

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

DEC 08 2014

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Encana Oil & Gas (USA) Inc.

3a. Address
370 17th Street, Suite 1700
Denver, CO 80202

3b. Phone No. (include area code)
720-876-5331

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SHL: 2407' FNL and 1284' FEL Sec 1, T22N, R6W
BHL: 330' FSL and 400' FEL Sec 12, T22N, R6W

5. Lease Serial No.
NMNM 109385

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit of CA/Agreement, Name and/or No.

N/A

8. Well Name and No.
Lybrook G01-2206 02H

9. API Well No.
30-043-21224

10. Field and Pool or Exploratory Area
Lybrook Gallup

11. County or Parish, State
Sandoval County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Encana Oil & Gas (USA) Inc. (Encana) wishes to modify the drilling plan for the Lybrook G01-2206 02H well to cement the 4 1/2" production liner, instead of running open hole swell packers, as previously planned. Attached is an updated Directional Drilling Plan, 10-Point Drilling Plan and Wellbore Diagram that reflect this change. Please note, the 7" ICP was also moved from approximately 72 degrees to approximately 55 degrees.

OIL CONS. DIV DIST. 3

DEC 09 2014

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Holly Hill

Title Regulatory Analyst

Signature

Holly Hill

Date

12/4/14

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekau

Title

Petroleum Engineer

Date

12/08/2014

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

FFD

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

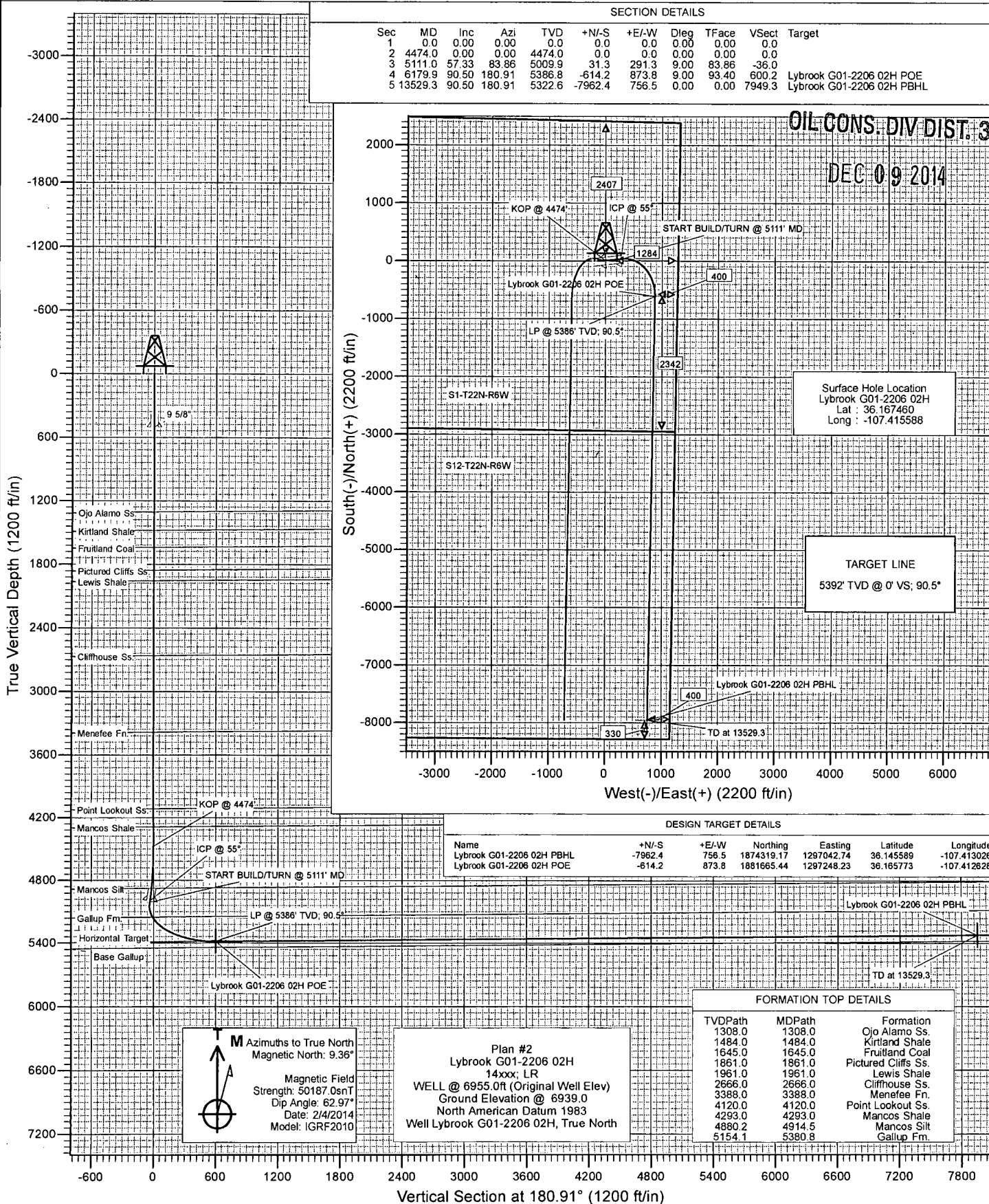


Project: Sandoval County, NM
 Site: S1-T22N-R6W
 Well: Lybrook G01-2206 02H
 Wellbore: Hz
 Design: Plan #2



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4474.0	0.00	0.00	4474.0	0.0	0.0	0.00	0.00	0.0	
3	5111.0	57.33	83.86	5009.9	31.3	291.3	9.00	83.86	-36.0	
4	6179.9	90.50	180.91	5386.8	-614.2	873.8	9.00	93.40	600.2	Lybrook G01-2206 02H POE
5	13529.3	90.50	180.91	5322.6	-7962.4	756.5	0.00	0.00	7949.3	Lybrook G01-2206 02H PBHL



OIL CONS. DIV. DIST. 3

DEC 09 2014

Surface Hole Location
 Lybrook G01-2206 02H
 Lat : 36.167460
 Long : -107.415588

TARGET LINE
 5392' TVD @ 0° VS; 90.5°

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Lybrook G01-2206 02H PBHL	-7962.4	756.5	1874319.17	1297042.74	36.145589	-107.413026
Lybrook G01-2206 02H POE	-614.2	873.8	1881665.44	1297248.23	36.165773	-107.412628

M Azimuths to True North
 Magnetic North: 9.36°
 Magnetic Field
 Strength: 50187.0snT
 Dip Angle: 62.97°
 Date: 2/4/2014
 Model: IGRF2010

Plan #2
 Lybrook G01-2206 02H
 14xxx; LR
 WELL @ 6955.0ft (Original Well Elev)
 Ground Elevation @ 6939.0
 North American Datum 1983
 Well Lybrook G01-2206 02H, True North

Vertical Section at 180.91° (1200 ft/in)

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site:	S1-T22N-R6W	North Reference:	True
Well:	Lybrook G01-2206 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		S1-T22N-R6W			
Site Position:		Northing:	1,882,291.13 ft	Latitude:	36.167462
From:	Lat/Long	Easting:	1,296,351.77 ft	Longitude:	-107.415690
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.69 °

Well	Lybrook G01-2206 02H					
Well Position	+N/-S	0.0 ft	Northing:	1,882,290.04 ft	Latitude:	36.167460
	+E/-W	0.0 ft	Easting:	1,296,381.87 ft	Longitude:	-107.415588
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,939.0 ft

Wellbore	Hz				
-----------------	----	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/4/2014	9.36	62.97	50,187

Design	Plan #2				
---------------	---------	--	--	--	--

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	180.91	

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	
4,474.0	0.00	0.00	4,474.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,111.0	57.33	83.86	5,009.9	31.3	291.3	9.00	9.00	0.00	83.86	
6,179.9	90.50	180.91	5,386.8	-614.2	873.8	9.00	3.10	9.08	93.40	Lybrook G01-2206 02
13,529.3	90.50	180.91	5,322.6	-7,962.4	756.5	0.00	0.00	0.00	0.00	Lybrook G01-2206 02

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site:	S1-T22N-R6W	North Reference:	True
Well:	Lybrook G01-2206 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	
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	
1,308.0	0.00	0.00	1,308.0	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	
1,484.0	0.00	0.00	1,484.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,645.0	0.00	0.00	1,645.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,861.0	0.00	0.00	1,861.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
1,961.0	0.00	0.00	1,961.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
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	
2,666.0	0.00	0.00	2,666.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	
2,900.0	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	
3,388.0	0.00	0.00	3,388.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn.
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
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	
4,120.0	0.00	0.00	4,120.0	0.0	0.0	0.0	0.00	0.00	Point Lookout Ss.
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	
4,293.0	0.00	0.00	4,293.0	0.0	0.0	0.0	0.00	0.00	Mancos Shale

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site:	S1-T22N-R6W	North Reference:	True
Well:	Lybrook G01-2206 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	
4,474.0	0.00	0.00	4,474.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4474'
4,500.0	2.34	83.86	4,500.0	0.1	0.5	-0.1	9.00	9.00	
4,600.0	11.34	83.86	4,599.2	1.3	12.4	-1.5	9.00	9.00	
4,700.0	20.34	83.86	4,695.3	4.2	39.5	-4.9	9.00	9.00	
4,800.0	29.34	83.86	4,785.9	8.7	81.2	-10.0	9.00	9.00	
4,900.0	38.34	83.86	4,868.9	14.7	136.5	-16.9	9.00	9.00	
4,914.5	39.64	83.86	4,880.2	15.7	145.5	-18.0	9.00	9.00	Mancos Silt
5,000.0	47.34	83.86	4,942.2	21.9	204.0	-25.2	9.00	9.00	
5,085.2	55.00	83.86	4,995.6	29.0	270.0	-33.3	9.00	9.00	ICP @ 55°
5,100.0	56.33	83.86	5,003.9	30.4	282.1	-34.8	9.00	9.00	
5,111.0	57.33	83.86	5,009.9	31.3	291.3	-36.0	9.00	9.00	START BUILD/TURN @ 5111' MD
5,200.0	57.21	93.38	5,058.1	33.1	366.0	-39.0	9.00	-0.13	
5,300.0	57.94	104.01	5,111.8	20.4	449.2	-27.5	9.00	0.73	
5,380.8	59.16	112.42	5,154.1	-1.2	514.6	-7.0	9.00	1.51	Gallup Fm.
5,400.0	59.53	114.38	5,163.8	-7.7	529.8	-0.7	9.00	1.93	
5,500.0	61.92	124.34	5,212.8	-50.5	605.6	40.9	9.00	2.38	
5,600.0	64.98	133.80	5,257.6	-106.8	674.9	96.1	9.00	3.07	
5,700.0	68.61	142.77	5,297.1	-175.4	735.9	163.7	9.00	3.63	
5,800.0	72.70	151.27	5,330.2	-254.5	787.1	242.0	9.00	4.08	
5,900.0	77.13	159.39	5,356.3	-342.2	827.3	329.0	9.00	4.43	
6,000.0	81.79	167.22	5,374.6	-436.3	855.4	422.6	9.00	4.67	
6,100.0	86.61	174.87	5,384.7	-534.4	870.9	520.5	9.00	4.82	
6,179.9	90.50	180.91	5,386.8	-614.2	873.8	600.2	9.00	4.87	LP @ 5386' TVD; 90.5°
6,200.0	90.50	180.91	5,386.6	-634.3	873.5	620.3	0.00	0.00	
6,300.0	90.50	180.91	5,385.7	-734.3	871.9	720.3	0.00	0.00	
6,400.0	90.50	180.91	5,384.8	-834.3	870.3	820.3	0.00	0.00	
6,500.0	90.50	180.91	5,384.0	-934.2	868.7	920.3	0.00	0.00	
6,600.0	90.50	180.91	5,383.1	-1,034.2	867.1	1,020.3	0.00	0.00	
6,700.0	90.50	180.91	5,382.2	-1,134.2	865.5	1,120.3	0.00	0.00	
6,800.0	90.50	180.91	5,381.3	-1,234.2	863.9	1,220.3	0.00	0.00	
6,900.0	90.50	180.91	5,380.5	-1,334.2	862.3	1,320.3	0.00	0.00	
7,000.0	90.50	180.91	5,379.6	-1,434.2	860.7	1,420.3	0.00	0.00	
7,100.0	90.50	180.91	5,378.7	-1,534.1	859.1	1,520.3	0.00	0.00	
7,200.0	90.50	180.91	5,377.9	-1,634.1	857.5	1,620.3	0.00	0.00	
7,300.0	90.50	180.91	5,377.0	-1,734.1	855.9	1,720.3	0.00	0.00	
7,400.0	90.50	180.91	5,376.1	-1,834.1	854.3	1,820.3	0.00	0.00	
7,500.0	90.50	180.91	5,375.2	-1,934.1	852.7	1,920.3	0.00	0.00	
7,600.0	90.50	180.91	5,374.4	-2,034.1	851.1	2,020.3	0.00	0.00	
7,700.0	90.50	180.91	5,373.5	-2,134.0	849.5	2,120.3	0.00	0.00	
7,800.0	90.50	180.91	5,372.6	-2,234.0	847.9	2,220.3	0.00	0.00	
7,900.0	90.50	180.91	5,371.7	-2,334.0	846.4	2,320.3	0.00	0.00	
8,000.0	90.50	180.91	5,370.9	-2,434.0	844.8	2,420.3	0.00	0.00	
8,100.0	90.50	180.91	5,370.0	-2,534.0	843.2	2,520.3	0.00	0.00	
8,200.0	90.50	180.91	5,369.1	-2,634.0	841.6	2,620.3	0.00	0.00	
8,300.0	90.50	180.91	5,368.3	-2,733.9	840.0	2,720.3	0.00	0.00	
8,400.0	90.50	180.91	5,367.4	-2,833.9	838.4	2,820.3	0.00	0.00	
8,500.0	90.50	180.91	5,366.5	-2,933.9	836.8	2,920.3	0.00	0.00	
8,600.0	90.50	180.91	5,365.6	-3,033.9	835.2	3,020.3	0.00	0.00	
8,700.0	90.50	180.91	5,364.8	-3,133.9	833.6	3,120.2	0.00	0.00	
8,800.0	90.50	180.91	5,363.9	-3,233.9	832.0	3,220.2	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site:	S1-T22N-R6W	North Reference:	True
Well:	Lybrook G01-2206 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	90.50	180.91	5,363.0	-3,333.8	830.4	3,320.2	0.00	0.00	
9,000.0	90.50	180.91	5,362.1	-3,433.8	828.8	3,420.2	0.00	0.00	
9,100.0	90.50	180.91	5,361.3	-3,533.8	827.2	3,520.2	0.00	0.00	
9,200.0	90.50	180.91	5,360.4	-3,633.8	825.6	3,620.2	0.00	0.00	
9,300.0	90.50	180.91	5,359.5	-3,733.8	824.0	3,720.2	0.00	0.00	
9,400.0	90.50	180.91	5,358.6	-3,833.8	822.4	3,820.2	0.00	0.00	
9,500.0	90.50	180.91	5,357.8	-3,933.8	820.8	3,920.2	0.00	0.00	
9,600.0	90.50	180.91	5,356.9	-4,033.7	819.2	4,020.2	0.00	0.00	
9,700.0	90.50	180.91	5,356.0	-4,133.7	817.6	4,120.2	0.00	0.00	
9,800.0	90.50	180.91	5,355.2	-4,233.7	816.0	4,220.2	0.00	0.00	
9,900.0	90.50	180.91	5,354.3	-4,333.7	814.4	4,320.2	0.00	0.00	
10,000.0	90.50	180.91	5,353.4	-4,433.7	812.8	4,420.2	0.00	0.00	
10,100.0	90.50	180.91	5,352.5	-4,533.7	811.3	4,520.2	0.00	0.00	
10,200.0	90.50	180.91	5,351.7	-4,633.6	809.7	4,620.2	0.00	0.00	
10,300.0	90.50	180.91	5,350.8	-4,733.6	808.1	4,720.2	0.00	0.00	
10,400.0	90.50	180.91	5,349.9	-4,833.6	806.5	4,820.2	0.00	0.00	
10,500.0	90.50	180.91	5,349.0	-4,933.6	804.9	4,920.2	0.00	0.00	
10,600.0	90.50	180.91	5,348.2	-5,033.6	803.3	5,020.2	0.00	0.00	
10,700.0	90.50	180.91	5,347.3	-5,133.6	801.7	5,120.2	0.00	0.00	
10,800.0	90.50	180.91	5,346.4	-5,233.5	800.1	5,220.2	0.00	0.00	
10,900.0	90.50	180.91	5,345.6	-5,333.5	798.5	5,320.2	0.00	0.00	
11,000.0	90.50	180.91	5,344.7	-5,433.5	796.9	5,420.2	0.00	0.00	
11,100.0	90.50	180.91	5,343.8	-5,533.5	795.3	5,520.2	0.00	0.00	
11,200.0	90.50	180.91	5,342.9	-5,633.5	793.7	5,620.2	0.00	0.00	
11,300.0	90.50	180.91	5,342.1	-5,733.5	792.1	5,720.1	0.00	0.00	
11,400.0	90.50	180.91	5,341.2	-5,833.4	790.5	5,820.1	0.00	0.00	
11,500.0	90.50	180.91	5,340.3	-5,933.4	788.9	5,920.1	0.00	0.00	
11,600.0	90.50	180.91	5,339.4	-6,033.4	787.3	6,020.1	0.00	0.00	
11,700.0	90.50	180.91	5,338.6	-6,133.4	785.7	6,120.1	0.00	0.00	
11,800.0	90.50	180.91	5,337.7	-6,233.4	784.1	6,220.1	0.00	0.00	
11,900.0	90.50	180.91	5,336.8	-6,333.4	782.5	6,320.1	0.00	0.00	
12,000.0	90.50	180.91	5,336.0	-6,433.3	780.9	6,420.1	0.00	0.00	
12,100.0	90.50	180.91	5,335.1	-6,533.3	779.3	6,520.1	0.00	0.00	
12,200.0	90.50	180.91	5,334.2	-6,633.3	777.7	6,620.1	0.00	0.00	
12,300.0	90.50	180.91	5,333.3	-6,733.3	776.1	6,720.1	0.00	0.00	
12,400.0	90.50	180.91	5,332.5	-6,833.3	774.6	6,820.1	0.00	0.00	
12,500.0	90.50	180.91	5,331.6	-6,933.3	773.0	6,920.1	0.00	0.00	
12,600.0	90.50	180.91	5,330.7	-7,033.2	771.4	7,020.1	0.00	0.00	
12,700.0	90.50	180.91	5,329.8	-7,133.2	769.8	7,120.1	0.00	0.00	
12,800.0	90.50	180.91	5,329.0	-7,233.2	768.2	7,220.1	0.00	0.00	
12,900.0	90.50	180.91	5,328.1	-7,333.2	766.6	7,320.1	0.00	0.00	
13,000.0	90.50	180.91	5,327.2	-7,433.2	765.0	7,420.1	0.00	0.00	
13,100.0	90.50	180.91	5,326.3	-7,533.2	763.4	7,520.1	0.00	0.00	
13,200.0	90.50	180.91	5,325.5	-7,633.1	761.8	7,620.1	0.00	0.00	
13,300.0	90.50	180.91	5,324.6	-7,733.1	760.2	7,720.1	0.00	0.00	
13,400.0	90.50	180.91	5,323.7	-7,833.1	758.6	7,820.1	0.00	0.00	
13,500.0	90.50	180.91	5,322.9	-7,933.1	757.0	7,920.1	0.00	0.00	
13,529.3	90.50	180.91	5,322.6	-7,962.4	756.5	7,949.3	0.00	0.00	TD at 13529.3

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site:	S1-T22N-R6W	North Reference:	True
Well:	Lybrook G01-2206 02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Lybrook G01-2206 02H I	0.00	0.00	5,322.6	-7,962.4	756.5	1,874,319.17	1,297,042.74	36.145589	-107.413026
- plan hits target center									
- Point									
Lybrook G01-2206 02H I	0.00	0.00	5,386.8	-614.2	873.8	1,881,665.44	1,297,248.23	36.165773	-107.412628
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(in)	(in)	
500.0	500.0	9 5/8"	0.000	0.000	
5,085.2	4,995.6	ICP @ 55°	0.000	0.000	

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
1,308.0	1,308.0	Ojo Alamo Ss.		-0.50	180.91	
1,484.0	1,484.0	Kirtland Shale		-0.50	180.91	
1,645.0	1,645.0	Fruitland Coal		-0.50	180.91	
1,861.0	1,861.0	Pictured Cliffs Ss.		-0.50	180.91	
1,961.0	1,961.0	Lewis Shale		-0.50	180.91	
2,666.0	2,666.0	Cliffhouse Ss.		-0.50	180.91	
3,388.0	3,388.0	Menefee Fn.		-0.50	180.91	
4,120.0	4,120.0	Point Lookout Ss.		-0.50	180.91	
4,293.0	4,293.0	Mancos Shale		-0.50	180.91	
4,914.5	4,880.0	Mancos Silt		-0.50	180.91	
5,380.8	5,154.0	Gallup Fm.		-0.50	180.91	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
4,474.0	4,474.0	0.0	0.0	KOP @ 4474'	
5,111.0	5,009.9	31.3	291.3	START BUILD/TURN @ 5111' MD	
6,179.9	5,386.8	-614.2	873.8	LP @ 5386' TVD; 90.5°	
13,529.3	5,322.6	-7,962.4	756.5	TD at 13529.3	

EnCana Oil & Gas (USA) Inc

Sandoval County, NM

S1-T22N-R6W

Lybrook G01-2206 02H

Hz

Plan #2

Anticollision Report

02 December, 2014

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Reference Site:	S1-T22N-R6W	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook G01-2206 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	12/2/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	13,529.3	Plan #2 (Hz)	Geolink MWD	Geolink MWD

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S1-T22N-R6W						
Lybrook G01-2206 01H - Hz - Plan #2	4,400.0	4,400.0	30.1	14.8	1.968	CC, ES, SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Reference Site:	S1-T22N-R6W	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook G01-2206 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S1-T22N-R6W - Lybrook G01-2206 01H - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-88.61	0.7	-30.1	30.1					
100.0	100.0	100.0	100.0	0.1	0.1	-88.61	0.7	-30.1	30.1	29.8	0.29	102.719		
200.0	200.0	200.0	200.0	0.3	0.3	-88.61	0.7	-30.1	30.1	29.5	0.64	46.894		
300.0	300.0	300.0	300.0	0.5	0.5	-88.61	0.7	-30.1	30.1	29.1	0.99	30.382		
400.0	400.0	400.0	400.0	0.7	0.7	-88.61	0.7	-30.1	30.1	28.8	1.34	22.470		
500.0	500.0	500.0	500.0	0.8	0.8	-88.61	0.7	-30.1	30.1	28.4	1.69	17.827		
600.0	600.0	600.0	600.0	1.0	1.0	-88.61	0.7	-30.1	30.1	28.1	2.04	14.775		
700.0	700.0	700.0	700.0	1.2	1.2	-88.61	0.7	-30.1	30.1	27.7	2.39	12.615		
800.0	800.0	800.0	800.0	1.4	1.4	-88.61	0.7	-30.1	30.1	27.4	2.74	11.006		
900.0	900.0	900.0	900.0	1.5	1.5	-88.61	0.7	-30.1	30.1	27.0	3.09	9.761		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	-88.61	0.7	-30.1	30.1	26.7	3.43	8.769		
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	-88.61	0.7	-30.1	30.1	26.3	3.78	7.960		
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	-88.61	0.7	-30.1	30.1	26.0	4.13	7.288		
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	-88.61	0.7	-30.1	30.1	25.6	4.48	6.720		
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	-88.61	0.7	-30.1	30.1	25.3	4.83	6.234		
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	-88.61	0.7	-30.1	30.1	24.9	5.18	5.814		
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	-88.61	0.7	-30.1	30.1	24.6	5.53	5.447		
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	-88.61	0.7	-30.1	30.1	24.2	5.88	5.124		
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	-88.61	0.7	-30.1	30.1	23.9	6.23	4.837		
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	-88.61	0.7	-30.1	30.1	23.5	6.58	4.580		
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	-88.61	0.7	-30.1	30.1	23.2	6.93	4.349		
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	-88.61	0.7	-30.1	30.1	22.8	7.27	4.140		
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	-88.61	0.7	-30.1	30.1	22.5	7.62	3.951		
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	-88.61	0.7	-30.1	30.1	22.1	7.97	3.778		
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	-88.61	0.7	-30.1	30.1	21.8	8.32	3.619		
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	-88.61	0.7	-30.1	30.1	21.4	8.67	3.474		
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	-88.61	0.7	-30.1	30.1	21.1	9.02	3.339		
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	-88.61	0.7	-30.1	30.1	20.7	9.37	3.215		
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	-88.61	0.7	-30.1	30.1	20.4	9.72	3.099		
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	-88.61	0.7	-30.1	30.1	20.1	10.07	2.992		
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	-88.61	0.7	-30.1	30.1	19.7	10.42	2.892		
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	-88.61	0.7	-30.1	30.1	19.4	10.77	2.798		
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	-88.61	0.7	-30.1	30.1	19.0	11.11	2.710		
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	-88.61	0.7	-30.1	30.1	18.7	11.46	2.627		
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	-88.61	0.7	-30.1	30.1	18.3	11.81	2.550		
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	-88.61	0.7	-30.1	30.1	18.0	12.16	2.477		
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	-88.61	0.7	-30.1	30.1	17.6	12.51	2.407		
3,700.0	3,700.0	3,700.0	3,700.0	6.4	6.4	-88.61	0.7	-30.1	30.1	17.3	12.86	2.342		
3,800.0	3,800.0	3,800.0	3,800.0	6.6	6.6	-88.61	0.7	-30.1	30.1	16.9	13.21	2.280		
3,900.0	3,900.0	3,900.0	3,900.0	6.8	6.8	-88.61	0.7	-30.1	30.1	16.6	13.56	2.222		
4,000.0	4,000.0	4,000.0	4,000.0	7.0	7.0	-88.61	0.7	-30.1	30.1	16.2	13.91	2.166		
4,100.0	4,100.0	4,100.0	4,100.0	7.1	7.1	-88.61	0.7	-30.1	30.1	15.9	14.26	2.113		
4,200.0	4,200.0	4,200.0	4,200.0	7.3	7.3	-88.61	0.7	-30.1	30.1	15.5	14.60	2.062		
4,300.0	4,300.0	4,300.0	4,300.0	7.5	7.5	-88.61	0.7	-30.1	30.1	15.2	14.95	2.014		
4,400.0	4,400.0	4,400.0	4,400.0	7.7	7.7	-88.61	0.7	-30.1	30.1	14.8	15.30	1.968 CC, ES, SF		
4,500.0	4,500.0	4,494.8	4,494.5	7.8	7.8	-169.75	2.7	-36.9	37.9	22.3	15.63	2.424		
4,600.0	4,599.2	4,582.1	4,579.6	8.0	8.0	-167.29	7.9	-54.9	70.4	54.6	15.77	4.464		
4,700.0	4,695.3	4,650.0	4,643.6	8.2	8.2	-165.94	14.3	-76.6	127.5	111.8	15.63	8.155		
4,800.0	4,785.9	4,700.0	4,689.0	8.5	8.3	-163.99	20.1	-98.7	202.9	187.7	15.27	13.290		
4,900.0	4,868.9	4,740.1	4,724.1	9.0	8.5	-160.38	25.5	-115.3	290.6	275.8	14.83	19.604		
5,000.0	4,942.2	4,759.6	4,740.8	9.7	8.5	-150.42	28.3	-125.1	385.9	371.0	14.88	25.964		
5,100.0	5,003.9	4,767.2	4,747.2	10.8	8.8	-106.78	29.5	-129.0	484.7	465.8	18.86	25.702		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Reference Site:	S1-T22N-R6W	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook G01-2206 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD												Offset Well Error:	0.0 ft
S1-T22N-R6W - Lybrook G01-2206 01H - Hz - Plan #2													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
5,200.0	5,058.1	4,768.2	4,748.1	12.1	8.6	102.23	29.6	-129.6	584.6	564.3	20.30	28.792	
5,300.0	5,111.8	4,767.9	4,747.8	13.5	8.6	85.92	29.6	-129.4	683.7	661.8	21.89	31.236	
5,400.0	5,163.8	4,766.6	4,746.6	15.0	8.6	78.66	29.4	-128.7	780.4	757.4	22.92	34.047	
5,500.0	5,212.8	4,764.4	4,744.8	16.5	8.6	72.94	29.0	-127.6	873.4	849.8	23.67	36.906	
5,600.0	5,257.6	4,750.0	4,732.6	17.9	8.5	66.86	26.9	-120.2	962.1	938.1	23.95	40.173	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook G01-2206 02H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 6955.0ft (Original Well Elev)
Reference Site:	S1-T22N-R6W	MD Reference:	WELL @ 6955.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook G01-2206 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 6955.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

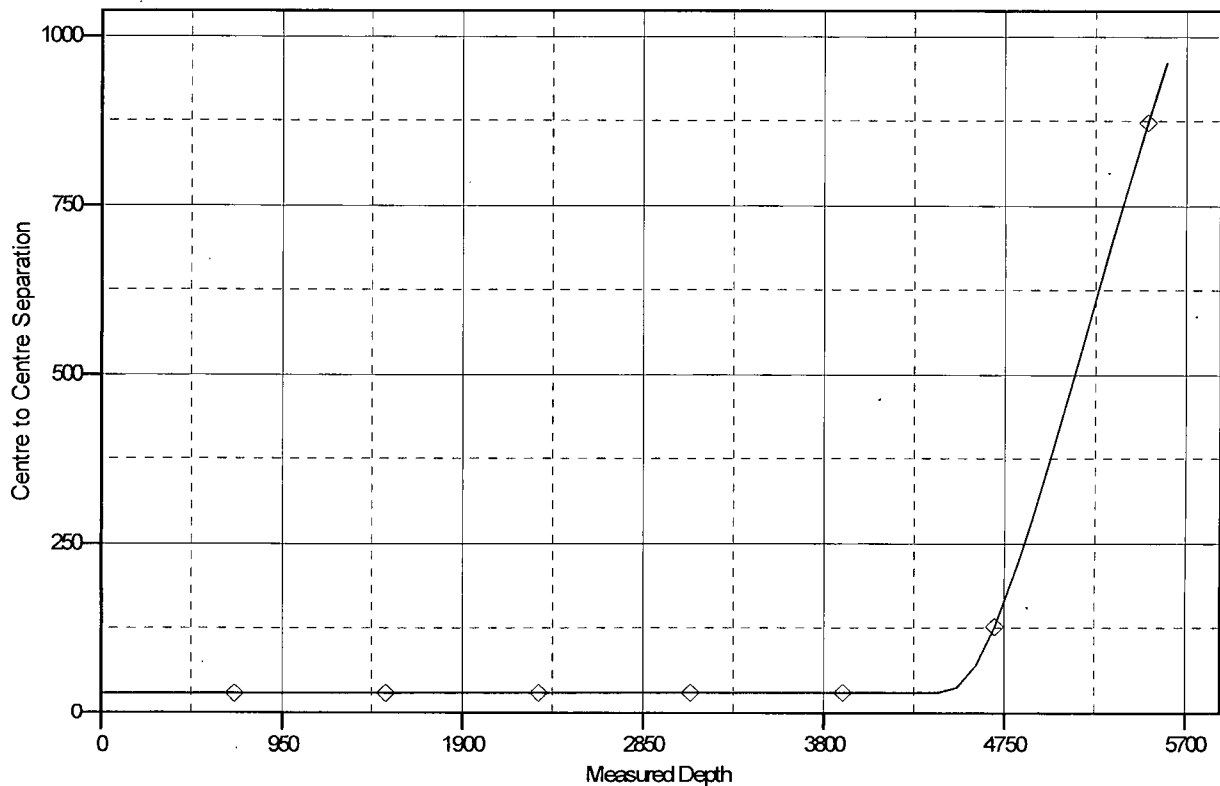
Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook G01-2206 02H

Coordinate System is US State Plane 1983, New Mexico Central Zone

Grid Convergence at Surface is: -0.69°

Ladder Plot



LEGEND

◆ Lybrook G01-2206 01H, Hz, Plan #2 V0

Loc: Lybrook G01-2206 02H County: New Mexico WELL: Lybrook G01-2206 02H			Encana Natural Gas WELL SUMMARY				ENG: Jeff Villalobos 12/3/14 RIG: Aztec 920 GLE: 6939 RKBE: 6955		
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			TVD	MD					
			60	60'		26	16" 42.09# 100sx Type I Neat 16.0ppg cmt	Fresh wtr 8.3-9.2	
Multi-Well pad take survey every stand and run anti- collision report prior to spud	None	San Jose Fn.	0			12 1/4	9 5/8" 36ppf J55 LTC TOC Surface with 100% OH Excess: 228 sks Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water.	Fresh wtr 8.3-10	Vertical <1°
		Nacimiento Fn. 9 5/8" Csg	surface 500	500.0					
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5 Surveys every 30' through the curve	No OH logs Mud logger onsite	Ojo Alamo Ss. Kirtland Shale	1,308 1,484			8 3/4	7" 26ppf J55 LTC TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 835sks Stage 1 Lead: 471 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4% FL-52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk. Stage 1 Tail: 363 sks Type III Cement + 1% CaCl2 + 0.25#/sk Cello Flake + 0.2% FL-52A. Mixed at 14.6 ppg. Yield 1.38 cuft/sk.	Fresh Wtr 8.3-10	Vertical <1°
		Fruitland Coal	1,645						
		Pictured Cliffs Ss. Lewis Shale	1,861 1,961						
		Cliffhouse Ss. Menefee Fn.	2,666 3,388						
		Point Lookout Ss. Mancos Shale	4,120 4,293						
		KOP	4,474	4,474.0					
Mancos Silt	4,880								
Gallup Fn.	5,154								
7" Csg	4,996	5,085.2							
Surveys every stand to TD unless directed otherwise by Geologist MWD Gamma Directional	No OH Logs	Horizontal Target TD	5,392 5,323	13,529.3		6 1/8	100' overlap at liner top 8444' Drilled Lateral		Horz Inc/TVD 90.5°deg/5392ft
		Base Gallup	5,452				4 1/2" 11.6ppf SB80 LTC TOC @ hanger (50% OH excess) Stage 1 Total: 474sks Stage 1 Blend: 474 sks Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwoc Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL- 52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk.	WBM 8.3-10	TD = 13,529.3 MD

NOTES:

- 1) Drill with 26" bit to 60', set 16" 42.09ppf conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 4474', 8 3/4 inch holesize
- 5) Start curve at 10deg/100' build rate
- 6) Drill to csg point of 5085' MD
- 7) R&C 7" csg, circ cmt to surface
- 8) Land at ~55 deg, drill lateral to 13529' run 4 1/2 inch cemented liner

Lybrook G01-2206 02H

SHL: SE/4 NE/4 Sec 1 T22N R6W, 2407' FNL, 1284' FEL

BHL: SE/4 SE/4 Sec 12 T22N R6W, 330' FSL, 400' FEL

Sandoval, New Mexico

**Encana Oil & Gas (USA) Inc.
Drilling Plan**

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

Formation	Depth (TVD) units = feet
Nacimiento Fn.	surface
Ojo Alamo Ss.	1,308
Kirtland Shale	1,484
Fruitland Coal	1,645
Pictured Cliffs Ss.	1,861
Lewis Shale	1,961
Cliffhouse Ss.	2,666
Menefee Fn.	3,388
Point Lookout Ss.	4,120
Mancos Shale	4,293
Mancos Silt	4,880
Gallup Fn.	5,154

The referenced surface elevation is 6939', KB 6955'

**2. ESTIMATED DEPTH OF POTENTIAL WATER, OIL, GAS,
& OTHER MINERAL BEARING FORMATIONS**

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,645
Oil/Gas	Pictured Cliffs Ss.	1,861
Oil/Gas	Cliffhouse Ss.	2,666
Gas	Menefee Fn.	3,388
Oil/Gas	Point Lookout Ss.	4,120
Oil/Gas	Mancos Shale	4,293
Oil/Gas	Mancos Silt	4,880
Oil/Gas	Gallup Fn.	5,154

All shows of fresh water and minerals will be reported and protected.

Lybrook G01-2206 02H

SHL: Sec Twp Rge, Footages

BHL: NE/4 SE/4 Sec 1 T22N R6W, 2342' FSL, 400' FEL

New Mexico, New Mexico

3. PRESSURE CONTROL

- a) Pressure control equipment and configuration will be designed to meet 2M standards.
- b) Working pressure on rams and BOPE will be 3,000 psi.
- c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
- e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
- f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.
- g) BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
- h) BOP testing procedures and testing frequency will conform to Onshore Order No. 2.
- i) BOP remote controls shall be located on the rig floor at a location readily accessible to the driller. Master controls shall be on the ground at the accumulator and shall have the capability to function all preventers.
- j) The kill line shall be 2-inch minimum and contain two kill line valves, one of which shall be a check valve.
- k) The choke line shall be a 2-inch minimum and contain two choke line valves (2-inch minimum).
- l) The choke and manifold shall contain two adjustable chokes.
- m) Hand wheels shall be installed on all ram preventers.
- n) Safety valves and wrenches (with subs for drill string connections) shall be available on the rig floor at all times.
- o) Inside BOP or float sub shall also be available on the rig floor at all times.

Proposed BOP and choke manifold arrangements are attached.

4. CASING & CEMENTING PROGRAM

The proposed casing and cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

- a) The proposed casing design is as follows:

Casing	Depth (MD)	Hole Size	Csg Size	Weight	Grade
Conductor	0'-60'	26"	16"	42.09#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5085'	8 3/4"	7"	26#	J55, LTC New
Production Liner	4985'-13529'	6 1/8"	4 1/2"	11.6#	B80*, LTC New

Casing String				Casing Strength Properties			Minimum Design Factors		
Size	Weight (ppf)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000lbs)	Collapse	Burst	Tension
9 5/8"	36	J55	STC	2020	3520	394	1.125	1.1	1.5
7"	26	J55	LTC	4320	4980	367	1.125	1.1	1.5
4.5"	11.6	B80	LTC	6350	7780	201	1.125	1.1	1.5

*B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered

Lybrook G01-2206 02H**SHL: Sec Twp Rge, Footages****BHL: NE/4 SE/4 Sec 1 T22N R6W, 2342' FSL, 400' FEL****New Mexico, New Mexico**

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1,500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

b) The proposed cementing program is as follows

Casing	Depth (MD)	Cement Volume (sacks)	Cement Type & Yield	Designed TOC	Centralizers
Conductor	0'-60'	100 sks	Type I Neat 16 ppg	Surface	None
Surface	0'-500'	228 sks	Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5085'	100% open hole excess Stage 1 Lead: 471 sks Stage 1 Tail: 363 sks	Lead: PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13cuft/sk Tail: Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuft/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	4985'-13529'	50% OH excess Stage 1 Blend Total: 474sks	Blend: Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk	Liner Hanger	N/A

Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4474'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5323'/13529'	Gallup

Lybrook G01-2206 02H

SHL: Sec Twp Rge, Footages

BHL: NE/4 SE/4 Sec 1 T22N R6W, 2342' FSL, 400' FEL

New Mexico, New Mexico

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60'/60'	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0'-500'/500'	Fresh Water	8.3-10	60-70	NC
8 3/4"	500'/500'-4996'/5085'	Fresh Water LSND	8.3-10	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	4996'/5085'- 5323'/13529'	Fresh Water LSND	8.3-10	15-25	<15

- c) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.
- d) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance with the Surface Use Plan of Operations.

7. TESTING, CORING, & LOGGING

- a) Drill Stem Testing - None anticipated.
- b) Coring - None anticipated.
- c) Mudd Logging - Mud loggers will be on location from kick off point to TD.
- d) Logging - See below

Cased Hole:

CBL/CCL/GR/VDL will be run as needed for perforating control

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2523 psi based on a 9.0 ppg at 5392' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H₂S is encountered, the guidelines in Onshore Order No. 6 will be followed.

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on January 25, 2015. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

It is anticipated that the drilling of this well will take approximately 20 days.