

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

5. Lease Serial No.
NMNM 55836

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

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)

720-876-3740

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

8. Well Name and No.
Lybrook H04-2208 01H

9. API Well No.

30-045-35328

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SHL: 1980' FNL and 330' FEL Sec 4, T22N, R8W
BHL: 1980' FNL and 330' FWL Sec 28, T22N, R8W

Sec 5, T22N, R8W

10. Field and Pool or Exploratory Area
Alamito Gallup

11. County or Parish, State
San Juan County, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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.)

Per verbal approval by the BLM & OCD on October 9, 2014, Encana Oil & Gas (USA) Inc. (Encana) is submitting follow-up documentation for the Lybrook H04-2208 01H. Per the APD for this well, Encana intended to drill a pilot hole. However, Encana submitted a sundry on September 9th to cement the production liner, instead of running open hole packers, and inadvertently left the pilot hole off of the updated Directional Drilling Plan, 10-Point Drilling Plan and Wellbore Diagram submitted with that sundry. Therefore, Encana is submitting an updated Directional Drilling Plan, 10-Point Drilling Plan and Wellbore Diagram, which reflect Encana's intent to cement the production liner and drill a pilot hole on the Lybrook H04-2208 01H well.

OIL CONS. DIV DIST. 3

DEC 02 2014

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

ADHERE TO PREVIOUS NMOCD

CONDITIONS OF APPROVAL

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 (print name)

Rosalie Thim

Title Regulatory Analyst

Signature

Date

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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.

Title Petroleum Engineer

Date 12/01/2014

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.

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM CZ
Site: S4-T22N-R8W (Lybrook)
Well: Lybrook H04-2208 01H
Wellbore: Hz
Design: Plan #9

Local Co-ordinate Reference: Well Lybrook H04-2208 01H
TVD Reference: WELL @ 6869.0usft (A1099)
MD Reference: WELL @ 6869.0usft (A1099)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	San Juan County, NM CZ		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	S4-T22N-R8W (Lybrook)			
Site Position:		Northing:	1,884,501.33 usft	Latitude: 36.170690
From:	Lat/Long	Easting:	1,218,639.92 usft	Longitude: -107.679010
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence: -0.84 °

Well	Lybrook H04-2208 01H			
Well Position	+N/-S	0.0 usft	Northing:	1,884,501.33 usft
	+E/-W	0.0 usft	Easting:	1,218,639.92 usft
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft
			Ground Level:	6,851.0 usft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/15/2014	9.39	62.91	50,087

Design	Plan #9			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,517.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	269.82

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
3,517.0	1.50	187.50	3,516.6	-7.0	12.2	0.00	0.00	0.00	0.00	
3,676.9	6.16	274.01	3,676.1	-8.4	3.4	3.91	2.92	54.10	100.31	
4,211.4	6.16	274.01	4,207.5	-4.4	-53.9	0.00	0.00	0.00	0.00	
5,148.6	90.50	269.82	4,775.9	-1.9	-692.4	9.00	9.00	-0.45	-4.21	
9,058.6	90.50	269.82	4,741.8	-14.2	-4,602.2	0.00	0.00	0.00	0.00	Lybrook H04-2208 01

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 Well: Lybrook H04-2208 01H
 Wellbore: Hz
 Design: Plan #9

Local Co-ordinate Reference: Well Lybrook H04-2208 01H
 TVD Reference: WELL @ 6869.0usft (A1099)
 MD Reference: WELL @ 6869.0usft (A1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
3,517.0	1.50	187.50	3,516.6	-7.0	12.2	-12.2	0.00	0.00	KOP @ 3517'
3,521.5	1.48	194.27	3,521.1	-7.1	12.2	-12.2	3.91	-0.47	Point Lookout Ss.
3,600.0	3.32	261.47	3,599.5	-8.4	9.7	-9.7	3.91	2.35	
3,676.9	6.16	274.01	3,676.1	-8.4	3.4	-3.3	3.91	3.69	EOB: Inc=6.16°
3,686.8	6.16	274.01	3,686.0	-8.4	2.3	-2.3	0.00	0.00	Mancos Shale
3,700.0	6.16	274.01	3,699.1	-8.3	0.9	-0.9	0.00	0.00	
3,800.0	6.16	274.01	3,798.5	-7.5	-9.8	9.8	0.00	0.00	
3,900.0	6.16	274.01	3,897.9	-6.8	-20.5	20.6	0.00	0.00	
4,000.0	6.16	274.01	3,997.4	-6.0	-31.2	31.3	0.00	0.00	
4,100.0	6.16	274.01	4,096.8	-5.3	-42.0	42.0	0.00	0.00	
4,195.3	6.16	274.01	4,191.5	-4.6	-52.2	52.2	0.00	0.00	Mancos Silt
4,200.0	6.16	274.01	4,196.2	-4.5	-52.7	52.7	0.00	0.00	
4,211.4	6.16	274.01	4,207.5	-4.4	-53.9	53.9	0.00	0.00	Start build/turn @ 4211' MD
4,300.0	14.13	271.62	4,294.7	-3.8	-69.5	69.5	9.00	8.99	
4,400.0	23.13	270.88	4,389.4	-3.1	-101.4	101.4	9.00	9.00	
4,500.0	32.13	270.54	4,477.9	-2.6	-147.7	147.7	9.00	9.00	
4,539.3	35.67	270.45	4,510.5	-2.4	-169.6	169.6	9.00	9.00	Gallup Fn.
4,600.0	41.13	270.34	4,558.0	-2.1	-207.3	207.3	9.00	9.00	
4,700.0	50.13	270.20	4,627.9	-1.8	-278.7	278.7	9.00	9.00	
4,754.2	55.00	270.14	4,660.8	-1.7	-321.7	321.7	9.00	9.00	7" ICP @ 55°
4,800.0	59.13	270.09	4,685.7	-1.6	-360.2	360.2	9.00	9.00	
4,900.0	68.12	270.01	4,730.1	-1.5	-449.6	449.7	9.00	9.00	
5,000.0	77.12	269.93	4,759.9	-1.6	-545.0	545.0	9.00	9.00	
5,100.0	86.12	269.85	4,774.5	-1.8	-643.8	643.8	9.00	9.00	
5,148.6	90.50	269.82	4,775.9	-1.9	-692.4	692.4	9.00	9.00	LP @ 4775' TVD; 90.5°
5,200.0	90.50	269.82	4,775.5	-2.1	-743.8	743.8	0.00	0.00	
5,300.0	90.50	269.82	4,774.6	-2.4	-843.8	843.8	0.00	0.00	
5,400.0	90.50	269.82	4,773.7	-2.7	-943.8	943.8	0.00	0.00	
5,500.0	90.50	269.82	4,772.9	-3.0	-1,043.8	1,043.8	0.00	0.00	
5,600.0	90.50	269.82	4,772.0	-3.3	-1,143.8	1,143.8	0.00	0.00	
5,700.0	90.50	269.82	4,771.1	-3.6	-1,243.8	1,243.8	0.00	0.00	
5,800.0	90.50	269.82	4,770.2	-4.0	-1,343.8	1,343.8	0.00	0.00	
5,900.0	90.50	269.82	4,769.4	-4.3	-1,443.8	1,443.8	0.00	0.00	
6,000.0	90.50	269.82	4,768.5	-4.6	-1,543.7	1,543.8	0.00	0.00	
6,100.0	90.50	269.82	4,767.6	-4.9	-1,643.7	1,643.7	0.00	0.00	
6,200.0	90.50	269.82	4,766.7	-5.2	-1,743.7	1,743.7	0.00	0.00	
6,300.0	90.50	269.82	4,765.9	-5.5	-1,843.7	1,843.7	0.00	0.00	
6,400.0	90.50	269.82	4,765.0	-5.8	-1,943.7	1,943.7	0.00	0.00	
6,500.0	90.50	269.82	4,764.1	-6.2	-2,043.7	2,043.7	0.00	0.00	
6,600.0	90.50	269.82	4,763.3	-6.5	-2,143.7	2,143.7	0.00	0.00	
6,700.0	90.50	269.82	4,762.4	-6.8	-2,243.7	2,243.7	0.00	0.00	
6,800.0	90.50	269.82	4,761.5	-7.1	-2,343.7	2,343.7	0.00	0.00	
6,900.0	90.50	269.82	4,760.6	-7.4	-2,443.7	2,443.7	0.00	0.00	
7,000.0	90.50	269.82	4,759.8	-7.7	-2,543.7	2,543.7	0.00	0.00	
7,100.0	90.50	269.82	4,758.9	-8.0	-2,643.7	2,643.7	0.00	0.00	
7,200.0	90.50	269.82	4,758.0	-8.4	-2,743.7	2,743.7	0.00	0.00	
7,300.0	90.50	269.82	4,757.1	-8.7	-2,843.7	2,843.7	0.00	0.00	
7,400.0	90.50	269.82	4,756.3	-9.0	-2,943.7	2,943.7	0.00	0.00	
7,500.0	90.50	269.82	4,755.4	-9.3	-3,043.7	3,043.7	0.00	0.00	
7,600.0	90.50	269.82	4,754.5	-9.6	-3,143.7	3,143.7	0.00	0.00	
7,700.0	90.50	269.82	4,753.7	-9.9	-3,243.7	3,243.7	0.00	0.00	
7,800.0	90.50	269.82	4,752.8	-10.2	-3,343.7	3,343.7	0.00	0.00	

Planning Report

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Wellbore: Hz
Design: Plan #9

Local Co-ordinate Reference: Well Lybrook H04-2208 01H
TVD Reference: WELL @ 6869.0usft (A1099)
MD Reference: WELL @ 6869.0usft (A1099)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
7,900.0	90.50	269.82	4,751.9	-10.6	-3,443.7	3,443.7	0.00	0.00	
8,000.0	90.50	269.82	4,751.0	-10.9	-3,543.7	3,543.7	0.00	0.00	
8,100.0	90.50	269.82	4,750.2	-11.2	-3,643.7	3,643.7	0.00	0.00	
8,200.0	90.50	269.82	4,749.3	-11.5	-3,743.6	3,743.7	0.00	0.00	
8,300.0	90.50	269.82	4,748.4	-11.8	-3,843.6	3,843.7	0.00	0.00	
8,400.0	90.50	269.82	4,747.5	-12.1	-3,943.6	3,943.7	0.00	0.00	
8,500.0	90.50	269.82	4,746.7	-12.4	-4,043.6	4,043.7	0.00	0.00	
8,600.0	90.50	269.82	4,745.8	-12.8	-4,143.6	4,143.6	0.00	0.00	
8,700.0	90.50	269.82	4,744.9	-13.1	-4,243.6	4,243.6	0.00	0.00	
8,800.0	90.50	269.82	4,744.1	-13.4	-4,343.6	4,343.6	0.00	0.00	
8,900.0	90.50	269.82	4,743.2	-13.7	-4,443.6	4,443.6	0.00	0.00	
9,000.0	90.50	269.82	4,742.3	-14.0	-4,543.6	4,543.6	0.00	0.00	
9,058.6	90.50	269.82	4,741.8	-14.2	-4,602.2	4,602.3	0.00	0.00	TD at 9058.6

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Lybrook H04-2208 01H I - plan misses target center by 2642.1usft at 9058.6usft MD (4741.8 TVD, -14.2 N, -4602.2 E) - Point	0.00	0.00	4,727.1	-13.7	-7,244.3	1,884,594.33	1,211,396.17	36.170650	-107.703550
Lybrook H04-2208 01H I - plan misses target center by 0.9usft at 9058.6usft MD (4741.8 TVD, -14.2 N, -4602.2 E) - Point	0.00	0.00	4,740.9	-14.2	-4,602.2	1,884,554.89	1,214,037.97	36.170650	-107.694600
Lybrook H04-2208 01H I - plan misses target center by 17.0usft at 9058.6usft MD (4741.8 TVD, -14.2 N, -4602.2 E) - Point	0.00	0.00	4,724.8	-14.2	-4,602.2	1,884,554.89	1,214,037.97	36.170650	-107.694600
Lybrook H04-2208 01H I - plan hits target center - Point	0.00	0.00	4,741.8	-14.2	-4,602.2	1,884,554.89	1,214,037.97	36.170650	-107.694600

4,754.2	4,660.8	7" ICP @ 55°	0	0
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Planning Report

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North Reference: True
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
459.0	459.0	Ojo Alamo Ss.		-0.50	269.82
612.0	612.0	Kirtland Shale		-0.50	269.82
764.0	764.0	Fruitland Coal		-0.50	269.82
1,136.0	1,136.0	Pictured Cliffs Ss.		-0.50	269.82
1,310.0	1,310.0	Lewis Shale		-0.50	269.82
1,883.1	1,883.0	Cliffhouse Ss.		-0.50	269.82
2,608.4	2,608.0	Menefee Fn.		-0.50	269.82
3,521.5	3,521.0	Point Lookout Ss.		-0.50	269.82
3,686.8	3,686.0	Mancos Shale		-0.50	269.82
4,195.3	4,192.0	Mancos Silt		-0.50	269.82
4,539.3	4,512.0	Gallup Fn.		-0.50	269.82

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,517.0	3,516.6	-7.0	12.2	KOP @ 3517'
3,676.9	3,676.1	-8.4	3.4	EOB: Inc=6.16°
4,211.4	4,207.5	-4.4	-53.9	Start build/turn @ 4211' MD
5,148.6	4,775.9	-1.9	-692.4	LP @ 4775' TVD; 90.5°
9,058.6	4,741.8	-14.2	-4,602.2	TD at 9058.6

Lybrook H04-2208 01H

SHL: SE/4 NE/4 Sec 4 T22N R8W 1980' FNL, 330' FEL

BHL: SW/4 NW/4 Sec 4 T22N R8W 1980' FNL, 330' FWL

San Juan, 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
San Jose Fn.	n/a
Nacimiento Fn.	surface
Ojo Alamo Ss.	474
Kirtland Shale	626
Fruitland Coal	829
Pictured Cliffs Ss.	1,150
Lewis Shale	1,308
Cliffhouse Ss.	1,852
Menefee Fn.	2,596
Point Lookout Ss.	3,555
Mancos Shale	3,685
Mancos Silt	4,197
Gallup Fn.	4,506
Base Gallup	4,833

The referenced surface elevation is 6851', KB 6869'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	829
Oil/Gas	Pictured Cliffs Ss.	1,150
Oil/Gas	Cliffhouse Ss.	1,852
Gas	Menefee Fn.	2,596
Oil/Gas	Point Lookout Ss.	3,555
Oil/Gas	Mancos Shale	3,685
Oil/Gas	Mancos Silt	4,197
Oil/Gas	Gallup Fn.	4,506

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

Lybrook H04-2208 01H

SHL: SE/4 NE/4 Sec 4 T22N R8W 1980' FNL, 330' FEL

BHL: SW/4 NW/4 Sec 4 T22N R8W 1980' FNL, 330' FWL

San Juan, 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'-4800'	8 3/4"	7"	26#	J55, LTC New
Production Liner	4700'-9032'	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 H04-2208 01H**SHL: SE/4 NE/4 Sec 4 T22N R8W 1980' FNL, 330' FEL****BHL: SW/4 NW/4 Sec 4 T22N R8W 1980' FNL, 330' FWL****San Juan, 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'-4800'	100% open hole excess Stage 1 Lead: 435 sks Stage 1 Tail: 340 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	4700'-9032'	50% OH excess Stage 1 Blend Total: 252sks	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.	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 well will be drilled in two phases. A pilot hole will be drilled in the first phase, followed by kicking off a horizontal lateral in the existing wellbore in the second phase. The intent of drilling a pilot hole is to obtain open hole log data. The intent of the second phase of the well is to plug back the pilot hole with cement to the kick off point. After plugging back, the plan is to drill a horizontal lateral from the kick off point in the existing wellbore to the proposed bottom hole location.

Description	Proposed Depth (TVD/MD)	Formation
Vertical Pilot Hole	5030'/5030'	Gallup
Horizontal Lateral TD	4743'/9032'	Gallup

Proposed Plug Back Procedure: KOP 3517'

- a. Spot 500' kick plug from 3217' - 3717'
 - 209 sks of Clas A cement with salt (1.3 cuft/sk yield)
 - Spot tuned spacer

Lybrook H04-2208 01H**SHL: SE/4 NE/4 Sec 4 T22N R8W 1980' FNL, 330' FEL****BHL: SW/4 NW/4 Sec 4 T22N R8W 1980' FNL, 330' FWL****San Juan, 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'-5030'/5030'	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)
8 3/4"	3517'/3517'-	Fresh Water LSND	9.5-8.8	40-50	8-10

c) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	4686'/4800'-	Fresh Water LSND	8.3-10	15-25	<15

- d) 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.
- e) 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

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 +/- 2226 psi based on a 9.0 ppg at 4757' 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**9. ANTICIPATED START DATE AND DURATION OF OPERATIONS**

Drilling is estimated to commence on July 1, 2015. It is anticipated that completion operations will begin within 30

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

LOC: SE/4 NE/4 Sec 4 T22N R8W 1980' FNL, 330' FEL County: San Juan WELL: Lybrook H04-2208 01H			Encana Natural Gas WELL SUMMARY				ENG: Drew Tschach 11/25/14 RIG: Aztec 1099 GLE: 6851 RKBE: 6868.5		
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVDMD			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			60 0	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. Nacimiento Fn. 9 5/8" Csg	0 surface 500	 500.00		12 1/4	9 5/8" 36ppf J55 STC 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°
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs	Ojo Alamo Ss. Kirtland Shale Fruitland Coal Pictured Cliffs Ss. Lewis Shale Cliffhouse Ss. Menefee Fn. Point Lookout Ss. Mancos Shale	474 626 829 1,150 1,308 1,852 2,596 3,555 3,685			8 3/4	7" 26ppf J55 LTC TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 775sks Stage 1 Lead: 435 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: 340 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°
Surveys every 30' through the curve	Mud logger onsite	KOP Mancos Silt Gallup Fn. 7" Csg	3,517 4,197 4,506 4,686	3,517					
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD Base Gallup Pilot Hole TD	4,757 4,743 4,833 5,030	9,032 5030		6 1/8	100' overlap at liner top 4232' Drilled Lateral		Horz Inc/TVD 90.4deg/4756.5ft TD = 9032.2 MD
MWD Gamma Directional							4 1/2" 11.6ppf SB80 LTC TOC @ hanger (50% OH excess) Stage 1 Total: 252sks Stage 1 Blend: 252 sks 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.	WBM 8.3-10	