

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

David Martin  
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

Jami Bailey, Division Director  
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-4 or 3160-5 form.

Operator Signature Date:

Application Type:

☐ P&A    ☒ **Drilling/Casing Change**    ☐ Recomplete/DHC  
☐ Location Change    ☒ **Other: Add pilot hole**

Well information:

| API WELL #         | Well Name        | Well # | Operator Name               | Type | Stat | County   | Surf. Owner | UL | Sec | Twp | N/S | Rng | W/E | Feet | NS | Ft  | EW |
|--------------------|------------------|--------|-----------------------------|------|------|----------|-------------|----|-----|-----|-----|-----|-----|------|----|-----|----|
| 30-043-21150-00-00 | LYBROOK E27 2306 | 003H   | ENCANA OIL & GAS (USA) INC. | O    | N    | Sandoval | F           | E  | 27  | 23  | N   | 6   | W   | 1629 | N  | 199 | W  |

Conditions of Approval:

Hold C-104 for NSL, as drilled plat, and directional survey  
Notify NMOCD 24hrs prior to beginning operations.

SEP 20 2013

NMOCD Approved by Signature

Date

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**CONFIDENTIAL**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.**

|                                                                                                                                                                                |  |                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------|
| <b>SUBMIT IN TRIPLICATE</b> – Other instructions on page 2.                                                                                                                    |  | 5. Lease Serial No.<br>NMNM 112953                                 |
| 1. Type of Well<br><input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other                                               |  | 6. If Indian, Allottee or Tribe Name<br>N/A                        |
| 2. Name of Operator<br>Encana Oil & Gas (USA) Inc.                                                                                                                             |  | 7. If Unit of CA/Agreement, Name and/or No.<br>N/A                 |
| 3a. Address<br>370 17th Street, Suite 1700<br>Denver, CO 80202                                                                                                                 |  | 8. Well Name and No.<br>Lybrook E27-2306 03H                       |
| 3b. Phone No. (include area code)<br>720-876-3567                                                                                                                              |  | 9. API Well No.<br>30-043-21180                                    |
| 4. Location of Well (Footage, Sec., T, R, M., or Survey Description)<br>SHL: 1629' FNL and 199' FWL Section 27, T23N, R6W<br>BHL: 1730' FNL and 330' FWL Section 28, T23N, R6W |  | 10. Field and Pool or Exploratory Area<br>Counselors Gallup-Dakota |
|                                                                                                                                                                                |  | 11. Country or Parish, State<br>Sandoval, 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 <u>Addition of pilot hole</u> |
|                                                      | <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            |                                                                         |

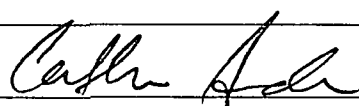
13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths 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.)

Encana Oil & Gas (USA) Inc. Encana wishes to add a pilot hole to this well to allow for open-hole logging. Please see attached directional plan, wellbore diagram and 10-point drilling plan for details.

The APD for this well was submitted May 16, 2013. Proposed depth of well was 5,541 TVD/ 10,460' MD. Addition of pilot hole will not change the proposed depth of the well.

Estimated spud date is October 27, 2013.

RCVD AUG 21 '13  
OIL CONS. DIV.  
DIST. 3

|                                                                                                         |  |                             |
|---------------------------------------------------------------------------------------------------------|--|-----------------------------|
| 14. I hereby certify that the foregoing is true and correct.<br>Name (Printed/Typed)<br>Catherine Anadu |  | Title<br>Regulatory Analyst |
| Signature<br>        |  | Date<br>7/12/2013           |

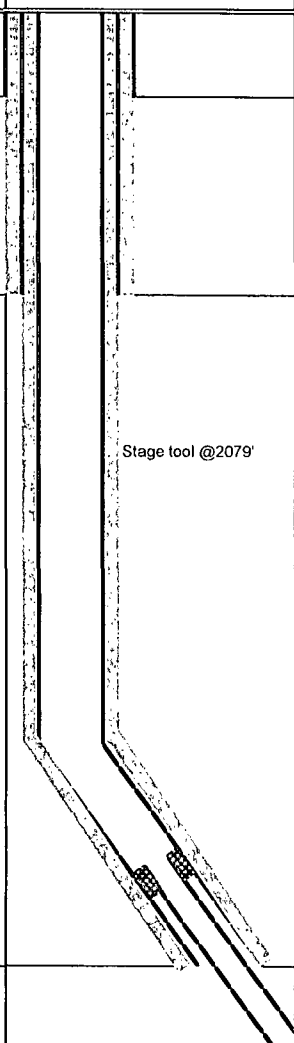
**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

|                                                                                                                                                                                                                                                           |               |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------|
| Approved by<br>                                                                                                                                                        | Title<br>AFM  | Date<br>8/13/13 |
| 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<br>FFC |                 |

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)

NMOCDA

| LOC: Sec 27-T23N-R6W<br>County: Sandoval<br>WELL: Lybrook E27-2306 03H |                                                                        |                                                                                                                                                                                                                                              | Encana Natural Gas<br>WELL SUMMARY                                                                                               |      |                                                                                    |              |                                                                                                  |                          | ENG: 7/12/13<br>RIG:<br>GLE: 7054<br>RKBE: 7067                               |  |
|------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------|--|
| 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 Neat 48.8ppg cmt                                                                                                                                           | Fresh wtr<br>8.3-9.2     |                                                                               |  |
| Surveys<br>After csg is run                                            | None                                                                   |                                                                                                                                                                                                                                              | 500                                                                                                                              | 500  |                                                                                    | 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°                                                               |  |
| Surveys<br>every 500'                                                  | No OH logs<br><br><br><br><br><br><br><br><br><br>Mud logger<br>onsite | Ojo Alamo<br>Kirtland<br><br>Fruitland Coal<br><br>Pictured Cliffs Ss<br>Lewis Shale<br><br>Cliffhouse Ss<br>Menefee Fn<br>Point Lookout Ss<br>Mancos Sh<br><br><br><br>KICK OFF PT<br><br>Mancos Silt<br><br>Gallup Top<br><br>7" csg depth | 1472<br>1628<br><br>1847<br><br>2029<br>2152<br><br>2891<br>3575<br>4275<br>4476<br><br>4915<br><br>5071<br><br>5318<br><br>5546 | 5752 | Stage tool @2079'                                                                  | 8 3/4        | 7" 26ppf J55 LTC<br><br>TOC @ surface<br>30% OH excess: 477 sks Total<br>Stage 1 Lead: 209 sks<br>Stage 1 Tail: 144 sks<br>Stage 2 Lead: 124 sks                                   | Fresh Wtr<br>8.5-8.8     | Vertical<br><1°<br><br><br><br><br><br><br><br><br>KOP<br>4915<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<br>Pilot Hole TD                                                                                                                                                                                              | 5565<br>5620<br>5820                                                                                                             | 5903 |                                                                                    | 6 1/8        | 200' overlap at liner top<br><br>4557' Lateral                                                                                                                                     | 8.6-9.0 OBM              | .25deg updip<br>5541'TVD<br>TD = 10460' MD                                    |  |
|                                                                        |                                                                        |                                                                                                                                                                                                                                              |                                                                                                                                  |      |                                                                                    |              | 4 1/2" 11.6ppf SB80 LTC<br><br>Running external swellable csg packers for<br>isolation of prod string<br><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 pilot hole TD of 5820' and run OH logs.
- 5) Spot cement kick plug
- 6) Kick off at 4915' and start curve at 10deg/100' build rate
- 7) Drill to casing point of 5752' MD
- 8) R&C 7" casing, circ cmt to surface, switch to OBM
- 9) Land at 90deg, drill 4557' lateral to 10460', run 4 1/2" liner with external swellable csg packers

Lybrook E27-2306 03H  
SHL: SWNW Section 27, T23N, R6W  
1629 FNL and 199 FWL  
BHL: SWNW Section 28, T23N, R6W  
1730 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:

| <b><u>Formation</u></b> | <b><u>Depth (TVD)</u></b> |
|-------------------------|---------------------------|
| Ojo Alamo               | 1472'                     |
| Kirtland                | 1628'                     |
| Fruitland Coal          | 1847'                     |
| Pictured Cliffs         | 2029'                     |
| Lewis                   | 2152'                     |
| Cliffhouse              | 2891'                     |
| Menefee                 | 3575'                     |
| Point Lookout           | 4275'                     |
| Mancos Shale            | 4476'                     |
| Mancos Silt             | 5071'                     |
| Gallup                  | 5318'                     |

The referenced surface elevation is 7054', KB 7067'

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

| <b><u>Substance</u></b> | <b><u>Formation</u></b> | <b><u>Depth (TVD)</u></b> |
|-------------------------|-------------------------|---------------------------|
| Gas                     | Fruitland Coal          | 1847'                     |
| Gas                     | Pictured Cliffs         | 2029'                     |
| Gas                     | Cliffhouse              | 2891'                     |
| Gas                     | Point Lookout           | 4275'                     |
| Oil/Gas                 | Mancos                  | 4476'                     |

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.
- 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.

**Lybrook E27-2306 03H****SHL: SWNW Section 27, T23N, R6W  
1629 FNL and 199 FWL****BHL: SWNW Section 28, T23N, R6W  
1730 FNL and 330 FWL****Sandoval County, New Mexico****Lease Number: NMNM 112953**

- 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'-5752'MD     | 8 3/4"    | 7"       | 26#    | J55, LTC New  |
| Production Liner | 5552'-10460'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     |

\*B80 pipe specifications are attached

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

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.

**Lybrook E27-2306 03H**  
**SHL: SWNW Section 27, T23N, R6W**  
**1629 FNL and 199 FWL**  
**BHL: SWNW Section 28, T23N, R6W**  
**1730 FNL and 330 FWL**  
**Sandoval County, New Mexico**  
**Lease Number: NMNM 112953**

| Casing               | Depth                | Cement Volume (sacks)                                                                                 | Cement Type&Yield                                                                                                                                                                                                                  | Designed TOC | Centralizers                                                                    |
|----------------------|----------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------|
| Conductor            | 60'                  | 100sk                                                                                                 | Type I Neat<br>14.8ppg                                                                                                                                                                                                             | Surface      | None                                                                            |
| Surface              | 500'                 | 178sk                                                                                                 | Type III Cement +<br>1% CaCl +<br>0.25lb/sk Cello<br>Flake + 0.2% FL,<br>14.6ppg, 1.38cuf/sk                                                                                                                                       | Surface      | 1 turbolizer per<br>joint on bottom 3<br>joints                                 |
| Intermediate         | 5546'TVD/<br>5752'MD | 30% open<br>hole excess<br>Stage 1 Lead:<br>209sk<br>Stage 1 Tail:<br>144sk<br>Stage 2 Lead:<br>124sk | <b>Lead</b> (Stages 1<br>and 2): PremLite +<br>3% CaCl +<br>0.25lb/sk<br>CelloFlake + 5lb/sk<br>LCM, 12.1ppg<br>2.13cuf/sk<br><b>Tail</b> (Stage 1):<br>Type III Cmt + 1%<br>CaCl + 0.25lb/sk<br>Cello Flake<br>14.5ppg 1.38cuf/sk | Surface      | 1 per joint for<br>bottom 3 joints, 1<br>every 3 joints for<br>remaining joints |
| Production<br>Liner* | 5552'MD-<br>10460'MD | None –<br>External<br>casing<br>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 adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

## 5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

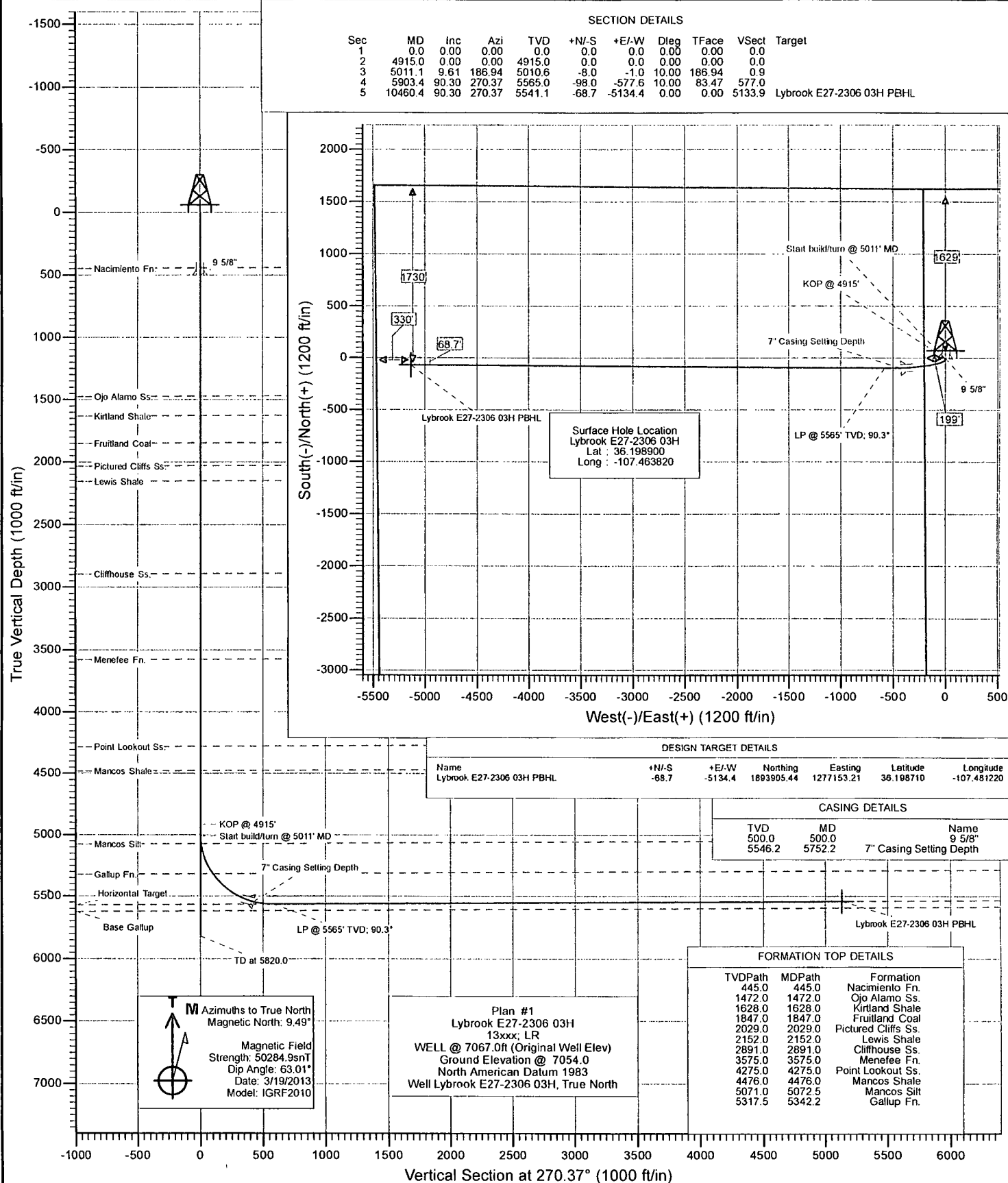
The proposed well will be drilled in two phases. A pilot hole will be drilled in the first phase, followed by kicking off a horizontal lateral in the existing wellbore in the second phase. The intent of drilling a pilot hole is to obtain open hole log data. The intent of the second phase of the well 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.

Directional plans are attached.

| Well Phase | Description         | Proposed Depth (TVD/MD) | Formation |
|------------|---------------------|-------------------------|-----------|
| 1          | Vertical Pilot Hole | 5820'/5820'             | Gallup    |
| 2          | Horizontal Lateral  | 5541'/10460'            | Gallup    |



Project: Sandoval County, NM  
 Site: Lybrook  
 Well: Lybrook E27-2306 03H  
 Wellbore: Hz  
 Design: Plan #1



# Cathedral Energy Services

## Planning Report

|           |                             |                              |                                      |
|-----------|-----------------------------|------------------------------|--------------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook E27-2306 03H            |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | WELL @ 7067.0ft (Original Well Elev) |
| Project:  | Sandoval County, NM         | MD Reference:                | WELL @ 7067.0ft (Original Well Elev) |
| Site:     | Lybrook                     | North Reference:             | True                                 |
| Well:     | Lybrook E27-2306 03H        | Survey Calculation Method:   | Minimum Curvature                    |
| Wellbore: | Hz                          |                              |                                      |
| Design:   | Plan #1                     |                              |                                      |

|             |                           |               |                |
|-------------|---------------------------|---------------|----------------|
| Project:    | Sandoval County, NM       |               |                |
| Map System: | US State Plane 1983       | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983 |               |                |
| Map Zone:   | New Mexico Central Zone   |               |                |

|                       |          |                   |                 |
|-----------------------|----------|-------------------|-----------------|
| Site:                 | Lybrook  |                   |                 |
| Site Position:        |          | Northing:         | 1,882,676.45 ft |
| From:                 | Lat/Long | Easting:          | 1,287,068.90 ft |
| Position Uncertainty: | 0.0 ft   | Slot Radius:      | 13.200 in       |
|                       |          | Latitude:         | 36.168210       |
|                       |          | Longitude:        | -107.447150     |
|                       |          | Grid Convergence: | -0.71 °         |

|                      |                      |                     |           |                 |
|----------------------|----------------------|---------------------|-----------|-----------------|
| Well:                | Lybrook E27-2306 03H |                     |           |                 |
| Well Position        | +N/-S                | 0.0 ft              | Northing: | 1,893,909.90 ft |
|                      | +E/-W                | 0.0 ft              | Easting:  | 1,282,288.11 ft |
| Position Uncertainty | 0.0 ft               | Wellhead Elevation: | ft        | Ground Level:   |
|                      |                      |                     |           | 7,054.0 ft      |

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

|                   |                  |       |               |           |
|-------------------|------------------|-------|---------------|-----------|
| Design:           | Plan #1          |       |               |           |
| Audit Notes:      |                  |       |               |           |
| Version:          | Phase:           | PLAN  | Tie On Depth: |           |
|                   |                  |       | 0.0           |           |
| Vertical Section: | Depth From (TVD) | +N/-S | +E/-W         | Direction |
|                   | (ft)             | (ft)  | (ft)          | (°)       |
|                   | 0.0              | 0.0   | 0.0           | 270.37    |

| Plan Sections       |                 |             |                     |            |            |                       |                      |                     |         |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target              |
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 4,915.0             | 0.00            | 0.00        | 4,915.0             | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 5,011.1             | 9.61            | 186.94      | 5,010.6             | -8.0       | -1.0       | 10.00                 | 10.00                | 0.00                | 186.94  |                     |
| 5,903.4             | 90.30           | 270.37      | 5,565.0             | -98.0      | -577.6     | 10.00                 | 9.04                 | 9.35                | 83.47   |                     |
| 10,460.4            | 90.30           | 270.37      | 5,541.1             | -68.7      | -5,134.4   | 0.00                  | 0.00                 | 0.00                | 0.00    | Lybrook E27-2306 03 |

# Cathedral Energy Services

## Planning Report

|           |                             |                              |                                      |
|-----------|-----------------------------|------------------------------|--------------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook E27-2306 03H            |
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| Site:     | Lybrook                     | North Reference:             | True                                 |
| Well:     | Lybrook E27-2306 03H        | Survey Calculation Method:   | Minimum Curvature                    |
| Wellbore: | Hz                          |                              |                                      |
| Design:   | Plan #1                     |                              |                                      |

### Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 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                 |                       |
| 445.0               | 0.00            | 0.00        | 445.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Nacimiento Fn.        |
| 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                 |                       |
| 1,472.0             | 0.00            | 0.00        | 1,472.0             | 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                 |                       |
| 1,628.0             | 0.00            | 0.00        | 1,628.0             | 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                 |                       |
| 1,847.0             | 0.00            | 0.00        | 1,847.0             | 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                 |                       |
| 2,029.0             | 0.00            | 0.00        | 2,029.0             | 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                 |                       |
| 2,152.0             | 0.00            | 0.00        | 2,152.0             | 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                 |                       |
| 2,891.0             | 0.00            | 0.00        | 2,891.0             | 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                 |                       |
| 3,575.0             | 0.00            | 0.00        | 3,575.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Menefee Fn.           |
| 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                 |                       |
| 4,275.0             | 0.00            | 0.00        | 4,275.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Point Lookout Ss.     |

# Cathedral Energy Services

## 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 #1

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: WELL @ 7067.0ft (Original Well Elev)  
 MD Reference: WELL @ 7067.0ft (Original Well Elev)  
 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                 |                             |
| 4,476.0             | 0.00            | 0.00        | 4,476.0             | 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                 |                             |
| 4,800.0             | 0.00            | 0.00        | 4,800.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,900.0             | 0.00            | 0.00        | 4,900.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,915.0             | 0.00            | 0.00        | 4,915.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | KOP @ 4915'                 |
| 5,000.0             | 8.50            | 186.94      | 4,999.7             | -6.2       | -0.8       | 0.7                   | 10.00                 | 10.00                |                             |
| 5,011.1             | 9.61            | 186.94      | 5,010.6             | -8.0       | -1.0       | 0.9                   | 10.00                 | 10.00                | Start build/turn @ 5011' MD |
| 5,072.5             | 11.96           | 217.78      | 5,071.0             | -18.1      | -5.5       | 5.4                   | 10.00                 | 3.83                 | Mancos Silt                 |
| 5,100.0             | 13.78           | 227.06      | 5,097.8             | -22.6      | -9.6       | 9.5                   | 10.00                 | 6.63                 |                             |
| 5,200.0             | 22.07           | 245.82      | 5,193.0             | -38.4      | -35.6      | 35.3                  | 10.00                 | 8.28                 |                             |
| 5,300.0             | 31.33           | 254.29      | 5,282.2             | -53.2      | -77.8      | 77.5                  | 10.00                 | 9.27                 |                             |
| 5,342.2             | 35.35           | 256.61      | 5,317.5             | -59.0      | -100.3     | 99.9                  | 10.00                 | 9.53                 | Gallup Fn.                  |
| 5,400.0             | 40.92           | 259.13      | 5,362.9             | -66.5      | -135.2     | 134.7                 | 10.00                 | 9.63                 |                             |
| 5,500.0             | 50.64           | 262.39      | 5,432.6             | -77.8      | -205.8     | 205.3                 | 10.00                 | 9.72                 |                             |
| 5,600.0             | 60.43           | 264.84      | 5,489.1             | -86.8      | -287.7     | 287.1                 | 10.00                 | 9.79                 |                             |
| 5,700.0             | 70.26           | 266.86      | 5,530.8             | -93.3      | -378.2     | 377.6                 | 10.00                 | 9.83                 |                             |
| 5,752.2             | 75.40           | 267.81      | 5,546.2             | -95.6      | -428.0     | 427.4                 | 10.00                 | 9.84                 | 7" Casing Setting Depth     |
| 5,800.0             | 80.11           | 268.64      | 5,556.3             | -97.1      | -474.7     | 474.0                 | 10.00                 | 9.85                 |                             |
| 5,900.0             | 89.96           | 270.31      | 5,565.0             | -98.0      | -574.2     | 573.5                 | 10.00                 | 9.86                 |                             |
| 5,903.4             | 90.30           | 270.37      | 5,565.0             | -98.0      | -577.6     | 577.0                 | 10.00                 | 9.86                 | LP @ 5565' TVD; 90.3°       |
| 6,000.0             | 90.30           | 270.37      | 5,564.5             | -97.4      | -674.2     | 673.5                 | 0.00                  | 0.00                 |                             |
| 6,100.0             | 90.30           | 270.37      | 5,563.9             | -96.7      | -774.2     | 773.5                 | 0.00                  | 0.00                 |                             |
| 6,200.0             | 90.30           | 270.37      | 5,563.4             | -96.1      | -874.2     | 873.5                 | 0.00                  | 0.00                 |                             |
| 6,300.0             | 90.30           | 270.37      | 5,562.9             | -95.4      | -974.2     | 973.5                 | 0.00                  | 0.00                 |                             |
| 6,400.0             | 90.30           | 270.37      | 5,562.4             | -94.8      | -1,074.2   | 1,073.5               | 0.00                  | 0.00                 |                             |
| 6,500.0             | 90.30           | 270.37      | 5,561.8             | -94.1      | -1,174.2   | 1,173.5               | 0.00                  | 0.00                 |                             |
| 6,600.0             | 90.30           | 270.37      | 5,561.3             | -93.5      | -1,274.1   | 1,273.5               | 0.00                  | 0.00                 |                             |
| 6,700.0             | 90.30           | 270.37      | 5,560.8             | -92.9      | -1,374.1   | 1,373.5               | 0.00                  | 0.00                 |                             |
| 6,800.0             | 90.30           | 270.37      | 5,560.3             | -92.2      | -1,474.1   | 1,473.5               | 0.00                  | 0.00                 |                             |
| 6,900.0             | 90.30           | 270.37      | 5,559.8             | -91.6      | -1,574.1   | 1,573.5               | 0.00                  | 0.00                 |                             |
| 7,000.0             | 90.30           | 270.37      | 5,559.2             | -90.9      | -1,674.1   | 1,673.5               | 0.00                  | 0.00                 |                             |
| 7,100.0             | 90.30           | 270.37      | 5,558.7             | -90.3      | -1,774.1   | 1,773.5               | 0.00                  | 0.00                 |                             |
| 7,200.0             | 90.30           | 270.37      | 5,558.2             | -89.7      | -1,874.1   | 1,873.5               | 0.00                  | 0.00                 |                             |
| 7,300.0             | 90.30           | 270.37      | 5,557.7             | -89.0      | -1,974.1   | 1,973.5               | 0.00                  | 0.00                 |                             |
| 7,400.0             | 90.30           | 270.37      | 5,557.1             | -88.4      | -2,074.1   | 2,073.5               | 0.00                  | 0.00                 |                             |
| 7,500.0             | 90.30           | 270.37      | 5,556.6             | -87.7      | -2,174.1   | 2,173.5               | 0.00                  | 0.00                 |                             |
| 7,600.0             | 90.30           | 270.37      | 5,556.1             | -87.1      | -2,274.1   | 2,273.5               | 0.00                  | 0.00                 |                             |
| 7,700.0             | 90.30           | 270.37      | 5,555.6             | -86.4      | -2,374.1   | 2,373.5               | 0.00                  | 0.00                 |                             |
| 7,800.0             | 90.30           | 270.37      | 5,555.0             | -85.8      | -2,474.1   | 2,473.5               | 0.00                  | 0.00                 |                             |
| 7,900.0             | 90.30           | 270.37      | 5,554.5             | -85.2      | -2,574.1   | 2,573.5               | 0.00                  | 0.00                 |                             |
| 8,000.0             | 90.30           | 270.37      | 5,554.0             | -84.5      | -2,674.1   | 2,673.5               | 0.00                  | 0.00                 |                             |
| 8,100.0             | 90.30           | 270.37      | 5,553.5             | -83.9      | -2,774.1   | 2,773.5               | 0.00                  | 0.00                 |                             |
| 8,200.0             | 90.30           | 270.37      | 5,552.9             | -83.2      | -2,874.1   | 2,873.5               | 0.00                  | 0.00                 |                             |
| 8,300.0             | 90.30           | 270.37      | 5,552.4             | -82.6      | -2,974.1   | 2,973.5               | 0.00                  | 0.00                 |                             |
| 8,400.0             | 90.30           | 270.37      | 5,551.9             | -81.9      | -3,074.1   | 3,073.5               | 0.00                  | 0.00                 |                             |
| 8,500.0             | 90.30           | 270.37      | 5,551.4             | -81.3      | -3,174.1   | 3,173.5               | 0.00                  | 0.00                 |                             |
| 8,600.0             | 90.30           | 270.37      | 5,550.8             | -80.7      | -3,274.1   | 3,273.5               | 0.00                  | 0.00                 |                             |
| 8,700.0             | 90.30           | 270.37      | 5,550.3             | -80.0      | -3,374.1   | 3,373.5               | 0.00                  | 0.00                 |                             |

# Cathedral Energy Services

## 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 #1

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: WELL @ 7067.0ft (Original Well Elev)  
 MD Reference: WELL @ 7067.0ft (Original Well Elev)  
 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      | 5,549.8             | -79.4      | -3,474.1   | 3,473.5               | 0.00                  | 0.00                 |                                           |
| 8,900.0             | 90.30           | 270.37      | 5,549.3             | -78.7      | -3,574.1   | 3,573.5               | 0.00                  | 0.00                 |                                           |
| 9,000.0             | 90.30           | 270.37      | 5,548.7             | -78.1      | -3,674.1   | 3,673.5               | 0.00                  | 0.00                 |                                           |
| 9,100.0             | 90.30           | 270.37      | 5,548.2             | -77.5      | -3,774.1   | 3,773.5               | 0.00                  | 0.00                 |                                           |
| 9,200.0             | 90.30           | 270.37      | 5,547.7             | -76.8      | -3,874.1   | 3,873.5               | 0.00                  | 0.00                 |                                           |
| 9,300.0             | 90.30           | 270.37      | 5,547.2             | -76.2      | -3,974.1   | 3,973.5               | 0.00                  | 0.00                 |                                           |
| 9,400.0             | 90.30           | 270.37      | 5,546.6             | -75.5      | -4,074.1   | 4,073.5               | 0.00                  | 0.00                 |                                           |
| 9,500.0             | 90.30           | 270.37      | 5,546.1             | -74.9      | -4,174.0   | 4,173.5               | 0.00                  | 0.00                 |                                           |
| 9,600.0             | 90.30           | 270.37      | 5,545.6             | -74.2      | -4,274.0   | 4,273.5               | 0.00                  | 0.00                 |                                           |
| 9,700.0             | 90.30           | 270.37      | 5,545.1             | -73.6      | -4,374.0   | 4,373.5               | 0.00                  | 0.00                 |                                           |
| 9,800.0             | 90.30           | 270.37      | 5,544.5             | -73.0      | -4,474.0   | 4,473.5               | 0.00                  | 0.00                 |                                           |
| 9,900.0             | 90.30           | 270.37      | 5,544.0             | -72.3      | -4,574.0   | 4,573.5               | 0.00                  | 0.00                 |                                           |
| 10,000.0            | 90.30           | 270.37      | 5,543.5             | -71.7      | -4,674.0   | 4,673.5               | 0.00                  | 0.00                 |                                           |
| 10,100.0            | 90.30           | 270.37      | 5,543.0             | -71.0      | -4,774.0   | 4,773.5               | 0.00                  | 0.00                 |                                           |
| 10,200.0            | 90.30           | 270.37      | 5,542.4             | -70.4      | -4,874.0   | 4,873.5               | 0.00                  | 0.00                 |                                           |
| 10,300.0            | 90.30           | 270.37      | 5,541.9             | -69.7      | -4,974.0   | 4,973.5               | 0.00                  | 0.00                 |                                           |
| 10,400.0            | 90.30           | 270.37      | 5,541.4             | -69.1      | -5,074.0   | 5,073.5               | 0.00                  | 0.00                 |                                           |
| 10,460.4            | 90.30           | 270.37      | 5,541.1             | -68.7      | -5,134.4   | 5,133.9               | 0.00                  | 0.00                 | TD at 10460.4 - Lybrook E27-2306 03H PBHL |

| Targets                   |               |             |          |            |            |               |              |           |             |
|---------------------------|---------------|-------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name               | Dip Angle (°) | Dip Dir (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
| hit/miss target           |               |             |          |            |            |               |              |           |             |
| Shape                     |               |             |          |            |            |               |              |           |             |
| Lybrook E27-2306 03H I    | 0.00          | 0.00        | 5,541.1  | -68.7      | -5,134.4   | 1,893,905.44  | 1,277,153.21 | 36.198710 | -107.481220 |
| - plan hits target center |               |             |          |            |            |               |              |           |             |
| - Point                   |               |             |          |            |            |               |              |           |             |

| Casing Points       |                     |                         |                      |                    |  |
|---------------------|---------------------|-------------------------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name                    | Casing Diameter (in) | Hole Diameter (in) |  |
| 500.0               | 500.0               | 9 5/8"                  | 0.000                | 0.000              |  |
| 5,752.2             | 5,546.2             | 7" Casing Setting Depth | 0.000                | 0.000              |  |

# Cathedral Energy Services

## Planning Report

|           |                             |                              |                                      |
|-----------|-----------------------------|------------------------------|--------------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook E27-2306 03H            |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | WELL @ 7067.0ft (Original Well Elev) |
| Project:  | Sandoval County, NM         | MD Reference:                | WELL @ 7067.0ft (Original Well Elev) |
| Site:     | Lybrook                     | North Reference:             | True                                 |
| Well:     | Lybrook E27-2306 03H        | Survey Calculation Method:   | Minimum Curvature                    |
| Wellbore: | Hz                          |                              |                                      |
| Design:   | Plan #1                     |                              |                                      |

| Formations          |                     |                     |           |         |                   |  |
|---------------------|---------------------|---------------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name                | Lithology | Dip (°) | Dip Direction (°) |  |
| 445.0               | 445.0               | Nacimiento Fn.      |           | -0.30   | 270.37            |  |
| 1,472.0             | 1,472.0             | Ojo Alamo Ss.       |           | -0.30   | 270.37            |  |
| 1,628.0             | 1,628.0             | Kirtland Shale      |           | -0.30   | 270.37            |  |
| 1,847.0             | 1,847.0             | Fruitland Coal      |           | -0.30   | 270.37            |  |
| 2,029.0             | 2,029.0             | Pictured Cliffs Ss. |           | -0.30   | 270.37            |  |
| 2,152.0             | 2,152.0             | Lewis Shale         |           | -0.30   | 270.37            |  |
| 2,891.0             | 2,891.0             | Cliffhouse Ss.      |           | -0.30   | 270.37            |  |
| 3,575.0             | 3,575.0             | Menefee Fn.         |           | -0.30   | 270.37            |  |
| 4,275.0             | 4,275.0             | Point Lookout Ss.   |           | -0.30   | 270.37            |  |
| 4,476.0             | 4,476.0             | Mancos Shale        |           | -0.30   | 270.37            |  |
| 5,072.5             | 5,071.0             | Mancos Silt         |           | -0.30   | 270.37            |  |
| 5,342.2             | 5,318.0             | Gallup Fn.          |           | -0.30   | 270.37            |  |

| Plan Annotations    |                     |                   |            |                             |  |
|---------------------|---------------------|-------------------|------------|-----------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |                             |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment                     |  |
| 4,915.0             | 4,915.0             | 0.0               | 0.0        | KOP @ 4915'                 |  |
| 5,011.1             | 5,010.6             | -8.0              | -1.0       | Start build/turn @ 5011' MD |  |
| 5,903.4             | 5,565.0             | -98.0             | -577.6     | LP @ 5565' TVD; 90.3°       |  |
| 10,460.4            | 5,541.1             | -68.7             | -5,134.4   | TD at 10460.4               |  |

# **EnCana Oil & Gas (USA) Inc**

**Sandoval County, NM**

**Lybrook**

**Lybrook E27-2306 03H**

**Hz**

**Plan #1**

## **Anticollision Report**

**19 March, 2013**

# Anticollision Report

|                            |                            |                                     |                                      |
|----------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>            | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook E27-2306 03H            |
| <b>Project:</b>            | Sandoval County, NM        | <b>TVD Reference:</b>               | WELL @ 7067.0ft (Original Well Elev) |
| <b>Reference Site:</b>     | Lybrook                    | <b>MD Reference:</b>                | WELL @ 7067.0ft (Original Well Elev) |
| <b>Site Error:</b>         | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>     | Lybrook E27-2306 03H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>         | 0.0ft                      | <b>Output errors are at:</b>        | 2.00 sigma                           |
| <b>Reference Wellbore:</b> | Hz                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB          |
| <b>Reference Design:</b>   | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

|                                     |                                                                     |
|-------------------------------------|---------------------------------------------------------------------|
| <b>Reference:</b>                   | Plan #1                                                             |
| <b>Filter type:</b>                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |
| <b>Interpolation Method:</b>        | MD Interval 100.0ft                                                 |
| <b>Depth Range:</b>                 | Unlimited                                                           |
| <b>Results Limited by:</b>          | Maximum center-center distance of 1,246.2ft                         |
| <b>Warning Levels Evaluated at:</b> | 2.00 Sigma                                                          |
| <b>Error Model:</b>                 | Systematic Ellipse                                                  |
| <b>Scan Method:</b>                 | Closest Approach 3D                                                 |
| <b>Error Surface:</b>               | Elliptical Conic                                                    |

|                            |                |                          |
|----------------------------|----------------|--------------------------|
| <b>Survey Tool Program</b> | <b>Date</b>    | 3/19/2013                |
| <b>From (ft)</b>           | <b>To (ft)</b> | <b>Survey (Wellbore)</b> |
| 0.0                        | 10,459.5       | Plan #1 (Hz)             |
|                            |                | <b>Tool Name</b>         |
|                            |                | MWD                      |
|                            |                | <b>Description</b>       |
|                            |                | Geolink MWD              |

| Summary                             |                               |                            |                               |                                |                   |            |
|-------------------------------------|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|------------|
| Site Name                           | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning    |
| Lybrook                             |                               |                            |                               |                                |                   |            |
| Lybrook E27-2306 01H - Hz - Plan #1 | 4,900.0                       | 4,900.0                    | 58.3                          | 41.2                           | 3.415             | CC, ES, SF |
| Lybrook E27-2306 02H - Hz - Plan #1 | 4,900.0                       | 4,900.0                    | 29.1                          | 12.1                           | 1.707             | CC, ES, SF |
| Lybrook M27-2306 01H - Hz - Plan #1 | 10,443.2                      | 11,003.9                   | 1,223.7                       | 980.3                          | 5.028             | CC         |
| Lybrook M27-2306 01H - Hz - Plan #1 | 10,460.4                      | 11,003.9                   | 1,223.8                       | 980.0                          | 5.020             | ES, SF     |

# Anticollision Report

Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Reference Site: Lybrook  
 Site Error: 0.0ft  
 Reference Well: Lybrook E27-2306 03H  
 Well Error: 0.0ft  
 Reference Wellbore: Hz  
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: WELL @ 7067.0ft (Original Well Elev)  
 MD Reference: WELL @ 7067.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Output errors are at: 2.00 sigma  
 Database: USA EDM 5000 Multi Users DB  
 Offset TVD Reference: Offset Datum

| Offset Design Lybrook - Lybrook E27-2306 01H - Hz - Plan #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       | Offset Site Error: 0.0 ft |                           |         |
|-------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|---------------------------|---------------------------|---------|
| Survey Program: 0-MWD                                       |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                           | Offset Well Error: 0.0 ft |         |
| Reference                                                   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                           |                           |         |
| Measured Depth (ft)                                         | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis    | Separation Factor         | Warning |
| 0.0                                                         | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | 0.00                  | 58.3                              | 0.0        | 58.3                 |                       |                           |                           |         |
| 100.0                                                       | 100.0               | 100.0               | 100.0               | 0.2             | 0.2         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 57.9                  | 0.30                      | 191.812                   |         |
| 200.0                                                       | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 57.6                  | 0.65                      | 89.239                    |         |
| 300.0                                                       | 300.0               | 300.0               | 300.0               | 0.5             | 0.5         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 57.2                  | 1.00                      | 58.145                    |         |
| 400.0                                                       | 400.0               | 400.0               | 400.0               | 0.7             | 0.7         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 56.9                  | 1.35                      | 43.121                    |         |
| 500.0                                                       | 500.0               | 500.0               | 500.0               | 0.8             | 0.8         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 56.6                  | 1.70                      | 34.266                    |         |
| 600.0                                                       | 600.0               | 600.0               | 600.0               | 1.0             | 1.0         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 56.2                  | 2.05                      | 28.429                    |         |
| 700.0                                                       | 700.0               | 700.0               | 700.0               | 1.2             | 1.2         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 55.9                  | 2.40                      | 24.291                    |         |
| 800.0                                                       | 800.0               | 800.0               | 800.0               | 1.4             | 1.4         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 55.5                  | 2.75                      | 21.204                    |         |
| 900.0                                                       | 900.0               | 900.0               | 900.0               | 1.5             | 1.5         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 55.2                  | 3.10                      | 18.814                    |         |
| 1,000.0                                                     | 1,000.0             | 1,000.0             | 1,000.0             | 1.7             | 1.7         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 54.8                  | 3.45                      | 16.907                    |         |
| 1,100.0                                                     | 1,100.0             | 1,100.0             | 1,100.0             | 1.9             | 1.9         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 54.5                  | 3.79                      | 15.352                    |         |
| 1,200.0                                                     | 1,200.0             | 1,200.0             | 1,200.0             | 2.1             | 2.1         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 54.1                  | 4.14                      | 14.059                    |         |
| 1,300.0                                                     | 1,300.0             | 1,300.0             | 1,300.0             | 2.2             | 2.2         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 53.8                  | 4.49                      | 12.966                    |         |
| 1,400.0                                                     | 1,400.0             | 1,400.0             | 1,400.0             | 2.4             | 2.4         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 53.4                  | 4.84                      | 12.031                    |         |
| 1,500.0                                                     | 1,500.0             | 1,500.0             | 1,500.0             | 2.6             | 2.6         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 53.1                  | 5.19                      | 11.222                    |         |
| 1,600.0                                                     | 1,600.0             | 1,600.0             | 1,600.0             | 2.8             | 2.8         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 52.7                  | 5.54                      | 10.515                    |         |
| 1,700.0                                                     | 1,700.0             | 1,700.0             | 1,700.0             | 2.9             | 2.9         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 52.4                  | 5.89                      | 9.892                     |         |
| 1,800.0                                                     | 1,800.0             | 1,800.0             | 1,800.0             | 3.1             | 3.1         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 52.0                  | 6.24                      | 9.338                     |         |
| 1,900.0                                                     | 1,900.0             | 1,900.0             | 1,900.0             | 3.3             | 3.3         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 51.7                  | 6.59                      | 8.843                     |         |
| 2,000.0                                                     | 2,000.0             | 2,000.0             | 2,000.0             | 3.5             | 3.5         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 51.3                  | 6.94                      | 8.398                     |         |
| 2,100.0                                                     | 2,100.0             | 2,100.0             | 2,100.0             | 3.6             | 3.6         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 51.0                  | 7.29                      | 7.996                     |         |
| 2,200.0                                                     | 2,200.0             | 2,200.0             | 2,200.0             | 3.8             | 3.8         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 50.6                  | 7.63                      | 7.630                     |         |
| 2,300.0                                                     | 2,300.0             | 2,300.0             | 2,300.0             | 4.0             | 4.0         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 50.3                  | 7.98                      | 7.297                     |         |
| 2,400.0                                                     | 2,400.0             | 2,400.0             | 2,400.0             | 4.2             | 4.2         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 49.9                  | 8.33                      | 6.991                     |         |
| 2,500.0                                                     | 2,500.0             | 2,500.0             | 2,500.0             | 4.3             | 4.3         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 49.6                  | 8.68                      | 6.710                     |         |
| 2,600.0                                                     | 2,600.0             | 2,600.0             | 2,600.0             | 4.5             | 4.5         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 49.2                  | 9.03                      | 6.451                     |         |
| 2,700.0                                                     | 2,700.0             | 2,700.0             | 2,700.0             | 4.7             | 4.7         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 48.9                  | 9.38                      | 6.211                     |         |
| 2,800.0                                                     | 2,800.0             | 2,800.0             | 2,800.0             | 4.9             | 4.9         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 48.5                  | 9.73                      | 5.988                     |         |
| 2,900.0                                                     | 2,900.0             | 2,900.0             | 2,900.0             | 5.0             | 5.0         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 48.2                  | 10.08                     | 5.780                     |         |
| 3,000.0                                                     | 3,000.0             | 3,000.0             | 3,000.0             | 5.2             | 5.2         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 47.8                  | 10.43                     | 5.587                     |         |
| 3,100.0                                                     | 3,100.0             | 3,100.0             | 3,100.0             | 5.4             | 5.4         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 47.5                  | 10.78                     | 5.406                     |         |
| 3,200.0                                                     | 3,200.0             | 3,200.0             | 3,200.0             | 5.6             | 5.6         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 47.1                  | 11.12                     | 5.236                     |         |
| 3,300.0                                                     | 3,300.0             | 3,300.0             | 3,300.0             | 5.7             | 5.7         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 46.8                  | 11.47                     | 5.077                     |         |
| 3,400.0                                                     | 3,400.0             | 3,400.0             | 3,400.0             | 5.9             | 5.9         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 46.4                  | 11.82                     | 4.927                     |         |
| 3,500.0                                                     | 3,500.0             | 3,500.0             | 3,500.0             | 6.1             | 6.1         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 46.1                  | 12.17                     | 4.786                     |         |
| 3,600.0                                                     | 3,600.0             | 3,600.0             | 3,600.0             | 6.3             | 6.3         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 45.7                  | 12.52                     | 4.652                     |         |
| 3,700.0                                                     | 3,700.0             | 3,700.0             | 3,700.0             | 6.4             | 6.4         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 45.4                  | 12.87                     | 4.526                     |         |
| 3,800.0                                                     | 3,800.0             | 3,800.0             | 3,800.0             | 6.6             | 6.6         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 45.0                  | 13.22                     | 4.407                     |         |
| 3,900.0                                                     | 3,900.0             | 3,900.0             | 3,900.0             | 6.8             | 6.8         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 44.7                  | 13.57                     | 4.293                     |         |
| 4,000.0                                                     | 4,000.0             | 4,000.0             | 4,000.0             | 7.0             | 7.0         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 44.3                  | 13.92                     | 4.186                     |         |
| 4,100.0                                                     | 4,100.0             | 4,100.0             | 4,100.0             | 7.1             | 7.1         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 44.0                  | 14.27                     | 4.083                     |         |
| 4,200.0                                                     | 4,200.0             | 4,200.0             | 4,200.0             | 7.3             | 7.3         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 43.6                  | 14.62                     | 3.986                     |         |
| 4,300.0                                                     | 4,300.0             | 4,300.0             | 4,300.0             | 7.5             | 7.5         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 43.3                  | 14.96                     | 3.893                     |         |
| 4,400.0                                                     | 4,400.0             | 4,400.0             | 4,400.0             | 7.7             | 7.7         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 42.9                  | 15.31                     | 3.804                     |         |
| 4,500.0                                                     | 4,500.0             | 4,500.0             | 4,500.0             | 7.8             | 7.8         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 42.6                  | 15.66                     | 3.719                     |         |
| 4,600.0                                                     | 4,600.0             | 4,600.0             | 4,600.0             | 8.0             | 8.0         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 42.2                  | 16.01                     | 3.638                     |         |
| 4,700.0                                                     | 4,700.0             | 4,700.0             | 4,700.0             | 8.2             | 8.2         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 41.9                  | 16.36                     | 3.560                     |         |
| 4,800.0                                                     | 4,800.0             | 4,800.0             | 4,800.0             | 8.4             | 8.4         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 41.5                  | 16.71                     | 3.486                     |         |
| 4,900.0                                                     | 4,900.0             | 4,900.0             | 4,900.0             | 8.5             | 8.5         | 0.00                  | 58.3                              | 0.0        | 58.3                 | 41.2                  | 17.06                     | 3.415 CC, ES, SF          |         |
| 5,000.0                                                     | 4,999.7             | 4,993.0             | 4,992.9             | 8.7             | 8.7         | 173.43                | 61.2                              | -0.1       | 67.8                 | 50.5                  | 17.27                     | 3.924                     |         |
| 5,100.0                                                     | 5,097.8             | 5,075.0             | 5,073.6             | 8.9             | 8.8         | 134.86                | 75.2                              | -0.8       | 101.2                | 83.6                  | 17.55                     | 5.766                     |         |

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

# Anticollision Report

Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Reference Site: Lybrook  
 Site Error: 0.0ft  
 Reference Well: Lybrook E27-2306 03H  
 Well Error: 0.0ft  
 Reference Wellbore: Hz  
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: WELL @ 7067.0ft (Original Well Elev)  
 MD Reference: WELL @ 7067.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Output errors are at: 2.00 sigma  
 Database: USA EDM 5000 Multi Users DB  
 Offset TVD Reference: Offset Datum

| Offset Design Lybrook - Lybrook E27-2306 01H - Hz - Plan #1 |                     |                     |                     |                |             |                       |                             |            |           |                      |                       |                  | Offset Site Error: 0.0 ft |
|-------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------|------------|-----------|----------------------|-----------------------|------------------|---------------------------|
| Survey Program: 0-MWD                                       |                     |                     |                     |                |             |                       |                             |            |           |                      |                       |                  | Offset Well Error: 0.0 ft |
| Reference                                                   | Offset              | Semi Major Axis     |                     | Distance       |             | Total                 |                             | Separation |           | Warning              |                       |                  |                           |
| Measured Depth (ft)                                         | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre (ft) | +N-S (ft)  | +E-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Uncertainty Axis | Factor                    |
| 5,200.0                                                     | 5,193.0             | 5,150.0             | 5,145.0             | 9.1            | 9.0         | 119.39                | 98.1                        | -1.8       | 148.6     | 130.7                | 17.84                 | 8.327            |                           |
| 5,300.0                                                     | 5,282.2             | 5,200.0             | 5,190.7             | 9.4            | 9.1         | 110.39                | 118.4                       | -2.7       | 208.5     | 190.3                | 18.22                 | 11.445           |                           |
| 5,400.0                                                     | 5,362.9             | 5,250.0             | 5,234.4             | 9.9            | 9.3         | 103.41                | 142.6                       | -3.8       | 278.4     | 259.5                | 18.83                 | 14.783           |                           |
| 5,500.0                                                     | 5,432.6             | 5,289.2             | 5,267.1             | 10.7           | 9.4         | 95.02                 | 164.2                       | -4.8       | 355.5     | 335.7                | 19.79                 | 17.966           |                           |
| 5,600.0                                                     | 5,489.1             | 5,316.7             | 5,289.1             | 11.8           | 9.6         | 84.44                 | 180.6                       | -5.5       | 437.2     | 416.3                | 20.95                 | 20.866           |                           |
| 5,700.0                                                     | 5,530.8             | 5,336.1             | 5,304.1             | 13.2           | 9.7         | 72.72                 | 192.9                       | -6.1       | 521.3     | 499.4                | 21.87                 | 23.833           |                           |
| 5,800.0                                                     | 5,556.3             | 5,350.0             | 5,314.7             | 15.0           | 9.7         | 61.47                 | 201.9                       | -6.5       | 605.8     | 583.6                | 22.18                 | 27.312           |                           |
| 5,900.0                                                     | 5,565.0             | 5,350.0             | 5,314.7             | 16.9           | 9.7         | 50.48                 | 201.9                       | -6.5       | 689.1     | 667.5                | 21.64                 | 31.844           |                           |
| 6,000.0                                                     | 5,564.5             | 5,350.0             | 5,314.7             | 19.0           | 9.7         | 50.16                 | 201.9                       | -6.5       | 773.2     | 750.0                | 23.16                 | 33.384           |                           |
| 6,100.0                                                     | 5,563.9             | 5,350.0             | 5,314.7             | 21.2           | 9.7         | 50.16                 | 201.9                       | -6.5       | 860.6     | 835.8                | 24.82                 | 34.673           |                           |
| 6,200.0                                                     | 5,563.4             | 5,350.0             | 5,314.7             | 23.4           | 9.7         | 50.16                 | 201.9                       | -6.5       | 950.5     | 924.0                | 26.53                 | 35.832           |                           |
| 6,300.0                                                     | 5,562.9             | 5,361.1             | 5,322.9             | 25.7           | 9.8         | 51.77                 | 209.4                       | -6.8       | 1,042.2   | 1,013.4              | 28.79                 | 36.196           |                           |
| 6,400.0                                                     | 5,562.4             | 5,363.1             | 5,324.3             | 28.0           | 9.8         | 52.05                 | 210.7                       | -6.9       | 1,135.4   | 1,104.7              | 30.70                 | 36.981           |                           |
| 6,500.0                                                     | 5,561.8             | 7,191.4             | 5,580.9             | 30.3           | 35.0        | 90.92                 | 1,085.3                     | -1,166.7   | 1,179.7   | 1,118.9              | 60.73                 | 19.425           |                           |
| 6,600.0                                                     | 5,561.3             | 7,291.4             | 5,580.3             | 32.7           | 37.0        | 90.92                 | 1,086.0                     | -1,266.7   | 1,179.7   | 1,114.2              | 65.42                 | 18.032           |                           |
| 6,700.0                                                     | 5,560.8             | 7,391.4             | 5,579.8             | 35.1           | 39.1        | 90.92                 | 1,086.6                     | -1,366.7   | 1,179.7   | 1,109.5              | 70.15                 | 16.817           |                           |
| 6,800.0                                                     | 5,560.3             | 7,491.4             | 5,579.3             | 37.5           | 41.2        | 90.92                 | 1,087.3                     | -1,466.7   | 1,179.7   | 1,104.8              | 74.90                 | 15.750           |                           |
| 6,900.0                                                     | 5,559.8             | 7,591.4             | 5,578.8             | 39.9           | 43.4        | 90.92                 | 1,087.9                     | -1,566.7   | 1,179.7   | 1,100.0              | 79.68                 | 14.805           |                           |
| 7,000.0                                                     | 5,559.2             | 7,691.4             | 5,578.2             | 42.3           | 45.6        | 90.92                 | 1,088.6                     | -1,666.7   | 1,179.7   | 1,095.2              | 84.48                 | 13.964           |                           |
| 7,100.0                                                     | 5,558.7             | 7,791.4             | 5,577.7             | 44.7           | 47.8        | 90.92                 | 1,089.2                     | -1,766.7   | 1,179.7   | 1,090.4              | 89.29                 | 13.211           |                           |
| 7,200.0                                                     | 5,558.2             | 7,891.4             | 5,577.2             | 47.1           | 50.0        | 90.92                 | 1,089.8                     | -1,866.7   | 1,179.7   | 1,085.5              | 94.12                 | 12.534           |                           |
| 7,300.0                                                     | 5,557.7             | 7,991.4             | 5,576.7             | 49.5           | 52.3        | 90.92                 | 1,090.5                     | -1,966.7   | 1,179.7   | 1,080.7              | 98.96                 | 11.921           |                           |
| 7,400.0                                                     | 5,557.1             | 8,091.4             | 5,576.1             | 51.9           | 54.6        | 90.92                 | 1,091.1                     | -2,066.7   | 1,179.7   | 1,075.9              | 103.81                | 11.364           |                           |
| 7,500.0                                                     | 5,556.6             | 8,191.4             | 5,575.6             | 54.4           | 56.9        | 90.92                 | 1,091.8                     | -2,166.6   | 1,179.7   | 1,071.0              | 108.67                | 10.856           |                           |
| 7,600.0                                                     | 5,556.1             | 8,291.4             | 5,575.1             | 56.8           | 59.2        | 90.92                 | 1,092.4                     | -2,266.6   | 1,179.7   | 1,066.1              | 113.54                | 10.390           |                           |
| 7,700.0                                                     | 5,555.6             | 8,391.4             | 5,574.6             | 59.3           | 61.5        | 90.92                 | 1,093.0                     | -2,366.6   | 1,179.7   | 1,061.3              | 118.41                | 9.963            |                           |
| 7,800.0                                                     | 5,555.0             | 8,491.4             | 5,574.0             | 61.7           | 63.9        | 90.92                 | 1,093.7                     | -2,466.6   | 1,179.7   | 1,056.4              | 123.29                | 9.568            |                           |
| 7,900.0                                                     | 5,554.5             | 8,591.4             | 5,573.5             | 64.1           | 66.2        | 90.92                 | 1,094.3                     | -2,566.6   | 1,179.7   | 1,051.5              | 128.17                | 9.204            |                           |
| 8,000.0                                                     | 5,554.0             | 8,691.4             | 5,573.0             | 66.6           | 68.6        | 90.92                 | 1,095.0                     | -2,666.6   | 1,179.7   | 1,046.6              | 133.06                | 8.865            |                           |
| 8,100.0                                                     | 5,553.5             | 8,791.4             | 5,572.5             | 69.0           | 70.9        | 90.92                 | 1,095.6                     | -2,766.6   | 1,179.7   | 1,041.7              | 137.96                | 8.551            |                           |
| 8,200.0                                                     | 5,552.9             | 8,891.4             | 5,571.9             | 71.5           | 73.3        | 90.92                 | 1,096.2                     | -2,866.6   | 1,179.7   | 1,036.8              | 142.85                | 8.258            |                           |
| 8,300.0                                                     | 5,552.4             | 8,991.4             | 5,571.4             | 73.9           | 75.7        | 90.92                 | 1,096.9                     | -2,966.6   | 1,179.7   | 1,031.9              | 147.75                | 7.984            |                           |
| 8,400.0                                                     | 5,551.9             | 9,091.4             | 5,570.9             | 76.4           | 78.1        | 90.92                 | 1,097.5                     | -3,066.6   | 1,179.7   | 1,027.0              | 152.66                | 7.727            |                           |
| 8,500.0                                                     | 5,551.4             | 9,191.4             | 5,570.4             | 78.9           | 80.5        | 90.92                 | 1,098.2                     | -3,166.6   | 1,179.7   | 1,022.1              | 157.56                | 7.487            |                           |
| 8,600.0                                                     | 5,550.8             | 9,291.4             | 5,569.8             | 81.3           | 82.9        | 90.92                 | 1,098.8                     | -3,266.6   | 1,179.7   | 1,017.2              | 162.47                | 7.261            |                           |
| 8,700.0                                                     | 5,550.3             | 9,391.4             | 5,569.3             | 83.8           | 85.3        | 90.92                 | 1,099.5                     | -3,366.6   | 1,179.7   | 1,012.3              | 167.38                | 7.048            |                           |
| 8,800.0                                                     | 5,549.8             | 9,491.4             | 5,568.8             | 86.2           | 87.7        | 90.92                 | 1,100.1                     | -3,466.6   | 1,179.7   | 1,007.4              | 172.30                | 6.847            |                           |
| 8,900.0                                                     | 5,549.3             | 9,591.4             | 5,568.3             | 88.7           | 90.1        | 90.92                 | 1,100.7                     | -3,566.6   | 1,179.7   | 1,002.4              | 177.21                | 6.657            |                           |
| 9,000.0                                                     | 5,548.7             | 9,691.4             | 5,567.8             | 91.1           | 92.5        | 90.92                 | 1,101.4                     | -3,666.6   | 1,179.7   | 997.5                | 182.13                | 6.477            |                           |
| 9,100.0                                                     | 5,548.2             | 9,791.4             | 5,567.2             | 93.6           | 94.9        | 90.92                 | 1,102.0                     | -3,766.6   | 1,179.7   | 992.6                | 187.05                | 6.307            |                           |
| 9,200.0                                                     | 5,547.7             | 9,891.4             | 5,566.7             | 96.1           | 97.4        | 90.92                 | 1,102.7                     | -3,866.6   | 1,179.7   | 987.7                | 191.97                | 6.145            |                           |
| 9,300.0                                                     | 5,547.2             | 9,991.4             | 5,566.2             | 98.5           | 99.8        | 90.92                 | 1,103.3                     | -3,966.6   | 1,179.6   | 982.8                | 196.89                | 5.991            |                           |
| 9,400.0                                                     | 5,546.6             | 10,091.4            | 5,565.7             | 101.0          | 102.2       | 90.92                 | 1,103.9                     | -4,066.6   | 1,179.6   | 977.8                | 201.81                | 5.845            |                           |
| 9,500.0                                                     | 5,546.1             | 10,191.4            | 5,565.1             | 103.5          | 104.6       | 90.92                 | 1,104.6                     | -4,166.6   | 1,179.6   | 972.9                | 206.74                | 5.706            |                           |
| 9,600.0                                                     | 5,545.6             | 10,291.4            | 5,564.6             | 105.9          | 107.1       | 90.92                 | 1,105.2                     | -4,266.6   | 1,179.6   | 968.0                | 211.66                | 5.573            |                           |
| 9,700.0                                                     | 5,545.1             | 10,391.4            | 5,564.1             | 108.4          | 109.5       | 90.92                 | 1,105.9                     | -4,366.6   | 1,179.6   | 963.1                | 216.59                | 5.446            |                           |
| 9,800.0                                                     | 5,544.5             | 10,491.4            | 5,563.6             | 110.8          | 111.9       | 90.92                 | 1,106.5                     | -4,466.6   | 1,179.6   | 958.1                | 221.52                | 5.325            |                           |
| 9,900.0                                                     | 5,544.0             | 10,591.4            | 5,563.0             | 113.3          | 114.4       | 90.92                 | 1,107.2                     | -4,566.6   | 1,179.6   | 953.2                | 226.45                | 5.209            |                           |
| 10,000.0                                                    | 5,543.5             | 10,691.4            | 5,562.5             | 115.8          | 116.8       | 90.92                 | 1,107.8                     | -4,666.6   | 1,179.6   | 948.3                | 231.37                | 5.098            |                           |
| 10,100.0                                                    | 5,543.0             | 10,791.4            | 5,562.0             | 118.2          | 119.2       | 90.92                 | 1,108.4                     | -4,766.6   | 1,179.6   | 943.3                | 236.30                | 4.992            |                           |
| 10,200.0                                                    | 5,542.4             | 10,891.4            | 5,561.5             | 120.7          | 121.7       | 90.92                 | 1,109.1                     | -4,866.6   | 1,179.6   | 938.4                | 241.23                | 4.890            |                           |
| 10,300.0                                                    | 5,541.9             | 10,991.4            | 5,560.9             | 123.2          | 124.1       | 90.92                 | 1,109.7                     | -4,966.6   | 1,179.6   | 933.5                | 246.17                | 4.792            |                           |

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

# Anticollision Report

Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Reference Site: Lybrook  
 Site Error: 0.0ft  
 Reference Well: Lybrook E27-2306 03H  
 Well Error: 0.0ft  
 Reference Wellbore: Hz  
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: WELL @ 7067.0ft (Original Well Elev)  
 MD Reference: WELL @ 7067.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Output errors are at: 2.00 sigma  
 Database: USA EDM 5000 Multi Users DB  
 Offset TVD Reference: Offset Datum

|                                                              |                     |                     |                     |                 |             |                       |                                 |                                 |                        |                   |         |                      |                       |
|--------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|---------------------------------|---------------------------------|------------------------|-------------------|---------|----------------------|-----------------------|
| Offset Design: Lybrook - Lybrook E27-2306 01H - Hz - Plan #1 |                     |                     |                     |                 |             |                       |                                 |                                 |                        |                   |         | Offset Site Error:   | 0.0 ft                |
| Survey Program: 0-MWD                                        |                     |                     |                     |                 |             |                       |                                 |                                 |                        |                   |         | Offset Well Error:   | 0.0 ft                |
| Reference                                                    |                     | Offset              |                     | Semi-Major Axis |             | Highside Toolface (°) | Distance                        |                                 | Total Uncertainty Axis | Separation Factor | Warning |                      |                       |
| Measured Depth (ft)                                          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) |                       | Offset Wellbore Centre N-S (ft) | Offset Wellbore Centre E-W (ft) |                        |                   |         | Between Centres (ft) | Between Ellipses (ft) |
| 10,400.0                                                     | 5,541.4             | 11,091.4            | 5,560.4             | 125.6           | 126.6       | 90.92                 | 1,110.4                         | -5,066.6                        | 1,179.6                | 928.5             | 251.10  | 4.698                |                       |
| 10,460.4                                                     | 5,541.1             | 11,151.8            | 5,560.1             | 127.1           | 128.1       | 90.92                 | 1,110.7                         | -5,127.0                        | 1,179.6                | 925.6             | 254.08  | 4.643                |                       |

# Anticollision Report

|                     |                            |                              |                                      |
|---------------------|----------------------------|------------------------------|--------------------------------------|
| Company:            | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook E27-2306 03H            |
| Project:            | Sandoval County, NM        | TVD Reference:               | WELL @ 7067.0ft (Original Well Elev) |
| Reference Site:     | Lybrook                    | MD Reference:                | WELL @ 7067.0ft (Original Well Elev) |
| Site Error:         | 0.0ft                      | North Reference:             | True                                 |
| Reference Well:     | Lybrook E27-2306 03H       | Survey Calculation Method:   | Minimum Curvature                    |
| Well Error:         | 0.0ft                      | Output errors are at:        | 2.00 sigma                           |
| Reference Wellbore: | Hz                         | Database:                    | USA EDM 5000 Multi Users DB          |
| Reference Design:   | Plan #1                    | Offset TVD Reference:        | Offset Datum                         |

| Offset Design Lybrook - Lybrook E27-2306 02H - Hz - Plan #1 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                        |                   | Offset Site Error: | 0.0 ft |
|-------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD                                       |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                        |                   | Offset Well Error: | 0.0 ft |
| Reference                                                   | Offset              | Semi Major Axis     |                     | Distance       |             | Warning               |                                   |            |                      |                       |                        |                   |                    |        |
| Measured Depth (ft)                                         | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor |                    |        |
| 0.0                                                         | 0.0                 | 0.0                 | 0.0                 | 0.0            | 0.0         | 0.00                  | 29.1                              | 0.0        | 29.1                 |                       |                        |                   |                    |        |
| 100.0                                                       | 100.0               | 100.0               | 100.0               | 0.2            | 0.2         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 28.8                  | 0.30                   | 95.906            |                    |        |
| 200.0                                                       | 200.0               | 200.0               | 200.0               | 0.3            | 0.3         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 28.5                  | 0.65                   | 44.619            |                    |        |
| 300.0                                                       | 300.0               | 300.0               | 300.0               | 0.5            | 0.5         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 28.1                  | 1.00                   | 29.073            |                    |        |
| 400.0                                                       | 400.0               | 400.0               | 400.0               | 0.7            | 0.7         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 27.8                  | 1.35                   | 21.560            |                    |        |
| 500.0                                                       | 500.0               | 500.0               | 500.0               | 0.8            | 0.8         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 27.4                  | 1.70                   | 17.133            |                    |        |
| 600.0                                                       | 600.0               | 600.0               | 600.0               | 1.0            | 1.0         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 27.1                  | 2.05                   | 14.214            |                    |        |
| 700.0                                                       | 700.0               | 700.0               | 700.0               | 1.2            | 1.2         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 26.7                  | 2.40                   | 12.145            |                    |        |
| 800.0                                                       | 800.0               | 800.0               | 800.0               | 1.4            | 1.4         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 26.4                  | 2.75                   | 10.602            |                    |        |
| 900.0                                                       | 900.0               | 900.0               | 900.0               | 1.5            | 1.5         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 26.0                  | 3.10                   | 9.407             |                    |        |
| 1,000.0                                                     | 1,000.0             | 1,000.0             | 1,000.0             | 1.7            | 1.7         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 25.7                  | 3.45                   | 8.454             |                    |        |
| 1,100.0                                                     | 1,100.0             | 1,100.0             | 1,100.0             | 1.9            | 1.9         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 25.3                  | 3.79                   | 7.676             |                    |        |
| 1,200.0                                                     | 1,200.0             | 1,200.0             | 1,200.0             | 2.1            | 2.1         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 25.0                  | 4.14                   | 7.029             |                    |        |
| 1,300.0                                                     | 1,300.0             | 1,300.0             | 1,300.0             | 2.2            | 2.2         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 24.6                  | 4.49                   | 6.483             |                    |        |
| 1,400.0                                                     | 1,400.0             | 1,400.0             | 1,400.0             | 2.4            | 2.4         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 24.3                  | 4.84                   | 6.016             |                    |        |
| 1,500.0                                                     | 1,500.0             | 1,500.0             | 1,500.0             | 2.6            | 2.6         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 23.9                  | 5.19                   | 5.611             |                    |        |
| 1,600.0                                                     | 1,600.0             | 1,600.0             | 1,600.0             | 2.8            | 2.8         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 23.6                  | 5.54                   | 5.258             |                    |        |
| 1,700.0                                                     | 1,700.0             | 1,700.0             | 1,700.0             | 2.9            | 2.9         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 23.2                  | 5.89                   | 4.946             |                    |        |
| 1,800.0                                                     | 1,800.0             | 1,800.0             | 1,800.0             | 3.1            | 3.1         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 22.9                  | 6.24                   | 4.669             |                    |        |
| 1,900.0                                                     | 1,900.0             | 1,900.0             | 1,900.0             | 3.3            | 3.3         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 22.5                  | 6.59                   | 4.422             |                    |        |
| 2,000.0                                                     | 2,000.0             | 2,000.0             | 2,000.0             | 3.5            | 3.5         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 22.2                  | 6.94                   | 4.199             |                    |        |
| 2,100.0                                                     | 2,100.0             | 2,100.0             | 2,100.0             | 3.6            | 3.6         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 21.8                  | 7.29                   | 3.998             |                    |        |
| 2,200.0                                                     | 2,200.0             | 2,200.0             | 2,200.0             | 3.8            | 3.8         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 21.5                  | 7.63                   | 3.815             |                    |        |
| 2,300.0                                                     | 2,300.0             | 2,300.0             | 2,300.0             | 4.0            | 4.0         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 21.1                  | 7.98                   | 3.648             |                    |        |
| 2,400.0                                                     | 2,400.0             | 2,400.0             | 2,400.0             | 4.2            | 4.2         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 20.8                  | 8.33                   | 3.496             |                    |        |
| 2,500.0                                                     | 2,500.0             | 2,500.0             | 2,500.0             | 4.3            | 4.3         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 20.4                  | 8.68                   | 3.355             |                    |        |
| 2,600.0                                                     | 2,600.0             | 2,600.0             | 2,600.0             | 4.5            | 4.5         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 20.1                  | 9.03                   | 3.225             |                    |        |
| 2,700.0                                                     | 2,700.0             | 2,700.0             | 2,700.0             | 4.7            | 4.7         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 19.7                  | 9.38                   | 3.105             |                    |        |
| 2,800.0                                                     | 2,800.0             | 2,800.0             | 2,800.0             | 4.9            | 4.9         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 19.4                  | 9.73                   | 2.994             |                    |        |
| 2,900.0                                                     | 2,900.0             | 2,900.0             | 2,900.0             | 5.0            | 5.0         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 19.0                  | 10.08                  | 2.890             |                    |        |
| 3,000.0                                                     | 3,000.0             | 3,000.0             | 3,000.0             | 5.2            | 5.2         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 18.7                  | 10.43                  | 2.793             |                    |        |
| 3,100.0                                                     | 3,100.0             | 3,100.0             | 3,100.0             | 5.4            | 5.4         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 18.3                  | 10.78                  | 2.703             |                    |        |
| 3,200.0                                                     | 3,200.0             | 3,200.0             | 3,200.0             | 5.6            | 5.6         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 18.0                  | 11.12                  | 2.618             |                    |        |
| 3,300.0                                                     | 3,300.0             | 3,300.0             | 3,300.0             | 5.7            | 5.7         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 17.7                  | 11.47                  | 2.538             |                    |        |
| 3,400.0                                                     | 3,400.0             | 3,400.0             | 3,400.0             | 5.9            | 5.9         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 17.3                  | 11.82                  | 2.463             |                    |        |
| 3,500.0                                                     | 3,500.0             | 3,500.0             | 3,500.0             | 6.1            | 6.1         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 17.0                  | 12.17                  | 2.393             |                    |        |
| 3,600.0                                                     | 3,600.0             | 3,600.0             | 3,600.0             | 6.3            | 6.3         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 16.6                  | 12.52                  | 2.326             |                    |        |
| 3,700.0                                                     | 3,700.0             | 3,700.0             | 3,700.0             | 6.4            | 6.4         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 16.3                  | 12.87                  | 2.263             |                    |        |
| 3,800.0                                                     | 3,800.0             | 3,800.0             | 3,800.0             | 6.6            | 6.6         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 15.9                  | 13.22                  | 2.203             |                    |        |
| 3,900.0                                                     | 3,900.0             | 3,900.0             | 3,900.0             | 6.8            | 6.8         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 15.6                  | 13.57                  | 2.147             |                    |        |
| 4,000.0                                                     | 4,000.0             | 4,000.0             | 4,000.0             | 7.0            | 7.0         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 15.2                  | 13.92                  | 2.093             |                    |        |
| 4,100.0                                                     | 4,100.0             | 4,100.0             | 4,100.0             | 7.1            | 7.1         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 14.9                  | 14.27                  | 2.042             |                    |        |
| 4,200.0                                                     | 4,200.0             | 4,200.0             | 4,200.0             | 7.3            | 7.3         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 14.5                  | 14.62                  | 1.993             |                    |        |
| 4,300.0                                                     | 4,300.0             | 4,300.0             | 4,300.0             | 7.5            | 7.5         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 14.2                  | 14.96                  | 1.946             |                    |        |
| 4,400.0                                                     | 4,400.0             | 4,400.0             | 4,400.0             | 7.7            | 7.7         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 13.8                  | 15.31                  | 1.902             |                    |        |
| 4,500.0                                                     | 4,500.0             | 4,500.0             | 4,500.0             | 7.8            | 7.8         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 13.5                  | 15.66                  | 1.860             |                    |        |
| 4,600.0                                                     | 4,600.0             | 4,600.0             | 4,600.0             | 8.0            | 8.0         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 13.1                  | 16.01                  | 1.819             |                    |        |
| 4,700.0                                                     | 4,700.0             | 4,700.0             | 4,700.0             | 8.2            | 8.2         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 12.8                  | 16.36                  | 1.780             |                    |        |
| 4,800.0                                                     | 4,800.0             | 4,800.0             | 4,800.0             | 8.4            | 8.4         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 12.4                  | 16.71                  | 1.743             |                    |        |
| 4,900.0                                                     | 4,900.0             | 4,900.0             | 4,900.0             | 8.5            | 8.5         | 0.00                  | 29.1                              | 0.0        | 29.1                 | 12.1                  | 17.06                  | 1.707 CC, ES, SF  |                    |        |
| 5,000.0                                                     | 4,999.7             | 4,999.9             | 4,999.9             | 8.7            | 8.7         | 174.27                | 29.1                              | 0.0        | 35.4                 | 18.1                  | 17.28                  | 2.046             |                    |        |
| 5,100.0                                                     | 5,097.8             | 5,102.4             | 5,101.7             | 8.9            | 8.9         | 153.43                | 21.8                              | 7.1        | 47.5                 | 30.0                  | 17.50                  | 2.717             |                    |        |

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

# Anticollision Report

|                    |                            |                              |                                      |
|--------------------|----------------------------|------------------------------|--------------------------------------|
| Company:           | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook E27-2306 03H            |
| Project:           | Sandoval County, NM        | TVD Reference:               | WELL @ 7067.0ft (Original Well Elev) |
| Reference Site:    | Lybrook                    | MD Reference:                | WELL @ 7067.0ft (Original Well Elev) |
| Site Error:        | 0.0ft                      | North Reference:             | True                                 |
| Reference Well:    | Lybrook E27-2306 03H       | Survey Calculation Method:   | Minimum Curvature                    |
| Well Error:        | 0.0ft                      | Output errors are at         | 2.00 sigma                           |
| Reference Wellbore | HZ                         | Database:                    | USA EDM 5000 Multi Users DB          |
| Reference Design:  | Plan #1                    | Offset TVD Reference:        | Offset Datum                         |

| Offset Design: Lybrook - Lybrook E27-2306 02H - Hz - Plan #1 |                           |                           |                           |                    |                |                             |                                         |               |                            |                             |                              |                        | Offset Site Error: | 0.0 ft |
|--------------------------------------------------------------|---------------------------|---------------------------|---------------------------|--------------------|----------------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|------------------------------|------------------------|--------------------|--------|
| Survey Program: 0-MWD                                        |                           |                           |                           |                    |                |                             |                                         |               |                            |                             |                              |                        | Offset Well Error: | 0.0 ft |
| Reference                                                    |                           | Offset                    |                           | Semi Major Axis    |                |                             | Distance                                |               |                            |                             | Total<br>Uncertainty<br>Axis | Separation<br>Factor * | Warning            |        |
| Measured<br>Depth<br>(ft)                                    | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference:<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                              |                        |                    |        |
| 5,200.0                                                      | 5,193.0                   | 5,193.3                   | 5,189.3                   | 9.1                | 9.1            | 167.21                      | 4.4                                     | 23.7          | 73.2                       | 55.9                        | 17.31                        | 4.231                  |                    |        |
| 5,300.0                                                      | 5,282.2                   | 5,263.3                   | 5,253.5                   | 9.4                | 9.3            | 177.92                      | -15.7                                   | 43.0          | 129.7                      | 113.0                       | 16.75                        | 7.744                  |                    |        |
| 5,400.0                                                      | 5,362.9                   | 5,310.9                   | 5,295.0                   | 9.9                | 9.4            | -178.19                     | -32.5                                   | 59.1          | 208.6                      | 192.7                       | 15.93                        | 13.097                 |                    |        |
| 5,500.0                                                      | 5,432.6                   | 5,339.0                   | 5,318.5                   | 10.7               | 9.5            | -178.31                     | -43.6                                   | 69.7          | 300.2                      | 285.3                       | 14.89                        | 20.167                 |                    |        |
| 5,600.0                                                      | 5,489.1                   | 5,350.0                   | 5,327.5                   | 11.8               | 9.6            | 171.24                      | -48.2                                   | 74.1          | 398.1                      | 384.2                       | 13.95                        | 28.528                 |                    |        |
| 5,700.0                                                      | 5,530.8                   | 5,350.0                   | 5,327.5                   | 13.2               | 9.6            | 28.19                       | -48.2                                   | 74.1          | 497.9                      | 482.4                       | 15.55                        | 32.024                 |                    |        |
| 5,800.0                                                      | 5,556.3                   | 5,350.0                   | 5,327.5                   | 15.0               | 9.6            | 15.32                       | -48.2                                   | 74.1          | 596.6                      | 583.3                       | 13.32                        | 44.774                 |                    |        |
| 5,900.0                                                      | 5,565.0                   | 5,324.2                   | 5,306.2                   | 16.9               | 9.5            | 13.87                       | -37.7                                   | 64.0          | 691.3                      | 678.2                       | 13.09                        | 52.815                 |                    |        |
| 6,000.0                                                      | 5,564.5                   | 5,300.0                   | 5,285.7                   | 19.0               | 9.4            | 14.59                       | -28.5                                   | 55.2          | 783.9                      | 770.2                       | 13.70                        | 57.220                 |                    |        |
| 6,100.0                                                      | 5,563.9                   | 5,286.5                   | 5,273.9                   | 21.2               | 9.3            | 14.92                       | -23.6                                   | 50.5          | 877.3                      | 863.0                       | 14.30                        | 61.329                 |                    |        |
| 6,200.0                                                      | 5,563.4                   | 5,270.4                   | 5,259.8                   | 23.4               | 9.3            | 15.22                       | -18.0                                   | 45.2          | 971.4                      | 956.4                       | 14.94                        | 65.040                 |                    |        |
| 6,300.0                                                      | 5,562.9                   | 5,250.0                   | 5,241.6                   | 25.7               | 9.2            | 15.48                       | -11.5                                   | 38.9          | 1,066.1                    | 1,050.5                     | 15.58                        | 68.421                 |                    |        |
| 6,400.0                                                      | 5,562.4                   | 5,250.0                   | 5,241.6                   | 28.0               | 9.2            | 15.48                       | -11.5                                   | 38.9          | 1,161.4                    | 1,145.2                     | 16.19                        | 71.726                 |                    |        |

# Anticollision Report

Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Reference Site: Lybrook  
 Site Error: 0.0ft  
 Reference Well: Lybrook E27-2306 03H  
 Well Error: 0.0ft  
 Reference Wellbore: Hz  
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: WELL @ 7067.0ft (Original Well Elev)  
 MD Reference: WELL @ 7067.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Output errors are at: 2.00 sigma  
 Database: USA EDM 5000 Multi Users DB  
 Offset TVD Reference: Offset Datum

| Offset Design Lybrook - Lybrook M27-2306 01H - Hz - Plan #1 |                     |                     |                     |                |             |                       |                                  |            |                      |                       |                  |              |  | Offset Site Error: | 0.0 ft |
|-------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|----------------------------------|------------|----------------------|-----------------------|------------------|--------------|--|--------------------|--------|
| Survey Program: 0-MWD                                       |                     |                     |                     |                |             |                       |                                  |            |                      |                       |                  |              |  | Offset Well Error: | 0.0 ft |
| Reference                                                   | Offset              | Semi Major Axis     |                     | Distance       |             | Total                 |                                  | Separation |                      | Warning               |                  |              |  |                    |        |
| Measured Depth (ft)                                         | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (ft) | +E-W (ft)  | Between Centres (ft) | Between Ellipses (ft) | Uncertainty Axis | Factor       |  |                    |        |
| 7,400.0                                                     | 5,557.1             | 7,969.8             | 5,278.6             | 51.9           | 56.4        | -73.37                | -1,282.1                         | -2,089.0   | 1,246.0              | 1,145.6               | 100.35           | 12.416       |  |                    |        |
| 7,500.0                                                     | 5,556.6             | 8,069.8             | 5,278.3             | 54.4           | 58.7        | -73.37                | -1,280.8                         | -2,189.0   | 1,245.2              | 1,140.2               | 105.01           | 11.858       |  |                    |        |
| 7,600.0                                                     | 5,556.1             | 8,169.8             | 5,277.9             | 56.8           | 61.0        | -73.37                | -1,279.4                         | -2,289.0   | 1,244.5              | 1,134.8               | 109.68           | 11.347       |  |                    |        |
| 7,700.0                                                     | 5,555.6             | 8,269.8             | 5,277.6             | 59.3           | 63.3        | -73.37                | -1,278.1                         | -2,389.0   | 1,243.8              | 1,129.4               | 114.35           | 10.877       |  |                    |        |
| 7,800.0                                                     | 5,555.0             | 8,369.8             | 5,277.2             | 61.7           | 65.6        | -73.37                | -1,276.7                         | -2,489.0   | 1,243.0              | 1,124.0               | 119.03           | 10.443       |  |                    |        |
| 7,900.0                                                     | 5,554.5             | 8,469.8             | 5,276.9             | 64.1           | 67.9        | -73.37                | -1,275.4                         | -2,589.0   | 1,242.3              | 1,118.6               | 123.72           | 10.041       |  |                    |        |
| 8,000.0                                                     | 5,554.0             | 8,569.8             | 5,276.5             | 66.6           | 70.2        | -73.36                | -1,274.0                         | -2,689.0   | 1,241.6              | 1,113.1               | 128.40           | 9.669        |  |                    |        |
| 8,100.0                                                     | 5,553.5             | 8,669.8             | 5,276.2             | 69.0           | 72.6        | -73.36                | -1,272.6                         | -2,789.0   | 1,240.8              | 1,107.7               | 133.10           | 9.323        |  |                    |        |
| 8,200.0                                                     | 5,552.9             | 8,769.8             | 5,275.8             | 71.5           | 74.9        | -73.36                | -1,271.3                         | -2,888.9   | 1,240.1              | 1,102.3               | 137.79           | 9.000        |  |                    |        |
| 8,300.0                                                     | 5,552.4             | 8,869.8             | 5,275.5             | 73.9           | 77.3        | -73.36                | -1,269.9                         | -2,988.9   | 1,239.4              | 1,096.9               | 142.49           | 8.698        |  |                    |        |
| 8,400.0                                                     | 5,551.9             | 8,969.8             | 5,275.1             | 76.4           | 79.7        | -73.36                | -1,268.6                         | -3,088.9   | 1,238.6              | 1,091.4               | 147.19           | 8.415        |  |                    |        |
| 8,500.0                                                     | 5,551.4             | 9,069.8             | 5,274.8             | 78.9           | 82.0        | -73.36                | -1,267.2                         | -3,188.9   | 1,237.9              | 1,086.0               | 151.90           | 8.150        |  |                    |        |
| 8,600.0                                                     | 5,550.8             | 9,169.8             | 5,274.4             | 81.3           | 84.4        | -73.35                | -1,265.9                         | -3,288.9   | 1,237.2              | 1,080.6               | 156.60           | 7.900        |  |                    |        |
| 8,700.0                                                     | 5,550.3             | 9,269.8             | 5,274.1             | 83.8           | 86.8        | -73.35                | -1,264.5                         | -3,388.9   | 1,236.4              | 1,075.1               | 161.31           | 7.665        |  |                    |        |
| 8,800.0                                                     | 5,549.8             | 9,369.8             | 5,273.7             | 86.2           | 89.2        | -73.35                | -1,263.2                         | -3,488.9   | 1,235.7              | 1,069.7               | 166.02           | 7.443        |  |                    |        |
| 8,900.0                                                     | 5,549.3             | 9,469.8             | 5,273.4             | 88.7           | 91.6        | -73.35                | -1,261.8                         | -3,588.9   | 1,235.0              | 1,064.2               | 170.73           | 7.233        |  |                    |        |
| 9,000.0                                                     | 5,548.7             | 9,569.8             | 5,273.0             | 91.1           | 94.0        | -73.35                | -1,260.5                         | -3,688.8   | 1,234.2              | 1,058.8               | 175.44           | 7.035        |  |                    |        |
| 9,100.0                                                     | 5,548.2             | 9,669.8             | 5,272.7             | 93.6           | 96.4        | -73.35                | -1,259.1                         | -3,788.8   | 1,233.5              | 1,053.3               | 180.16           | 6.847        |  |                    |        |
| 9,200.0                                                     | 5,547.7             | 9,769.8             | 5,272.3             | 96.1           | 98.8        | -73.34                | -1,257.7                         | -3,888.8   | 1,232.8              | 1,047.9               | 184.87           | 6.668        |  |                    |        |
| 9,300.0                                                     | 5,547.2             | 9,869.8             | 5,272.0             | 98.5           | 101.2       | -73.34                | -1,256.4                         | -3,988.8   | 1,232.0              | 1,042.4               | 189.59           | 6.498        |  |                    |        |
| 9,400.0                                                     | 5,546.6             | 9,969.8             | 5,271.6             | 101.0          | 103.6       | -73.34                | -1,255.0                         | -4,088.8   | 1,231.3              | 1,037.0               | 194.31           | 6.337        |  |                    |        |
| 9,500.0                                                     | 5,546.1             | 10,069.8            | 5,271.3             | 103.5          | 106.1       | -73.34                | -1,253.7                         | -4,188.8   | 1,230.6              | 1,031.5               | 199.02           | 6.183        |  |                    |        |
| 9,600.0                                                     | 5,545.6             | 10,169.8            | 5,270.9             | 105.9          | 108.5       | -73.34                | -1,252.3                         | -4,288.8   | 1,229.8              | 1,026.1               | 203.74           | 6.036        |  |                    |        |
| 9,700.0                                                     | 5,545.1             | 10,269.8            | 5,270.6             | 108.4          | 110.9       | -73.34                | -1,251.0                         | -4,388.8   | 1,229.1              | 1,020.6               | 208.46           | 5.896        |  |                    |        |
| 9,800.0                                                     | 5,544.5             | 10,369.8            | 5,270.2             | 110.8          | 113.3       | -73.33                | -1,249.6                         | -4,488.7   | 1,228.4              | 1,015.2               | 213.19           | 5.762        |  |                    |        |
| 9,900.0                                                     | 5,544.0             | 10,469.8            | 5,269.9             | 113.3          | 115.8       | -73.33                | -1,248.3                         | -4,588.7   | 1,227.6              | 1,009.7               | 217.91           | 5.634        |  |                    |        |
| 10,000.0                                                    | 5,543.5             | 10,569.8            | 5,269.5             | 115.8          | 118.2       | -73.33                | -1,246.9                         | -4,688.7   | 1,226.9              | 1,004.3               | 222.63           | 5.511        |  |                    |        |
| 10,100.0                                                    | 5,543.0             | 10,669.8            | 5,269.2             | 118.2          | 120.6       | -73.33                | -1,245.5                         | -4,788.7   | 1,226.2              | 998.8                 | 227.35           | 5.393        |  |                    |        |
| 10,200.0                                                    | 5,542.4             | 10,769.8            | 5,268.8             | 120.7          | 123.1       | -73.33                | -1,244.2                         | -4,888.7   | 1,225.4              | 993.4                 | 232.08           | 5.280        |  |                    |        |
| 10,300.0                                                    | 5,541.9             | 10,869.8            | 5,268.5             | 123.2          | 125.5       | -73.32                | -1,242.8                         | -4,988.7   | 1,224.7              | 987.9                 | 236.80           | 5.172        |  |                    |        |
| 10,400.0                                                    | 5,541.4             | 10,969.8            | 5,268.1             | 125.6          | 127.9       | -73.32                | -1,241.5                         | -5,088.7   | 1,224.0              | 982.4                 | 241.53           | 5.068        |  |                    |        |
| 10,443.2                                                    | 5,541.2             | 11,003.9            | 5,268.0             | 126.7          | 128.8       | -73.32                | -1,241.0                         | -5,122.9   | 1,223.7              | 980.3                 | 243.35           | 5.028 CC     |  |                    |        |
| 10,460.4                                                    | 5,541.1             | 11,003.9            | 5,268.0             | 127.1          | 128.8       | -73.32                | -1,241.0                         | -5,122.9   | 1,223.8              | 980.0                 | 243.76           | 5.020 ES, SF |  |                    |        |

# Anticollision Report

Company: EnCana Oil & Gas (USA) Inc  
 Project: Sandoval County, NM  
 Reference Site: Lybrook  
 Site Error: 0.0ft  
 Reference Well: Lybrook E27-2306 03H  
 Well Error: 0.0ft  
 Reference Wellbore: Hz  
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lybrook E27-2306 03H  
 TVD Reference: WELL @ 7067.0ft (Original Well Elev)  
 MD Reference: WELL @ 7067.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Output errors are at: 2.00 sigma  
 Database: USA EDM 5000 Multi Users DB  
 Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 7067.0ft (Original Well Elev)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook E27-2306 03H  
 Coordinate System is US State Plane 1983, New Mexico Central Zone  
 Grid Convergence at Surface is: -0.72°

