

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

CONFIDENTIAL

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21197	² Pool Code 1039	³ Pool Name ALAMITO - GALLUP
⁴ Property Code 40415	⁵ Property Name LYBROOK L33-2307	⁶ Well Number 01H
⁷ GRID No. 282327	⁸ Operator Name ENCANA OIL & GAS (USA) INC.	⁹ Elevation 6867'

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
L	33	23N	7W		1577	SOUTH	352	WEST	SANDOVAL

¹¹ Bottom Hole Location If Different From Surface

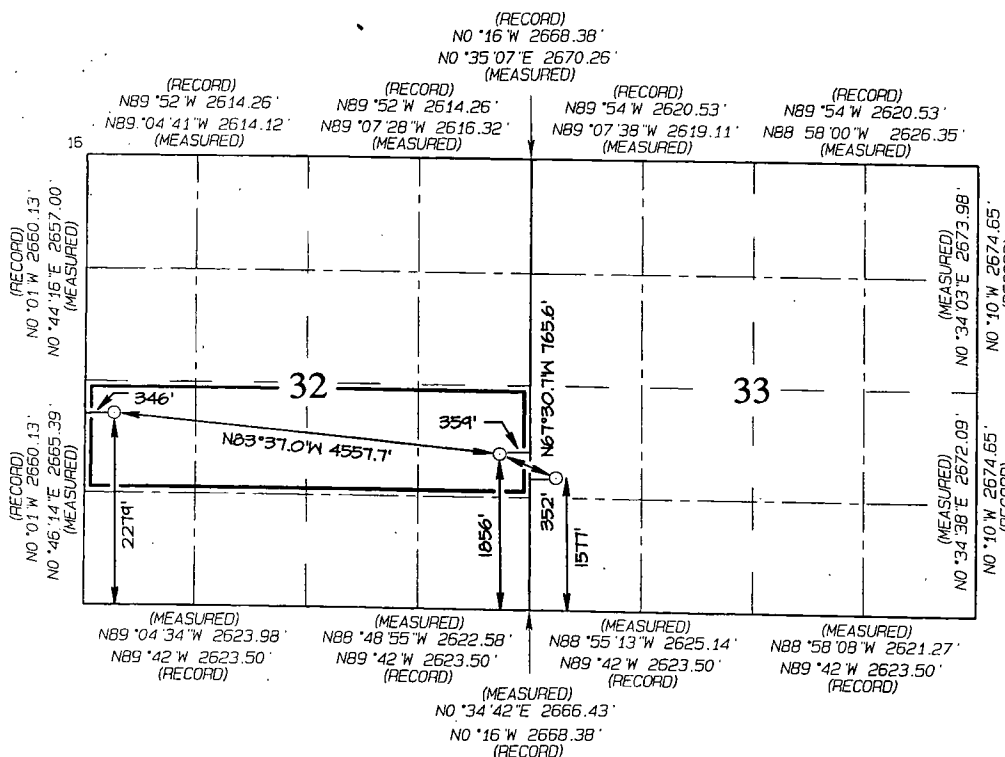
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	32	23N	7W		2279'	SOUTH	346'	WEST	SANDOVAL

¹² Dedicated Acres 160.00 Acres N/2 S/2 - Section 32	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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OIL CONS. DIV 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

NOV 07 2014



END-OF-LATERAL
2279' FSL 346' FWL
SECTION 32, T23N, R7W
LAT: 36.18222°N
LONG: 107.60474°W
DATUM: NAD1927
LAT: 36.18224°N
LONG: 107.60535°W
DATUM: NAD1983

POINT-OF-ENTRY
1856' FSL 359' FEL
SECTION 32, T23N, R7W
LAT: 36.18100°N
LONG: 107.58937°W
DATUM: NAD1927
LAT: 36.18102°N
LONG: 107.58998°W
DATUM: NAD1983

SURFACE LOCATION
1577' FSL 352' FWL
SECTION 33, T23N, R7W
LAT: 36.18022°N
LONG: 107.58696°W
DATUM: NAD1927
LAT: 36.18024°N
LONG: 107.58757°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: *Jessica Gregg* Date: 11/4/14
Printed Name: Jessica Gregg
E-mail Address: Jessica.Gregg@encana.com

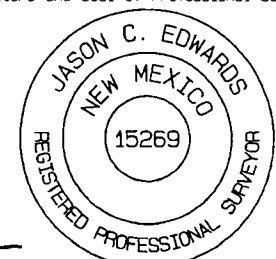
Printed Name: Jessica Gregg
E-mail Address: Jessica.Gregg@encana.com

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: OCTOBER 23, 2014
Survey Date: OCTOBER 10, 2013

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

A

14

DEVIATION SURVEYS
Well Name Lybrook L33-2307 01H
API 30-043-21197

CONFIDENTIAL

MD (Feet)	Inclination (Degree)
815'	1.60
1131'	1.70
1448'	1.70
1764'	1.60
2080'	1.30
2397'	1.00
2743'	0.40
3059'	0.30
3375'	0.40
3692'	0.50
4008'	0.40
4198'	6.10

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

11/4/14

Date

ACKNOWLEDGMENT

State of Colorado
City and County of Denver

This instrument was acknowledged before me on this 4th day of November, 2014 by Cristi Bauer as Operations Technician of Encana Oil & Gas (USA) Inc., authorized agent for Encana Oil & Gas (USA) Inc., on behalf of said corporation.

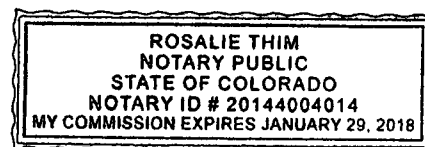
In witness whereof, I hereunto set my hand and official seal.

Notary Public:

Rosalie Thim

My Commission Expires:

1/29/18



ENCANA OIL & GAS USA, INC.

Project: Sandoval County, NM
Site: Lybrook L33-2307
Well: 01H
Wellbore: OH
Design: OH



Azimuths to True North
Magnetic North: 9.45°

Magnetic Field
Strength: 50037.7snT
Dip Angle: 62.95°
Date: 08/16/2014
Model: BGGM2014

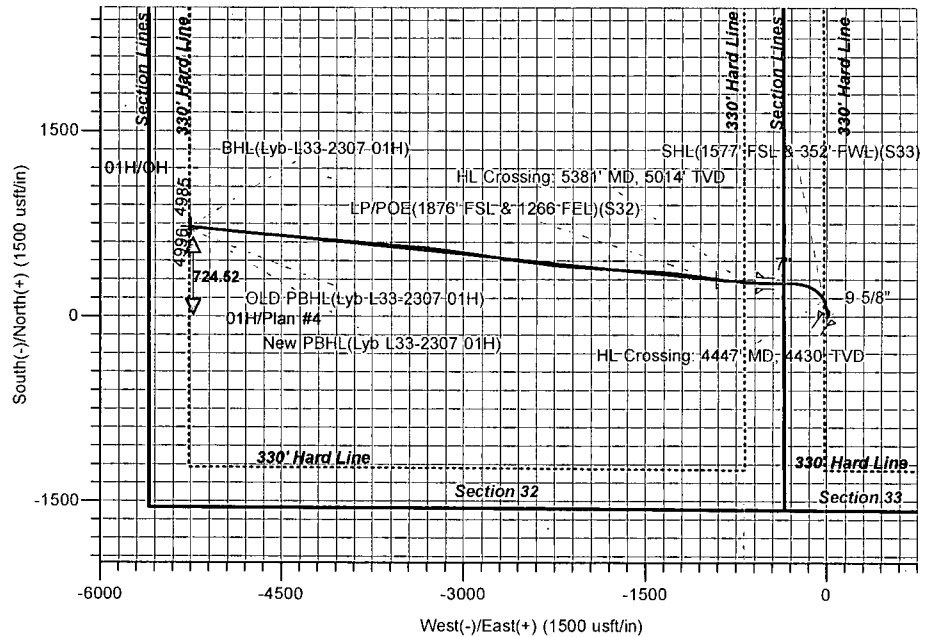


PROJECT DETAILS: Sandoval County, NM

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Central Zone

CASING DETAILS

MD	TVD	Name	Size
5268.00	4970.00	7"	7.00



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL(Lyb L33-2307 01H)	0.00	0.00	0.00	1887593.27	1245678.19	36.180240	-107.587570
BHL(Lyb L33-2307 01H)	4984.64	727.02	-5247.46	1888392.54	1240441.25	36.182236	-107.605349
New PBHL(Lyb L33-2307 01H)	4995.97	724.52	-5262.60	1888390.25	1240426.07	36.182229	-107.605400
OLD PBHL(Lyb L33-2307 01H)	4995.97	699.52	-5262.60	1888365.26	1240425.73	36.182160	-107.605400
LP/POE(Lyb L33-2307 01H)	5049.47	298.76	-914.47	1887904.60	1244767.92	36.181061	-107.590668

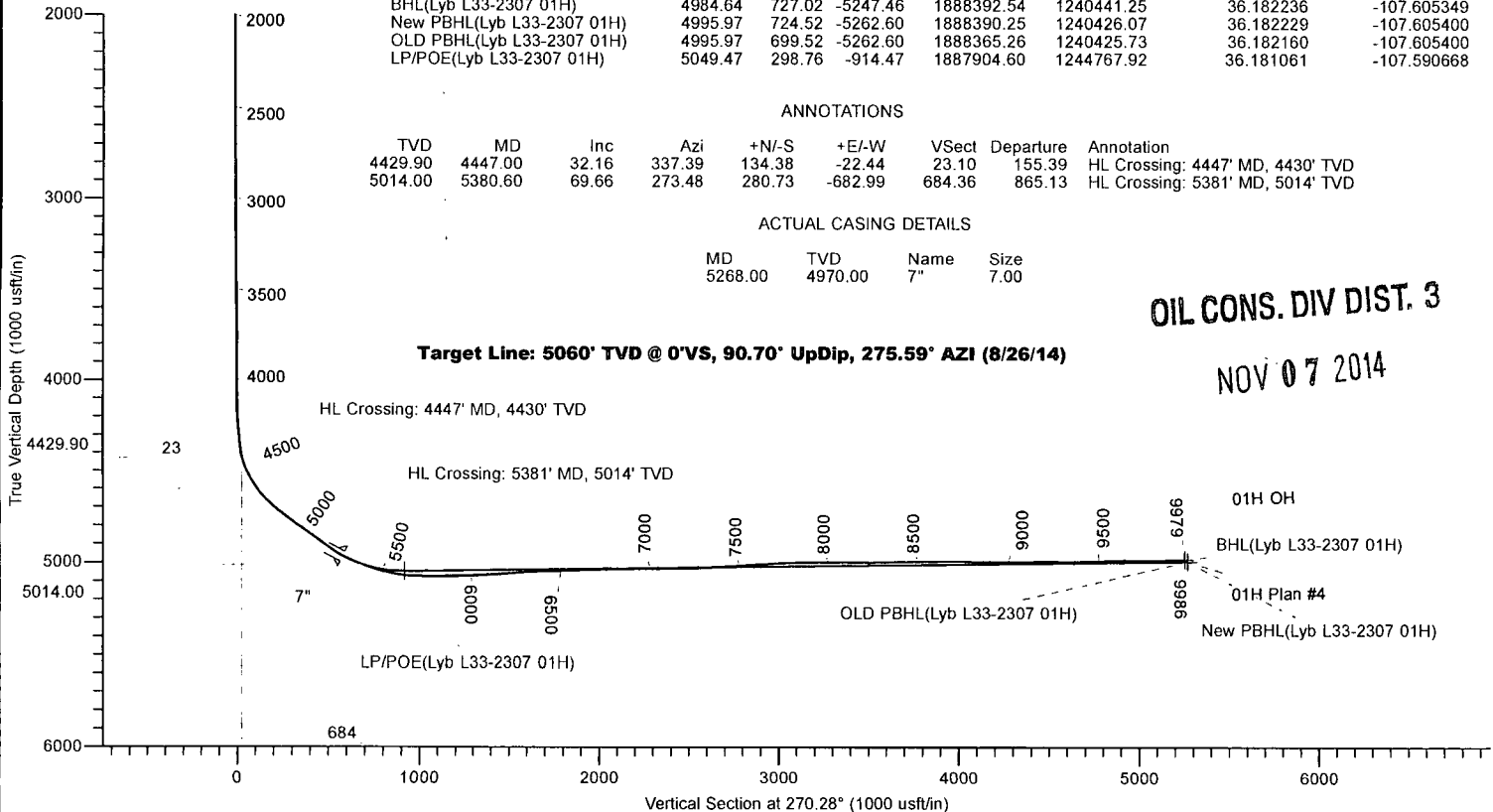
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
4429.90	4447.00	32.16	337.39	134.38	-22.44	23.10	155.39	HL Crossing: 4447' MD, 4430' TVD
5014.00	5380.60	69.66	273.48	280.73	-682.99	684.36	865.13	HL Crossing: 5381' MD, 5014' TVD

ACTUAL CASING DETAILS

MD	TVD	Name	Size
5268.00	4970.00	7"	7.00

Target Line: 5060' TVD @ 0°VS, 90.70° UpDip, 275.59° AZI (8/26/14)



OIL CONS. DIV DIST. 3

NOV 07 2014



LEAM DRILLING SYSTEMS LLC
2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7577, Fax: 936/756-7595

Design: OH (01H/OH)
Lybrook L33-2307
Created By: Brandon Estes
Date: 12:36, September 01 2014
Approved: _____
Date: _____

LEAM Drilling Systems LLC

Survey Report

Company: ENCANA OIL & GAS USA, INC.
Project: Sandoval County, NM
Site: Lybrook L33-2307
Well: 01H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 01H
TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User DB

Project: Sandoval County, NM, NM-Central

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 L33-2307

Site Position: Northing: 1,887,593.27 usft Latitude: 36.180240
From: Lat/Long Easting: 1,245,678.18 usft Longitude: -107.587570
Position Uncertainty: 0.00 usft Slot Radius: 13.20 in Grid Convergence: -0.79 °

Well: 01H

Well Position: +N/-S 0.00 usft Northing: 1,887,593.27 usft Latitude: 36.180240
+E/-W 0.00 usft Easting: 1,245,678.18 usft Longitude: -107.587570
Position Uncertainty: 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 6,867.00 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	08/16/14	9.45	62.95	50,038

Design: OH

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	270.28

Survey Program: Date 09/01/14

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
625.00	9,895.00	Survey #1 (OH)	LEAM MWD-ADJ	MWD - Standard
9,979.00	9,979.00	Survey #2 (OH)	Project	Projection

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
625.00	1.50	36.20	624.93	6.60	4.83	-4.80	0.24	0.24	0.00
689.00	1.30	33.50	688.91	7.88	5.73	-5.69	0.33	-0.31	-4.22
752.00	1.40	29.30	751.89	9.15	6.50	-6.45	0.22	0.16	-6.67
815.00	1.60	26.10	814.87	10.61	7.26	-7.21	0.34	0.32	-5.08
879.00	1.60	23.50	878.85	12.23	8.01	-7.95	0.11	0.00	-4.06
942.00	1.60	25.60	941.82	13.83	8.74	-8.67	0.09	0.00	3.33
1,005.00	1.80	27.00	1,004.79	15.51	9.57	-9.50	0.32	0.32	2.22
1,068.00	1.70	26.70	1,067.76	17.22	10.44	-10.36	0.16	-0.16	-0.48
1,131.00	1.70	28.10	1,130.74	18.88	11.30	-11.21	0.07	0.00	2.22

LEAM Drilling Systems LLC

Survey Report

Company: ENCANA OIL & GAS USA, INC.
 Project: Sandoval County, NM
 Site: Lybrook L33-2307
 Well: 01H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 01H
 TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,195.00	1.60	25.10	1,194.71	20.53	12.13	-12.03	0.21	-0.16	-4.69
1,258.00	1.80	15.60	1,257.68	22.28	12.77	-12.66	0.55	0.32	-15.08
1,321.00	1.70	12.10	1,320.65	24.15	13.23	-13.11	0.23	-0.16	-5.56
1,384.00	1.80	9.80	1,383.62	26.03	13.59	-13.46	0.19	0.16	-3.65
1,448.00	1.70	2.80	1,447.59	27.97	13.81	-13.67	0.37	-0.16	-10.94
1,511.00	1.80	2.60	1,510.56	29.89	13.90	-13.75	0.16	0.16	-0.32
1,574.00	1.80	358.20	1,573.53	31.87	13.91	-13.76	0.22	0.00	-6.98
1,637.00	1.70	359.30	1,636.50	33.80	13.87	-13.71	0.17	-0.16	1.75
1,700.00	1.70	0.70	1,699.48	35.66	13.87	-13.70	0.07	0.00	2.22
1,764.00	1.60	6.10	1,763.45	37.50	13.98	-13.79	0.29	-0.16	8.44
1,827.00	1.50	358.20	1,826.43	39.20	14.05	-13.85	0.37	-0.16	-12.54
1,890.00	1.60	356.60	1,889.40	40.90	13.97	-13.77	0.17	0.16	-2.54
1,954.00	1.50	358.40	1,953.38	42.63	13.89	-13.68	0.17	-0.16	2.81
2,017.00	1.50	2.80	2,016.36	44.28	13.91	-13.69	0.18	0.00	6.98
2,080.00	1.30	355.60	2,079.34	45.82	13.89	-13.67	0.42	-0.32	-11.43
2,144.00	1.10	359.30	2,143.33	47.15	13.83	-13.60	0.33	-0.31	5.78
2,207.00	1.10	356.10	2,206.31	48.36	13.78	-13.55	0.10	0.00	-5.08
2,270.00	1.10	353.30	2,269.30	49.57	13.67	-13.43	0.09	0.00	-4.44
2,334.00	1.10	351.20	2,333.29	50.78	13.50	-13.26	0.06	0.00	-3.28
2,397.00	1.00	343.60	2,396.28	51.91	13.26	-13.00	0.27	-0.16	-12.06
2,460.00	0.90	331.50	2,459.27	52.87	12.87	-12.61	0.35	-0.16	-19.21
2,524.00	0.90	331.10	2,523.26	53.75	12.38	-12.12	0.01	0.00	-0.62
2,587.00	0.60	332.40	2,586.26	54.48	11.99	-11.72	0.48	-0.48	2.06
2,680.00	0.60	339.90	2,679.25	55.37	11.60	-11.33	0.08	0.00	8.06
2,743.00	0.40	338.70	2,742.25	55.88	11.40	-11.13	0.32	-0.32	-1.90
2,806.00	0.40	340.40	2,805.25	56.29	11.25	-10.98	0.02	0.00	2.70
2,870.00	0.40	310.90	2,869.25	56.65	11.01	-10.73	0.32	0.00	-46.09
2,933.00	0.40	317.20	2,932.25	56.96	10.69	-10.41	0.07	0.00	10.00
2,996.00	0.40	314.80	2,995.24	57.27	10.39	-10.11	0.03	0.00	-3.81
3,059.00	0.30	298.60	3,058.24	57.51	10.09	-9.80	0.22	-0.16	-25.71
3,122.00	0.30	298.40	3,121.24	57.66	9.80	-9.51	0.00	0.00	-0.32
3,186.00	0.40	302.70	3,185.24	57.86	9.46	-9.18	0.16	0.16	6.72
3,249.00	0.40	249.20	3,248.24	57.90	9.07	-8.79	0.57	0.00	-84.92
3,312.00	0.40	257.80	3,311.24	57.78	8.65	-8.37	0.10	0.00	13.65
3,375.00	0.40	247.10	3,374.24	57.65	8.23	-7.95	0.12	0.00	-16.98
3,439.00	0.60	235.20	3,438.23	57.37	7.75	-7.47	0.35	0.31	-18.59
3,502.00	0.50	236.60	3,501.23	57.03	7.25	-6.97	0.16	-0.16	2.22
3,565.00	0.40	247.10	3,564.23	56.79	6.82	-6.54	0.21	-0.16	16.67
3,628.00	0.60	242.20	3,627.23	56.55	6.32	-6.05	0.32	0.32	-7.78
3,692.00	0.50	237.40	3,691.22	56.25	5.79	-5.52	0.17	-0.16	-7.50
3,755.00	0.40	231.80	3,754.22	55.96	5.39	-5.11	0.17	-0.16	-8.89
3,818.00	0.50	236.90	3,817.22	55.68	4.98	-4.71	0.17	0.16	8.10
3,882.00	0.50	226.50	3,881.22	55.33	4.55	-4.28	0.14	0.00	-16.25

LEAM Drilling Systems LLC

Survey Report

Company: ENCANA OIL & GAS USA, INC.
Project: Sandoval County, NM
Site: Lybrook L33-2307
Well: 01H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 01H
TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,945.00	0.50	232.90	3,944.22	54.98	4.13	-3.86	0.09	0.00	10.16
4,008.00	0.40	224.30	4,007.21	54.65	3.76	-3.49	0.19	-0.16	-13.65
4,071.00	0.40	225.70	4,070.21	54.34	3.45	-3.18	0.02	0.00	2.22
4,103.00	0.40	236.20	4,102.21	54.20	3.27	-3.01	0.23	0.00	32.81
4,135.00	0.40	229.40	4,134.21	54.07	3.09	-2.83	0.15	0.00	-21.25
4,166.00	1.90	314.10	4,165.20	54.35	2.64	-2.38	6.15	4.84	273.23
4,198.00	6.10	329.90	4,197.12	56.20	1.41	-1.13	13.45	13.12	49.37
4,229.00	9.90	334.40	4,227.81	60.03	-0.57	0.86	12.41	12.26	14.52
4,261.00	12.80	338.90	4,259.18	65.81	-3.03	3.36	9.47	9.06	14.06
4,292.00	16.00	341.70	4,289.21	73.08	-5.61	5.97	10.56	10.32	9.03
4,324.00	19.00	346.10	4,319.72	82.32	-8.25	8.65	10.24	9.37	13.75
4,355.00	22.70	347.70	4,348.69	93.07	-10.74	11.19	12.07	11.94	5.16
4,387.00	26.60	347.10	4,377.77	106.09	-13.65	14.17	12.21	12.19	-1.87
4,419.00	30.10	343.30	4,405.93	120.77	-17.56	18.15	12.30	10.94	-11.87
4,447.00	32.16	337.39	4,429.90	134.38	-22.44	23.10	13.16	7.37	-21.10
HL Crossing: 4447' MD, 4430' TVD									
4,450.00	32.40	336.80	4,432.44	135.85	-23.07	23.73	13.16	7.88	-19.73
4,482.00	33.60	328.00	4,459.29	151.25	-31.14	31.88	15.43	3.75	-27.50
4,513.00	34.30	321.80	4,485.01	165.39	-41.09	41.90	11.39	2.26	-20.00
4,545.00	35.20	315.30	4,511.31	179.04	-53.16	54.03	11.91	2.81	-20.31
4,576.00	35.50	313.60	4,536.60	191.60	-65.96	66.90	3.32	0.97	-5.48
4,608.00	36.10	309.90	4,562.55	204.05	-79.93	80.92	7.02	1.87	-11.56
4,640.00	38.60	306.20	4,587.99	216.00	-95.22	96.27	10.50	7.81	-11.56
4,671.00	41.70	302.00	4,611.69	227.18	-111.77	112.88	13.27	10.00	-13.55
4,703.00	44.10	296.90	4,635.14	237.86	-130.74	131.90	13.18	7.50	-15.94
4,735.00	46.30	291.20	4,657.69	247.09	-151.46	152.67	14.38	6.87	-17.81
4,766.00	49.10	287.50	4,678.56	254.67	-173.09	174.33	12.63	9.03	-11.94
4,798.00	51.20	284.00	4,699.07	261.32	-196.73	198.01	10.66	6.56	-10.94
4,830.00	51.90	278.90	4,718.97	266.29	-221.28	222.58	12.67	2.19	-15.94
4,861.00	52.10	273.80	4,738.07	268.99	-245.54	246.86	12.98	0.65	-16.45
4,893.00	51.70	271.70	4,757.81	270.20	-270.69	272.01	5.31	-1.25	-6.56
4,924.00	53.30	271.00	4,776.68	270.77	-295.28	296.60	5.46	5.16	-2.26
4,956.00	55.30	271.00	4,795.36	271.23	-321.26	322.58	6.25	6.25	0.00
4,987.00	55.50	270.30	4,812.96	271.52	-346.78	348.10	1.97	0.65	-2.26
5,019.00	55.40	270.10	4,831.11	271.61	-373.13	374.46	0.60	-0.31	-0.62
5,051.00	55.30	270.00	4,849.30	271.63	-399.46	400.78	0.40	-0.31	-0.31
5,082.00	55.30	269.60	4,866.95	271.54	-424.94	426.27	1.06	0.00	-1.29
5,114.00	55.30	271.70	4,885.17	271.84	-451.25	452.57	5.40	0.00	6.56
5,146.00	55.00	272.10	4,903.45	272.71	-477.50	478.82	1.39	-0.94	1.25
5,177.00	54.40	272.10	4,921.37	273.64	-502.78	504.11	1.94	-1.94	0.00
5,209.00	55.50	271.00	4,939.74	274.35	-528.96	530.30	4.44	3.44	-3.44
5,240.00	59.40	271.70	4,956.42	274.96	-555.08	556.42	12.72	12.58	2.26
5,268.00	62.55	272.05	4,970.00	275.77	-579.55	580.89	11.30	11.25	1.26

7"

LEAM Drilling Systems LLC

Survey Report

Company: ENCANA OIL & GAS USA, INC.
 Project: Sandoval County, NM
 Site: Lybrook L33-2307
 Well: 01H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 01H
 TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,272.00	63.00	272.10	4,971.83	275.90	-583.10	584.45	11.30	11.25	1.21
5,307.00	66.30	272.60	4,986.82	277.19	-614.70	616.05	9.52	9.43	1.43
5,345.00	68.70	272.90	5,001.36	278.88	-649.77	651.12	6.36	6.32	0.79
5,377.00	69.60	273.40	5,012.75	280.52	-679.63	680.99	3.17	2.81	1.56
5,380.60	69.66	273.48	5,014.00	280.73	-682.99	684.36	2.66	1.61	2.26
HL Crossing: 5381' MD, 5014' TVD									
5,408.00	70.10	274.10	5,023.43	282.43	-708.67	710.04	2.66	1.61	2.26
5,440.00	71.60	276.30	5,033.92	285.17	-738.77	740.15	8.01	4.69	6.87
5,472.00	74.40	276.90	5,043.28	288.69	-769.16	770.56	8.93	8.75	1.87
5,503.00	77.10	277.20	5,050.91	292.37	-798.98	800.40	8.76	8.71	0.97
5,535.00	78.80	278.00	5,057.59	296.51	-830.00	831.44	5.85	5.31	2.50
5,567.00	79.40	278.60	5,063.64	301.05	-861.09	862.55	2.63	1.87	1.87
5,598.00	81.90	278.50	5,068.68	305.60	-891.34	892.82	8.07	8.06	-0.32
5,617.42	83.42	278.56	5,071.16	308.45	-910.38	911.88	7.82	7.81	0.31
LP/POE(Lyb L33-2307 01H)									
5,630.00	84.40	278.60	5,072.49	310.32	-922.75	924.26	7.82	7.81	0.31
5,661.00	87.10	279.20	5,074.79	315.10	-953.29	954.82	8.92	8.71	1.94
5,693.00	89.20	279.40	5,075.82	320.27	-984.85	986.41	6.59	6.56	0.62
5,725.00	90.00	277.40	5,076.05	324.95	-1,016.51	1,018.08	6.73	2.50	-6.25
5,786.00	90.10	277.30	5,075.99	332.75	-1,077.01	1,078.62	0.23	0.16	-0.16
5,848.00	89.90	277.10	5,075.99	340.52	-1,138.52	1,140.17	0.46	-0.32	-0.32
5,909.00	91.80	274.00	5,075.09	346.42	-1,199.21	1,200.89	5.96	3.11	-5.08
5,971.00	91.40	275.80	5,073.36	351.71	-1,260.96	1,262.66	2.97	-0.65	2.90
6,032.00	91.70	275.70	5,071.71	357.82	-1,321.63	1,323.36	0.52	0.49	-0.16
6,093.00	93.60	273.90	5,068.89	362.92	-1,382.35	1,384.10	4.29	3.11	-2.95
6,155.00	93.90	273.70	5,064.83	367.02	-1,444.08	1,445.86	0.58	0.48	-0.32
6,216.00	94.30	273.50	5,060.47	370.84	-1,504.80	1,506.60	0.73	0.66	-0.33
6,277.00	95.20	273.20	5,055.42	374.39	-1,565.49	1,567.30	1.55	1.48	-0.49
6,338.00	92.80	272.50	5,051.16	377.42	-1,626.26	1,628.08	4.10	-3.93	-1.15
6,400.00	91.00	272.30	5,049.11	380.01	-1,688.17	1,690.01	2.92	-2.90	-0.32
6,461.00	91.30	272.30	5,047.89	382.46	-1,749.11	1,750.96	0.49	0.49	0.00
6,522.00	91.90	272.40	5,046.18	384.96	-1,810.03	1,811.89	1.00	0.98	0.16
6,583.00	92.40	272.40	5,043.89	387.51	-1,870.94	1,872.81	0.82	0.82	0.00
6,645.00	91.40	273.80	5,041.84	390.87	-1,932.81	1,934.70	2.77	-1.61	2.26
6,706.00	91.60	273.40	5,040.24	394.69	-1,993.67	1,995.57	0.73	0.33	-0.66
6,768.00	91.00	275.30	5,038.83	399.40	-2,055.47	2,057.40	3.21	-0.97	3.06
6,829.00	91.30	275.40	5,037.61	405.08	-2,116.19	2,118.15	0.52	0.49	0.16
6,890.00	90.80	274.40	5,036.49	410.29	-2,176.96	2,178.94	1.83	-0.82	-1.64
6,951.00	89.20	272.80	5,036.49	414.12	-2,237.83	2,239.83	3.71	-2.62	-2.62
7,013.00	92.10	279.40	5,035.79	420.70	-2,299.44	2,301.47	11.63	4.68	10.65
7,074.00	89.80	275.90	5,034.78	428.82	-2,359.87	2,361.94	6.86	-3.77	-5.74
7,135.00	90.00	276.00	5,034.88	435.14	-2,420.54	2,422.64	0.37	0.33	0.16
7,196.00	90.70	276.60	5,034.51	441.84	-2,481.17	2,483.30	1.51	1.15	0.98

LEAM Drilling Systems LLC

Survey Report

Company: ENCANA OIL & GAS USA, INC.
 Project: Sandoval County, NM
 Site: Lybrook L33-2307
 Well: 01H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 01H
 TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,258.00	92.10	278.10	5,033.00	449.77	-2,542.64	2,544.81	3.31	2.26	2.42
7,321.00	93.20	279.00	5,030.08	459.12	-2,604.87	2,607.09	2.25	1.75	1.43
7,384.00	93.70	279.20	5,026.29	469.07	-2,666.97	2,669.23	0.85	0.79	0.32
7,447.00	94.00	278.90	5,022.06	478.96	-2,729.04	2,731.35	0.67	0.48	-0.48
7,511.00	94.40	279.20	5,017.37	488.99	-2,792.08	2,794.43	0.78	0.62	0.47
7,574.00	92.40	278.40	5,013.64	498.62	-2,854.22	2,856.62	3.42	-3.17	-1.27
7,637.00	92.70	277.60	5,010.83	507.37	-2,916.55	2,918.99	1.36	0.48	-1.27
7,700.00	92.90	277.70	5,007.76	515.75	-2,978.91	2,981.40	0.35	0.32	0.16
7,763.00	91.50	276.90	5,005.34	523.75	-3,041.35	3,043.88	2.56	-2.22	-1.27
7,826.00	91.90	276.70	5,003.47	531.21	-3,103.88	3,106.44	0.71	0.63	-0.32
7,889.00	90.10	275.70	5,002.37	538.01	-3,166.50	3,169.09	3.27	-2.86	-1.59
7,952.00	90.80	276.20	5,001.88	544.54	-3,229.16	3,231.78	1.37	1.11	0.79
8,014.00	91.10	276.60	5,000.85	551.45	-3,290.76	3,293.42	0.81	0.48	0.65
8,077.00	89.40	274.40	5,000.57	557.49	-3,353.47	3,356.15	4.41	-2.70	-3.49
8,140.00	89.70	274.60	5,001.07	562.43	-3,416.27	3,418.98	0.57	0.48	0.32
8,203.00	90.30	275.10	5,001.07	567.76	-3,479.04	3,481.78	1.24	0.95	0.79
8,266.00	90.70	275.80	5,000.52	573.74	-3,541.76	3,544.52	1.28	0.63	1.11
8,329.00	91.10	275.40	4,999.53	579.89	-3,604.45	3,607.24	0.90	0.63	-0.63
8,392.00	90.20	274.00	4,998.81	585.05	-3,667.23	3,670.04	2.64	-1.43	-2.22
8,455.00	90.60	274.00	4,998.37	589.44	-3,730.07	3,732.91	0.63	0.63	0.00
8,519.00	90.70	274.20	4,997.65	594.02	-3,793.91	3,796.76	0.35	0.16	0.31
8,582.00	91.00	274.10	4,996.71	598.58	-3,856.73	3,859.61	0.50	0.48	-0.16
8,645.00	90.90	273.80	4,995.67	602.92	-3,919.58	3,922.48	0.50	-0.16	-0.48
8,708.00	89.00	274.80	4,995.72	607.64	-3,982.40	3,985.32	3.41	-3.02	1.59
8,772.00	89.40	275.00	4,996.62	613.10	-4,046.15	4,049.10	0.70	0.62	0.31
8,835.00	89.60	275.00	4,997.17	618.60	-4,108.91	4,111.89	0.32	0.32	0.00
8,898.00	90.10	275.20	4,997.33	624.20	-4,171.66	4,174.66	0.85	0.79	0.32
8,962.00	90.30	275.60	4,997.11	630.22	-4,235.38	4,238.41	0.70	0.31	0.62
9,025.00	90.30	275.00	4,996.78	636.04	-4,298.11	4,301.16	0.95	0.00	-0.95
9,088.00	90.30	275.00	4,996.45	641.53	-4,360.87	4,363.95	0.00	0.00	0.00
9,151.00	90.20	274.30	4,996.17	646.64	-4,423.66	4,426.77	1.12	-0.16	-1.11
9,215.00	90.40	274.10	4,995.84	651.32	-4,487.49	4,490.62	0.44	0.31	-0.31
9,278.00	90.70	273.70	4,995.23	655.61	-4,550.34	4,553.49	0.79	0.48	-0.63
9,340.00	91.20	273.80	4,994.21	659.66	-4,612.20	4,615.36	0.82	0.81	0.16
9,403.00	90.80	275.00	4,993.11	664.49	-4,675.00	4,678.19	2.01	-0.63	1.90
9,466.00	91.10	275.30	4,992.06	670.15	-4,737.74	4,740.95	0.67	0.48	0.48
9,528.00	91.70	275.50	4,990.55	675.98	-4,799.44	4,802.69	1.02	0.97	0.32
9,591.00	92.10	275.80	4,988.46	682.18	-4,862.10	4,865.38	0.79	0.63	0.48
9,653.00	89.90	276.60	4,987.38	688.88	-4,923.72	4,927.03	3.78	-3.55	1.29
9,716.00	90.00	276.60	4,987.43	696.12	-4,986.31	4,989.65	0.16	0.16	0.00
9,779.00	89.90	276.50	4,987.49	703.30	-5,048.90	5,052.27	0.22	-0.16	-0.16
9,842.00	90.60	277.00	4,987.21	710.71	-5,111.46	5,114.87	1.37	1.11	0.79
9,895.00	91.00	276.80	4,986.47	717.07	-5,164.07	5,167.51	0.84	0.75	-0.38
9,979.00	91.50	276.80	4,984.64	727.02	-5,247.46	5,250.95	0.60	0.60	0.00

LEAM Drilling Systems LLC

Survey Report

Company: ENCANA OIL & GAS USA, INC.
Project: Sandoval County, NM
Site: Lybrook L33-2307
Well: 01H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well 01H
GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
True
Minimum Curvature
EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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BHL(Lyb L33-2307 01H) - New PBHL(Lyb L33-2307 01H) - OLD PBHL(Lyb L33-2307 01H)

LEAM Drilling Systems LLC

Survey Report - Geographic

Company: ENCANA OIL & GAS USA, INC.
 Project: Sandoval County, NM
 Site: Lybrook L33-2307
 Well: 01H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 01H
 TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Multi User DB

Project	Sandoval County, NM, NM-Central		
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 L33-2307		
Site Position:		Northing:	1,887,593.27 usft
From:	Lat/Long	Easting:	1,245,678.18 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	36.180240
		Longitude:	-107.587570
		Grid Convergence:	-0.79 °

Well	01H		
Well Position	+N-S	0.00 usft	Northing: 1,887,593.27 usft
	+E-W	0.00 usft	Easting: 1,245,678.18 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	36.180240
		Longitude:	-107.587570
		Ground Level:	6,867.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	BGGM2014	08/16/14	9.45
		Dip Angle	62.95
		Field Strength	50,038
		(°)	(°)
		(nT)	

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			270.28

Survey Program	Date 09/01/14		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
625.00	9,895.00	Survey #1 (OH)	LEAM MWD-ADJ
9,979.00	9,979.00	Survey #2 (OH)	Project
			Description
			MWD - Standard
			Projection

Survey									
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting		
(usft)			(usft)			(usft)	(usft)		
0.00	0.00	0.00	0.00	0.00	0.00	1,887,593.27	1,245,678.18	36.180240	-107.587570
625.00	1.50	36.20	624.93	6.60	4.83	1,887,599.80	1,245,683.11	36.180258	-107.587554
689.00	1.30	33.50	688.91	7.88	5.73	1,887,601.07	1,245,684.02	36.180262	-107.587551
752.00	1.40	29.30	751.89	9.15	6.50	1,887,602.33	1,245,684.81	36.180265	-107.587548
815.00	1.60	26.10	814.87	10.61	7.26	1,887,603.78	1,245,685.59	36.180269	-107.587546
879.00	1.60	23.50	878.85	12.23	8.01	1,887,605.39	1,245,686.36	36.180274	-107.587543
942.00	1.60	25.60	941.82	13.83	8.74	1,887,606.98	1,245,687.12	36.180278	-107.587541
1,005.00	1.80	27.00	1,004.79	15.51	9.57	1,887,608.64	1,245,687.97	36.180283	-107.587538
1,068.00	1.70	26.70	1,067.76	17.22	10.44	1,887,610.35	1,245,688.86	36.180287	-107.587535
1,131.00	1.70	28.10	1,130.74	18.88	11.30	1,887,611.99	1,245,689.74	36.180292	-107.587532
1,195.00	1.60	25.10	1,194.71	20.53	12.13	1,887,613.63	1,245,690.59	36.180296	-107.587529

LEAM Drilling Systems LLC

Survey Report - Geographic

Company: ENCANA OIL & GAS USA, INC.
 Project: Sandoval County, NM
 Site: Lybrook L33-2307
 Well: 01H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 01H
 TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,258.00	1.80	15.60	1,257.68	22.28	12.77	1,887,615.37	1,245,691.26	36.180301	-107.587527
1,321.00	1.70	12.10	1,320.65	24.15	13.23	1,887,617.23	1,245,691.74	36.180306	-107.587525
1,384.00	1.80	9.80	1,383.62	26.03	13.59	1,887,619.11	1,245,692.13	36.180312	-107.587524
1,448.00	1.70	2.80	1,447.59	27.97	13.81	1,887,621.05	1,245,692.38	36.180317	-107.587523
1,511.00	1.80	2.60	1,510.56	29.89	13.90	1,887,622.97	1,245,692.50	36.180322	-107.587523
1,574.00	1.80	358.20	1,573.53	31.87	13.91	1,887,624.95	1,245,692.54	36.180328	-107.587523
1,637.00	1.70	359.30	1,636.50	33.80	13.87	1,887,626.87	1,245,692.52	36.180333	-107.587523
1,700.00	1.70	0.70	1,699.48	35.66	13.87	1,887,628.74	1,245,692.55	36.180338	-107.587523
1,764.00	1.60	6.10	1,763.45	37.50	13.98	1,887,630.57	1,245,692.68	36.180343	-107.587523
1,827.00	1.50	358.20	1,826.43	39.20	14.05	1,887,632.27	1,245,692.77	36.180348	-107.587523
1,890.00	1.60	356.60	1,889.40	40.90	13.97	1,887,633.97	1,245,692.71	36.180352	-107.587523
1,954.00	1.50	358.40	1,953.38	42.63	13.89	1,887,635.71	1,245,692.66	36.180357	-107.587523
2,017.00	1.50	2.80	2,016.36	44.28	13.91	1,887,637.35	1,245,692.70	36.180362	-107.587523
2,080.00	1.30	355.60	2,079.34	45.82	13.89	1,887,638.89	1,245,692.71	36.180366	-107.587523
2,144.00	1.10	359.30	2,143.33	47.15	13.83	1,887,640.23	1,245,692.66	36.180370	-107.587523
2,207.00	1.10	356.10	2,206.31	48.36	13.78	1,887,641.44	1,245,692.63	36.180373	-107.587524
2,270.00	1.10	353.30	2,269.30	49.57	13.67	1,887,642.64	1,245,692.54	36.180376	-107.587524
2,334.00	1.10	351.20	2,333.29	50.78	13.50	1,887,643.86	1,245,692.39	36.180380	-107.587525
2,397.00	1.00	343.60	2,396.28	51.91	13.26	1,887,644.99	1,245,692.16	36.180383	-107.587525
2,460.00	0.90	331.50	2,459.27	52.87	12.87	1,887,645.96	1,245,691.78	36.180385	-107.587527
2,524.00	0.90	331.10	2,523.26	53.75	12.38	1,887,646.85	1,245,691.31	36.180388	-107.587528
2,587.00	0.60	332.40	2,586.26	54.48	11.99	1,887,647.58	1,245,690.93	36.180390	-107.587530
2,680.00	0.60	339.90	2,679.25	55.37	11.60	1,887,648.47	1,245,690.54	36.180392	-107.587531
2,743.00	0.40	338.70	2,742.25	55.88	11.40	1,887,648.99	1,245,690.36	36.180394	-107.587532
2,806.00	0.40	340.40	2,805.25	56.29	11.25	1,887,649.40	1,245,690.21	36.180395	-107.587532
2,870.00	0.40	310.90	2,869.25	56.65	11.01	1,887,649.76	1,245,689.97	36.180396	-107.587533
2,933.00	0.40	317.20	2,932.25	56.96	10.69	1,887,650.07	1,245,689.66	36.180396	-107.587534
2,996.00	0.40	314.80	2,995.24	57.27	10.39	1,887,650.39	1,245,689.36	36.180397	-107.587535
3,059.00	0.30	298.60	3,058.24	57.51	10.09	1,887,650.63	1,245,689.06	36.180398	-107.587536
3,122.00	0.30	298.40	3,121.24	57.66	9.80	1,887,650.79	1,245,688.77	36.180398	-107.587537
3,186.00	0.40	302.70	3,185.24	57.86	9.46	1,887,651.00	1,245,688.44	36.180399	-107.587538
3,249.00	0.40	249.20	3,248.24	57.90	9.07	1,887,651.04	1,245,688.05	36.180399	-107.587540
3,312.00	0.40	257.80	3,311.24	57.78	8.65	1,887,650.92	1,245,687.63	36.180399	-107.587541
3,375.00	0.40	247.10	3,374.24	57.65	8.23	1,887,650.80	1,245,687.21	36.180398	-107.587542
3,439.00	0.60	235.20	3,438.23	57.37	7.75	1,887,650.53	1,245,686.72	36.180398	-107.587544
3,502.00	0.50	236.60	3,501.23	57.03	7.25	1,887,650.19	1,245,686.22	36.180397	-107.587546
3,565.00	0.40	247.10	3,564.23	56.79	6.82	1,887,649.96	1,245,685.78	36.180396	-107.587547
3,628.00	0.60	242.20	3,627.23	56.55	6.32	1,887,649.73	1,245,685.29	36.180395	-107.587549
3,692.00	0.50	237.40	3,691.22	56.25	5.79	1,887,649.43	1,245,684.75	36.180395	-107.587551
3,755.00	0.40	231.80	3,754.22	55.96	5.39	1,887,649.15	1,245,684.34	36.180394	-107.587552
3,818.00	0.50	236.90	3,817.22	55.68	4.98	1,887,648.87	1,245,683.94	36.180393	-107.587553
3,882.00	0.50	226.50	3,881.22	55.33	4.55	1,887,648.53	1,245,683.49	36.180392	-107.587555
3,945.00	0.50	232.90	3,944.22	54.98	4.13	1,887,648.18	1,245,683.07	36.180391	-107.587556
4,008.00	0.40	224.30	4,007.21	54.65	3.76	1,887,647.87	1,245,682.69	36.180390	-107.587558
4,071.00	0.40	225.70	4,070.21	54.34	3.45	1,887,647.56	1,245,682.38	36.180389	-107.587559
4,103.00	0.40	236.20	4,102.21	54.20	3.27	1,887,647.42	1,245,682.20	36.180389	-107.587559
4,135.00	0.40	229.40	4,134.21	54.07	3.09	1,887,647.29	1,245,682.02	36.180389	-107.587560
4,166.00	1.90	314.10	4,165.20	54.35	2.64	1,887,647.58	1,245,681.58	36.180389	-107.587561
4,198.00	6.10	329.90	4,197.12	56.20	1.41	1,887,649.44	1,245,680.37	36.180394	-107.587565
4,229.00	9.90	334.40	4,227.81	60.03	-0.57	1,887,653.30	1,245,678.44	36.180405	-107.587572
4,261.00	12.80	338.90	4,259.18	65.81	-3.03	1,887,659.12	1,245,676.06	36.180421	-107.587581
4,292.00	16.00	341.70	4,289.21	73.08	-5.61	1,887,666.42	1,245,673.58	36.180441	-107.587589
4,324.00	19.00	346.10	4,319.72	82.32	-8.25	1,887,675.70	1,245,671.07	36.180466	-107.587598
4,355.00	22.70	347.70	4,348.69	93.07	-10.74	1,887,686.48	1,245,668.73	36.180496	-107.587607
4,387.00	26.60	347.10	4,377.77	106.09	-13.65	1,887,699.54	1,245,666.00	36.180531	-107.587617

LEAM Drilling Systems LLC

Survey Report - Geographic

Company: ENCANO OIL & GAS USA, INC.
Project: Sandoval County, NM
Site: Lybrook L33-2307
Well: 01H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 01H
TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,419.00	30.10	343.30	4,405.93	120.77	-17.56	1,887,714.26	1,245,662.29	36.180572	-107.587630
4,447.00	32.16	337.39	4,429.90	134.38	-22.44	1,887,727.94	1,245,657.60	36.180609	-107.587646
HL Crossing: 4447' MD, 4430' TVD									
4,450.00	32.40	336.80	4,432.44	135.85	-23.07	1,887,729.42	1,245,656.99	36.180613	-107.587648
4,482.00	33.60	328.00	4,459.29	151.25	-31.14	1,887,744.93	1,245,649.13	36.180655	-107.587676
4,513.00	34.30	321.80	4,485.01	165.39	-41.09	1,887,759.21	1,245,639.38	36.180694	-107.587709
4,545.00	35.20	315.30	4,511.31	179.04	-53.16	1,887,773.02	1,245,627.50	36.180732	-107.587750
4,576.00	35.50	313.60	4,536.60	191.60	-65.96	1,887,785.76	1,245,614.87	36.180766	-107.587794
4,608.00	36.10	309.90	4,562.55	204.05	-79.93	1,887,798.40	1,245,601.08	36.180801	-107.587841
4,640.00	38.60	306.20	4,587.99	216.00	-95.22	1,887,810.56	1,245,585.95	36.180833	-107.587893
4,671.00	41.70	302.00	4,611.69	227.18	-111.77	1,887,821.97	1,245,569.56	36.180864	-107.587949
4,703.00	44.10	296.90	4,635.14	237.86	-130.74	1,887,832.91	1,245,550.74	36.180893	-107.588013
4,735.00	46.30	291.20	4,657.69	247.09	-151.46	1,887,842.42	1,245,530.14	36.180919	-107.588083
4,766.00	49.10	287.50	4,678.56	254.67	-173.09	1,887,850.30	1,245,508.62	36.180940	-107.588157
4,798.00	51.20	284.00	4,699.07	261.32	-196.73	1,887,857.28	1,245,485.07	36.180958	-107.588237
4,830.00	51.90	278.90	4,718.97	266.29	-221.28	1,887,862.58	1,245,460.60	36.180971	-107.588320
4,861.00	52.10	273.80	4,738.07	268.99	-245.54	1,887,865.61	1,245,436.37	36.180979	-107.588402
4,893.00	51.70	271.70	4,757.81	270.20	-270.69	1,887,867.17	1,245,411.24	36.180982	-107.588487
4,924.00	53.30	271.00	4,776.68	270.77	-295.28	1,887,868.09	1,245,386.66	36.180984	-107.588571
4,956.00	55.30	271.00	4,795.36	271.23	-321.26	1,887,868.90	1,245,360.69	36.180985	-107.588659
4,987.00	55.50	270.30	4,812.96	271.52	-346.78	1,887,869.54	1,245,335.18	36.180986	-107.588745
5,019.00	55.40	270.10	4,831.11	271.61	-373.13	1,887,869.99	1,245,308.83	36.180986	-107.588834
5,051.00	55.30	270.00	4,849.30	271.63	-399.46	1,887,870.38	1,245,282.51	36.180986	-107.588924
5,082.00	55.30	269.60	4,866.95	271.54	-424.94	1,887,870.64	1,245,257.02	36.180986	-107.589010
5,114.00	55.30	271.70	4,885.17	271.84	-451.25	1,887,871.30	1,245,230.73	36.180987	-107.589099
5,146.00	55.00	272.10	4,903.45	272.71	-477.50	1,887,872.54	1,245,204.49	36.180989	-107.589188
5,177.00	54.40	272.10	4,921.37	273.64	-502.78	1,887,873.81	1,245,179.23	36.180992	-107.589274
5,209.00	55.50	271.00	4,939.74	274.35	-528.96	1,887,874.88	1,245,153.05	36.180994	-107.589362
5,240.00	59.40	271.70	4,956.42	274.96	-555.08	1,887,875.86	1,245,126.94	36.180995	-107.589451
5,268.00	62.55	272.05	4,970.00	275.77	-579.55	1,887,877.00	1,245,102.49	36.180997	-107.589534
7"									
5,272.00	63.00	272.10	4,971.83	275.90	-583.10	1,887,877.18	1,245,098.94	36.180998	-107.589546
5,307.00	66.30	272.60	4,986.82	277.19	-614.70	1,887,878.91	1,245,067.36	36.181001	-107.589653
5,345.00	68.70	272.90	5,001.36	278.88	-649.77	1,887,881.08	1,245,032.32	36.181006	-107.589772
5,377.00	69.60	273.40	5,012.75	280.52	-679.63	1,887,883.13	1,245,002.49	36.181011	-107.589873
5,380.60	69.66	273.48	5,014.00	280.73	-682.99	1,887,883.38	1,244,999.12	36.181011	-107.589884
HL Crossing: 5381' MD, 5014' TVD									
5,408.00	70.10	274.10	5,023.43	282.43	-708.67	1,887,885.44	1,244,973.48	36.181016	-107.589971
5,440.00	71.60	276.30	5,033.92	285.17	-738.77	1,887,888.59	1,244,943.42	36.181023	-107.590073
5,472.00	74.40	276.90	5,043.28	288.69	-769.16	1,887,892.53	1,244,913.07	36.181033	-107.590176
5,503.00	77.10	277.20	5,050.91	292.37	-798.98	1,887,896.63	1,244,883.31	36.181043	-107.590277
5,535.00	78.80	278.00	5,057.59	296.51	-830.00	1,887,901.19	1,244,852.35	36.181054	-107.590382
5,567.00	79.40	278.60	5,063.64	301.05	-861.09	1,887,906.16	1,244,821.33	36.181067	-107.590488
5,598.00	81.90	278.50	5,068.68	305.60	-891.34	1,887,911.12	1,244,791.14	36.181079	-107.590590
5,617.42	83.42	278.56	5,071.16	308.45	-910.38	1,887,914.24	1,244,772.14	36.181087	-107.590655
LP/POE(Lyb L33-2307 01H)									
5,630.00	84.40	278.60	5,072.49	310.32	-922.75	1,887,916.28	1,244,759.80	36.181092	-107.590697
5,661.00	87.10	279.20	5,074.79	315.10	-953.29	1,887,921.48	1,244,729.33	36.181106	-107.590800
5,693.00	89.20	279.40	5,075.82	320.27	-984.85	1,887,927.08	1,244,697.84	36.181120	-107.590907
5,725.00	90.00	277.40	5,076.05	324.95	-1,016.51	1,887,932.19	1,244,666.25	36.181133	-107.591014
5,786.00	90.10	277.30	5,075.99	332.75	-1,077.01	1,887,940.83	1,244,605.87	36.181154	-107.591219
5,848.00	89.90	277.10	5,075.99	340.52	-1,138.52	1,887,949.45	1,244,544.47	36.181175	-107.591428
5,909.00	91.80	274.00	5,075.09	346.42	-1,199.21	1,887,956.18	1,244,483.86	36.181191	-107.591633
5,971.00	91.40	275.80	5,073.36	351.71	-1,260.96	1,887,962.33	1,244,422.19	36.181206	-107.591842

LEAM Drilling Systems LLC

Survey Report - Geographic

Company: ENCANA OIL & GAS USA, INC.
Project: Sandoval County, NM
Site: Lybrook L33-2307
Well: 01H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 01H
TVD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
MD Reference: GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,032.00	91.70	275.70	5,071.71	357.82	-1,321.63	1,887,969.27	1,244,361.61	36.181223	-107.592048
6,093.00	93.60	273.90	5,068.89	362.92	-1,382.35	1,887,975.21	1,244,300.97	36.181237	-107.592254
6,155.00	93.90	273.70	5,064.83	367.02	-1,444.08	1,887,980.16	1,244,239.30	36.181248	-107.592463
6,216.00	94.30	273.50	5,060.47	370.84	-1,504.80	1,887,984.82	1,244,178.64	36.181259	-107.592669
6,277.00	95.20	273.20	5,055.42	374.39	-1,565.49	1,887,989.20	1,244,118.01	36.181268	-107.592874
6,338.00	92.80	272.50	5,051.16	377.42	-1,626.26	1,887,993.07	1,244,057.28	36.181277	-107.593080
6,400.00	91.00	272.30	5,049.11	380.01	-1,688.17	1,887,996.51	1,243,995.41	36.181284	-107.593290
6,461.00	91.30	272.30	5,047.89	382.46	-1,749.11	1,887,999.80	1,243,934.52	36.181290	-107.593496
6,522.00	91.90	272.40	5,046.18	384.96	-1,810.03	1,888,003.14	1,243,873.63	36.181297	-107.593703
6,583.00	92.40	272.40	5,043.89	387.51	-1,870.94	1,888,006.53	1,243,812.77	36.181304	-107.593909
6,645.00	91.40	273.80	5,041.84	390.87	-1,932.81	1,888,010.74	1,243,750.95	36.181313	-107.594119
6,706.00	91.60	273.40	5,040.24	394.69	-1,993.67	1,888,015.40	1,243,690.15	36.181324	-107.594325
6,768.00	91.00	275.30	5,038.83	399.40	-2,055.47	1,888,020.96	1,243,628.42	36.181337	-107.594534
6,829.00	91.30	275.40	5,037.61	405.08	-2,116.19	1,888,027.48	1,243,567.78	36.181352	-107.594740
6,890.00	90.80	274.40	5,036.49	410.29	-2,176.96	1,888,033.53	1,243,507.09	36.181367	-107.594946
6,951.00	89.20	272.80	5,036.49	414.12	-2,237.83	1,888,038.19	1,243,446.27	36.181377	-107.595152
7,013.00	92.10	279.40	5,035.79	420.70	-2,299.44	1,888,045.63	1,243,384.76	36.181395	-107.595361
7,074.00	89.80	275.90	5,034.78	428.82	-2,359.87	1,888,054.58	1,243,324.45	36.181418	-107.595566
7,135.00	90.00	276.00	5,034.88	435.14	-2,420.54	1,888,061.73	1,243,263.87	36.181435	-107.595771
7,196.00	90.70	276.60	5,034.51	441.84	-2,481.17	1,888,069.26	1,243,203.34	36.181453	-107.595977
7,258.00	92.10	278.10	5,033.00	449.77	-2,542.64	1,888,078.04	1,243,141.98	36.181475	-107.596185
7,321.00	93.20	279.00	5,030.08	459.12	-2,604.87	1,888,088.25	1,243,079.89	36.181501	-107.596396
7,384.00	93.70	279.20	5,026.29	469.07	-2,666.97	1,888,099.05	1,243,017.94	36.181528	-107.596606
7,447.00	94.00	278.90	5,022.06	478.96	-2,729.04	1,888,109.79	1,242,956.00	36.181555	-107.596816
7,511.00	94.40	279.20	5,017.37	488.99	-2,792.08	1,888,120.70	1,242,893.11	36.181583	-107.597030
7,574.00	92.40	278.40	5,013.64	498.62	-2,854.22	1,888,131.18	1,242,831.11	36.181609	-107.597240
7,637.00	92.70	277.60	5,010.83	507.37	-2,916.55	1,888,140.79	1,242,768.91	36.181633	-107.597452
7,700.00	92.90	277.70	5,007.76	515.75	-2,978.91	1,888,150.03	1,242,706.67	36.181656	-107.597663
7,763.00	91.50	276.90	5,005.34	523.75	-3,041.35	1,888,158.89	1,242,644.34	36.181678	-107.597875
7,826.00	91.90	276.70	5,003.47	531.21	-3,103.88	1,888,167.21	1,242,581.92	36.181699	-107.598086
7,889.00	90.10	275.70	5,002.37	538.01	-3,166.50	1,888,174.87	1,242,519.40	36.181717	-107.598299
7,952.00	90.80	276.20	5,001.88	544.54	-3,229.16	1,888,182.26	1,242,456.84	36.181735	-107.598511
8,014.00	91.10	276.60	5,000.85	551.45	-3,290.76	1,888,190.02	1,242,395.33	36.181754	-107.598720
8,077.00	89.40	274.40	5,000.57	557.49	-3,353.47	1,888,196.92	1,242,332.72	36.181771	-107.598932
8,140.00	89.70	274.60	5,001.07	562.43	-3,416.27	1,888,202.73	1,242,269.99	36.181784	-107.599145
8,203.00	90.30	275.10	5,001.07	567.76	-3,479.04	1,888,208.92	1,242,207.30	36.181799	-107.599357
8,266.00	90.70	275.80	5,000.52	573.74	-3,541.76	1,888,215.77	1,242,144.67	36.181815	-107.599570
8,329.00	91.10	275.40	4,999.53	579.89	-3,604.45	1,888,222.78	1,242,082.07	36.181832	-107.599782
8,392.00	90.20	274.00	4,998.81	585.05	-3,667.23	1,888,228.81	1,242,019.37	36.181846	-107.599995
8,455.00	90.60	274.00	4,998.37	589.44	-3,730.07	1,888,234.07	1,241,956.59	36.181858	-107.600208
8,519.00	90.70	274.20	4,997.65	594.02	-3,793.91	1,888,239.52	1,241,892.83	36.181871	-107.600424
8,582.00	91.00	274.10	4,996.71	598.58	-3,856.73	1,888,244.95	1,241,830.07	36.181883	-107.600637
8,645.00	90.90	273.80	4,995.67	602.92	-3,919.58	1,888,250.15	1,241,767.29	36.181895	-107.600850
8,708.00	89.00	274.80	4,995.72	607.64	-3,982.40	1,888,255.74	1,241,704.54	36.181908	-107.601063
8,772.00	89.40	275.00	4,996.62	613.10	-4,046.15	1,888,262.08	1,241,640.86	36.181923	-107.601279
8,835.00	89.60	275.00	4,997.17	618.60	-4,108.91	1,888,268.44	1,241,578.19	36.181938	-107.601491
8,898.00	90.10	275.20	4,997.33	624.20	-4,171.66	1,888,274.90	1,241,515.52	36.181954	-107.601704
8,962.00	90.30	275.60	4,997.11	630.22	-4,235.38	1,888,281.80	1,241,451.90	36.181970	-107.601920
9,025.00	90.30	275.00	4,996.78	636.04	-4,298.11	1,888,288.49	1,241,389.25	36.181986	-107.602132
9,088.00	90.30	275.00	4,996.45	641.53	-4,360.87	1,888,294.84	1,241,326.57	36.182001	-107.602345
9,151.00	90.20	274.30	4,996.17	646.64	-4,423.66	1,888,300.82	1,241,263.86	36.182015	-107.602558
9,215.00	90.40	274.10	4,995.84	651.32	-4,487.49	1,888,306.38	1,241,200.10	36.182028	-107.602774
9,278.00	90.70	273.70	4,995.23	655.61	-4,550.34	1,888,311.53	1,241,137.32	36.182040	-107.602987
9,340.00	91.20	273.80	4,994.21	659.66	-4,612.20	1,888,316.44	1,241,075.52	36.182051	-107.603197
9,403.00	90.80	275.00	4,993.11	664.49	-4,675.00	1,888,322.14	1,241,012.79	36.182064	-107.603409

LEAM Drilling Systems LLC

Survey Report - Geographic

Company:	ENCANA OIL & GAS USA, INC.	Local Co-ordinate Reference:	Well 01H
Project:	Sandoval County, NM	TVD Reference:	GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
Site:	Lybrook L33-2307	MD Reference:	GE 6867' + KB 18' @ 6885.00usft (Aztec 1099)
Well:	01H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,466.00	91.10	275.30	4,992.06	670.15	-4,737.74	1,888,328.66	1,240,950.14	36.182080	-107.603622
9,528.00	91.70	275.50	4,990.55	675.98	-4,799.44	1,888,335.34	1,240,888.52	36.182096	-107.603831
9,591.00	92.10	275.80	4,988.46	682.18	-4,862.10	1,888,342.40	1,240,825.95	36.182113	-107.604043
9,653.00	89.90	276.60	4,987.38	688.88	-4,923.72	1,888,349.94	1,240,764.42	36.182131	-107.604252
9,716.00	90.00	276.60	4,987.43	696.12	-4,986.31	1,888,358.05	1,240,701.95	36.182151	-107.604464
9,779.00	89.90	276.50	4,987.49	703.30	-5,048.90	1,888,366.09	1,240,639.46	36.182171	-107.604676
9,842.00	90.60	277.00	4,987.21	710.71	-5,111.46	1,888,374.36	1,240,577.01	36.182191	-107.604888
9,895.00	91.00	276.80	4,986.47	717.07	-5,164.07	1,888,381.45	1,240,524.49	36.182208	-107.605066
9,979.00	91.50	276.80	4,984.64	727.02	-5,247.46	1,888,392.54	1,240,441.25	36.182236	-107.605349

BHL(Lyb L33-2307 01H) - New PBHL(Lyb L33-2307 01H) - OLD PBHL(Lyb L33-2307 01H)

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
5,268.00	4,970.00	7"	7.00	7.50

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,447.00	4,429.90	134.38	-22.44	HL Crossing: 4447' MD, 4430' TVD
5,380.60	5,014.00	280.73	-682.99	HL Crossing: 5381' MD, 5014' TVD