

CONFIDENTIAL

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 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 30-043-21125	*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code 39270	*Property Name LYBROOK I32-2306	*Well Number 02H
*OGRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.	*Elevation 7103'

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
I	32	23N	6W		1298	SOUTH	358	EAST	SANDOVAL

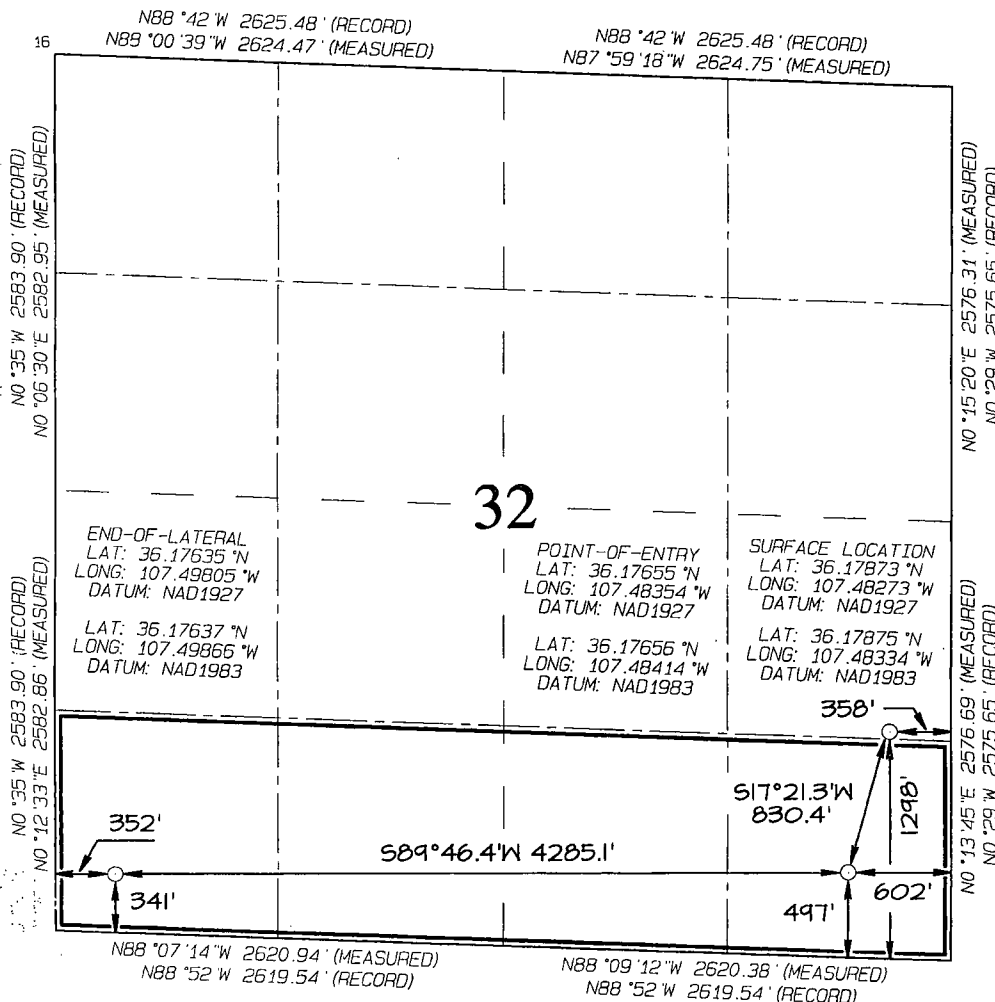
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	32	23N	6W		341	SOUTH	352	WEST	SANDOVAL

¹² Dedicated Acres 160.0 Acres - (S/2 S/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. RCVD JUN 6 '13 OIL CONS. DIV.
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DIST. 3

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



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: 5/6/13

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: MAY 2, 2013
Date of Survey: MARCH 30, 2012

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
15269

JASON C. EDWARDS
Certificate Number 15269

PC

DEVIATION SURVEYS

MD (Feet)	Inclination (Degree)
560	.10
804	.20
1110	.10
1415	.30
1729	.10
2044	1.00
2360	.40
2675	.40
2990	1.10
3305	.40
3620	1.00
3935	.40
4250	.70
4566	.60

RCVD JUN 6 '13
OIL CONS. DIV.
DIST. 3

CONFIDENTIAL

OPERATOR CERTIFICATION

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

Robynn Haden
Robynn Haden, Engineering Technologist

6/4/13
6/4/13

ACKNOWLEDGMENT

State of Colorado
City and County of Denver

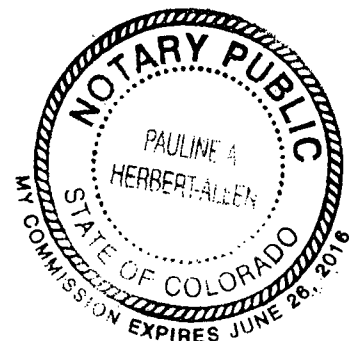
This instrument was acknowledged before me on this 4th day of June, 2013 by Robynn Haden as Attorney in Fact of Encana Oil & Gas (USA) Inc., on behalf of said corporation.

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

Notary Public: PAULINE A. HERBERT-ALLEN

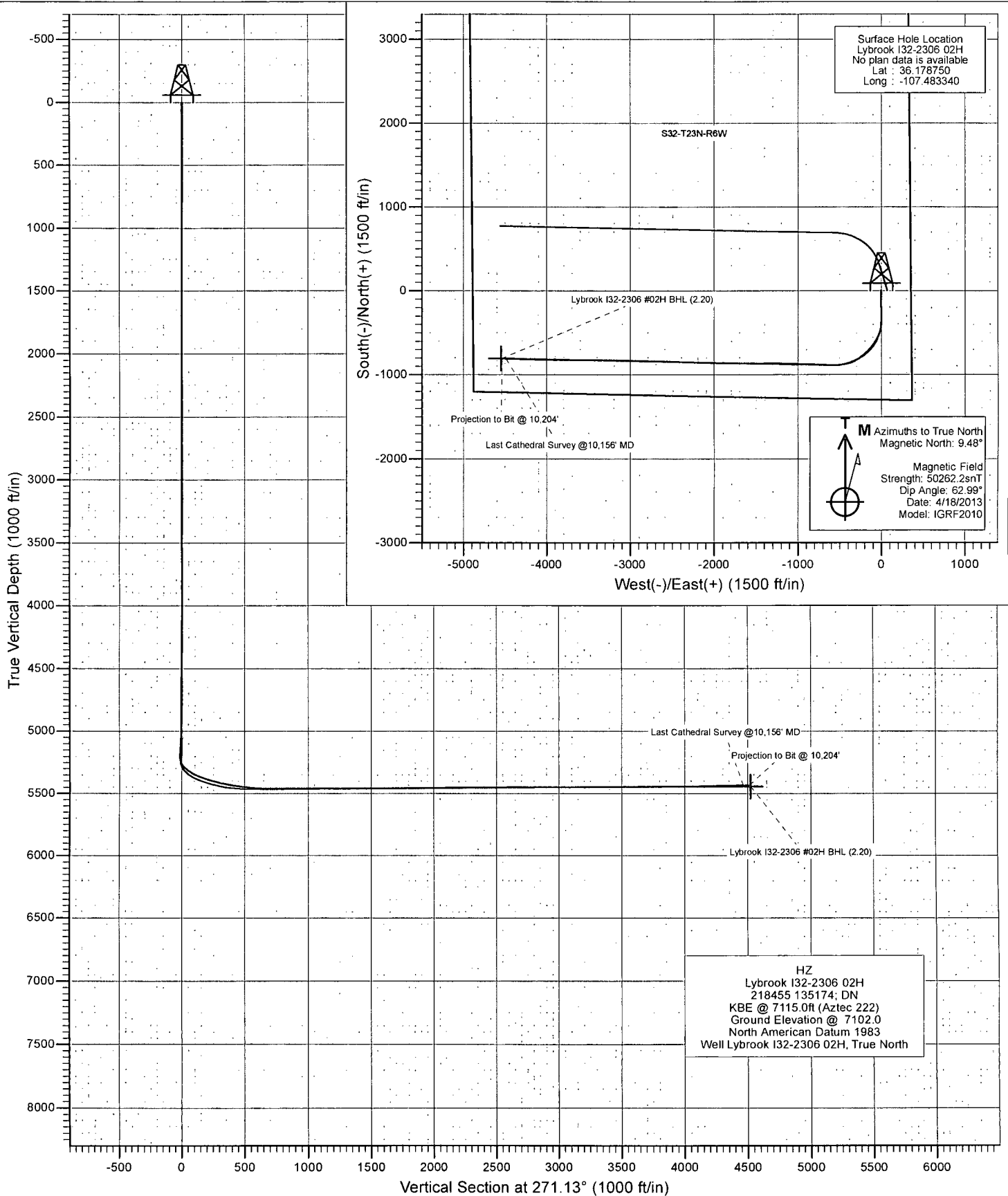
My Commission Expires: JUNE 26, 2016

Pauline A. Herbert-Allen



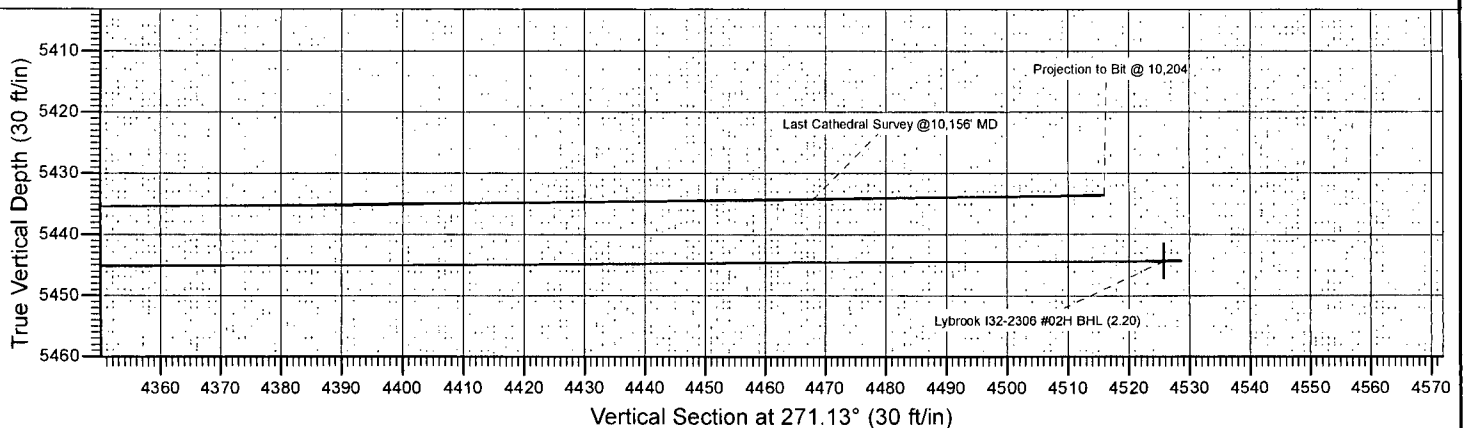
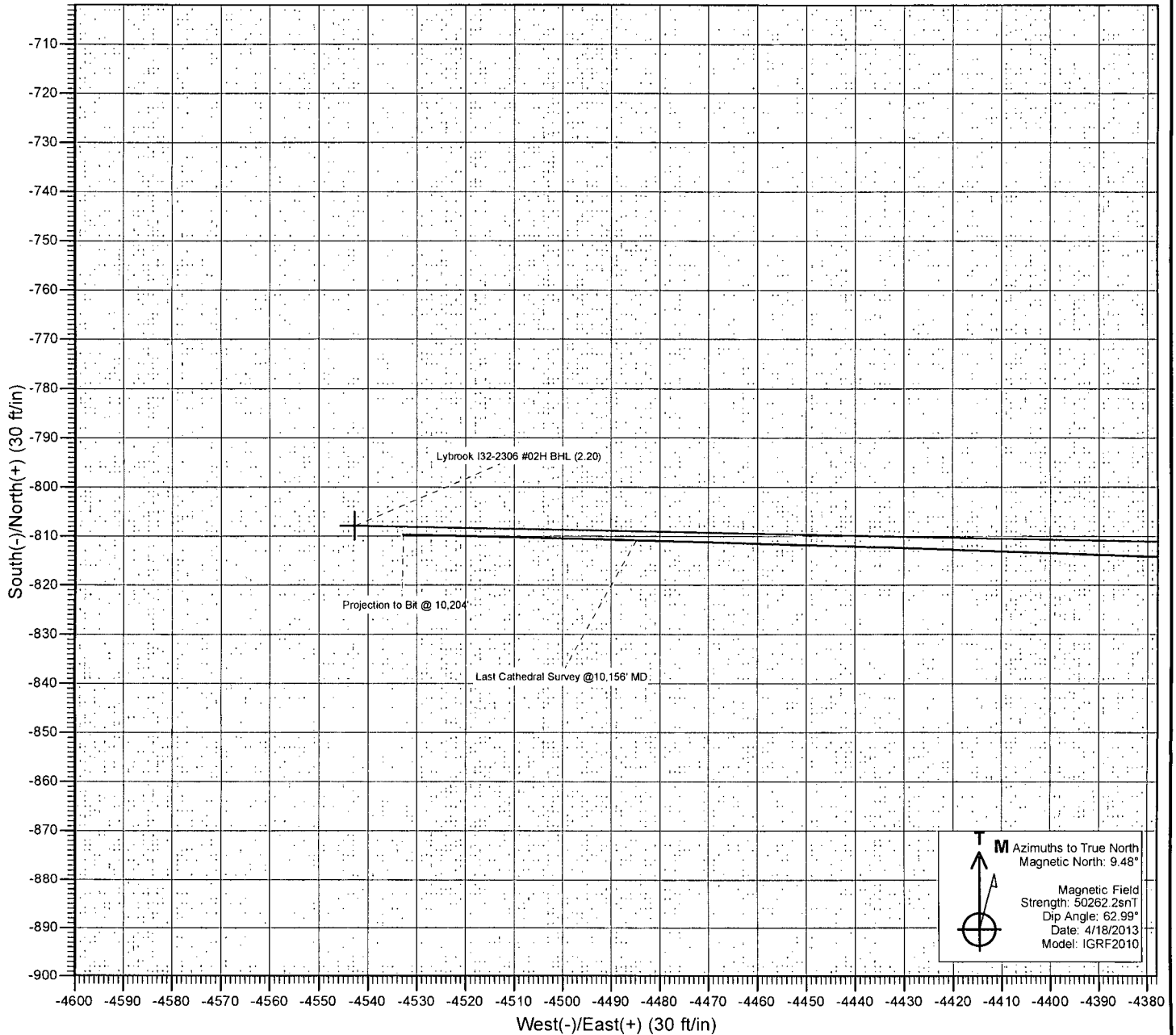


Project: Sandoval County, NM
 Site: Lybrook
 Well: Lybrook I32-2306 02H
 Wellbore: HZ
 Design: FINAL





Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook I32-2306 02H
Wellbore: HZ
Design: FINAL



Cathedral Energy Services

CONFIDENTIAL

Survey Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Site: Lybrook
 Well: Lybrook I32-2306 02H
 Wellbore: HZ
 Design: HZ

Local Co-ordinate Reference: Well Lybrook I32-2306 02H
 TVD Reference: KBE @ 7115.0ft (Aztec 222)
 MD Reference: KBE @ 7115.0ft (Aztec 222)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: USA EDM 5000 Multi Users DB

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

System Datum: Mean Sea Level

Site: Lybrook

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

Well: Lybrook I32-2306 02H

Well Position: +N/-S 0.0 ft Northing: 1,886,647.14 ft Latitude: 36.178750
 +E/-W 0.0 ft Easting: 1,276,435.31 ft Longitude: -107.483340
 Position Uncertainty: 0.0 ft Wellhead Elevation: ft Ground Level: 7,102.0 ft

Wellbore: HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/18/2013	9.48	62.99	50,262

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 0.0 271.13

Survey Program Date 4/29/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
560.0	10,204.0	Survey #1 (HZ)	MWD	Geolink MWD

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
560.0	0.10	2.30	560.0	0.5	0.0	0.0	0.02	0.02	
622.0	0.10	87.90	622.0	0.5	0.1	-0.1	0.22	0.00	
682.0	0.30	36.60	682.0	0.7	0.2	-0.2	0.42	0.33	
744.0	0.20	232.60	744.0	0.7	0.2	-0.2	0.80	-0.16	
804.0	0.20	47.40	804.0	0.7	0.2	-0.2	0.67	0.00	
865.0	0.20	231.30	865.0	0.7	0.2	-0.2	0.66	0.00	
926.0	0.20	211.00	926.0	0.6	0.1	-0.1	0.12	0.00	
987.0	0.10	147.00	987.0	0.5	0.1	0.0	0.30	-0.16	
1,048.0	0.20	154.10	1,048.0	0.3	0.1	-0.1	0.17	0.16	
1,110.0	0.10	279.50	1,110.0	0.2	0.1	-0.1	0.44	-0.16	
1,171.0	0.40	204.40	1,171.0	0.0	0.0	0.0	0.63	0.49	
1,232.0	0.30	152.40	1,232.0	-0.3	0.0	0.0	0.52	-0.16	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook I32-2306 02H
Wellbore: HZ
Design: HZ

Local Co-ordinate Reference: Well Lybrook I32-2306 02H
TVD Reference: KBE @ 7115.0ft (Aztec 222)
MD Reference: KBE @ 7115.0ft (Aztec 222)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,293.0	0.20	265.80	1,293.0	-0.4	-0.1	0.1	0.69	-0.16	
1,354.0	0.40	164.90	1,354.0	-0.7	-0.1	0.1	0.79	0.33	
1,415.0	0.30	138.40	1,415.0	-1.0	0.1	-0.1	0.31	-0.16	
1,477.0	0.20	229.00	1,477.0	-1.2	0.1	-0.1	0.58	-0.16	
1,540.0	0.10	252.60	1,540.0	-1.3	-0.1	0.0	0.18	-0.16	
1,603.0	0.30	46.60	1,603.0	-1.2	0.0	0.0	0.62	0.32	
1,666.0	0.40	126.00	1,666.0	-1.2	0.3	-0.3	0.72	0.16	
1,729.0	0.10	234.70	1,729.0	-1.3	0.4	-0.5	0.70	-0.48	
1,792.0	0.20	339.40	1,792.0	-1.3	0.4	-0.4	0.39	0.16	
1,855.0	0.20	268.90	1,855.0	-1.2	0.2	-0.2	0.37	0.00	
1,918.0	0.50	266.40	1,918.0	-1.2	-0.2	0.2	0.48	0.48	
1,981.0	0.70	335.20	1,981.0	-0.9	-0.6	0.6	1.11	0.32	
2,044.0	1.00	20.20	2,044.0	0.0	-0.6	0.6	1.12	0.48	
2,107.0	0.90	352.20	2,107.0	1.0	-0.5	0.5	0.75	-0.16	
2,171.0	0.60	358.50	2,171.0	1.8	-0.5	0.6	0.49	-0.47	
2,234.0	0.70	343.00	2,234.0	2.5	-0.7	0.7	0.32	0.16	
2,297.0	0.80	357.80	2,297.0	3.4	-0.8	0.9	0.34	0.16	
2,360.0	0.40	30.10	2,360.0	4.0	-0.7	0.8	0.81	-0.63	
2,423.0	0.50	354.70	2,423.0	4.4	-0.6	0.7	0.46	0.16	
2,486.0	0.80	99.60	2,486.0	4.6	-0.2	0.3	1.66	0.48	
2,549.0	0.80	123.00	2,548.9	4.3	0.6	-0.5	0.51	0.00	
2,612.0	0.40	89.50	2,611.9	4.1	1.2	-1.1	0.82	-0.63	
2,675.0	0.40	126.70	2,674.9	4.0	1.6	-1.5	0.41	0.00	
2,738.0	0.60	157.20	2,737.9	3.5	1.9	-1.8	0.52	0.32	
2,801.0	0.80	143.60	2,800.9	2.9	2.3	-2.2	0.41	0.32	
2,864.0	1.00	186.40	2,863.9	2.0	2.5	-2.4	1.08	0.32	
2,927.0	1.30	195.60	2,926.9	0.7	2.2	-2.2	0.56	0.48	
2,990.0	1.10	191.50	2,989.9	-0.5	1.9	-1.9	0.35	-0.32	
3,053.0	1.10	180.70	3,052.9	-1.7	1.8	-1.8	0.33	0.00	
3,116.0	0.80	187.90	3,115.9	-2.8	1.7	-1.8	0.51	-0.48	
3,179.0	1.00	199.10	3,178.9	-3.7	1.5	-1.5	0.42	0.32	
3,242.0	0.30	212.30	3,241.9	-4.4	1.2	-1.3	1.13	-1.11	
3,305.0	0.40	212.40	3,304.9	-4.7	1.0	-1.1	0.16	0.16	
3,368.0	0.60	313.50	3,367.9	-4.7	0.6	-0.7	1.24	0.32	
3,431.0	0.90	343.70	3,430.9	-4.0	0.3	-0.3	0.77	0.48	
3,494.0	1.10	317.20	3,493.8	-3.1	-0.3	0.2	0.79	0.32	
3,557.0	1.00	329.20	3,556.8	-2.1	-1.0	0.9	0.38	-0.16	
3,620.0	1.00	338.80	3,619.8	-1.2	-1.5	1.4	0.27	0.00	
3,683.0	1.20	334.30	3,682.8	-0.1	-1.9	1.9	0.35	0.32	
3,746.0	0.10	17.90	3,745.8	0.6	-2.2	2.2	1.79	-1.75	
3,809.0	0.10	128.50	3,808.8	0.6	-2.1	2.2	0.26	0.00	
3,872.0	0.40	302.30	3,871.8	0.7	-2.3	2.3	0.79	0.48	
3,935.0	0.40	339.20	3,934.8	1.0	-2.6	2.6	0.40	0.00	
3,998.0	0.40	299.40	3,997.8	1.3	-2.8	2.9	0.43	0.00	
4,061.0	0.20	91.40	4,060.8	1.4	-2.9	2.9	0.93	-0.32	
4,124.0	0.70	139.90	4,123.8	1.1	-2.6	2.6	0.93	0.79	
4,187.0	0.60	130.60	4,186.8	0.6	-2.1	2.1	0.23	-0.16	
4,250.0	0.70	111.40	4,249.8	0.3	-1.4	1.4	0.38	0.16	
4,313.0	0.60	139.90	4,312.8	-0.1	-0.9	0.9	0.53	-0.16	
4,376.0	0.70	109.00	4,375.8	-0.5	-0.3	0.3	0.57	0.16	
4,439.0	0.30	147.00	4,438.8	-0.8	0.2	-0.2	0.79	-0.63	
4,502.0	0.70	129.40	4,501.8	-1.1	0.5	-0.6	0.67	0.63	
4,566.0	0.60	163.30	4,565.8	-1.7	0.9	-1.0	0.61	-0.16	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook I32-2306 02H
Wellbore: HZ
Design: HZ

Local Co-ordinate Reference: Well Lybrook I32-2306 02H
TVD Reference: KBE @ 7115.0ft (Aztec 222)
MD Reference: KBE @ 7115.0ft (Aztec 222)
North Reference: True
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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
4,605.0	0.90	147.20	4,604.8	-2.2	1.2	-1.2	0.93	0.77	
4,642.0	0.70	178.90	4,641.8	-2.6	1.3	-1.4	1.29	-0.54	
4,673.0	4.10	178.30	4,672.7	-3.9	1.4	-1.4	10.97	10.97	
4,705.0	9.00	176.40	4,704.5	-7.6	1.6	-1.7	15.33	15.31	
4,736.0	15.00	178.40	4,734.8	-14.0	1.8	-2.1	19.40	19.35	
4,768.0	18.30	181.40	4,765.5	-23.2	1.8	-2.3	10.65	10.31	
4,799.0	20.20	183.30	4,794.8	-33.4	1.4	-2.0	6.45	6.13	
4,831.0	21.50	181.50	4,824.7	-44.8	0.9	-1.8	4.53	4.06	
4,862.0	23.60	181.80	4,853.3	-56.6	0.6	-1.7	6.78	6.77	
4,894.0	26.80	179.50	4,882.2	-70.3	0.4	-1.8	10.46	10.00	
4,925.0	28.30	180.30	4,909.7	-84.6	0.5	-2.1	4.98	4.84	
4,957.0	29.00	179.70	4,937.8	-99.9	0.5	-2.4	2.36	2.19	
4,988.0	28.00	180.20	4,965.0	-114.7	0.5	-2.7	3.32	-3.23	
5,020.0	29.80	180.50	4,993.1	-130.2	0.4	-2.9	5.64	5.62	
5,051.0	33.60	180.40	5,019.4	-146.5	0.2	-3.1	12.26	12.26	
5,083.0	38.30	179.70	5,045.3	-165.3	0.2	-3.5	14.74	14.69	
5,114.0	41.70	178.60	5,069.1	-185.2	0.5	-4.2	11.20	10.97	
5,146.0	44.20	177.10	5,092.5	-207.0	1.4	-5.4	8.44	7.81	
5,177.0	47.00	177.50	5,114.2	-229.1	2.4	-6.9	9.08	9.03	
5,209.0	49.70	177.40	5,135.4	-253.0	3.5	-8.5	8.44	8.44	
5,240.0	53.20	178.70	5,154.8	-277.2	4.3	-9.8	11.76	11.29	
5,272.0	57.30	179.30	5,173.0	-303.5	4.7	-10.7	12.90	12.81	
5,303.0	59.60	178.60	5,189.2	-329.9	5.2	-11.7	7.66	7.42	
5,335.0	60.80	181.40	5,205.1	-357.7	5.2	-12.3	8.47	3.75	
5,366.0	62.00	184.80	5,220.0	-384.8	3.8	-11.3	10.38	3.87	
5,398.0	63.00	187.80	5,234.7	-413.0	0.6	-8.8	8.88	3.12	
5,429.0	64.60	191.80	5,248.4	-440.4	-4.1	-4.6	12.67	5.16	
5,461.0	65.60	194.20	5,261.9	-468.7	-10.6	1.4	7.49	3.12	
5,492.0	66.50	197.80	5,274.5	-495.9	-18.4	8.7	11.00	2.90	
5,524.0	67.50	202.50	5,287.0	-523.6	-28.6	18.3	13.88	3.12	
5,555.0	69.00	206.60	5,298.5	-549.8	-40.6	29.7	13.20	4.84	
5,587.0	69.90	208.60	5,309.7	-576.3	-54.4	43.1	6.49	2.81	
5,618.0	71.00	211.90	5,320.1	-601.5	-69.2	57.3	10.64	3.55	
5,650.0	71.90	214.40	5,330.3	-626.9	-85.7	73.4	7.92	2.81	
5,681.0	72.60	217.90	5,339.7	-650.8	-103.2	90.3	10.99	2.26	
5,713.0	72.90	220.60	5,349.2	-674.4	-122.5	109.2	8.11	0.94	
5,744.0	74.20	222.70	5,358.0	-696.7	-142.3	128.5	7.73	4.19	
5,776.0	74.40	224.70	5,366.7	-718.9	-163.5	149.3	6.05	0.62	
5,807.0	74.90	226.80	5,374.9	-739.8	-184.9	170.3	6.73	1.61	
5,812.0	75.10	227.70	5,376.2	-743.1	-188.5	173.8	17.84	4.00	
5,820.0	75.50	227.00	5,378.2	-748.3	-194.2	179.4	9.83	5.00	
5,851.0	75.60	229.70	5,385.9	-768.2	-216.6	201.4	8.44	0.32	
5,881.0	75.90	232.60	5,393.3	-786.5	-239.3	223.7	9.42	1.00	
5,913.0	78.10	235.40	5,400.5	-804.8	-264.5	248.6	10.95	6.87	
5,944.0	78.30	238.80	5,406.9	-821.3	-290.0	273.7	10.76	0.65	
5,975.0	78.80	242.90	5,413.0	-836.1	-316.5	299.9	13.06	1.61	
6,007.0	79.10	247.70	5,419.2	-849.2	-345.0	328.2	14.75	0.94	
6,038.0	79.40	252.30	5,424.9	-859.6	-373.6	356.6	14.61	0.97	
6,070.0	80.00	255.70	5,430.7	-868.3	-403.9	386.7	10.62	1.87	
6,101.0	80.90	257.90	5,435.8	-875.3	-433.6	416.3	7.58	2.90	
6,133.0	81.30	261.60	5,440.8	-880.9	-464.7	447.3	11.49	1.25	
6,164.0	82.40	265.20	5,445.2	-884.4	-495.2	477.7	12.03	3.55	
6,196.0	82.80	267.60	5,449.3	-886.4	-526.9	509.3	7.54	1.25	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook I32-2306 02H
Wellbore: HZ
Design: HZ

Local Co-ordinate Reference: Well Lybrook I32-2306 02H
TVD Reference: KBE @ 7115.0ft (Aztec 222)
MD Reference: KBE @ 7115.0ft (Aztec 222)
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
6,227.0	83.50	270.50	5,453.0	-886.9	-557.7	540.1	9.56	2.26	
6,259.0	86.00	271.90	5,455.9	-886.3	-589.5	571.9	8.94	7.81	
6,290.0	86.90	272.90	5,457.8	-885.0	-620.4	602.9	4.34	2.90	
6,322.0	87.10	273.00	5,459.5	-883.3	-652.3	634.8	0.70	0.62	
6,354.0	87.40	272.90	5,461.0	-881.7	-684.3	666.7	0.99	0.94	
6,385.0	87.80	272.80	5,462.3	-880.1	-715.2	697.7	1.33	1.29	
6,417.0	89.90	271.70	5,463.0	-878.9	-747.2	729.7	7.41	6.56	
6,448.0	91.40	271.10	5,462.6	-878.1	-778.2	760.7	5.21	4.84	
6,511.0	90.30	272.30	5,461.7	-876.2	-841.1	823.7	2.58	-1.75	
6,574.0	90.00	271.80	5,461.5	-874.0	-904.1	886.7	0.93	-0.48	
6,637.0	90.30	271.60	5,461.4	-872.1	-967.0	949.7	0.57	0.48	
6,700.0	89.30	271.80	5,461.6	-870.3	-1,030.0	1,012.7	1.62	-1.59	
6,763.0	89.70	271.80	5,462.1	-868.3	-1,093.0	1,075.6	0.63	0.63	
6,826.0	90.20	271.60	5,462.2	-866.4	-1,156.0	1,138.6	0.85	0.79	
6,888.0	89.90	270.80	5,462.1	-865.1	-1,217.9	1,200.6	1.38	-0.48	
6,951.0	90.20	270.60	5,462.1	-864.3	-1,280.9	1,263.6	0.57	0.48	
7,014.0	90.80	270.40	5,461.5	-863.8	-1,343.9	1,326.6	1.00	0.95	
7,077.0	90.90	269.30	5,460.6	-864.0	-1,406.9	1,389.6	1.75	0.16	
7,140.0	90.80	269.30	5,459.7	-864.7	-1,469.9	1,452.6	0.16	-0.16	
7,203.0	90.00	270.40	5,459.2	-864.9	-1,532.9	1,515.6	2.16	-1.27	
7,266.0	90.60	270.20	5,458.9	-864.6	-1,595.9	1,578.5	1.00	0.95	
7,329.0	90.20	270.40	5,458.5	-864.2	-1,658.9	1,641.5	0.71	-0.63	
7,393.0	90.80	269.90	5,457.9	-864.1	-1,722.9	1,705.5	1.22	0.94	
7,456.0	90.00	270.40	5,457.5	-863.9	-1,785.9	1,768.5	1.50	-1.27	
7,519.0	90.00	270.60	5,457.5	-863.3	-1,848.9	1,831.5	0.32	0.00	
7,582.0	90.10	271.30	5,457.4	-862.3	-1,911.9	1,894.5	1.12	0.16	
7,645.0	90.90	271.20	5,456.8	-860.9	-1,974.9	1,957.5	1.28	1.27	
7,708.0	90.30	271.80	5,456.2	-859.3	-2,037.8	2,020.5	1.35	-0.95	
7,770.0	89.80	272.10	5,456.1	-857.2	-2,099.8	2,082.5	0.94	-0.81	
7,834.0	90.30	271.90	5,456.1	-854.9	-2,163.8	2,146.5	0.84	0.78	
7,897.0	90.40	271.90	5,455.7	-852.8	-2,226.7	2,209.5	0.16	0.16	
7,960.0	90.20	271.60	5,455.4	-850.9	-2,289.7	2,272.5	0.57	-0.32	
8,023.0	90.60	271.10	5,454.9	-849.4	-2,352.7	2,335.5	1.02	0.63	
8,086.0	89.80	271.50	5,454.7	-848.0	-2,415.7	2,398.5	1.42	-1.27	
8,149.0	90.40	271.50	5,454.6	-846.4	-2,478.6	2,461.5	0.95	0.95	
8,212.0	90.30	272.20	5,454.2	-844.3	-2,541.6	2,524.5	1.12	-0.16	
8,275.0	90.70	271.80	5,453.7	-842.1	-2,604.6	2,587.5	0.90	0.63	
8,338.0	90.30	271.10	5,453.1	-840.5	-2,667.5	2,650.5	1.28	-0.63	
8,401.0	90.80	270.70	5,452.5	-839.5	-2,730.5	2,713.4	1.02	0.79	
8,464.0	90.50	271.30	5,451.8	-838.4	-2,793.5	2,776.4	1.06	-0.48	
8,527.0	90.60	272.20	5,451.2	-836.5	-2,856.5	2,839.4	1.44	0.16	
8,590.0	89.10	272.80	5,451.3	-833.8	-2,919.4	2,902.4	2.56	-2.38	
8,653.0	89.00	272.00	5,452.4	-831.1	-2,982.4	2,965.4	1.28	-0.16	
8,716.0	89.40	272.00	5,453.3	-828.9	-3,045.3	3,028.4	0.63	0.63	
8,780.0	89.80	270.60	5,453.7	-827.5	-3,109.3	3,092.4	2.27	0.62	
8,842.0	91.50	270.30	5,453.0	-827.0	-3,171.3	3,154.4	2.78	2.74	
8,905.0	90.80	270.20	5,451.8	-826.7	-3,234.3	3,217.3	1.12	-1.11	
8,969.0	89.80	269.90	5,451.4	-826.7	-3,298.3	3,281.3	1.63	-1.56	
9,031.0	90.00	269.90	5,451.5	-826.8	-3,360.3	3,343.3	0.32	0.32	
9,095.0	90.80	270.30	5,451.1	-826.7	-3,424.3	3,407.3	1.40	1.25	
9,158.0	91.20	270.70	5,450.0	-826.1	-3,487.3	3,470.3	0.90	0.63	
9,221.0	90.40	270.50	5,449.1	-825.5	-3,550.2	3,533.3	1.31	-1.27	
9,283.0	90.70	269.90	5,448.5	-825.2	-3,612.2	3,595.3	1.08	0.48	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook I32-2306 02H
Project:	Sandoval County, NM	TVD Reference:	KBE @ 7115.0ft (Aztec 222)
Site:	Lybrook	MD Reference:	KBE @ 7115.0ft (Aztec 222)
Well:	Lybrook I32-2306 02H	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
9,346.0	91.10	268.90	5,447.5	-825.9	-3,675.2	3,658.2	1.71	0.63	
9,409.0	90.20	269.10	5,446.8	-827.0	-3,738.2	3,721.2	1.46	-1.43	
9,472.0	90.20	269.50	5,446.6	-827.8	-3,801.2	3,784.2	0.63	0.00	
9,535.0	90.80	270.80	5,446.0	-827.6	-3,864.2	3,847.1	2.27	0.95	
9,598.0	90.40	271.90	5,445.4	-826.1	-3,927.2	3,910.1	1.86	-0.63	
9,661.0	89.90	271.20	5,445.2	-824.4	-3,990.2	3,973.1	1.37	-0.79	
9,724.0	90.60	271.00	5,444.9	-823.2	-4,053.2	4,036.1	1.16	1.11	
9,787.0	91.50	271.20	5,443.8	-822.0	-4,116.1	4,099.1	1.46	1.43	
9,851.0	92.30	270.80	5,441.7	-820.9	-4,180.1	4,163.1	1.40	1.25	
9,914.0	92.50	271.80	5,439.0	-819.4	-4,243.0	4,226.0	1.62	0.32	
9,977.0	91.60	272.40	5,436.8	-817.1	-4,305.9	4,289.0	1.72	-1.43	
10,040.0	90.80	272.40	5,435.4	-814.5	-4,368.9	4,351.9	1.27	-1.27	
10,103.0	90.30	271.70	5,434.8	-812.3	-4,431.8	4,414.9	1.37	-0.79	
10,156.0	90.90	271.40	5,434.3	-810.8	-4,484.8	4,467.9	1.27	1.13	Last Cathedral Survey @10,156' MD Projection to Bit @ 10,204'
10,204.0	90.90	271.40	5,433.5	-809.6	-4,532.8	4,515.9	0.00	0.00	

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 I32-2306 #02H I - actual wellpath misses target center by 260.8ft at 10204.0ft MD (5433.5 TVD, -809.6 N, -4532.8 E) - Point	0.00	0.00	5,443.3	-549.4	-4,545.5	1,886,155.58	1,271,883.16	36.177240	-107.498740
Lybrook I32-2306 #02H I - actual wellpath misses target center by 67.4ft at 5982.1ft MD (5414.4 TVD, -839.2 N, -322.7 E) - Point	0.00	0.00	5,443.3	-891.9	-292.2	1,885,758.97	1,276,131.79	36.176300	-107.484330
Lybrook I32-2306 #02H I - actual wellpath misses target center by 14.7ft at 10204.0ft MD (5433.5 TVD, -809.6 N, -4532.8 E) - Point	0.00	0.00	5,444.3	-807.9	-4,542.6	1,885,897.07	1,271,882.78	36.176530	-107.498730

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,156.0	5,434.3	-810.8	-4,484.8	Last Cathedral Survey @10,156' MD
10,204.0	5,433.5	-809.6	-4,532.8	Projection to Bit @ 10,204'

Checked By: _____ Approved By: _____ Date: _____