

State of New Mexico  
Energy, Minerals and Natural Resources Department

**Susana Martinez**  
Governor

**David Martin**  
Cabinet Secretary-Designate

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

**Jami Bailey, Division Director**  
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions  
listed below are made in accordance with OCD Rule 19.15.7.11  
and are in addition to the actions approved by BLM on the  
following 3160-3 APD form.

Operator Signature Date: 3-24-14

Well information;

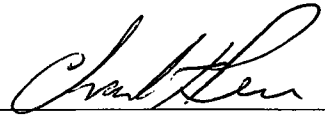
Operator Encina, Well Name and Number Lybrook 531-2307 #1H

API# 30-043-21214, Section 31, Township 23 N/S, Range 7 E/W

Conditions of Approval:

(See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for NSL, NSP, DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

  
NMOCD Approved by Signature

8/18/2014  
Date

CONFIDENTIAL  
RECEIVED

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

MAR 27 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER  
Farmington Field Office

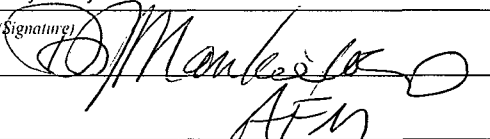
|                                                                                                                                                                                                                                  |  |                                                                                                                                                            |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                     |  | 5. Lease Serial No.<br>NM 6681 NM LG-9090                                                                                                                  |  |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone           |  | 6. If Indian, Allottee or Tribe Name<br>N/A                                                                                                                |  |
| 2. Name of Operator<br>Encana Oil & Gas (USA) Inc.                                                                                                                                                                               |  | 7. If Unit or CA Agreement, Name and No.<br>Pending                                                                                                        |  |
| 3a. Address<br>370 17th Street, Suite 1700 Denver, CO 80202                                                                                                                                                                      |  | 8. Lease Name and Well No.<br>Lybrook J31-2307 01H                                                                                                         |  |
| 3b. Phone No. (include area code)<br>(720) 876-3448                                                                                                                                                                              |  | 9. API Well No.<br>30-043-21214                                                                                                                            |  |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.)<br>At surface 2215' FSL and 2531' FEL Section 31, T23N, R7W<br>At proposed prod. zone 2217' FSL and 2288' FEL Section 36, T23N, R8W |  | 10. Field and Pool, or Exploratory<br>Alamito-Gallup                                                                                                       |  |
| 11. Sec., T. R. M. or Blk. and Survey or Area<br>Section 31, T23N, R7W NMPM                                                                                                                                                      |  | 12. County or Parish<br>Sandoval                                                                                                                           |  |
| 13. State<br>NM                                                                                                                                                                                                                  |  | 14. Distance in miles and direction from nearest town or post office*<br>+/- 46.8 miles south of the intersection US Hwy 550 & US Hwy 64 in Bloomfield, NM |  |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br>SHL is 2215' from the south lease line                                                                  |  | 16. No. of acres in lease<br>NM 6681- 642.56 acres<br>NM LE-9090-240 acres                                                                                 |  |
| 17. Spacing Unit dedicated to this well<br>160.65 acres N2SW of Section 31, N2SE of Section 36                                                                                                                                   |  | 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.<br>Lybrook J31-2307 02H is +/- 30' SW of SHL    |  |
| 19. Proposed Depth<br>5031' TVD, 9851' MD                                                                                                                                                                                        |  | 20. BLM/BIA Bond No. on file<br>COB-000235                                                                                                                 |  |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>6974', KB 6990'                                                                                                                                                           |  | 22. Approximate date work will start*<br>09/11/2014                                                                                                        |  |
| 23. Estimated duration<br>20 Days                                                                                                                                                                                                |  | 24. Attachments                                                                                                                                            |  |

OIL CONS. DIV DIST. 3

MAY 02 2014

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

|                                                                                                                |                                             |                 |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------|
| 25. Signature<br>           | Name (Printed/Typed)<br>Christopher Simmons | Date<br>3-24-14 |
| Title<br>Regulatory Analyst                                                                                    |                                             |                 |
| Approved by (Signature)<br> | Name (Printed/Typed)<br>AFN                 | Date<br>4/29/14 |
| Title<br>AFN                                                                                                   | Office<br>FFO                               |                 |

Application approval 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.  
Conditions of approval, if any, are attached.

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.

(Continued on page 2)

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

District II  
611 S. First Street, Artesia, NM 88210  
Phone (575) 748-1283 Fax (575) 748-9720

District III  
1090 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV  
1020 S. St. Francis Drive, Santa Fe, NM 87505  
Phone (505) 476-3460 Fax (505) 476-3462

OIL CONSERVATION DIVISION  
OIL CONSERVATION DIVISION  
1000 South St. Francis Drive  
Santa Fe, NM 87505  
Dist. 3

Submit one copy to  
Appropriate District Office

☐ AMENDED REPORT

MAY 02 2014

## WELL LOCATION AND ACREAGE DEDICATION PLAT

|                 |                             |                  |
|-----------------|-----------------------------|------------------|
| 'API Number'    | 'Pool Code'                 | 'Pool Name'      |
| 30-043-21214    | 1039                        | ALAMITO - GALLUP |
| 'Property Code' | 'Property Name'             | 'Well Number'    |
| 313511          | LYBROOK J31-2307            | 01H              |
| 'GROSS No.'     | 'Operator Name'             | 'Elevation'      |
| 282327          | ENCANA OIL & GAS (USA) INC. | 6974'            |

## 10 Surface Location

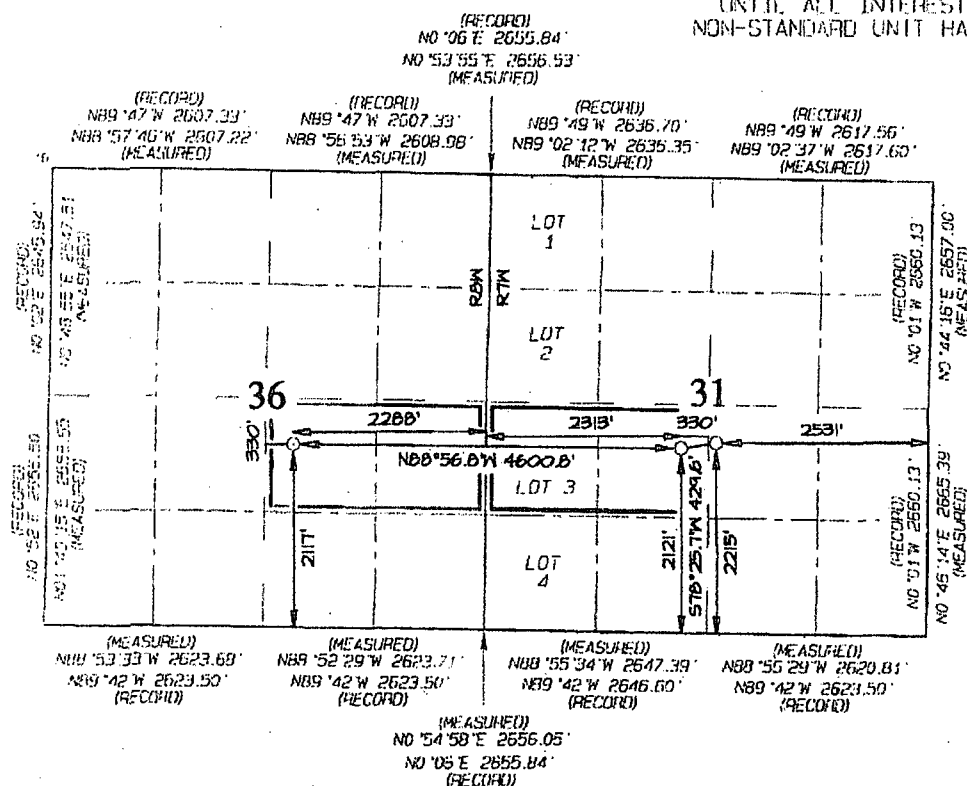
|               |         |          |       |         |               |                  |               |                |          |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| 01 of 101 no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
| J             | 31      | 23N      | 7W    |         | 2215          | SOUTH            | 2531          | EAST           | SANDOVAL |

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

| U. or Lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| J             | 36      | 23N      | 8W    |         | 2447          | SOUTH            | 2288          | EAST           | SAN JUAN |

|              |                     |
|--------------|---------------------|
| 160.65 Acres | N/2 SW/4 Section 31 |
|              | N/2 SE/4 Section 36 |

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



END-OF-LATEAL  
2117' FSL 2288' FEL  
SECTION 36, T23N, R10W  
LAT: 35.18188° N  
LONG: 107.63149° W  
DATUM: NAD1927

LAT: 35 18.189 N  
LONG: 107.52210 W  
DATUM: NAD1983

POINT-OF-ENTRY  
2121' FSL 2313' FWL  
SECTION 31, T23N, R7W  
LAT: 36.18182°N  
LONG: 107.61591°W  
DATUM NAD1927

LAT: 35.18184°N  
LONG: 107.61652°W  
DATUM: NAD1983

SURFACE LOCATION  
2215' FSL 2531' FEL  
SECTION 31, T23N, R7W  
LAT: 35.18209°N  
LONG: 107.61449°W  
DATUM: NAD1927

LAT: 35.18209°N  
LONGS: 107.61509°W  
DATUM NAD1983

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 there well at this location pursuant to a contract, lease or some such a working or unleased interest or a pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Katie Wedner Date 3/24/14

Granted Name  
Katie.Wegner@cencana.com

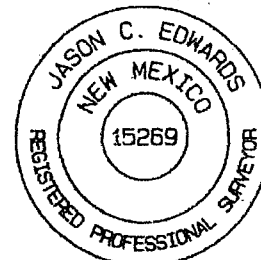
E-08411 A18Y025

**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.

Date Revised: FEBRUARY 6, 2014  
Survey Date: NOVEMBER 12, 2013

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

Lybrook J31-2307 01H  
 SHL: NWSE Sec 31 T23N R7W  
 2215' FSL, 2531' FEL  
 BHL: NWSE Sec 36 T23N R8W  
 2117' FSL, 2288' FE  
 Sandoval, New Mexico

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

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

The estimated tops of important geologic markers are as follows:

| Formation           | Depth (TVD) units = feet |
|---------------------|--------------------------|
| Ojo Alamo Ss.       | 874                      |
| Kirtland Shale      | 1,069                    |
| Fruitland Coal      | 1,335                    |
| Pictured Cliffs Ss. | 1,459                    |
| Lewis Shale         | 1,575                    |
| Cliffhouse Ss.      | 2,228                    |
| Menefee Fn.         | 3,018                    |
| Point Lookout Ss.   | 3,843                    |
| Mancos Shale        | 4,025                    |
| Mancos Silt         | 4,548                    |
| Gallup Fn.          | 4,809                    |

The referenced surface elevation is 6974', KB 6990'

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

| Substance | Formation           | Depth (TVD) units = feet |
|-----------|---------------------|--------------------------|
| Water/Gas | Fruitland Coal      | 1,335                    |
| Oil/Gas   | Pictured Cliffs Ss. | 1,459                    |
| Oil/Gas   | Cliffhouse Ss.      | 2,228                    |
| Gas       | Menefee Fn.         | 3,018                    |
| Oil/Gas   | Point Lookout Ss.   | 3,843                    |
| Oil/Gas   | Mancos Shale        | 4,025                    |
| Oil/Gas   | Mancos Silt         | 4,548                    |
| Oil/Gas   | Gallup Fn.          | 4,809                    |

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

### 3. PRESSURE CONTROL

- a) Pressure control equipment and configuration will be designed to meet 2M standards.
- b) Working pressure on rams and BOPE will be 3,000 psi.
- c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
- e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
- f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.

Lybrook J31-2307 01H

SHL: NWSE Sec 31 T23N R7W

2215' FSL, 2531' FEL

BHL: NWSE Sec 36 T23N R8W

2117' FSL, 2288' FE

Sandoval, New Mexico

- 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
- 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'      | 30"       | 20"      | 94#    | H40, STC New  |
| Surface          | 0'-500'     | 12 1/4"   | 9 5/8"   | 36#    | J55, STC New  |
| Intermediate     | 0'-5222'    | 8 3/4"    | 7"       | 26#    | J55, LTC New  |
| Production Liner | 5022'-9851' | 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

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

**Lybrook J31-2307 01H**  
**SHL: NWSE Sec 31 T23N R7W**  
**2215' FSL, 2531' FEL**  
**BHL: NWSE Sec 36 T23N R8W**  
**2117' FSL, 2288' FE**  
**Sandoval, New Mexico**

b) The proposed cementing program is as follows

| Casing           | Depth (MD)  | Cement Volume (sacks)                                                                           | Cement Type & Yield                                                                                                                                                                     | Designed TOC | Centralizers                                 |
|------------------|-------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------------------------|
| Conductor        | 0'-60'      | 100 sks                                                                                         | Type I Neat 16 ppg                                                                                                                                                                      | Surface      | None                                         |
| Surface          | 0'-500'     | 201 sks                                                                                         | Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 16ppg, 1.38cuf/sk                                                                                                          | Surface      | 1 per joint on bottom 3 joints               |
| Intermediate     | 0'-5222'    | 30% open hole excess<br>Stage 1 Lead: 288 sks<br>Stage 1 Tail: 345 sks<br>Stage 2 Lead: 143 sks | Lead (Stages 1 and 2): PremLite + 3% CaCl + 0.25lb/sk Cello Flake + 5lb/sk LCM, 12.1ppg 2.13cuf/sk<br>Tail (Stage 1): Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuf/sk | Surface      | 1 every 3 joints through water bearing zones |
| Production Liner | 5022'-9851' | None - External Casing Packers                                                                  | N/A                                                                                                                                                                                     | N/A          | N/A                                          |

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

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

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

## 5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4423'. Directional plans are attached.

| Description           | Proposed Depth (TVD/MD) | Formation |
|-----------------------|-------------------------|-----------|
| Horizontal Lateral TD | 5031'/9851'             | Gallup    |

## 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      | 8.4-8.6       | 60-70              | NC              |
| 8 3/4"         | 500'/500'-5042'/5222' | Fresh Water LSND | 9.5-8.8       | 40-50              | 8-10            |

Lybrook J31-2307 01H

SHL: NWSE Sec 31 T23N R7W

2215' FSL, 2531' FEL

BHL: NWSE Sec 36 T23N R8W

2117' FSL, 2288' FE

Sandoval, New Mexico

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"         | 5042'/5222'-<br>5031'/9851' | Synthetic Oil<br>Based Mud | 8.6-9.0       | 15-25              | <15             |

c) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

✓ d) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals, including fresh water and oil-based operations. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance with the Surface Use Plan of Operations.

## 7. TESTING, CORING, & 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 +/- 2375 psi based on a 9.0 ppg at 5075' 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 January 1st, 2014. 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.

|                                                                                                                                                                                              |                      |                                    |                    |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------|--------------------|---------|----------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------|---------|--|
| LOC: NE/4 SW/4 Sec 31 T23N R7W, 2121                                                                                                                                                         |                      |                                    | Encana Natural Gas |         |                      |        | ENG: S Kuykendall<br>RIG: Aztec 950<br>GLE: 6974<br>RKBE: 6990                                                                                  |                                          |                            | 3/18/14 |  |
| County: Sandoval                                                                                                                                                                             |                      |                                    | WELL SUMMARY       |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
| WELL: Lybrook J31-2307 01H                                                                                                                                                                   |                      |                                    |                    |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
| MWD                                                                                                                                                                                          | OPEN HOLE            | FORM                               | DEPTH              |         |                      | HOLE   | CASING                                                                                                                                          | MW                                       | DEVIATION                  |         |  |
| LWD                                                                                                                                                                                          | LOGGING              |                                    | TVD                | MD      |                      | SIZE   | SPECS                                                                                                                                           | MUD TYPE                                 | INFORMATION                |         |  |
|                                                                                                                                                                                              |                      |                                    | 60                 | 60'     |                      | 30     | 20" 94#<br>100sx Type I Neat 16.0ppg cmt                                                                                                        | Fresh wtr<br>8.3-9.2                     |                            |         |  |
| Multi-Well pad<br>- take survey<br>every stand<br>and run anti-<br>collision<br>report prior to<br>spud                                                                                      | None                 |                                    |                    |         |                      | 12 1/4 | 9 5/8" 36ppf J55 STC                                                                                                                            | Fresh wtr                                | Vertical                   |         |  |
|                                                                                                                                                                                              |                      | Nacimiento<br>9 5/8" Csg           | 0<br>500           |         |                      |        | TOC Surface - 201 sks of Type III<br>Cement                                                                                                     | 8.4-8.6                                  | <1°                        |         |  |
| Survey Every<br>60'-120',<br>updating<br>anticollision<br>report after<br>surveys. Stop<br>operations and<br>contact<br>drilling<br>engineer if<br>separation<br>factor<br>approaches<br>1.5 | No OH logs           | Ojo Alamo Ss.<br>Kirtland Shale    | 874<br>1,069       |         | Stage tool @ ~ 1,625 | 8 3/4  | 7" 26ppf J55 LTC                                                                                                                                | Fresh Wtr                                | Vertical                   |         |  |
|                                                                                                                                                                                              |                      | Fruitland Coal                     | 1,335              |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
|                                                                                                                                                                                              |                      | Pictured Cliffs Ss.<br>Lewis Shale | 1,459<br>1,575     |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
|                                                                                                                                                                                              |                      | Cliffhouse Ss.<br>Menefee Fn.      | 2,228<br>3,018     |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
|                                                                                                                                                                                              |                      | Point Lookout Ss.<br>Mancos Shale  | 3,843<br>4,025     |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
| Surveys every<br>30' through<br>the curve                                                                                                                                                    | Mud logger<br>onsite | KOP                                | 4,423              | 4,423.0 |                      |        | TOC @ surface<br>30% OH excess: 633 sksTotal.                                                                                                   | 8.5-8.8                                  |                            |         |  |
|                                                                                                                                                                                              |                      | Mancos Silt                        | 4,548              |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
|                                                                                                                                                                                              |                      | Gallup Fn.                         | 4,809              |         |                      |        |                                                                                                                                                 |                                          |                            |         |  |
|                                                                                                                                                                                              |                      | 7" Csg                             | 5,042              | 5,221.7 |                      |        |                                                                                                                                                 |                                          |                            |         |  |
| Surveys every<br>stand to TD<br>unless<br>directed<br>otherwise by<br>Geologist                                                                                                              | No OH Logs           | Horizontal Target<br>TD            | 5,075<br>5,031     | 9,850.9 |                      | 6 1/8  | 200' overlap at liner top                                                                                                                       | Horizontal Inclination<br>Horizontal TVD | Horiz Inc/TVD<br>/90.5 deg |         |  |
|                                                                                                                                                                                              |                      | Base Gallup                        | 5,149              |         |                      |        | 4629' Drilled Lateral                                                                                                                           | 8.6-9.0 OBM                              | TD = 9,850.9 MD            |         |  |
| MWD<br>Gamma<br>Directional                                                                                                                                                                  |                      |                                    |                    |         |                      |        | 4 1/2" 11.6ppf SB80 LTC                                                                                                                         | Switch to OBM<br>8.6-9.0                 |                            |         |  |
|                                                                                                                                                                                              |                      |                                    |                    |         |                      |        | Running external swellable csg packers for<br>isolation of prod string<br>Plan on setting top packer within 100' of<br>intermediate casing shoe |                                          |                            |         |  |

#### NOTES:

- 1) Drill with 30" bit to 60', set 20" 94# conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 4423', 8 3/4 inch holedsize
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to csg point of 5222' MD
- 7) R&C 7" csg, circ cmt to surface, switch to OBM
- 8) Land at 90 deg, drill lateral to 9851' run 4 1/2 inch liner with external swellable csg packers



## Boomerang Tube LLC

### CASING (OR) TUBING DESCRIPTION AND PERFORMANCE PROPERTIES

|                                          |       |                 |
|------------------------------------------|-------|-----------------|
| Pipe Outside Diameter (ins)              | _____ | 4.500           |
| Pipe Wall Thickness (ins)                | _____ | 0.250           |
| Nominal Weight Per Foot (lbs)            | _____ | 11.60           |
| Thread Name                              | _____ | Long Thread CSG |
| Grade Name                               | _____ | SB-80           |
| Pipe Minimum Yield (psi)                 | _____ | 80,000          |
| Pipe Minimum Ultimate (psi)              | _____ | 90,000          |
| Coupling Minimum Yield (psi)             | _____ | 80,000          |
| Coupling Minimum Ultimate (psi)          | _____ | 100,000         |
| Coupling or Joint Outside Diameter (ins) | _____ | 5.000           |
| Drift Diameter (ins)                     | _____ | 3.875           |
| Plain End Weight per Foot (lbs)          | _____ | 11.36           |
| Joint Strength (lbs)                     | _____ | 201,000         |
| Internal Yield (psi)                     | _____ | 7,780           |
| Collapse Rating (psi)                    | _____ | 6,350           |

### MAXIMUM DEPTH/LENGTH BASED ON MUD WTS & SAFETY FACTORS

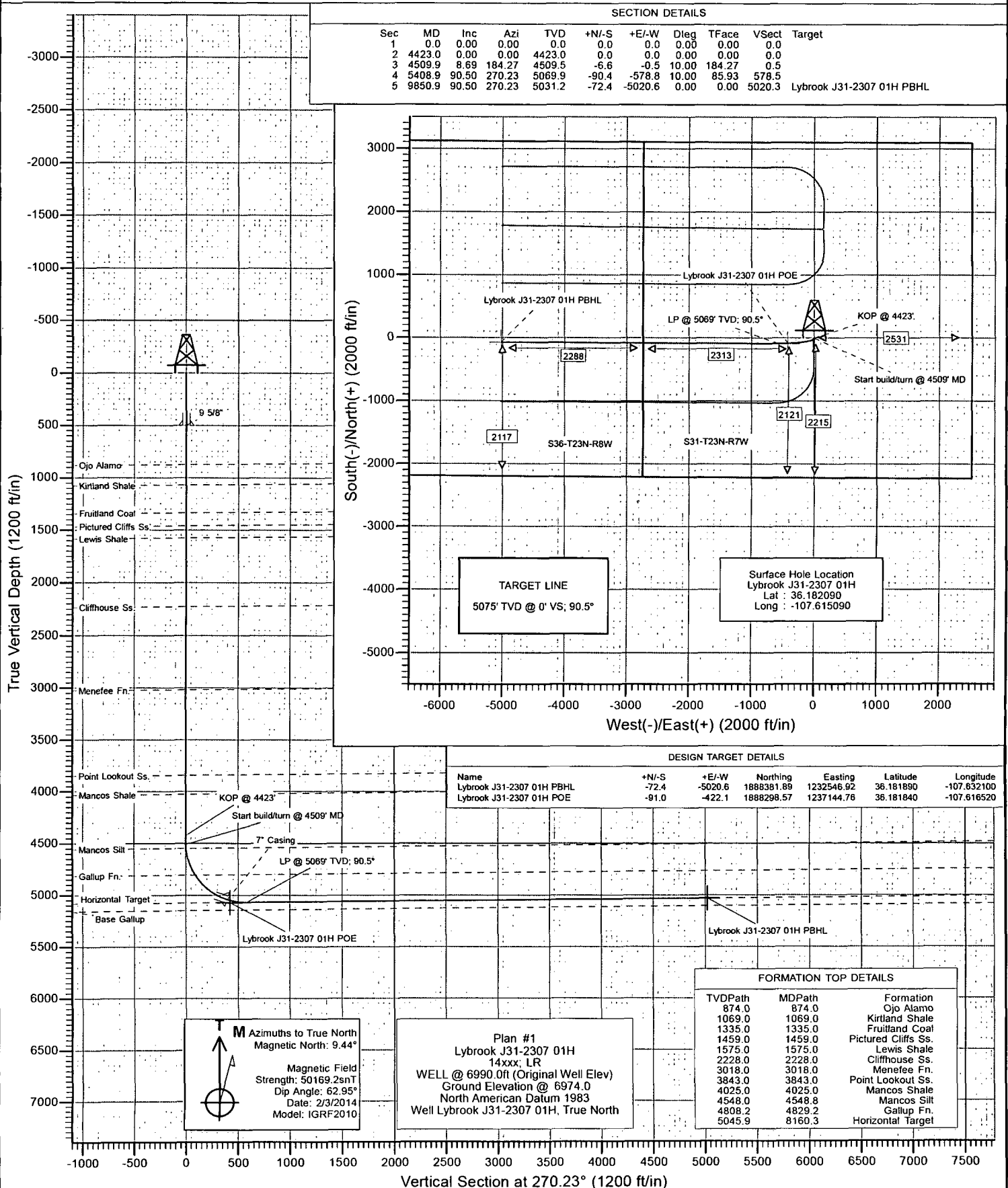
|                                       |       |        |
|---------------------------------------|-------|--------|
| Drilling Mud Weight (ppg)             | _____ | 9.625  |
| Tension Safety Factor                 | _____ | 1.80   |
| Maximum Tension Length (ft)           | _____ | 9,630  |
| Internal Yield Safety Factor          | _____ | 1.10   |
| Maximum Depth for Internal Yield (ft) | _____ | 14,150 |
| Collapse Safety Factor                | _____ | 1.125  |
| Maximum Collapse Depth (ft)           | _____ | 11,290 |

### API RELATED VALUES and INTERMEDIATE CALCULATION RESULTS

|                                            |       |         |
|--------------------------------------------|-------|---------|
| Coupling Thread Fracture Strength          | _____ | 464,000 |
| Pipe Thread Fracture Strength (lbs)        | _____ | 201,000 |
| Pipe Body Plain End Yield (lbs)            | _____ | 267,000 |
| Round Thread Pull-Out (lbs)                | _____ | 219,000 |
| Minimum Make-up Torque (ft-lbs)            | _____ | 1,640   |
| Nominal Make-up Torque (ft-lbs)            | _____ | 2,190   |
| Maximum Make-up Torque (ft-lbs)            | _____ | 2,740   |
| Coupling Internal Yield (psi)              | _____ | 10,660  |
| Pipe Body Internal Yield (psi)             | _____ | 7,780   |
| Leak @ E1 or E7 plane (psi)                | _____ | 17,920  |
| Pipe Hydrostatic Test Pressure @ 80 % SMYS | _____ | 7,100   |



Project: Sandoval County, NM  
 Site: S31-T23N-R7W  
 Well: Lybrook J31-2307 01H  
 Wellbore: Hz  
 Design: Plan #1



# Planning Report

|           |                             |                              |                                      |
|-----------|-----------------------------|------------------------------|--------------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook J31-2307 01H            |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | WELL @ 6990.0ft (Original Well Elev) |
| Project:  | Sandoval County, NM         | MD Reference:                | WELL @ 6990.0ft (Original Well Elev) |
| Site:     | S31-T23N-R7W                | North Reference:             | True                                 |
| Well:     | Lybrook J31-2307 01H        | Survey Calculation Method:   | Minimum Curvature                    |
| Wellbore: | Hz                          |                              |                                      |
| Design:   | Plan #1                     |                              |                                      |

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

|                       |              |              |                 |                   |             |
|-----------------------|--------------|--------------|-----------------|-------------------|-------------|
| Site                  | S31-T23N-R7W |              |                 |                   |             |
| Site Position:        |              | Northing:    | 1,890,125.34 ft | Latitude:         | 36.186880   |
| From:                 | Lat/Long     | Easting:     | 1,237,740.16 ft | Longitude:        | -107.614590 |
| Position Uncertainty: | 0.0 ft       | Slot Radius: | 13.200 in       | Grid Convergence: | -0.81 °     |

|                      |                      |                     |           |                 |            |             |
|----------------------|----------------------|---------------------|-----------|-----------------|------------|-------------|
| Well                 | Lybrook J31-2307 01H |                     |           |                 |            |             |
| Well Position        | +N/-S                | 0.0 ft              | Northing: | 1,888,383.64 ft | Latitude:  | 36.182090   |
|                      | +E/-W                | 0.0 ft              | Easting:  | 1,237,568.08 ft | Longitude: | -107.615090 |
| Position Uncertainty | 0.0 ft               | Wellhead Elevation: | ft        | Ground Level:   | 6,974.0 ft |             |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | Hz         |             |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF2010   | 2/3/2014    | 9.44            | 62.95         | 50,169              |

|                   |                  |       |               |           |
|-------------------|------------------|-------|---------------|-----------|
| Design            | Plan #1          |       |               |           |
| Audit Notes:      |                  |       |               |           |
| Version:          | Phase:           | PLAN  | Tie On Depth: | 0.0       |
| Vertical Section: | Depth From (TVD) | +N/-S | +E/-W         | Direction |
|                   | (ft)             | (ft)  | (ft)          | (°)       |
|                   | 0.0              | 0.0   | 0.0           | 270.23    |

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target               |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|----------------------|
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 4,423.0             | 0.00            | 0.00        | 4,423.0             | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 4,509.9             | 8.69            | 184.27      | 4,509.5             | -6.6       | -0.5       | 10.00                 | 10.00                | 0.00                | 184.27  |                      |
| 5,408.9             | 90.50           | 270.23      | 5,069.9             | -90.4      | -578.8     | 10.00                 | 9.10                 | 9.56                | 85.93   |                      |
| 9,850.9             | 90.50           | 270.23      | 5,031.2             | -72.4      | -5,020.6   | 0.00                  | 0.00                 | 0.00                | 0.00    | Lybrook J31-2307 01H |

# Planning Report

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | USA EDM 5000 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Project:</b>  | Sandoval County, NM         | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site:</b>     | S31-T23N-R7W                | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | Lybrook J31-2307 01H        | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | Hz                          |                                     |                                      |
| <b>Design:</b>   | Plan #1                     |                                     |                                      |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |                       |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 100.0               | 0.00            | 0.00        | 100.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 200.0               | 0.00            | 0.00        | 200.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 300.0               | 0.00            | 0.00        | 300.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 400.0               | 0.00            | 0.00        | 400.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 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                 |                       |
| 874.0               | 0.00            | 0.00        | 874.0               | 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                 |                       |
| 1,069.0             | 0.00            | 0.00        | 1,069.0             | 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                 |                       |
| 1,335.0             | 0.00            | 0.00        | 1,335.0             | 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                 |                       |
| 1,459.0             | 0.00            | 0.00        | 1,459.0             | 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                 |                       |
| 1,575.0             | 0.00            | 0.00        | 1,575.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Lewis Shale           |
| 1,600.0             | 0.00            | 0.00        | 1,600.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 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                 |                       |
| 2,228.0             | 0.00            | 0.00        | 2,228.0             | 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                 |                       |
| 3,018.0             | 0.00            | 0.00        | 3,018.0             | 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                 |                       |
| 3,843.0             | 0.00            | 0.00        | 3,843.0             | 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                 |                       |
| 4,025.0             | 0.00            | 0.00        | 4,025.0             | 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                 |                       |

# Planning Report

|           |                             |                              |                                      |
|-----------|-----------------------------|------------------------------|--------------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Lybrook J31-2307 01H            |
| Company:  | EnCana Oil & Gas (USA) Inc  | TVD Reference:               | WELL @ 6990.0ft (Original Well Elev) |
| Project:  | Sandoval County, NM         | MD Reference:                | WELL @ 6990.0ft (Original Well Elev) |
| Site:     | S31-T23N-R7W                | North Reference:             | True                                 |
| Well:     | Lybrook J31-2307 01H        | Survey Calculation Method:   | Minimum Curvature                    |
| Wellbore: | Hz                          |                              |                                      |
| Design:   | Plan #1                     |                              |                                      |

## Planned Survey

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Comments /<br>Formations   |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|----------------------------|
| 4,300.0                   | 0.00               | 0.00           | 4,300.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                            |
| 4,400.0                   | 0.00               | 0.00           | 4,400.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                            |
| 4,423.0                   | 0.00               | 0.00           | 4,423.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | KOP @ 4423'                |
| 4,500.0                   | 7.70               | 184.27         | 4,499.8                   | -5.2          | -0.4          | 0.4                         | 10.00                       | 10.00                      |                            |
| 4,509.9                   | 8.69               | 184.27         | 4,509.5                   | -6.6          | -0.5          | 0.5                         | 10.00                       | 10.00                      | Start build/tum @ 4509' MD |
| 4,548.8                   | 9.76               | 207.81         | 4,548.0                   | -12.4         | -2.2          | 2.2                         | 10.00                       | 2.76                       | Mancos Silt                |
| 4,600.0                   | 12.93              | 228.56         | 4,598.2                   | -20.0         | -8.6          | 8.5                         | 10.00                       | 6.18                       |                            |
| 4,700.0                   | 21.39              | 247.26         | 4,693.7                   | -34.5         | -33.8         | 33.7                        | 10.00                       | 8.46                       |                            |
| 4,800.0                   | 30.76              | 255.32         | 4,783.5                   | -48.1         | -75.5         | 75.3                        | 10.00                       | 9.37                       |                            |
| 4,829.2                   | 33.56              | 256.87         | 4,808.2                   | -51.8         | -90.6         | 90.4                        | 10.00                       | 9.59                       | Gallup Fn.                 |
| 4,900.0                   | 40.41              | 259.84         | 4,864.7                   | -60.3         | -132.3        | 132.0                       | 10.00                       | 9.68                       |                            |
| 5,000.0                   | 50.18              | 262.86         | 4,935.0                   | -70.8         | -202.5        | 202.2                       | 10.00                       | 9.77                       |                            |
| 5,100.0                   | 60.00              | 265.11         | 4,992.2                   | -79.3         | -283.9        | 283.6                       | 10.00                       | 9.83                       |                            |
| 5,200.0                   | 69.86              | 266.95         | 5,034.5                   | -85.5         | -374.2        | 373.8                       | 10.00                       | 9.86                       |                            |
| 5,221.7                   | 72.00              | 267.32         | 5,041.6                   | -86.6         | -394.6        | 394.3                       | 10.00                       | 9.87                       | 7" Casing                  |
| 5,300.0                   | 79.73              | 268.57         | 5,060.7                   | -89.3         | -470.5        | 470.1                       | 10.00                       | 9.88                       |                            |
| 5,400.0                   | 89.62              | 270.10         | 5,069.9                   | -90.4         | -569.9        | 569.5                       | 10.00                       | 9.88                       |                            |
| 5,408.9                   | 90.50              | 270.23         | 5,069.9                   | -90.4         | -578.8        | 578.5                       | 10.00                       | 9.88                       | LP @ 5069' TVD; 90.5°      |
| 5,500.0                   | 90.50              | 270.23         | 5,069.1                   | -90.0         | -669.9        | 669.5                       | 0.00                        | 0.00                       |                            |
| 5,600.0                   | 90.50              | 270.23         | 5,068.3                   | -89.6         | -769.9        | 769.5                       | 0.00                        | 0.00                       |                            |
| 5,700.0                   | 90.50              | 270.23         | 5,067.4                   | -89.2         | -869.9        | 869.5                       | 0.00                        | 0.00                       |                            |
| 5,800.0                   | 90.50              | 270.23         | 5,066.5                   | -88.8         | -969.9        | 969.5                       | 0.00                        | 0.00                       |                            |
| 5,900.0                   | 90.50              | 270.23         | 5,065.7                   | -88.4         | -1,069.9      | 1,069.5                     | 0.00                        | 0.00                       |                            |
| 6,000.0                   | 90.50              | 270.23         | 5,064.8                   | -88.0         | -1,169.9      | 1,169.5                     | 0.00                        | 0.00                       |                            |
| 6,100.0                   | 90.50              | 270.23         | 5,063.9                   | -87.6         | -1,269.9      | 1,269.5                     | 0.00                        | 0.00                       |                            |
| 6,200.0                   | 90.50              | 270.23         | 5,063.0                   | -87.2         | -1,369.9      | 1,369.5                     | 0.00                        | 0.00                       |                            |
| 6,300.0                   | 90.50              | 270.23         | 5,062.2                   | -86.8         | -1,469.9      | 1,469.5                     | 0.00                        | 0.00                       |                            |
| 6,400.0                   | 90.50              | 270.23         | 5,061.3                   | -86.4         | -1,569.9      | 1,569.5                     | 0.00                        | 0.00                       |                            |
| 6,500.0                   | 90.50              | 270.23         | 5,060.4                   | -86.0         | -1,669.9      | 1,669.5                     | 0.00                        | 0.00                       |                            |
| 6,600.0                   | 90.50              | 270.23         | 5,059.5                   | -85.6         | -1,769.8      | 1,769.5                     | 0.00                        | 0.00                       |                            |
| 6,700.0                   | 90.50              | 270.23         | 5,058.7                   | -85.2         | -1,869.8      | 1,869.5                     | 0.00                        | 0.00                       |                            |
| 6,800.0                   | 90.50              | 270.23         | 5,057.8                   | -84.7         | -1,969.8      | 1,969.5                     | 0.00                        | 0.00                       |                            |
| 6,900.0                   | 90.50              | 270.23         | 5,056.9                   | -84.3         | -2,069.8      | 2,069.5                     | 0.00                        | 0.00                       |                            |
| 7,000.0                   | 90.50              | 270.23         | 5,056.1                   | -83.9         | -2,169.8      | 2,169.5                     | 0.00                        | 0.00                       |                            |
| 7,100.0                   | 90.50              | 270.23         | 5,055.2                   | -83.5         | -2,269.8      | 2,269.5                     | 0.00                        | 0.00                       |                            |
| 7,200.0                   | 90.50              | 270.23         | 5,054.3                   | -83.1         | -2,369.8      | 2,369.5                     | 0.00                        | 0.00                       |                            |
| 7,300.0                   | 90.50              | 270.23         | 5,053.4                   | -82.7         | -2,469.8      | 2,469.5                     | 0.00                        | 0.00                       |                            |
| 7,400.0                   | 90.50              | 270.23         | 5,052.6                   | -82.3         | -2,569.8      | 2,569.5                     | 0.00                        | 0.00                       |                            |
| 7,500.0                   | 90.50              | 270.23         | 5,051.7                   | -81.9         | -2,669.8      | 2,669.5                     | 0.00                        | 0.00                       |                            |
| 7,600.0                   | 90.50              | 270.23         | 5,050.8                   | -81.5         | -2,769.8      | 2,769.5                     | 0.00                        | 0.00                       |                            |
| 7,700.0                   | 90.50              | 270.23         | 5,050.0                   | -81.1         | -2,869.8      | 2,869.4                     | 0.00                        | 0.00                       |                            |
| 7,800.0                   | 90.50              | 270.23         | 5,049.1                   | -80.7         | -2,969.8      | 2,969.4                     | 0.00                        | 0.00                       |                            |
| 7,900.0                   | 90.50              | 270.23         | 5,048.2                   | -80.3         | -3,069.8      | 3,069.4                     | 0.00                        | 0.00                       |                            |
| 8,000.0                   | 90.50              | 270.23         | 5,047.3                   | -79.9         | -3,169.8      | 3,169.4                     | 0.00                        | 0.00                       |                            |
| 8,100.0                   | 90.50              | 270.23         | 5,046.5                   | -79.5         | -3,269.8      | 3,269.4                     | 0.00                        | 0.00                       |                            |
| 8,160.3                   | 90.50              | 270.23         | 5,045.9                   | -79.2         | -3,330.1      | 3,329.7                     | 0.00                        | 0.00                       | Horizontal Target          |
| 8,200.0                   | 90.50              | 270.23         | 5,045.6                   | -79.1         | -3,369.8      | 3,369.4                     | 0.00                        | 0.00                       |                            |
| 8,300.0                   | 90.50              | 270.23         | 5,044.7                   | -78.7         | -3,469.8      | 3,469.4                     | 0.00                        | 0.00                       |                            |
| 8,400.0                   | 90.50              | 270.23         | 5,043.9                   | -78.3         | -3,569.8      | 3,569.4                     | 0.00                        | 0.00                       |                            |
| 8,500.0                   | 90.50              | 270.23         | 5,043.0                   | -77.9         | -3,669.8      | 3,669.4                     | 0.00                        | 0.00                       |                            |
| 8,600.0                   | 90.50              | 270.23         | 5,042.1                   | -77.5         | -3,769.8      | 3,769.4                     | 0.00                        | 0.00                       |                            |
| 8,700.0                   | 90.50              | 270.23         | 5,041.2                   | -77.0         | -3,869.8      | 3,869.4                     | 0.00                        | 0.00                       |                            |

# Planning Report

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | USA EDM 5000 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Project:</b>  | Sandoval County, NM         | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site:</b>     | S31-T23N-R7W                | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | Lybrook J31-2307 01H        | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | Hz                          |                                     |                                      |
| <b>Design:</b>   | Plan #1                     |                                     |                                      |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |                       |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
| 8,800.0             | 90.50           | 270.23      | 5,040.4             | -76.6      | -3,969.7   | 3,969.4               | 0.00                  | 0.00                 |                       |
| 8,900.0             | 90.50           | 270.23      | 5,039.5             | -76.2      | -4,069.7   | 4,069.4               | 0.00                  | 0.00                 |                       |
| 9,000.0             | 90.50           | 270.23      | 5,038.6             | -75.8      | -4,169.7   | 4,169.4               | 0.00                  | 0.00                 |                       |
| 9,100.0             | 90.50           | 270.23      | 5,037.7             | -75.4      | -4,269.7   | 4,269.4               | 0.00                  | 0.00                 |                       |
| 9,200.0             | 90.50           | 270.23      | 5,036.9             | -75.0      | -4,369.7   | 4,369.4               | 0.00                  | 0.00                 |                       |
| 9,300.0             | 90.50           | 270.23      | 5,036.0             | -74.6      | -4,469.7   | 4,469.4               | 0.00                  | 0.00                 |                       |
| 9,400.0             | 90.50           | 270.23      | 5,035.1             | -74.2      | -4,569.7   | 4,569.4               | 0.00                  | 0.00                 |                       |
| 9,500.0             | 90.50           | 270.23      | 5,034.3             | -73.8      | -4,669.7   | 4,669.4               | 0.00                  | 0.00                 |                       |
| 9,600.0             | 90.50           | 270.23      | 5,033.4             | -73.4      | -4,769.7   | 4,769.4               | 0.00                  | 0.00                 |                       |
| 9,700.0             | 90.50           | 270.23      | 5,032.5             | -73.0      | -4,869.7   | 4,869.4               | 0.00                  | 0.00                 |                       |
| 9,800.0             | 90.50           | 270.23      | 5,031.6             | -72.6      | -4,969.7   | 4,969.4               | 0.00                  | 0.00                 |                       |
| 9,850.9             | 90.50           | 270.23      | 5,031.2             | -72.4      | -5,020.6   | 5,020.3               | 0.00                  | 0.00                 | TD at 9850.9          |

| Targets                                                                                                                   |               |              |          |            |            |               |              |           |             |
|---------------------------------------------------------------------------------------------------------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name                                                                                                               | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
| Lybrook J31-2307 01H F<br>- hit/miss target<br>- Shape<br>- Point                                                         | 0.00          | 0.00         | 5,031.2  | -72.4      | -5,020.6   | 1,888,381.89  | 1,232,546.92 | 36.181890 | -107.632100 |
| Lybrook J31-2307 01H F<br>- plan misses target center by 21.1ft at 5255.7ft MD (5051.1 TVD, -87.9 N, -427.3 E)<br>- Point | 0.00          | 0.00         | 5,071.3  | -91.0      | -422.1     | 1,888,298.57  | 1,237,144.76 | 36.181840 | -107.616520 |

| Casing Points       |                     |           |                      |                    |  |
|---------------------|---------------------|-----------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name      | Casing Diameter (in) | Hole Diameter (in) |  |
| 500.0               | 500.0               | 9 5/8"    | 0.000                | 0.000              |  |
| 5,221.7             | 5,041.6             | 7" Casing | 0.000                | 0.000              |  |

# Planning Report

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | USA EDM 5000 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Project:</b>  | Sandoval County, NM         | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site:</b>     | S31-T23N-R7W                | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | Lybrook J31-2307 01H        | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | H2                          |                                     |                                      |
| <b>Design:</b>   | Plan #1                     |                                     |                                      |

| Formations          |                     |                     |           |         |                   |
|---------------------|---------------------|---------------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name                | Lithology | Dip (°) | Dip Direction (°) |
| 874.0               | 874.0               | Ojo Alamo           |           | -0.50   | 270.23            |
| 1,069.0             | 1,069.0             | Kirtland Shale      |           | -0.50   | 270.23            |
| 1,335.0             | 1,335.0             | Fruitland Coal      |           | -0.50   | 270.23            |
| 1,459.0             | 1,459.0             | Pictured Cliffs Ss. |           | -0.50   | 270.23            |
| 1,575.0             | 1,575.0             | Lewis Shale         |           | -0.50   | 270.23            |
| 2,228.0             | 2,228.0             | Cliffhouse Ss.      |           | -0.50   | 270.23            |
| 3,018.0             | 3,018.0             | Menefee Fn.         |           | -0.50   | 270.23            |
| 3,843.0             | 3,843.0             | Point Lookout Ss.   |           | -0.50   | 270.23            |
| 4,025.0             | 4,025.0             | Mancos Shale        |           | -0.50   | 270.23            |
| 4,548.8             | 4,548.0             | Mancos Silt         |           | -0.50   | 270.23            |
| 4,829.2             | 4,809.0             | Gallup Fn.          |           | -0.50   | 270.23            |
| 8,160.3             | 5,075.0             | Horizontal Target   |           | -0.50   | 270.23            |

| Plan Annotations    |                     |                   |            |                             |
|---------------------|---------------------|-------------------|------------|-----------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                     |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                             |
| 4,423.0             | 4,423.0             | 0.0               | 0.0        | KOP @ 4423'                 |
| 4,509.9             | 4,509.5             | -6.6              | -0.5       | Start build/turn @ 4509' MD |
| 5,408.9             | 5,069.9             | -90.4             | -578.8     | LP @ 5069' TVD; 90.5°       |
| 9,850.9             | 5,031.2             | -72.4             | -5,020.6   | TD at 9850.9                |

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

**Sandoval County, NM**

**S31-T23N-R7W**

**Lybrook J31-2307 01H**

**Hz**

**Plan #1**

## **Anticollision Report**

**04 February, 2014**

# Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Project:</b>           | Sandoval County, NM        | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | S31-T23N-R7W               | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | Lybrook J31-2307 01H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | Hz                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

|                                     |                                                                     |
|-------------------------------------|---------------------------------------------------------------------|
| <b>Reference</b>                    | Plan #1                                                             |
| <b>Filter type:</b>                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |
| <b>Interpolation Method:</b>        | MD Interval 100.0ft                                                 |
| <b>Depth Range:</b>                 | Unlimited                                                           |
| <b>Results Limited by:</b>          | Maximum center-center distance of 1,200.4ft                         |
| <b>Warning Levels Evaluated at:</b> | 2.00 Sigma                                                          |
| <b>Error Model:</b>                 | Systematic Ellipse                                                  |
| <b>Scan Method:</b>                 | Closest Approach 3D                                                 |
| <b>Error Surface:</b>               | Elliptical Conic                                                    |

|                     |            |                   |             |             |
|---------------------|------------|-------------------|-------------|-------------|
| Survey Tool Program |            | Date 2/4/2014     |             |             |
| From<br>(ft)        | To<br>(ft) | Survey (Wellbore) | Tool Name   | Description |
| 0.0                 | 9,850.0    | Plan #1 (Hz)      | Geolink MWD | Geolink MWD |

| Summary                             |                               |                            |                               |                                |                   |              |
|-------------------------------------|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|--------------|
| Site Name                           | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning      |
| Offset Well - Wellbore - Design     |                               |                            |                               |                                |                   |              |
| S31-T23N-R7W                        |                               |                            |                               |                                |                   |              |
| Lybrook G31-2307 01H - Hz - Plan #1 |                               |                            |                               |                                |                   | Out of range |
| Lybrook G31-2307 02H - Hz - Plan #1 |                               |                            |                               |                                |                   | Out of range |
| Lybrook G31-2307 03H - Hz - Plan #1 | 5,213.7                       | 5,900.0                    | 936.3                         | 906.7                          | 31.568            | CC           |
| Lybrook G31-2307 03H - Hz - Plan #1 | 9,850.9                       | 10,501.5                   | 939.5                         | 687.5                          | 3.727             | ES, SF       |
| Lybrook J31-2307 02H - Hz - Plan #1 | 4,343.2                       | 4,343.2                    | 30.1                          | 15.0                           | 1.991             | CC, ES, SF   |

# Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Project:</b>           | Sandoval County, NM        | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | S31-T23N-R7W               | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | Lybrook J31-2307 01H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | Hz                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design S31-T23N-R7W - Lybrook G31-2307 03H - Hz - Plan #1 |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                              |                      |         | 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) |                              |                      |         |                    |        |
| 4,300.0                                                          | 4,300.0                   | 5,678.2                   | 5,093.7                   | 7.5               | 19.4           | -12.66                      | 887.9                  | -199.5        | 1,193.8                    | 1,171.0                     | 22.80                        | 52.365               |         |                    |        |
| 4,400.0                                                          | 4,400.0                   | 5,686.3                   | 5,094.9                   | 7.7               | 19.6           | -13.17                      | 885.1                  | -207.1        | 1,131.6                    | 1,108.4                     | 23.20                        | 48.770               |         |                    |        |
| 4,500.0                                                          | 4,499.8                   | 5,700.0                   | 5,097.0                   | 7.8               | 19.7           | 163.08                      | 880.7                  | -219.8        | 1,079.3                    | 1,056.5                     | 22.80                        | 47.329               |         |                    |        |
| 4,600.0                                                          | 4,598.2                   | 5,700.0                   | 5,097.0                   | 8.0               | 19.7           | 123.21                      | 880.7                  | -219.8        | 1,041.2                    | 1,018.9                     | 22.36                        | 46.571               |         |                    |        |
| 4,700.0                                                          | 4,693.7                   | 5,726.5                   | 5,100.5                   | 8.2               | 20.1           | 107.30                      | 872.9                  | -244.9        | 1,008.3                    | 985.7                       | 22.68                        | 44.454               |         |                    |        |
| 4,800.0                                                          | 4,783.5                   | 5,750.0                   | 5,103.3                   | 8.6               | 20.5           | 101.65                      | 866.8                  | -267.5        | 981.4                      | 958.3                       | 23.08                        | 42.523               |         |                    |        |
| 4,900.0                                                          | 4,864.7                   | 5,779.4                   | 5,106.1                   | 9.1               | 20.9           | 98.74                       | 860.4                  | -296.0        | 960.8                      | 936.9                       | 23.92                        | 40.171               |         |                    |        |
| 5,000.0                                                          | 4,935.0                   | 5,800.0                   | 5,107.7                   | 9.8               | 21.2           | 97.20                       | 856.8                  | -316.2        | 946.8                      | 921.9                       | 24.90                        | 38.029               |         |                    |        |
| 5,100.0                                                          | 4,992.2                   | 5,850.0                   | 5,110.3                   | 11.0              | 21.9           | 95.08                       | 850.6                  | -365.7        | 938.6                      | 911.6                       | 27.00                        | 34.767               |         |                    |        |
| 5,200.0                                                          | 5,034.5                   | 5,900.0                   | 5,111.1                   | 12.5              | 22.5           | 93.37                       | 848.3                  | -415.7        | 936.4                      | 907.0                       | 29.44                        | 31.809               |         |                    |        |
| 5,213.7                                                          | 5,039.1                   | 5,900.0                   | 5,111.1                   | 12.7              | 22.5           | 93.30                       | 848.3                  | -415.7        | 936.3                      | 906.7                       | 29.66                        | 31.568 CC            |         |                    |        |
| 5,300.0                                                          | 5,060.7                   | 5,951.2                   | 5,110.7                   | 14.3              | 23.3           | 92.04                       | 848.5                  | -466.9        | 938.2                      | 906.0                       | 32.17                        | 29.164               |         |                    |        |
| 5,400.0                                                          | 5,069.9                   | 6,050.6                   | 5,109.8                   | 16.3              | 24.9           | 91.15                       | 848.9                  | -566.3        | 939.5                      | 903.4                       | 36.07                        | 26.048               |         |                    |        |
| 5,500.0                                                          | 5,069.1                   | 6,150.6                   | 5,108.9                   | 18.5              | 26.6           | 91.15                       | 849.3                  | -666.3        | 939.5                      | 899.1                       | 40.39                        | 23.258               |         |                    |        |
| 5,600.0                                                          | 5,068.3                   | 6,250.6                   | 5,108.0                   | 20.7              | 28.4           | 91.15                       | 849.7                  | -766.2        | 939.5                      | 894.6                       | 44.87                        | 20.936               |         |                    |        |
| 5,700.0                                                          | 5,067.4                   | 6,350.6                   | 5,107.2                   | 22.9              | 30.4           | 91.15                       | 850.1                  | -866.2        | 939.5                      | 890.1                       | 49.44                        | 19.001               |         |                    |        |
| 5,800.0                                                          | 5,066.5                   | 6,450.6                   | 5,106.3                   | 25.2              | 32.4           | 91.15                       | 850.5                  | -966.2        | 939.5                      | 885.4                       | 54.08                        | 17.372               |         |                    |        |
| 5,900.0                                                          | 5,065.7                   | 6,550.6                   | 5,105.4                   | 27.6              | 34.5           | 91.15                       | 850.9                  | -1,066.2      | 939.5                      | 880.7                       | 58.77                        | 15.986               |         |                    |        |
| 6,000.0                                                          | 5,064.8                   | 6,650.6                   | 5,104.6                   | 29.9              | 36.6           | 91.15                       | 851.3                  | -1,166.2      | 939.5                      | 876.0                       | 63.50                        | 14.796               |         |                    |        |
| 6,100.0                                                          | 5,063.9                   | 6,750.6                   | 5,103.7                   | 32.3              | 38.8           | 91.15                       | 851.7                  | -1,266.2      | 939.5                      | 871.3                       | 68.26                        | 13.764               |         |                    |        |
| 6,200.0                                                          | 5,063.0                   | 6,850.6                   | 5,102.8                   | 34.7              | 41.0           | 91.15                       | 852.1                  | -1,366.2      | 939.5                      | 866.5                       | 73.04                        | 12.863               |         |                    |        |
| 6,300.0                                                          | 5,062.2                   | 6,950.6                   | 5,101.9                   | 37.1              | 43.3           | 91.15                       | 852.5                  | -1,466.2      | 939.5                      | 861.7                       | 77.85                        | 12.069               |         |                    |        |
| 6,400.0                                                          | 5,061.3                   | 7,050.6                   | 5,101.1                   | 39.5              | 45.5           | 91.15                       | 853.0                  | -1,566.2      | 939.5                      | 856.8                       | 82.67                        | 11.365               |         |                    |        |
| 6,500.0                                                          | 5,060.4                   | 7,150.6                   | 5,100.2                   | 41.9              | 47.8           | 91.15                       | 853.4                  | -1,666.2      | 939.5                      | 852.0                       | 87.51                        | 10.737               |         |                    |        |
| 6,600.0                                                          | 5,059.5                   | 7,250.6                   | 5,099.3                   | 44.3              | 50.1           | 91.15                       | 853.8                  | -1,766.2      | 939.5                      | 847.2                       | 92.35                        | 10.173               |         |                    |        |
| 6,700.0                                                          | 5,058.7                   | 7,350.6                   | 5,098.4                   | 46.8              | 52.5           | 91.14                       | 854.2                  | -1,866.2      | 939.5                      | 842.3                       | 97.21                        | 9.665                |         |                    |        |
| 6,800.0                                                          | 5,057.8                   | 7,450.6                   | 5,097.6                   | 49.2              | 54.8           | 91.14                       | 854.6                  | -1,966.2      | 939.5                      | 837.4                       | 102.08                       | 9.204                |         |                    |        |
| 6,900.0                                                          | 5,056.9                   | 7,550.6                   | 5,096.7                   | 51.6              | 57.2           | 91.14                       | 855.0                  | -2,066.2      | 939.5                      | 832.6                       | 106.95                       | 8.784                |         |                    |        |
| 7,000.0                                                          | 5,056.1                   | 7,650.6                   | 5,095.8                   | 54.1              | 59.5           | 91.14                       | 855.4                  | -2,166.2      | 939.5                      | 827.7                       | 111.83                       | 8.401                |         |                    |        |
| 7,100.0                                                          | 5,055.2                   | 7,750.6                   | 5,095.0                   | 56.5              | 61.9           | 91.14                       | 855.8                  | -2,266.2      | 939.5                      | 822.8                       | 116.72                       | 8.049                |         |                    |        |
| 7,200.0                                                          | 5,054.3                   | 7,850.6                   | 5,094.1                   | 59.0              | 64.3           | 91.14                       | 856.2                  | -2,366.2      | 939.5                      | 817.9                       | 121.61                       | 7.726                |         |                    |        |
| 7,300.0                                                          | 5,053.4                   | 7,950.6                   | 5,093.2                   | 61.4              | 66.7           | 91.14                       | 856.6                  | -2,466.2      | 939.5                      | 813.0                       | 126.50                       | 7.427                |         |                    |        |
| 7,400.0                                                          | 5,052.6                   | 8,050.6                   | 5,092.3                   | 63.9              | 69.0           | 91.14                       | 857.0                  | -2,566.2      | 939.5                      | 808.1                       | 131.40                       | 7.150                |         |                    |        |
| 7,500.0                                                          | 5,051.7                   | 8,150.6                   | 5,091.5                   | 66.3              | 71.4           | 91.14                       | 857.4                  | -2,666.2      | 939.5                      | 803.2                       | 136.31                       | 6.893                |         |                    |        |
| 7,600.0                                                          | 5,050.8                   | 8,250.6                   | 5,090.6                   | 68.8              | 73.9           | 91.14                       | 857.8                  | -2,766.2      | 939.5                      | 798.3                       | 141.21                       | 6.653                |         |                    |        |
| 7,700.0                                                          | 5,050.0                   | 8,350.6                   | 5,089.7                   | 71.2              | 76.3           | 91.14                       | 858.2                  | -2,866.2      | 939.5                      | 793.4                       | 146.12                       | 6.430                |         |                    |        |
| 7,800.0                                                          | 5,049.1                   | 8,450.6                   | 5,088.9                   | 73.7              | 78.7           | 91.14                       | 858.6                  | -2,966.1      | 939.5                      | 788.5                       | 151.03                       | 6.221                |         |                    |        |
| 7,900.0                                                          | 5,048.2                   | 8,550.6                   | 5,088.0                   | 76.1              | 81.1           | 91.14                       | 859.0                  | -3,066.1      | 939.5                      | 783.6                       | 155.95                       | 6.025                |         |                    |        |
| 8,000.0                                                          | 5,047.3                   | 8,650.6                   | 5,087.1                   | 78.6              | 83.5           | 91.14                       | 859.4                  | -3,166.1      | 939.5                      | 778.7                       | 160.86                       | 5.841                |         |                    |        |
| 8,100.0                                                          | 5,046.5                   | 8,750.6                   | 5,086.2                   | 81.1              | 85.9           | 91.14                       | 859.8                  | -3,266.1      | 939.5                      | 773.7                       | 165.78                       | 5.667                |         |                    |        |
| 8,200.0                                                          | 5,045.6                   | 8,850.6                   | 5,085.4                   | 83.5              | 88.4           | 91.14                       | 860.3                  | -3,366.1      | 939.5                      | 768.8                       | 170.70                       | 5.504                |         |                    |        |
| 8,300.0                                                          | 5,044.7                   | 8,950.6                   | 5,084.5                   | 86.0              | 90.8           | 91.14                       | 860.7                  | -3,466.1      | 939.5                      | 763.9                       | 175.62                       | 5.350                |         |                    |        |
| 8,400.0                                                          | 5,043.9                   | 9,050.6                   | 5,083.6                   | 88.4              | 93.2           | 91.14                       | 861.1                  | -3,566.1      | 939.5                      | 759.0                       | 180.54                       | 5.204                |         |                    |        |
| 8,500.0                                                          | 5,043.0                   | 9,150.6                   | 5,082.7                   | 90.9              | 95.7           | 91.14                       | 861.5                  | -3,666.1      | 939.5                      | 754.1                       | 185.47                       | 5.066                |         |                    |        |
| 8,600.0                                                          | 5,042.1                   | 9,250.6                   | 5,081.9                   | 93.4              | 98.1           | 91.14                       | 861.9                  | -3,766.1      | 939.5                      | 749.1                       | 190.39                       | 4.935                |         |                    |        |
| 8,700.0                                                          | 5,041.2                   | 9,350.6                   | 5,081.0                   | 95.8              | 100.5          | 91.14                       | 862.3                  | -3,866.1      | 939.5                      | 744.2                       | 195.32                       | 4.810                |         |                    |        |
| 8,800.0                                                          | 5,040.4                   | 9,450.6                   | 5,080.1                   | 98.3              | 103.0          | 91.14                       | 862.7                  | -3,966.1      | 939.5                      | 739.3                       | 200.24                       | 4.692                |         |                    |        |
| 8,900.0                                                          | 5,039.5                   | 9,550.6                   | 5,079.3                   | 100.8             | 105.4          | 91.14                       | 863.1                  | -4,066.1      | 939.5                      | 734.3                       | 205.17                       | 4.579                |         |                    |        |
| 9,000.0                                                          | 5,038.6                   | 9,650.6                   | 5,078.4                   | 103.2             | 107.9          | 91.14                       | 863.5                  | -4,166.1      | 939.5                      | 729.4                       | 210.10                       | 4.472                |         |                    |        |
| 9,100.0                                                          | 5,037.7                   | 9,750.6                   | 5,077.5                   | 105.7             | 110.3          | 91.14                       | 863.9                  | -4,266.1      | 939.5                      | 724.5                       | 215.03                       | 4.369                |         |                    |        |
| 9,200.0                                                          | 5,036.9                   | 9,850.6                   | 5,076.6                   | 108.2             | 112.7          | 91.14                       | 864.3                  | -4,366.1      | 939.5                      | 719.6                       | 219.96                       | 4.271                |         |                    |        |
| 9,300.0                                                          | 5,036.0                   | 9,950.6                   | 5,075.8                   | 110.6             | 115.2          | 91.14                       | 864.7                  | -4,466.1      | 939.5                      | 714.6                       | 224.89                       | 4.178                |         |                    |        |

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

# Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Project:</b>           | Sandoval County, NM        | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | S31-T23N-R7W               | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | Lybrook J31-2307 01H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | Hz                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

|                 |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                                                    |         |                    |  |        |  |
|-----------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|------------------------|-------------------|----------------------------------------------------|---------|--------------------|--|--------|--|
| Offset Design   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   | S31-T23N-R7W - Lybrook G31-2307 03H - Hz - Plan #1 |         | 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 |            | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor |                                                    |         |                    |  |        |  |
| (ft)            | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             |                        |                   |                                                    |         |                    |  |        |  |
|                 |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                                                    |         |                    |  |        |  |
| 9,400.0         | 5,035.1        | 10,050.6       | 5,074.9        | 113.1           | 117.6  | 91.14             | 865.1                  | -4,566.1   | 939.5           | 709.7            | 229.83                 | 4.088             |                                                    |         |                    |  |        |  |
| 9,500.0         | 5,034.3        | 10,150.6       | 5,074.0        | 115.6           | 120.1  | 91.14             | 865.5                  | -4,666.1   | 939.5           | 704.8            | 234.76                 | 4.002             |                                                    |         |                    |  |        |  |
| 9,600.0         | 5,033.4        | 10,250.6       | 5,073.1        | 118.0           | 122.5  | 91.14             | 865.9                  | -4,766.1   | 939.5           | 699.8            | 239.69                 | 3.920             |                                                    |         |                    |  |        |  |
| 9,700.0         | 5,032.5        | 10,350.6       | 5,072.3        | 120.5           | 125.0  | 91.14             | 866.3                  | -4,866.1   | 939.5           | 694.9            | 244.63                 | 3.841             |                                                    |         |                    |  |        |  |
| 9,800.0         | 5,031.6        | 10,450.6       | 5,071.4        | 123.0           | 127.4  | 91.14             | 866.7                  | -4,966.1   | 939.5           | 690.0            | 249.56                 | 3.765             |                                                    |         |                    |  |        |  |
| 9,850.9         | 5,031.2        | 10,501.5       | 5,071.0        | 124.2           | 128.7  | 91.14             | 866.9                  | -5,017.0   | 939.5           | 687.5            | 252.07                 | 3.727 ES, SF      |                                                    |         |                    |  |        |  |

# Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Project:</b>           | Sandoval County, NM        | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | S31-T23N-R7W               | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | Lybrook J31-2307 01H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | Hz                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design S31-T23N-R7W - Lybrook J31-2307 02H - Hz - Plan #1 |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                              |                      |         | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|---------------|----------------------------|-----------------------------|------------------------------|----------------------|---------|--------------------|--------|
| Survey Program: O-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) |                              |                      |         |                    |        |
| 0.0                                                              | 0.0                       | 0.0                       | 0.0                       | 0.0               | 0.0            | -136.60                     | -21.8                  | -20.7         | 30.1                       |                             |                              |                      |         |                    |        |
| 100.0                                                            | 100.0                     | 100.0                     | 100.0                     | 0.1               | 0.1            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 29.8                        | 0.29                         | 102.545              |         |                    |        |
| 200.0                                                            | 200.0                     | 200.0                     | 200.0                     | 0.3               | 0.3            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 29.4                        | 0.64                         | 46.814               |         |                    |        |
| 300.0                                                            | 300.0                     | 300.0                     | 300.0                     | 0.5               | 0.5            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 29.1                        | 0.99                         | 30.330               |         |                    |        |
| 400.0                                                            | 400.0                     | 400.0                     | 400.0                     | 0.7               | 0.7            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 28.7                        | 1.34                         | 22.432               |         |                    |        |
| 500.0                                                            | 500.0                     | 500.0                     | 500.0                     | 0.8               | 0.8            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 28.4                        | 1.69                         | 17.797               |         |                    |        |
| 600.0                                                            | 600.0                     | 600.0                     | 600.0                     | 1.0               | 1.0            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 28.0                        | 2.04                         | 14.750               |         |                    |        |
| 700.0                                                            | 700.0                     | 700.0                     | 700.0                     | 1.2               | 1.2            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 27.7                        | 2.39                         | 12.593               |         |                    |        |
| 800.0                                                            | 800.0                     | 800.0                     | 800.0                     | 1.4               | 1.4            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 27.3                        | 2.74                         | 10.987               |         |                    |        |
| 900.0                                                            | 900.0                     | 900.0                     | 900.0                     | 1.5               | 1.5            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 27.0                        | 3.09                         | 9.744                |         |                    |        |
| 1,000.0                                                          | 1,000.0                   | 1,000.0                   | 1,000.0                   | 1.7               | 1.7            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 26.6                        | 3.43                         | 8.754                |         |                    |        |
| 1,100.0                                                          | 1,100.0                   | 1,100.0                   | 1,100.0                   | 1.9               | 1.9            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 26.3                        | 3.78                         | 7.946                |         |                    |        |
| 1,200.0                                                          | 1,200.0                   | 1,200.0                   | 1,200.0                   | 2.1               | 2.1            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 25.9                        | 4.13                         | 7.275                |         |                    |        |
| 1,300.0                                                          | 1,300.0                   | 1,300.0                   | 1,300.0                   | 2.2               | 2.2            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 25.6                        | 4.48                         | 6.709                |         |                    |        |
| 1,400.0                                                          | 1,400.0                   | 1,400.0                   | 1,400.0                   | 2.4               | 2.4            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 25.2                        | 4.83                         | 6.224                |         |                    |        |
| 1,500.0                                                          | 1,500.0                   | 1,500.0                   | 1,500.0                   | 2.6               | 2.6            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 24.9                        | 5.18                         | 5.804                |         |                    |        |
| 1,600.0                                                          | 1,600.0                   | 1,600.0                   | 1,600.0                   | 2.8               | 2.8            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 24.5                        | 5.53                         | 5.438                |         |                    |        |
| 1,700.0                                                          | 1,700.0                   | 1,700.0                   | 1,700.0                   | 2.9               | 2.9            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 24.2                        | 5.88                         | 5.115                |         |                    |        |
| 1,800.0                                                          | 1,800.0                   | 1,800.0                   | 1,800.0                   | 3.1               | 3.1            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 23.8                        | 6.23                         | 4.828                |         |                    |        |
| 1,900.0                                                          | 1,900.0                   | 1,900.0                   | 1,900.0                   | 3.3               | 3.3            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 23.5                        | 6.58                         | 4.572                |         |                    |        |
| 2,000.0                                                          | 2,000.0                   | 2,000.0                   | 2,000.0                   | 3.5               | 3.5            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 23.1                        | 6.93                         | 4.342                |         |                    |        |
| 2,100.0                                                          | 2,100.0                   | 2,100.0                   | 2,100.0                   | 3.6               | 3.6            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 22.8                        | 7.27                         | 4.133                |         |                    |        |
| 2,200.0                                                          | 2,200.0                   | 2,200.0                   | 2,200.0                   | 3.8               | 3.8            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 22.4                        | 7.62                         | 3.944                |         |                    |        |
| 2,300.0                                                          | 2,300.0                   | 2,300.0                   | 2,300.0                   | 4.0               | 4.0            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 22.1                        | 7.97                         | 3.771                |         |                    |        |
| 2,400.0                                                          | 2,400.0                   | 2,400.0                   | 2,400.0                   | 4.2               | 4.2            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 21.7                        | 8.32                         | 3.613                |         |                    |        |
| 2,500.0                                                          | 2,500.0                   | 2,500.0                   | 2,500.0                   | 4.3               | 4.3            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 21.4                        | 8.67                         | 3.468                |         |                    |        |
| 2,600.0                                                          | 2,600.0                   | 2,600.0                   | 2,600.0                   | 4.5               | 4.5            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 21.0                        | 9.02                         | 3.334                |         |                    |        |
| 2,700.0                                                          | 2,700.0                   | 2,700.0                   | 2,700.0                   | 4.7               | 4.7            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 20.7                        | 9.37                         | 3.209                |         |                    |        |
| 2,800.0                                                          | 2,800.0                   | 2,800.0                   | 2,800.0                   | 4.9               | 4.9            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 20.3                        | 9.72                         | 3.094                |         |                    |        |
| 2,900.0                                                          | 2,900.0                   | 2,900.0                   | 2,900.0                   | 5.0               | 5.0            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 20.0                        | 10.07                        | 2.987                |         |                    |        |
| 3,000.0                                                          | 3,000.0                   | 3,000.0                   | 3,000.0                   | 5.2               | 5.2            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 19.7                        | 10.42                        | 2.887                |         |                    |        |
| 3,100.0                                                          | 3,100.0                   | 3,100.0                   | 3,100.0                   | 5.4               | 5.4            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 19.3                        | 10.77                        | 2.793                |         |                    |        |
| 3,200.0                                                          | 3,200.0                   | 3,200.0                   | 3,200.0                   | 5.6               | 5.6            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 19.0                        | 11.11                        | 2.705                |         |                    |        |
| 3,300.0                                                          | 3,300.0                   | 3,300.0                   | 3,300.0                   | 5.7               | 5.7            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 18.6                        | 11.46                        | 2.623                |         |                    |        |
| 3,400.0                                                          | 3,400.0                   | 3,400.0                   | 3,400.0                   | 5.9               | 5.9            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 18.3                        | 11.81                        | 2.545                |         |                    |        |
| 3,500.0                                                          | 3,500.0                   | 3,500.0                   | 3,500.0                   | 6.1               | 6.1            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 17.9                        | 12.16                        | 2.472                |         |                    |        |
| 3,600.0                                                          | 3,600.0                   | 3,600.0                   | 3,600.0                   | 6.3               | 6.3            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 17.6                        | 12.51                        | 2.403                |         |                    |        |
| 3,700.0                                                          | 3,700.0                   | 3,700.0                   | 3,700.0                   | 6.4               | 6.4            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 17.2                        | 12.86                        | 2.338                |         |                    |        |
| 3,800.0                                                          | 3,800.0                   | 3,800.0                   | 3,800.0                   | 6.6               | 6.6            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 16.9                        | 13.21                        | 2.276                |         |                    |        |
| 3,900.0                                                          | 3,900.0                   | 3,900.0                   | 3,900.0                   | 6.8               | 6.8            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 16.5                        | 13.56                        | 2.218                |         |                    |        |
| 4,000.0                                                          | 4,000.0                   | 4,000.0                   | 4,000.0                   | 7.0               | 7.0            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 16.2                        | 13.91                        | 2.162                |         |                    |        |
| 4,100.0                                                          | 4,100.0                   | 4,100.0                   | 4,100.0                   | 7.1               | 7.1            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 15.8                        | 14.26                        | 2.109                |         |                    |        |
| 4,200.0                                                          | 4,200.0                   | 4,200.0                   | 4,200.0                   | 7.3               | 7.3            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 15.5                        | 14.60                        | 2.059                |         |                    |        |
| 4,300.0                                                          | 4,300.0                   | 4,300.0                   | 4,300.0                   | 7.5               | 7.5            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 15.1                        | 14.95                        | 2.011                |         |                    |        |
| 4,343.2                                                          | 4,343.2                   | 4,343.2                   | 4,343.2                   | 7.6               | 7.6            | -136.60                     | -21.8                  | -20.7         | 30.1                       | 15.0                        | 15.10                        | 1.991 CC, ES, SF     |         |                    |        |
| 4,400.0                                                          | 4,400.0                   | 4,398.4                   | 4,398.4                   | 7.7               | 7.6            | -138.46                     | -23.3                  | -20.6         | 31.1                       | 15.8                        | 15.30                        | 2.035                |         |                    |        |
| 4,500.0                                                          | 4,499.8                   | 4,493.3                   | 4,492.1                   | 7.8               | 7.8            | 26.48                       | -37.7                  | -20.2         | 38.9                       | 23.3                        | 15.57                        | 2.497                |         |                    |        |
| 4,600.0                                                          | 4,598.2                   | 4,584.9                   | 4,579.1                   | 8.0               | 8.0            | -33.33                      | -66.2                  | -19.2         | 51.1                       | 35.3                        | 15.80                        | 3.231                |         |                    |        |
| 4,700.0                                                          | 4,693.7                   | 4,667.1                   | 4,652.4                   | 8.2               | 8.3            | -69.28                      | -103.2                 | -18.1         | 81.7                       | 65.4                        | 16.26                        | 5.025                |         |                    |        |
| 4,800.0                                                          | 4,783.5                   | 4,736.0                   | 4,709.2                   | 8.6               | 8.6            | -84.78                      | -142.0                 | -16.8         | 133.3                      | 116.6                       | 16.77                        | 7.950                |         |                    |        |
| 4,900.0                                                          | 4,864.7                   | 4,790.8                   | 4,750.9                   | 9.1               | 8.9            | -89.09                      | -177.6                 | -15.7         | 200.8                      | 183.4                       | 17.37                        | 11.556               |         |                    |        |
| 5,000.0                                                          | 4,935.0                   | 4,832.5                   | 4,780.1                   | 9.8               | 9.1            | -86.20                      | -207.2                 | -14.7         | 279.0                      | 260.8                       | 18.19                        | 15.332               |         |                    |        |

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

# Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook J31-2307 01H            |
| <b>Project:</b>           | Sandoval County, NM        | <b>TVD Reference:</b>               | WELL @ 6990.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | S31-T23N-R7W               | <b>MD Reference:</b>                | WELL @ 6990.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | Lybrook J31-2307 01H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | Hz                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design S31-T23N-R7W - Lybrook J31-2307 02H - Hz - Plan #1 |                           |                           |                           |                   |                |                             |                        |              |                            |                             |                              |                      |         | 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) |                              |                      |         |                    |        |
| 5,100.0                                                          | 4,992.2                   | 4,862.4                   | 4,799.8                   | 11.0              | 9.3            | -77.42                      | -229.8                 | -14.0        | 364.0                      | 344.9                       | 19.12                        | 19.034               |         |                    |        |
| 5,200.0                                                          | 5,034.5                   | 4,882.2                   | 4,812.1                   | 12.5              | 9.5            | -63.86                      | -245.2                 | -13.5        | 452.8                      | 433.3                       | 19.51                        | 23.202               |         |                    |        |
| 5,300.0                                                          | 5,060.7                   | 4,900.0                   | 4,822.7                   | 14.3              | 9.6            | -49.80                      | -259.5                 | -13.1        | 543.0                      | 524.0                       | 18.94                        | 28.661               |         |                    |        |
| 5,400.0                                                          | 5,069.9                   | 4,900.0                   | 4,822.7                   | 16.3              | 9.6            | -34.63                      | -259.5                 | -13.1        | 632.3                      | 615.2                       | 17.03                        | 37.119               |         |                    |        |
| 5,500.0                                                          | 5,069.1                   | 4,900.0                   | 4,822.7                   | 18.5              | 9.6            | -33.49                      | -259.5                 | -13.1        | 721.7                      | 703.8                       | 17.92                        | 40.275               |         |                    |        |
| 5,600.0                                                          | 5,068.3                   | 4,900.0                   | 4,822.7                   | 20.7              | 9.6            | -33.49                      | -259.5                 | -13.1        | 813.6                      | 794.5                       | 19.11                        | 42.565               |         |                    |        |
| 5,700.0                                                          | 5,067.4                   | 4,889.0                   | 4,816.2                   | 22.9              | 9.6            | -31.41                      | -250.6                 | -13.3        | 907.1                      | 887.5                       | 19.61                        | 46.250               |         |                    |        |
| 5,800.0                                                          | 5,066.5                   | 4,829.6                   | 5,049.7                   | 25.2              | 30.6           | -88.97                      | -1,028.1               | -973.5       | 939.5                      | 889.0                       | 50.50                        | 18.603               |         |                    |        |
| 5,900.0                                                          | 5,065.7                   | 6,529.6                   | 5,048.8                   | 27.6              | 32.5           | -88.97                      | -1,027.7               | -1,073.5     | 939.5                      | 884.3                       | 55.15                        | 17.036               |         |                    |        |
| 6,000.0                                                          | 5,064.8                   | 6,629.6                   | 5,048.0                   | 29.9              | 34.5           | -88.97                      | -1,027.3               | -1,173.5     | 939.5                      | 879.6                       | 59.84                        | 15.700               |         |                    |        |
| 6,100.0                                                          | 5,063.9                   | 6,729.6                   | 5,047.1                   | 32.3              | 36.5           | -88.97                      | -1,026.9               | -1,273.5     | 939.5                      | 874.9                       | 64.57                        | 14.550               |         |                    |        |
| 6,200.0                                                          | 5,063.0                   | 6,829.6                   | 5,046.2                   | 34.7              | 38.6           | -88.97                      | -1,026.5               | -1,373.5     | 939.5                      | 870.1                       | 69.33                        | 13.550               |         |                    |        |
| 6,300.0                                                          | 5,062.2                   | 6,929.6                   | 5,045.3                   | 37.1              | 40.7           | -88.97                      | -1,026.1               | -1,473.5     | 939.5                      | 865.4                       | 74.12                        | 12.676               |         |                    |        |
| 6,400.0                                                          | 5,061.3                   | 7,029.6                   | 5,044.5                   | 39.5              | 42.9           | -88.97                      | -1,025.7               | -1,573.5     | 939.5                      | 860.5                       | 78.92                        | 11.904               |         |                    |        |
| 6,500.0                                                          | 5,060.4                   | 7,129.6                   | 5,043.6                   | 41.9              | 45.1           | -88.97                      | -1,025.3               | -1,673.5     | 939.5                      | 855.7                       | 83.74                        | 11.218               |         |                    |        |
| 6,600.0                                                          | 5,059.5                   | 7,229.6                   | 5,042.7                   | 44.3              | 47.3           | -88.97                      | -1,024.9               | -1,773.5     | 939.5                      | 850.9                       | 88.58                        | 10.606               |         |                    |        |
| 6,700.0                                                          | 5,058.7                   | 7,329.6                   | 5,041.8                   | 46.8              | 49.6           | -88.97                      | -1,024.5               | -1,873.5     | 939.5                      | 846.0                       | 93.43                        | 10.055               |         |                    |        |
| 6,800.0                                                          | 5,057.8                   | 7,429.6                   | 5,041.0                   | 49.2              | 51.8           | -88.97                      | -1,024.1               | -1,973.5     | 939.5                      | 841.2                       | 98.29                        | 9.558                |         |                    |        |
| 6,900.0                                                          | 5,056.9                   | 7,529.6                   | 5,040.1                   | 51.6              | 54.1           | -88.97                      | -1,023.7               | -2,073.5     | 939.5                      | 836.3                       | 103.15                       | 9.108                |         |                    |        |
| 7,000.0                                                          | 5,056.1                   | 7,629.6                   | 5,039.2                   | 54.1              | 56.5           | -88.97                      | -1,023.3               | -2,173.5     | 939.5                      | 831.4                       | 108.03                       | 8.697                |         |                    |        |
| 7,100.0                                                          | 5,055.2                   | 7,729.6                   | 5,038.4                   | 56.5              | 58.8           | -88.97                      | -1,022.8               | -2,273.5     | 939.5                      | 826.6                       | 112.91                       | 8.321                |         |                    |        |
| 7,200.0                                                          | 5,054.3                   | 7,829.6                   | 5,037.5                   | 59.0              | 61.1           | -88.97                      | -1,022.4               | -2,373.5     | 939.5                      | 821.7                       | 117.79                       | 7.976                |         |                    |        |
| 7,300.0                                                          | 5,053.4                   | 7,929.6                   | 5,036.6                   | 61.4              | 63.5           | -88.97                      | -1,022.0               | -2,473.5     | 939.5                      | 816.8                       | 122.68                       | 7.658                |         |                    |        |
| 7,400.0                                                          | 5,052.6                   | 8,029.6                   | 5,035.7                   | 63.9              | 65.8           | -88.97                      | -1,021.6               | -2,573.5     | 939.5                      | 811.9                       | 127.58                       | 7.364                |         |                    |        |
| 7,500.0                                                          | 5,051.7                   | 8,129.6                   | 5,034.9                   | 66.3              | 68.2           | -88.97                      | -1,021.2               | -2,673.5     | 939.5                      | 807.0                       | 132.48                       | 7.092                |         |                    |        |
| 7,600.0                                                          | 5,050.8                   | 8,229.6                   | 5,034.0                   | 68.8              | 70.6           | -88.97                      | -1,020.8               | -2,773.5     | 939.5                      | 802.1                       | 137.38                       | 6.838                |         |                    |        |
| 7,700.0                                                          | 5,050.0                   | 8,329.6                   | 5,033.1                   | 71.2              | 73.0           | -88.97                      | -1,020.4               | -2,873.5     | 939.5                      | 797.2                       | 142.29                       | 6.603                |         |                    |        |
| 7,800.0                                                          | 5,049.1                   | 8,429.6                   | 5,032.2                   | 73.7              | 75.4           | -88.97                      | -1,020.0               | -2,973.4     | 939.5                      | 792.3                       | 147.20                       | 6.383                |         |                    |        |
| 7,900.0                                                          | 5,048.2                   | 8,529.6                   | 5,031.4                   | 76.1              | 77.7           | -88.97                      | -1,019.6               | -3,073.4     | 939.5                      | 787.4                       | 152.11                       | 6.176                |         |                    |        |
| 8,000.0                                                          | 5,047.3                   | 8,629.6                   | 5,030.5                   | 78.6              | 80.1           | -88.97                      | -1,019.2               | -3,173.4     | 939.5                      | 782.5                       | 157.02                       | 5.983                |         |                    |        |
| 8,100.0                                                          | 5,046.5                   | 8,729.6                   | 5,029.6                   | 81.1              | 82.6           | -88.97                      | -1,018.8               | -3,273.4     | 939.5                      | 777.5                       | 161.94                       | 5.802                |         |                    |        |
| 8,200.0                                                          | 5,045.6                   | 8,829.6                   | 5,028.7                   | 83.5              | 85.0           | -88.97                      | -1,018.4               | -3,373.4     | 939.5                      | 772.6                       | 166.85                       | 5.631                |         |                    |        |
| 8,300.0                                                          | 5,044.7                   | 8,929.6                   | 5,027.9                   | 86.0              | 87.4           | -88.97                      | -1,018.0               | -3,473.4     | 939.5                      | 767.7                       | 171.77                       | 5.469                |         |                    |        |
| 8,400.0                                                          | 5,043.9                   | 9,029.6                   | 5,027.0                   | 88.4              | 89.8           | -88.97                      | -1,017.6               | -3,573.4     | 939.5                      | 762.8                       | 176.69                       | 5.317                |         |                    |        |
| 8,500.0                                                          | 5,043.0                   | 9,129.6                   | 5,026.1                   | 90.9              | 92.2           | -88.97                      | -1,017.2               | -3,673.4     | 939.5                      | 757.9                       | 181.62                       | 5.173                |         |                    |        |
| 8,600.0                                                          | 5,042.1                   | 9,229.6                   | 5,025.2                   | 93.4              | 94.6           | -88.97                      | -1,016.8               | -3,773.4     | 939.5                      | 753.0                       | 186.54                       | 5.036                |         |                    |        |
| 8,700.0                                                          | 5,041.2                   | 9,329.6                   | 5,024.4                   | 95.8              | 97.1           | -88.97                      | -1,016.4               | -3,873.4     | 939.5                      | 748.0                       | 191.46                       | 4.907                |         |                    |        |
| 8,800.0                                                          | 5,040.4                   | 9,429.6                   | 5,023.5                   | 98.3              | 99.5           | -88.97                      | -1,016.0               | -3,973.4     | 939.5                      | 743.1                       | 196.39                       | 4.784                |         |                    |        |
| 8,900.0                                                          | 5,039.5                   | 9,529.6                   | 5,022.6                   | 100.8             | 101.9          | -88.97                      | -1,015.6               | -4,073.4     | 939.5                      | 738.2                       | 201.32                       | 4.667                |         |                    |        |
| 9,000.0                                                          | 5,038.6                   | 9,629.6                   | 5,021.8                   | 103.2             | 104.3          | -88.97                      | -1,015.2               | -4,173.4     | 939.5                      | 733.2                       | 206.24                       | 4.555                |         |                    |        |
| 9,100.0                                                          | 5,037.7                   | 9,729.6                   | 5,020.9                   | 105.7             | 106.8          | -88.97                      | -1,014.8               | -4,273.4     | 939.5                      | 728.3                       | 211.17                       | 4.449                |         |                    |        |
| 9,200.0                                                          | 5,036.9                   | 9,829.6                   | 5,020.0                   | 108.2             | 109.2          | -88.97                      | -1,014.4               | -4,373.4     | 939.5                      | 723.4                       | 216.10                       | 4.347                |         |                    |        |
| 9,300.0                                                          | 5,036.0                   | 9,929.6                   | 5,019.1                   | 110.6             | 111.7          | -88.97                      | -1,014.0               | -4,473.4     | 939.5                      | 718.5                       | 221.03                       | 4.250                |         |                    |        |
| 9,400.0                                                          | 5,035.1                   | 10,029.6                  | 5,018.3                   | 113.1             | 114.1          | -88.97                      | -1,013.5               | -4,573.4     | 939.5                      | 713.5                       | 225.97                       | 4.158                |         |                    |        |
| 9,500.0                                                          | 5,034.3                   | 10,129.6                  | 5,017.4                   | 115.6             | 116.5          | -88.97                      | -1,013.1               | -4,673.4     | 939.5                      | 708.6                       | 230.90                       | 4.069                |         |                    |        |
| 9,600.0                                                          | 5,033.4                   | 10,229.6                  | 5,016.5                   | 118.0             | 119.0          | -88.97                      | -1,012.7               | -4,773.4     | 939.5                      | 703.7                       | 235.83                       | 3.984                |         |                    |        |
| 9,700.0                                                          | 5,032.5                   | 10,329.6                  | 5,015.6                   | 120.5             | 121.4          | -88.97                      | -1,012.3               | -4,873.4     | 939.5                      | 698.7                       | 240.76                       | 3.902                |         |                    |        |
| 9,800.0                                                          | 5,031.6                   | 10,429.6                  | 5,014.8                   | 123.0             | 123.9          | -88.97                      | -1,011.9               | -4,973.4     | 939.5                      | 693.8                       | 245.70                       | 3.824                |         |                    |        |
| 9,850.9                                                          | 5,031.2                   | 10,480.5                  | 5,014.3                   | 124.2             | 125.1          | -88.97                      | -1,011.7               | -5,024.3     | 939.5                      | 691.3                       | 248.21                       | 3.785                |         |                    |        |

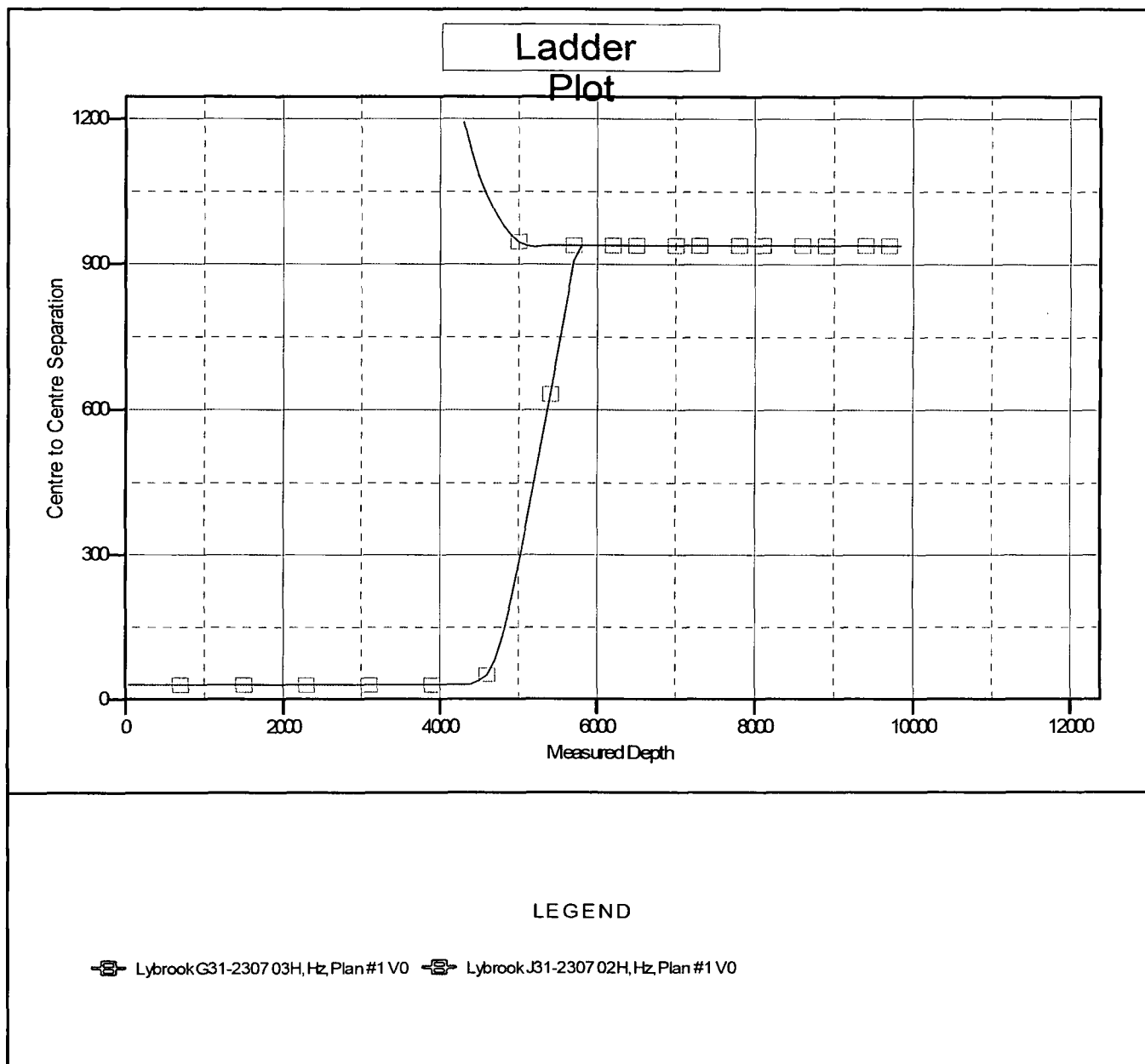
# Anticollision Report

**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** Sandoval County, NM  
**Reference Site:** S31-T23N-R7W  
**Site Error:** 0.0ft  
**Reference Well:** Lybrook J31-2307 01H  
**Well Error:** 0.0ft  
**Reference Wellbore:** Hz  
**Reference Design:** Plan #1

**Local Co-ordinate Reference:** Well Lybrook J31-2307 01H  
**TVD Reference:** WELL @ 6990.0ft (Original Well Elev)  
**MD Reference:** WELL @ 6990.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at:** 2.00 sigma  
**Database:** USA EDM 5000 Multi Users DB  
**Offset TVD Reference:** Offset Datum

Reference Depths are relative to WELL @ 6990.0ft (Original Well Elev)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook J31-2307 01H  
 Coordinate System is US State Plane 1983, New Mexico Central Zone  
 Grid Convergence at Surface is: -0.81°



**Directions from the Intersection of US Hwy 550 & US Hwy 64**  
**in Bloomfield, NM to Encana Oil & Gas (USA) Inc. Lybrook J31-2307 01H**  
**2215' FSL & 2531' FEL, Section 31, T23N, R7W, N.M.P.M., Sandoval County, NM**

**Latitude: 36.18209°N Longitude: 107.61509°W Datum: NAD1983**

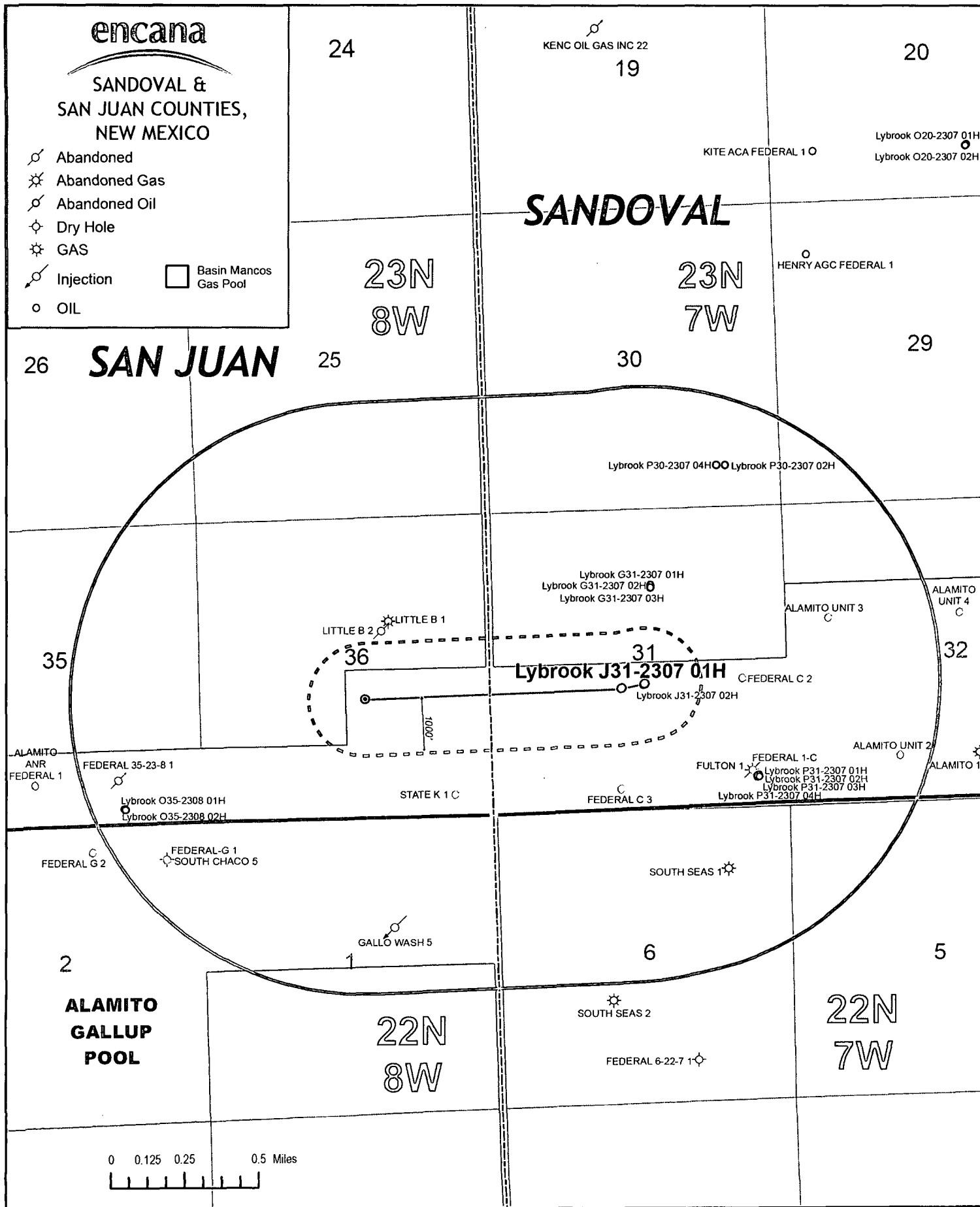
From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.7 miles to Mile Marker 112.7;

Go right (Southerly) on County Road #7900 for 4.9 miles to fork in road;

Go straight (South-easterly) remaining on County Road #7900 for 0.2 miles to fork in road;

Go left (North-easterly) exiting County Road #7900 for 2.8 miles to three-way intersection;

Go left (North-easterly) for 0.2 miles to new access on right-hand side of existing roadway which continues for 4871' to staked Encana Lybrook J31-2307 01H location.



# WELLHEAD BLOWOUT CONTROL SYSTEM

## encana

Well Name and Number:  
Lybrook J31-2307 01H

