

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 30-043-21123		*Pool Code 42289	*Pool Name Lybrook Gallup
*Property Code 39534	*Property Name LYBROOK H03-2206		*Well Number 01H
*GRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 7052'

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	3	22N	6W		2325	NORTH	138	EAST	SANDOVAL

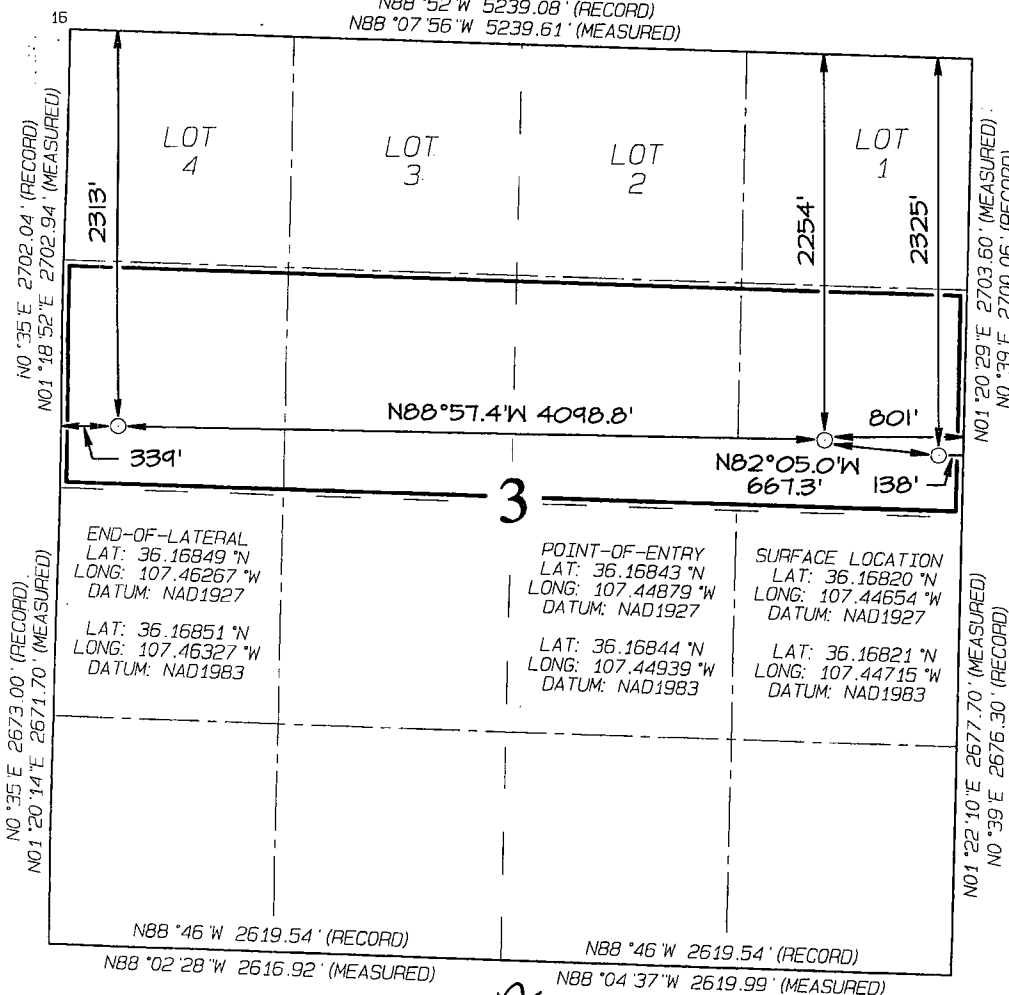
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	3	22N	6W		2313	NORTH	339	WEST	SANDOVAL

¹² Dedicated Acres 160.0 Acres - (S/2 N/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. RCVD MAY 13 '13 OIL CONS. DIV.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

DIST. 3



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

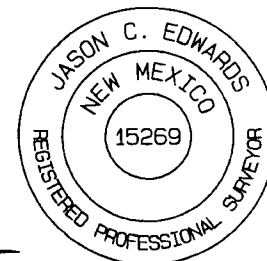
Robynn Haden 5/9/13
Signature Date
Robynn Haden
Printed Name
robynn.haden@encana.com
E-mail Address

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: APRIL 24, 2013
Date of Survey: APRIL 20, 2012

Signature and Seal of Professional Surveyor



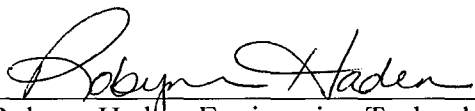
JASON C. EDWARDS
Certificate Number 15269

DEVIATION SURVEYS

MD (Feet)	Inclination (Degree)
617	.30
801	.40
1046	.50
1229	.20
1415	.40
1665	1.20
1854	1.20
2043	.60
2295	.80
2610	.10
2926	.80
3240	.80
4771	.80

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

4/25/13

4/25/13

ACKNOWLEDGMENT

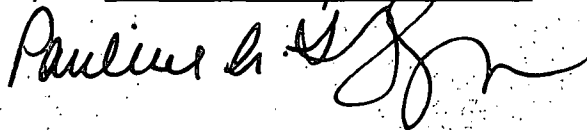
State of Colorado
City and County of Denver

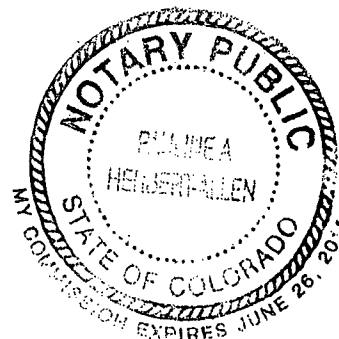
This instrument was acknowledged before me on this 25th day of April, 2013 by Robynn Haden as Attorney in Fact of Encana Oil & Gas (USA) Inc., on behalf of said corporation.

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

Notary Public: PAULINE A. HERBERT-ALLEN

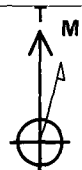
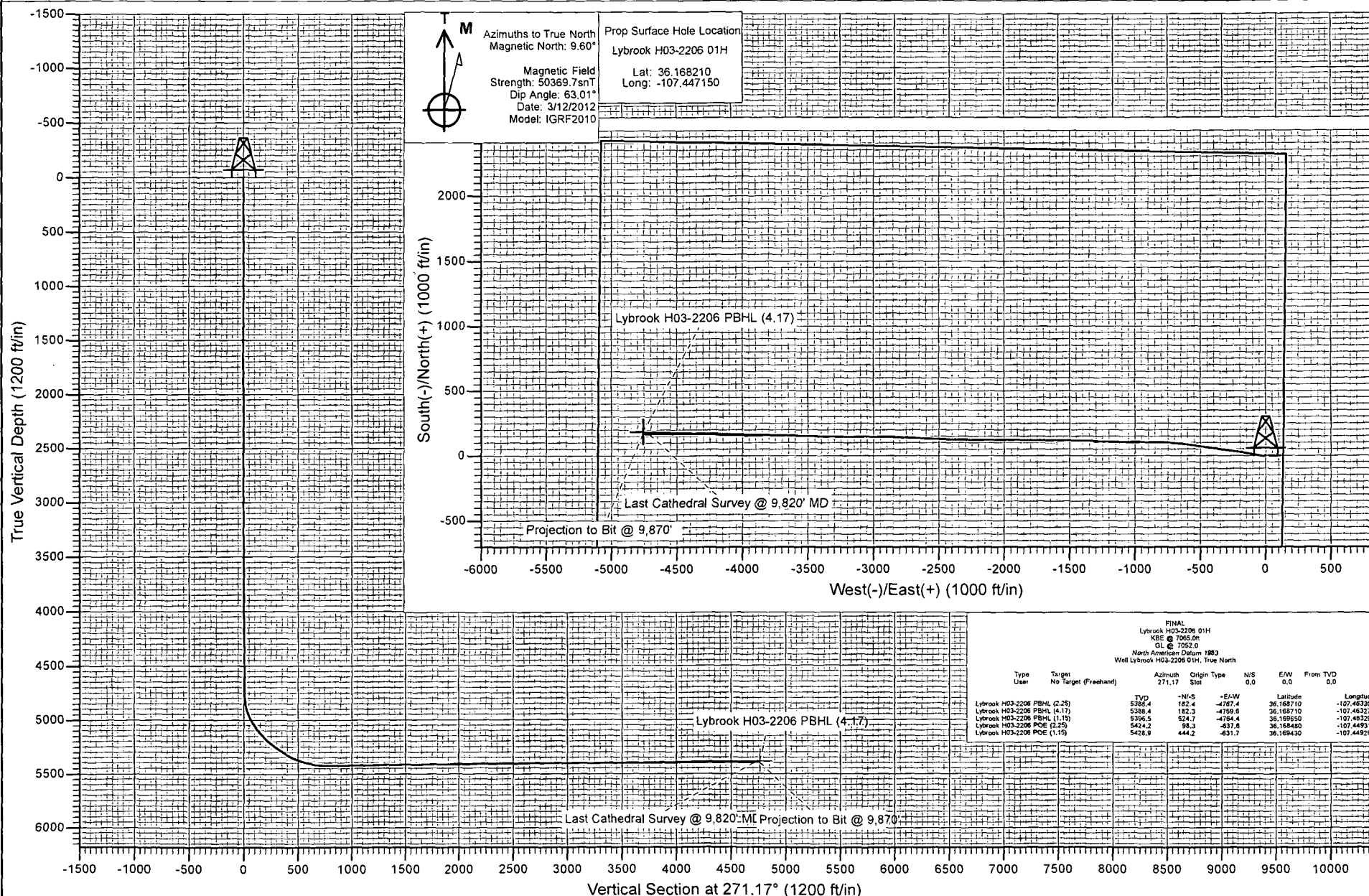
My Commission Expires: June 26, 2016







Project: Sandoval County, NM
 Site: Lybrook
 Well: Lybrook H03-2206 01H
 Wellbore: HZ
 Design: FINAL



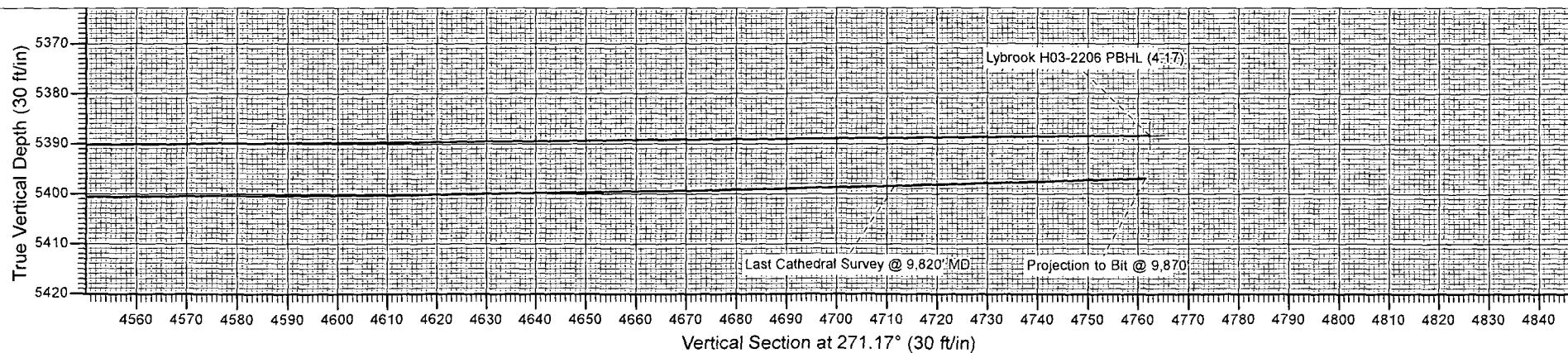
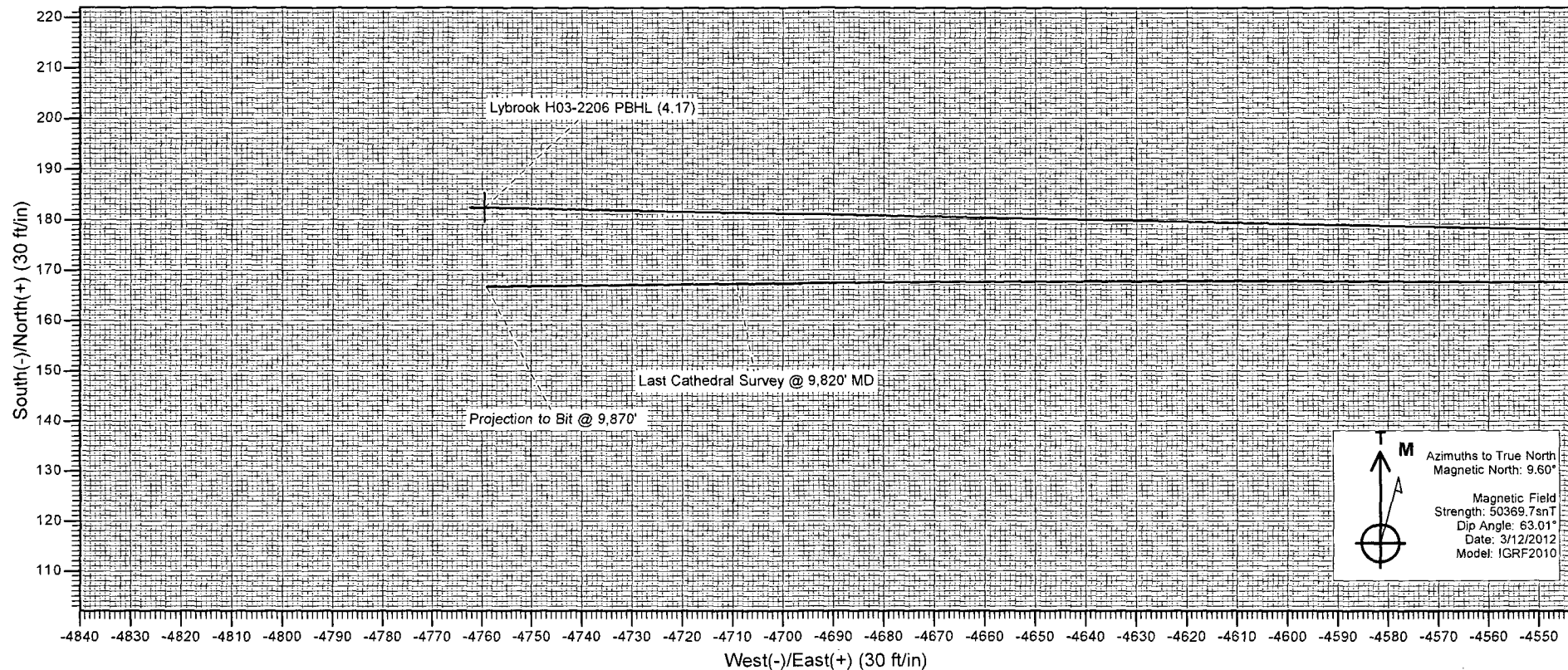
Azimuths to True North
 Magnetic North: 9.60°
 Magnetic Field
 Strength: 50369.7nT
 Dip Angle: 63.01°
 Date: 3/12/2012
 Model: IGRF2010

Prop Surface Hole Location
 Lybrook H03-2206 01H
 Lat: 36.168210
 Long: -107.447150

FINAL							
Lybrook H03-2206 01H							
KBE @ 7065.0m							
GL @ 7052.0							
North American Datum 1983							
Well Lybrook H03-2206 01H, True North							
Type	Target	Azimuth	Origin	NIS	ENW	From TVD	Longitude
User	No Target (Freehand)	271.17	Spot	0.0	0.0	0.0	
Lybrook H03-2206 PBHL (2.25)		5388.4	182.4	-E-W	36.168710	-107.463300	
Lybrook H03-2206 PBHL (4.17)		5388.4	182.3	-E-W	36.168710	-107.463274	
Lybrook H03-2206 PBHL (1.15)		5396.5	524.7	-E-W	36.169550	-107.463290	
Lybrook H03-2206 POE (2.25)		5424.2	58.3	-E-W	36.168480	-107.449310	
Lybrook H03-2206 POE (1.15)		5428.9	444.2	-E-W	36.169430	-107.449290	



Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook H03-2206 01H
Wellbore: HZ
Design: FINAL



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook H03-2206 01H
Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook H03-2206 01H
TVD Reference: KBE @ 7065.0ft
MD Reference: KBE @ 7065.0ft
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	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 H03-2206 01H					
Well Position	+N/-S	0.0 ft	Northing:	1,882,676.43 ft	Latitude:	36.168210
	+E/-W	0.0 ft	Easting:	1,287,068.90 ft	Longitude:	-107.447150
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,052.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	3/12/2012	(°)	(°)	(nT)
			9.60	63.01	50,370

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	271.17	

Survey Program	Date 4/22/2013				
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
556.0	9,870.0	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	
556.0	0.10	77.80	556.0	0.1	0.5	-0.5	0.02	0.02	
617.0	0.30	208.70	617.0	0.0	0.4	-0.5	0.61	0.33	
679.0	0.20	99.50	679.0	-0.2	0.5	-0.5	0.66	-0.16	
740.0	0.20	139.50	740.0	-0.3	0.7	-0.7	0.22	0.00	
801.0	0.40	127.80	801.0	-0.5	0.9	-0.9	0.34	0.33	
862.0	0.40	147.90	862.0	-0.8	1.2	-1.2	0.23	0.00	
923.0	0.30	153.30	923.0	-1.1	1.4	-1.4	0.17	-0.16	
985.0	0.50	139.70	985.0	-1.5	1.6	-1.6	0.35	0.32	
1,046.0	0.50	154.20	1,046.0	-1.9	1.9	-1.9	0.21	0.00	
1,107.0	0.70	142.50	1,107.0	-2.5	2.2	-2.3	0.38	0.33	
1,168.0	0.80	162.10	1,168.0	-3.2	2.6	-2.7	0.45	0.16	
1,229.0	0.20	82.70	1,229.0	-3.6	2.8	-2.9	1.29	-0.98	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook H03-2206 01H
Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook H03-2206 01H
TVD Reference: KBE @ 7065.0ft
MD Reference: KBE @ 7065.0ft
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
1,290.0	0.60	45.90	1,290.0	-3.3	3.2	-3.2	0.75	0.66	
1,353.0	0.40	39.40	1,353.0	-2.9	3.5	-3.6	0.33	-0.32	
1,415.0	0.40	51.50	1,415.0	-2.6	3.8	-3.9	0.14	0.00	
1,476.0	0.40	38.80	1,476.0	-2.3	4.1	-4.2	0.15	0.00	
1,539.0	0.50	64.70	1,539.0	-2.0	4.5	-4.6	0.36	0.16	
1,602.0	0.60	65.40	1,602.0	-1.8	5.1	-5.1	0.16	0.16	
1,665.0	1.20	328.20	1,665.0	-1.1	5.0	-5.1	2.23	0.95	
1,728.0	1.50	329.00	1,727.9	0.2	4.3	-4.3	0.48	0.48	
1,791.0	1.30	301.20	1,790.9	1.3	3.2	-3.2	1.11	-0.32	
1,854.0	1.20	298.60	1,853.9	2.0	2.0	-2.0	0.18	-0.16	
1,917.0	1.70	255.50	1,916.9	2.0	0.6	-0.5	1.84	0.79	
1,980.0	1.50	198.80	1,979.9	1.0	-0.6	0.6	2.43	-0.32	
2,043.0	0.60	112.40	2,042.9	0.1	-0.6	0.6	2.51	-1.43	
2,106.0	0.80	69.20	2,105.9	0.1	0.1	-0.1	0.87	0.32	
2,170.0	1.00	97.40	2,169.9	0.2	1.1	-1.1	0.75	0.31	
2,233.0	0.80	93.50	2,232.8	0.1	2.1	-2.1	0.33	-0.32	
2,295.0	0.80	94.50	2,294.8	0.1	3.0	-3.0	0.02	0.00	
2,358.0	0.70	92.20	2,357.8	0.0	3.8	-3.8	0.17	-0.16	
2,421.0	0.40	116.30	2,420.8	-0.1	4.4	-4.4	0.59	-0.48	
2,484.0	0.20	119.00	2,483.8	-0.2	4.7	-4.7	0.32	-0.32	
2,547.0	0.04	149.40	2,546.8	-0.3	4.8	-4.8	0.26	-0.25	
2,610.0	0.10	222.80	2,609.8	-0.4	4.7	-4.7	0.15	0.10	
2,673.0	0.20	268.00	2,672.8	-0.4	4.6	-4.6	0.23	0.16	
2,736.0	0.40	228.80	2,735.8	-0.6	4.3	-4.3	0.44	0.32	
2,800.0	0.40	233.80	2,799.8	-0.8	4.0	-4.0	0.05	0.00	
2,863.0	0.70	255.00	2,862.8	-1.1	3.4	-3.4	0.57	0.48	
2,926.0	0.80	245.10	2,925.8	-1.4	2.6	-2.7	0.26	0.16	
2,989.0	0.90	245.80	2,988.8	-1.7	1.8	-1.8	0.16	0.16	
3,051.0	0.80	241.30	3,050.8	-2.1	1.0	-1.0	0.19	-0.16	
3,114.0	0.90	195.00	3,113.8	-2.8	0.5	-0.5	1.07	0.16	
3,177.0	1.50	180.20	3,176.8	-4.1	0.3	-0.4	1.06	0.95	
3,240.0	0.80	202.00	3,239.8	-5.4	0.2	-0.3	1.29	-1.11	
3,303.0	0.20	279.50	3,302.8	-5.8	-0.1	0.0	1.24	-0.95	
3,367.0	0.40	350.40	3,366.8	-5.5	-0.3	0.2	0.60	0.31	
4,771.0	0.80	230.90	4,770.7	-6.9	-8.7	8.5	0.08	0.03	
4,803.0	2.90	268.80	4,802.7	-7.0	-9.7	9.5	7.25	6.56	
4,834.0	6.50	277.60	4,833.6	-6.8	-12.2	12.1	11.81	11.61	
4,866.0	10.30	280.90	4,865.2	-6.0	-16.8	16.7	11.97	11.87	
4,897.0	14.40	280.20	4,895.5	-4.8	-23.3	23.2	13.23	13.23	
4,929.0	18.10	280.80	4,926.2	-3.2	-32.1	32.0	11.57	11.56	
4,960.0	21.60	281.10	4,955.4	-1.2	-42.5	42.4	11.30	11.29	
4,992.0	25.30	281.00	4,984.7	1.2	-54.9	55.0	11.56	11.56	
5,023.0	29.00	281.30	5,012.3	4.0	-68.8	68.9	11.94	11.94	
5,054.0	32.30	280.90	5,039.0	7.0	-84.3	84.5	10.67	10.65	
5,086.0	35.30	281.00	5,065.6	10.4	-101.8	102.0	9.38	9.37	
5,117.0	37.90	280.40	5,090.5	13.8	-120.0	120.2	8.47	8.39	
5,149.0	40.00	279.70	5,115.3	17.3	-139.8	140.1	6.70	6.56	
5,180.0	42.10	279.40	5,138.7	20.7	-159.8	160.2	6.80	6.77	
5,212.0	43.80	278.70	5,162.1	24.1	-181.4	181.8	5.52	5.31	
5,244.0	46.10	278.50	5,184.8	27.5	-203.7	204.3	7.20	7.19	
5,276.0	48.40	278.70	5,206.5	31.0	-227.0	227.6	7.20	7.19	
5,307.0	50.70	279.00	5,226.6	34.7	-250.3	250.9	7.46	7.42	
5,339.0	52.30	278.90	5,246.5	38.6	-275.0	275.7	5.01	5.00	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook H03-2206 01H
Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook H03-2206 01H
TVD Reference: KBE @ 7065.0ft
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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
5,370.0	54.10	278.20	5,265.1	42.3	-299.6	300.4	6.08	5.81	
5,402.0	56.20	277.20	5,283.4	45.8	-325.6	326.4	7.05	6.56	
5,433.0	58.30	277.30	5,300.2	49.1	-351.4	352.4	6.78	6.77	
5,465.0	59.20	277.30	5,316.8	52.5	-378.6	379.6	2.81	2.81	
5,496.0	60.70	276.80	5,332.3	55.8	-405.2	406.3	5.04	4.84	
5,528.0	63.20	276.80	5,347.3	59.2	-433.2	434.4	7.81	7.81	
5,559.0	65.20	277.30	5,360.8	62.6	-460.9	462.1	6.61	6.45	
5,591.0	67.80	278.00	5,373.6	66.5	-490.0	491.3	8.37	8.12	
5,622.0	71.10	278.30	5,384.5	70.6	-518.8	520.1	10.68	10.65	
5,653.0	73.70	279.00	5,393.8	75.1	-548.0	549.4	8.66	8.39	
5,685.0	75.70	279.70	5,402.3	80.1	-578.4	579.9	6.60	6.25	
5,695.0	76.50	279.50	5,404.7	81.7	-588.0	589.5	8.23	8.00	
5,729.0	79.00	278.20	5,411.9	86.8	-620.8	622.5	8.25	7.35	
5,760.0	81.50	276.80	5,417.2	90.8	-651.1	652.8	9.21	8.06	
5,790.0	84.20	275.80	5,420.9	94.1	-680.7	682.5	9.59	9.00	
5,821.0	86.40	274.50	5,423.4	96.8	-711.5	713.3	8.24	7.10	
5,851.0	87.90	272.60	5,424.9	98.7	-741.4	743.2	8.06	5.00	
5,882.0	89.00	271.40	5,425.8	99.8	-772.3	774.2	5.25	3.55	
5,914.0	89.50	271.70	5,426.2	100.6	-804.3	806.2	1.82	1.56	
5,945.0	89.80	271.00	5,426.4	101.4	-835.3	837.2	2.46	0.97	
6,008.0	90.00	270.00	5,426.5	101.9	-898.3	900.2	1.62	0.32	
6,071.0	90.60	270.20	5,426.1	102.0	-961.3	963.2	1.00	0.95	
6,134.0	90.40	270.10	5,425.6	102.2	-1,024.3	1,026.2	0.35	-0.32	
6,198.0	90.40	271.20	5,425.1	102.9	-1,088.3	1,090.2	1.72	0.00	
6,261.0	90.50	271.41	5,424.7	104.4	-1,151.3	1,153.2	0.37	0.16	
6,324.0	91.20	272.40	5,423.7	106.4	-1,214.2	1,216.2	1.92	1.11	
6,387.0	91.30	272.80	5,422.3	109.3	-1,277.1	1,279.1	0.65	0.16	
6,450.0	91.10	271.80	5,421.0	111.8	-1,340.1	1,342.1	1.62	-0.32	
6,513.0	90.30	271.10	5,420.3	113.4	-1,403.1	1,405.1	1.69	-1.27	
6,576.0	90.70	270.50	5,419.7	114.3	-1,466.0	1,468.1	1.14	0.63	
6,639.0	90.50	270.80	5,419.0	115.0	-1,529.0	1,531.1	0.57	-0.32	
6,702.0	90.80	270.60	5,418.3	115.8	-1,592.0	1,594.1	0.57	0.48	
6,765.0	90.40	270.20	5,417.7	116.2	-1,655.0	1,657.1	0.90	-0.63	
6,828.0	90.80	270.40	5,417.0	116.6	-1,718.0	1,720.0	0.71	0.63	
6,891.0	90.80	271.00	5,416.1	117.3	-1,781.0	1,783.0	0.95	0.00	
6,954.0	90.40	270.90	5,415.5	118.4	-1,844.0	1,846.0	0.65	-0.63	
7,016.0	90.00	270.40	5,415.3	119.1	-1,906.0	1,908.0	1.03	-0.65	
7,079.0	90.30	270.80	5,415.1	119.7	-1,969.0	1,971.0	0.79	0.48	
7,142.0	90.10	270.10	5,414.9	120.2	-2,032.0	2,034.0	1.16	-0.32	
7,205.0	90.10	270.20	5,414.8	120.4	-2,095.0	2,097.0	0.16	0.00	
7,268.0	90.80	269.40	5,414.3	120.2	-2,158.0	2,160.0	1.69	1.11	
7,331.0	90.80	269.90	5,413.4	119.8	-2,221.0	2,223.0	0.79	0.00	
7,394.0	90.80	270.70	5,412.5	120.1	-2,284.0	2,285.9	1.27	0.00	
7,457.0	91.10	271.60	5,411.5	121.4	-2,346.9	2,348.9	1.51	0.48	
7,520.0	90.30	271.70	5,410.7	123.2	-2,409.9	2,411.9	1.28	-1.27	
7,583.0	90.40	272.80	5,410.3	125.7	-2,472.9	2,474.9	1.75	0.16	
7,646.0	91.00	272.40	5,409.5	128.5	-2,535.8	2,537.9	1.14	0.95	
7,709.0	90.90	273.10	5,408.5	131.6	-2,598.7	2,600.9	1.12	-0.16	
7,771.0	90.30	272.30	5,407.8	134.5	-2,660.6	2,662.8	1.61	-0.97	
7,834.0	90.60	271.90	5,407.3	136.8	-2,723.6	2,725.8	0.79	0.48	
7,897.0	90.40	271.60	5,406.8	138.7	-2,786.6	2,788.8	0.57	-0.32	
7,960.0	90.40	271.80	5,406.4	140.6	-2,849.5	2,851.8	0.32	0.00	
8,023.0	90.00	271.20	5,406.1	142.2	-2,912.5	2,914.8	1.14	-0.63	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook H03-2206 01H
Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook H03-2206 01H
TVD Reference: KBE @ 7065.0ft
MD Reference: KBE @ 7065.0ft
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
8,086.0	90.00	270.70	5,406.1	143.3	-2,975.5	2,977.8	0.79	0.00	
8,149.0	90.10	270.40	5,406.1	143.9	-3,038.5	3,040.8	0.50	0.16	
8,212.0	90.50	269.70	5,405.8	143.9	-3,101.5	3,103.8	1.28	0.63	
8,275.0	90.40	269.60	5,405.3	143.5	-3,164.5	3,166.8	0.22	-0.16	
8,338.0	90.00	269.60	5,405.0	143.1	-3,227.5	3,229.7	0.63	-0.63	
8,400.0	89.70	270.30	5,405.2	143.0	-3,289.5	3,291.7	1.23	-0.48	
8,463.0	89.60	271.50	5,405.6	144.0	-3,352.5	3,354.7	1.91	-0.16	
8,526.0	90.40	271.80	5,405.6	145.9	-3,415.5	3,417.7	1.36	1.27	
8,589.0	90.70	272.40	5,405.0	148.2	-3,478.4	3,480.7	1.06	0.48	
8,651.0	91.10	271.90	5,404.0	150.5	-3,540.4	3,542.7	1.03	0.65	
8,714.0	90.30	271.30	5,403.2	152.2	-3,603.3	3,605.7	1.59	-1.27	
8,777.0	90.00	270.10	5,403.1	153.0	-3,666.3	3,668.7	1.96	-0.48	
8,840.0	90.30	270.20	5,402.9	153.2	-3,729.3	3,731.7	0.50	0.48	
8,903.0	90.40	269.60	5,402.5	153.1	-3,792.3	3,794.7	0.97	0.16	
8,966.0	89.80	269.50	5,402.4	152.6	-3,855.3	3,857.6	0.97	-0.95	
9,029.0	90.10	270.40	5,402.5	152.5	-3,918.3	3,920.6	1.51	0.48	
9,092.0	90.00	270.90	5,402.4	153.2	-3,981.3	3,983.6	0.81	-0.16	
9,155.0	90.30	271.20	5,402.2	154.4	-4,044.3	4,046.6	0.67	0.48	
9,218.0	90.60	272.40	5,401.8	156.4	-4,107.3	4,109.6	1.96	0.48	
9,281.0	90.20	272.20	5,401.3	158.9	-4,170.2	4,172.6	0.71	-0.63	
9,344.0	90.60	272.40	5,400.9	161.4	-4,233.2	4,235.6	0.71	0.63	
9,406.0	89.90	271.40	5,400.6	163.5	-4,295.1	4,297.6	1.97	-1.13	
9,469.0	90.20	271.00	5,400.5	164.8	-4,358.1	4,360.6	0.79	0.48	
9,532.0	90.00	270.80	5,400.4	165.8	-4,421.1	4,423.6	0.45	-0.32	
9,594.0	89.60	270.90	5,400.7	166.7	-4,483.1	4,485.6	0.67	-0.65	
9,657.0	90.20	270.50	5,400.8	167.5	-4,546.1	4,548.6	1.14	0.95	
9,720.0	90.50	270.00	5,400.4	167.8	-4,609.1	4,611.6	0.93	0.48	
9,783.0	91.20	269.60	5,399.4	167.5	-4,672.1	4,674.5	1.28	1.11	
9,820.0	91.70	269.30	5,398.5	167.2	-4,709.1	4,711.5	1.58	1.35	Last Cathedral Survey @ 9,820' MD
9,870.0	91.70	269.30	5,397.0	166.6	-4,759.0	4,761.5	0.00	0.00	Projection to Bit @ 9,870'

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: Lybrook
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Wellbore: HZ
Design: FINAL

Local Co-ordinate Reference: Well Lybrook H03-2206 01H
TVD Reference: KBE @ 7065.0ft
MD Reference: KBE @ 7065.0ft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Lybrook H03-2206 PBHL - actual wellpath misses target center by 358.1ft at 9870.0ft MD (5397.0 TVD, 166.6 N, -4759.0 E) - Point	0.00	359.28	5,396.5	524.7	-4,764.4	1,883,259.82	1,282,311.35	36.169650	-107.463290
Lybrook H03-2206 PBHL - actual wellpath misses target center by 19.9ft at 9870.0ft MD (5397.0 TVD, 166.6 N, -4759.0 E) - Point	0.00	359.28	5,388.4	182.4	-4,767.4	1,882,917.66	1,282,304.12	36.168710	-107.463300
Lybrook H03-2206 POE - actual wellpath misses target center by 12.7ft at 5749.0ft MD (5415.4 TVD, 89.5 N, -640.3 E) - Point	0.00	359.28	5,424.2	98.3	-637.6	1,882,782.61	1,286,432.54	36.168480	-107.449310
Lybrook H03-2206 POE - actual wellpath misses target center by 353.4ft at 5780.8ft MD (5419.9 TVD, 93.1 N, -671.6 E) - Point	0.00	359.28	5,428.9	444.2	-631.7	1,883,128.37	1,286,442.72	36.169430	-107.449290
Lybrook H03-2206 PBHL - actual wellpath misses target center by 17.9ft at 9870.0ft MD (5397.0 TVD, 166.6 N, -4759.0 E) - Point	0.00	0.00	5,388.4	182.3	-4,759.6	1,882,917.40	1,282,311.93	36.168710	-107.463274

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,820.0	5,398.5	167.2	-4,709.1	Last Cathedral Survey @ 9,820' MD
9,870.0	5,397.0	166.6	-4,759.0	Projection to Bit @ 9,870'

Checked By: _____ Approved By: _____ Date: _____