271.80	5,589.7	13.9	-1,070.1	1,070.1	0.31	-0.31	
6,437.0	90.30	271.40	5,589.2	15.6	-1,132.0	1,132.1	0.72	-0.32	
6,501.0	90.10	272.00	5,589.0	17.5	-1,196.0	1,196.1	0.99	-0.31	
6,564.0	90.90	272.00	5,588.5	19.7	-1,259.0	1,259.1	1.27	1.27	
6,627.0	90.40	272.20	5,587.8	22.0	-1,321.9	1,322.1	0.85	-0.79	
6,690.0	90.30	272.50	5,587.4	24.6	-1,384.9	1,385.1	0.50	-0.16	
6,753.0	90.00	272.00	5,587.2	27.1	-1,447.8	1,448.1	0.93	-0.48	
6,816.0	90.40	270.40	5,587.0	28.4	-1,510.8	1,511.1	2.62	0.63	



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook H32-2306 01H
Project:	Sandoval County, NM	TVD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Site:	Lybrook	MD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Well:	Lybrook H32-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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
6,879.0	90.00	270.60	5,586.8	29.0	-1,573.8	1,574.1	0.71	-0.63	
6,942.0	90.00	270.70	5,586.8	29.7	-1,636.8	1,637.1	0.16	0.00	
7,005.0	90.70	270.60	5,586.4	30.4	-1,699.8	1,700.1	1.12	1.11	
7,068.0	90.30	270.10	5,585.8	30.8	-1,762.8	1,763.0	1.02	-0.63	
7,131.0	90.40	269.90	5,585.4	30.8	-1,825.8	1,826.0	0.35	0.16	
7,194.0	90.70	270.80	5,584.8	31.2	-1,888.8	1,889.0	1.51	0.48	
7,257.0	90.00	271.30	5,584.5	32.3	-1,951.8	1,952.0	1.37	-1.11	
7,320.0	90.10	270.80	5,584.4	33.5	-2,014.8	2,015.0	0.81	0.16	
7,383.0	90.30	270.90	5,584.2	34.4	-2,077.7	2,078.0	0.35	0.32	
7,447.0	90.60	271.20	5,583.7	35.6	-2,141.7	2,142.0	0.66	0.47	
7,510.0	90.50	271.60	5,583.1	37.1	-2,204.7	2,205.0	0.65	-0.16	
7,573.0	89.00	272.00	5,583.3	39.1	-2,267.7	2,268.0	2.46	-2.38	
7,636.0	89.90	271.80	5,583.9	41.2	-2,330.6	2,331.0	1.46	1.43	
7,699.0	91.10	271.20	5,583.4	42.8	-2,393.6	2,394.0	2.13	1.90	
7,762.0	90.60	271.30	5,582.5	44.2	-2,456.6	2,457.0	0.81	-0.79	
7,825.0	90.00	271.30	5,582.1	45.6	-2,519.6	2,520.0	0.95	-0.95	
7,888.0	90.80	271.30	5,581.7	47.1	-2,582.6	2,583.0	1.27	1.27	
7,950.0	90.50	272.10	5,581.0	48.9	-2,644.5	2,645.0	1.38	-0.48	
8,013.0	89.20	272.30	5,581.2	51.3	-2,707.5	2,708.0	2.09	-2.06	
8,076.0	90.20	272.00	5,581.5	53.7	-2,770.4	2,770.9	1.66	1.59	
8,139.0	91.00	272.00	5,580.8	55.9	-2,833.4	2,833.9	1.27	1.27	
8,202.0	90.70	271.90	5,579.9	58.0	-2,896.3	2,896.9	0.50	-0.48	
8,266.0	90.30	271.80	5,579.3	60.1	-2,960.3	2,960.9	0.64	-0.62	
8,328.0	90.50	271.80	5,578.9	62.0	-3,022.3	3,022.9	0.32	0.32	
8,391.0	90.60	271.70	5,578.3	64.0	-3,085.2	3,085.9	0.22	0.16	
8,454.0	90.10	271.90	5,577.9	65.9	-3,148.2	3,148.9	0.85	-0.79	
8,517.0	90.40	271.80	5,577.6	68.0	-3,211.2	3,211.9	0.50	0.48	
8,580.0	90.40	271.20	5,577.2	69.6	-3,274.2	3,274.9	0.95	0.00	
8,643.0	90.20	270.50	5,576.9	70.6	-3,337.2	3,337.9	1.16	-0.32	
8,706.0	89.80	270.80	5,576.9	71.3	-3,400.1	3,400.9	0.79	-0.63	
8,769.0	90.60	270.50	5,576.6	72.0	-3,463.1	3,463.9	1.36	1.27	
8,832.0	90.40	270.50	5,576.1	72.5	-3,526.1	3,526.9	0.32	-0.32	
8,899.0	90.30	270.50	5,575.7	73.1	-3,593.1	3,593.9	0.15	-0.15	
8,960.0	91.20	270.20	5,574.9	73.5	-3,654.1	3,654.9	1.56	1.48	
9,021.0	91.10	270.50	5,573.7	73.9	-3,715.1	3,715.8	0.52	-0.16	
9,084.0	90.30	271.20	5,572.9	74.8	-3,778.1	3,778.8	1.69	-1.27	
9,147.0	90.60	270.80	5,572.4	75.9	-3,841.1	3,841.8	0.79	0.48	
9,210.0	90.70	271.00	5,571.7	76.9	-3,904.1	3,904.8	0.35	0.16	
9,273.0	90.60	271.40	5,571.0	78.2	-3,967.1	3,967.8	0.65	-0.16	
9,336.0	90.20	271.90	5,570.5	80.0	-4,030.0	4,030.8	1.02	-0.63	
9,399.0	90.80	271.40	5,570.0	81.8	-4,093.0	4,093.8	1.24	0.95	
9,462.0	90.30	271.80	5,569.4	83.6	-4,156.0	4,156.8	1.02	-0.79	
9,525.0	90.40	271.20	5,569.0	85.3	-4,218.9	4,219.8	0.97	0.16	
9,588.0	90.00	271.30	5,568.8	86.6	-4,281.9	4,282.8	0.65	-0.63	
9,651.0	90.70	271.20	5,568.4	88.0	-4,344.9	4,345.8	1.12	1.11	
9,714.0	91.10	270.10	5,567.4	88.7	-4,407.9	4,408.8	1.86	0.63	
9,777.0	90.00	271.00	5,566.8	89.3	-4,470.9	4,471.8	2.26	-1.75	
9,840.0	90.70	269.80	5,566.4	89.8	-4,533.9	4,534.8	2.21	1.11	
9,903.0	90.60	270.40	5,565.7	89.9	-4,596.9	4,597.8	0.97	-0.16	
9,967.0	90.20	271.30	5,565.2	90.8	-4,660.9	4,661.8	1.54	-0.62	
10,030.0	90.80	271.40	5,564.7	92.3	-4,723.9	4,724.8	0.97	0.95	
10,093.0	91.40	271.90	5,563.5	94.1	-4,786.8	4,787.7	1.24	0.95	
10,156.0	90.50	272.50	5,562.4	96.5	-4,849.8	4,850.7	1.72	-1.43	



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook H32-2306 01H
Project:	Sandoval County, NM	TVD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Site:	Lybrook	MD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Well:	Lybrook H32-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
10,219.0	89.40	272.80	5,562.5	99.4	-4,912.7	4,913.7	1.81	-1.75	
10,282.0	90.10	272.60	5,562.8	102.4	-4,975.6	4,976.7	1.16	1.11	
10,345.0	89.70	272.80	5,562.9	105.4	-5,038.6	5,039.7	0.71	-0.63	
10,408.0	89.70	272.00	5,563.2	108.0	-5,101.5	5,102.6	1.27	0.00	
10,471.0	90.60	271.60	5,563.0	110.0	-5,164.5	5,165.6	1.56	1.43	
10,534.0	90.40	271.20	5,562.5	111.5	-5,227.4	5,228.6	0.71	-0.32	
10,597.0	90.00	271.30	5,562.3	112.9	-5,290.4	5,291.6	0.65	-0.63	
10,660.0	90.00	270.90	5,562.3	114.1	-5,353.4	5,354.6	0.63	0.00	
10,723.0	90.20	271.20	5,562.2	115.3	-5,416.4	5,417.6	0.57	0.32	
10,786.0	90.20	271.10	5,561.9	116.5	-5,479.4	5,480.6	0.16	0.00	
10,849.0	90.20	270.90	5,561.7	117.6	-5,542.4	5,543.6	0.32	0.00	
10,912.0	90.40	270.90	5,561.4	118.6	-5,605.4	5,606.6	0.32	0.32	
10,975.0	90.10	271.00	5,561.1	119.7	-5,668.4	5,669.6	0.50	-0.48	
11,038.0	90.10	271.20	5,561.0	120.9	-5,731.4	5,732.6	0.32	0.00	
11,101.0	90.00	271.20	5,561.0	122.2	-5,794.3	5,795.6	0.16	-0.16	
11,163.0	89.80	271.60	5,561.1	123.7	-5,856.3	5,857.6	0.72	-0.32	
11,226.0	90.80	271.40	5,560.7	125.4	-5,919.3	5,920.6	1.62	1.59	
11,289.0	91.10	271.30	5,559.7	126.9	-5,982.3	5,983.6	0.50	0.48	
11,352.0	90.60	271.90	5,558.8	128.6	-6,045.2	6,046.6	1.24	-0.79	
11,415.0	90.10	272.90	5,558.4	131.3	-6,108.2	6,109.6	1.77	-0.79	
11,478.0	90.00	273.40	5,558.3	134.7	-6,171.1	6,172.6	0.81	-0.16	
11,541.0	90.80	273.00	5,557.9	138.2	-6,234.0	6,235.5	1.42	1.27	
11,604.0	90.90	272.50	5,556.9	141.3	-6,296.9	6,298.5	0.81	0.16	
11,667.0	89.80	272.00	5,556.6	143.7	-6,359.9	6,361.5	1.92	-1.75	
11,730.0	88.90	271.90	5,557.3	145.9	-6,422.8	6,424.5	1.44	-1.43	
11,793.0	89.60	270.90	5,558.1	147.4	-6,485.8	6,487.5	1.94	1.11	
11,856.0	90.00	270.40	5,558.3	148.1	-6,548.8	6,550.5	1.02	0.63	
11,919.0	90.40	270.40	5,558.1	148.6	-6,611.8	6,613.4	0.63	0.63	
11,982.0	90.50	270.40	5,557.6	149.0	-6,674.8	6,676.4	0.16	0.16	
12,045.0	90.00	270.40	5,557.3	149.4	-6,737.8	6,739.4	0.79	-0.79	
12,108.0	90.10	270.20	5,557.3	149.8	-6,800.8	6,802.4	0.35	0.16	
12,172.0	90.40	271.10	5,557.0	150.5	-6,864.8	6,866.4	1.48	0.47	
12,235.0	90.70	270.50	5,556.4	151.4	-6,927.8	6,929.4	1.06	0.48	
12,298.0	90.20	271.00	5,555.9	152.2	-6,990.8	6,992.4	1.12	-0.79	
12,361.0	90.00	271.00	5,555.8	153.3	-7,053.7	7,055.4	0.32	-0.32	
12,424.0	90.40	270.40	5,555.6	154.1	-7,116.7	7,118.4	1.14	0.63	
12,487.0	91.10	269.20	5,554.7	153.9	-7,179.7	7,181.4	2.20	1.11	
12,525.0	91.60	268.60	5,553.8	153.1	-7,217.7	7,219.3	2.05	1.32	Last Cathedral Survey @ 12525' MD
12,575.0	91.60	268.60	5,552.4	151.9	-7,267.7	7,269.3	0.00	0.00	Projection to Bit @ 12575' MD



Cathedral Energy Services
Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook H32-2306 01H
Project:	Sandoval County, NM	TVD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Site:	Lybrook	MD Reference:	KB=13' @ 7209.0ft (Aztec 222)
Well:	Lybrook H32-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	Hz	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 H32-2306 01H I - survey misses target center by 11.5ft at 12575.0ft MD (5552.4 TVD, 151.9 N, -7267.7 E) - Point	0.00	0.00	5,547.9	153.8	-7,278.1	1,888,960.03	1,269,277.55	36.184850	-107.507690
Lybrook H32-2306 01H I - survey misses target center by 18.0ft at 12575.0ft MD (5552.4 TVD, 151.9 N, -7267.7 E) - Point	0.00	0.00	5,537.9	153.8	-7,278.1	1,888,960.03	1,269,277.55	36.184850	-107.507690
Lybrook H32-2306 01H I - survey misses target center by 11.3ft at 5880.9ft MD (5576.9 TVD, 2.7 N, -576.9 E) - Point	0.00	0.00	5,583.0	12.2	-575.8	1,888,733.22	1,275,977.48	36.184463	-107.484981

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,525.0	5,553.8	153.1	-7,217.7	Last Cathedral Survey @ 12525' MD
12,575.0	5,552.4	151.9	-7,267.7	Projection to Bit @ 12575' MD

Checked By: _____ Approved By: _____ Date: _____