

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised August 1, 2011

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS)		WELL API NO. 30-043-21125
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator Encana Oil & Gas (USA) Inc.		6. State Oil & Gas Lease No.
3. Address of Operator 370 17 th Street, Suite 1700 Denver, CO 80202		7. Lease Name or Unit Agreement Name Lybrook I32-2306
4. Well Location SHL: Unit Letter <u>I</u> : 1298 feet from the <u>SOUTH</u> line and 358 feet from the <u>EAST</u> line BHL: Unit Letter <u>M</u> : 660 feet from the <u>SOUTH</u> line and 330 feet from the <u>WEST</u> line Section 32 Township 23N Range 6W NMPM Sandoval County		8. Well Number 02H
11. Elevation (Show whether DR, RKB, RT, GR, etc.)		9. OGRID Number 282327
		10. Pool name or Wildcat Lybrook Gallup

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
OTHER: ☐		OTHER: ☐	

RCVD OCT 29 '12
OIL CONS. DIV.
DIST. 3

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Encana Oil & Gas (USA) Inc. (Encana) would like to revise casing and BOP plans for the Lybrook I32-2306 02H oil well. Surface casing will change to 9 5/8". Intermediate casing will change to 7" (and the setting depth will change to 5250' MD). Production liner will change to 4 1/2". Encana would also like to revise our directional plans and horizontal target. Please see attached revised APD, wellbore diagram and directional plan.

Hold C104
for Directional Survey
and "As Drilled" plat

CONFIDENTIAL

Hold C104
for Directional Survey
and "As Drilled" plat

Spud Date:

Rig Release Date:

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

SIGNATURE

Amanda Cavoto

TITLE Engineering Technologist

DATE 10/26/2012

Type or print name Amanda Cavoto

E-mail address: amanda.cavoto@encana.com

PHONE: 720-876-3437

For State Use Only

APPROVED BY:

W. F. Hagg

TITLE

Deputy Oil & Gas Inspector,
District #3

DATE

NOV 09 2012

Conditions of Approval (if any):

Av

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
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised August 1, 2011

Permit

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

¹ Operator Name and Address ENCANA OIL & GAS (USA) INC. 370 17TH STREET, SUITE 1700 DENVER, CO 80202		² OGRID Number 282327 ³ API Number 30-043-21125
⁴ Property Code 39270	⁵ Property Name LYBROOK 132-2306	⁶ Well No. 02H

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		1298	SOUTH	358	EAST	SANDOVAL
BHL: M	32	23N	6W		660	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 7103'
¹⁴ Multiple N/A	¹⁵ Proposed Depth 5047' TVD/9597' MD	¹⁶ Formation GALLUP	¹⁷ Contractor AZTEC	¹⁸ Spud Date ~12/21/12
¹⁹ Depth to Ground water UNKNOWN		²⁰ Distance from nearest fresh water well UNKNOWN WELL TYPE WITHIN 5280' ²¹ 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	12 1/4"	9 5/8"	36#	500'	178	SURFACE
INTERMEDIATE	8 1/2"	7"	26#	5250'MD/4988'TVD	549 (30% OH EXCESS)	SURFACE
PROD. LINER	6 1/8"	4 1/2"	11.6#	5050'-9597' 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 INTERMEDIATE CASING POINT TO TD OF HORIZONTAL LATERAL.

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
ROTATING HEAD	3000	1500	TBD
SINGLE RAM	3000	3000	TBD
ANNULAR	3000	1500	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 ☐.

Printed name: **Amanda Cavoto**

Title: **Engineering Technologist**

E-mail Address: **amanda.cavoto@encana.com**

Date: **10/25/12**

Phone: **720-876-3437**

OIL CONSERVATION DIVISION

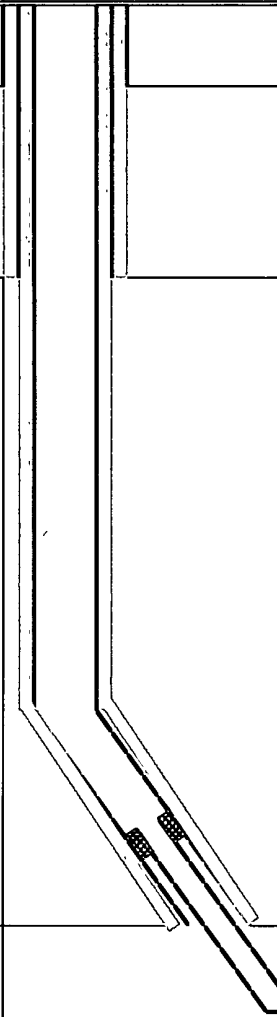
Approved By.

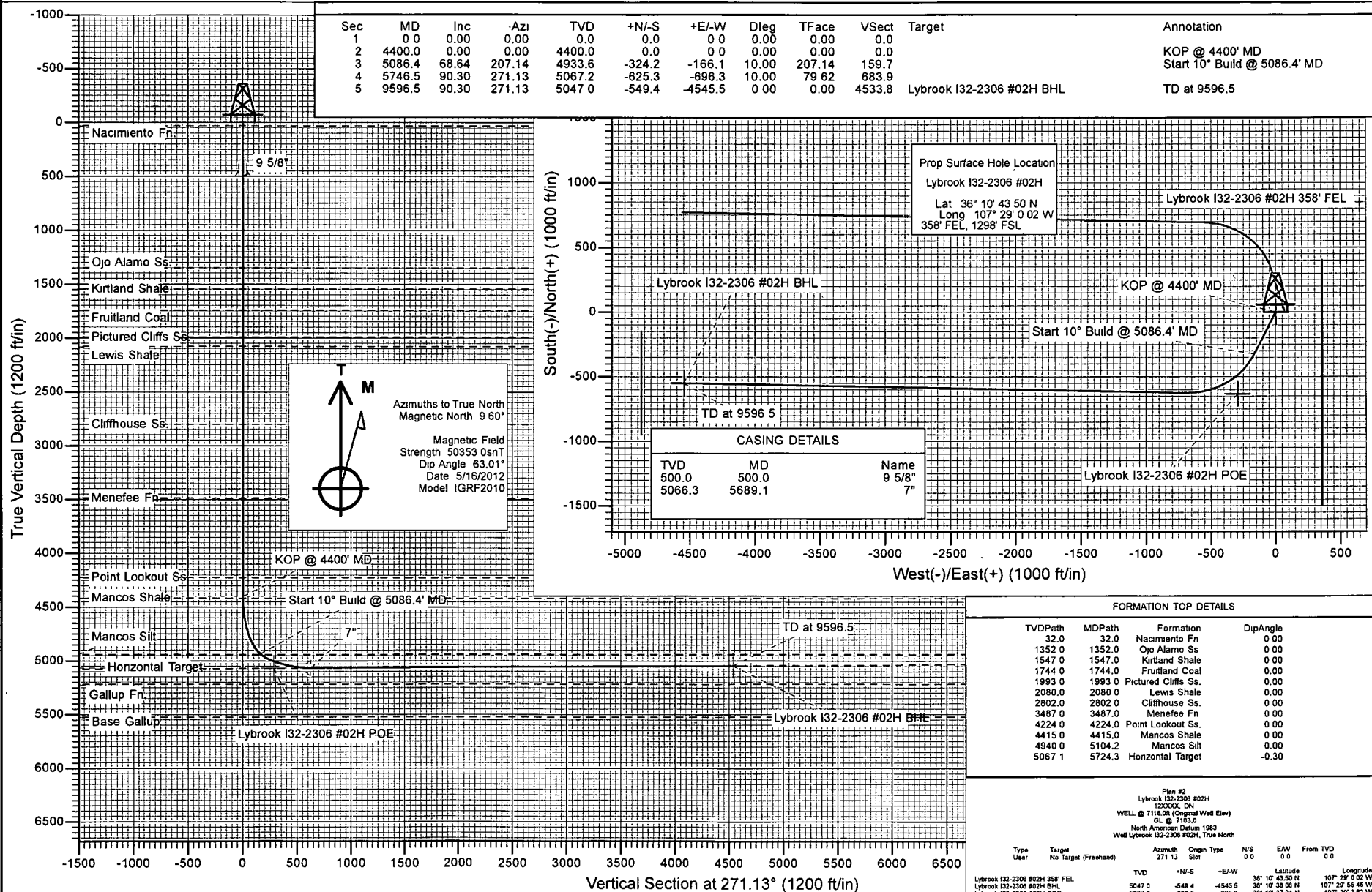
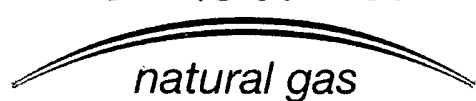
Title:

Approved Date:

Expiration Date.

Conditions of Approval Attached

LOC: Sec 32, T23N, R6W County: Sandoval WELL: Lybrook I32-2306 02H			Encana Natural Gas WELL SUMMARY			encana™ natural gas		ENG: J. Fox/ A. 10/25/12 RIG: GLE: 7101 RKBE: 7114	
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			TVD	MD					
			60	60'		30	20" 94# 100sx Type I Neat 48 8ppg cmt	Fresh wtr 8 3-9 2	
Surveys After csg is run	None					12 1/4	9 5/8" 36ppf J55 STC TOC @ surface	Fresh wtr 8.4-8 6	Vertical <1°
Surveys every 500'	No OH logs	Ojo Alamo Kirtland Shale Fruitland Coal Pictured Cliffs Ss Lewis Shale Cliffhouse Ss Menefee Fn Point Lookout Ss	1352 1547 1744 1993 2080 2802 3487 4224			8 1/2	7" 26ppf J55 LTC TOC @ surface	Fresh Wtr 8 5-8 8	Vertical <1°
	Mud logger onsite	KICK OFF PT Mancos Sh Mancos Silt	4400 4415 4940						KOP 4400 10 deg/100'
			4988	5250		6 1/8	200' overlap at liner top 3873' Lateral	8 6-9 0 OBM	5deg updip s TD = 9597' MD 5047' TVD
Surveys every 500' Gyro at CP MWD Gamma Directional	No OH Logs	horz target Gallup Top Base Gallup	5067 5218 5524	5724			4 1/2" 11.6ppf SB80 LTC Running external swellable csg packers for isolation of prod string	OBM 8 6-9.0	



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook I32-2306 #02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7116.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7116.0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook I32-2306 #02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

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:	1,882,676.45ft	Latitude:	36° 10' 5.56 N
From:	Lat/Long	Easting:	1,287,068.90ft	Longitude:	107° 26' 49.74 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200in	Grid Convergence:	-0.71 °

Well		Lybrook I32-2306 #02H				
Well Position	+N/-S	0.0 ft	Northing:	1,886,647.15 ft	Latitude:	36° 10' 43.50 N
	+E/-W	0.0 ft	Easting:	1,276,435.31 ft	Longitude:	107° 29' 0.02 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,103.0 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 #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	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	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,086.4	68.64	207.14	4,933.6	-324.2	-166.1	10.00	10.00	0.00	207.14	
5,746.5	90.30	271.13	5,067.2	-625.3	-696.3	10.00	3.28	9.69	79.62	
9,596.5	90.30	271.13	5,047.0	-549.4	-4,545.5	0.00	0.00	0.00	0.00	Lybrook I32-2306 #02

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook 132-2306 #02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7116 0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7116 0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook 132-2306 #02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

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	Lybrook 132-2306 #02H 358' FEL
32.0	0.00	0.00	32.0	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	9 5/8"
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	
1,352.0	0.00	0.00	1,352.0	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	
1,547.0	0.00	0.00	1,547.0	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	
1,744.0	0.00	0.00	1,744.0	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	
1,993.0	0.00	0.00	1,993.0	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	
2,080.0	0.00	0.00	2,080.0	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	
2,802.0	0.00	0.00	2,802.0	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	
3,487.0	0.00	0.00	3,487.0	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	
4,224.0	0.00	0.00	4,224.0	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 I32-2306 #02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7116.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7116.0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook I32-2306 #02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

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	KOP @ 4400' MD
4,415.0	1.50	207.14	4,415.0	-0.2	-0.1	0.1	10.00	10.00	Mancos Shale
4,500.0	10.00	207.14	4,499.5	-7.7	-4.0	3.8	10.00	10.00	
4,600.0	20.00	207.14	4,596.0	-30.8	-15.8	15.2	10.00	10.00	
4,700.0	30.00	207.14	4,686.5	-68.3	-35.0	33.7	10.00	10.00	
4,800.0	40.00	207.14	4,768.3	-119.3	-61.1	58.8	10.00	10.00	
4,900.0	50.00	207.14	4,838.9	-182.2	-93.4	89.7	10.00	10.00	
5,000.0	60.01	207.14	4,896.2	-255.0	-130.7	125.6	10.00	10.00	
5,086.4	68.64	207.14	4,933.6	-324.2	-166.1	159.7	10.00	10.00	Start 10° Build @ 5086.4' MD
5,100.0	68.89	208.57	4,938.5	-335.4	-172.1	165.4	10.00	1.85	
5,104.2	68.97	209.01	4,940.0	-338.8	-173.9	167.2	10.00	1.90	Mancos Silt
5,200.0	71.10	218.96	4,972.8	-413.4	-224.3	216.1	10.00	2.21	7" at 72°
5,300.0	73.86	229.04	5,003.0	-481.8	-290.4	280.9	10.00	2.76	
5,400.0	77.08	238.82	5,028.1	-538.7	-368.6	357.9	10.00	3.22	Lybrook I32-2306 #02H POE
5,500.0	80.65	248.35	5,047.5	-582.2	-456.4	444.8	10.00	3.57	
5,600.0	84.47	257.67	5,060.4	-611.1	-551.1	538.9	10.00	3.82	
5,689.1	88.00	265.87	5,066.3	-623.8	-639.0	626.6	10.00	3.96	
5,700.0	88.44	266.87	5,066.6	-624.5	-649.9	637.4	10.00	4.00	
5,724.3	89.41	269.10	5,067.1	-625.4	-674.2	661.7	10.00	4.01	Horizontal Target
5,746.5	90.30	271.13	5,067.2	-625.3	-696.3	683.9	10.00	4.01	
5,800.0	90.30	271.13	5,066.9	-624.3	-749.8	737.4	0.00	0.00	
5,900.0	90.30	271.13	5,066.4	-622.3	-849.8	837.4	0.00	0.00	
6,000.0	90.30	271.13	5,065.8	-620.3	-949.8	937.4	0.00	0.00	
6,100.0	90.30	271.13	5,065.3	-618.3	-1,049.8	1,037.4	0.00	0.00	
6,200.0	90.30	271.13	5,064.8	-616.4	-1,149.7	1,137.4	0.00	0.00	
6,300.0	90.30	271.13	5,064.3	-614.4	-1,249.7	1,237.4	0.00	0.00	
6,400.0	90.30	271.13	5,063.7	-612.4	-1,349.7	1,337.4	0.00	0.00	
6,500.0	90.30	271.13	5,063.2	-610.5	-1,449.7	1,437.4	0.00	0.00	
6,600.0	90.30	271.13	5,062.7	-608.5	-1,549.7	1,537.4	0.00	0.00	
6,700.0	90.30	271.13	5,062.2	-606.5	-1,649.6	1,637.4	0.00	0.00	
6,800.0	90.30	271.13	5,061.6	-604.5	-1,749.6	1,737.4	0.00	0.00	
6,900.0	90.30	271.13	5,061.1	-602.6	-1,849.6	1,837.4	0.00	0.00	
7,000.0	90.30	271.13	5,060.6	-600.6	-1,949.6	1,937.4	0.00	0.00	
7,100.0	90.30	271.13	5,060.1	-598.6	-2,049.6	2,037.4	0.00	0.00	
7,200.0	90.30	271.13	5,059.5	-596.6	-2,149.5	2,137.3	0.00	0.00	
7,300.0	90.30	271.13	5,059.0	-594.7	-2,249.5	2,237.3	0.00	0.00	
7,400.0	90.30	271.13	5,058.5	-592.7	-2,349.5	2,337.3	0.00	0.00	
7,500.0	90.30	271.13	5,058.0	-590.7	-2,449.5	2,437.3	0.00	0.00	
7,600.0	90.30	271.13	5,057.5	-588.8	-2,549.5	2,537.3	0.00	0.00	
7,700.0	90.30	271.13	5,056.9	-586.8	-2,649.4	2,637.3	0.00	0.00	
7,800.0	90.30	271.13	5,056.4	-584.8	-2,749.4	2,737.3	0.00	0.00	
7,900.0	90.30	271.13	5,055.9	-582.8	-2,849.4	2,837.3	0.00	0.00	
8,000.0	90.30	271.13	5,055.4	-580.9	-2,949.4	2,937.3	0.00	0.00	
8,100.0	90.30	271.13	5,054.8	-578.9	-3,049.3	3,037.3	0.00	0.00	
8,200.0	90.30	271.13	5,054.3	-576.9	-3,149.3	3,137.3	0.00	0.00	
8,300.0	90.30	271.13	5,053.8	-575.0	-3,249.3	3,237.3	0.00	0.00	
8,400.0	90.30	271.13	5,053.3	-573.0	-3,349.3	3,337.3	0.00	0.00	
8,500.0	90.30	271.13	5,052.7	-571.0	-3,449.3	3,437.3	0.00	0.00	
8,600.0	90.30	271.13	5,052.2	-569.0	-3,549.2	3,537.3	0.00	0.00	
8,700.0	90.30	271.13	5,051.7	-567.1	-3,649.2	3,637.3	0.00	0.00	
8,800.0	90.30	271.13	5,051.2	-565.1	-3,749.2	3,737.3	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook I32-2306 #02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7116 0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7116 0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook I32-2306 #02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

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	90.30	271 13	5,050.6	-563.1	-3,849 2	3,837.3	0 00	0 00	
9,000 0	90 30	271 13	5,050 1	-561.2	-3,949 2	3,937.3	0 00	0.00	
9,100 0	90.30	271 13	5,049 6	-559.2	-4,049 1	4,037.3	0 00	0.00	
9,200 0	90.30	271 13	5,049 1	-557.2	-4,149.1	4,137 3	0.00	0.00	
9,300 0	90.30	271 13	5,048 6	-555 2	-4,249.1	4,237 3	0 00	0.00	
9,400 0	90.30	271 13	5,048.0	-553 3	-4,349 1	4,337 3	0.00	0.00	
9,500 0	90.30	271.13	5,047 5	-551 3	-4,449 1	4,437 3	0 00	0.00	
9,596 5	90 30	271.13	5,047.0	-549.4	-4,545 5	4,533 8	0 00	0.00	TD at 9596.5 - Lybrook I32-2306 #02H 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 #02H	0 00	0 00	5,047.0	-549.4	-4,545.5	1,886,155 58	1,271,883.16	36° 10' 38.06 N	107° 29' 55 46 W
- plan hits target center									
- Polygon									
Point 1			5,047 0	400 0	-330 0	1,886,559.74	1,271,558 27		
Point 2			5,047.0	-400 0	-330 0	1,885,759 80	1,271,548.10		
Lybrook I32-2306 #02H	0 00	0 00	5,067 3	-633.5	-295.2	1,886,017 48	1,276,132.12	36° 10' 37 24 N	107° 29' 3 62 W
- plan misses target center by 126.2ft at 5400 0ft MD (5028.1 TVD, -538 7 N, -368 6 E)									
- Point									
Lybrook I32-2306 #02H	0 00	0 00	-5,440 0	0 0	0 0	1,886,647.15	1,276,435.31	36° 10' 43 50 N	107° 29' 0.02 W
- plan misses target center by 5440 0ft at 0 0ft MD (0.0 TVD, 0 0 N, 0 0 E)									
- Polygon									
Point 1			-5,440 0	400 0	358.0	1,887,042 57	1,276,798.37		
Point 2			-5,440 0	-1,500 0	358.0	1,885,142 72	1,276,774.22		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
500 0	500.0	9 5/8"	9 625	12.250	
5,689 1	5,066 3	7"	7 000	7 500	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook 132-2306 #02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7116.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7116.0ft (Original Well Elev)
Site:	Lybrook	North Reference:	True
Well:	Lybrook 132-2306 #02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
32.0	32.0	Nacimiento Fn		0.00	
1,352.0	1,352.0	Ojo Alamo Ss		0.00	
1,547.0	1,547.0	Kirtland Shale		0.00	
1,744.0	1,744.0	Fruitland Coal		0.00	
1,993.0	1,993.0	Pictured Cliffs Ss.		0.00	
2,080.0	2,080.0	Lewis Shale		0.00	
2,802.0	2,802.0	Cliffhouse Ss		0.00	
3,487.0	3,487.0	Menefee Fn.		0.00	
4,224.0	4,224.0	Point Lookout Ss		0.00	
4,415.0	4,415.0	Mancos Shale		0.00	
5,104.2	4,940.0	Mancos Silt		0.00	
5,724.3	5,071.0	Horizontal Target		-0.30	263.11

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,400.0	4,400.0	0.0	0.0	KOP @ 4400' MD
5,086.4	4,933.6	-324.2	-166.1	Start 10° Build @ 5086.4' MD
9,596.5	5,047.0	-549.4	-4,545.5	TD at 9596.5