

March 20, 2014

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Encana Oil &amp; Gas (USA) Inc.

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

MAR 21 2014

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010**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-112953

6. If Indian, Allottee or Tribe Name

N/A

SUBMIT IN TRIPLICATE - Other instructions on page 2.

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.  
Lybrook E27-2306 03H

2. Name of Operator

Encana Oil &amp; Gas (USA) Inc.

9. API Well No.  
30-043-21150

3a. Address

370 17th Street, Suite 1700  
Denver, CO 80202

3b. Phone No. (include area code)

720-876-5331

10. Field and Pool or Exploratory Area  
Counselors Gallup-Dakota

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

SHL: 1599' FNL and 199' FWL Section 27, T23N, R6W  
BHL: 2145' FNL and 330' FWL Section 28, T23N, R6W

11. Country or Parish, State

Sandoval County, New Mexico

## 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 checked="" type="checkbox"/> Other w/drawal of 09/27/13 |
|                                                      | <input checked="" type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       | sundry                                                         |
|                                                      | <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 recomplete 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 recompletion 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 formally request to withdraw, entirely, the sundry submitted to the BLM on September 27, 2013 for the Lybrook E27-2306 03H oil well.

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)

Holly Hill

Title Regulatory Analyst

Signature

Holly Hill

Date

11/11/13

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

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.

(Instructions on page 2)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
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CONFIDENTIAL

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1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

Farmington Field Off

8. Well Name and No.  
Lybrook E27-2306 03H

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

Bureau of Land Management

9. API Well No.  
30-043-21150

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

3b. Phone No. (include area code)  
720-876-3567

10. Field and Pool or Exploratory Area  
Counselors Gallup-Dakota

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SHL: 1599' FNL and 199' FWL Section 27, T23N, R6W  
BHL: 2145' FNL and 330' FWL Section 28, T23N, R6W

11. Country or Parish, State  
Sandoval County, New Mexico

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| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                   |                                           |                                                    |                                                                               |
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| <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 checked="" type="checkbox"/> Other revise SHL, BHL<br>and 7" csg depth |
|                                                      | <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            |                                                                               |

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Encana Oil & Gas (USA) Inc. (Encana) would like to adjust the surface hole location, bottom hole location, and 7" casing setting depth and cement program for the Lybrook E27-2306 03H oil well.

The new bottom hole location will be 2145' FNL, 330' FWL Section 28, T23N, R6W.  
The new surface hole location will be 1599' FNL, 330' FWL Section 27, T23N, R6W.

Encana's casing program will contain the following changes: 7" Intermediate casing: from 5,752' MD to 5,940 MD.

These revisions change the total depth (TD) of subject well to 5,554' TVD/10,645' MD from 5,541' TVD/10,460' MD

Please see attached C-102, drilling plan, directional plan and wellbore diagram for details.

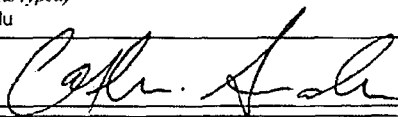
Estimated spud date for the Lybrook E27-2306 01H well is December 27, 2013.

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)  
Catherine Anadu

Title Regulatory Analyst

Signature



Date

9/27/13

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

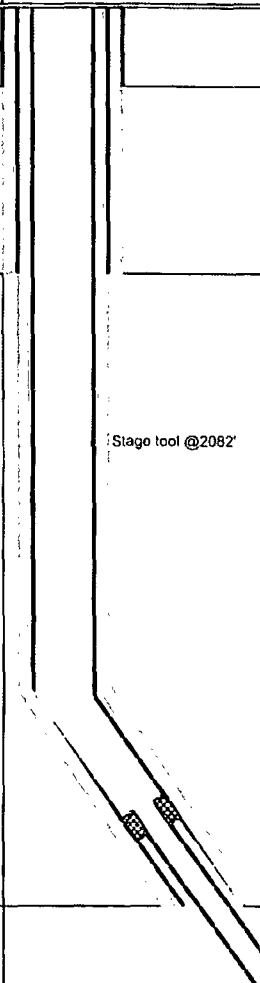
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

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(Instructions on page 2)

JASON C. EDWARDS  
Certificate Number 15269

| LOC: Sec 27-T23N-R6W<br>County: Sandoval<br>WELL: Lybrook E27-2306 03H |                      |                                                                                                                                                              | Encana Natural Gas<br>WELL SUMMARY                                                   |      |                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ENG: 9/27/13<br>RIG:<br>GLE: 7054<br>RKBE: 7070 |                                            |
|------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------|
| MWD<br>LWD                                                             | OPEN HOLE<br>LOGGING | FORM                                                                                                                                                         | DEPTH                                                                                |      |                                                                                    | HOLE<br>SIZE                                                                       | CASING<br>SPECS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MW<br>MUD TYPE                                  | DEVIATION<br>INFORMATION                   |
|                                                                        |                      |                                                                                                                                                              | TVD                                                                                  | MD   |                                                                                    |                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |                                            |
|                                                                        |                      |                                                                                                                                                              | 60                                                                                   | 60'  |  | 30                                                                                 | 20" 94#<br>100sx Type I Ncat 16.0ppg cmt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Fresh wtr<br>8 3-9.2                            |                                            |
| Surveys<br>After csg is run                                            | None                 |                                                                                                                                                              |                                                                                      |      |                                                                                    | 12 1/4                                                                             | 9 5/8" 36ppf J55 STC<br><br>TOC @ surface<br>178 sks Type III Cmt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Fresh wtr<br>8 4-8.6                            | Vertical<br><1°                            |
|                                                                        |                      |                                                                                                                                                              | 500                                                                                  | 500' |                                                                                    |                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |                                            |
| Surveys<br>every 500'                                                  | No OH logs           | Ojo Alamo<br>Kirtland<br><br>Fruitland Coal<br><br>Pictured Cliffs Ss<br>Lewis Shale<br><br>Cliffhouse Ss<br>Manatee Fr<br><br>Point Lookout Ss<br>Mancos Sh | 1475<br>1631<br><br>1850<br><br>2032<br>2155<br><br>2894<br>3578<br><br>4278<br>4479 |      | Stage tool @2082'                                                                  | 8 3/4                                                                              | 7" 26ppf J55 LTC<br><br>TOC @ surface<br>30% OH excess: 602 sks Total.<br>Stage 1 Lead : 248sks Premium Lite FM<br>+ 3% CaCl2 + 0.25/sk Cello Flake +<br>5#/sk LCM-1 + 8% Bentonite + 0.4% FL-<br>52A + 0.4% Sodium Metasilicate. Mixed<br>at 12.1 ppg. Yield 2.13 cuft/sk.<br><br>Stage 1 Tail: 170sks Type III Cement +<br>1% CaCl2 + 0.25#/sk Cello Flake +<br>0.2% FL-52A. Mixed at 14.6 ppg. Yield<br>1.38 cuft/sk.<br><br>Stage 2: 184 sks Premium Lite FM +<br>3% CaCl2 + 0.25/sk Cello Flake + 5#/sk<br>LCM-1 + 8% Bentonite + 0.4% FL-52A +<br>0.4% Sodium Metasilicate. Mixed at 12.1<br>ppg. Yield 2.13 cuft/sk. | Fresh Wtr<br>8 5-8.8                            | Vertical<br><1°                            |
|                                                                        | Mud logger<br>onsite | KICK OFF PT<br><br>Mancos Silt<br><br>Gallup Top<br><br>7" csg                                                                                               | 4764<br><br>5074<br><br>5321<br><br>5554                                             | 5940 |                                                                                    |                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 | KOP<br>4764<br>10 deg/100'                 |
| Surveys<br>every 500'<br>Gyro<br>at CP<br>MWD<br>Gamma<br>Directional  | No OH Logs           | horz target<br><br>Base Gallup                                                                                                                               | 5568<br><br>5623                                                                     | 6093 |                                                                                    | 6 1/8                                                                              | 200' overlap at liner top<br><br>4552' Lateral                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8.6-9.0 OBM                                     | 25deg up/dip<br>5544'TVD<br>TD = 10645' MD |
|                                                                        |                      |                                                                                                                                                              |                                                                                      |      |                                                                                    |                                                                                    | 4 1/2" 11.6ppf SB80 LTC<br><br>Running external swellable csg packers for<br>isolation of prod string<br>Plan on setting top packer within 100' of<br>intermediate casing shoe                                                                                                                                                                                                                                                                                                                                                                                                                                              | Switch to OBM<br>8 6-9.0                        |                                            |

**NOTES:**

- 1) Drill with 30" bit to 60', set 20" 94# 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 4764', 8 3/4" hole size,
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to casing point of 5940' MD
- 7) R&C 7" casing, circ cmt to surface, switch to OBM
- 8) Land at 90deg, drill 4552' lateral to 10645', run 4 1/2" liner with external swellable csg packers

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 2145 FNL and 330 FWL  
 Sandoval County, New Mexico  
 Lease Number: NMNM 112953

## 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 |
|---------------------|--------------------------|
| Ojo Alamo Ss.       | 1,475                    |
| Kirtland Shale      | 1,631                    |
| Fruitland Coal      | 1,850                    |
| Pictured Cliffs Ss. | 2,032                    |
| Lewis Shale         | 2,155                    |
| Cliffhouse Ss.      | 2,894                    |
| Menefee Fn.         | 3,578                    |
| Point Lookout Ss.   | 4,278                    |
| Mancos Shale        | 4,479                    |
| Mancos Silt         | 5,074                    |
| Gallup Fn.          | 5,321                    |

The referenced surface elevation is 7054', KB 7070'.

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

| Substance | Formation           | Depth (TVD) units = feet |
|-----------|---------------------|--------------------------|
| Water/Gas | Fruitland Coal      | 1,850                    |
| Oil/Gas   | Pictured Cliffs Ss. | 2,032                    |
| Oil/Gas   | Cliffhouse Ss.      | 2,894                    |
| Gas       | Menefee Fn.         | 3,578                    |
| Oil/Gas   | Point Lookout Ss.   | 4,278                    |
| Oil/Gas   | Mancos Shale        | 4,479                    |
| Oil/Gas   | Mancos Silt         | 5,074                    |
| Oil/Gas   | Gallup Fn.          | 5,321                    |

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

### 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.

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- 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          | Hole Size | Csg Size | Weight | Grade         |
|------------------|----------------|-----------|----------|--------|---------------|
| Conductor        | 0-60'          | 30"       | 20"      | 94#    | H40, STC New  |
| Surface          | 0'-500'        | 12 1/4"   | 9 5/8"   | 36#    | J55, STC New  |
| Intermediate     | 0'-5940'MD     | 8 3/4"    | 7"       | 26#    | J55, LTC New  |
| Production Liner | 5740'-10645'MD | 6 1/8"    | 4 1/2"   | 11.6#  | B80*, LTC New |

| Casing String |                |       |            | Casing Strength Properties |             |                  | Minimum Design Factors |       |         |
|---------------|----------------|-------|------------|----------------------------|-------------|------------------|------------------------|-------|---------|
| Size          | Weight (lb/ft) | Grade | Connection | Collapse (psi)             | Burst (psi) | Tensile (1000lb) | 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 1/2"        | 11.6           | B80   | LTC        | 6350                       | 7780        | 201              | 1.125                  | 1.1   | 1.5     |

Casing design is subject to revision based on geologic conditions encountered.

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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:

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

| Casing            | Depth        | Cement Volume (sacks)                                                                        | Cement Type&Yield                                                                                                                                                                      | Designed TOC | Centralizers                                                           |
|-------------------|--------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------|
| Conductor         | 60'          | 100sk                                                                                        | Type I Neat 16.0 ppg                                                                                                                                                                   | Surface      | None                                                                   |
| Surface           | 500'         | 178sk                                                                                        | Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 16ppg, 1.38cuf/sk                                                                                                         | Surface      | 1 per joint on bottom 3 joints                                         |
| Intermediate      | 5940'MD      | 30% open hole excess<br>Stage 1 Lead: 248sks<br>Stage 1 Tail: 170sks<br>Stage 2 Lead: 184sks | Lead (Stages 1 and 2): PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13cuf/sk<br>Tail (Stage 1): Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuf/sk | Surface      | 1 per joint for bottom 3 joints, 1 every 3 joints for remaining joints |
| Production Liner* | 5740'-10645' | None – External casing packers                                                               | N/A                                                                                                                                                                                    | N/A          | N/A                                                                    |

\*Production liner clarification: Utilizing external swell casing packer system for zonal isolation will not use cement in the production liner.

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 a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

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Sandoval County, New Mexico

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## 5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4764'. Directional plans are attached.

| Description           | Proposed Depth<br>(TVD/MD) | Formation |
|-----------------------|----------------------------|-----------|
| Horizontal Lateral TD | 5544'/10645'               | Gallup    |

## 6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

| Hole Size<br>(in) | Depth (ft)                   | Mud Type            | Density<br>(lb/gal) | Viscosity<br>(sec/qt) | Fluid Loss<br>(cc) |
|-------------------|------------------------------|---------------------|---------------------|-----------------------|--------------------|
| 30"               | 0-60' TVD                    | Fresh Water         | 8.3-9.2             | 38-100                | 4-28               |
| 12 1/4"           | 0-500' TVD                   | Fresh Water         | 8.4-8.6             | 60-70                 | NC                 |
| 8 3/4"            | 500'TVD-<br>5554'TVD/5940'MD | Fresh Water<br>LSND | 8.5-8.8             | 40-50                 | 8-10               |

b) Intermediate Casing Point to TD:

| Hole Size<br>(in) | MD (ft)      | Mud Type                   | Density<br>(lb/gal) | Viscosity<br>(sec/qt) | Fluid Loss<br>(cc) |
|-------------------|--------------|----------------------------|---------------------|-----------------------|--------------------|
| 6 1/8"            | 5940'-10645' | Synthetic Oil<br>Based Mud | 8.6-9.0             | 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, including fresh water and oil-based operations. 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 and LOGGING

- a) Drill Stem Testing – None anticipated
- b) Coring – None anticipated.
- c) Mud 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



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#### **8. ABNORMAL PRESSURES & HYDROGEN SULFIDE**

The anticipated bottom hole pressure is +/- 2606 psi based on a 9.0 ppg at 5568' TVD of the landing point of the horizontal lateral. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H<sub>2</sub>S 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 December 10, 2013. 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.



# Planning Report

Database: USA EDM 5000 Multi Users DB  
 Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Site: Lybrook  
 Well: Lybrook E27-2306 03H  
 Wellbore: Hz  
 Design: Plan #3

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: KB @ 7070.0ft (Aztec)  
 MD Reference: KB @ 7070.0ft (Aztec)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

|             |                           |               |                |
|-------------|---------------------------|---------------|----------------|
| 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 E27-2306 03H |                     |           |                 |            |             |
| Well Position        | +N/-S                | 0.0 ft              | Northing: | 1,893,939.02 ft | Latitude:  | 36.198980   |
|                      | +E/-W                | 0.0 ft              | Easting:  | 1,282,288.48 ft | Longitude: | -107.463820 |
| Position Uncertainty | 0.0 ft               | Wellhead Elevation: | ft        | Ground Level:   | 7,054.0 ft |             |

|           |            |             |                    |                  |                        |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore  | Hz         |             |                    |                  |                        |
| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF2010   | 3/19/2013   | 9.49               | 63.01            | 50,285                 |

|                   |                          |               |               |                  |
|-------------------|--------------------------|---------------|---------------|------------------|
| Design            | Plan #3                  |               |               |                  |
| Audit Notes:      |                          |               |               |                  |
| Version:          | Phase:                   | PLAN          | Tie On Depth: | 0.0              |
| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|                   | 0.0                      | 0.0           | 0.0           | 270.37           |

| Plan Sections             |                    |                |                           |               |               |                             |                            |                           |            |                     |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|----------------------------|---------------------------|------------|---------------------|
| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) | TFO<br>(°) | Target              |
| 0.0                       | 0.00               | 0.00           | 0.0                       | 0.0           | 0.0           | 0.00                        | 0.00                       | 0.00                      | 0.00       |                     |
| 4,764.0                   | 0.00               | 0.00           | 4,764.0                   | 0.0           | 0.0           | 0.00                        | 0.00                       | 0.00                      | 0.00       |                     |
| 5,197.0                   | 43.30              | 181.26         | 5,157.0                   | -155.9        | -3.4          | 10.00                       | 10.00                      | 0.00                      | 181.26     |                     |
| 6,092.6                   | 90.30              | 270.37         | 5,567.9                   | -542.3        | -580.7        | 10.01                       | 5.25                       | 9.95                      | 89.15      |                     |
| 10,643.6                  | 90.30              | 270.37         | 5,544.1                   | -512.9        | -5,131.6      | 0.00                        | 0.00                       | 0.00                      | 0.00       | Lybrook E27-2306 03 |

# Planning Report

Database: USA EDM 5000 Multi Users DB  
 Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Site: Lybrook  
 Well: Lybrook E27-2306 03H  
 Wellbore: Hz  
 Design: Plan #3

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: KB @ 7070.0ft (Aztec)  
 MD Reference: KB @ 7070.0ft (Aztec)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

## 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                 |                       |
| 448.0               | 0.00            | 0.00        | 448.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Nacimiento Fm         |
| 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                 |                       |
| 1,400.0             | 0.00            | 0.00        | 1,400.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 1,475.0             | 0.00            | 0.00        | 1,475.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Ojo Alamo Ss.         |
| 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                 |                       |
| 1,631.0             | 0.00            | 0.00        | 1,631.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Kirtland Shale        |
| 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                 |                       |
| 1,850.0             | 0.00            | 0.00        | 1,850.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Fruitland Coal        |
| 1,900.0             | 0.00            | 0.00        | 1,900.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 2,000.0             | 0.00            | 0.00        | 2,000.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 2,032.0             | 0.00            | 0.00        | 2,032.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Pictured Cliffs Ss.   |
| 2,100.0             | 0.00            | 0.00        | 2,100.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 2,155.0             | 0.00            | 0.00        | 2,155.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Lewis Shale           |
| 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                 |                       |
| 2,894.0             | 0.00            | 0.00        | 2,894.0             | 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                 |                       |
| 3,500.0             | 0.00            | 0.00        | 3,500.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 3,578.0             | 0.00            | 0.00        | 3,578.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Menefee Fm.           |
| 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                 |                       |
| 4,278.0             | 0.00            | 0.00        | 4,278.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Point Lookout Ss.     |

# Planning Report

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 Wellbore: Hz  
 Design: Plan #3

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: KB @ 7070.0ft (Aztec)  
 MD Reference: KB @ 7070.0ft (Aztec)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

## 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                 |                             |
| 4,479.0             | 0.00            | 0.00        | 4,479.0             | 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                 |                             |
| 4,764.0             | 0.00            | 0.00        | 4,764.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | KOP @ 4764'                 |
| 4,800.0             | 3.60            | 181.26      | 4,800.0             | -1.1       | 0.0        | 0.0                   | 10.00                 | 10.00                |                             |
| 4,900.0             | 13.60           | 181.26      | 4,898.7             | -16.1      | -0.4       | 0.2                   | 10.00                 | 10.00                |                             |
| 5,000.0             | 23.60           | 181.26      | 4,993.4             | -47.9      | -1.1       | 0.7                   | 10.00                 | 10.00                |                             |
| 5,091.5             | 32.75           | 181.26      | 5,074.0             | -91.1      | -2.0       | 1.4                   | 10.00                 | 10.00                | Mancos Silt                 |
| 5,100.0             | 33.60           | 181.26      | 5,081.1             | -95.7      | -2.1       | 1.5                   | 10.00                 | 10.00                |                             |
| 5,197.0             | 43.30           | 181.26      | 5,157.0             | -155.9     | -3.4       | 2.4                   | 10.00                 | 10.00                | Start build/turn @ 5197' MD |
| 5,200.0             | 43.31           | 181.69      | 5,159.1             | -158.0     | -3.5       | 2.5                   | 10.01                 | 0.18                 |                             |
| 5,300.0             | 44.42           | 196.06      | 5,231.4             | -226.1     | -14.2      | 12.7                  | 10.01                 | 1.12                 |                             |
| 5,400.0             | 47.24           | 209.47      | 5,301.2             | -291.8     | -42.0      | 40.1                  | 10.01                 | 2.81                 |                             |
| 5,429.0             | 48.33           | 213.10      | 5,320.7             | -310.2     | -53.2      | 51.2                  | 10.01                 | 3.77                 | Gallup Fn                   |
| 5,500.0             | 51.46           | 221.44      | 5,366.5             | -353.3     | -86.1      | 83.8                  | 10.01                 | 4.40                 |                             |
| 5,600.0             | 56.75           | 231.94      | 5,425.2             | -408.5     | -145.0     | 142.4                 | 10.01                 | 5.29                 |                             |
| 5,700.0             | 62.82           | 241.15      | 5,475.6             | -455.9     | -217.1     | 214.1                 | 10.01                 | 6.07                 |                             |
| 5,800.0             | 69.43           | 249.38      | 5,516.1             | -493.9     | -300.1     | 296.9                 | 10.01                 | 6.61                 |                             |
| 5,900.0             | 76.39           | 256.90      | 5,545.5             | -521.5     | -391.4     | 388.1                 | 10.01                 | 6.96                 |                             |
| 5,940.0             | 79.24           | 259.77      | 5,554.0             | -529.4     | -429.7     | 426.3                 | 10.01                 | 7.13                 | 7" Casing Setting Depth     |
| 6,000.0             | 83.57           | 263.99      | 5,562.9             | -537.7     | -488.4     | 484.9                 | 10.01                 | 7.21                 |                             |
| 6,092.6             | 90.30           | 270.37      | 5,567.9             | -542.3     | -580.7     | 577.2                 | 10.01                 | 7.27                 | LP @ 5568' TVD: 90.3'       |
| 6,100.0             | 90.30           | 270.37      | 5,567.9             | -542.2     | -588.1     | 584.6                 | 0.00                  | 0.00                 |                             |
| 6,200.0             | 90.30           | 270.37      | 5,567.3             | -541.6     | -688.1     | 684.6                 | 0.00                  | 0.00                 |                             |
| 6,300.0             | 90.30           | 270.37      | 5,566.8             | -540.9     | -788.1     | 784.6                 | 0.00                  | 0.00                 |                             |
| 6,400.0             | 90.30           | 270.37      | 5,566.3             | -540.3     | -888.1     | 884.6                 | 0.00                  | 0.00                 |                             |
| 6,500.0             | 90.30           | 270.37      | 5,565.8             | -539.6     | -988.1     | 984.6                 | 0.00                  | 0.00                 |                             |
| 6,600.0             | 90.30           | 270.37      | 5,565.3             | -539.0     | -1,088.1   | 1,084.6               | 0.00                  | 0.00                 |                             |
| 6,700.0             | 90.30           | 270.37      | 5,564.7             | -538.3     | -1,188.1   | 1,184.6               | 0.00                  | 0.00                 |                             |
| 6,800.0             | 90.30           | 270.37      | 5,564.2             | -537.7     | -1,288.1   | 1,284.6               | 0.00                  | 0.00                 |                             |
| 6,900.0             | 90.30           | 270.37      | 5,563.7             | -537.1     | -1,388.1   | 1,384.6               | 0.00                  | 0.00                 |                             |
| 7,000.0             | 90.30           | 270.37      | 5,563.2             | -536.4     | -1,488.0   | 1,484.6               | 0.00                  | 0.00                 |                             |
| 7,100.0             | 90.30           | 270.37      | 5,562.6             | -535.8     | -1,588.0   | 1,584.6               | 0.00                  | 0.00                 |                             |
| 7,200.0             | 90.30           | 270.37      | 5,562.1             | -535.1     | -1,688.0   | 1,684.6               | 0.00                  | 0.00                 |                             |
| 7,300.0             | 90.30           | 270.37      | 5,561.6             | -534.5     | -1,788.0   | 1,784.5               | 0.00                  | 0.00                 |                             |
| 7,400.0             | 90.30           | 270.37      | 5,561.1             | -533.8     | -1,888.0   | 1,884.5               | 0.00                  | 0.00                 |                             |
| 7,500.0             | 90.30           | 270.37      | 5,560.5             | -533.2     | -1,988.0   | 1,984.5               | 0.00                  | 0.00                 |                             |
| 7,600.0             | 90.30           | 270.37      | 5,560.0             | -532.5     | -2,088.0   | 2,084.5               | 0.00                  | 0.00                 |                             |
| 7,700.0             | 90.30           | 270.37      | 5,559.5             | -531.9     | -2,188.0   | 2,184.5               | 0.00                  | 0.00                 |                             |
| 7,800.0             | 90.30           | 270.37      | 5,559.0             | -531.2     | -2,288.0   | 2,284.5               | 0.00                  | 0.00                 |                             |
| 7,900.0             | 90.30           | 270.37      | 5,558.4             | -530.6     | -2,388.0   | 2,384.5               | 0.00                  | 0.00                 |                             |
| 8,000.0             | 90.30           | 270.37      | 5,557.9             | -530.0     | -2,488.0   | 2,484.5               | 0.00                  | 0.00                 |                             |
| 8,100.0             | 90.30           | 270.37      | 5,557.4             | -529.3     | -2,588.0   | 2,584.5               | 0.00                  | 0.00                 |                             |
| 8,200.0             | 90.30           | 270.37      | 5,556.9             | -528.7     | -2,688.0   | 2,684.5               | 0.00                  | 0.00                 |                             |
| 8,300.0             | 90.30           | 270.37      | 5,556.4             | -528.0     | -2,788.0   | 2,784.5               | 0.00                  | 0.00                 |                             |
| 8,400.0             | 90.30           | 270.37      | 5,555.8             | -527.4     | -2,888.0   | 2,884.5               | 0.00                  | 0.00                 |                             |
| 8,500.0             | 90.30           | 270.37      | 5,555.3             | -526.7     | -2,988.0   | 2,984.5               | 0.00                  | 0.00                 |                             |
| 8,600.0             | 90.30           | 270.37      | 5,554.8             | -526.1     | -3,088.0   | 3,084.5               | 0.00                  | 0.00                 |                             |
| 8,700.0             | 90.30           | 270.37      | 5,554.3             | -525.4     | -3,188.0   | 3,184.5               | 0.00                  | 0.00                 |                             |

# Planning Report

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 Project: Sandoval County, NM  
 Site: Lybrook  
 Well: Lybrook E27-2306 03H  
 Wellbore: Hz  
 Design: Plan #3

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: KB @ 7070.0ft (Aztec)  
 MD Reference: KB @ 7070.0ft (Aztec)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

## 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 |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 8,800.0             | 90.30           | 270.37      | 5,553.7             | -524.8     | -3,288.0   | 3,284.5               | 0.00                  | 0.00                 |                       |
| 8,900.0             | 90.30           | 270.37      | 5,553.2             | -524.1     | -3,388.0   | 3,384.5               | 0.00                  | 0.00                 |                       |
| 9,000.0             | 90.30           | 270.37      | 5,552.7             | -523.5     | -3,488.0   | 3,484.5               | 0.00                  | 0.00                 |                       |
| 9,100.0             | 90.30           | 270.37      | 5,552.2             | -522.9     | -3,588.0   | 3,584.5               | 0.00                  | 0.00                 |                       |
| 9,200.0             | 90.30           | 270.37      | 5,551.6             | -522.2     | -3,688.0   | 3,684.5               | 0.00                  | 0.00                 |                       |
| 9,300.0             | 90.30           | 270.37      | 5,551.1             | -521.6     | -3,788.0   | 3,784.5               | 0.00                  | 0.00                 |                       |
| 9,400.0             | 90.30           | 270.37      | 5,550.6             | -520.9     | -3,888.0   | 3,884.5               | 0.00                  | 0.00                 |                       |
| 9,500.0             | 90.30           | 270.37      | 5,550.1             | -520.3     | -3,988.0   | 3,984.5               | 0.00                  | 0.00                 |                       |
| 9,600.0             | 90.30           | 270.37      | 5,549.5             | -519.6     | -4,088.0   | 4,084.5               | 0.00                  | 0.00                 |                       |
| 9,700.0             | 90.30           | 270.37      | 5,549.0             | -519.0     | -4,188.0   | 4,184.5               | 0.00                  | 0.00                 |                       |
| 9,800.0             | 90.30           | 270.37      | 5,548.5             | -518.3     | -4,288.0   | 4,284.5               | 0.00                  | 0.00                 |                       |
| 9,900.0             | 90.30           | 270.37      | 5,548.0             | -517.7     | -4,387.9   | 4,384.5               | 0.00                  | 0.00                 |                       |
| 10,000.0            | 90.30           | 270.37      | 5,547.5             | -517.0     | -4,487.9   | 4,484.5               | 0.00                  | 0.00                 |                       |
| 10,100.0            | 90.30           | 270.37      | 5,546.9             | -516.4     | -4,587.9   | 4,584.5               | 0.00                  | 0.00                 |                       |
| 10,200.0            | 90.30           | 270.37      | 5,546.4             | -515.7     | -4,687.9   | 4,684.5               | 0.00                  | 0.00                 |                       |
| 10,300.0            | 90.30           | 270.37      | 5,545.8             | -515.1     | -4,787.9   | 4,784.5               | 0.00                  | 0.00                 |                       |
| 10,400.0            | 90.30           | 270.37      | 5,545.4             | -514.5     | -4,887.9   | 4,884.5               | 0.00                  | 0.00                 |                       |
| 10,500.0            | 90.30           | 270.37      | 5,544.8             | -513.8     | -4,987.9   | 4,984.5               | 0.00                  | 0.00                 |                       |
| 10,600.0            | 90.30           | 270.37      | 5,544.3             | -513.2     | -5,087.9   | 5,084.5               | 0.00                  | 0.00                 |                       |
| 10,643.6            | 90.30           | 270.37      | 5,544.1             | -512.9     | -5,131.6   | 5,128.2               | 0.00                  | 0.00                 | TD at 10643.6         |

## Targets

| Target Name<br>- hit/miss target<br>- Shape                                                                                   | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
|-------------------------------------------------------------------------------------------------------------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Lybrook E27-2306 03H I<br>- plan hits target center<br>- Point                                                                | 0.00          | 0.00         | 5,544.1  | -512.9     | -5,131.6   | 1,893,490.39  | 1,277,150.89 | 36.197570 | -107.481210 |
| Lybrook E27-2306 03H I<br>- plan misses target center by 12.3ft at 6036.5ft MD (5566.2 TVD, -540.7 N, -524.7 E)<br>- Point    | 0.00          | 0.00         | 5,554.0  | -542.5     | -525.3     | 1,893,403.18  | 1,281,756.48 | 36.197490 | -107.465600 |
| Lybrook E27-2306 03H I<br>- plan hits target center<br>- Point                                                                | 0.00          | 0.00         | 5,544.1  | -512.9     | -5,131.6   | 1,893,490.39  | 1,277,150.89 | 36.197570 | -107.481210 |
| Lybrook E27-2306 03H I<br>- plan misses target center by 415.0ft at 10643.6ft MD (5544.1 TVD, -512.9 N, -5131.6 E)<br>- Point | 0.00          | 0.00         | 5,544.1  | -97.8      | -5,134.4   | 1,893,905.44  | 1,277,153.21 | 36.198710 | -107.481220 |

## Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name                    | Casing Diameter (in) | Hole Diameter (in) |
|---------------------|---------------------|-------------------------|----------------------|--------------------|
| 5,940.0             | 5,554.0             | 7" Casing Setting Depth | 0.000                | 0.000              |
| 500.0               | 500.0               | 9 5/8"                  | 0.000                | 0.000              |

# Planning Report

Database: USA EDM 5000 Multi Users DB  
 Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Site: Lybrook  
 Well: Lybrook E27-2306 03H  
 Wellbore: Hz  
 Design: Plan #3

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: KB @ 7070.0ft (Aztec)  
 MD Reference: KB @ 7070.0ft (Aztec)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

| Formations          |                     |                     |           |         |                   |  |
|---------------------|---------------------|---------------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name                | Lithology | Dip (°) | Dip Direction (°) |  |
| 448.0               | 448.0               | Nacimiento Fn.      |           | -0.30   | 270.37            |  |
| 1,475.0             | 1,475.0             | Ojo Alamo Ss.       |           | -0.30   | 270.37            |  |
| 1,631.0             | 1,631.0             | Kirtland Shale      |           | -0.30   | 270.37            |  |
| 1,850.0             | 1,850.0             | Fruitland Coal      |           | -0.30   | 270.37            |  |
| 2,032.0             | 2,032.0             | Pictured Cliffs Ss. |           | -0.30   | 270.37            |  |
| 2,155.0             | 2,155.0             | Lewis Shale         |           | -0.30   | 270.37            |  |
| 2,894.0             | 2,894.0             | Cliffhouse Ss.      |           | -0.30   | 270.37            |  |
| 3,578.0             | 3,578.0             | Menefee Fn.         |           | -0.30   | 270.37            |  |
| 4,278.0             | 4,278.0             | Point Lookout Ss.   |           | -0.30   | 270.37            |  |
| 4,479.0             | 4,479.0             | Mancos Shale        |           | -0.30   | 270.37            |  |
| 5,091.5             | 5,074.0             | Mancos Silt         |           | -0.30   | 270.37            |  |
| 5,429.0             | 5,321.0             | Gallup Fn.          |           | -0.30   | 270.37            |  |

| Plan Annotations    |                     |                   |            |                             |  |
|---------------------|---------------------|-------------------|------------|-----------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                     |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                             |  |
| 4,764.0             | 4,764.0             | 0.0               | 0.0        | KOP @ 4764'                 |  |
| 5,197.0             | 5,157.0             | -155.9            | -3.4       | Start build/turn @ 5197' MD |  |
| 6,092.6             | 5,567.9             | -542.3            | -580.7     | LP @ 5568' TVD; 90.3°       |  |
| 10,643.6            | 5,544.1             | -512.9            | -5,131.6   | TD at 10643.6               |  |