

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

DEC 05 2014

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

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

5. Lease Serial No.  
NM 36943

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

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

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

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

3b. Phone No. (include area code)  
720-876-5994

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

8. Well Name and No.  
Lybrook L29-2307 02H

9. API Well No.  
30-043-21231

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SHL: 1720' FSL and 776' FWL Section 29, T23N, R7W  
BHL: 1735' FSL and 330' FWL Section 30, T23N, R7W

10. Field and Pool or Exploratory Area  
Basin Mancos Gas Pool

11. County or Parish, State  
Sandoval County, NM

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

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

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

The BHL for the Lybrook L29-2307 02H was modified from 1420' FSL, 330' FWL (Section 30, T23N, R7W) to 1735' FSL, 330' FWL (Section 30, T23N, R7W). The POE for the Lybrook L29-2307 02H was also modified from 1420' FSL, 330' FEL (Section 30, T23N, R7W) to 1735' FSL, 330' FEL (Section 30 T23N, R7W). Attached is a C-102, Directional Plan, Drilling Plan and Wellbore Diagram, which have been updated to reflect this change in BHL and POE. The plans were also updated to include a cemented production liner, instead of running open hole swell packers, as previously planned. Finally, the 7" ICP was moved from approximately 72 degrees to 55 degrees.

OIL CONS. DIV DIST. 3

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

DEC 09 2014

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

ADHERE TO PREVIOUS NMOC  
CONDITIONS OF APPROVAL

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

Shawn Turk

Title Regulatory Analyst

Signature

Date 12/4/14

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekou

Title Petroleum Engineer

Date 12/08/2014

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

Office FFD

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

District I  
1625 N. French Dr., Hobbs, NM 88240  
Phone (575) 393-6161 Fax: (575) 393-0720  
District II  
811 S. First St., Artesia, NM 88210  
Phone (575) 748-1283 Fax: (575) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S St. Francis Dr., Santa Fe, NM 87505  
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

DEC 05 2014 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                                |                                                                      |                                               |
|------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------|
| <sup>1</sup> API Number<br><b>30-043-21231</b> | <sup>2</sup> Pool Code<br><b>97232</b>                               | <sup>3</sup> Pool Name<br><b>BASIN MANCOS</b> |
| <sup>4</sup> Property Code<br><b>313379</b>    | <sup>5</sup> Property Name<br><b>LYBROOK L29-2307</b>                | <sup>6</sup> Well Number<br><b>02H</b>        |
| <sup>7</sup> OGRID No.<br><b>282327</b>        | <sup>8</sup> Operator Name<br><b>ENCANA OIL &amp; GAS (USA) INC.</b> | <sup>9</sup> Elevation<br><b>6874'</b>        |

<sup>10</sup> Surface Location

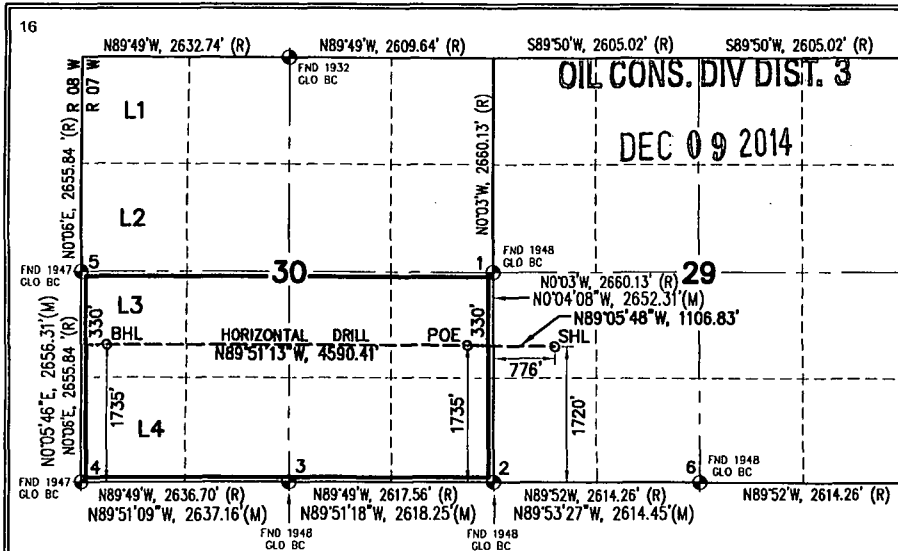
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West Line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| L             | 29      | 23N      | 7W    |         | 1720          | SOUTH            | 776           | WEST           | SANDOVAL |

<sup>11</sup> Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West Line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| L             | 30      | 23N      | 7W    | 3       | 1735          | SOUTH            | 330           | WEST           | SANDOVAL |

|                                                          |                                       |                               |                                  |                         |
|----------------------------------------------------------|---------------------------------------|-------------------------------|----------------------------------|-------------------------|
| <sup>12</sup> Dedicated Acres<br><b>320 ACRES 321.24</b> | PROJECT AREA<br><b>S/2-SECTION 30</b> | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code | <sup>15</sup> Order No. |
|----------------------------------------------------------|---------------------------------------|-------------------------------|----------------------------------|-------------------------|

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Shawn Turk* Date: *12/4/14*

Printed Name: Shawn Turk

E-mail Address: shawn.turk@encana.com

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

October 7, 2014  
Date of Survey

Signature and Seal of Professional Surveyor:

RICHARD L. MULLIKEN  
NEW MEXICO  
16873  
11-05-14  
PROFESSIONAL SURVEYOR

RICHARD L. MULLIKEN  
Certificate Number 16873

| LOC: Lybrook L29-2307 02H<br>County: Sandoval<br>WELL: Lybrook L29-2307 02H                                                                           |                      |                                                                                                                                                                               | Encana Natural Gas<br>WELL SUMMARY                                                          |                    |  |              | ENG: Sydney Kuyke<br>RIG: Aztec 920<br>GLE: 6874<br>RKBE: 6892                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                 | 12-4-14                                                   |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------|--|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------|
| 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'                |  | 26           | 16" 42.09#<br>100sx Type I Neat 16.0ppg cmt                                                                                                                                                                                                                                                                                                 | Fresh wtr<br>8.3-9.2                                                                                                                                                                            |                                                           |                     |
| Multi-Well pad take survey every stand and run anti-collision report prior to spud                                                                    | None                 | San Jose Fn.<br><br>Nacimiento Fn.<br>9 5/8" Csg                                                                                                                              | 0<br><br>0<br>500                                                                           | <br><br><br>500.00 |  |              | 12 1/4                                                                                                                                                                                                                                                                                                                                      | 9 5/8" 36ppf J55 LTC<br><br>TOC Surface with 100% OH Excess:<br>228 sks Type III Cement + 1% bwoc<br>Calcium Chloride + 0.25 lbs/sack Cello<br>Flake + 0.2% bwoc FL-52A + 58.9%<br>Fresh Water. | Fresh wtr<br><br>8.3-10                                   | Vertical<br><br><1° |
| Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5 | No OH logs           | Ojo Alamo Ss.<br>Kirtland Shale<br><br>Fruitland Coal<br><br>Pictured Cliffs Ss.<br>Lewis Shale<br><br>Cliffhouse Ss.<br>Menefee Fn.<br><br>Point Lookout Ss.<br>Mancos Shale | 887<br>1,097<br><br>1,365<br><br>1,483<br>1,605<br><br>2,299<br>3,007<br><br>3,841<br>4,045 |                    |  | 8 3/4        | 7" 26ppf J55 LTC<br><br>TOC @ surface<br>(100% OH excess - 70% Lead 30% Tail)<br>Stage 1 Total: 828sks<br><br>Stage 1 Lead: 467 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4% FL-52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk.                                          | Fresh Wtr<br><br>8.3-10                                                                                                                                                                         | Vertical<br><br><1°                                       |                     |
| Surveys every 30' through the curve                                                                                                                   | Mud logger onsite    | KOP                                                                                                                                                                           | 4,240                                                                                       |                    |  |              | 4,240                                                                                                                                                                                                                                                                                                                                       | Stage 1 Tail: 361 sks Type III Cement + 1% CaCl2 + 0.25#/sk Cello Flake + 0.2% FL-52A. Mixed at 14.6 ppg. Yield 1.38 cuft/sk.                                                                   |                                                           |                     |
|                                                                                                                                                       |                      | Mancos Silt                                                                                                                                                                   | 4,566                                                                                       |                    |  |              |                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                 |                                                           |                     |
|                                                                                                                                                       |                      | Gallup Fn.<br><br>7" Csg                                                                                                                                                      | 4,825<br>4,941                                                                              |                    |  |              | 5,043'                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                 |                                                           |                     |
| Surveys every stand to TD unless directed otherwise by Geologist                                                                                      | No OH Logs           | Horizontal Target TD<br><br>Base Gallup                                                                                                                                       | 5,077<br>5,037<br><br>5,145                                                                 | 10,460             |  | 6 1/8        | 100' overlap at liner top<br><br>5417' Drilled Lateral                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                 | Horz Inc/TVD<br>90.4 degdeg/5077ft<br><br>TD = 10460.4 MD |                     |
| MWD<br>Gamma<br>Directional                                                                                                                           |                      |                                                                                                                                                                               |                                                                                             |                    |  |              | 4 1/2" 11.6ppf SB80 LTC<br><br>TOC @ hanger<br>(50% OH excess)<br>Stage 1 Total: 311sks<br><br>Stage 1 Blend: 311 sks Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk. | WBM<br>8.3-10                                                                                                                                                                                   |                                                           |                     |

# NOTES:

- 1) Drill with 26" bit to 60', set 16" 42.09ppf conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 4240', 8 3/4 inch holesize
- 5) Start curve at 10deg/100' build rate
- 6) Drill to csg point of 5043' MD
- 7) R&C 7" csg, circ cmt to surface
- 8) Land at ~90 deg, drill lateral to 10460' run 4 1/2 inch cemented liner

OIL CONS. DIV DIST. 3

DEC 09 2014

Lybrook L29-2307 02H

SHL: NW/4 SW/4 Sec 29 T23N R7W, 1720' FSL, 776' FWL

BHL: NW/4 SW/4 Sec 30 T23N R7W, 1735' FSL, 330' FWL

Sandoval, New Mexico

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

**OIL CONS. DIV DIST. 3**

**DEC 09 2014**

**1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)**

The estimated tops of important geologic markers are as follows:

| <b>Formation</b>    | <b>Depth (TVD) units = feet</b> |
|---------------------|---------------------------------|
| Nacimiento          | 0                               |
| Ojo Alamo           | 887                             |
| Kirtland Shale      | 1,097                           |
| Fruitland Coal      | 1,365                           |
| Pictured Cliffs Ss. | 1,483                           |
| Lewis Shale         | 1,605                           |
| Cliffhouse Ss.      | 2,299                           |
| Menefee Fn.         | 3,007                           |
| Point Lookout Ss.   | 3,841                           |
| Mancos Shale        | 4,045                           |
| Mancos Silt         | 4,566                           |
| Gallup Fn.          | 4,825                           |
| Horizontal Target   | 5,077                           |
|                     |                                 |

The referenced surface elevation is 6874', KB 6892'

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

| <b>Substance</b> | <b>Formation</b>    | <b>Depth (TVD) units = feet</b> |
|------------------|---------------------|---------------------------------|
| Water/Gas        | Fruitland Coal      | 1,365                           |
| Oil/Gas          | Pictured Cliffs Ss. | 1,483                           |
| Oil/Gas          | Cliffhouse Ss.      | 2,299                           |
| Gas              | Menefee Fn.         | 3,007                           |
| Oil/Gas          | Point Lookout Ss.   | 3,841                           |
| Oil/Gas          | Mancos Shale        | 4,045                           |
| Oil/Gas          | Mancos Silt         | 4,566                           |
| Oil/Gas          | Gallup Fn.          | 4,825                           |

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

Lybrook L29-2307 02H

SHL: NW/4 SW/4 Sec 29 T23N R7W, 1720' FSL, 776' FWL

BHL: NW/4 SW/4 Sec 30 T23N R7W, 1735' FSL, 330' FWL

Sandoval, New Mexico

### 3. PRESSURE CONTROL

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

Proposed BOP and choke manifold arrangements are attached.

### 4. CASING & CEMENTING PROGRAM

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

- a) The proposed casing design is as follows:

| Casing           | Depth (MD)   | Hole Size | Csg Size | Weight | Grade         |
|------------------|--------------|-----------|----------|--------|---------------|
| Conductor        | 0'-60'       | 26"       | 16"      | 42.09# |               |
| Surface          | 0'-500'      | 12 1/4"   | 9 5/8"   | 36#    | J55, STC New  |
| Intermediate     | 0'-5043'     | 8 3/4"    | 7"       | 26#    | J55, LTC New  |
| Production Liner | 4943'-10460' | 6 1/8"    | 4 1/2"   | 11.6#  | B80*, LTC New |

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

\*B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered

Lybrook L29-2307 02H

SHL: NW/4 SW/4 Sec 29 T23N R7W, 1720' FSL, 776' FWL

BHL: NW/4 SW/4 Sec 30 T23N R7W, 1735' FSL, 330' FWL

Sandoval, New Mexico

## 6. DRILLING FLUIDS PROGRAM

### a) Surface through Intermediate Casing Point:

| Hole Size (in) | Depth (TVD/MD)        | Mud Type         | Density (ppg) | Viscosity (sec/qt) | Fluid Loss (cc) |
|----------------|-----------------------|------------------|---------------|--------------------|-----------------|
| 30"            | 0-60'/60'             | Fresh Water      | 8.3-9.2       | 38-100             | 4-28            |
| 12 1/4"        | 0'-500'/500'          | Fresh Water      | 8.3-10        | 60-70              | NC              |
| 8 3/4"         | 500'/500'-4941'/5043' | Fresh Water LSND | 8.3-10        | 40-50              | 8-10            |

### b) Intermediate Casing Point to TD:

| Hole Size (in) | Depth (TVD/MD)               | Mud Type         | Density (ppg) | Viscosity (sec/qt) | Fluid Loss (cc) |
|----------------|------------------------------|------------------|---------------|--------------------|-----------------|
| 6 1/8"         | 4941'/5043'-<br>5037'/10460' | Fresh Water LSND | 8.3-10        | 15-25              | <15             |

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

## 7. TESTING, CORING, & LOGGING

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

Cased Hole:

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

## 8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2376 psi based on a 9.0 ppg at 5077' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H<sub>2</sub>S is encountered, the guidelines in Onshore Order No. 6 will be followed.

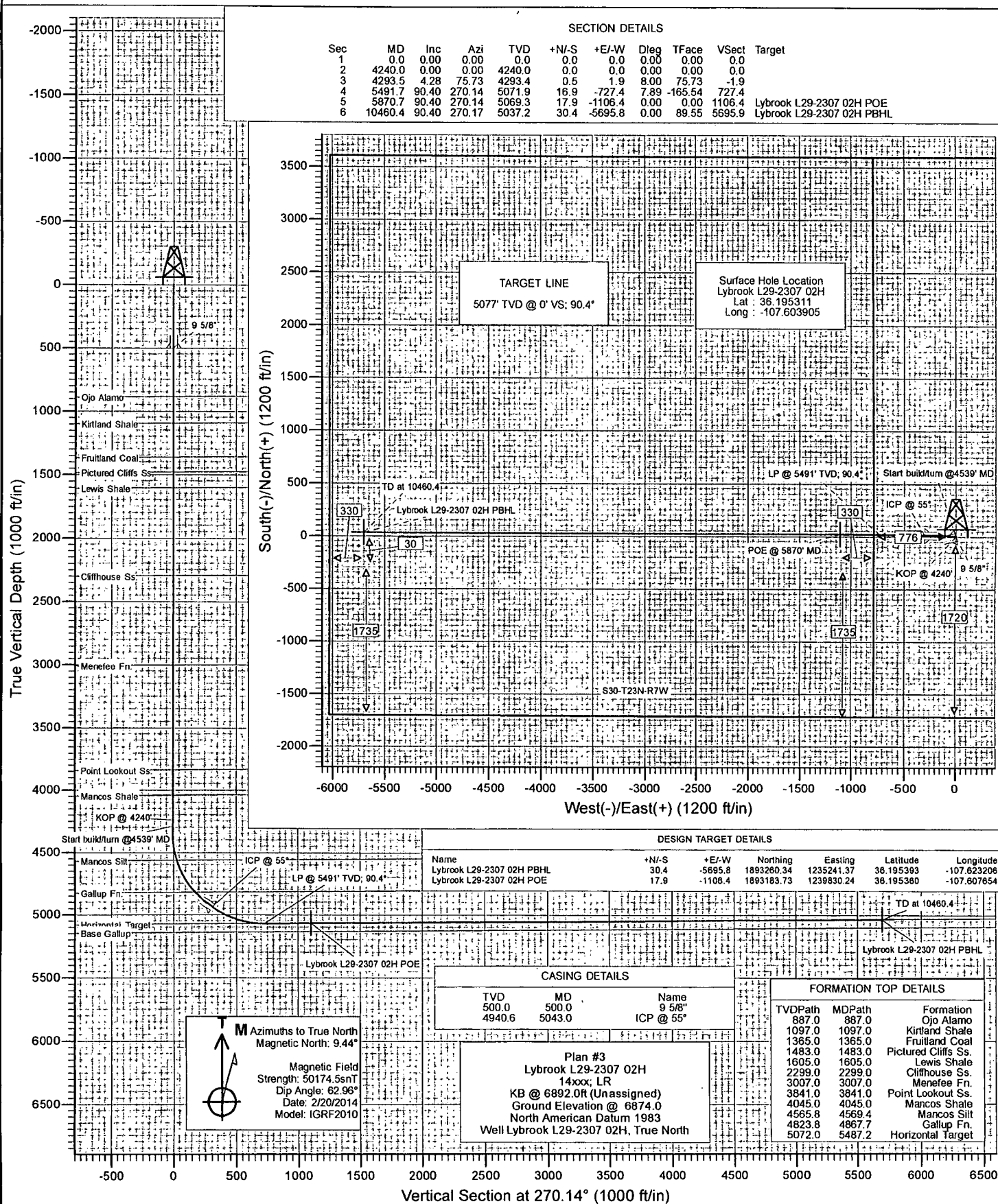
## 9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on November 5, 2015. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

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



Project: Sandoval County, NM  
 Site: S29-T23N-R7W  
 Well: Lybrook L29-2307 02H  
 Wellbore: Hz  
 Design: Plan #3



# Cathedral Energy Services

## Planning Report

|           |                             |                              |                            |
|-----------|-----------------------------|------------------------------|----------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H  |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | KB @ 6892.0ft (Unassigned) |
| Project:  | Sandoval County, NM         | MD Reference:                | KB @ 6892.0ft (Unassigned) |
| Site:     | S29-T23N-R7W                | North Reference:             | True                       |
| Well:     | Lybrook L29-2307 02H        | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Hz                          |                              |                            |
| Design:   | Plan #3                     |                              |                            |

|             |                           |               |                |
|-------------|---------------------------|---------------|----------------|
| 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                  | S29-T23N-R7W |                   |                 |
| Site Position:        |              | Northing:         | 1,893,172.01 ft |
| From:                 | Lat/Long     | Easting:          | 1,240,929.16 ft |
| Position Uncertainty: | 0.0 ft       | Slot Radius:      | 13.200 in       |
|                       |              | Latitude:         | 36.195370       |
|                       |              | Longitude:        | -107.603930     |
|                       |              | Grid Convergence: | -0.80 °         |

|                      |                      |                     |             |
|----------------------|----------------------|---------------------|-------------|
| Well:                | Lybrook L29-2307 02H |                     |             |
| Well Position        | +N/-S                | 0.0 ft              | Northing:   |
|                      | +E/-W                | 0.0 ft              | Easting:    |
| Position Uncertainty | 0.0 ft               | Wellhead Elevation: | ft          |
|                      |                      | Latitude:           | 36.195311   |
|                      |                      | Longitude:          | -107.603905 |
|                      |                      | Ground Level:       | 6,874.0 ft  |

|           |            |             |                |
|-----------|------------|-------------|----------------|
| Wellbore  | Hz         |             |                |
| Magnetics | Model Name | Sample Date | Declination    |
|           |            |             | (°)            |
|           | IGRF2010   | 2/20/2014   | 9.44           |
|           |            |             | Dip Angle      |
|           |            |             | (°)            |
|           |            |             | Field Strength |
|           |            |             | (nT)           |
|           |            |             | 50,174         |

|                   |                  |       |               |
|-------------------|------------------|-------|---------------|
| Design            | Plan #3          |       |               |
| Audit Notes:      |                  |       |               |
| Version:          | Phase:           | PLAN  | Tie On Depth: |
|                   |                  |       | 0.0           |
| Vertical Section: | Depth From (TVD) | +N/-S | +E/-W         |
|                   | (ft)             | (ft)  | (ft)          |
|                   | 0.0              | 0.0   | 0.0           |
|                   |                  |       | Direction     |
|                   |                  |       | (°)           |
|                   |                  |       | 270.14        |

|                |             |         |                |       |          |             |            |           |         |                      |
|----------------|-------------|---------|----------------|-------|----------|-------------|------------|-----------|---------|----------------------|
| Plan Sections  |             |         |                |       |          |             |            |           |         |                      |
| Measured Depth | Inclination | Azimuth | Vertical Depth | +N/-S | +E/-W    | Dogleg Rate | Build Rate | Turn Rate | TFO     | Target               |
| (ft)           | (°)         | (°)     | (ft)           | (ft)  | (ft)     | (°/100ft)   | (°/100ft)  | (°/100ft) | (°)     |                      |
| 0.0            | 0.00        | 0.00    | 0.0            | 0.0   | 0.0      | 0.00        | 0.00       | 0.00      | 0.00    |                      |
| 4,240.0        | 0.00        | 0.00    | 4,240.0        | 0.0   | 0.0      | 0.00        | 0.00       | 0.00      | 0.00    |                      |
| 4,293.5        | 4.28        | 75.73   | 4,293.4        | 0.5   | 1.9      | 8.00        | 8.00       | 0.00      | 75.73   |                      |
| 5,491.7        | 90.40       | 270.14  | 5,071.9        | 16.9  | -727.4   | 7.89        | 7.19       | -13.82    | -165.54 |                      |
| 5,870.7        | 90.40       | 270.14  | 5,069.3        | 17.9  | -1,106.4 | 0.00        | 0.00       | 0.00      | 0.00    | Lybrook L29-2307 02I |
| 10,460.4       | 90.40       | 270.17  | 5,037.2        | 30.4  | -5,695.8 | 0.00        | 0.00       | 0.00      | 89.55   | Lybrook L29-2307 02I |

# Cathedral Energy Services

## Planning Report

|           |                             |                              |                            |
|-----------|-----------------------------|------------------------------|----------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H  |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | KB @ 6892.0ft (Unassigned) |
| Project:  | Sandoval County, NM         | MD Reference:                | KB @ 6892.0ft (Unassigned) |
| Site:     | S29-T23N-R7W                | North Reference:             | True                       |
| Well:     | Lybrook L29-2307 02H        | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Hz                          |                              |                            |
| Design:   | Plan #3                     |                              |                            |

| Planned Survey      |                 |             |                     |           |           |                       |                       |                      |                       |
|---------------------|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 100.0               | 0.00            | 0.00        | 100.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 200.0               | 0.00            | 0.00        | 200.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 300.0               | 0.00            | 0.00        | 300.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 400.0               | 0.00            | 0.00        | 400.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 500.0               | 0.00            | 0.00        | 500.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | 9 5/8"                |
| 600.0               | 0.00            | 0.00        | 600.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 700.0               | 0.00            | 0.00        | 700.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 800.0               | 0.00            | 0.00        | 800.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 887.0               | 0.00            | 0.00        | 887.0               | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Ojo Alamo             |
| 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                 |                       |
| 1,097.0             | 0.00            | 0.00        | 1,097.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Kirtland Shale        |
| 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                 |                       |
| 1,365.0             | 0.00            | 0.00        | 1,365.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Fruitland Coal        |
| 1,400.0             | 0.00            | 0.00        | 1,400.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 1,483.0             | 0.00            | 0.00        | 1,483.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Pictured Cliffs 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                 |                       |
| 1,605.0             | 0.00            | 0.00        | 1,605.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Lewis 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                 |                       |
| 1,900.0             | 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                 |                       |
| 2,100.0             | 0.00            | 0.00        | 2,100.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 2,200.0             | 0.00            | 0.00        | 2,200.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 |                       |
| 2,299.0             | 0.00            | 0.00        | 2,299.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Cliffhouse Ss.        |
| 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                 |                       |
| 2,900.0             | 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                 |                       |
| 3,007.0             | 0.00            | 0.00        | 3,007.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Menefee Fn.           |
| 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                 |                       |
| 3,600.0             | 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                 |                       |
| 3,841.0             | 0.00            | 0.00        | 3,841.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Point Lookout Ss.     |
| 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                 |                       |
| 4,045.0             | 0.00            | 0.00        | 4,045.0             | 0.0       | 0.0       | 0.0                   | 0.00                  | 0.00                 | Mancos Shale          |
| 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                 |                       |

# Cathedral Energy Services

## Planning Report

|           |                             |                              |                            |
|-----------|-----------------------------|------------------------------|----------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H  |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | KB @ 6892.0ft (Unassigned) |
| Project:  | Sandoval County, NM         | MD Reference:                | KB @ 6892.0ft (Unassigned) |
| Site:     | S29-T23N-R7W                | North Reference:             | True                       |
| Well:     | Lybrook L29-2307-02H        | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Hz                          |                              |                            |
| Design:   | Plan #3                     |                              |                            |

| 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      |
| 4,240.0             | 0.00            | 0.00        | 4,240.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | KOP @ 4240'                |
| 4,293.5             | 4.28            | 75.73       | 4,293.4             | 0.5        | 1.9        | -1.9                  | 8.00                  | 8.00                 | Start build/turn @4539' MD |
| 4,300.0             | 3.78            | 73.79       | 4,299.9             | 0.6        | 2.4        | -2.4                  | 7.89                  | -7.61                |                            |
| 4,400.0             | 4.39            | 284.20      | 4,399.8             | 2.5        | 1.8        | -1.8                  | 7.89                  | 0.61                 |                            |
| 4,500.0             | 12.20           | 275.10      | 4,498.7             | 4.4        | -12.4      | 12.4                  | 7.89                  | 7.80                 |                            |
| 4,569.4             | 17.66           | 273.51      | 4,565.8             | 5.7        | -30.3      | 30.3                  | 7.89                  | 7.87                 | Mancos Silt                |
| 4,600.0             | 20.07           | 273.07      | 4,594.7             | 6.2        | -40.1      | 40.1                  | 7.89                  | 7.88                 |                            |
| 4,700.0             | 27.95           | 272.16      | 4,686.0             | 8.0        | -80.7      | 80.7                  | 7.89                  | 7.88                 |                            |
| 4,800.0             | 35.83           | 271.63      | 4,770.8             | 9.7        | -133.5     | 133.5                 | 7.89                  | 7.89                 |                            |
| 4,867.7             | 41.17           | 271.37      | 4,823.8             | 10.8       | -175.6     | 175.6                 | 7.89                  | 7.89                 | Gallup Fn.                 |
| 4,900.0             | 43.72           | 271.27      | 4,847.6             | 11.3       | -197.4     | 197.4                 | 7.89                  | 7.89                 |                            |
| 5,000.0             | 51.61           | 271.00      | 4,914.9             | 12.8       | -271.2     | 271.3                 | 7.89                  | 7.89                 |                            |
| 5,043.0             | 55.00           | 270.90      | 4,940.6             | 13.4       | -305.7     | 305.7                 | 7.89                  | 7.89                 | ICP @ 55°                  |
| 5,100.0             | 59.50           | 270.78      | 4,971.4             | 14.1       | -353.6     | 353.7                 | 7.89                  | 7.89                 |                            |
| 5,200.0             | 67.38           | 270.60      | 5,016.1             | 15.1       | -443.0     | 443.0                 | 7.89                  | 7.89                 |                            |
| 5,300.0             | 75.27           | 270.43      | 5,048.1             | 16.0       | -537.7     | 537.7                 | 7.89                  | 7.89                 |                            |
| 5,400.0             | 83.16           | 270.28      | 5,066.8             | 16.6       | -635.8     | 635.9                 | 7.89                  | 7.89                 |                            |
| 5,487.2             | 90.04           | 270.15      | 5,072.0             | 16.9       | -722.8     | 722.9                 | 7.89                  | 7.89                 | Horizontal Target          |
| 5,491.7             | 90.40           | 270.14      | 5,071.9             | 16.9       | -727.4     | 727.4                 | 7.89                  | 7.89                 | LP @ 5491' TVD; 90.4°      |
| 5,500.0             | 90.40           | 270.14      | 5,071.9             | 16.9       | -735.6     | 735.7                 | 0.00                  | 0.00                 |                            |
| 5,600.0             | 90.40           | 270.14      | 5,071.2             | 17.2       | -835.6     | 835.7                 | 0.00                  | 0.00                 |                            |
| 5,700.0             | 90.40           | 270.14      | 5,070.5             | 17.4       | -935.6     | 935.6                 | 0.00                  | 0.00                 |                            |
| 5,800.0             | 90.40           | 270.14      | 5,069.8             | 17.7       | -1,035.6   | 1,035.6               | 0.00                  | 0.00                 |                            |
| 5,870.7             | 90.40           | 270.14      | 5,069.3             | 17.9       | -1,106.4   | 1,106.4               | 0.00                  | 0.00                 | POE @ 5870' MD             |
| 5,900.0             | 90.40           | 270.14      | 5,069.1             | 17.9       | -1,135.6   | 1,135.6               | 0.00                  | 0.00                 |                            |
| 6,000.0             | 90.40           | 270.14      | 5,068.4             | 18.2       | -1,235.6   | 1,235.6               | 0.00                  | 0.00                 |                            |
| 6,100.0             | 90.40           | 270.14      | 5,067.7             | 18.4       | -1,335.6   | 1,335.6               | 0.00                  | 0.00                 |                            |
| 6,200.0             | 90.40           | 270.14      | 5,067.0             | 18.7       | -1,435.6   | 1,435.6               | 0.00                  | 0.00                 |                            |
| 6,300.0             | 90.40           | 270.15      | 5,066.3             | 18.9       | -1,535.6   | 1,535.6               | 0.00                  | 0.00                 |                            |
| 6,400.0             | 90.40           | 270.15      | 5,065.6             | 19.2       | -1,635.6   | 1,635.6               | 0.00                  | 0.00                 |                            |
| 6,500.0             | 90.40           | 270.15      | 5,064.9             | 19.5       | -1,735.6   | 1,735.6               | 0.00                  | 0.00                 |                            |
| 6,600.0             | 90.40           | 270.15      | 5,064.2             | 19.7       | -1,835.6   | 1,835.6               | 0.00                  | 0.00                 |                            |
| 6,700.0             | 90.40           | 270.15      | 5,063.5             | 20.0       | -1,935.6   | 1,935.6               | 0.00                  | 0.00                 |                            |
| 6,800.0             | 90.40           | 270.15      | 5,062.8             | 20.2       | -2,035.6   | 2,035.6               | 0.00                  | 0.00                 |                            |
| 6,900.0             | 90.40           | 270.15      | 5,062.1             | 20.5       | -2,135.6   | 2,135.6               | 0.00                  | 0.00                 |                            |
| 7,000.0             | 90.40           | 270.15      | 5,061.4             | 20.7       | -2,235.6   | 2,235.6               | 0.00                  | 0.00                 |                            |
| 7,100.0             | 90.40           | 270.15      | 5,060.7             | 21.0       | -2,335.6   | 2,335.6               | 0.00                  | 0.00                 |                            |
| 7,200.0             | 90.40           | 270.15      | 5,060.0             | 21.3       | -2,435.6   | 2,435.6               | 0.00                  | 0.00                 |                            |
| 7,300.0             | 90.40           | 270.15      | 5,059.3             | 21.5       | -2,535.6   | 2,535.6               | 0.00                  | 0.00                 |                            |
| 7,400.0             | 90.40           | 270.15      | 5,058.6             | 21.8       | -2,635.6   | 2,635.6               | 0.00                  | 0.00                 |                            |
| 7,500.0             | 90.40           | 270.15      | 5,057.9             | 22.1       | -2,735.6   | 2,735.6               | 0.00                  | 0.00                 |                            |
| 7,600.0             | 90.40           | 270.15      | 5,057.2             | 22.3       | -2,835.6   | 2,835.6               | 0.00                  | 0.00                 |                            |
| 7,700.0             | 90.40           | 270.15      | 5,056.5             | 22.6       | -2,935.6   | 2,935.6               | 0.00                  | 0.00                 |                            |
| 7,800.0             | 90.40           | 270.15      | 5,055.8             | 22.9       | -3,035.6   | 3,035.6               | 0.00                  | 0.00                 |                            |
| 7,900.0             | 90.40           | 270.16      | 5,055.1             | 23.1       | -3,135.5   | 3,135.6               | 0.00                  | 0.00                 |                            |
| 8,000.0             | 90.40           | 270.16      | 5,054.4             | 23.4       | -3,235.5   | 3,235.6               | 0.00                  | 0.00                 |                            |
| 8,100.0             | 90.40           | 270.16      | 5,053.7             | 23.7       | -3,335.5   | 3,335.6               | 0.00                  | 0.00                 |                            |
| 8,200.0             | 90.40           | 270.16      | 5,053.0             | 24.0       | -3,435.5   | 3,435.6               | 0.00                  | 0.00                 |                            |
| 8,300.0             | 90.40           | 270.16      | 5,052.3             | 24.2       | -3,535.5   | 3,535.6               | 0.00                  | 0.00                 |                            |
| 8,400.0             | 90.40           | 270.16      | 5,051.6             | 24.5       | -3,635.5   | 3,635.6               | 0.00                  | 0.00                 |                            |
| 8,500.0             | 90.40           | 270.16      | 5,050.9             | 24.8       | -3,735.5   | 3,735.6               | 0.00                  | 0.00                 |                            |
| 8,600.0             | 90.40           | 270.16      | 5,050.2             | 25.1       | -3,835.5   | 3,835.6               | 0.00                  | 0.00                 |                            |

# Cathedral Energy Services

## Planning Report

|           |                             |                              |                            |
|-----------|-----------------------------|------------------------------|----------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H  |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | KB @ 6892.0ft (Unassigned) |
| Project:  | Sandoval County, NM         | MD Reference:                | KB @ 6892.0ft (Unassigned) |
| Site:     | S29-T23N-R7W                | North Reference:             | True                       |
| Well:     | Lybrook L29-2307 02H        | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Hz                          |                              |                            |
| Design:   | Plan #3                     |                              |                            |

| 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 |
| 8,700.0             | 90.40           | 270.16      | 5,049.5             | 25.3       | -3,935.5   | 3,935.6               | 0.00                  | 0.00                 |                       |
| 8,800.0             | 90.40           | 270.16      | 5,048.8             | 25.6       | -4,035.5   | 4,035.6               | 0.00                  | 0.00                 |                       |
| 8,900.0             | 90.40           | 270.16      | 5,048.1             | 25.9       | -4,135.5   | 4,135.6               | 0.00                  | 0.00                 |                       |
| 9,000.0             | 90.40           | 270.16      | 5,047.4             | 26.2       | -4,235.5   | 4,235.6               | 0.00                  | 0.00                 |                       |
| 9,100.0             | 90.40           | 270.16      | 5,046.7             | 26.5       | -4,335.5   | 4,335.6               | 0.00                  | 0.00                 |                       |
| 9,200.0             | 90.40           | 270.16      | 5,046.0             | 26.7       | -4,435.5   | 4,435.6               | 0.00                  | 0.00                 |                       |
| 9,300.0             | 90.40           | 270.16      | 5,045.3             | 27.0       | -4,535.5   | 4,535.6               | 0.00                  | 0.00                 |                       |
| 9,400.0             | 90.40           | 270.16      | 5,044.6             | 27.3       | -4,635.5   | 4,635.6               | 0.00                  | 0.00                 |                       |
| 9,500.0             | 90.40           | 270.16      | 5,043.9             | 27.6       | -4,735.5   | 4,735.6               | 0.00                  | 0.00                 |                       |
| 9,600.0             | 90.40           | 270.17      | 5,043.2             | 27.9       | -4,835.5   | 4,835.6               | 0.00                  | 0.00                 |                       |
| 9,700.0             | 90.40           | 270.17      | 5,042.6             | 28.2       | -4,935.5   | 4,935.6               | 0.00                  | 0.00                 |                       |
| 9,800.0             | 90.40           | 270.17      | 5,041.9             | 28.5       | -5,035.5   | 5,035.5               | 0.00                  | 0.00                 |                       |
| 9,900.0             | 90.40           | 270.17      | 5,041.2             | 28.8       | -5,135.5   | 5,135.5               | 0.00                  | 0.00                 |                       |
| 10,000.0            | 90.40           | 270.17      | 5,040.5             | 29.1       | -5,235.5   | 5,235.5               | 0.00                  | 0.00                 |                       |
| 10,100.0            | 90.40           | 270.17      | 5,039.8             | 29.4       | -5,335.5   | 5,335.5               | 0.00                  | 0.00                 |                       |
| 10,200.0            | 90.40           | 270.17      | 5,039.1             | 29.6       | -5,435.5   | 5,435.5               | 0.00                  | 0.00                 |                       |
| 10,300.0            | 90.40           | 270.17      | 5,038.4             | 29.9       | -5,535.5   | 5,535.5               | 0.00                  | 0.00                 |                       |
| 10,400.0            | 90.40           | 270.17      | 5,037.7             | 30.2       | -5,635.5   | 5,635.5               | 0.00                  | 0.00                 |                       |
| 10,460.4            | 90.40           | 270.17      | 5,037.2             | 30.4       | -5,695.8   | 5,695.9               | 0.00                  | 0.00                 | TD at 10460.4         |

| 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 L29-2307 02H F    | 0.00          | 0.00         | 5,069.3  | 17.9       | -1,106.4   | 1,893,183.73  | 1,239,830.24 | 36.195360 | -107.607654 |
| - plan hits target center |               |              |          |            |            |               |              |           |             |
| - Point                   |               |              |          |            |            |               |              |           |             |
| Lybrook L29-2307 02H F    | 0.00          | 0.00         | 5,037.2  | 30.4       | -5,695.8   | 1,893,260.34  | 1,235,241.37 | 36.195393 | -107.623206 |
| - plan hits target center |               |              |          |            |            |               |              |           |             |
| - Point                   |               |              |          |            |            |               |              |           |             |

|         |         |           |       |       |
|---------|---------|-----------|-------|-------|
| 500.0   | 500.0   | 9 5/8"    | 0.000 | 0.000 |
| 5,043.0 | 4,940.6 | ICP @ 55° | 0.000 | 0.000 |

# Cathedral Energy Services

## Planning Report

|           |                             |                              |                            |
|-----------|-----------------------------|------------------------------|----------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H  |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | KB @ 6892.0ft (Unassigned) |
| Project:  | Sandoval County, NM         | MD Reference:                | KB @ 6892.0ft (Unassigned) |
| Site:     | S29-T23N-R7W                | North Reference:             | True                       |
| Well:     | Lybrook L29-2307 02H        | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Hz                          |                              |                            |
| Design:   | Plan #3                     |                              |                            |

| Formations          |                     |                     |           |         |                   |
|---------------------|---------------------|---------------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name                | Lithology | Dip (°) | Dip Direction (°) |
| 887.0               | 887.0               | Ojo Alamo           |           | -0.40   | 270.14            |
| 1,097.0             | 1,097.0             | Kirtland Shale      |           | -0.40   | 270.14            |
| 1,365.0             | 1,365.0             | Fruitland Coal      |           | -0.40   | 270.14            |
| 1,483.0             | 1,483.0             | Pictured Cliffs Ss. |           | -0.40   | 270.14            |
| 1,605.0             | 1,605.0             | Lewis Shale         |           | -0.40   | 270.14            |
| 2,299.0             | 2,299.0             | Cliffhouse Ss.      |           | -0.40   | 270.14            |
| 3,007.0             | 3,007.0             | Menefee Fn.         |           | -0.40   | 270.14            |
| 3,841.0             | 3,841.0             | Point Lookout Ss.   |           | -0.40   | 270.14            |
| 4,045.0             | 4,045.0             | Mancos Shale        |           | -0.40   | 270.14            |
| 4,569.4             | 4,566.0             | Mancos Silt         |           | -0.40   | 270.14            |
| 4,867.7             | 4,825.0             | Gallup Fn.          |           | -0.40   | 270.14            |
| 5,487.2             | 5,077.0             | Horizontal Target   |           | -0.40   | 270.14            |

| Plan Annotations    |                     |                   |            |                            |  |
|---------------------|---------------------|-------------------|------------|----------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |                            |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment                    |  |
| 4,240.0             | 4,240.0             | 0.0               | 0.0        | KOP @ 4240'                |  |
| 4,293.5             | 4,293.4             | 0.5               | 1.9        | Start build/turn @4539' MD |  |
| 5,491.7             | 5,071.9             | 16.9              | -727.4     | LP @ 5491' TVD; 90.4°      |  |
| 5,870.7             | 5,069.3             | 17.9              | -1,106.4   | POE @ 5870' MD             |  |
| 10,460.4            | 5,037.2             | 30.4              | -5,695.8   | TD at 10460.4              |  |

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

**Sandoval County, NM**

**S29-T23N-R7W**

**Lybrook L29-2307 02H**

**Hz**

**Plan #3**

## **Anticollision Report**

**17 November, 2014**

# Cathedral Energy Services

## Anticollision Report

|                    |                            |                              |                             |
|--------------------|----------------------------|------------------------------|-----------------------------|
| Company:           | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:           | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:    | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:        | 0.0ft                      | North Reference:             | True                        |
| Reference Well:    | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:        | 0.0ft                      | Output errors are at         | 2.00 sigma                  |
| Reference Wellbore | HZ                         | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:  | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

|                              |                                                                     |                |                     |
|------------------------------|---------------------------------------------------------------------|----------------|---------------------|
| Reference                    | Plan #3                                                             |                |                     |
| Filter type:                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |                |                     |
| Interpolation Method:        | MD Interval 100.0ft                                                 | Error Model:   | Systematic Ellipse  |
| Depth Range:                 | Unlimited                                                           | Scan Method:   | Closest Approach 3D |
| Results Limited by:          | Maximum center-center distance of 1,246.1ft                         | Error Surface: | Elliptical Conic    |
| Warning Levels Evaluated at: | 2.00 Sigma                                                          |                |                     |

|                     |          |                   |
|---------------------|----------|-------------------|
| Survey Tool Program | Date     | 11/17/2014        |
| From (ft)           | To (ft)  | Survey (Wellbore) |
| 0.0                 | 10,460.4 | Plan #3 (Hz)      |
|                     |          | Tool Name         |
|                     |          | Geolink MWD       |
|                     |          | Description       |
|                     |          | Geolink MWD       |

| Summary                             |                               |                            |                               |                                |                   |            |
|-------------------------------------|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|------------|
| Site Name                           | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning    |
| Offset Well - Wellbore - Design     |                               |                            |                               |                                |                   |            |
| S29-T23N-R7W                        |                               |                            |                               |                                |                   |            |
| Lybrook L29-2307 01H - Hz - Plan #3 | 2,900.0                       | 2,900.0                    | 20.0                          | 9.9                            | 1.986             | CC, ES, SF |
| Lybrook L29-2307 03H - Hz - Plan #3 | 2,800.0                       | 2,800.0                    | 20.1                          | 10.4                           | 2.069             | CC, ES, SF |
| Lybrook L29-2307 04H - HZ - Plan #1 | 2,100.0                       | 2,100.0                    | 40.1                          | 32.8                           | 5.514             | CC, ES     |
| Lybrook L29-2307 04H - HZ - Plan #1 | 2,200.0                       | 2,198.6                    | 41.8                          | 34.2                           | 5.486             | SF         |

# Cathedral Energy Services

## Anticollision Report

|                     |                            |                              |                             |
|---------------------|----------------------------|------------------------------|-----------------------------|
| Company:            | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:            | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:     | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:         | 0.0ft                      | North Reference:             | True                        |
| Reference Well:     | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:         | 0.0ft                      | Output errors are at         | 2:00 sigma                  |
| Reference Wellbore: | HZ                         | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:   | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

| Offset Design S29-T23N-R7W - Lybrook L29-2307 01H - HZ - Plan #3 |                     |                     |                     |           |        |                      |                                   |            |                      |                       |                        |                   |         | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------|--------|----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 0-Geolink MWD                                    |                     |                     |                     |           |        |                      |                                   |            |                      |                       |                        |                   |         | Offset Well Error: | 0.0 ft |
| Measured Depth (ft)                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Highside Tooface (") | 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    | -21.67               | 18.6                              | -7.4       | 20.0                 |                       |                        |                   |         |                    |        |
| 100.0                                                            | 100.0               | 100.0               | 100.0               | 0.1       | 0.1    | -21.67               | 18.6                              | -7.4       | 20.0                 | 19.7                  | 0.29                   | 69.803            |         |                    |        |
| 200.0                                                            | 200.0               | 200.0               | 200.0               | 0.3       | 0.3    | -21.67               | 18.6                              | -7.4       | 20.0                 | 19.3                  | 0.64                   | 31.450            |         |                    |        |
| 300.0                                                            | 300.0               | 300.0               | 300.0               | 0.5       | 0.5    | -21.67               | 18.6                              | -7.4       | 20.0                 | 19.0                  | 0.98                   | 20.297            |         |                    |        |
| 400.0                                                            | 400.0               | 400.0               | 400.0               | 0.7       | 0.7    | -21.67               | 18.6                              | -7.4       | 20.0                 | 18.6                  | 1.33                   | 14.984            |         |                    |        |
| 500.0                                                            | 500.0               | 500.0               | 500.0               | 0.8       | 0.8    | -21.67               | 18.6                              | -7.4       | 20.0                 | 18.3                  | 1.68                   | 11.875            |         |                    |        |
| 600.0                                                            | 600.0               | 600.0               | 600.0               | 1.0       | 1.0    | -21.67               | 18.6                              | -7.4       | 20.0                 | 17.9                  | 2.03                   | 9.835             |         |                    |        |
| 700.0                                                            | 700.0               | 700.0               | 700.0               | 1.2       | 1.2    | -21.67               | 18.6                              | -7.4       | 20.0                 | 17.6                  | 2.38                   | 8.393             |         |                    |        |
| 800.0                                                            | 800.0               | 800.0               | 800.0               | 1.4       | 1.4    | -21.67               | 18.6                              | -7.4       | 20.0                 | 17.3                  | 2.73                   | 7.320             |         |                    |        |
| 900.0                                                            | 900.0               | 900.0               | 900.0               | 1.5       | 1.5    | -21.67               | 18.6                              | -7.4       | 20.0                 | 16.9                  | 3.08                   | 6.490             |         |                    |        |
| 1,000.0                                                          | 1,000.0             | 1,000.0             | 1,000.0             | 1.7       | 1.7    | -21.67               | 18.6                              | -7.4       | 20.0                 | 16.6                  | 3.43                   | 5.829             |         |                    |        |
| 1,100.0                                                          | 1,100.0             | 1,100.0             | 1,100.0             | 1.9       | 1.9    | -21.67               | 18.6                              | -7.4       | 20.0                 | 16.2                  | 3.78                   | 5.290             |         |                    |        |
| 1,200.0                                                          | 1,200.0             | 1,200.0             | 1,200.0             | 2.1       | 2.1    | -21.67               | 18.6                              | -7.4       | 20.0                 | 15.9                  | 4.13                   | 4.843             |         |                    |        |
| 1,300.0                                                          | 1,300.0             | 1,300.0             | 1,300.0             | 2.2       | 2.2    | -21.67               | 18.6                              | -7.4       | 20.0                 | 15.5                  | 4.48                   | 4.465             |         |                    |        |
| 1,400.0                                                          | 1,400.0             | 1,400.0             | 1,400.0             | 2.4       | 2.4    | -21.67               | 18.6                              | -7.4       | 20.0                 | 15.2                  | 4.82                   | 4.142             |         |                    |        |
| 1,500.0                                                          | 1,500.0             | 1,500.0             | 1,500.0             | 2.6       | 2.6    | -21.67               | 18.6                              | -7.4       | 20.0                 | 14.8                  | 5.17                   | 3.862             |         |                    |        |
| 1,600.0                                                          | 1,600.0             | 1,600.0             | 1,600.0             | 2.8       | 2.8    | -21.67               | 18.6                              | -7.4       | 20.0                 | 14.5                  | 5.52                   | 3.618             |         |                    |        |
| 1,700.0                                                          | 1,700.0             | 1,700.0             | 1,700.0             | 2.9       | 2.9    | -21.67               | 18.6                              | -7.4       | 20.0                 | 14.1                  | 5.87                   | 3.403             |         |                    |        |
| 1,800.0                                                          | 1,800.0             | 1,800.0             | 1,800.0             | 3.1       | 3.1    | -21.67               | 18.6                              | -7.4       | 20.0                 | 13.8                  | 6.22                   | 3.212             |         |                    |        |
| 1,900.0                                                          | 1,900.0             | 1,900.0             | 1,900.0             | 3.3       | 3.3    | -21.67               | 18.6                              | -7.4       | 20.0                 | 13.4                  | 6.57                   | 3.041             |         |                    |        |
| 2,000.0                                                          | 2,000.0             | 2,000.0             | 2,000.0             | 3.5       | 3.5    | -21.67               | 18.6                              | -7.4       | 20.0                 | 13.1                  | 6.92                   | 2.888             |         |                    |        |
| 2,100.0                                                          | 2,100.0             | 2,100.0             | 2,100.0             | 3.6       | 3.6    | -21.67               | 18.6                              | -7.4       | 20.0                 | 12.7                  | 7.27                   | 2.749             |         |                    |        |
| 2,200.0                                                          | 2,200.0             | 2,200.0             | 2,200.0             | 3.8       | 3.8    | -21.67               | 18.6                              | -7.4       | 20.0                 | 12.4                  | 7.62                   | 2.623             |         |                    |        |
| 2,300.0                                                          | 2,300.0             | 2,300.0             | 2,300.0             | 4.0       | 4.0    | -21.67               | 18.6                              | -7.4       | 20.0                 | 12.0                  | 7.97                   | 2.508             |         |                    |        |
| 2,400.0                                                          | 2,400.0             | 2,400.0             | 2,400.0             | 4.2       | 4.2    | -21.67               | 18.6                              | -7.4       | 20.0                 | 11.7                  | 8.31                   | 2.403             |         |                    |        |
| 2,500.0                                                          | 2,500.0             | 2,500.0             | 2,500.0             | 4.3       | 4.3    | -21.67               | 18.6                              | -7.4       | 20.0                 | 11.3                  | 8.66                   | 2.306             |         |                    |        |
| 2,600.0                                                          | 2,600.0             | 2,600.0             | 2,600.0             | 4.5       | 4.5    | -21.67               | 18.6                              | -7.4       | 20.0                 | 11.0                  | 9.01                   | 2.217             |         |                    |        |
| 2,700.0                                                          | 2,700.0             | 2,700.0             | 2,700.0             | 4.7       | 4.7    | -21.67               | 18.6                              | -7.4       | 20.0                 | 10.6                  | 9.36                   | 2.134             |         |                    |        |
| 2,800.0                                                          | 2,800.0             | 2,800.0             | 2,800.0             | 4.9       | 4.9    | -21.67               | 18.6                              | -7.4       | 20.0                 | 10.3                  | 9.71                   | 2.057             |         |                    |        |
| 2,900.0                                                          | 2,900.0             | 2,900.0             | 2,900.0             | 5.0       | 5.0    | -21.67               | 18.6                              | -7.4       | 20.0                 | 9.9                   | 10.06                  | 1.986 CC, ES, SF  |         |                    |        |
| 3,000.0                                                          | 3,000.0             | 2,999.0             | 2,998.9             | 5.2       | 5.2    | -24.36               | 20.4                              | -9.2       | 22.4                 | 12.0                  | 10.41                  | 2.149             |         |                    |        |
| 3,100.0                                                          | 3,100.0             | 3,097.4             | 3,097.1             | 5.4       | 5.4    | -29.79               | 25.7                              | -14.7      | 29.7                 | 19.0                  | 10.76                  | 2.763             |         |                    |        |
| 3,200.0                                                          | 3,200.0             | 3,194.8             | 3,193.6             | 5.6       | 5.6    | -34.55               | 34.4                              | -23.7      | 42.2                 | 31.1                  | 11.12                  | 3.798             |         |                    |        |
| 3,300.0                                                          | 3,300.0             | 3,290.7             | 3,288.0             | 5.7       | 5.8    | -37.83               | 46.3                              | -35.9      | 59.8                 | 48.3                  | 11.50                  | 5.205             |         |                    |        |
| 3,400.0                                                          | 3,400.0             | 3,384.6             | 3,379.4             | 5.9       | 6.0    | -39.97               | 61.2                              | -51.3      | 82.4                 | 70.5                  | 11.90                  | 6.924             |         |                    |        |
| 3,500.0                                                          | 3,500.0             | 3,478.2             | 3,467.5             | 6.1       | 6.3    | -41.37               | 78.6                              | -69.3      | 109.7                | 97.4                  | 12.34                  | 8.890             |         |                    |        |
| 3,600.0                                                          | 3,600.0             | 3,565.1             | 3,551.8             | 6.3       | 6.6    | -42.33               | 98.4                              | -89.6      | 141.6                | 128.8                 | 12.83                  | 11.039            |         |                    |        |
| 3,700.0                                                          | 3,700.0             | 3,651.2             | 3,631.9             | 6.4       | 7.0    | -43.00               | 120.1                             | -112.0     | 177.8                | 164.4                 | 13.35                  | 13.313            |         |                    |        |
| 3,800.0                                                          | 3,800.0             | 3,734.1             | 3,707.8             | 6.6       | 7.4    | -43.48               | 143.4                             | -136.0     | 218.1                | 204.2                 | 13.93                  | 15.659            |         |                    |        |
| 3,900.0                                                          | 3,900.0             | 3,813.8             | 3,779.3             | 6.8       | 7.9    | -43.84               | 167.9                             | -161.3     | 282.3                | 247.7                 | 14.54                  | 18.037            |         |                    |        |
| 4,000.0                                                          | 4,000.0             | 3,890.6             | 3,846.8             | 6.9       | 8.4    | -44.11               | 193.5                             | -187.6     | 310.0                | 294.9                 | 15.19                  | 20.408            |         |                    |        |
| 4,100.0                                                          | 4,100.0             | 3,977.8             | 3,922.4             | 7.1       | 9.0    | -44.35               | 223.5                             | -218.5     | 359.5                | 343.5                 | 15.95                  | 22.542            |         |                    |        |
| 4,200.0                                                          | 4,200.0             | 4,064.5             | 3,998.0             | 7.3       | 9.6    | -44.53               | 253.4                             | -249.3     | 408.9                | 392.1                 | 16.73                  | 24.445            |         |                    |        |
| 4,300.0                                                          | 4,299.9             | 4,150.7             | 4,072.9             | 7.5       | 10.3   | -116.79              | 283.1                             | -279.9     | 459.3                | 444.7                 | 14.67                  | 31.310            |         |                    |        |
| 4,400.0                                                          | 4,399.8             | 4,238.4             | 4,149.2             | 7.6       | 11.0   | 29.46                | 313.3                             | -311.0     | 507.2                | 492.2                 | 15.01                  | 33.788            |         |                    |        |
| 4,500.0                                                          | 4,498.7             | 4,330.1             | 4,228.8             | 7.8       | 11.7   | 37.14                | 344.8                             | -343.5     | 546.2                | 530.9                 | 15.28                  | 35.738            |         |                    |        |
| 4,600.0                                                          | 4,594.7             | 4,424.0             | 4,310.5             | 8.0       | 12.5   | 39.20                | 377.1                             | -376.8     | 576.0                | 560.5                 | 15.48                  | 37.209            |         |                    |        |
| 4,700.0                                                          | 4,686.0             | 4,518.4             | 4,392.5             | 8.4       | 13.3   | 41.35                | 409.6                             | -410.3     | 596.7                | 581.0                 | 15.67                  | 38.069            |         |                    |        |
| 4,800.0                                                          | 4,770.8             | 4,600.0             | 4,463.4             | 8.8       | 14.0   | 43.75                | 437.7                             | -439.4     | 609.3                | 593.3                 | 15.99                  | 38.109            |         |                    |        |
| 4,900.0                                                          | 4,847.6             | 4,666.4             | 4,519.4             | 9.5       | 14.6   | 45.90                | 459.9                             | -467.1     | 617.8                | 601.2                 | 16.57                  | 37.282            |         |                    |        |
| 5,000.0                                                          | 4,914.9             | 4,731.5             | 4,571.8             | 10.5      | 15.3   | 48.14                | 480.7                             | -499.6     | 623.6                | 605.9                 | 17.64                  | 35.343            |         |                    |        |
| 5,100.0                                                          | 4,971.4             | 4,800.0             | 4,623.8             | 11.8      | 16.1   | 50.68                | 501.4                             | -539.2     | 626.7                | 607.3                 | 19.42                  | 32.280            |         |                    |        |

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

# Cathedral Energy Services

## Anticollision Report

|                    |                             |                              |                             |
|--------------------|-----------------------------|------------------------------|-----------------------------|
| Company:           | EnCana Oil & Gas (USA) Inc. | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:           | Sandoval County, NM         | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:    | S29-T23N-R7W                | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:        | 0.0ft                       | North Reference:             | True                        |
| Reference Well:    | Lybrook L29-2307 02H        | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:        | 0.0ft                       | Output errors are at         | 2.00 sigma                  |
| Reference Wellbore | Hz                          | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:  | Plan #3                     | Offset TVD Reference:        | Offset Datum                |

| Offset Design S29-T23N-R7W - Lybrook L29-2307 01H - Hz - Plan #3 |                     |                     |                     |                |             |                      |                       |                                  |           |                      |                       |                        |                   | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|----------------------|-----------------------|----------------------------------|-----------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-Geolink MWD                                    |                     |                     |                     |                |             |                      |                       |                                  |           |                      |                       |                        |                   | Offset Well Error: | 0.0 ft |
| Measured Depth (ft)                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Semi Major Axis (ft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (ft) | +E-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | Warning            |        |
| 5,200.0                                                          | 5,016.1             | 4,867.4             | 4,671.2             | 13.4           | 17.0        | 53.39                |                       | 520.4                            | -583.2    | 627.6                | 605.6                 | 21.94                  | 28.608            |                    |        |
| 5,300.0                                                          | 5,048.1             | 4,939.0             | 4,717.1             | 15.3           | 18.0        | 56.48                |                       | 538.7                            | -634.9    | 626.3                | 601.1                 | 25.26                  | 24.794            |                    |        |
| 5,400.0                                                          | 5,066.8             | 5,013.7             | 4,759.6             | 17.3           | 19.2        | 59.92                |                       | 555.8                            | -693.8    | 623.3                | 594.0                 | 29.29                  | 21.281            |                    |        |
| 5,500.0                                                          | 5,071.9             | 5,092.0             | 4,797.8             | 19.5           | 20.5        | 63.70                |                       | 571.3                            | -760.4    | 618.9                | 585.1                 | 33.82                  | 18.299            |                    |        |
| 5,600.0                                                          | 5,071.2             | 5,177.8             | 4,831.5             | 21.8           | 22.0        | 67.12                |                       | 585.0                            | -838.0    | 616.4                | 578.2                 | 38.19                  | 16.137            |                    |        |
| 5,641.2                                                          | 5,070.9             | 5,215.9             | 4,843.7             | 22.7           | 22.8        | 68.36                |                       | 590.0                            | -873.8    | 616.2                | 576.1                 | 40.09                  | 15.372            |                    |        |
| 5,700.0                                                          | 5,070.5             | 5,272.8             | 4,858.5             | 24.1           | 23.9        | 69.88                |                       | 596.2                            | -928.3    | 616.4                | 573.6                 | 42.83                  | 14.392            |                    |        |
| 5,800.0                                                          | 5,069.8             | 5,374.7             | 4,874.8             | 26.4           | 25.9        | 71.59                |                       | 603.3                            | -1,028.5  | 617.2                | 569.7                 | 47.56                  | 12.977            |                    |        |
| 5,900.0                                                          | 5,069.1             | 5,478.4             | 4,878.1             | 28.7           | 28.1        | 71.99                |                       | 605.2                            | -1,132.2  | 617.6                | 565.4                 | 52.14                  | 11.843            |                    |        |
| 6,000.0                                                          | 5,068.4             | 5,578.4             | 4,877.4             | 31.1           | 30.2        | 71.99                |                       | 605.6                            | -1,232.2  | 617.7                | 561.1                 | 56.60                  | 10.913            |                    |        |
| 6,100.0                                                          | 5,067.7             | 5,678.4             | 4,876.7             | 33.5           | 32.4        | 71.99                |                       | 605.9                            | -1,332.2  | 617.7                | 558.7                 | 61.09                  | 10.112            |                    |        |
| 6,200.0                                                          | 5,067.0             | 5,778.4             | 4,876.0             | 35.9           | 34.6        | 72.00                |                       | 606.3                            | -1,432.2  | 617.8                | 552.2                 | 65.61                  | 9.416             |                    |        |
| 6,300.0                                                          | 5,066.3             | 5,878.4             | 4,875.3             | 38.3           | 38.9        | 72.00                |                       | 606.6                            | -1,532.2  | 617.9                | 547.8                 | 70.16                  | 8.807             |                    |        |
| 6,400.0                                                          | 5,065.6             | 5,978.4             | 4,874.6             | 40.7           | 39.2        | 72.00                |                       | 607.0                            | -1,632.2  | 618.0                | 543.3                 | 74.73                  | 8.270             |                    |        |
| 6,500.0                                                          | 5,064.9             | 6,078.4             | 4,873.9             | 43.1           | 41.5        | 72.00                |                       | 607.3                            | -1,732.2  | 618.1                | 538.8                 | 79.32                  | 7.793             |                    |        |
| 6,600.0                                                          | 5,064.2             | 6,178.4             | 4,873.2             | 45.6           | 43.8        | 72.01                |                       | 607.7                            | -1,832.2  | 618.2                | 534.3                 | 83.91                  | 7.367             |                    |        |
| 6,700.0                                                          | 5,063.5             | 6,278.4             | 4,872.5             | 48.0           | 46.1        | 72.01                |                       | 608.0                            | -1,932.2  | 618.3                | 529.8                 | 88.53                  | 6.984             |                    |        |
| 6,800.0                                                          | 5,062.8             | 6,378.4             | 4,871.8             | 50.4           | 48.5        | 72.01                |                       | 608.4                            | -2,032.2  | 618.4                | 525.2                 | 93.15                  | 6.639             |                    |        |
| 6,900.0                                                          | 5,062.1             | 6,478.4             | 4,871.1             | 52.9           | 50.8        | 72.02                |                       | 608.7                            | -2,132.2  | 618.5                | 520.7                 | 97.78                  | 6.325             |                    |        |
| 7,000.0                                                          | 5,061.4             | 6,578.4             | 4,870.5             | 55.3           | 53.2        | 72.02                |                       | 609.1                            | -2,232.2  | 618.6                | 516.2                 | 102.41                 | 6.040             |                    |        |
| 7,100.0                                                          | 5,060.7             | 6,678.4             | 4,869.8             | 57.8           | 55.6        | 72.02                |                       | 609.4                            | -2,332.2  | 618.7                | 511.6                 | 107.06                 | 5.779             |                    |        |
| 7,200.0                                                          | 5,060.0             | 6,778.4             | 4,869.1             | 60.2           | 58.0        | 72.02                |                       | 609.8                            | -2,432.2  | 618.7                | 507.0                 | 111.71                 | 5.539             |                    |        |
| 7,300.0                                                          | 5,059.3             | 6,878.4             | 4,868.4             | 62.7           | 60.4        | 72.03                |                       | 610.2                            | -2,532.2  | 618.8                | 502.5                 | 116.36                 | 5.318             |                    |        |
| 7,400.0                                                          | 5,058.6             | 6,978.4             | 4,867.7             | 65.1           | 62.8        | 72.03                |                       | 610.5                            | -2,632.2  | 618.9                | 497.9                 | 121.02                 | 5.114             |                    |        |
| 7,500.0                                                          | 5,057.9             | 7,078.4             | 4,867.0             | 67.6           | 65.2        | 72.03                |                       | 610.9                            | -2,732.1  | 619.0                | 493.3                 | 125.68                 | 4.925             |                    |        |
| 7,600.0                                                          | 5,057.2             | 7,178.4             | 4,866.3             | 70.0           | 67.6        | 72.03                |                       | 611.2                            | -2,832.1  | 619.1                | 488.7                 | 130.35                 | 4.749             |                    |        |
| 7,700.0                                                          | 5,056.5             | 7,278.4             | 4,865.6             | 72.5           | 70.0        | 72.04                |                       | 611.6                            | -2,932.1  | 619.2                | 484.1                 | 135.02                 | 4.586             |                    |        |
| 7,800.0                                                          | 5,055.8             | 7,378.4             | 4,864.9             | 74.9           | 72.5        | 72.04                |                       | 611.9                            | -3,032.1  | 619.2                | 479.5                 | 139.69                 | 4.433             |                    |        |
| 7,900.0                                                          | 5,055.1             | 7,478.4             | 4,864.2             | 77.4           | 74.9        | 72.04                |                       | 612.3                            | -3,132.1  | 619.3                | 474.9                 | 144.37                 | 4.290             |                    |        |
| 8,000.0                                                          | 5,054.4             | 7,578.4             | 4,863.5             | 79.8           | 77.3        | 72.04                |                       | 612.6                            | -3,232.1  | 619.4                | 470.3                 | 149.04                 | 4.156             |                    |        |
| 8,100.0                                                          | 5,053.7             | 7,678.4             | 4,862.8             | 82.3           | 79.8        | 72.05                |                       | 613.0                            | -3,332.1  | 619.5                | 465.7                 | 153.72                 | 4.030             |                    |        |
| 8,200.0                                                          | 5,053.0             | 7,778.4             | 4,862.1             | 84.8           | 82.2        | 72.05                |                       | 613.3                            | -3,432.1  | 619.5                | 461.1                 | 158.41                 | 3.911             |                    |        |
| 8,300.0                                                          | 5,052.3             | 7,878.4             | 4,861.4             | 87.2           | 84.6        | 72.05                |                       | 613.7                            | -3,532.1  | 619.6                | 456.5                 | 163.09                 | 3.799             |                    |        |
| 8,400.0                                                          | 5,051.6             | 7,978.4             | 4,860.7             | 89.7           | 87.1        | 72.05                |                       | 614.0                            | -3,632.1  | 619.7                | 451.9                 | 167.77                 | 3.694             |                    |        |
| 8,500.0                                                          | 5,050.9             | 8,078.4             | 4,860.0             | 92.2           | 89.5        | 72.06                |                       | 614.4                            | -3,732.1  | 619.8                | 447.3                 | 172.46                 | 3.594             |                    |        |
| 8,600.0                                                          | 5,050.2             | 8,178.4             | 4,859.3             | 94.6           | 92.0        | 72.06                |                       | 614.7                            | -3,832.1  | 619.8                | 442.7                 | 177.15                 | 3.499             |                    |        |
| 8,700.0                                                          | 5,049.5             | 8,278.4             | 4,858.6             | 97.1           | 94.4        | 72.06                |                       | 615.1                            | -3,932.1  | 619.9                | 438.1                 | 181.84                 | 3.409             |                    |        |
| 8,800.0                                                          | 5,048.8             | 8,378.4             | 4,857.9             | 99.6           | 96.8        | 72.06                |                       | 615.5                            | -4,032.1  | 620.0                | 433.4                 | 186.53                 | 3.324             |                    |        |
| 8,900.0                                                          | 5,048.1             | 8,478.4             | 4,857.2             | 102.0          | 99.3        | 72.06                |                       | 615.8                            | -4,132.1  | 620.0                | 428.8                 | 191.22                 | 3.243             |                    |        |
| 9,000.0                                                          | 5,047.4             | 8,578.4             | 4,856.5             | 104.5          | 101.7       | 72.07                |                       | 616.2                            | -4,232.1  | 620.1                | 424.2                 | 195.91                 | 3.165             |                    |        |
| 9,100.0                                                          | 5,046.7             | 8,678.4             | 4,855.8             | 106.9          | 104.2       | 72.07                |                       | 616.5                            | -4,332.1  | 620.2                | 419.6                 | 200.61                 | 3.092             |                    |        |
| 9,200.0                                                          | 5,046.0             | 8,778.4             | 4,855.1             | 109.4          | 106.6       | 72.07                |                       | 616.9                            | -4,432.1  | 620.2                | 414.9                 | 205.30                 | 3.021             |                    |        |
| 9,300.0                                                          | 5,045.3             | 8,878.4             | 4,854.4             | 111.9          | 109.1       | 72.07                |                       | 617.2                            | -4,532.1  | 620.3                | 410.3                 | 210.00                 | 2.954             |                    |        |
| 9,400.0                                                          | 5,044.6             | 8,978.4             | 4,853.7             | 114.3          | 111.6       | 72.07                |                       | 617.6                            | -4,632.1  | 620.4                | 405.7                 | 214.69                 | 2.890             |                    |        |
| 9,500.0                                                          | 5,043.9             | 9,078.4             | 4,853.0             | 116.8          | 114.0       | 72.08                |                       | 617.9                            | -4,732.1  | 620.4                | 401.0                 | 219.39                 | 2.828             |                    |        |
| 9,600.0                                                          | 5,043.2             | 9,178.4             | 4,852.3             | 119.3          | 116.5       | 72.08                |                       | 618.3                            | -4,832.1  | 620.5                | 396.4                 | 224.09                 | 2.769             |                    |        |
| 9,700.0                                                          | 5,042.6             | 9,278.4             | 4,851.6             | 121.8          | 118.9       | 72.08                |                       | 618.6                            | -4,932.1  | 620.6                | 391.8                 | 228.79                 | 2.712             |                    |        |
| 9,800.0                                                          | 5,041.9             | 9,378.4             | 4,850.9             | 124.2          | 121.4       | 72.08                |                       | 619.0                            | -5,032.1  | 620.6                | 387.1                 | 233.49                 | 2.658             |                    |        |
| 9,900.0                                                          | 5,041.2             | 9,478.4             | 4,850.2             | 126.7          | 123.8       | 72.08                |                       | 619.3                            | -5,132.1  | 620.7                | 382.5                 | 238.19                 | 2.606             |                    |        |
| 10,000.0                                                         | 5,040.5             | 9,578.4             | 4,849.5             | 129.2          | 126.3       | 72.09                |                       | 619.7                            | -5,232.1  | 620.7                | 377.8                 | 242.89                 | 2.556             |                    |        |
| 10,100.0                                                         | 5,039.8             | 9,678.4             | 4,848.8             | 131.6          | 128.8       | 72.09                |                       | 620.0                            | -5,332.1  | 620.8                | 373.2                 | 247.59                 | 2.507             |                    |        |
| 10,200.0                                                         | 5,039.1             | 9,778.4             | 4,848.1             | 134.1          | 131.2       | 72.09                |                       | 620.4                            | -5,432.1  | 620.8                | 368.6                 | 252.29                 | 2.461             |                    |        |

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

# Cathedral Energy Services

## Anticollision Report

|                    |                            |                              |                             |
|--------------------|----------------------------|------------------------------|-----------------------------|
| Company:           | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:           | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:    | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:        | 0.0ft                      | North Reference:             | True                        |
| Reference Well:    | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:        | 0.0ft                      | Output errors are at         | 2.00 sigma                  |
| Reference Wellbore | Hz                         | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:  | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

| Offset Design S29-T23N-R7W - Lybrook L29-2307 01H - Hz - Plan #3 |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                              |                      | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|---------------|----------------------------|-----------------------------|------------------------------|----------------------|--------------------|--------|
| Survey Program: 0-Geolink MWD                                    |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                              |                      | Offset Well Error: | 0.0 ft |
| Reference                                                        |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Offset Wellbore Centre |               | 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) |                             | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                              |                      |                    |        |
| 10,300.0                                                         | 5,038.4                   | 9,878.4                   | 4,847.4                   | 136.6             | 133.7          | 72.09                       | 620.7                  | -5,532.1      | 620.9                      | 363.9                       | 256.99                       | 2.416                |                    |        |
| 10,400.0                                                         | 5,037.7                   | 9,978.4                   | 4,846.7                   | 139.0             | 136.1          | 72.09                       | 621.1                  | -5,632.1      | 621.0                      | 359.3                       | 261.69                       | 2.373                |                    |        |
| 10,460.8                                                         | 5,037.2                   | 10,039.3                  | 4,846.3                   | 140.5             | 137.6          | 72.09                       | 621.3                  | -5,692.9      | 621.0                      | 356.4                       | 264.55                       | 2.347                |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                    |                            |                              |                             |
|--------------------|----------------------------|------------------------------|-----------------------------|
| Company:           | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:           | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:    | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:        | 0.0ft                      | North Reference:             | True                        |
| Reference Well:    | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:        | 0.0ft                      | Output errors are at         | 2.00 sigma                  |
| Reference Wellbore | Hz                         | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:  | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

| Offset Design S29-T23N-R7W - Lybrook L29-2307 03H - Hz - Plan #3 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                  |                  | Offset Site Error: |
|------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|------------------|--------------------|
| Survey Program: 0-Geolink MWD                                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                  |                  | Offset Well Error: |
| Reference                                                        | Offset              | Semi Major Axis     | Distance            | Total          | Separation  |                       |                                   |            |                      |                       |                  |                  |                    |
| 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           | Warning            |
| 0.0                                                              | 0.0                 | 0.0                 | 0.0                 | 0.0            | 0.0         | 157.55                | -18.6                             | 7.7        | 20.1                 |                       |                  |                  |                    |
| 100.0                                                            | 100.0               | 100.0               | 100.0               | 0.1            | 0.1         | 157.55                | -18.6                             | 7.7        | 20.1                 | 19.8                  | 0.29             | 70.191           |                    |
| 200.0                                                            | 200.0               | 200.0               | 200.0               | 0.3            | 0.3         | 157.55                | -18.6                             | 7.7        | 20.1                 | 19.5                  | 0.64             | 31.624           |                    |
| 300.0                                                            | 300.0               | 300.0               | 300.0               | 0.5            | 0.5         | 157.55                | -18.6                             | 7.7        | 20.1                 | 19.1                  | 0.98             | 20.410           |                    |
| 400.0                                                            | 400.0               | 400.0               | 400.0               | 0.7            | 0.7         | 157.55                | -18.6                             | 7.7        | 20.1                 | 18.8                  | 1.33             | 15.067           |                    |
| 500.0                                                            | 500.0               | 500.0               | 500.0               | 0.8            | 0.8         | 157.55                | -18.6                             | 7.7        | 20.1                 | 18.4                  | 1.68             | 11.941           |                    |
| 600.0                                                            | 600.0               | 600.0               | 600.0               | 1.0            | 1.0         | 157.55                | -18.6                             | 7.7        | 20.1                 | 18.1                  | 2.03             | 9.889            |                    |
| 700.0                                                            | 700.0               | 700.0               | 700.0               | 1.2            | 1.2         | 157.55                | -18.6                             | 7.7        | 20.1                 | 17.7                  | 2.38             | 8.439            |                    |
| 800.0                                                            | 800.0               | 800.0               | 800.0               | 1.4            | 1.4         | 157.55                | -18.6                             | 7.7        | 20.1                 | 17.4                  | 2.73             | 7.360            |                    |
| 900.0                                                            | 900.0               | 900.0               | 900.0               | 1.5            | 1.5         | 157.55                | -18.6                             | 7.7        | 20.1                 | 17.0                  | 3.08             | 6.526            |                    |
| 1,000.0                                                          | 1,000.0             | 1,000.0             | 1,000.0             | 1.7            | 1.7         | 157.55                | -18.6                             | 7.7        | 20.1                 | 16.7                  | 3.43             | 5.861            |                    |
| 1,100.0                                                          | 1,100.0             | 1,100.0             | 1,100.0             | 1.9            | 1.9         | 157.55                | -18.6                             | 7.7        | 20.1                 | 16.3                  | 3.78             | 5.319            |                    |
| 1,200.0                                                          | 1,200.0             | 1,200.0             | 1,200.0             | 2.1            | 2.1         | 157.55                | -18.6                             | 7.7        | 20.1                 | 16.0                  | 4.13             | 4.869            |                    |
| 1,300.0                                                          | 1,300.0             | 1,300.0             | 1,300.0             | 2.2            | 2.2         | 157.55                | -18.6                             | 7.7        | 20.1                 | 15.6                  | 4.48             | 4.490            |                    |
| 1,400.0                                                          | 1,400.0             | 1,400.0             | 1,400.0             | 2.4            | 2.4         | 157.55                | -18.6                             | 7.7        | 20.1                 | 15.3                  | 4.82             | 4.165            |                    |
| 1,500.0                                                          | 1,500.0             | 1,500.0             | 1,500.0             | 2.6            | 2.6         | 157.55                | -18.6                             | 7.7        | 20.1                 | 14.9                  | 5.17             | 3.884            |                    |
| 1,600.0                                                          | 1,600.0             | 1,600.0             | 1,600.0             | 2.8            | 2.8         | 157.55                | -18.6                             | 7.7        | 20.1                 | 14.6                  | 5.52             | 3.638            |                    |
| 1,700.0                                                          | 1,700.0             | 1,700.0             | 1,700.0             | 2.9            | 2.9         | 157.55                | -18.6                             | 7.7        | 20.1                 | 14.2                  | 5.87             | 3.422            |                    |
| 1,800.0                                                          | 1,800.0             | 1,800.0             | 1,800.0             | 3.1            | 3.1         | 157.55                | -18.6                             | 7.7        | 20.1                 | 13.9                  | 6.22             | 3.230            |                    |
| 1,900.0                                                          | 1,900.0             | 1,900.0             | 1,900.0             | 3.3            | 3.3         | 157.55                | -18.6                             | 7.7        | 20.1                 | 13.5                  | 6.57             | 3.058            |                    |
| 2,000.0                                                          | 2,000.0             | 2,000.0             | 2,000.0             | 3.5            | 3.5         | 157.55                | -18.6                             | 7.7        | 20.1                 | 13.2                  | 6.92             | 2.904            |                    |
| 2,100.0                                                          | 2,100.0             | 2,100.0             | 2,100.0             | 3.6            | 3.6         | 157.55                | -18.6                             | 7.7        | 20.1                 | 12.8                  | 7.27             | 2.764            |                    |
| 2,200.0                                                          | 2,200.0             | 2,200.0             | 2,200.0             | 3.8            | 3.8         | 157.55                | -18.6                             | 7.7        | 20.1                 | 12.5                  | 7.62             | 2.638            |                    |
| 2,300.0                                                          | 2,300.0             | 2,300.0             | 2,300.0             | 4.0            | 4.0         | 157.55                | -18.6                             | 7.7        | 20.1                 | 12.1                  | 7.97             | 2.522            |                    |
| 2,400.0                                                          | 2,400.0             | 2,400.0             | 2,400.0             | 4.2            | 4.2         | 157.55                | -18.6                             | 7.7        | 20.1                 | 11.8                  | 8.31             | 2.416            |                    |
| 2,500.0                                                          | 2,500.0             | 2,500.0             | 2,500.0             | 4.3            | 4.3         | 157.55                | -18.6                             | 7.7        | 20.1                 | 11.4                  | 8.66             | 2.319            |                    |
| 2,600.0                                                          | 2,600.0             | 2,600.0             | 2,600.0             | 4.5            | 4.5         | 157.55                | -18.6                             | 7.7        | 20.1                 | 11.1                  | 9.01             | 2.229            |                    |
| 2,700.0                                                          | 2,700.0             | 2,700.0             | 2,700.0             | 4.7            | 4.7         | 157.55                | -18.6                             | 7.7        | 20.1                 | 10.7                  | 9.36             | 2.146            |                    |
| 2,800.0                                                          | 2,800.0             | 2,800.0             | 2,800.0             | 4.9            | 4.9         | 157.55                | -18.6                             | 7.7        | 20.1                 | 10.4                  | 9.71             | 2.069 CC, ES, SF |                    |
| 2,900.0                                                          | 2,900.0             | 2,899.4             | 2,899.4             | 5.0            | 5.0         | 163.78                | -20.5                             | 6.0        | 21.4                 | 11.3                  | 10.06            | 2.125            |                    |
| 3,000.0                                                          | 3,000.0             | 2,998.4             | 2,998.0             | 5.2            | 5.2         | 178.04                | -26.3                             | 0.9        | 26.4                 | 16.0                  | 10.41            | 2.538            |                    |
| 3,100.0                                                          | 3,100.0             | 3,098.2             | 3,095.0             | 5.4            | 5.4         | -168.31               | -35.8                             | -7.4       | 36.9                 | 26.1                  | 10.78            | 3.426            |                    |
| 3,200.0                                                          | 3,200.0             | 3,192.5             | 3,189.8             | 5.6            | 5.6         | -158.96               | -48.8                             | -18.8      | 53.3                 | 42.1                  | 11.16            | 4.775            |                    |
| 3,300.0                                                          | 3,300.0             | 3,286.8             | 3,281.6             | 5.7            | 5.9         | -153.13               | -65.0                             | -32.9      | 75.2                 | 63.6                  | 11.58            | 6.491            |                    |
| 3,400.0                                                          | 3,400.0             | 3,378.8             | 3,370.0             | 5.9            | 6.1         | -149.46               | -84.1                             | -49.6      | 102.1                | 90.1                  | 12.04            | 8.485            |                    |
| 3,500.0                                                          | 3,500.0             | 3,468.1             | 3,454.5             | 6.1            | 6.5         | -147.06               | -105.6                            | -68.5      | 133.8                | 121.3                 | 12.54            | 10.675           |                    |
| 3,600.0                                                          | 3,600.0             | 3,554.4             | 3,535.0             | 6.3            | 6.8         | -145.42               | -129.3                            | -89.1      | 170.0                | 156.9                 | 13.08            | 12.993           |                    |
| 3,700.0                                                          | 3,700.0             | 3,637.6             | 3,611.0             | 6.4            | 7.3         | -144.26               | -154.6                            | -111.3     | 210.3                | 196.6                 | 13.67            | 15.381           |                    |
| 3,800.0                                                          | 3,800.0             | 3,717.6             | 3,682.7             | 6.6            | 7.7         | -143.41               | -181.3                            | -134.6     | 254.5                | 240.2                 | 14.30            | 17.797           |                    |
| 3,900.0                                                          | 3,900.0             | 3,800.0             | 3,754.9             | 6.8            | 8.3         | -142.73               | -211.2                            | -160.7     | 302.5                | 287.5                 | 15.01            | 20.157           |                    |
| 4,000.0                                                          | 4,000.0             | 3,874.1             | 3,818.6             | 6.9            | 8.8         | -142.24               | -239.7                            | -185.7     | 353.3                | 337.6                 | 15.70            | 22.506           |                    |
| 4,100.0                                                          | 4,100.0             | 3,959.9             | 3,892.2             | 7.1            | 9.5         | -141.81               | -272.9                            | -214.7     | 404.7                | 388.2                 | 16.50            | 24.524           |                    |
| 4,200.0                                                          | 4,200.0             | 4,045.7             | 3,965.8             | 7.3            | 10.2        | -141.47               | -306.1                            | -243.7     | 456.0                | 438.7                 | 17.32            | 26.322           |                    |
| 4,300.0                                                          | 4,299.9             | 4,130.3             | 4,038.4             | 7.5            | 10.9        | -143.80               | -338.9                            | -272.4     | 509.0                | 494.4                 | 18.02            | 28.024           |                    |
| 4,400.0                                                          | 4,399.8             | 4,215.5             | 4,111.5             | 7.6            | 11.6        | -62.93                | -371.8                            | -301.2     | 561.3                | 546.3                 | 18.97            | 29.498           |                    |
| 4,500.0                                                          | 4,498.7             | 4,304.4             | 4,187.7             | 7.8            | 12.3        | -52.10                | -406.2                            | -331.3     | 605.8                | 590.5                 | 19.88            | 31.640           |                    |
| 4,600.0                                                          | 4,594.7             | 4,395.4             | 4,265.8             | 8.0            | 13.1        | -49.81                | -441.4                            | -362.0     | 642.0                | 626.5                 | 20.84            | 33.323           |                    |
| 4,700.0                                                          | 4,586.0             | 4,486.7             | 4,344.1             | 8.4            | 13.9        | -49.78                | -476.8                            | -392.9     | 670.4                | 654.5                 | 21.81            | 35.012           |                    |
| 4,800.0                                                          | 4,770.8             | 4,576.7             | 4,421.3             | 8.8            | 14.7        | -51.08                | -511.6                            | -423.4     | 691.4                | 675.1                 | 22.78            | 36.687           |                    |
| 4,900.0                                                          | 4,847.6             | 4,650.0             | 4,483.4             | 9.5            | 15.4        | -52.58                | -539.6                            | -450.3     | 707.2                | 690.3                 | 23.75            | 38.360           |                    |
| 5,000.0                                                          | 4,914.9             | 4,708.5             | 4,531.0             | 10.5           | 16.0        | -53.82                | -561.1                            | -476.6     | 720.3                | 702.2                 | 24.72            | 39.835           |                    |
| 5,100.0                                                          | 4,971.4             | 4,775.4             | 4,582.9             | 11.8           | 16.8        | -55.62                | -584.5                            | -511.6     | 730.9                | 711.0                 | 25.69            | 41.304           |                    |

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

# Cathedral Energy Services

## Anticollision Report

|                     |                            |                              |                             |
|---------------------|----------------------------|------------------------------|-----------------------------|
| Company:            | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:            | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:     | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:         | 0.0ft                      | North Reference:             | True                        |
| Reference Well:     | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:         | 0.0ft                      | Output errors are at         | 2.00 sigma                  |
| Reference Wellbore: | HZ                         | Database:                    | USA EDM 5000 Multi-Users DB |
| Reference Design:   | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

| Offset Design S29-T23N-R7W - Lybrook L29-2307 03H - HZ - Plan #3 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                  |        |  | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|--------|--|--------------------|--------|
| Survey Program: 0-Geolink MWD                                    |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                  |        |  | Offset Well Error: | 0.0 ft |
| Reference                                                        | Offset              | Semi Major Axis     |                     | Distance       |             | Total                 |                                   | Separation |                      | Warning               |                  |        |  |                    |        |
| Measured Depth (ft)                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Uncertainty Axis | Factor |  |                    |        |
| 5,200.0                                                          | 5,016.1             | 4,845.2             | 4,833.6             | 13.4           | 17.7        | -57.76                | -807.3                            | -554.0     | 739.0                | 716.6                 | 22.41            | 32.981 |  |                    |        |
| 5,300.0                                                          | 5,048.1             | 4,918.7             | 4,882.6             | 15.3           | 18.7        | -60.25                | -829.4                            | -603.9     | 744.6                | 718.9                 | 25.68            | 28.998 |  |                    |        |
| 5,400.0                                                          | 5,066.8             | 4,996.4             | 4,729.1             | 17.3           | 19.8        | -63.12                | -850.3                            | -662.5     | 748.0                | 718.4                 | 29.62            | 25.256 |  |                    |        |
| 5,500.0                                                          | 5,071.9             | 5,079.3             | 4,772.0             | 19.5           | 21.1        | -66.40                | -869.6                            | -730.8     | 749.2                | 715.1                 | 34.07            | 21.987 |  |                    |        |
| 5,600.0                                                          | 5,071.2             | 5,172.1             | 4,811.2             | 21.8           | 22.7        | -69.73                | -887.2                            | -813.0     | 751.2                | 712.7                 | 38.46            | 19.530 |  |                    |        |
| 5,700.0                                                          | 5,070.5             | 5,277.1             | 4,843.4             | 24.1           | 24.7        | -72.46                | -901.6                            | -911.8     | 754.5                | 711.2                 | 43.23            | 17.452 |  |                    |        |
| 5,800.0                                                          | 5,069.8             | 5,391.6             | 4,863.1             | 26.4           | 26.9        | -74.15                | -910.4                            | -1,024.1   | 757.0                | 708.7                 | 48.22            | 15.699 |  |                    |        |
| 5,900.0                                                          | 5,069.1             | 5,504.6             | 4,887.0             | 28.7           | 29.2        | -74.53                | -912.0                            | -1,136.9   | 757.4                | 704.4                 | 53.04            | 14.281 |  |                    |        |
| 6,000.0                                                          | 5,068.4             | 5,604.6             | 4,866.6             | 31.1           | 31.2        | -74.55                | -911.8                            | -1,236.9   | 757.3                | 699.8                 | 57.58            | 13.158 |  |                    |        |
| 6,100.0                                                          | 5,067.7             | 5,704.6             | 4,868.3             | 33.5           | 33.4        | -74.58                | -911.5                            | -1,336.9   | 757.2                | 695.1                 | 62.12            | 12.190 |  |                    |        |
| 6,200.0                                                          | 5,067.0             | 5,804.6             | 4,865.9             | 35.9           | 35.5        | -74.60                | -911.2                            | -1,436.9   | 757.1                | 690.4                 | 66.71            | 11.349 |  |                    |        |
| 6,300.0                                                          | 5,066.3             | 5,904.6             | 4,865.6             | 38.3           | 37.8        | -74.63                | -910.9                            | -1,536.9   | 757.0                | 685.7                 | 71.32            | 10.613 |  |                    |        |
| 6,400.0                                                          | 5,065.6             | 6,004.6             | 4,865.2             | 40.7           | 40.0        | -74.65                | -910.7                            | -1,636.9   | 756.9                | 680.9                 | 75.96            | 9.964  |  |                    |        |
| 6,500.0                                                          | 5,064.9             | 6,104.6             | 4,864.9             | 43.1           | 42.3        | -74.68                | -910.4                            | -1,736.9   | 756.8                | 676.1                 | 80.62            | 9.387  |  |                    |        |
| 6,600.0                                                          | 5,064.2             | 6,204.6             | 4,864.6             | 45.6           | 44.6        | -74.70                | -910.1                            | -1,836.9   | 756.6                | 671.4                 | 85.29            | 8.871  |  |                    |        |
| 6,700.0                                                          | 5,063.5             | 6,304.6             | 4,864.2             | 48.0           | 46.9        | -74.73                | -909.8                            | -1,936.9   | 756.5                | 666.6                 | 89.98            | 8.408  |  |                    |        |
| 6,800.0                                                          | 5,062.8             | 6,404.6             | 4,863.9             | 50.4           | 49.2        | -74.75                | -909.6                            | -2,036.9   | 756.4                | 661.8                 | 94.67            | 7.990  |  |                    |        |
| 6,900.0                                                          | 5,062.1             | 6,504.6             | 4,863.5             | 52.9           | 51.5        | -74.78                | -909.3                            | -2,136.9   | 756.3                | 657.0                 | 99.38            | 7.611  |  |                    |        |
| 7,000.0                                                          | 5,061.4             | 6,604.6             | 4,863.2             | 55.3           | 53.9        | -74.80                | -909.0                            | -2,236.9   | 756.2                | 652.1                 | 104.09           | 7.265  |  |                    |        |
| 7,100.0                                                          | 5,060.7             | 6,704.6             | 4,862.8             | 57.8           | 56.3        | -74.83                | -908.8                            | -2,336.9   | 756.1                | 647.3                 | 108.81           | 6.949  |  |                    |        |
| 7,200.0                                                          | 5,060.0             | 6,804.6             | 4,862.5             | 60.2           | 58.6        | -74.85                | -908.5                            | -2,436.9   | 756.0                | 642.5                 | 113.54           | 6.659  |  |                    |        |
| 7,300.0                                                          | 5,059.3             | 6,904.6             | 4,862.1             | 62.7           | 61.0        | -74.88                | -908.2                            | -2,536.9   | 755.9                | 637.6                 | 118.28           | 6.391  |  |                    |        |
| 7,400.0                                                          | 5,058.6             | 7,004.6             | 4,861.8             | 65.1           | 63.4        | -74.90                | -907.9                            | -2,636.9   | 755.8                | 632.8                 | 123.02           | 6.144  |  |                    |        |
| 7,500.0                                                          | 5,057.9             | 7,104.6             | 4,861.4             | 67.6           | 65.8        | -74.93                | -907.7                            | -2,736.9   | 755.7                | 628.0                 | 127.76           | 5.915  |  |                    |        |
| 7,600.0                                                          | 5,057.2             | 7,204.6             | 4,861.1             | 70.0           | 68.2        | -74.95                | -907.4                            | -2,836.9   | 755.6                | 623.1                 | 132.51           | 5.702  |  |                    |        |
| 7,700.0                                                          | 5,056.5             | 7,304.6             | 4,860.7             | 72.5           | 70.6        | -74.98                | -907.1                            | -2,936.9   | 755.5                | 618.3                 | 137.26           | 5.504  |  |                    |        |
| 7,800.0                                                          | 5,055.8             | 7,404.6             | 4,860.4             | 74.9           | 73.0        | -75.01                | -906.8                            | -3,036.9   | 755.4                | 613.4                 | 142.02           | 5.319  |  |                    |        |
| 7,900.0                                                          | 5,055.1             | 7,504.6             | 4,860.0             | 77.4           | 75.4        | -75.03                | -906.6                            | -3,136.9   | 755.3                | 608.6                 | 146.78           | 5.146  |  |                    |        |
| 8,000.0                                                          | 5,054.4             | 7,604.6             | 4,859.7             | 79.8           | 77.9        | -75.06                | -906.3                            | -3,236.9   | 755.3                | 603.7                 | 151.55           | 4.984  |  |                    |        |
| 8,100.0                                                          | 5,053.7             | 7,704.6             | 4,859.3             | 82.3           | 80.3        | -75.08                | -906.0                            | -3,336.9   | 755.2                | 598.8                 | 156.32           | 4.831  |  |                    |        |
| 8,200.0                                                          | 5,053.0             | 7,804.6             | 4,859.0             | 84.8           | 82.7        | -75.11                | -905.7                            | -3,436.9   | 755.1                | 594.0                 | 161.09           | 4.687  |  |                    |        |
| 8,300.0                                                          | 5,052.3             | 7,904.6             | 4,858.6             | 87.2           | 85.1        | -75.13                | -905.5                            | -3,536.9   | 755.0                | 589.1                 | 165.86           | 4.552  |  |                    |        |
| 8,400.0                                                          | 5,051.6             | 8,004.6             | 4,858.3             | 89.7           | 87.6        | -75.16                | -905.2                            | -3,636.9   | 754.9                | 584.3                 | 170.64           | 4.424  |  |                    |        |
| 8,500.0                                                          | 5,050.9             | 8,104.6             | 4,857.9             | 92.2           | 90.0        | -75.18                | -904.9                            | -3,736.9   | 754.8                | 579.4                 | 175.42           | 4.303  |  |                    |        |
| 8,600.0                                                          | 5,050.2             | 8,204.6             | 4,857.6             | 94.6           | 92.4        | -75.21                | -904.7                            | -3,836.9   | 754.7                | 574.5                 | 180.20           | 4.188  |  |                    |        |
| 8,700.0                                                          | 5,049.5             | 8,304.6             | 4,857.2             | 97.1           | 94.9        | -75.24                | -904.4                            | -3,936.9   | 754.6                | 569.7                 | 184.98           | 4.079  |  |                    |        |
| 8,800.0                                                          | 5,048.8             | 8,404.6             | 4,856.9             | 99.6           | 97.3        | -75.26                | -904.1                            | -4,036.9   | 754.6                | 564.8                 | 189.77           | 3.976  |  |                    |        |
| 8,900.0                                                          | 5,048.1             | 8,504.6             | 4,856.5             | 102.0          | 99.8        | -75.29                | -903.8                            | -4,136.9   | 754.5                | 559.9                 | 194.56           | 3.878  |  |                    |        |
| 9,000.0                                                          | 5,047.4             | 8,604.6             | 4,856.2             | 104.5          | 102.2       | -75.31                | -903.6                            | -4,236.9   | 754.4                | 555.0                 | 199.35           | 3.784  |  |                    |        |
| 9,100.0                                                          | 5,046.7             | 8,704.6             | 4,855.8             | 106.9          | 104.6       | -75.34                | -903.3                            | -4,336.9   | 754.3                | 550.2                 | 204.14           | 3.695  |  |                    |        |
| 9,200.0                                                          | 5,046.0             | 8,804.6             | 4,855.5             | 109.4          | 107.1       | -75.37                | -903.0                            | -4,436.9   | 754.2                | 545.3                 | 208.94           | 3.610  |  |                    |        |
| 9,300.0                                                          | 5,045.3             | 8,904.6             | 4,855.1             | 111.9          | 109.5       | -75.39                | -902.7                            | -4,536.9   | 754.2                | 540.4                 | 213.73           | 3.528  |  |                    |        |
| 9,400.0                                                          | 5,044.6             | 9,004.6             | 4,854.8             | 114.3          | 112.0       | -75.42                | -902.5                            | -4,636.9   | 754.1                | 535.5                 | 218.53           | 3.451  |  |                    |        |
| 9,500.0                                                          | 5,043.9             | 9,104.6             | 4,854.4             | 116.8          | 114.4       | -75.44                | -902.2                            | -4,736.9   | 754.0                | 530.7                 | 223.33           | 3.376  |  |                    |        |
| 9,600.0                                                          | 5,043.2             | 9,204.6             | 4,854.1             | 119.3          | 116.9       | -75.47                | -901.9                            | -4,836.9   | 753.9                | 525.8                 | 228.14           | 3.305  |  |                    |        |
| 9,700.0                                                          | 5,042.6             | 9,304.6             | 4,853.7             | 121.8          | 119.3       | -75.50                | -901.6                            | -4,936.9   | 753.9                | 520.9                 | 232.94           | 3.236  |  |                    |        |
| 9,800.0                                                          | 5,041.9             | 9,404.6             | 4,853.4             | 124.2          | 121.8       | -75.52                | -901.4                            | -5,036.9   | 753.8                | 516.0                 | 237.75           | 3.171  |  |                    |        |
| 9,900.0                                                          | 5,041.2             | 9,504.6             | 4,853.0             | 126.7          | 124.2       | -75.55                | -901.1                            | -5,136.9   | 753.7                | 511.2                 | 242.55           | 3.107  |  |                    |        |
| 10,000.0                                                         | 5,040.5             | 9,604.6             | 4,852.7             | 129.2          | 126.7       | -75.57                | -900.8                            | -5,236.9   | 753.6                | 506.3                 | 247.36           | 3.047  |  |                    |        |
| 10,100.0                                                         | 5,039.8             | 9,704.6             | 4,852.3             | 131.6          | 129.2       | -75.60                | -900.6                            | -5,336.9   | 753.6                | 501.4                 | 252.17           | 2.988  |  |                    |        |
| 10,200.0                                                         | 5,039.1             | 9,804.6             | 4,852.0             | 134.1          | 131.6       | -75.63                | -900.3                            | -5,436.9   | 753.5                | 496.5                 | 256.98           | 2.932  |  |                    |        |
| 10,300.0                                                         | 5,038.4             | 9,904.6             | 4,851.6             | 136.6          | 134.1       | -75.65                | -900.0                            | -5,536.9   | 753.4                | 491.7                 | 261.80           | 2.878  |  |                    |        |

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

# Cathedral Energy Services

## Anticollision Report

|                     |                            |                              |                             |
|---------------------|----------------------------|------------------------------|-----------------------------|
| Company:            | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:            | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:     | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:         | 0.0ft                      | North Reference:             | True                        |
| Reference Well:     | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:         | 0.0ft                      | Output errors are at         | 2.00 sigma                  |
| Reference Wellbore: | Hz                         | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:   | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

| Offset Design S29-T23N-R7W - Lybrook L29-2307 03H - Hz - Plan #3 |                |                |                |                 |        |                   |                              |          |                 |                  |                        |                   |  | Offset Site Error: 0.0 ft |  |
|------------------------------------------------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------------|----------|-----------------|------------------|------------------------|-------------------|--|---------------------------|--|
| Survey Program: 0-Geolink MWD                                    |                |                |                |                 |        |                   |                              |          |                 |                  |                        |                   |  | Offset Well Error: 0.0 ft |  |
| Reference                                                        |                | Offset         |                | Semi Major Axis |        |                   | Distance                     |          |                 |                  |                        |                   |  | Warning                   |  |
| Measured Depth                                                   | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre +N/-S | +E/-W    | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor |  |                           |  |
| (ft)                                                             | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | (ft)                         | (ft)     | (ft)            | (ft)             |                        |                   |  |                           |  |
| 10,400.0                                                         | 5,037.7        | 10,004.6       | 4,851.3        | 139.0           | 138.5  | -75.68            | -699.7                       | -5,636.8 | 753.4           | 486.8            | 266.61                 | 2.826             |  |                           |  |
| 10,460.5                                                         | 5,037.2        | 10,064.9       | 4,851.1        | 140.5           | 138.0  | -75.69            | -699.6                       | -5,697.2 | 753.3           | 483.8            | 269.52                 | 2.795             |  |                           |  |
| 10,460.8                                                         | 5,037.2        | 10,064.9       | 4,851.1        | 140.5           | 138.0  | -75.69            | -699.8                       | -5,697.2 | 753.3           | 483.8            | 269.53                 | 2.795             |  |                           |  |

# Cathedral Energy Services

## Anticollision Report

|                     |                            |                              |                             |
|---------------------|----------------------------|------------------------------|-----------------------------|
| Company:            | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:            | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:     | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:         | 0.0ft                      | North Reference:             | True                        |
| Reference Well:     | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:         | 0.0ft                      | Output errors are at         | 2.00 sigma                  |
| Reference Wellbore: | HZ                         | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:   | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

| Offset Design: S29-T23N-R7W - Lybrook L29-2307 04H - HZ - Plan #1 |                     |                     |                     |                |             |                       |                                  |           |                      |                       |                        |                   | Offset Site Error: |
|-------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|----------------------------------|-----------|----------------------|-----------------------|------------------------|-------------------|--------------------|
| Survey Program: 0-Geolink MWD                                     |                     |                     |                     |                |             |                       |                                  |           |                      |                       |                        |                   | Offset Well Error: |
| 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         | 157.94                | -37.1                            | 15.1      | 40.1                 |                       |                        |                   |                    |
| 100.0                                                             | 100.0               | 100.0               | 100.0               | 0.1            | 0.1         | 157.94                | -37.1                            | 15.1      | 40.1                 | 39.8                  | 0.29                   | 139.991           |                    |
| 200.0                                                             | 200.0               | 200.0               | 200.0               | 0.3            | 0.3         | 157.94                | -37.1                            | 15.1      | 40.1                 | 39.4                  | 0.64                   | 63.073            |                    |
| 300.0                                                             | 300.0               | 300.0               | 300.0               | 0.5            | 0.5         | 157.94                | -37.1                            | 15.1      | 40.1                 | 39.1                  | 0.98                   | 40.707            |                    |
| 400.0                                                             | 400.0               | 400.0               | 400.0               | 0.7            | 0.7         | 157.94                | -37.1                            | 15.1      | 40.1                 | 38.7                  | 1.33                   | 30.050            |                    |
| 500.0                                                             | 500.0               | 500.0               | 500.0               | 0.8            | 0.8         | 157.94                | -37.1                            | 15.1      | 40.1                 | 38.4                  | 1.68                   | 23.816            |                    |
| 600.0                                                             | 600.0               | 600.0               | 600.0               | 1.0            | 1.0         | 157.94                | -37.1                            | 15.1      | 40.1                 | 38.0                  | 2.03                   | 19.724            |                    |
| 700.0                                                             | 700.0               | 700.0               | 700.0               | 1.2            | 1.2         | 157.94                | -37.1                            | 15.1      | 40.1                 | 37.7                  | 2.38                   | 16.832            |                    |
| 800.0                                                             | 800.0               | 800.0               | 800.0               | 1.4            | 1.4         | 157.94                | -37.1                            | 15.1      | 40.1                 | 37.3                  | 2.73                   | 14.679            |                    |
| 900.0                                                             | 900.0               | 900.0               | 900.0               | 1.5            | 1.5         | 157.94                | -37.1                            | 15.1      | 40.1                 | 37.0                  | 3.08                   | 13.015            |                    |
| 1,000.0                                                           | 1,000.0             | 1,000.0             | 1,000.0             | 1.7            | 1.7         | 157.94                | -37.1                            | 15.1      | 40.1                 | 36.6                  | 3.43                   | 11.690            |                    |
| 1,100.0                                                           | 1,100.0             | 1,100.0             | 1,100.0             | 1.9            | 1.9         | 157.94                | -37.1                            | 15.1      | 40.1                 | 36.3                  | 3.78                   | 10.609            |                    |
| 1,200.0                                                           | 1,200.0             | 1,200.0             | 1,200.0             | 2.1            | 2.1         | 157.94                | -37.1                            | 15.1      | 40.1                 | 35.9                  | 4.13                   | 9.712             |                    |
| 1,300.0                                                           | 1,300.0             | 1,300.0             | 1,300.0             | 2.2            | 2.2         | 157.94                | -37.1                            | 15.1      | 40.1                 | 35.6                  | 4.48                   | 8.954             |                    |
| 1,400.0                                                           | 1,400.0             | 1,400.0             | 1,400.0             | 2.4            | 2.4         | 157.94                | -37.1                            | 15.1      | 40.1                 | 35.2                  | 4.82                   | 8.306             |                    |
| 1,500.0                                                           | 1,500.0             | 1,500.0             | 1,500.0             | 2.6            | 2.6         | 157.94                | -37.1                            | 15.1      | 40.1                 | 34.9                  | 5.17                   | 7.746             |                    |
| 1,600.0                                                           | 1,600.0             | 1,600.0             | 1,600.0             | 2.8            | 2.8         | 157.94                | -37.1                            | 15.1      | 40.1                 | 34.5                  | 5.52                   | 7.256             |                    |
| 1,700.0                                                           | 1,700.0             | 1,700.0             | 1,700.0             | 2.9            | 2.9         | 157.94                | -37.1                            | 15.1      | 40.1                 | 34.2                  | 5.87                   | 6.825             |                    |
| 1,800.0                                                           | 1,800.0             | 1,800.0             | 1,800.0             | 3.1            | 3.1         | 157.94                | -37.1                            | 15.1      | 40.1                 | 33.8                  | 6.22                   | 6.442             |                    |
| 1,900.0                                                           | 1,900.0             | 1,900.0             | 1,900.0             | 3.3            | 3.3         | 157.94                | -37.1                            | 15.1      | 40.1                 | 33.5                  | 6.57                   | 6.099             |                    |
| 2,000.0                                                           | 2,000.0             | 2,000.0             | 2,000.0             | 3.5            | 3.5         | 157.94                | -37.1                            | 15.1      | 40.1                 | 33.2                  | 6.92                   | 5.792             |                    |
| 2,100.0                                                           | 2,100.0             | 2,100.0             | 2,100.0             | 3.6            | 3.6         | 157.94                | -37.1                            | 15.1      | 40.1                 | 32.8                  | 7.27                   | 5.514 CC, ES      |                    |
| 2,200.0                                                           | 2,200.0             | 2,198.6             | 2,198.5             | 3.8            | 3.8         | 160.18                | -39.3                            | 14.2      | 41.8                 | 34.2                  | 7.61                   | 5.486 SF          |                    |
| 2,300.0                                                           | 2,300.0             | 2,296.7             | 2,296.4             | 4.0            | 4.0         | 165.88                | -45.7                            | 11.5      | 47.2                 | 39.2                  | 7.97                   | 5.927             |                    |
| 2,400.0                                                           | 2,400.0             | 2,394.0             | 2,393.1             | 4.2            | 4.2         | 172.79                | -56.2                            | 7.1       | 57.0                 | 48.7                  | 8.33                   | 6.845             |                    |
| 2,500.0                                                           | 2,500.0             | 2,490.1             | 2,487.8             | 4.3            | 4.4         | 179.12                | -70.6                            | 1.1       | 71.6                 | 62.9                  | 8.72                   | 8.214             |                    |
| 2,600.0                                                           | 2,600.0             | 2,584.5             | 2,580.1             | 4.5            | 4.6         | -175.83               | -88.8                            | -6.5      | 91.1                 | 81.9                  | 9.14                   | 9.962             |                    |
| 2,700.0                                                           | 2,700.0             | 2,676.9             | 2,669.6             | 4.7            | 4.9         | -172.03               | -110.0                           | -15.4     | 115.2                | 105.6                 | 9.60                   | 11.995            |                    |
| 2,800.0                                                           | 2,800.0             | 2,767.1             | 2,755.9             | 4.9            | 5.3         | -169.22               | -134.4                           | -25.6     | 143.7                | 133.6                 | 10.11                  | 14.223            |                    |
| 2,900.0                                                           | 2,900.0             | 2,854.8             | 2,838.5             | 5.0            | 5.6         | -167.14               | -161.3                           | -36.8     | 176.5                | 165.9                 | 10.66                  | 16.568            |                    |
| 3,000.0                                                           | 3,000.0             | 2,939.8             | 2,917.4             | 5.2            | 6.1         | -165.57               | -190.5                           | -49.0     | 213.3                | 202.1                 | 11.25                  | 18.963            |                    |
| 3,100.0                                                           | 3,100.0             | 3,022.0             | 2,992.5             | 5.4            | 6.5         | -164.37               | -221.4                           | -62.0     | 253.9                | 242.0                 | 11.88                  | 21.366            |                    |
| 3,200.0                                                           | 3,200.0             | 3,100.0             | 3,062.4             | 5.6            | 7.0         | -163.45               | -253.3                           | -75.3     | 298.0                | 285.4                 | 12.54                  | 23.765            |                    |
| 3,300.0                                                           | 3,300.0             | 3,181.8             | 3,134.3             | 5.7            | 7.6         | -162.66               | -289.3                           | -90.3     | 345.4                | 332.2                 | 13.28                  | 26.018            |                    |
| 3,400.0                                                           | 3,400.0             | 3,263.7             | 3,205.5             | 5.9            | 8.2         | -162.03               | -326.7                           | -105.9    | 394.7                | 380.6                 | 14.04                  | 28.108            |                    |
| 3,500.0                                                           | 3,500.0             | 3,350.7             | 3,281.1             | 6.1            | 8.9         | -161.51               | -366.3                           | -122.5    | 444.0                | 429.1                 | 14.86                  | 29.881            |                    |
| 3,600.0                                                           | 3,600.0             | 3,437.6             | 3,356.7             | 6.3            | 9.6         | -161.09               | -405.9                           | -139.1    | 493.3                | 477.6                 | 15.69                  | 31.440            |                    |
| 3,700.0                                                           | 3,700.0             | 3,524.6             | 3,432.3             | 6.4            | 10.3        | -160.75               | -445.6                           | -155.6    | 542.6                | 526.1                 | 16.53                  | 32.818            |                    |
| 3,800.0                                                           | 3,800.0             | 3,611.5             | 3,507.9             | 6.6            | 11.0        | -160.46               | -485.2                           | -172.2    | 591.9                | 574.5                 | 17.39                  | 34.043            |                    |
| 3,900.0                                                           | 3,900.0             | 3,698.5             | 3,583.5             | 6.8            | 11.7        | -160.22               | -524.8                           | -188.7    | 641.3                | 623.0                 | 18.25                  | 35.137            |                    |
| 4,000.0                                                           | 4,000.0             | 3,785.4             | 3,659.1             | 6.9            | 12.4        | -160.01               | -564.5                           | -205.3    | 690.6                | 671.5                 | 19.12                  | 36.118            |                    |
| 4,100.0                                                           | 4,100.0             | 3,872.3             | 3,734.7             | 7.1            | 13.2        | -159.83               | -604.1                           | -221.9    | 740.0                | 720.0                 | 20.00                  | 37.003            |                    |
| 4,200.0                                                           | 4,200.0             | 3,959.3             | 3,810.3             | 7.3            | 13.9        | -159.68               | -643.7                           | -238.4    | 789.4                | 768.5                 | 20.88                  | 37.806            |                    |
| 4,300.0                                                           | 4,299.9             | 4,045.4             | 3,885.2             | 7.5            | 14.6        | -125.01               | -683.0                           | -254.8    | 839.9                | 825.5                 | 21.48                  | 38.022            |                    |
| 4,400.0                                                           | 4,399.8             | 4,131.6             | 3,960.1             | 7.6            | 15.4        | -81.11                | -722.3                           | -271.2    | 890.6                | 875.8                 | 22.19                  | 38.230            |                    |
| 4,500.0                                                           | 4,498.7             | 4,219.4             | 4,036.4             | 7.8            | 16.1        | -69.20                | -762.3                           | -288.0    | 936.7                | 921.5                 | 22.91                  | 38.440            |                    |
| 4,600.0                                                           | 4,594.7             | 4,307.3             | 4,112.9             | 8.0            | 16.9        | -85.60                | -802.3                           | -304.7    | 977.7                | 962.2                 | 23.63                  | 38.654            |                    |
| 4,700.0                                                           | 4,688.0             | 4,393.6             | 4,187.9             | 8.4            | 17.6        | -84.07                | -841.7                           | -321.1    | 1,013.9              | 997.9                 | 24.35                  | 38.868            |                    |
| 4,800.0                                                           | 4,770.8             | 4,476.6             | 4,260.1             | 8.8            | 18.3        | -63.64                | -879.5                           | -336.9    | 1,045.5              | 1,029.1               | 25.07                  | 39.082            |                    |
| 4,900.0                                                           | 4,847.6             | 4,554.8             | 4,328.1             | 9.5            | 19.0        | -63.88                | -915.2                           | -351.8    | 1,073.4              | 1,056.3               | 25.79                  | 39.296            |                    |
| 5,000.0                                                           | 4,914.9             | 4,626.7             | 4,390.6             | 10.5           | 19.6        | -64.49                | -947.9                           | -365.5    | 1,098.6              | 1,080.4               | 26.51                  | 39.510            |                    |
| 5,100.0                                                           | 4,971.4             | 4,691.0             | 4,446.5             | 11.8           | 20.2        | -65.22                | -977.2                           | -377.8    | 1,122.0              | 1,102.4               | 27.23                  | 39.724            |                    |

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

# Cathedral Energy Services

## Anticollision Report

|                            |                            |                                     |                             |
|----------------------------|----------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>            | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook L29-2307 02H   |
| <b>Project:</b>            | Sandoval County, NM        | <b>TVD Reference:</b>               | KB @ 6892.0ft (Unassigned)  |
| <b>Reference Site:</b>     | S29-T23N-R7W               | <b>MD Reference:</b>                | KB @ 6892.0ft (Unassigned)  |
| <b>Site Error:</b>         | 0.0ft                      | <b>North Reference:</b>             | True                        |
| <b>Reference Well:</b>     | Lybrook L29-2307 02H       | <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 #3                    | <b>Offset TVD Reference:</b>        | Offset Datum                |

| Offset Design S29-T23N-R7W - Lybrook L29-2307 04H - HZ - Plan #1 |                           |                           |                           |                 |      |                             |                        |              |                            |                             |                              |                      | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|------|-----------------------------|------------------------|--------------|----------------------------|-----------------------------|------------------------------|----------------------|--------------------|--------|
| Survey Program: 0-Geolink MWD                                    |                           |                           |                           |                 |      |                             |                        |              |                            |                             |                              |                      | Offset Well Error: | 0.0 ft |
| Measured<br>Depth<br>(ft)                                        | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Semi Major Axis |      | Highside<br>Toolface<br>(°) | Offset Wellbore Centre |              | Distance                   |                             | Total<br>Uncertainty<br>Axis | Separation<br>Factor | Warning            |        |
| Reference                                                        | Offset                    | Reference                 | Offset                    | (ft)            | (ft) |                             | +N-S<br>(ft)           | +E-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                              |                      |                    |        |
| 5,200.0                                                          | 5,018.1                   | 4,746.3                   | 4,494.6                   | 13.4            | 20.7 | -65.83                      | -1,002.5               | -388.3       | 1,144.8                    | 1,123.2                     | 21.55                        | 53.122               |                    |        |
| 5,300.0                                                          | 5,048.1                   | 4,791.8                   | 4,534.1                   | 15.3            | 21.1 | -66.13                      | -1,023.2               | -397.0       | 1,167.8                    | 1,144.0                     | 23.81                        | 49.054               |                    |        |
| 5,400.0                                                          | 5,066.8                   | 4,838.4                   | 4,574.4                   | 17.3            | 21.5 | -66.49                      | -1,044.3               | -406.7       | 1,191.8                    | 1,165.4                     | 26.43                        | 45.097               |                    |        |
| 5,500.0                                                          | 5,071.9                   | 4,890.8                   | 4,619.1                   | 19.5            | 22.0 | -67.23                      | -1,067.7               | -421.1       | 1,216.7                    | 1,187.4                     | 29.36                        | 41.446               |                    |        |
| 5,600.0                                                          | 5,071.2                   | 4,965.5                   | 4,680.8                   | 21.8            | 22.7 | -70.60                      | -1,100.1               | -447.9       | 1,245.4                    | 1,213.0                     | 32.43                        | 38.405               |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                     |                            |                              |                             |
|---------------------|----------------------------|------------------------------|-----------------------------|
| Company:            | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Lybrook L29-2307 02H   |
| Project:            | Sandoval County, NM        | TVD Reference:               | KB @ 6892.0ft (Unassigned)  |
| Reference Site:     | S29-T23N-R7W               | MD Reference:                | KB @ 6892.0ft (Unassigned)  |
| Site Error:         | 0.0ft                      | North Reference:             | True                        |
| Reference Well:     | Lybrook L29-2307 02H       | Survey Calculation Method:   | Minimum Curvature           |
| Well Error:         | 0.0ft                      | Output errors are at         | 2.00' sigma                 |
| Reference Wellbore: | HZ                         | Database:                    | USA EDM 5000 Multi Users DB |
| Reference Design:   | Plan #3                    | Offset TVD Reference:        | Offset Datum                |

Reference Depths are relative to KB @ 6892.0ft (Unassigned)

Offset Depths are relative to Offset Datum

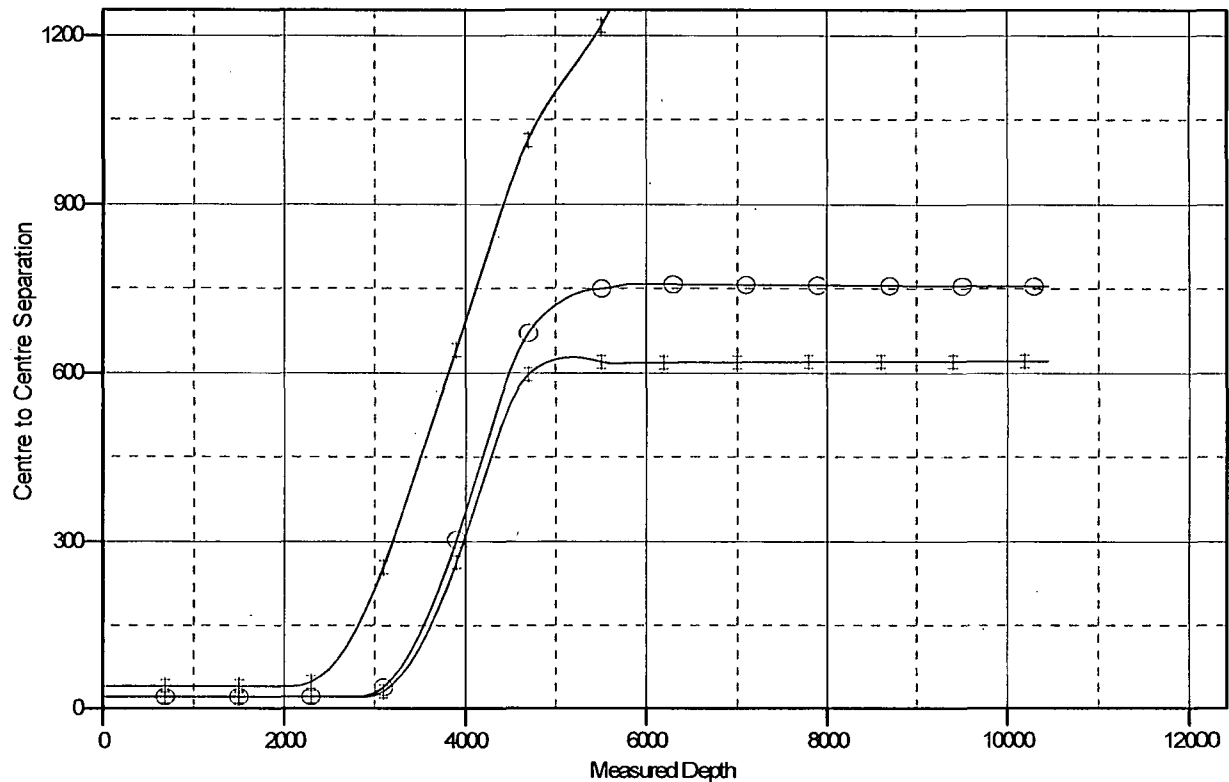
Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook L29-2307 02H

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

Grid Convergence at Surface is: -0.80°

### Ladder Plot



### LEGEND

Lybrook L29-2307 01H, HZ, Plan #3 V0
  Lybrook L29-2307 03H, HZ, Plan #3 V0
  Lybrook L29-2307 04H, HZ, Plan #1 V0