



# Cathedral Energy Services

## Survey Report

|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well lone 1D-2H                |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Site:</b>     | NWNE S2-T2N-R66W (lone)    | <b>MD Reference:</b>                | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Well:</b>     | lone 1D-2H                 | <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>     | DJ Wattenberg             |                      |                |
| <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>   | Colorado Northern Zone    |                      |                |

| Site                  |          | NWNE S2-T2N-R66W (lone) |                 |                   |             |
|-----------------------|----------|-------------------------|-----------------|-------------------|-------------|
| Site Position:        |          | Northing:               | 1,306,798.50 ft | Latitude:         | 40.173110   |
| From:                 | Lat/Long | Easting:                | 3,209,901.52 ft | Longitude:        | -104.748870 |
| Position Uncertainty: | 0.0 ft   | Slot Radius:            | 13.200 in       | Grid Convergence: | 0.49 °      |

|                      |            |        |                     |                 |               |             |
|----------------------|------------|--------|---------------------|-----------------|---------------|-------------|
| Well                 | lone 1D-2H |        |                     |                 |               |             |
| Well Position        | +N/-S      | 0.0 ft | Northing:           | 1,306,940.31 ft | Latitude:     | 40.173440   |
|                      | +E/-W      | 0.0 ft | Easting:            | 3,212,440.53 ft | Longitude:    | -104.739780 |
| Position Uncertainty |            | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 5,078.0 ft  |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <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          | 1/26/2013          | 8.61                   | 66.82                | 52,843                     |

|                          |                         |               |              |                      |     |
|--------------------------|-------------------------|---------------|--------------|----------------------|-----|
| <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)</b> | <b>+N/-S</b>  | <b>+E/-W</b> | <b>Direction</b>     |     |
|                          | (ft)                    | (ft)          | (ft)         | (°)                  |     |
|                          | 0.0                     | 0.0           | 0.0          | 180.00               |     |

|                       |                |                          |                  |                    |  |
|-----------------------|----------------|--------------------------|------------------|--------------------|--|
| <b>Survey Program</b> | <b>Date</b>    | 2/2/2013                 |                  |                    |  |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |  |
| 169.0                 | 1,057.0        | Survey #1 (HZ)           | MWD              | Geolink MWD        |  |
| 1,101.0               | 11,800.0       | Survey #2 (HZ)           | MWD              | Geolink MWD        |  |

|                            |                        |                    |                            |                   |                   |                              |                              |                             |                                  |  |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|------------------------------|-----------------------------|----------------------------------|--|
| <b>Survey</b>              |                        |                    |                            |                   |                   |                              |                              |                             |                                  |  |
| <b>Measured Depth (ft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Vertical Section (ft)</b> | <b>Dogleg Rate (°/100ft)</b> | <b>Build Rate (°/100ft)</b> | <b>Formations / Comments</b>     |  |
| 0.0                        | 0.00                   | 0.00               | 0.0                        | 0.0               | 0.0               | 0.0                          | 0.00                         | 0.00                        |                                  |  |
| 169.0                      | 0.20                   | 12.10              | 169.0                      | 0.3               | 0.1               | -0.3                         | 0.12                         | 0.12                        |                                  |  |
| 261.0                      | 0.40                   | 358.80             | 261.0                      | 0.8               | 0.1               | -0.8                         | 0.23                         | 0.22                        |                                  |  |
| 353.0                      | 0.50                   | 350.20             | 353.0                      | 1.5               | 0.0               | -1.5                         | 0.13                         | 0.11                        |                                  |  |
| 445.0                      | 0.70                   | 2.70               | 445.0                      | 2.4               | 0.0               | -2.4                         | 0.26                         | 0.22                        |                                  |  |
| 537.0                      | 1.10                   | 5.40               | 537.0                      | 3.9               | 0.1               | -3.9                         | 0.44                         | 0.43                        |                                  |  |
| 629.0                      | 2.00                   | 20.30              | 628.9                      | 6.3               | 0.7               | -6.3                         | 1.06                         | 0.98                        |                                  |  |
| 720.0                      | 2.60                   | 30.10              | 719.9                      | 9.5               | 2.3               | -9.5                         | 0.79                         | 0.66                        |                                  |  |
| 813.0                      | 3.30                   | 39.70              | 812.7                      | 13.4              | 5.1               | -13.4                        | 0.92                         | 0.75                        |                                  |  |
| 905.0                      | 3.70                   | 44.80              | 904.6                      | 17.6              | 8.9               | -17.6                        | 0.55                         | 0.43                        |                                  |  |
| 1,046.0                    | 3.60                   | 52.20              | 1,045.3                    | 23.5              | 15.6              | -23.5                        | 0.34                         | -0.07                       |                                  |  |
| 1,057.0                    | 3.60                   | 54.80              | 1,056.3                    | 23.9              | 16.1              | -23.9                        | 1.48                         | 0.00                        | Last Cathedral Survey @ 1057' MD |  |

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|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well lone 1D-2H                |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Site:</b>     | NWNE S2-T2N-R66W (lone)    | <b>MD Reference:</b>                | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Well:</b>     | lone 1D-2H                 | <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    |

### Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 1,101.0             | 3.70            | 50.30       | 1,100.2             | 25.6       | 18.3       | -25.6                 | 0.69                  | 0.23                 |                       |
| 1,193.0             | 5.00            | 53.90       | 1,191.9             | 29.9       | 23.9       | -29.9                 | 1.44                  | 1.41                 |                       |
| 1,285.0             | 4.70            | 61.30       | 1,283.6             | 34.1       | 30.4       | -34.1                 | 0.75                  | -0.33                |                       |
| 1,377.0             | 5.40            | 66.30       | 1,375.2             | 37.6       | 37.7       | -37.6                 | 0.90                  | 0.76                 |                       |
| 1,469.0             | 6.90            | 70.80       | 1,466.7             | 41.2       | 46.9       | -41.2                 | 1.71                  | 1.63                 |                       |
| 1,561.0             | 8.00            | 66.20       | 1,557.9             | 45.6       | 57.9       | -45.6                 | 1.36                  | 1.20                 |                       |
| 1,653.0             | 9.20            | 70.30       | 1,648.9             | 50.6       | 70.7       | -50.6                 | 1.46                  | 1.30                 |                       |
| 1,745.0             | 10.80           | 72.90       | 1,739.5             | 55.6       | 85.9       | -55.6                 | 1.81                  | 1.74                 |                       |
| 1,836.0             | 11.80           | 71.80       | 1,828.7             | 61.1       | 102.9      | -61.1                 | 1.12                  | 1.10                 |                       |
| 1,928.0             | 10.50           | 67.80       | 1,919.0             | 67.2       | 119.6      | -67.2                 | 1.64                  | -1.41                |                       |
| 2,023.0             | 11.30           | 54.80       | 2,012.3             | 75.8       | 135.2      | -75.8                 | 2.71                  | 0.84                 |                       |
| 2,118.0             | 11.40           | 53.60       | 2,105.4             | 86.7       | 150.4      | -86.7                 | 0.27                  | 0.11                 |                       |
| 2,213.0             | 11.20           | 52.30       | 2,198.6             | 97.9       | 165.2      | -97.9                 | 0.34                  | -0.21                |                       |
| 2,308.0             | 11.50           | 44.00       | 2,291.7             | 110.4      | 179.1      | -110.4                | 1.75                  | 0.32                 |                       |
| 2,403.0             | 12.00           | 38.80       | 2,384.7             | 124.9      | 191.9      | -124.9                | 1.23                  | 0.53                 |                       |
| 2,498.0             | 12.00           | 42.20       | 2,477.7             | 139.9      | 204.7      | -139.9                | 0.74                  | 0.00                 |                       |
| 2,592.0             | 11.30           | 43.90       | 2,569.7             | 153.8      | 217.6      | -153.8                | 0.83                  | -0.74                |                       |
| 2,687.0             | 11.60           | 48.40       | 2,662.8             | 166.8      | 231.2      | -166.8                | 0.99                  | 0.32                 |                       |
| 2,782.0             | 12.20           | 51.60       | 2,755.8             | 179.4      | 246.2      | -179.4                | 0.94                  | 0.63                 |                       |
| 2,877.0             | 10.90           | 51.90       | 2,848.9             | 191.2      | 261.2      | -191.2                | 1.37                  | -1.37                |                       |
| 2,972.0             | 11.60           | 56.20       | 2,942.1             | 202.1      | 276.2      | -202.1                | 1.15                  | 0.74                 |                       |
| 3,066.0             | 13.10           | 58.90       | 3,033.9             | 212.8      | 293.2      | -212.8                | 1.71                  | 1.60                 |                       |
| 3,161.0             | 13.20           | 58.50       | 3,126.4             | 224.0      | 311.6      | -224.0                | 0.14                  | 0.11                 |                       |
| 3,255.0             | 13.20           | 55.80       | 3,217.9             | 235.7      | 329.6      | -235.7                | 0.66                  | 0.00                 |                       |
| 3,350.0             | 12.10           | 55.50       | 3,310.6             | 247.4      | 346.8      | -247.4                | 1.16                  | -1.16                |                       |
| 3,445.0             | 13.70           | 57.70       | 3,403.2             | 259.1      | 364.5      | -259.1                | 1.76                  | 1.68                 |                       |
| 3,540.0             | 12.50           | 53.80       | 3,495.7             | 271.2      | 382.3      | -271.2                | 1.57                  | -1.26                |                       |
| 3,635.0             | 11.80           | 55.50       | 3,588.6             | 282.7      | 398.7      | -282.7                | 0.83                  | -0.74                |                       |
| 3,729.0             | 12.10           | 56.90       | 3,680.6             | 293.6      | 414.8      | -293.6                | 0.44                  | 0.32                 |                       |
| 3,824.0             | 11.40           | 55.70       | 3,773.6             | 304.3      | 430.9      | -304.3                | 0.78                  | -0.74                |                       |
| 3,919.0             | 11.20           | 57.60       | 3,866.7             | 314.5      | 446.5      | -314.5                | 0.44                  | -0.21                |                       |
| 4,014.0             | 11.60           | 57.90       | 3,959.8             | 324.5      | 462.3      | -324.5                | 0.43                  | 0.42                 |                       |
| 4,109.0             | 11.30           | 54.80       | 4,053.0             | 335.0      | 478.0      | -335.0                | 0.72                  | -0.32                |                       |
| 4,204.0             | 10.80           | 60.30       | 4,146.2             | 344.8      | 493.4      | -344.8                | 1.23                  | -0.53                |                       |
| 4,298.0             | 10.50           | 58.00       | 4,238.6             | 353.7      | 508.3      | -353.7                | 0.55                  | -0.32                |                       |
| 4,393.0             | 8.80            | 58.20       | 4,332.2             | 362.1      | 521.8      | -362.1                | 1.79                  | -1.79                |                       |
| 4,487.0             | 6.40            | 52.40       | 4,425.4             | 369.1      | 532.1      | -369.1                | 2.68                  | -2.55                |                       |
| 4,582.0             | 3.30            | 52.10       | 4,520.0             | 374.0      | 538.4      | -374.0                | 3.26                  | -3.26                |                       |
| 4,677.0             | 5.50            | 52.80       | 4,614.8             | 378.4      | 544.2      | -378.4                | 2.32                  | 2.32                 |                       |
| 4,772.0             | 5.10            | 66.70       | 4,709.4             | 382.8      | 551.7      | -382.8                | 1.41                  | -0.42                |                       |
| 4,866.0             | 3.60            | 65.70       | 4,803.1             | 385.7      | 558.2      | -385.7                | 1.60                  | -1.60                |                       |
| 4,961.0             | 3.40            | 64.90       | 4,897.9             | 388.1      | 563.5      | -388.1                | 0.22                  | -0.21                |                       |
| 5,056.0             | 1.90            | 80.20       | 4,992.8             | 389.6      | 567.6      | -389.6                | 1.73                  | -1.58                |                       |
| 5,150.0             | 1.20            | 129.10      | 5,086.8             | 389.2      | 569.9      | -389.2                | 1.52                  | -0.74                |                       |
| 5,245.0             | 1.30            | 166.50      | 5,181.8             | 387.6      | 570.9      | -387.6                | 0.85                  | 0.11                 |                       |
| 5,340.0             | 1.20            | 108.40      | 5,276.7             | 386.2      | 572.1      | -386.2                | 1.28                  | -0.11                |                       |
| 5,434.0             | 1.70            | 77.40       | 5,370.7             | 386.2      | 574.4      | -386.2                | 0.97                  | 0.53                 |                       |
| 5,529.0             | 1.60            | 70.50       | 5,465.7             | 386.9      | 577.1      | -386.9                | 0.23                  | -0.11                |                       |
| 5,624.0             | 1.20            | 64.20       | 5,560.6             | 387.8      | 579.2      | -387.8                | 0.45                  | -0.42                |                       |
| 5,718.0             | 1.10            | 67.90       | 5,654.6             | 388.6      | 580.9      | -388.6                | 0.13                  | -0.11                |                       |
| 5,813.0             | 0.70            | 66.90       | 5,749.6             | 389.1      | 582.3      | -389.1                | 0.42                  | -0.42                |                       |
| 5,908.0             | 0.40            | 103.70      | 5,844.6             | 389.3      | 583.2      | -389.3                | 0.47                  | -0.32                |                       |
| 6,003.0             | 0.80            | 110.70      | 5,939.6             | 389.0      | 584.1      | -389.0                | 0.43                  | 0.42                 |                       |

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|------------------|----------------------------|-------------------------------------|--------------------------------|
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| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Site:</b>     | NWNE S2-T2N-R66W (lone)    | <b>MD Reference:</b>                | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Well:</b>     | lone 1D-2H                 | <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    |

| Survey              |                 |             |                     |            |            |                       |                       |                      |                       |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
| 6,098.0             | 0.60            | 53.40       | 6,034.6             | 389.0      | 585.1      | -389.0                | 0.73                  | -0.21                |                       |
| 6,193.0             | 0.00            | 247.30      | 6,129.6             | 389.3      | 585.5      | -389.3                | 0.63                  | -0.63                |                       |
| 6,287.0             | 0.70            | 238.70      | 6,223.6             | 389.0      | 585.0      | -389.0                | 0.74                  | 0.74                 |                       |
| 6,382.0             | 0.30            | 320.00      | 6,318.6             | 388.9      | 584.4      | -388.9                | 0.76                  | -0.42                |                       |
| 6,476.0             | 1.30            | 99.40       | 6,412.6             | 388.9      | 585.3      | -388.9                | 1.64                  | 1.06                 |                       |
| 6,571.0             | 0.80            | 96.90       | 6,507.6             | 388.7      | 587.0      | -388.7                | 0.53                  | -0.53                |                       |
| 6,603.0             | 0.70            | 93.80       | 6,539.6             | 388.7      | 587.4      | -388.7                | 0.34                  | -0.31                |                       |
| 6,634.0             | 3.00            | 163.50      | 6,570.5             | 387.9      | 587.8      | -387.9                | 9.14                  | 7.42                 |                       |
| 6,666.0             | 7.50            | 172.30      | 6,602.4             | 385.0      | 588.3      | -385.0                | 14.24                 | 14.06                |                       |
| 6,698.0             | 12.10           | 173.10      | 6,633.9             | 379.6      | 589.0      | -379.6                | 14.38                 | 14.37                |                       |
| 6,729.0             | 14.80           | 175.40      | 6,664.1             | 372.4      | 589.7      | -372.4                | 8.88                  | 8.71                 |                       |
| 6,761.0             | 16.40           | 178.80      | 6,694.9             | 363.8      | 590.2      | -363.8                | 5.76                  | 5.00                 |                       |
| 6,792.0             | 18.30           | 180.50      | 6,724.5             | 354.6      | 590.2      | -354.6                | 6.34                  | 6.13                 |                       |
| 6,824.0             | 20.60           | 181.90      | 6,754.7             | 343.9      | 590.0      | -343.9                | 7.33                  | 7.19                 |                       |
| 6,856.0             | 22.30           | 182.80      | 6,784.4             | 332.2      | 589.5      | -332.2                | 5.41                  | 5.31                 |                       |
| 6,887.0             | 23.40           | 182.50      | 6,813.0             | 320.2      | 588.9      | -320.2                | 3.57                  | 3.55                 |                       |
| 6,919.0             | 25.10           | 182.40      | 6,842.2             | 307.1      | 588.4      | -307.1                | 5.31                  | 5.31                 |                       |
| 6,950.0             | 27.60           | 182.60      | 6,870.0             | 293.3      | 587.8      | -293.3                | 8.07                  | 8.06                 |                       |
| 6,982.0             | 29.90           | 182.90      | 6,898.0             | 278.0      | 587.0      | -278.0                | 7.20                  | 7.19                 |                       |
| 7,014.0             | 31.50           | 181.40      | 6,925.5             | 261.6      | 586.4      | -261.6                | 5.54                  | 5.00                 |                       |
| 7,045.0             | 33.60           | 179.50      | 6,951.7             | 245.0      | 586.3      | -245.0                | 7.53                  | 6.77                 |                       |
| 7,077.0             | 34.90           | 178.10      | 6,978.1             | 227.0      | 586.7      | -227.0                | 4.75                  | 4.06                 |                       |
| 7,108.0             | 36.00           | 177.20      | 7,003.4             | 209.0      | 587.4      | -209.0                | 3.93                  | 3.55                 |                       |
| 7,140.0             | 37.50           | 176.70      | 7,029.0             | 189.9      | 588.4      | -189.9                | 4.78                  | 4.69                 |                       |
| 7,172.0             | 39.20           | 178.10      | 7,054.1             | 170.0      | 589.3      | -170.0                | 5.97                  | 5.31                 |                       |
| 7,203.0             | 42.00           | 179.10      | 7,077.6             | 149.9      | 589.8      | -149.9                | 9.27                  | 9.03                 |                       |
| 7,235.0             | 46.10           | 179.90      | 7,100.6             | 127.6      | 590.0      | -127.6                | 12.93                 | 12.81                |                       |
| 7,267.0             | 50.00           | 179.30      | 7,122.0             | 103.8      | 590.2      | -103.8                | 12.27                 | 12.19                |                       |
| 7,298.0             | 52.60           | 179.80      | 7,141.4             | 79.6       | 590.4      | -79.6                 | 8.48                  | 8.39                 |                       |
| 7,330.0             | 53.80           | 180.40      | 7,160.6             | 54.0       | 590.3      | -54.0                 | 4.04                  | 3.75                 |                       |
| 7,361.0             | 56.40           | 180.50      | 7,178.3             | 28.6       | 590.1      | -28.6                 | 8.39                  | 8.39                 |                       |
| 7,393.0             | 60.00           | 181.10      | 7,195.2             | 1.4        | 589.7      | -1.4                  | 11.36                 | 11.25                |                       |
| 7,425.0             | 63.00           | 181.80      | 7,210.4             | -26.7      | 589.0      | 26.7                  | 9.57                  | 9.37                 |                       |
| 7,456.0             | 65.20           | 182.00      | 7,224.0             | -54.6      | 588.1      | 54.6                  | 7.12                  | 7.10                 |                       |
| 7,488.0             | 67.00           | 181.40      | 7,236.9             | -83.8      | 587.2      | 83.8                  | 5.88                  | 5.62                 |                       |
| 7,519.0             | 69.70           | 181.00      | 7,248.4             | -112.6     | 586.6      | 112.6                 | 8.79                  | 8.71                 |                       |
| 7,551.0             | 71.30           | 180.80      | 7,259.0             | -142.8     | 586.2      | 142.8                 | 5.03                  | 5.00                 |                       |
| 7,582.0             | 73.60           | 180.90      | 7,268.4             | -172.3     | 585.7      | 172.3                 | 7.43                  | 7.42                 |                       |
| 7,614.0             | 76.60           | 181.00      | 7,276.6             | -203.2     | 585.2      | 203.2                 | 9.38                  | 9.37                 |                       |
| 7,646.0             | 80.50           | 181.10      | 7,283.0             | -234.6     | 584.6      | 234.6                 | 12.19                 | 12.19                |                       |
| 7,677.0             | 82.50           | 180.40      | 7,287.6             | -265.2     | 584.2      | 265.2                 | 6.83                  | 6.45                 |                       |
| 7,709.0             | 83.30           | 180.30      | 7,291.5             | -297.0     | 584.0      | 297.0                 | 2.52                  | 2.50                 |                       |
| 7,741.0             | 86.10           | 179.70      | 7,294.5             | -328.9     | 584.0      | 328.9                 | 8.95                  | 8.75                 |                       |
| 7,768.0             | 88.00           | 179.80      | 7,295.9             | -355.8     | 584.2      | 355.8                 | 7.05                  | 7.04                 |                       |
| 7,828.0             | 89.30           | 180.90      | 7,297.3             | -415.8     | 583.8      | 415.8                 | 2.84                  | 2.17                 |                       |
| 7,923.0             | 90.10           | 179.60      | 7,297.8             | -510.8     | 583.4      | 510.8                 | 1.61                  | 0.84                 |                       |
| 8,018.0             | 89.30           | 178.90      | 7,298.3             | -605.8     | 584.6      | 605.8                 | 1.12                  | -0.84                |                       |
| 8,112.0             | 90.10           | 178.60      | 7,298.8             | -699.8     | 586.7      | 699.8                 | 0.91                  | 0.85                 |                       |
| 8,207.0             | 90.20           | 179.30      | 7,298.5             | -794.7     | 588.4      | 794.7                 | 0.74                  | 0.11                 |                       |
| 8,302.0             | 89.30           | 181.10      | 7,298.9             | -889.7     | 588.1      | 889.7                 | 2.12                  | -0.95                |                       |
| 8,397.0             | 89.00           | 181.80      | 7,300.3             | -984.7     | 585.7      | 984.7                 | 0.80                  | -0.32                |                       |
| 8,492.0             | 88.80           | 180.80      | 7,302.2             | -1,079.7   | 583.5      | 1,079.7               | 1.07                  | -0.21                |                       |
| 8,586.0             | 90.20           | 179.90      | 7,303.0             | -1,173.6   | 583.0      | 1,173.6               | 1.77                  | 1.49                 |                       |

# Cathedral Energy Services

## Survey Report

|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well lone 1D-2H                |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Site:</b>     | NWNE S2-T2N-R66W (lone)    | <b>MD Reference:</b>                | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Well:</b>     | lone 1D-2H                 | <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    |

| Survey              |                 |             |                     |            |            |                       |                       |                      |   |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments                           |
| 8,681.0             | 90.90           | 179.90      | 7,302.1             | -1,268.6   | 583.1      | 1,268.6               | 0.74                  | 0.74                 |   |
| 8,775.0             | 91.40           | 181.50      | 7,300.2             | -1,362.6   | 582.0      | 1,362.6               | 1.78                  | 0.53                 |   |
| 8,838.0             | 90.40           | 182.60      | 7,299.2             | -1,425.6   | 579.7      | 1,425.6               | 2.36                  | -1.59                |   |
| 8,901.0             | 89.10           | 182.70      | 7,299.5             | -1,488.5   | 576.8      | 1,488.5               | 2.07                  | -2.06                |   |
| 8,964.0             | 87.30           | 182.40      | 7,301.4             | -1,551.4   | 574.0      | 1,551.4               | 2.90                  | -2.86                |   |
| 9,059.0             | 88.40           | 182.50      | 7,305.0             | -1,646.2   | 569.9      | 1,646.2               | 1.16                  | 1.16                 |   |
| 9,154.0             | 88.50           | 181.80      | 7,307.6             | -1,741.1   | 566.4      | 1,741.1               | 0.74                  | 0.11                 |   |
| 9,248.0             | 87.80           | 181.50      | 7,310.6             | -1,835.0   | 563.7      | 1,835.0               | 0.81                  | -0.74                |   |
| 9,343.0             | 89.10           | 181.70      | 7,313.2             | -1,930.0   | 561.0      | 1,930.0               | 1.38                  | 1.37                 |   |
| 9,438.0             | 90.20           | 181.60      | 7,313.8             | -2,024.9   | 558.3      | 2,024.9               | 1.16                  | 1.16                 |   |
| 9,533.0             | 91.60           | 183.50      | 7,312.3             | -2,119.8   | 554.1      | 2,119.8               | 2.48                  | 1.47                 |   |
| 9,596.0             | 90.80           | 183.50      | 7,310.9             | -2,182.7   | 550.2      | 2,182.7               | 1.27                  | -1.27                |   |
| 9,659.0             | 89.90           | 183.70      | 7,310.6             | -2,245.6   | 546.3      | 2,245.6               | 1.46                  | -1.43                |   |
| 9,722.0             | 90.10           | 183.20      | 7,310.6             | -2,308.4   | 542.5      | 2,308.4               | 0.85                  | 0.32                 |   |
| 9,817.0             | 91.30           | 182.10      | 7,309.4             | -2,403.3   | 538.1      | 2,403.3               | 1.71                  | 1.26                 |   |
| 9,912.0             | 90.90           | 181.80      | 7,307.6             | -2,498.3   | 534.9      | 2,498.3               | 0.53                  | -0.42                |   |
| 10,007.0            | 91.60           | 182.90      | 7,305.5             | -2,593.2   | 531.0      | 2,593.2               | 1.37                  | 0.74                 |   |
| 10,101.0            | 89.90           | 183.00      | 7,304.3             | -2,687.0   | 526.1      | 2,687.0               | 1.81                  | -1.81                |   |
| 10,196.0            | 88.20           | 182.80      | 7,305.8             | -2,781.9   | 521.3      | 2,781.9               | 1.80                  | -1.79                |   |
| 10,291.0            | 90.50           | 183.50      | 7,306.9             | -2,876.7   | 516.1      | 2,876.7               | 2.53                  | 2.42                 |   |
| 10,385.0            | 92.60           | 182.70      | 7,304.4             | -2,970.5   | 511.0      | 2,970.5               | 2.39                  | 2.23                 |   |
| 10,480.0            | 92.90           | 182.10      | 7,299.8             | -3,065.4   | 507.0      | 3,065.4               | 0.71                  | 0.32                 |   |
| 10,543.0            | 92.70           | 182.70      | 7,296.7             | -3,128.2   | 504.4      | 3,128.2               | 1.00                  | -0.32                |   |
| 10,606.0            | 91.00           | 182.90      | 7,294.7             | -3,191.1   | 501.3      | 3,191.1               | 2.72                  | -2.70                |   |
| 10,669.0            | 91.30           | 182.50      | 7,293.4             | -3,254.0   | 498.4      | 3,254.0               | 0.79                  | 0.48                 |   |
| 10,764.0            | 91.00           | 181.40      | 7,291.5             | -3,349.0   | 495.1      | 3,349.0               | 1.20                  | -0.32                |   |
| 10,859.0            | 91.80           | 181.90      | 7,289.2             | -3,443.9   | 492.4      | 3,443.9               | 0.99                  | 0.84                 |   |
| 10,954.0            | 90.80           | 182.20      | 7,287.1             | -3,538.8   | 489.0      | 3,538.8               | 1.10                  | -1.05                |   |
| 11,049.0            | 89.50           | 182.30      | 7,286.8             | -3,633.7   | 485.3      | 3,633.7               | 1.37                  | -1.37                |   |
| 11,143.0            | 89.20           | 182.20      | 7,287.9             | -3,727.6   | 481.6      | 3,727.6               | 0.34                  | -0.32                |   |
| 11,238.0            | 89.80           | 183.00      | 7,288.7             | -3,822.5   | 477.3      | 3,822.5               | 1.05                  | 0.63                 |   |
| 11,333.0            | 88.60           | 183.10      | 7,290.0             | -3,917.4   | 472.2      | 3,917.4               | 1.27                  | -1.26                |   |
| 11,427.0            | 90.50           | 182.80      | 7,290.8             | -4,011.3   | 467.4      | 4,011.3               | 2.05                  | 2.02                 |   |
| 11,522.0            | 89.00           | 181.90      | 7,291.2             | -4,106.2   | 463.5      | 4,106.2               | 1.84                  | -1.58                |   |
| 11,617.0            | 90.30           | 181.10      | 7,291.8             | -4,201.1   | 461.0      | 4,201.1               | 1.61                  | 1.37                 |   |
| 11,712.0            | 89.70           | 180.50      | 7,291.8             | -4,296.1   | 459.7      | 4,296.1               | 0.89                  | -0.63                |   |
| 11,748.0            | 90.00           | 180.00      | 7,291.9             | -4,332.1   | 459.5      | 4,332.1               | 1.62                  | 0.83                 | Last Cathedral Survey @ 11,748' MD              |
| 11,800.0            | 90.00           | 180.00      | 7,291.9             | -4,384.1   | 459.5      | 4,384.1               | 0.00                  | 0.00                 | Projection to Bit @ 11,800' MD - lone 1D-2H PBF |

# Cathedral Energy Services

## Survey Report

|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well lone 1D-2H                |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Site:</b>     | NWNE S2-T2N-R66W (lone)    | <b>MD Reference:</b>                | KB=13' @ 5091.0ft (Ensign 135) |
| <b>Well:</b>     | lone 1D-2H                 | <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    |

| Targets   |           |          |         |          |       |              |              |           |             |
|---|-----------|----------|---------|----------|-------|--------------|--------------|-----------|-------------|
| Target Name   |           |          |         |          |       |              |              |           |             |
| - hit/miss target   | Dip Angle | Dip Dir. | TVD     | +N/-S    | +E/-W | Northing     | Easting      | Latitude  | Longitude   |
| - Shape   | (°)       | (°)      | (ft)    | (ft)     | (ft)  | (ft)         | (ft)         |           |             |
| lone 1D-2H PBHL (460'   | 0.00      | 0.00     | 7,298.0 | -4,396.8 | 451.4 | 1,302,547.50 | 3,212,929.61 | 40.161370 | -104.738165 |
| - actual wellpath misses target center by 16.3ft at 11800.0ft MD (7291.9 TVD, -4384.1 N, 459.5 E) |           |          |         |          |       |              |              |           |             |
| - Point   |           |          |         |          |       |              |              |           |             |

| Design Annotations |                |                   |            |                                    |  |
|--------------------|----------------|-------------------|------------|------------------------------------|--|
| Measured Depth     | Vertical Depth | Local Coordinates |            |                                    |  |
| (ft)               | (ft)           | +N/-S (ft)        | +E/-W (ft) | Comment                            |  |
| 1,057.0            | 1,056.3        | 23.9              | 16.1       | Last Cathedral Survey @ 1057' MD   |  |
| 11,748.0           | 7,291.9        | -4,332.1          | 459.5      | Last Cathedral Survey @ 11,748' MD |  |
| 11,800.0           | 7,291.9        | -4,384.1          | 459.5      | Projection to Bit @ 11,800' MD     |  |

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