

District I
1625 N French Dr, Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
District II
811 S First St, 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 Dr, Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
Revised August 1, 2011

Oil Conservation Division

Permit

1220 South St. Francis Dr.

CONFIDENTIAL

Santa Fe, NM 87505

RCVD MAY 29 '12

OIL CONS. DIV.

DIST-3

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address ENCANA OIL & GAS (USA) INC. 370 17 TH STREET, SUITE 1700 DENVER, CO 80202		² OGRID Number 282327
		³ API Number 30-043-21129
⁴ Property Code 39270	⁵ Property Name LYBROOK I32-2306	⁶ Well No 01H

⁷ Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
SHL I	32	23N	6W		1307	SOUTH	288	EAST	SANDOVAL
BHL L	32	23N	6W		1980	SOUTH	330	WEST	SANDOVAL

⁸ Pool Information

LYBROOK GALLUP

Additional Well Information

⁹ Work Type N	¹⁰ Well Type O	¹¹ Cable/Rotary R	¹² Lease Type S	¹³ Ground Level Elevation 7101'
¹⁴ Multiple N/A	¹⁵ Proposed Depth 5452' TVD/10158' MD	¹⁶ Formation GALLUP	¹⁷ Contractor AZTEC	¹⁸ Spud Date ~06/15/12
Depth to Ground water UNKNOWN		Distance from nearest fresh water well 5280'		Distance to nearest surface water ~660' (dry)

¹⁹ Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
CONDUCTOR	30"	20"	94#	60'	100	SURFACE
SURFACE	17 1/2"	13 3/8"	48#	500'	291	SURFACE
INTERMEDIATE	12 1/4"	9 5/8"	40#	4700'	974 (30% OH EXCESS)	SURFACE
PROD. LINER	8 1/2"	5 1/2"	17#	4500'-10158' MD	N/A	N/A

Casing/Cement Program: Additional Comments

HORIZONTAL LATERAL IN THE GALLUP FORMATION. NO CEMENT IN THE PRODUCTION LINER, WILL RUN EXTERNAL SWELL CASING PACKER SYSTEM. WILL USE OIL BASED MUD SYSTEM FROM KOP TO TD OF HORIZONTAL LATERAL

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
ROTATING HEAD	3000	1500	TBD
DOUBLE RAM	3000	3000	TBD

I hereby certify that the information given above is true and complete to the best of my knowledge and belief. NO DRILLING PIT WILL BE USED. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐ , a general permit ☐ , or an (attached) alternative OCD-approved plan ☐ . <i>Brenda R. Linster</i>		OIL CONSERVATION DIVISION	
Printed name. BREND A. R. LINSTER		Approved By: <i>Charles R. 6-13-2012</i>	
Title: REGULATORY ADVISOR		Title: SUPERVISOR DISTRICT # 3	
E-mail Address BREND A.LINSTER@ENCANA.COM		Approved Date JUN 14 2012 Expiration Date JUN 14 2014	
Date 05-21-12 Phone: 720-876-3989		Hold C104 for Directional Survey and "As Drilled" plat	
Conditions of Approval Attached			

ca JUN 14 2012

A

NOTIFY AZTEC OCD 24 HRS.
BEFORE DRILLING & CEMENT

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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

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-043-21129		*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code 39270	*Property Name LYBROOK I32-2305		*Well Number 01H
*GRID No 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 7101'

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		1307	SOUTH	288	EAST	SANDOVAL

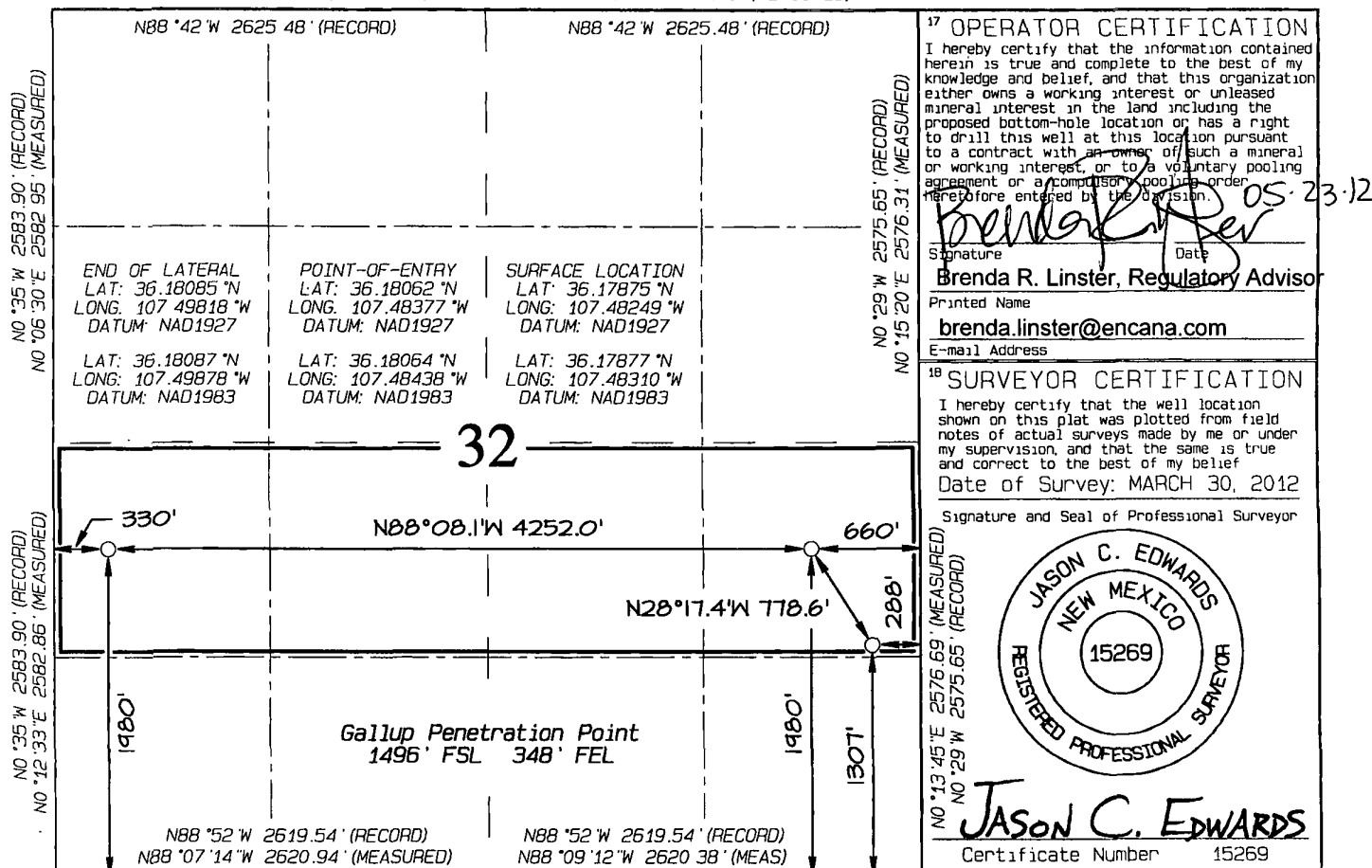
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	32	23N	6W		1980	SOUTH	330	WEST	SANDOVAL

¹² Dedicated Acres 160.0 Acres - (N/2 S/2)	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

¹⁶ N88°00'39"W 2624.47' (MEASURED) N87°59'18"W 2624.75' (MEASURED)



Directions from the Intersection of US Hwy 550 & US Hwy 64
in Bloomfield, NM to Encana Oil & Gas (USA) Inc. Lybrook I32-2306 01H
1307' FSL & 288' FEL, Section 32, T23N, R6W, N.M.P.M., Sandoval County, NM

Latitude: 36.17877°N Longitude: 107.48310°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 50.4 miles to Mile Marker 100.9;

Go right (Southerly) for 200' to fork in road;

Go right which is straight (South-westerly) for 2.0 miles to "T" intersection;

Go right (South-easterly) for 0.8 miles to fork in road;

Go left (South-easterly) for 0.3 miles to fork in road;

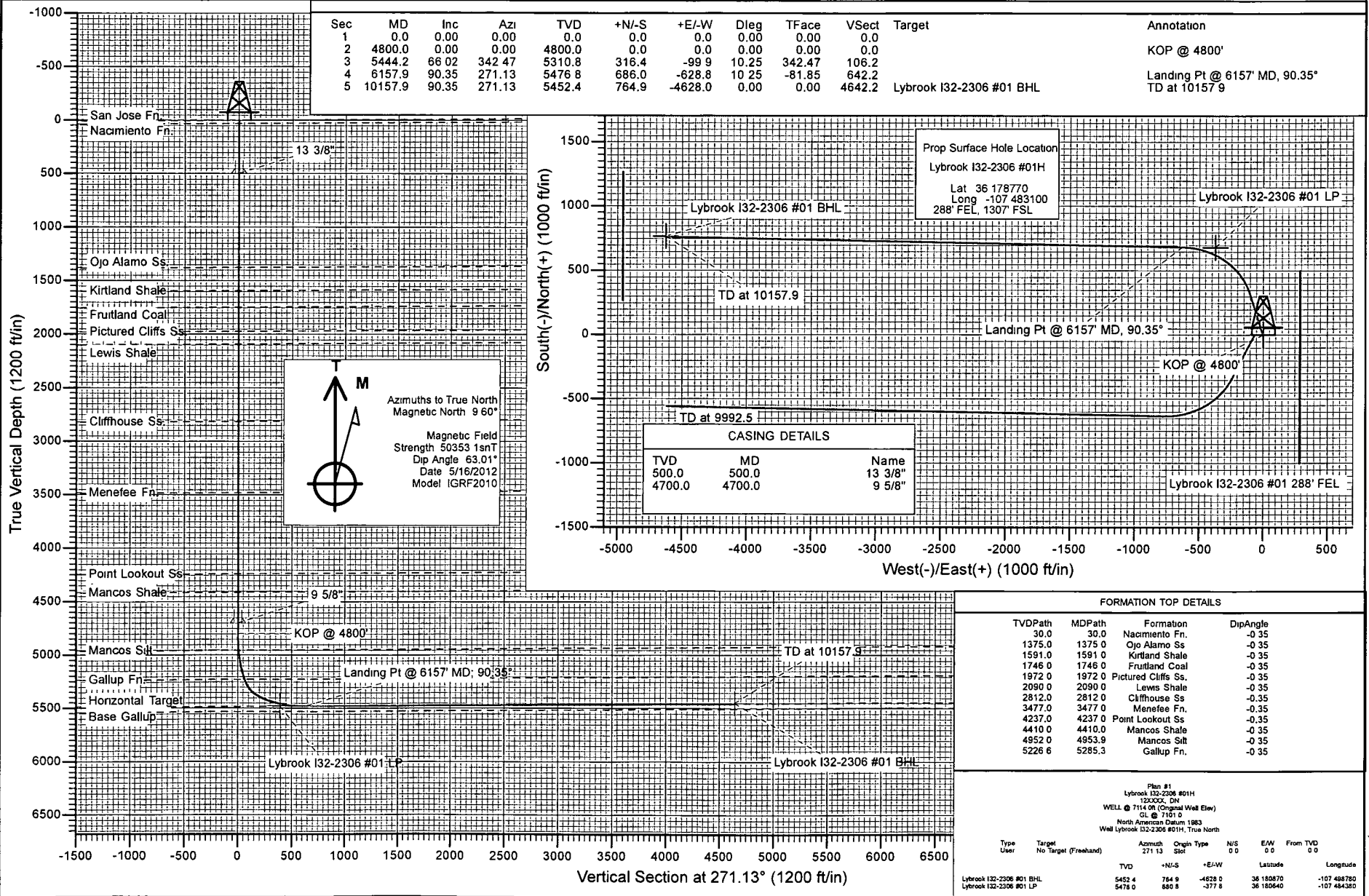
Go right (Southerly) for 0.3 miles to fork in road;

Go left (Easterly) for 0.3 miles to an existing wellpad from which new access to Encana Lybrook A32-2306 01H location continues for 1500' to new access on right-hand side which continues for an additional 3080' to Encana Lybrook I32-2306 01H location.

encana™

natural gas

Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook I32-2306 #01H
Wellbore: HZ
Design: Plan #1



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook I32-2306 #01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7114 0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7114 0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook I32-2306 #01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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 I32-2306 #01H					
Well Position	+N-S	0.0 ft	Northing:	1,886,653.53 ft	Latitude:	36.178770
	+E-W	0.0 ft	Easting:	1,276,506.24 ft	Longitude:	-107 483100
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,101.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/16/2012	9 60	63 01	50,353

Design		Plan #1		
Audit Notes:				
Version:	Phase:	PLAN	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

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,444.2	66.02	342.47	5,310.8	316.4	-99.9	10.25	10.25	0.00	342.47	
6,157.9	90.35	271.13	5,476.8	686.0	-628.8	10.25	3.41	-10.00	-81.85	
10,157.9	90.35	271.13	5,452.4	764.9	-4,628.0	0.00	0.00	0.00	0.00	Lybrook I32-2306 #01

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook 132-2306 #01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7114 0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7114 0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook 132-2306 #01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	Nacimiento Fn
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	13 3/8"
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,375.0	0.00	0.00	1,375.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,591.0	0.00	0.00	1,591.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,746.0	0.00	0.00	1,746.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
1,972.0	0.00	0.00	1,972.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,090.0	0.00	0.00	2,090.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,812.0	0.00	0.00	2,812.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,477.0	0.00	0.00	3,477.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	
4,237.0	0.00	0.00	4,237.0	0.0	0.0	0.0	0.00	0.00	Point Lookout Ss.

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook 132-2306 #01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7114.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7114.0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook 132-2306 #01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,300.0	0 00	0 00	4,300.0	0.0	0.0	0.0	0.00	0.00	
4,400.0	0 00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	
4,410.0	0 00	0.00	4,410.0	0.0	0.0	0.0	0.00	0.00	Mancos Shale
4,500.0	0.00	0 00	4,500.0	0.0	0.0	0.0	0.00	0.00	
4,600.0	0.00	0 00	4,600.0	0.0	0.0	0.0	0.00	0.00	
4,700.0	0.00	0 00	4,700.0	0.0	0.0	0.0	0.00	0.00	9 5/8"
4,800.0	0 00	0 00	4,800.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4800'
4,900.0	10 25	342.47	4,899.5	8.5	-2.7	2.9	10.25	10.25	
4,953.9	15 77	342.47	4,952.0	20.1	-6.3	6.7	10.25	10.25	Mancos Silt
5,000.0	20.50	342.47	4,995.8	33.8	-10.7	11.3	10.25	10.25	
5,100.0	30.75	342.47	5,085.8	74.9	-23.7	25.1	10.25	10.25	
5,200.0	41.00	342.47	5,166.7	130.7	-41.3	43.9	10.25	10.25	
5,285.3	49.74	342.47	5,226.6	188.6	-59.6	63.3	10.25	10.25	Gallup Fn.
5,300.0	51.25	342.47	5,236.0	199.4	-63.0	66.9	10.25	10.25	
5,400.0	61.49	342.47	5,291.3	278.7	-88.0	93.5	10.25	10.25	
5,444.2	66.02	342.47	5,310.8	316.4	-99.9	106.2	10.25	10.25	
5,500.0	66.95	336.31	5,333.1	364.3	-118.0	125.1	10.25	1.67	
5,600.0	69.20	325.53	5,370.5	445.2	-163.0	171.8	10.25	2.25	
5,700.0	72.10	315.11	5,403.7	517.6	-223.2	233.4	10.25	2.90	
5,800.0	75.53	305.05	5,431.7	579.3	-296.6	308.0	10.25	3.43	
5,900.0	79.37	295.31	5,453.4	628.3	-380.9	393.2	10.25	3.84	
5,919.0	80.14	293.49	5,456.8	636.0	-398.0	410.4	10.25	4.04	Lybrook 132-2306 #01 LP
6,000.0	83.51	285.83	5,468.3	662.9	-473.4	486.4	10.25	4.16	
6,100.0	87.82	276.50	5,475.9	682.2	-571.1	584.4	10.25	4.31	
6,157.9	90.35	271.13	5,476.8	686.0	-628.8	642.2	10.25	4.37	Landing Pt @ 6157' MD, 90 35°
6,200.0	90.35	271.13	5,476.6	686.9	-670.9	684.3	0.00	0.00	
6,300.0	90.35	271.13	5,476.0	688.8	-770.9	784.3	0.00	0.00	
6,400.0	90.35	271.13	5,475.4	690.8	-870.9	884.3	0.00	0.00	
6,500.0	90.35	271.13	5,474.7	692.8	-970.8	984.3	0.00	0.00	
6,600.0	90.35	271.13	5,474.1	694.8	-1,070.8	1,084.3	0.00	0.00	
6,700.0	90.35	271.13	5,473.5	696.7	-1,170.8	1,184.3	0.00	0.00	
6,800.0	90.35	271.13	5,472.9	698.7	-1,270.8	1,284.3	0.00	0.00	
6,900.0	90.35	271.13	5,472.3	700.7	-1,370.7	1,384.3	0.00	0.00	
7,000.0	90.35	271.13	5,471.7	702.6	-1,470.7	1,484.3	0.00	0.00	
7,100.0	90.35	271.13	5,471.1	704.6	-1,570.7	1,584.3	0.00	0.00	
7,200.0	90.35	271.13	5,470.5	706.6	-1,670.7	1,684.3	0.00	0.00	
7,300.0	90.35	271.13	5,469.9	708.6	-1,770.7	1,784.3	0.00	0.00	
7,400.0	90.35	271.13	5,469.2	710.5	-1,870.6	1,884.3	0.00	0.00	
7,500.0	90.35	271.13	5,468.6	712.5	-1,970.6	1,984.3	0.00	0.00	
7,600.0	90.35	271.13	5,468.0	714.5	-2,070.6	2,084.3	0.00	0.00	
7,700.0	90.35	271.13	5,467.4	716.4	-2,170.6	2,184.3	0.00	0.00	
7,800.0	90.35	271.13	5,466.8	718.4	-2,270.6	2,284.3	0.00	0.00	
7,900.0	90.35	271.13	5,466.2	720.4	-2,370.5	2,384.3	0.00	0.00	
8,000.0	90.35	271.13	5,465.6	722.4	-2,470.5	2,484.3	0.00	0.00	
8,100.0	90.35	271.13	5,465.0	724.3	-2,570.5	2,584.3	0.00	0.00	
8,200.0	90.35	271.13	5,464.4	726.3	-2,670.5	2,684.3	0.00	0.00	
8,300.0	90.35	271.13	5,463.7	728.3	-2,770.5	2,784.3	0.00	0.00	
8,400.0	90.35	271.13	5,463.1	730.2	-2,870.4	2,884.3	0.00	0.00	
8,500.0	90.35	271.13	5,462.5	732.2	-2,970.4	2,984.3	0.00	0.00	
8,600.0	90.35	271.13	5,461.9	734.2	-3,070.4	3,084.3	0.00	0.00	
8,700.0	90.35	271.13	5,461.3	736.2	-3,170.4	3,184.3	0.00	0.00	
8,800.0	90.35	271.13	5,460.7	738.1	-3,270.3	3,284.3	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook I32-2306 #01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7114.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7114.0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook I32-2306 #01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,900.0	90.35	271.13	5,460.1	740.1	-3,370.3	3,384.3	0.00	0.00	
9,000.0	90.35	271.13	5,459.5	742.1	-3,470.3	3,484.3	0.00	0.00	
9,100.0	90.35	271.13	5,458.9	744.1	-3,570.3	3,584.3	0.00	0.00	
9,200.0	90.35	271.13	5,458.3	746.0	-3,670.3	3,684.3	0.00	0.00	
9,300.0	90.35	271.13	5,457.6	748.0	-3,770.2	3,784.3	0.00	0.00	
9,400.0	90.35	271.13	5,457.0	750.0	-3,870.2	3,884.3	0.00	0.00	
9,500.0	90.35	271.13	5,456.4	751.9	-3,970.2	3,984.3	0.00	0.00	
9,600.0	90.35	271.13	5,455.8	753.9	-4,070.2	4,084.3	0.00	0.00	
9,700.0	90.35	271.13	5,455.2	755.9	-4,170.2	4,184.2	0.00	0.00	
9,800.0	90.35	271.13	5,454.6	757.9	-4,270.1	4,284.2	0.00	0.00	
9,900.0	90.35	271.13	5,454.0	759.8	-4,370.1	4,384.2	0.00	0.00	
10,000.0	90.35	271.13	5,453.4	761.8	-4,470.1	4,484.2	0.00	0.00	
10,100.0	90.35	271.13	5,452.8	763.8	-4,570.1	4,584.2	0.00	0.00	
10,157.9	90.35	271.13	5,452.4	764.9	-4,628.0	4,642.1	0.00	0.00	TD at 10157.9 - Lybrook I32-2306 #01 BHL

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Lybrook I32-2306 #01 BI	0.00	0.00	5,452.4	764.9	-4,628.0	1,887,477.19	1,271,888.36	36 180870	-107.498780
- plan hits target center									
- Polygon									
Point 1			5,452.4	500.0	-330.0	1,887,981.34	1,271,564.74		
Point 2			5,452.4	-500.0	-330.0	1,886,981.43	1,271,552.03		
Lybrook I32-2306 #01 LI	0.00	0.00	5,478.0	680.8	-377.8	1,887,339.09	1,276,137.13	36 180640	-107 484380
- plan misses target center by 53.5ft at 5919.0ft MD (5456.8 TVD, 636.0 N, -398.0 E)									
- Point									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
4,700.0	4,700.0	9 5/8"	9.625	12.250
500.0	500.0	13 3/8"	13.375	17.500

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook I32-2306 #01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7114.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7114.0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook I32-2306 #01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
30.0	30.0	Nacimiento Fn.		-0.35	271.13
1,375.0	1,375.0	Ojo Alamo Ss		-0.35	271.13
1,591.0	1,591.0	Kirtland Shale		-0.35	271.13
1,746.0	1,746.0	Fruitland Coal		-0.35	271.13
1,972.0	1,972.0	Pictured Cliffs Ss.		-0.35	271.13
2,090.0	2,090.0	Lewis Shale		-0.35	271.13
2,812.0	2,812.0	Cliffhouse Ss		-0.35	271.13
3,477.0	3,477.0	Menefee Fn		-0.35	271.13
4,237.0	4,237.0	Point Lookout Ss.		-0.35	271.13
4,410.0	4,410.0	Mancos Shale		-0.35	271.13
4,953.9	4,952.0	Mancos Silt		-0.35	271.13
5,285.3	5,227.0	Gallup Fn		-0.35	271.13

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,800.0	4,800.0	0.0	0.0	KOP @ 4800'
6,157.9	5,476.8	316.4	-99.9	Landing Pt @ 6157' MD, 90.35°
10,157.9	5,452.4	686.0	-628.8	TD at 10157.9