

District I  
1625 N. French Drive, Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

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

District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV  
1220 S. St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 1, 2011

Submit one copy to  
Appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive  
Santa Fe, NM 87505

☐ AMENDED REPORT  
☒ As-Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                             |                                               |                    |                                |
|-----------------------------|-----------------------------------------------|--------------------|--------------------------------|
| *API Number<br>30-045-35526 |                                               | *Pool Code<br>1039 | *Pool Name<br>ALAMITO - GALLUP |
| *Property Code<br>313256    | *Property Name<br>LYBROOK M35-2308            |                    | *Well Number<br>01H            |
| *GRID No.<br>282327         | *Operator Name<br>ENCANA OIL & GAS (USA) INC. |                    | *Elevation<br>6879             |

<sup>10</sup> Surface Location

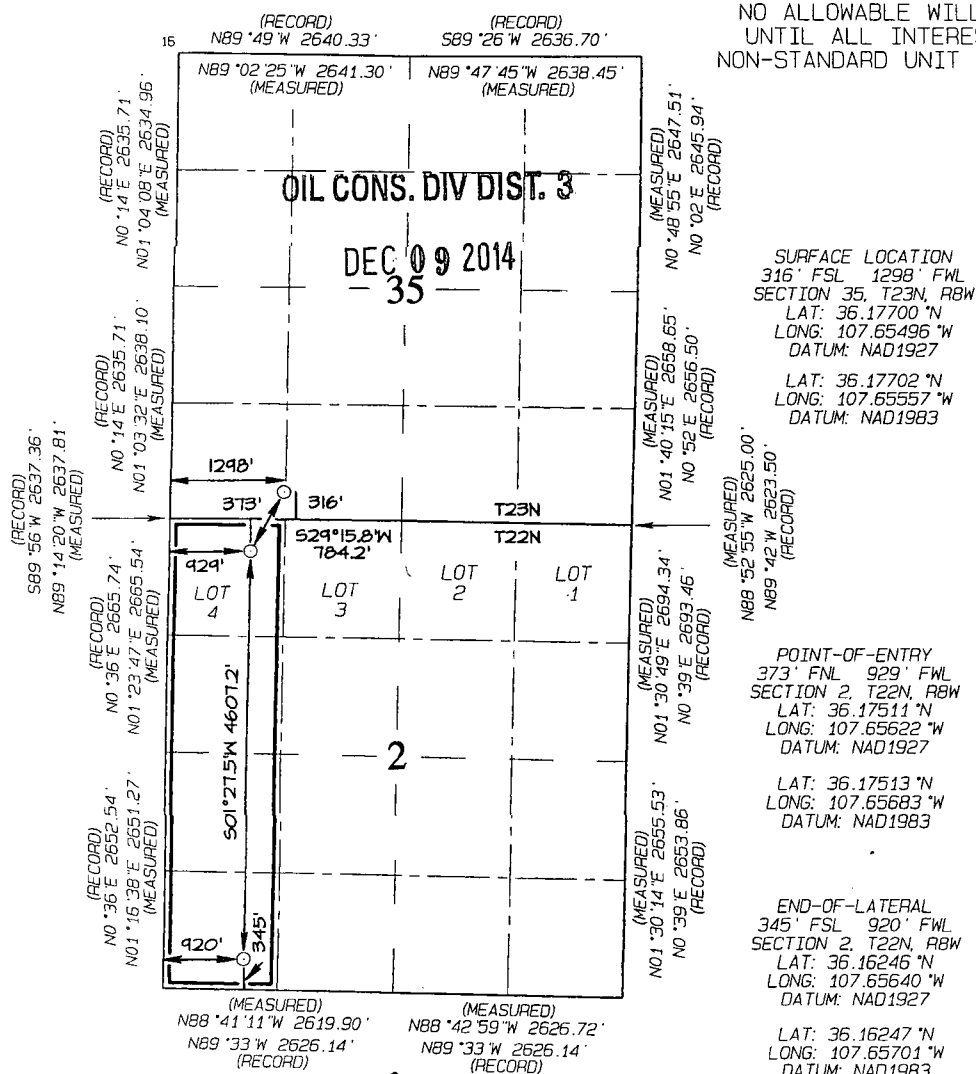
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| M             | 35      | 23N      | 8W    |         | 316           | SOUTH            | 1298          | WEST           | SAN JUAN |

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

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| M             | 2       | 22N      | 8W    |         | 345           | SOUTH            | 920           | WEST           | SAN JUAN |

|                                                                      |                               |                                  |                         |
|----------------------------------------------------------------------|-------------------------------|----------------------------------|-------------------------|
| <sup>12</sup> Dedicated Acres<br>160.50 Acres<br>W/2 W/2 - Section 2 | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code | <sup>15</sup> Order No. |
|----------------------------------------------------------------------|-------------------------------|----------------------------------|-------------------------|

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION  
UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A  
NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



**17 OPERATOR CERTIFICATION**

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

Signature: *Holly Hill* Date: 12/8/14  
Printed Name: Holly Hill  
E-mail Address: holly.hill@encana.com

**18 SURVEYOR CERTIFICATION**

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

Date Revised: OCTOBER 30, 2014  
Survey Date: AUGUST 22, 2012

Signature and Seal of Professional Surveyor

**JASON C. EDWARDS**  
NEW MEXICO  
REGISTERED PROFESSIONAL SURVEYOR  
15269

**JASON C. EDWARDS**  
Certificate Number 15269

AV

15

DEVIATION SURVEYS  
Lybrook M35-2308 01H  
30-045-35526

CONFIDENTIAL

| MD (Feet) | Inclination<br>(Degree) |
|-----------|-------------------------|
| 853'      | 0.60                    |
| 1169'     | 0.40                    |
| 1485'     | 1.00                    |
| 1792'     | 0.90                    |
| 2096'     | 1.10                    |
| 2399'     | 0.90                    |
| 2703'     | 0.30                    |
| 3016'     | 0.40                    |
| 3332'     | 0.40                    |
| 3649'     | 1.10                    |
| 3807'     | 9.00                    |

OIL CONS. DIV DIST. 3

DEC 09 2014

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Cristi Bauer

Cristi Bauer, Operations Technician

12/8/14

Date

ACKNOWLEDGMENT

State of Colorado  
City and County of Denver

This instrument was acknowledged before me on this 8<sup>th</sup> day of December, 2014 by Cristi Bauer as Operations Technician of Encana Oil & Gas (USA) Inc., authorized agent for Encana Oil & Gas (USA) Inc., on behalf of said corporation.

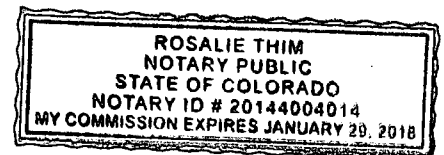
In witness whereof, I hereunto set my hand and official seal.

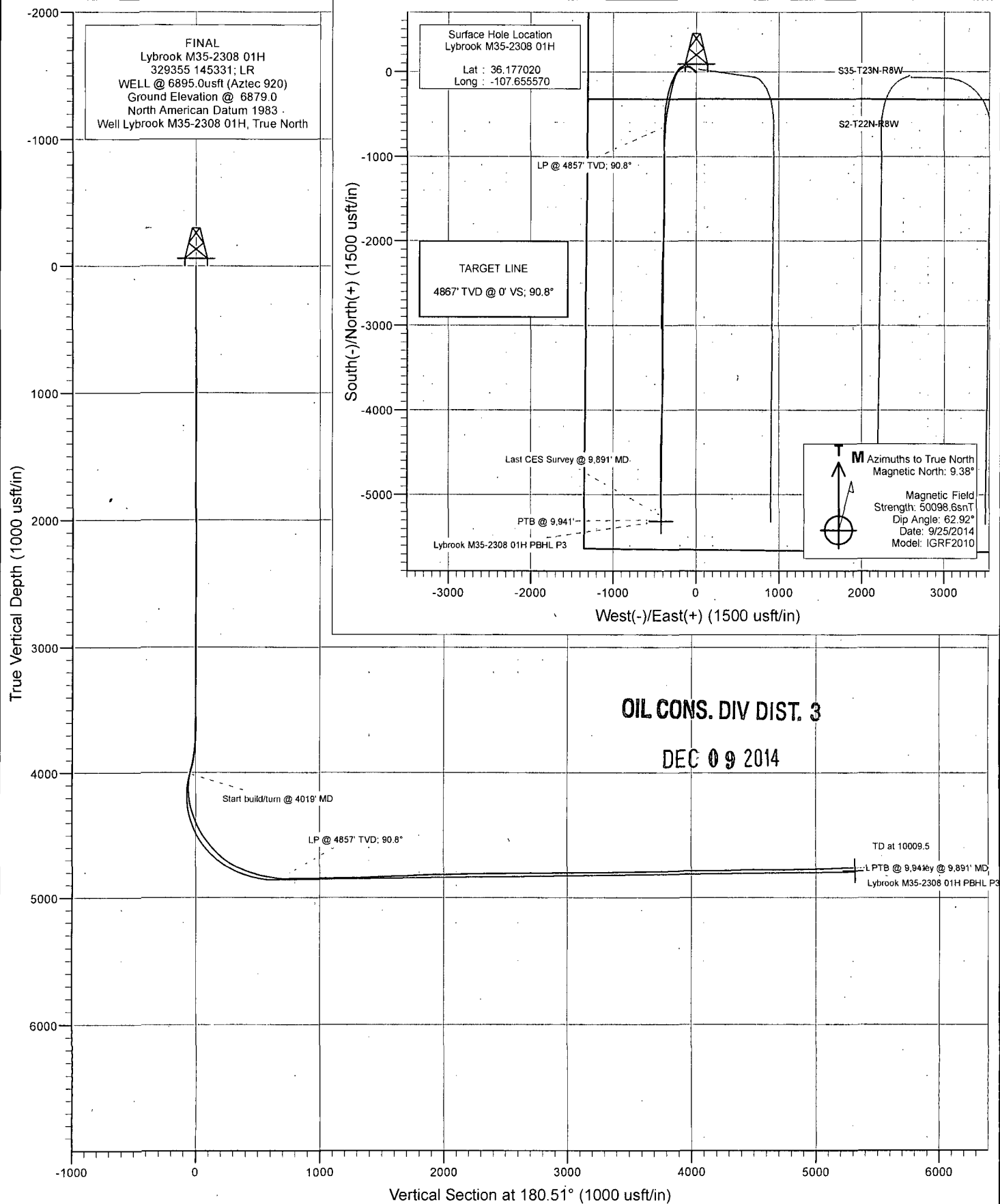
Notary Public

Rosalie Thim

My Commission Expires:

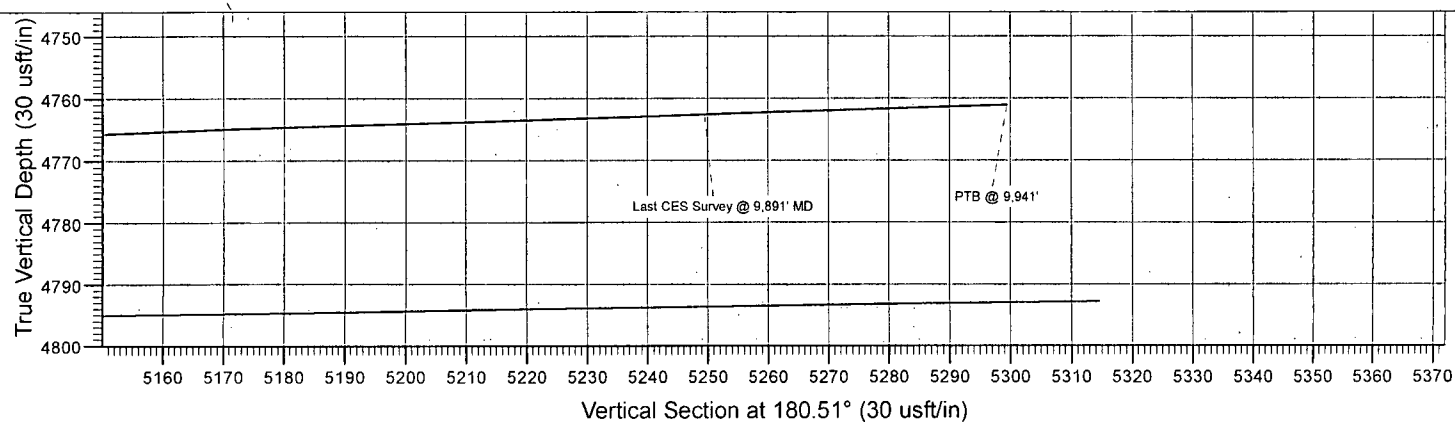
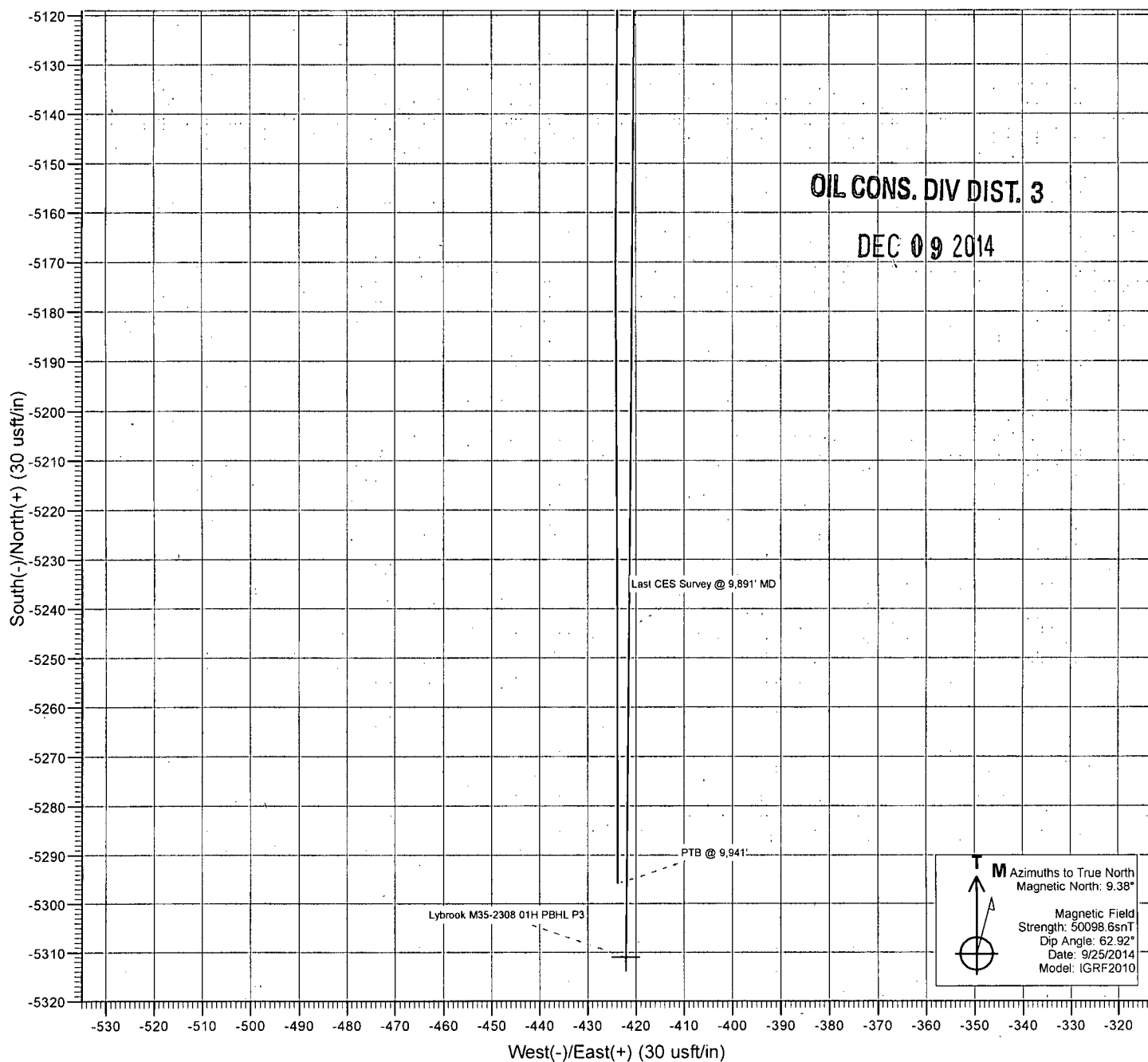
1/29/18







Project: San Juan County, NM  
Site: S35-T23N-R8W  
Well: Lybrook M35-2308 01H  
Wellbore: Hz  
Design: FINAL



# Survey Report

|                  |                            |                                     |                               |
|------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook M35-2308 01H     |
| <b>Project:</b>  | San Juan County, NM        | <b>TVD Reference:</b>               | WELL @ 6895.0usft (Aztec 920) |
| <b>Site:</b>     | S35-T23N-R8W               | <b>MD Reference:</b>                | WELL @ 6895.0usft (Aztec 920) |
| <b>Well:</b>     | Lybrook M35-2308 01H       | <b>North Reference:</b>             | True                          |
| <b>Wellbore:</b> | Hz                         | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Design:</b>   | FINAL                      | <b>Database:</b>                    | USA EDM 5000 Multi Users DB   |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | San Juan County, NM       |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Western Zone   |                      |                |

|                              |              |                          |                   |
|------------------------------|--------------|--------------------------|-------------------|
| <b>Site</b>                  | S35-T23N-R8W |                          |                   |
| <b>Site Position:</b>        |              | <b>Northing:</b>         | 1,883,780.33 usft |
| <b>From:</b>                 | Lat/Long     | <b>Easting:</b>          | 2,775,554.08 usft |
| <b>Position Uncertainty:</b> | 0.0 usft     | <b>Slot Radius:</b>      | 13-3/16"          |
|                              |              | <b>Latitude:</b>         | 36.177020         |
|                              |              | <b>Longitude:</b>        | -107.655570       |
|                              |              | <b>Grid Convergence:</b> | 0.10 °            |

|                             |                      |                            |                  |
|-----------------------------|----------------------|----------------------------|------------------|
| <b>Well</b>                 | Lybrook M35-2308 01H |                            |                  |
| <b>Well Position</b>        | <b>+N/-S</b>         | 0.0 usft                   | <b>Northing:</b> |
|                             | <b>+E/-W</b>         | 0.0 usft                   | <b>Easting:</b>  |
| <b>Position Uncertainty</b> | 0.0 usft             | <b>Wellhead Elevation:</b> | usft             |
|                             |                      | <b>Latitude:</b>           | 36.177020        |
|                             |                      | <b>Longitude:</b>          | -107.655570      |
|                             |                      | <b>Ground Level:</b>       | 6,879.0 usft     |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Hz                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 9/25/2014          | 9.38                   | 62.92                | 50,099                     |

|                          |                                |                     |                     |                      |     |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|-----|
| <b>Design</b>            | FINAL                          |                     |                     |                      |     |
| <b>Audit Notes:</b>      |                                |                     |                     |                      |     |
| <b>Version:</b>          | 1.0                            | <b>Phase:</b>       | ACTUAL              | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b> |     |
|                          | 0.0                            | 0.0                 | 0.0                 | 180.51               |     |

|                       |                  |                          |                  |                    |
|-----------------------|------------------|--------------------------|------------------|--------------------|
| <b>Survey Program</b> | <b>Date</b>      | 10/4/2014                |                  |                    |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |
| 663.0                 | 9,941.0          | Survey #1 (Hz)           | Geolink MWD      | Geolink MWD        |

| Survey                |                 |             |                       |              |              |                         |                        |                     |                       |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|---------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usf) | Build Rate (°/100u) | Formations / Comments |
| 600.0                 | 0.40            | 183.20      | 600.0                 | -2.1         | -0.1         | 2.1                     | 0.00                   | 0.00                |                       |
| 663.0                 | 0.40            | 243.60      | 663.0                 | -2.4         | -0.3         | 2.4                     | 0.64                   | 0.00                |                       |
| 726.0                 | 0.70            | 209.60      | 726.0                 | -2.8         | -0.7         | 2.8                     | 0.68                   | 0.48                |                       |
| 789.0                 | 0.70            | 232.00      | 789.0                 | -3.4         | -1.2         | 3.4                     | 0.43                   | 0.00                |                       |
| 853.0                 | 0.60            | 191.80      | 853.0                 | -4.0         | -1.6         | 4.0                     | 0.71                   | -0.16               |                       |
| 916.0                 | 0.70            | 225.20      | 916.0                 | -4.6         | -1.9         | 4.6                     | 0.61                   | 0.16                |                       |
| 979.0                 | 0.40            | 232.50      | 979.0                 | -5.0         | -2.4         | 5.0                     | 0.49                   | -0.48               |                       |
| 1,042.0               | 0.80            | 237.00      | 1,042.0               | -5.4         | -2.9         | 5.4                     | 0.64                   | 0.63                |                       |
| 1,106.0               | 0.40            | 43.10       | 1,106.0               | -5.4         | -3.1         | 5.5                     | 1.86                   | -0.63               |                       |
| 1,169.0               | 0.40            | 52.20       | 1,169.0               | -5.1         | -2.8         | 5.2                     | 0.10                   | 0.00                |                       |
| 1,232.0               | 0.80            | 68.20       | 1,232.0               | -4.8         | -2.2         | 4.9                     | 0.68                   | 0.63                |                       |
| 1,295.0               | 1.00            | 51.60       | 1,295.0               | -4.3         | -1.4         | 4.3                     | 0.52                   | 0.32                |                       |
| 1,358.0               | 1.00            | 64.30       | 1,358.0               | -3.8         | -0.5         | 3.8                     | 0.35                   | 0.00                |                       |

# Survey Report

Company: EnCana Oil & Gas (USA) Inc  
Project: San Juan County, NM  
Site: S35-T23N-R8W  
Well: Lybrook M35-2308 01H  
Wellbore: Hz  
Design: FINAL

Local Co-ordinate Reference: Well Lybrook M35-2308 01H  
TVD Reference: WELL @ 6895.0usft (Aztec 920)  
MD Reference: WELL @ 6895.0usft (Aztec 920)  
North Reference: True  
Survey Calculation Method: Minimum Curvature  
Database: USA EDM 5000 Multi Users DB

## Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usf) | Build<br>Rate<br>(°/100u) | Formations /<br>Comments |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|---------------------------|--------------------------|
| 1,421.0                     | 0.60               | 63.90          | 1,420.9                     | -3.4            | 0.3             | 3.4                           | 0.63                         | -0.63                     |                          |
| 1,485.0                     | 1.00               | 47.60          | 1,484.9                     | -2.8            | 1.0             | 2.8                           | 0.71                         | 0.63                      |                          |
| 1,548.0                     | 1.00               | 29.70          | 1,547.9                     | -2.0            | 1.7             | 2.0                           | 0.49                         | 0.00                      |                          |
| 1,611.0                     | 0.60               | 19.30          | 1,610.9                     | -1.2            | 2.1             | 1.2                           | 0.67                         | -0.63                     |                          |
| 1,671.0                     | 0.60               | 37.70          | 1,670.9                     | -0.7            | 2.4             | 0.6                           | 0.32                         | 0.00                      |                          |
| 1,732.0                     | 0.80               | 16.20          | 1,731.9                     | 0.0             | 2.7             | 0.0                           | 0.54                         | 0.33                      |                          |
| 1,792.0                     | 0.90               | 40.30          | 1,791.9                     | 0.8             | 3.1             | -0.8                          | 0.61                         | 0.17                      |                          |
| 1,853.0                     | 0.70               | 33.40          | 1,852.9                     | 1.4             | 3.6             | -1.5                          | 0.36                         | -0.33                     |                          |
| 1,914.0                     | 0.80               | 196.80         | 1,913.9                     | 1.3             | 3.7             | -1.4                          | 2.43                         | 0.16                      |                          |
| 1,974.0                     | 1.60               | 207.40         | 1,973.9                     | 0.2             | 3.2             | -0.2                          | 1.38                         | 1.33                      |                          |
| 2,035.0                     | 1.40               | 204.30         | 2,034.9                     | -1.2            | 2.5             | 1.2                           | 0.35                         | -0.33                     |                          |
| 2,096.0                     | 1.10               | 216.50         | 2,095.8                     | -2.4            | 1.9             | 2.4                           | 0.65                         | -0.49                     |                          |
| 2,156.0                     | 1.10               | 214.70         | 2,155.8                     | -3.3            | 1.2             | 3.3                           | 0.06                         | 0.00                      |                          |
| 2,216.0                     | 1.50               | 207.20         | 2,215.8                     | -4.5            | 0.5             | 4.5                           | 0.72                         | 0.67                      |                          |
| 2,277.0                     | 0.80               | 281.50         | 2,276.8                     | -5.1            | -0.3            | 5.1                           | 2.45                         | -1.15                     |                          |
| 2,338.0                     | 1.10               | 309.50         | 2,337.8                     | -4.7            | -1.1            | 4.7                           | 0.89                         | 0.49                      |                          |
| 2,399.0                     | 0.90               | 321.30         | 2,398.8                     | -3.9            | -1.9            | 3.9                           | 0.47                         | -0.33                     |                          |
| 2,460.0                     | 1.10               | 314.10         | 2,459.8                     | -3.1            | -2.6            | 3.2                           | 0.39                         | 0.33                      |                          |
| 2,521.0                     | 0.70               | 305.10         | 2,520.8                     | -2.5            | -3.3            | 2.5                           | 0.69                         | -0.66                     |                          |
| 2,582.0                     | 0.50               | 305.00         | 2,581.8                     | -2.2            | -3.9            | 2.2                           | 0.33                         | -0.33                     |                          |
| 2,643.0                     | 0.50               | 286.90         | 2,642.8                     | -1.9            | -4.3            | 2.0                           | 0.26                         | 0.00                      |                          |
| 2,703.0                     | 0.30               | 305.10         | 2,702.8                     | -1.8            | -4.7            | 1.8                           | 0.39                         | -0.33                     |                          |
| 2,763.0                     | 0.50               | 279.40         | 2,762.8                     | -1.6            | -5.1            | 1.7                           | 0.44                         | 0.33                      |                          |
| 2,827.0                     | 0.70               | 285.70         | 2,826.8                     | -1.5            | -5.8            | 1.5                           | 0.33                         | 0.31                      |                          |
| 2,890.0                     | 0.70               | 266.00         | 2,889.8                     | -1.4            | -6.5            | 1.5                           | 0.38                         | 0.00                      |                          |
| 2,953.0                     | 0.60               | 275.00         | 2,952.8                     | -1.4            | -7.2            | 1.5                           | 0.23                         | -0.16                     |                          |
| 3,016.0                     | 0.40               | 279.40         | 3,015.8                     | -1.3            | -7.8            | 1.4                           | 0.32                         | -0.32                     |                          |
| 3,080.0                     | 0.10               | 222.10         | 3,079.8                     | -1.3            | -8.0            | 1.4                           | 0.56                         | -0.47                     |                          |
| 3,143.0                     | 0.10               | 305.40         | 3,142.8                     | -1.3            | -8.1            | 1.4                           | 0.21                         | 0.00                      |                          |
| 3,206.0                     | 0.70               | 274.50         | 3,205.8                     | -1.3            | -8.5            | 1.4                           | 0.98                         | 0.95                      |                          |
| 3,269.0                     | 0.40               | 272.90         | 3,268.7                     | -1.2            | -9.1            | 1.3                           | 0.48                         | -0.48                     |                          |
| 3,332.0                     | 0.40               | 259.40         | 3,331.7                     | -1.3            | -9.6            | 1.4                           | 0.15                         | 0.00                      |                          |
| 3,396.0                     | 0.40               | 252.00         | 3,395.7                     | -1.4            | -10.0           | 1.5                           | 0.08                         | 0.00                      |                          |
| 3,459.0                     | 0.50               | 270.00         | 3,458.7                     | -1.4            | -10.5           | 1.5                           | 0.27                         | 0.16                      |                          |
| 3,522.0                     | 0.50               | 215.50         | 3,521.7                     | -1.7            | -10.9           | 1.8                           | 0.73                         | 0.00                      |                          |
| 3,586.0                     | 0.60               | 227.80         | 3,585.7                     | -2.1            | -11.3           | 2.2                           | 0.24                         | 0.16                      |                          |
| 3,649.0                     | 1.10               | 275.50         | 3,648.7                     | -2.3            | -12.2           | 2.4                           | 1.31                         | 0.79                      |                          |
| 3,680.0                     | 2.20               | 276.10         | 3,679.7                     | -2.2            | -13.1           | 2.3                           | 3.55                         | 3.55                      |                          |
| 3,712.0                     | 4.10               | 299.30         | 3,711.7                     | -1.6            | -14.7           | 1.7                           | 7.03                         | 5.94                      |                          |
| 3,744.0                     | 6.40               | 317.00         | 3,743.5                     | 0.3             | -16.9           | -0.1                          | 8.71                         | 7.19                      |                          |
| 3,775.0                     | 7.80               | 322.40         | 3,774.3                     | 3.2             | -19.4           | -3.1                          | 5.00                         | 4.52                      |                          |
| 3,807.0                     | 9.00               | 320.30         | 3,806.0                     | 6.9             | -22.3           | -6.7                          | 3.87                         | 3.75                      |                          |
| 3,838.0                     | 10.70              | 315.20         | 3,836.5                     | 10.8            | -25.9           | -10.6                         | 6.16                         | 5.48                      |                          |
| 3,870.0                     | 13.30              | 313.80         | 3,867.8                     | 15.4            | -30.6           | -15.2                         | 8.18                         | 8.13                      |                          |
| 3,901.0                     | 16.20              | 313.60         | 3,897.8                     | 20.9            | -36.3           | -20.6                         | 9.36                         | 9.35                      |                          |
| 3,933.0                     | 18.40              | 312.60         | 3,928.3                     | 27.4            | -43.3           | -27.0                         | 6.94                         | 6.88                      |                          |
| 3,965.0                     | 19.80              | 307.90         | 3,958.6                     | 34.1            | -51.3           | -33.7                         | 6.50                         | 4.38                      |                          |
| 3,996.0                     | 20.90              | 307.90         | 3,987.6                     | 40.8            | -59.8           | -40.2                         | 3.55                         | 3.55                      |                          |
| 4,028.0                     | 19.80              | 304.40         | 4,017.6                     | 47.3            | -68.7           | -46.7                         | 5.13                         | -3.44                     |                          |
| 4,059.0                     | 17.10              | 295.20         | 4,047.0                     | 52.2            | -77.2           | -51.5                         | 12.78                        | -8.71                     |                          |
| 4,091.0                     | 16.70              | 285.00         | 4,077.7                     | 55.4            | -85.9           | -54.7                         | 9.34                         | -1.25                     |                          |
| 4,123.0                     | 19.00              | 278.00         | 4,108.1                     | 57.3            | -95.5           | -56.5                         | 9.82                         | 7.19                      |                          |
| 4,154.0                     | 21.40              | 270.90         | 4,137.2                     | 58.1            | -106.2          | -57.2                         | 11.05                        | 7.74                      |                          |

# Survey Report

**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** San Juan County, NM  
**Site:** S35-T23N-R8W  
**Well:** Lybrook M35-2308 01H  
**Wellbore:** Hz  
**Design:** FINAL

**Local Co-ordinate Reference:** Well Lybrook M35-2308 01H  
**TVD Reference:** WELL @ 6895.0usft (Aztec 920)  
**MD Reference:** WELL @ 6895.0usft (Aztec 920)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** USA EDM 5000 Multi Users DB

## Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usf) | Build<br>Rate<br>(°/100u) | Formations /<br>Comments |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|---------------------------|--------------------------|
| 4,186.0                     | 23.40              | 266.50         | 4,166.8                     | 57.8            | -118.3          | -56.8                         | 8.15                         | 6.25                      |                          |
| 4,218.0                     | 25.00              | 259.90         | 4,196.0                     | 56.3            | -131.3          | -55.1                         | 9.82                         | 5.00                      |                          |
| 4,249.0                     | 27.20              | 253.50         | 4,223.8                     | 53.1            | -144.6          | -51.8                         | 11.52                        | 7.10                      |                          |
| 4,281.0                     | 28.50              | 248.80         | 4,252.1                     | 48.3            | -158.7          | -46.8                         | 7.97                         | 4.06                      |                          |
| 4,313.0                     | 29.20              | 242.10         | 4,280.2                     | 41.8            | -172.7          | -40.3                         | 10.33                        | 2.19                      |                          |
| 4,344.0                     | 29.50              | 237.30         | 4,307.2                     | 34.2            | -185.8          | -32.5                         | 7.65                         | 0.97                      |                          |
| 4,376.0                     | 28.80              | 231.40         | 4,335.1                     | 25.1            | -198.5          | -23.4                         | 9.24                         | -2.19                     |                          |
| 4,407.0                     | 29.20              | 225.30         | 4,362.3                     | 15.1            | -209.7          | -13.3                         | 9.62                         | 1.29                      |                          |
| 4,439.0                     | 30.20              | 219.40         | 4,390.1                     | 3.4             | -220.4          | -1.5                          | 9.65                         | 3.13                      |                          |
| 4,471.0                     | 30.90              | 216.60         | 4,417.6                     | -9.4            | -230.4          | 11.4                          | 4.96                         | 2.19                      |                          |
| 4,502.0                     | 31.90              | 212.80         | 4,444.1                     | -22.7           | -239.6          | 24.8                          | 7.15                         | 3.23                      |                          |
| 4,534.0                     | 33.20              | 207.70         | 4,471.1                     | -37.5           | -248.2          | 39.7                          | 9.49                         | 4.06                      |                          |
| 4,566.0                     | 34.40              | 202.10         | 4,497.7                     | -53.7           | -255.7          | 55.9                          | 10.43                        | 3.75                      |                          |
| 4,597.0                     | 36.40              | 199.80         | 4,522.9                     | -70.4           | -262.1          | 72.8                          | 7.75                         | 6.45                      |                          |
| 4,629.0                     | 38.80              | 198.30         | 4,548.3                     | -88.9           | -268.5          | 91.3                          | 8.03                         | 7.50                      |                          |
| 4,660.0                     | 40.70              | 196.40         | 4,572.1                     | -107.8          | -274.4          | 110.3                         | 7.27                         | 6.13                      |                          |
| 4,692.0                     | 42.50              | 195.10         | 4,596.0                     | -128.3          | -280.1          | 130.8                         | 6.24                         | 5.63                      |                          |
| 4,724.0                     | 44.00              | 194.60         | 4,619.4                     | -149.5          | -285.8          | 152.0                         | 4.81                         | 4.69                      |                          |
| 4,755.0                     | 46.60              | 194.00         | 4,641.2                     | -170.8          | -291.2          | 173.4                         | 8.50                         | 8.39                      |                          |
| 4,787.0                     | 49.00              | 192.60         | 4,662.7                     | -193.9          | -296.6          | 196.5                         | 8.17                         | 7.50                      |                          |
| 4,818.0                     | 51.00              | 191.10         | 4,682.6                     | -217.1          | -301.5          | 219.8                         | 7.44                         | 6.45                      |                          |
| 4,850.0                     | 53.90              | 190.40         | 4,702.1                     | -242.0          | -306.2          | 244.8                         | 9.23                         | 9.06                      |                          |
| 4,882.0                     | 56.40              | 190.30         | 4,720.4                     | -267.9          | -311.0          | 270.6                         | 7.82                         | 7.81                      |                          |
| 4,913.0                     | 59.00              | 191.50         | 4,736.9                     | -293.6          | -315.9          | 296.4                         | 9.00                         | 8.39                      |                          |
| 4,945.0                     | 62.80              | 191.50         | 4,752.5                     | -321.0          | -321.5          | 323.8                         | 11.88                        | 11.88                     |                          |
| 4,976.0                     | 66.70              | 191.10         | 4,765.7                     | -348.5          | -327.0          | 351.4                         | 12.63                        | 12.58                     |                          |
| 5,008.0                     | 69.40              | 191.00         | 4,777.7                     | -377.6          | -332.7          | 380.6                         | 8.44                         | 8.44                      |                          |
| 5,039.0                     | 70.50              | 191.10         | 4,788.3                     | -406.2          | -338.3          | 409.2                         | 3.56                         | 3.55                      |                          |
| 5,071.0                     | 72.30              | 190.00         | 4,798.5                     | -436.0          | -343.8          | 439.0                         | 6.50                         | 5.63                      |                          |
| 5,103.0                     | 74.40              | 189.10         | 4,807.7                     | -466.2          | -348.9          | 469.3                         | 7.09                         | 6.56                      |                          |
| 5,134.0                     | 75.50              | 188.20         | 4,815.7                     | -495.8          | -353.4          | 499.0                         | 4.52                         | 3.55                      |                          |
| 5,166.0                     | 77.10              | 187.10         | 4,823.3                     | -526.6          | -357.5          | 529.8                         | 6.01                         | 5.00                      |                          |
| 5,188.0                     | 78.60              | 186.50         | 4,827.9                     | -548.0          | -360.1          | 551.2                         | 7.32                         | 6.82                      |                          |
| 5,218.0                     | 80.00              | 186.60         | 4,833.5                     | -577.3          | -363.4          | 580.5                         | 4.68                         | 4.67                      |                          |
| 5,249.0                     | 81.30              | 186.10         | 4,838.5                     | -607.7          | -366.8          | 610.9                         | 4.49                         | 4.19                      |                          |
| 5,281.0                     | 81.60              | 184.60         | 4,843.3                     | -639.2          | -369.8          | 642.5                         | 4.73                         | 0.94                      |                          |
| 5,313.0                     | 84.60              | 183.80         | 4,847.1                     | -670.9          | -372.1          | 674.2                         | 9.70                         | 9.38                      |                          |
| 5,344.0                     | 89.30              | 183.20         | 4,848.8                     | -701.8          | -374.0          | 705.1                         | 15.28                        | 15.16                     |                          |
| 5,376.0                     | 90.80              | 182.40         | 4,848.8                     | -733.7          | -375.6          | 737.0                         | 5.31                         | 4.69                      |                          |
| 5,407.0                     | 91.10              | 183.10         | 4,848.2                     | -764.7          | -377.0          | 768.0                         | 2.46                         | 0.97                      |                          |
| 5,439.0                     | 91.30              | 184.10         | 4,847.6                     | -796.6          | -379.0          | 799.9                         | 3.19                         | 0.63                      |                          |
| 5,502.0                     | 91.60              | 180.80         | 4,846.0                     | -859.5          | -381.7          | 862.9                         | 5.26                         | 0.48                      |                          |
| 5,566.0                     | 90.30              | 181.70         | 4,844.9                     | -923.5          | -383.1          | 926.9                         | 2.47                         | -2.03                     |                          |
| 5,629.0                     | 90.50              | 181.60         | 4,844.5                     | -986.5          | -384.9          | 989.9                         | 0.35                         | 0.32                      |                          |
| 5,692.0                     | 90.40              | 181.20         | 4,844.0                     | -1,049.4        | -386.5          | 1,052.8                       | 0.65                         | -0.16                     |                          |
| 5,755.0                     | 90.30              | 181.70         | 4,843.6                     | -1,112.4        | -388.1          | 1,115.8                       | 0.81                         | -0.16                     |                          |
| 5,819.0                     | 91.00              | 179.50         | 4,842.9                     | -1,176.4        | -388.8          | 1,179.8                       | 3.61                         | 1.09                      |                          |
| 5,882.0                     | 91.70              | 179.50         | 4,841.4                     | -1,239.4        | -388.2          | 1,242.8                       | 1.11                         | 1.11                      |                          |
| 5,945.0                     | 90.80              | 180.30         | 4,840.0                     | -1,302.4        | -388.1          | 1,305.8                       | 1.91                         | -1.43                     |                          |
| 6,008.0                     | 92.20              | 179.80         | 4,838.4                     | -1,365.3        | -388.1          | 1,368.7                       | 2.36                         | 2.22                      |                          |
| 6,072.0                     | 92.50              | 180.20         | 4,835.7                     | -1,429.3        | -388.1          | 1,432.7                       | 0.78                         | 0.47                      |                          |
| 6,135.0                     | 92.70              | 180.40         | 4,832.9                     | -1,492.2        | -388.5          | 1,495.6                       | 0.45                         | 0.32                      |                          |
| 6,198.0                     | 91.50              | 178.00         | 4,830.6                     | -1,555.2        | -387.6          | 1,558.6                       | 4.26                         | -1.90                     |                          |

# Survey Report

Company: EnCana Oil & Gas (USA) Inc  
 Project: San Juan County, NM  
 Site: S35-T23N-R8W  
 Well: Lybrook M35-2308 01H  
 Wellbore: Hz  
 Design: FINAL

Local Co-ordinate Reference: Well Lybrook M35-2308 01H  
 TVD Reference: WELL @ 6895.0usft (Aztec 920)  
 MD Reference: WELL @ 6895.0usft (Aztec 920)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Database: USA EDM 5000 Multi Users DB

## Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usf) | Build<br>Rate<br>(°/100u) | Formations /<br>Comments |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|---------------------------|--------------------------|
| 6,261.0                     | 91.50              | 178.70         | 4,828.9                     | -1,618.1        | -385.8          | 1,621.5                       | 1.11                         | 0.00                      |                          |
| 6,325.0                     | 91.70              | 180.70         | 4,827.1                     | -1,682.1        | -385.5          | 1,685.5                       | 3.14                         | 0.31                      |                          |
| 6,385.0                     | 92.70              | 181.10         | 4,824.8                     | -1,742.0        | -386.4          | 1,745.4                       | 1.79                         | 1.67                      |                          |
| 6,446.0                     | 93.60              | 180.80         | 4,821.5                     | -1,802.9        | -387.4          | 1,806.3                       | 1.55                         | 1.48                      |                          |
| 6,506.0                     | 92.90              | 182.20         | 4,818.1                     | -1,862.8        | -389.0          | 1,866.2                       | 2.61                         | -1.17                     |                          |
| 6,567.0                     | 91.20              | 182.90         | 4,815.9                     | -1,923.7        | -391.7          | 1,927.1                       | 3.01                         | -2.79                     |                          |
| 6,627.0                     | 89.60              | 181.40         | 4,815.5                     | -1,983.7        | -393.9          | 1,987.1                       | 3.66                         | -2.67                     |                          |
| 6,688.0                     | 91.00              | 182.80         | 4,815.2                     | -2,044.6        | -396.2          | 2,048.1                       | 3.25                         | 2.30                      |                          |
| 6,749.0                     | 91.40              | 182.90         | 4,813.9                     | -2,105.5        | -399.2          | 2,109.0                       | 0.68                         | 0.66                      |                          |
| 6,809.0                     | 91.50              | 183.30         | 4,812.4                     | -2,165.4        | -402.4          | 2,168.9                       | 0.69                         | 0.17                      |                          |
| 6,870.0                     | 91.50              | 183.60         | 4,810.8                     | -2,226.3        | -406.1          | 2,229.8                       | 0.49                         | 0.00                      |                          |
| 6,930.0                     | 91.10              | 182.40         | 4,809.4                     | -2,286.2        | -409.3          | 2,289.8                       | 2.11                         | -0.67                     |                          |
| 6,991.0                     | 90.40              | 178.90         | 4,808.6                     | -2,347.2        | -409.9          | 2,350.7                       | 5.85                         | -1.15                     |                          |
| 7,052.0                     | 90.60              | 179.50         | 4,808.1                     | -2,408.2        | -409.1          | 2,411.7                       | 1.04                         | 0.33                      |                          |
| 7,113.0                     | 90.80              | 179.90         | 4,807.3                     | -2,469.2        | -408.8          | 2,472.7                       | 0.73                         | 0.33                      |                          |
| 7,174.0                     | 89.80              | 181.20         | 4,807.0                     | -2,530.2        | -409.4          | 2,533.7                       | 2.69                         | -1.64                     |                          |
| 7,235.0                     | 89.70              | 179.80         | 4,807.3                     | -2,591.2        | -409.9          | 2,594.7                       | 2.30                         | -0.16                     |                          |
| 7,296.0                     | 90.40              | 179.80         | 4,807.2                     | -2,652.2        | -409.7          | 2,655.7                       | 1.15                         | 1.15                      |                          |
| 7,357.0                     | 90.60              | 180.30         | 4,806.7                     | -2,713.2        | -409.7          | 2,716.7                       | 0.88                         | 0.33                      |                          |
| 7,417.0                     | 90.80              | 181.80         | 4,806.0                     | -2,773.1        | -410.8          | 2,776.7                       | 2.52                         | 0.33                      |                          |
| 7,477.0                     | 91.10              | 181.10         | 4,805.0                     | -2,833.1        | -412.3          | 2,836.7                       | 1.27                         | 0.50                      |                          |
| 7,541.0                     | 91.30              | 181.70         | 4,803.6                     | -2,897.1        | -413.9          | 2,900.6                       | 0.99                         | 0.31                      |                          |
| 7,604.0                     | 90.70              | 179.50         | 4,802.5                     | -2,960.1        | -414.6          | 2,963.6                       | 3.62                         | -0.95                     |                          |
| 7,667.0                     | 89.90              | 177.90         | 4,802.2                     | -3,023.0        | -413.1          | 3,026.6                       | 2.84                         | -1.27                     |                          |
| 7,730.0                     | 90.30              | 179.60         | 4,802.1                     | -3,086.0        | -411.8          | 3,089.6                       | 2.77                         | 0.63                      |                          |
| 7,793.0                     | 90.10              | 178.20         | 4,801.9                     | -3,149.0        | -410.6          | 3,152.5                       | 2.24                         | -0.32                     |                          |
| 7,857.0                     | 90.30              | 179.40         | 4,801.6                     | -3,213.0        | -409.2          | 3,216.5                       | 1.90                         | 0.31                      |                          |
| 7,920.0                     | 90.60              | 180.10         | 4,801.1                     | -3,276.0        | -408.9          | 3,279.5                       | 1.21                         | 0.48                      |                          |
| 7,983.0                     | 91.60              | 179.60         | 4,799.9                     | -3,339.0        | -408.8          | 3,342.5                       | 1.77                         | 1.59                      |                          |
| 8,046.0                     | 91.50              | 178.20         | 4,798.2                     | -3,401.9        | -407.6          | 3,405.4                       | 2.23                         | -0.16                     |                          |
| 8,109.0                     | 90.70              | 177.00         | 4,797.0                     | -3,464.9        | -404.9          | 3,468.3                       | 2.29                         | -1.27                     |                          |
| 8,172.0                     | 90.50              | 178.30         | 4,796.4                     | -3,527.8        | -402.3          | 3,531.3                       | 2.09                         | -0.32                     |                          |
| 8,235.0                     | 91.40              | 180.00         | 4,795.3                     | -3,590.8        | -401.4          | 3,594.2                       | 3.05                         | 1.43                      |                          |
| 8,298.0                     | 91.80              | 180.40         | 4,793.6                     | -3,653.8        | -401.6          | 3,657.2                       | 0.90                         | 0.63                      |                          |
| 8,361.0                     | 92.10              | 181.10         | 4,791.4                     | -3,716.7        | -402.5          | 3,720.2                       | 1.21                         | 0.48                      |                          |
| 8,424.0                     | 91.20              | 181.70         | 4,789.6                     | -3,779.7        | -404.0          | 3,783.1                       | 1.72                         | -1.43                     |                          |
| 8,488.0                     | 91.40              | 182.10         | 4,788.2                     | -3,843.6        | -406.1          | 3,847.1                       | 0.70                         | 0.31                      |                          |
| 8,551.0                     | 90.90              | 182.20         | 4,786.9                     | -3,906.6        | -408.5          | 3,910.1                       | 0.81                         | -0.79                     |                          |
| 8,614.0                     | 91.10              | 182.30         | 4,785.8                     | -3,969.5        | -411.0          | 3,973.0                       | 0.35                         | 0.32                      |                          |
| 8,677.0                     | 90.30              | 180.90         | 4,785.0                     | -4,032.5        | -412.7          | 4,036.0                       | 2.56                         | -1.27                     |                          |
| 8,740.0                     | 90.60              | 179.70         | 4,784.5                     | -4,095.5        | -413.0          | 4,099.0                       | 1.96                         | 0.48                      |                          |
| 8,803.0                     | 90.50              | 180.90         | 4,783.9                     | -4,158.5        | -413.4          | 4,162.0                       | 1.91                         | -0.16                     |                          |
| 8,867.0                     | 90.80              | 180.10         | 4,783.2                     | -4,222.5        | -413.9          | 4,226.0                       | 1.33                         | 0.47                      |                          |
| 8,930.0                     | 92.50              | 184.10         | 4,781.4                     | -4,285.4        | -416.2          | 4,288.9                       | 6.90                         | 2.70                      |                          |
| 8,993.0                     | 91.40              | 181.40         | 4,779.2                     | -4,348.3        | -419.3          | 4,351.8                       | 4.63                         | -1.75                     |                          |
| 9,056.0                     | 90.90              | 182.00         | 4,778.0                     | -4,411.2        | -421.1          | 4,414.8                       | 1.24                         | -0.79                     |                          |
| 9,120.0                     | 91.40              | 182.60         | 4,776.7                     | -4,475.2        | -423.7          | 4,478.8                       | 1.22                         | 0.78                      |                          |
| 9,183.0                     | 90.70              | 179.50         | 4,775.5                     | -4,538.1        | -424.8          | 4,541.7                       | 5.04                         | -1.11                     |                          |
| 9,246.0                     | 89.10              | 179.10         | 4,775.6                     | -4,601.1        | -424.1          | 4,604.7                       | 2.62                         | -2.54                     |                          |
| 9,309.0                     | 89.00              | 179.20         | 4,776.7                     | -4,664.1        | -423.1          | 4,667.7                       | 0.22                         | -0.16                     |                          |
| 9,373.0                     | 91.40              | 179.90         | 4,776.5                     | -4,728.1        | -422.6          | 4,731.7                       | 3.91                         | 3.75                      |                          |
| 9,436.0                     | 92.50              | 180.50         | 4,774.3                     | -4,791.1        | -422.9          | 4,794.6                       | 1.99                         | 1.75                      |                          |
| 9,499.0                     | 91.50              | 180.20         | 4,772.1                     | -4,854.0        | -423.2          | 4,857.6                       | 1.66                         | -1.59                     |                          |



## Survey Report

**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** San Juan County, NM  
**Site:** S35-T23N-R8W  
**Well:** Lybrook M35-2308 01H  
**Wellbore:** Hz  
**Design:** FINAL

**Local Co-ordinate Reference:** Well Lybrook M35-2308 01H  
**TVD Reference:** WELL @ 6895.0usft (Aztec 920)  
**MD Reference:** WELL @ 6895.0usft (Aztec 920)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** USA EDM 5000 Multi Users DB

### Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100u) | Formations / Comments       |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|---------------------|-----------------------------|
| 9,562.0               | 90.30           | 179.80      | 4,771.1               | -4,917.0     | -423.2       | 4,920.6                 | 2.01                    | -1.90               |                             |
| 9,625.0               | 90.40           | 180.10      | 4,770.7               | -4,980.0     | -423.2       | 4,983.6                 | 0.50                    | 0.16                |                             |
| 9,689.0               | 91.90           | 180.10      | 4,769.5               | -5,044.0     | -423.3       | 5,047.6                 | 2.34                    | 2.34                |                             |
| 9,752.0               | 92.50           | 180.80      | 4,767.0               | -5,106.9     | -423.8       | 5,110.5                 | 1.46                    | 0.95                |                             |
| 9,815.0               | 91.50           | 179.90      | 4,764.8               | -5,169.9     | -424.2       | 5,173.5                 | 2.13                    | -1.59               |                             |
| 9,878.0               | 91.80           | 179.60      | 4,763.0               | -5,232.9     | -423.9       | 5,236.4                 | 0.67                    | 0.48                |                             |
| 9,891.0               | 91.80           | 179.90      | 4,762.6               | -5,245.9     | -423.9       | 5,249.5                 | 2.30                    | 0.00                | Last CES Survey @ 9,891' MD |
| 9,941.0               | 91.80           | 179.90      | 4,761.0               | -5,295.9     | -423.8       | 5,299.4                 | 0.00                    | 0.00                | PTB @ 9,941'                |

### Targets

| Target Name<br>- hit/miss target<br>- Shape                                                                                                | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude  | Longitude   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| Lybrook M35-2308 01H  <br>- actual wellpath misses target center by 28.2usft at 9941.0usft MD (4761.0 TVD, -5295.9 N, -423.8 E)<br>- Point | 0.00          | 0.00         | 4,784.8    | -5,311.0     | -422.1       | 1,878,468.53    | 2,775,141.70   | 36.162430 | -107.657000 |
| Lybrook M35-2308 01H  <br>- actual wellpath misses target center by 11.5usft at 5291.3usft MD (4844.7 TVD, -649.3 N, -370.6 E)<br>- Point  | 0.00          | 0.00         | 4,849.9    | -648.0       | -380.7       | 1,883,131.68    | 2,775,174.55   | 36.175240 | -107.656860 |
| Lybrook M35-2308 01H  <br>- actual wellpath misses target center by 16.7usft at 5292.2usft MD (4844.8 TVD, -650.3 N, -370.6 E)<br>- Point  | 0.00          | 0.00         | 4,857.9    | -648.0       | -380.7       | 1,883,131.68    | 2,775,174.55   | 36.175240 | -107.656860 |
| Lybrook M35-2308 01H  <br>- actual wellpath misses target center by 35.2usft at 9941.0usft MD (4761.0 TVD, -5295.9 N, -423.8 E)<br>- Point | 0.00          | 0.00         | 4,792.8    | -5,311.0     | -422.1       | 1,878,468.53    | 2,775,141.70   | 36.162430 | -107.657000 |

### Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates<br>+N/-S (usft) | +E/-W (usft) | Comment                     |
|-----------------------|-----------------------|-----------------------------------|--------------|-----------------------------|
| 9,891.0               | 4,762.6               | -5,245.9                          | -423.9       | Last CES Survey @ 9,891' MD |
| 9,941.0               | 4,761.0               | -5,295.9                          | -423.8       | PTB @ 9,941'                |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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

**San Juan County, NM**

**S35-T23N-R8W**

**Lybrook M35-2308 01H**

**Hz**

**Design: FINAL**

## **Survey Report - Geographic**

**04 October, 2014**

# Survey Report - Geographic

|                  |                            |                                     |                               |
|------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Lybrook M35-2308 01H     |
| <b>Project:</b>  | San Juan County, NM        | <b>TVD Reference:</b>               | WELL @ 6895.0usft (Aztec 920) |
| <b>Site:</b>     | S35-T23N-R8W               | <b>MD Reference:</b>                | WELL @ 6895.0usft (Aztec 920) |
| <b>Well:</b>     | Lybrook M35-2308 01H       | <b>North Reference:</b>             | True                          |
| <b>Wellbore:</b> | Hz                         | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Design:</b>   | FINAL                      | <b>Database:</b>                    | USA EDM 5000 Multi Users DB   |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | San Juan County, NM       | <b>System Datum:</b> | Mean Sea Level |
| <b>Map System:</b> | US State Plane 1983       |                      |                |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Western Zone   |                      |                |

|                              |              |                     |                   |                          |             |
|------------------------------|--------------|---------------------|-------------------|--------------------------|-------------|
| <b>Site</b>                  | S35-T23N-R8W |                     |                   |                          |             |
| <b>Site Position:</b>        |              | <b>Northing:</b>    | 1,883,780.33 usft | <b>Latitude:</b>         | 36.177020   |
| <b>From:</b>                 | Lat/Long     | <b>Easting:</b>     | 2,775,554.08 usft | <b>Longitude:</b>        | -107.655570 |
| <b>Position Uncertainty:</b> | 0.0 usft     | <b>Slot Radius:</b> | 13-3/16 "         | <b>Grid Convergence:</b> | 0.10 °      |

|                      |                      |          |                     |                   |               |              |
|----------------------|----------------------|----------|---------------------|-------------------|---------------|--------------|
| Well                 | Lybrook M35-2308 01H |          |                     |                   |               |              |
| Well Position        | +N/-S                | 0.0 usft | Northing:           | 1,883,780.33 usft | Latitude:     | 36.177020    |
|                      | +E/-W                | 0.0 usft | Easting:            | 2,775,554.08 usft | Longitude:    | -107.655570  |
| Position Uncertainty |                      | 0.0 usft | Wellhead Elevation: | usft              | Ground Level: | 6,879.0 usft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Hz                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 9/25/2014          | 9.38                   | 62.92                | 50,099                     |

|                          |                                |                     |                     |                      |     |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|-----|
| <b>Design</b>            | FINAL                          |                     |                     |                      |     |
| <b>Audit Notes:</b>      |                                |                     |                     |                      |     |
| <b>Version:</b>          | 1.0                            | <b>Phase:</b>       | ACTUAL              | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b> |     |
|                          | 0.0                            | 0.0                 | 0.0                 | 180.51               |     |

|                       |                  |                          |                  |                    |  |
|-----------------------|------------------|--------------------------|------------------|--------------------|--|
| <b>Survey Program</b> | Date             | 10/4/2014                |                  |                    |  |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |  |
| 663.0                 | 9,941.0          | Survey #1 (Hz)           | Geolink MWD      | Geolink MWD        |  |

|                              |                        |                    |                              |                     |                     |                            |                           |                 |                  |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|----------------------------|---------------------------|-----------------|------------------|
| <b>Survey</b>                |                        |                    |                              |                     |                     |                            |                           |                 |                  |
| <b>Measured Depth (usft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Map Northing (usft)</b> | <b>Map Easting (usft)</b> | <b>Latitude</b> | <b>Longitude</b> |
| 600.0                        | 0.40                   | 183.20             | 600.0                        | -2.1                | -0.1                | 1,883,778.24               | 2,775,553.97              | 36.177014       | -107.655571      |
| 663.0                        | 0.40                   | 243.60             | 663.0                        | -2.4                | -0.3                | 1,883,777.92               | 2,775,553.76              | 36.177013       | -107.655571      |
| 726.0                        | 0.70                   | 209.60             | 726.0                        | -2.8                | -0.7                | 1,883,777.49               | 2,775,553.37              | 36.177012       | -107.655573      |
| 789.0                        | 0.70                   | 232.00             | 789.0                        | -3.4                | -1.2                | 1,883,776.91               | 2,775,552.88              | 36.177011       | -107.655574      |
| 853.0                        | 0.60                   | 191.80             | 853.0                        | -4.0                | -1.6                | 1,883,776.34               | 2,775,552.51              | 36.177009       | -107.655576      |
| 916.0                        | 0.70                   | 225.20             | 916.0                        | -4.6                | -1.9                | 1,883,775.75               | 2,775,552.17              | 36.177008       | -107.655577      |
| 979.0                        | 0.40                   | 232.50             | 979.0                        | -5.0                | -2.4                | 1,883,775.34               | 2,775,551.72              | 36.177006       | -107.655578      |
| 1,042.0                      | 0.80                   | 237.00             | 1,042.0                      | -5.4                | -2.9                | 1,883,774.97               | 2,775,551.18              | 36.177005       | -107.655580      |
| 1,106.0                      | 0.40                   | 43.10              | 1,106.0                      | -5.4                | -3.1                | 1,883,774.89               | 2,775,550.96              | 36.177005       | -107.655581      |
| 1,169.0                      | 0.40                   | 52.20              | 1,169.0                      | -5.1                | -2.8                | 1,883,775.18               | 2,775,551.28              | 36.177006       | -107.655580      |
| 1,232.0                      | 0.80                   | 68.20              | 1,232.0                      | -4.8                | -2.2                | 1,883,775.48               | 2,775,551.86              | 36.177007       | -107.655578      |
| 1,295.0                      | 1.00                   | 51.60              | 1,295.0                      | -4.3                | -1.4                | 1,883,775.99               | 2,775,552.70              | 36.177008       | -107.655575      |

# Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc  
Project: San Juan County, NM  
Site: S35-T23N-R8W  
Well: Lybrook M35-2308 01H  
Wellbore: Hz  
Design: FINAL

Local Co-ordinate Reference: Well Lybrook M35-2308 01H  
TVD Reference: WELL @ 6895.0usft (Aztec 920)  
MD Reference: WELL @ 6895.0usft (Aztec 920)  
North Reference: True  
Survey Calculation Method: Minimum Curvature  
Database: USA EDM 5000 Multi Users DB

## Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude  | Longitude   |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|-----------|-------------|
| 1,358.0                     | 1.00               | 64.30          | 1,358.0                     | -3.8            | -0.5            | 1,883,776.57              | 2,775,553.62             | 36.177010 | -107.655572 |
| 1,421.0                     | 0.60               | 63.90          | 1,420.9                     | -3.4            | 0.3             | 1,883,776.96              | 2,775,554.41             | 36.177011 | -107.655569 |
| 1,485.0                     | 1.00               | 47.60          | 1,484.9                     | -2.8            | 1.0             | 1,883,777.48              | 2,775,555.13             | 36.177012 | -107.655567 |
| 1,548.0                     | 1.00               | 29.70          | 1,547.9                     | -2.0            | 1.7             | 1,883,778.33              | 2,775,555.80             | 36.177015 | -107.655564 |
| 1,611.0                     | 0.60               | 19.30          | 1,610.9                     | -1.2            | 2.1             | 1,883,779.12              | 2,775,556.18             | 36.177017 | -107.655563 |
| 1,671.0                     | 0.60               | 37.70          | 1,670.9                     | -0.7            | 2.4             | 1,883,779.67              | 2,775,556.48             | 36.177018 | -107.655562 |
| 1,732.0                     | 0.80               | 16.20          | 1,731.9                     | 0.0             | 2.7             | 1,883,780.33              | 2,775,556.79             | 36.177020 | -107.655561 |
| 1,792.0                     | 0.90               | 40.30          | 1,791.9                     | 0.8             | 3.1             | 1,883,781.09              | 2,775,557.21             | 36.177022 | -107.655560 |
| 1,853.0                     | 0.70               | 33.40          | 1,852.9                     | 1.4             | 3.6             | 1,883,781.77              | 2,775,557.73             | 36.177024 | -107.655558 |
| 1,914.0                     | 0.80               | 196.80         | 1,913.9                     | 1.3             | 3.7             | 1,883,781.67              | 2,775,557.81             | 36.177024 | -107.655558 |
| 1,974.0                     | 1.60               | 207.40         | 1,973.9                     | 0.2             | 3.2             | 1,883,780.53              | 2,775,557.30             | 36.177021 | -107.655559 |
| 2,035.0                     | 1.40               | 204.30         | 2,034.9                     | -1.2            | 2.5             | 1,883,779.09              | 2,775,556.61             | 36.177017 | -107.655562 |
| 2,096.0                     | 1.10               | 216.50         | 2,095.8                     | -2.4            | 1.9             | 1,883,777.94              | 2,775,555.95             | 36.177014 | -107.655564 |
| 2,156.0                     | 1.10               | 214.70         | 2,155.8                     | -3.3            | 1.2             | 1,883,777.00              | 2,775,555.29             | 36.177011 | -107.655566 |
| 2,216.0                     | 1.50               | 207.20         | 2,215.8                     | -4.5            | 0.5             | 1,883,775.83              | 2,775,554.60             | 36.177008 | -107.655569 |
| 2,277.0                     | 0.80               | 281.50         | 2,276.8                     | -5.1            | -0.3            | 1,883,775.20              | 2,775,553.82             | 36.177006 | -107.655571 |
| 2,338.0                     | 1.10               | 309.50         | 2,337.8                     | -4.7            | -1.1            | 1,883,775.66              | 2,775,552.95             | 36.177007 | -107.655574 |
| 2,399.0                     | 0.90               | 321.30         | 2,398.8                     | -3.9            | -1.9            | 1,883,776.40              | 2,775,552.20             | 36.177009 | -107.655577 |
| 2,460.0                     | 1.10               | 314.10         | 2,459.8                     | -3.1            | -2.6            | 1,883,777.18              | 2,775,551.48             | 36.177011 | -107.655579 |
| 2,521.0                     | 0.70               | 305.10         | 2,520.8                     | -2.5            | -3.3            | 1,883,777.80              | 2,775,550.75             | 36.177013 | -107.655582 |
| 2,582.0                     | 0.50               | 305.00         | 2,581.8                     | -2.2            | -3.9            | 1,883,778.17              | 2,775,550.23             | 36.177014 | -107.655583 |
| 2,643.0                     | 0.50               | 286.90         | 2,642.8                     | -1.9            | -4.3            | 1,883,778.40              | 2,775,549.75             | 36.177015 | -107.655585 |
| 2,703.0                     | 0.30               | 305.10         | 2,702.8                     | -1.8            | -4.7            | 1,883,778.56              | 2,775,549.37             | 36.177015 | -107.655586 |
| 2,763.0                     | 0.50               | 279.40         | 2,762.8                     | -1.6            | -5.1            | 1,883,778.70              | 2,775,548.99             | 36.177016 | -107.655588 |
| 2,827.0                     | 0.70               | 285.70         | 2,826.8                     | -1.5            | -5.8            | 1,883,778.85              | 2,775,548.33             | 36.177016 | -107.655590 |
| 2,890.0                     | 0.70               | 266.00         | 2,889.8                     | -1.4            | -6.5            | 1,883,778.92              | 2,775,547.58             | 36.177016 | -107.655592 |
| 2,953.0                     | 0.60               | 275.00         | 2,952.8                     | -1.4            | -7.2            | 1,883,778.92              | 2,775,546.87             | 36.177016 | -107.655595 |
| 3,016.0                     | 0.40               | 279.40         | 3,015.8                     | -1.3            | -7.8            | 1,883,778.99              | 2,775,546.32             | 36.177016 | -107.655597 |
| 3,080.0                     | 0.10               | 222.10         | 3,079.8                     | -1.3            | -8.0            | 1,883,778.98              | 2,775,546.06             | 36.177016 | -107.655597 |
| 3,143.0                     | 0.10               | 305.40         | 3,142.8                     | -1.3            | -8.1            | 1,883,778.97              | 2,775,545.98             | 36.177016 | -107.655598 |
| 3,206.0                     | 0.70               | 274.50         | 3,205.8                     | -1.3            | -8.5            | 1,883,779.03              | 2,775,545.55             | 36.177017 | -107.655599 |
| 3,269.0                     | 0.40               | 272.90         | 3,268.7                     | -1.2            | -9.1            | 1,883,779.07              | 2,775,544.95             | 36.177017 | -107.655601 |
| 3,332.0                     | 0.40               | 259.40         | 3,331.7                     | -1.3            | -9.6            | 1,883,779.04              | 2,775,544.51             | 36.177017 | -107.655603 |
| 3,396.0                     | 0.40               | 252.00         | 3,395.7                     | -1.4            | -10.0           | 1,883,778.93              | 2,775,544.08             | 36.177016 | -107.655604 |
| 3,459.0                     | 0.50               | 270.00         | 3,458.7                     | -1.4            | -10.5           | 1,883,778.86              | 2,775,543.60             | 36.177016 | -107.655606 |
| 3,522.0                     | 0.50               | 215.50         | 3,521.7                     | -1.7            | -10.9           | 1,883,778.64              | 2,775,543.16             | 36.177016 | -107.655607 |
| 3,586.0                     | 0.60               | 227.80         | 3,585.7                     | -2.1            | -11.3           | 1,883,778.19              | 2,775,542.75             | 36.177014 | -107.655609 |
| 3,649.0                     | 1.10               | 275.50         | 3,648.7                     | -2.3            | -12.2           | 1,883,778.02              | 2,775,541.91             | 36.177014 | -107.655612 |
| 3,680.0                     | 2.20               | 276.10         | 3,679.7                     | -2.2            | -13.1           | 1,883,778.11              | 2,775,541.02             | 36.177014 | -107.655615 |
| 3,712.0                     | 4.10               | 299.30         | 3,711.7                     | -1.6            | -14.7           | 1,883,778.73              | 2,775,539.41             | 36.177016 | -107.655620 |
| 3,744.0                     | 6.40               | 317.00         | 3,743.5                     | 0.3             | -16.9           | 1,883,780.59              | 2,775,537.19             | 36.177021 | -107.655628 |
| 3,775.0                     | 7.80               | 322.40         | 3,774.3                     | 3.2             | -19.4           | 1,883,783.52              | 2,775,534.73             | 36.177029 | -107.655636 |
| 3,807.0                     | 9.00               | 320.30         | 3,806.0                     | 6.9             | -22.3           | 1,883,787.16              | 2,775,531.80             | 36.177039 | -107.655646 |
| 3,838.0                     | 10.70              | 315.20         | 3,836.5                     | 10.8            | -25.9           | 1,883,791.06              | 2,775,528.21             | 36.177050 | -107.655658 |
| 3,870.0                     | 13.30              | 313.80         | 3,867.8                     | 15.4            | -30.6           | 1,883,795.71              | 2,775,523.45             | 36.177063 | -107.655674 |
| 3,901.0                     | 16.20              | 313.60         | 3,897.8                     | 20.9            | -36.3           | 1,883,801.15              | 2,775,517.74             | 36.177077 | -107.655693 |
| 3,933.0                     | 18.40              | 312.60         | 3,928.3                     | 27.4            | -43.3           | 1,883,807.63              | 2,775,510.77             | 36.177095 | -107.655717 |
| 3,965.0                     | 19.80              | 307.90         | 3,958.6                     | 34.1            | -51.3           | 1,883,814.37              | 2,775,502.77             | 36.177114 | -107.655744 |
| 3,996.0                     | 20.90              | 307.90         | 3,987.6                     | 40.8            | -59.8           | 1,883,820.98              | 2,775,494.25             | 36.177132 | -107.655773 |
| 4,028.0                     | 19.80              | 304.40         | 4,017.6                     | 47.3            | -68.7           | 1,883,827.53              | 2,775,485.26             | 36.177150 | -107.655803 |
| 4,059.0                     | 17.10              | 295.20         | 4,047.0                     | 52.2            | -77.2           | 1,883,832.42              | 2,775,476.79             | 36.177164 | -107.655832 |
| 4,091.0                     | 16.70              | 285.00         | 4,077.7                     | 55.4            | -85.9           | 1,883,835.60              | 2,775,468.08             | 36.177172 | -107.655861 |
| 4,123.0                     | 19.00              | 278.00         | 4,108.1                     | 57.3            | -95.5           | 1,883,837.50              | 2,775,458.48             | 36.177178 | -107.655894 |
| 4,154.0                     | 21.40              | 270.90         | 4,137.2                     | 58.1            | -106.2          | 1,883,838.27              | 2,775,447.82             | 36.177180 | -107.655930 |
| 4,186.0                     | 23.40              | 266.50         | 4,166.8                     | 57.8            | -118.3          | 1,883,837.95              | 2,775,435.64             | 36.177179 | -107.655971 |

# Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc  
Project: San Juan County, NM  
Site: S35-T23N-R8W  
Well: Lybrook M35-2308 01H  
Wellbore: Hz  
Design: FINAL

Local Co-ordinate Reference: Well Lybrook M35-2308 01H  
TVD Reference: WELL @ 6895.0usft (Aztec 920)  
MD Reference: WELL @ 6895.0usft (Aztec 920)  
North Reference: True  
Survey Calculation Method: Minimum Curvature  
Database: USA EDM 5000 Multi Users DB

## Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude  | Longitude   |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|-----------|-------------|
| 4,218.0                     | 25.00              | 259.90         | 4,196.0                     | 56.3            | -131.3          | 1,883,836.35              | 2,775,422.64             | 36.177175 | -107.656015 |
| 4,249.0                     | 27.20              | 253.50         | 4,223.8                     | 53.1            | -144.6          | 1,883,833.17              | 2,775,409.40             | 36.177166 | -107.656060 |
| 4,281.0                     | 28.50              | 248.80         | 4,252.1                     | 48.3            | -158.7          | 1,883,828.30              | 2,775,395.28             | 36.177153 | -107.656108 |
| 4,313.0                     | 29.20              | 242.10         | 4,280.2                     | 41.8            | -172.7          | 1,883,821.86              | 2,775,381.27             | 36.177135 | -107.656156 |
| 4,344.0                     | 29.50              | 237.30         | 4,307.2                     | 34.2            | -185.8          | 1,883,814.17              | 2,775,368.17             | 36.177114 | -107.656200 |
| 4,376.0                     | 28.80              | 231.40         | 4,335.1                     | 25.1            | -198.5          | 1,883,805.08              | 2,775,355.53             | 36.177089 | -107.656243 |
| 4,407.0                     | 29.20              | 225.30         | 4,362.3                     | 15.1            | -209.7          | 1,883,795.08              | 2,775,344.34             | 36.177062 | -107.656281 |
| 4,439.0                     | 30.20              | 219.40         | 4,390.1                     | 3.4             | -220.4          | 1,883,783.35              | 2,775,333.70             | 36.177030 | -107.656317 |
| 4,471.0                     | 30.90              | 216.60         | 4,417.6                     | -9.4            | -230.4          | 1,883,770.52              | 2,775,323.72             | 36.176994 | -107.656351 |
| 4,502.0                     | 31.90              | 212.80         | 4,444.1                     | -22.7           | -239.6          | 1,883,757.22              | 2,775,314.56             | 36.176958 | -107.656382 |
| 4,534.0                     | 33.20              | 207.70         | 4,471.1                     | -37.5           | -248.2          | 1,883,742.34              | 2,775,305.93             | 36.176917 | -107.656411 |
| 4,566.0                     | 34.40              | 202.10         | 4,497.7                     | -53.7           | -255.7          | 1,883,726.19              | 2,775,298.48             | 36.176873 | -107.656437 |
| 4,597.0                     | 36.40              | 199.80         | 4,522.9                     | -70.4           | -262.1          | 1,883,709.41              | 2,775,292.10             | 36.176827 | -107.656458 |
| 4,629.0                     | 38.80              | 198.30         | 4,548.3                     | -88.9           | -268.5          | 1,883,690.94              | 2,775,285.77             | 36.176776 | -107.656480 |
| 4,660.0                     | 40.70              | 196.40         | 4,572.1                     | -107.8          | -274.4          | 1,883,672.01              | 2,775,279.90             | 36.176724 | -107.656500 |
| 4,692.0                     | 42.50              | 195.10         | 4,596.0                     | -128.3          | -280.1          | 1,883,651.55              | 2,775,274.18             | 36.176668 | -107.656519 |
| 4,724.0                     | 44.00              | 194.60         | 4,619.4                     | -149.5          | -285.8          | 1,883,630.35              | 2,775,268.60             | 36.176610 | -107.656539 |
| 4,755.0                     | 46.60              | 194.00         | 4,641.2                     | -170.8          | -291.2          | 1,883,608.99              | 2,775,263.20             | 36.176551 | -107.656557 |
| 4,787.0                     | 49.00              | 192.60         | 4,662.7                     | -193.9          | -296.6          | 1,883,585.91              | 2,775,257.79             | 36.176487 | -107.656575 |
| 4,818.0                     | 51.00              | 191.10         | 4,682.6                     | -217.1          | -301.5          | 1,883,562.66              | 2,775,252.96             | 36.176424 | -107.656592 |
| 4,850.0                     | 53.90              | 190.40         | 4,702.1                     | -242.0          | -306.2          | 1,883,537.73              | 2,775,248.28             | 36.176355 | -107.656608 |
| 4,882.0                     | 56.40              | 190.30         | 4,720.4                     | -267.9          | -311.0          | 1,883,511.89              | 2,775,243.61             | 36.176284 | -107.656624 |
| 4,913.0                     | 59.00              | 191.50         | 4,736.9                     | -293.6          | -315.9          | 1,883,486.15              | 2,775,238.70             | 36.176214 | -107.656641 |
| 4,945.0                     | 62.80              | 191.50         | 4,752.5                     | -321.0          | -321.5          | 1,883,458.75              | 2,775,233.18             | 36.176138 | -107.656660 |
| 4,976.0                     | 66.70              | 191.10         | 4,765.7                     | -348.5          | -327.0          | 1,883,431.25              | 2,775,227.74             | 36.176063 | -107.656678 |
| 5,008.0                     | 69.40              | 191.00         | 4,777.7                     | -377.6          | -332.7          | 1,883,402.11              | 2,775,222.10             | 36.175983 | -107.656697 |
| 5,039.0                     | 70.50              | 191.10         | 4,788.3                     | -406.2          | -338.3          | 1,883,373.52              | 2,775,216.57             | 36.175904 | -107.656716 |
| 5,071.0                     | 72.30              | 190.00         | 4,798.5                     | -436.0          | -343.8          | 1,883,343.70              | 2,775,211.08             | 36.175822 | -107.656735 |
| 5,103.0                     | 74.40              | 189.10         | 4,807.7                     | -466.2          | -348.9          | 1,883,313.46              | 2,775,206.05             | 36.175739 | -107.656752 |
| 5,134.0                     | 75.50              | 188.20         | 4,815.7                     | -495.8          | -353.4          | 1,883,283.85              | 2,775,201.60             | 36.175658 | -107.656768 |
| 5,166.0                     | 77.10              | 187.10         | 4,823.3                     | -526.6          | -357.5          | 1,883,253.03              | 2,775,197.52             | 36.175573 | -107.656782 |
| 5,188.0                     | 78.60              | 186.50         | 4,827.9                     | -548.0          | -360.1          | 1,883,231.67              | 2,775,195.01             | 36.175515 | -107.656790 |
| 5,218.0                     | 80.00              | 186.60         | 4,833.5                     | -577.3          | -363.4          | 1,883,202.38              | 2,775,191.70             | 36.175434 | -107.656802 |
| 5,249.0                     | 81.30              | 186.10         | 4,838.5                     | -607.7          | -366.8          | 1,883,171.98              | 2,775,188.37             | 36.175351 | -107.656813 |
| 5,281.0                     | 81.60              | 184.60         | 4,843.3                     | -639.2          | -369.8          | 1,883,140.47              | 2,775,185.48             | 36.175264 | -107.656823 |
| 5,313.0                     | 84.60              | 183.80         | 4,847.1                     | -670.9          | -372.1          | 1,883,108.78              | 2,775,183.21             | 36.175177 | -107.656831 |
| 5,344.0                     | 89.30              | 183.20         | 4,848.8                     | -701.8          | -374.0          | 1,883,077.89              | 2,775,181.38             | 36.175092 | -107.656837 |
| 5,376.0                     | 90.80              | 182.40         | 4,848.8                     | -733.7          | -375.6          | 1,883,045.93              | 2,775,179.88             | 36.175004 | -107.656843 |
| 5,407.0                     | 91.10              | 183.10         | 4,848.2                     | -764.7          | -377.0          | 1,883,014.96              | 2,775,178.45             | 36.174919 | -107.656848 |
| 5,439.0                     | 91.30              | 184.10         | 4,847.6                     | -796.6          | -379.0          | 1,882,983.03              | 2,775,176.50             | 36.174832 | -107.656855 |
| 5,502.0                     | 91.60              | 180.80         | 4,846.0                     | -859.5          | -381.7          | 1,882,920.11              | 2,775,173.92             | 36.174659 | -107.656864 |
| 5,566.0                     | 90.30              | 181.70         | 4,844.9                     | -923.5          | -383.1          | 1,882,856.14              | 2,775,172.64             | 36.174483 | -107.656868 |
| 5,629.0                     | 90.50              | 181.60         | 4,844.5                     | -986.5          | -384.9          | 1,882,793.16              | 2,775,170.94             | 36.174310 | -107.656875 |
| 5,692.0                     | 90.40              | 181.20         | 4,844.0                     | -1,049.4        | -386.5          | 1,882,730.18              | 2,775,169.52             | 36.174137 | -107.656880 |
| 5,755.0                     | 90.30              | 181.70         | 4,843.6                     | -1,112.4        | -388.1          | 1,882,667.20              | 2,775,168.04             | 36.173964 | -107.656885 |
| 5,819.0                     | 91.00              | 179.50         | 4,842.9                     | -1,176.4        | -388.8          | 1,882,603.21              | 2,775,167.49             | 36.173788 | -107.656887 |
| 5,882.0                     | 91.70              | 179.50         | 4,841.4                     | -1,239.4        | -388.2          | 1,882,540.23              | 2,775,168.15             | 36.173615 | -107.656886 |
| 5,945.0                     | 90.80              | 180.30         | 4,840.0                     | -1,302.4        | -388.1          | 1,882,477.25              | 2,775,168.38             | 36.173442 | -107.656885 |
| 6,008.0                     | 92.20              | 179.80         | 4,838.4                     | -1,365.3        | -388.1          | 1,882,414.27              | 2,775,168.44             | 36.173269 | -107.656885 |
| 6,072.0                     | 92.50              | 180.20         | 4,835.7                     | -1,429.3        | -388.1          | 1,882,350.32              | 2,775,168.55             | 36.173094 | -107.656885 |
| 6,135.0                     | 92.70              | 180.40         | 4,832.9                     | -1,492.2        | -388.5          | 1,882,287.39              | 2,775,168.34             | 36.172921 | -107.656887 |
| 6,198.0                     | 91.50              | 178.00         | 4,830.6                     | -1,555.2        | -387.6          | 1,882,224.45              | 2,775,169.33             | 36.172748 | -107.656884 |
| 6,261.0                     | 91.50              | 178.70         | 4,828.9                     | -1,618.1        | -385.8          | 1,882,161.50              | 2,775,171.26             | 36.172575 | -107.656877 |
| 6,325.0                     | 91.70              | 180.70         | 4,827.1                     | -1,682.1        | -385.5          | 1,882,097.53              | 2,775,171.72             | 36.172399 | -107.656876 |
| 6,385.0                     | 92.70              | 181.10         | 4,824.8                     | -1,742.0        | -386.4          | 1,882,037.58              | 2,775,170.88             | 36.172235 | -107.656879 |

# Survey Report - Geographic

**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** San Juan County, NM  
**Site:** S35-T23N-R8W  
**Well:** Lybrook M35-2308 01H  
**Wellbore:** Hz  
**Design:** FINAL

**Local Co-ordinate Reference:** Well Lybrook M35-2308 01H  
**TVD Reference:** WELL @ 6895.0usft (Aztec 920)  
**MD Reference:** WELL @ 6895.0usft (Aztec 920)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** USA EDM 5000 Multi Users DB

## Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude  | Longitude   |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|-----------|-------------|
| 6,446.0                     | 93.60              | 180.80         | 4,821.5                     | -1,802.9        | -387.4          | 1,881,976.68              | 2,775,169.99             | 36.172067 | -107.656883 |
| 6,506.0                     | 92.90              | 182.20         | 4,818.1                     | -1,862.8        | -389.0          | 1,881,916.79              | 2,775,168.53             | 36.171903 | -107.656888 |
| 6,567.0                     | 91.20              | 182.90         | 4,815.9                     | -1,923.7        | -391.7          | 1,881,855.89              | 2,775,165.93             | 36.171735 | -107.656897 |
| 6,627.0                     | 89.60              | 181.40         | 4,815.5                     | -1,983.7        | -393.9          | 1,881,795.94              | 2,775,163.79             | 36.171571 | -107.656905 |
| 6,688.0                     | 91.00              | 182.80         | 4,815.2                     | -2,044.6        | -396.2          | 1,881,734.98              | 2,775,161.66             | 36.171403 | -107.656913 |
| 6,749.0                     | 91.40              | 182.90         | 4,813.9                     | -2,105.5        | -399.2          | 1,881,674.06              | 2,775,158.74             | 36.171236 | -107.656923 |
| 6,809.0                     | 91.50              | 183.30         | 4,812.4                     | -2,165.4        | -402.4          | 1,881,614.16              | 2,775,155.61             | 36.171071 | -107.656934 |
| 6,870.0                     | 91.50              | 183.60         | 4,810.8                     | -2,226.3        | -406.1          | 1,881,553.29              | 2,775,152.05             | 36.170904 | -107.656946 |
| 6,930.0                     | 91.10              | 182.40         | 4,809.4                     | -2,286.2        | -409.3          | 1,881,493.38              | 2,775,149.02             | 36.170740 | -107.656957 |
| 6,991.0                     | 90.40              | 178.90         | 4,808.6                     | -2,347.2        | -409.9          | 1,881,432.40              | 2,775,148.44             | 36.170572 | -107.656959 |
| 7,052.0                     | 90.60              | 179.50         | 4,808.1                     | -2,408.2        | -409.1          | 1,881,371.41              | 2,775,149.40             | 36.170405 | -107.656956 |
| 7,113.0                     | 90.80              | 179.90         | 4,807.3                     | -2,469.2        | -408.8          | 1,881,310.41              | 2,775,149.83             | 36.170237 | -107.656955 |
| 7,174.0                     | 89.80              | 181.20         | 4,807.0                     | -2,530.2        | -409.4          | 1,881,249.42              | 2,775,149.36             | 36.170069 | -107.656957 |
| 7,235.0                     | 89.70              | 179.80         | 4,807.3                     | -2,591.2        | -409.9          | 1,881,188.42              | 2,775,148.94             | 36.169902 | -107.656959 |
| 7,296.0                     | 90.40              | 179.80         | 4,807.2                     | -2,652.2        | -409.7          | 1,881,127.42              | 2,775,149.26             | 36.169734 | -107.656958 |
| 7,357.0                     | 90.60              | 180.30         | 4,806.7                     | -2,713.2        | -409.7          | 1,881,066.43              | 2,775,149.32             | 36.169567 | -107.656958 |
| 7,417.0                     | 90.80              | 181.80         | 4,806.0                     | -2,773.1        | -410.8          | 1,881,006.44              | 2,775,148.33             | 36.169402 | -107.656962 |
| 7,477.0                     | 91.10              | 181.10         | 4,805.0                     | -2,833.1        | -412.3          | 1,880,946.47              | 2,775,146.92             | 36.169237 | -107.656967 |
| 7,541.0                     | 91.30              | 181.70         | 4,803.6                     | -2,897.1        | -413.9          | 1,880,882.50              | 2,775,145.48             | 36.169062 | -107.656973 |
| 7,604.0                     | 90.70              | 179.50         | 4,802.5                     | -2,960.1        | -414.6          | 1,880,819.51              | 2,775,144.93             | 36.168888 | -107.656975 |
| 7,667.0                     | 89.90              | 177.90         | 4,802.2                     | -3,023.0        | -413.1          | 1,880,756.54              | 2,775,146.48             | 36.168715 | -107.656970 |
| 7,730.0                     | 90.30              | 179.60         | 4,802.1                     | -3,086.0        | -411.8          | 1,880,693.56              | 2,775,147.97             | 36.168542 | -107.656965 |
| 7,793.0                     | 90.10              | 178.20         | 4,801.9                     | -3,149.0        | -410.6          | 1,880,630.57              | 2,775,149.29             | 36.168369 | -107.656961 |
| 7,857.0                     | 90.30              | 179.40         | 4,801.6                     | -3,213.0        | -409.2          | 1,880,566.59              | 2,775,150.75             | 36.168194 | -107.656957 |
| 7,920.0                     | 90.60              | 180.10         | 4,801.1                     | -3,276.0        | -408.9          | 1,880,503.59              | 2,775,151.14             | 36.168021 | -107.656956 |
| 7,983.0                     | 91.60              | 179.60         | 4,799.9                     | -3,339.0        | -408.8          | 1,880,440.61              | 2,775,151.42             | 36.167848 | -107.656955 |
| 8,046.0                     | 91.50              | 178.20         | 4,798.2                     | -3,401.9        | -407.6          | 1,880,377.65              | 2,775,152.75             | 36.167675 | -107.656951 |
| 8,109.0                     | 90.70              | 177.00         | 4,797.0                     | -3,464.9        | -404.9          | 1,880,314.72              | 2,775,155.50             | 36.167502 | -107.656942 |
| 8,172.0                     | 90.50              | 178.30         | 4,796.4                     | -3,527.8        | -402.3          | 1,880,251.78              | 2,775,158.20             | 36.167329 | -107.656933 |
| 8,235.0                     | 91.40              | 180.00         | 4,795.3                     | -3,590.8        | -401.4          | 1,880,188.80              | 2,775,159.25             | 36.167156 | -107.656930 |
| 8,298.0                     | 91.80              | 180.40         | 4,793.6                     | -3,653.8        | -401.6          | 1,880,125.83              | 2,775,159.14             | 36.166983 | -107.656931 |
| 8,361.0                     | 92.10              | 181.10         | 4,791.4                     | -3,716.7        | -402.5          | 1,880,062.87              | 2,775,158.43             | 36.166810 | -107.656934 |
| 8,424.0                     | 91.20              | 181.70         | 4,789.6                     | -3,779.7        | -404.0          | 1,879,999.91              | 2,775,157.01             | 36.166637 | -107.656939 |
| 8,488.0                     | 91.40              | 182.10         | 4,788.2                     | -3,843.6        | -406.1          | 1,879,935.96              | 2,775,155.01             | 36.166461 | -107.656946 |
| 8,551.0                     | 90.90              | 182.20         | 4,786.9                     | -3,906.6        | -408.5          | 1,879,873.01              | 2,775,152.76             | 36.166288 | -107.656954 |
| 8,614.0                     | 91.10              | 182.30         | 4,785.8                     | -3,969.5        | -411.0          | 1,879,810.07              | 2,775,150.40             | 36.166115 | -107.656963 |
| 8,677.0                     | 90.30              | 180.90         | 4,785.0                     | -4,032.5        | -412.7          | 1,879,747.10              | 2,775,148.76             | 36.165942 | -107.656969 |
| 8,740.0                     | 90.60              | 179.70         | 4,784.5                     | -4,095.5        | -413.0          | 1,879,684.10              | 2,775,148.54             | 36.165769 | -107.656970 |
| 8,803.0                     | 90.50              | 180.90         | 4,783.9                     | -4,158.5        | -413.4          | 1,879,621.10              | 2,775,148.33             | 36.165596 | -107.656971 |
| 8,867.0                     | 90.80              | 180.10         | 4,783.2                     | -4,222.5        | -413.9          | 1,879,557.11              | 2,775,147.89             | 36.165421 | -107.656973 |
| 8,930.0                     | 92.50              | 184.10         | 4,781.4                     | -4,285.4        | -416.2          | 1,879,494.19              | 2,775,145.70             | 36.165248 | -107.656980 |
| 8,993.0                     | 91.40              | 181.40         | 4,779.2                     | -4,348.3        | -419.3          | 1,879,431.30              | 2,775,142.79             | 36.165075 | -107.656991 |
| 9,056.0                     | 90.90              | 182.00         | 4,778.0                     | -4,411.2        | -421.1          | 1,879,368.34              | 2,775,141.04             | 36.164902 | -107.656997 |
| 9,120.0                     | 91.40              | 182.60         | 4,776.7                     | -4,475.2        | -423.7          | 1,879,304.40              | 2,775,138.59             | 36.164726 | -107.657006 |
| 9,183.0                     | 90.70              | 179.50         | 4,775.5                     | -4,538.1        | -424.8          | 1,879,241.43              | 2,775,137.55             | 36.164553 | -107.657010 |
| 9,246.0                     | 89.10              | 179.10         | 4,775.6                     | -4,601.1        | -424.1          | 1,879,178.43              | 2,775,138.43             | 36.164380 | -107.657007 |
| 9,309.0                     | 89.00              | 179.20         | 4,776.7                     | -4,664.1        | -423.1          | 1,879,115.45              | 2,775,139.48             | 36.164207 | -107.657004 |
| 9,373.0                     | 91.40              | 179.90         | 4,776.5                     | -4,728.1        | -422.6          | 1,879,051.46              | 2,775,140.10             | 36.164031 | -107.657002 |
| 9,436.0                     | 92.50              | 180.50         | 4,774.3                     | -4,791.1        | -422.9          | 1,878,988.50              | 2,775,140.00             | 36.163859 | -107.657003 |
| 9,499.0                     | 91.50              | 180.20         | 4,772.1                     | -4,854.0        | -423.2          | 1,878,925.54              | 2,775,139.73             | 36.163686 | -107.657004 |
| 9,562.0                     | 90.30              | 179.80         | 4,771.1                     | -4,917.0        | -423.2          | 1,878,862.55              | 2,775,139.85             | 36.163513 | -107.657004 |
| 9,625.0                     | 90.40              | 180.10         | 4,770.7                     | -4,980.0        | -423.2          | 1,878,799.55              | 2,775,140.02             | 36.163339 | -107.657004 |
| 9,689.0                     | 91.90              | 180.10         | 4,769.5                     | -5,044.0        | -423.3          | 1,878,735.56              | 2,775,140.02             | 36.163164 | -107.657004 |
| 9,752.0                     | 92.50              | 180.80         | 4,767.0                     | -5,106.9        | -423.8          | 1,878,672.61              | 2,775,139.64             | 36.162991 | -107.657006 |
| 9,815.0                     | 91.50              | 179.90         | 4,764.8                     | -5,169.9        | -424.2          | 1,878,609.65              | 2,775,139.37             | 36.162818 | -107.657007 |

# Survey Report - Geographic

**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** San Juan County, NM  
**Site:** S35-T23N-R8W  
**Well:** Lybrook M35-2308 01H  
**Wellbore:** Hz  
**Design:** FINAL

**Local Co-ordinate Reference:** Well Lybrook M35-2308 01H  
**TVD Reference:** WELL @ 6895.0usft (Aztec 920)  
**MD Reference:** WELL @ 6895.0usft (Aztec 920)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** USA EDM 5000 Multi Users DB

## Survey

| Measured Depth (usft)              | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude  | Longitude   |
|------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------|-------------|
| 9,878.0                            | 91.80           | 179.60      | 4,763.0               | -5,232.9     | -423.9       | 1,878,546.68        | 2,775,139.76       | 36.162645 | -107.657006 |
| 9,891.0                            | 91.80           | 179.90      | 4,762.6               | -5,245.9     | -423.9       | 1,878,533.67        | 2,775,139.84       | 36.162609 | -107.657006 |
| <b>Last CES Survey @ 9,891' MD</b> |                 |             |                       |              |              |                     |                    |           |             |
| 9,941.0                            | 91.80           | 179.90      | 4,761.0               | -5,295.9     | -423.8       | 1,878,483.69        | 2,775,140.02       | 36.162472 | -107.657006 |
| <b>PTB @ 9,941'</b>                |                 |             |                       |              |              |                     |                    |           |             |

## Design Targets

### Target Name

| - hit/miss target                                                                                     | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude  | Longitude   |
|-------------------------------------------------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| - Shape                                                                                               |               |              |            |              |              |                 |                |           |             |
| Lybrook M35-2308 01H                                                                                  | 0.00          | 0.00         | 4,784.8    | -5,311.0     | -422.1       | 1,878,468.53    | 2,775,141.70   | 36.162430 | -107.657000 |
| - actual wellpath misses target center by 28.2usft at 9941.0usft MD (4761.0 TVD, -5295.9 N, -423.8 E) |               |              |            |              |              |                 |                |           |             |
| - Point                                                                                               |               |              |            |              |              |                 |                |           |             |

## Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                     |
|-----------------------|-----------------------|-------------------|--------------|-----------------------------|
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                             |
| 9,891.0               | 4,762.6               | -5,245.9          | -423.9       | Last CES Survey @ 9,891' MD |
| 9,941.0               | 4,761.0               | -5,295.9          | -423.8       | PTB @ 9,941'                |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_