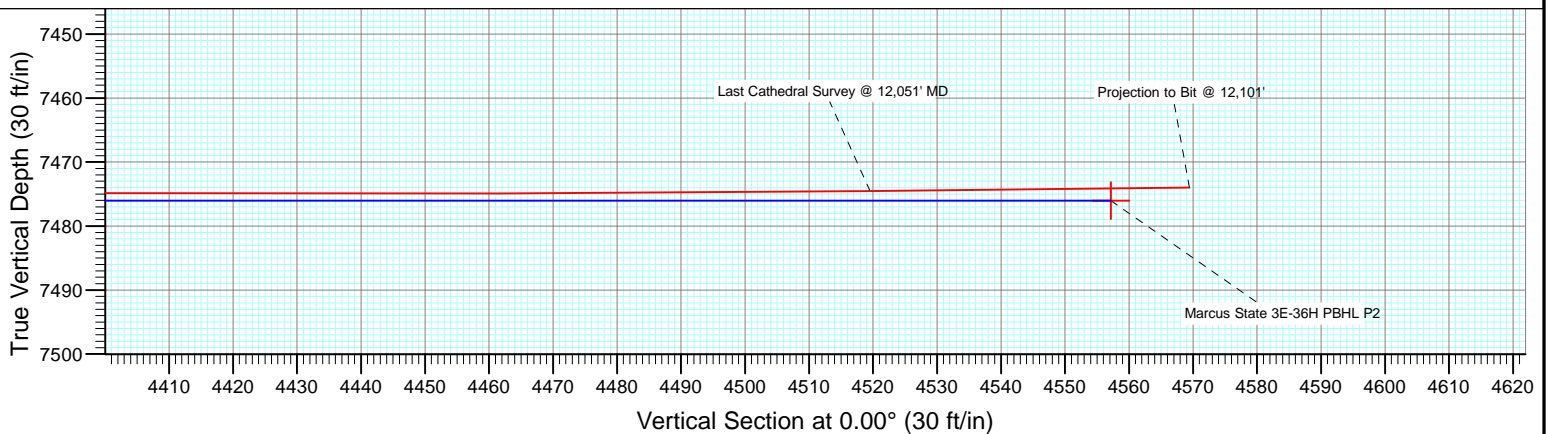
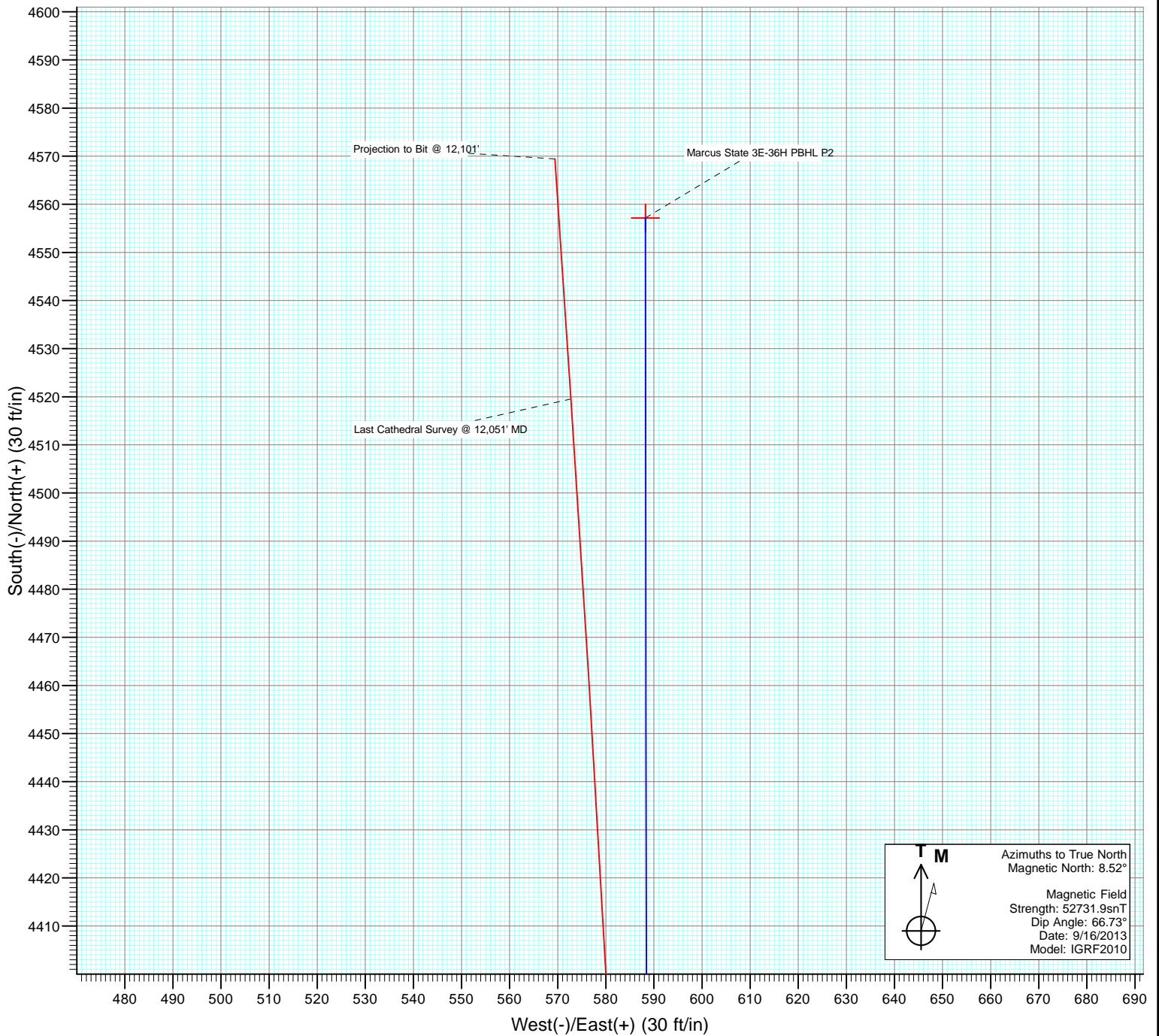




Project: DJ Wattenberg  
Site: S36 T2N-R66W (Marcus State)  
Well: Marcus State 3E-36H  
Wellbore: HZ  
Design: FINAL



# Cathedral Energy Services

## Survey Report

|                  |                             |                                     |                             |
|------------------|-----------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>Local Co-ordinate Reference:</b> | Well Marcus State 3E-36H    |
| <b>Project:</b>  | DJ Wattenberg               | <b>TVD Reference:</b>               | KBE @ 5052.0ft (Ensign 135) |
| <b>Site:</b>     | S36 T2N-R66W (Marcus State) | <b>MD Reference:</b>                | KBE @ 5052.0ft (Ensign 135) |
| <b>Well:</b>     | Marcus State 3E-36H         | <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                  |          | S36 T2N-R66W (Marcus State) |                 |                   |             |
|-----------------------|----------|-----------------------------|-----------------|-------------------|-------------|
| Site Position:        |          | Northing:                   | 1,275,942.66 ft | Latitude:         | 40.088280   |
| From:                 | Lat/Long | Easting:                    | 3,215,403.58 ft | Longitude:        | -104.730140 |
| Position Uncertainty: | 0.0 ft   | Slot Radius:                | 13.200 in       | Grid Convergence: | 0.50 °      |

|                      |                     |        |                     |                 |               |             |
|----------------------|---------------------|--------|---------------------|-----------------|---------------|-------------|
| Well                 | Marcus State 3E-36H |        |                     |                 |               |             |
| Well Position        | +N/-S               | 0.0 ft | Northing:           | 1,275,942.98 ft | Latitude:     | 40.088280   |
|                      | +E/-W               | 0.0 ft | Easting:            | 3,215,442.75 ft | Longitude:    | -104.730000 |
| Position Uncertainty |                     | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 5,039.0 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          | 9/16/2013          | 8.52                   | 66.73                | 52,732                     |

|                          |                         |               |              |                      |     |
|--------------------------|-------------------------|---------------|--------------|----------------------|-----|
| <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          | 0.00                 |     |

|                       |                |                          |                  |                    |  |
|-----------------------|----------------|--------------------------|------------------|--------------------|--|
| <b>Survey Program</b> | <b>Date</b>    | 9/27/2013                |                  |                    |  |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |  |
| 141.0                 | 12,101.0       | Survey #1 (HZ)           | Geolink 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                        |                              |  |
| 141.0                      | 0.60                   | 219.50             | 141.0                      | -0.6              | -0.5              | -0.6                         | 0.43                         | 0.43                        |                              |  |
| 233.0                      | 0.60                   | 238.70             | 233.0                      | -1.2              | -1.2              | -1.2                         | 0.22                         | 0.00                        |                              |  |
| 325.0                      | 1.50                   | 172.30             | 325.0                      | -2.6              | -1.4              | -2.6                         | 1.49                         | 0.98                        |                              |  |
| 417.0                      | 1.90                   | 146.20             | 416.9                      | -5.1              | -0.4              | -5.1                         | 0.94                         | 0.43                        |                              |  |
| 509.0                      | 2.20                   | 131.90             | 508.9                      | -7.5              | 1.7               | -7.5                         | 0.64                         | 0.33                        |                              |  |
| 601.0                      | 3.20                   | 117.90             | 600.8                      | -9.9              | 5.3               | -9.9                         | 1.29                         | 1.09                        |                              |  |
| 693.0                      | 4.10                   | 116.90             | 692.6                      | -12.6             | 10.5              | -12.6                        | 0.98                         | 0.98                        |                              |  |
| 785.0                      | 4.60                   | 123.30             | 784.3                      | -16.1             | 16.5              | -16.1                        | 0.76                         | 0.54                        |                              |  |
| 877.0                      | 5.70                   | 122.70             | 876.0                      | -20.6             | 23.5              | -20.6                        | 1.20                         | 1.20                        |                              |  |
| 969.0                      | 7.10                   | 119.50             | 967.4                      | -25.9             | 32.3              | -25.9                        | 1.57                         | 1.52                        |                              |  |
| 1,061.0                    | 7.00                   | 115.90             | 1,058.7                    | -31.1             | 42.3              | -31.1                        | 0.49                         | -0.11                       |                              |  |
| 1,153.0                    | 6.00                   | 113.60             | 1,150.1                    | -35.5             | 51.7              | -35.5                        | 1.12                         | -1.09                       |                              |  |

# Cathedral Energy Services

## Survey Report

|                  |                             |                                     |                             |
|------------------|-----------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>Local Co-ordinate Reference:</b> | Well Marcus State 3E-36H    |
| <b>Project:</b>  | DJ Wattenberg               | <b>TVD Reference:</b>               | KBE @ 5052.0ft (Ensign 135) |
| <b>Site:</b>     | S36 T2N-R66W (Marcus State) | <b>MD Reference:</b>                | KBE @ 5052.0ft (Ensign 135) |
| <b>Well:</b>     | Marcus State 3E-36H         | <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 |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 1,180.0             | 5.50            | 114.00      | 1,177.0             | -36.6      | 54.2       | -36.6                 | 1.86                  | -1.85                |                       |
| 1,256.0             | 4.70            | 111.50      | 1,252.7             | -39.2      | 60.4       | -39.2                 | 1.09                  | -1.05                |                       |
| 1,317.0             | 4.80            | 112.00      | 1,313.4             | -41.1      | 65.1       | -41.1                 | 0.18                  | 0.16                 |                       |
| 1,378.0             | 5.10            | 118.40      | 1,374.2             | -43.3      | 69.8       | -43.3                 | 1.03                  | 0.49                 |                       |
| 1,470.0             | 6.20            | 124.90      | 1,465.8             | -48.1      | 77.5       | -48.1                 | 1.38                  | 1.20                 |                       |
| 1,562.0             | 5.90            | 120.30      | 1,557.3             | -53.4      | 85.7       | -53.4                 | 0.62                  | -0.33                |                       |
| 1,654.0             | 5.80            | 115.10      | 1,648.8             | -57.7      | 94.0       | -57.7                 | 0.59                  | -0.11                |                       |
| 1,746.0             | 5.80            | 119.90      | 1,740.3             | -62.0      | 102.2      | -62.0                 | 0.53                  | 0.00                 |                       |
| 1,838.0             | 5.90            | 117.90      | 1,831.8             | -66.5      | 110.4      | -66.5                 | 0.25                  | 0.11                 |                       |
| 1,930.0             | 5.60            | 122.80      | 1,923.4             | -71.2      | 118.4      | -71.2                 | 0.63                  | -0.33                |                       |
| 2,025.0             | 5.30            | 120.90      | 2,017.9             | -75.9      | 126.0      | -75.9                 | 0.37                  | -0.32                |                       |
| 2,119.0             | 4.70            | 119.50      | 2,111.6             | -80.1      | 133.1      | -80.1                 | 0.65                  | -0.64                |                       |
| 2,214.0             | 5.40            | 118.10      | 2,206.2             | -84.1      | 140.4      | -84.1                 | 0.75                  | 0.74                 |                       |
| 2,309.0             | 4.90            | 116.50      | 2,300.8             | -88.0      | 148.0      | -88.0                 | 0.55                  | -0.53                |                       |
| 2,404.0             | 6.40            | 113.50      | 2,395.4             | -91.9      | 156.5      | -91.9                 | 1.61                  | 1.58                 |                       |
| 2,499.0             | 5.50            | 112.40      | 2,489.8             | -95.8      | 165.6      | -95.8                 | 0.95                  | -0.95                |                       |
| 2,593.0             | 5.50            | 120.20      | 2,583.4             | -99.8      | 173.6      | -99.8                 | 0.79                  | 0.00                 |                       |
| 2,688.0             | 4.70            | 120.60      | 2,678.0             | -104.0     | 180.9      | -104.0                | 0.84                  | -0.84                |                       |
| 2,783.0             | 5.10            | 119.70      | 2,772.7             | -108.1     | 187.9      | -108.1                | 0.43                  | 0.42                 |                       |
| 2,878.0             | 6.20            | 118.20      | 2,867.2             | -112.6     | 196.1      | -112.6                | 1.17                  | 1.16                 |                       |
| 2,972.0             | 5.60            | 113.30      | 2,960.7             | -116.8     | 204.8      | -116.8                | 0.83                  | -0.64                |                       |
| 3,067.0             | 5.60            | 122.30      | 3,055.3             | -121.1     | 213.0      | -121.1                | 0.92                  | 0.00                 |                       |
| 3,162.0             | 5.10            | 117.30      | 3,149.9             | -125.6     | 220.6      | -125.6                | 0.72                  | -0.53                |                       |
| 3,257.0             | 6.50            | 130.10      | 3,244.4             | -131.0     | 228.5      | -131.0                | 2.00                  | 1.47                 |                       |
| 3,351.0             | 5.90            | 125.00      | 3,337.8             | -137.2     | 236.5      | -137.2                | 0.87                  | -0.64                |                       |
| 3,446.0             | 5.40            | 121.30      | 3,432.4             | -142.3     | 244.4      | -142.3                | 0.65                  | -0.53                |                       |
| 3,541.0             | 4.70            | 117.40      | 3,527.0             | -146.4     | 251.6      | -146.4                | 0.82                  | -0.74                |                       |
| 3,636.0             | 4.80            | 126.90      | 3,621.7             | -150.6     | 258.3      | -150.6                | 0.83                  | 0.11                 |                       |
| 3,731.0             | 4.00            | 123.20      | 3,716.4             | -154.8     | 264.2      | -154.8                | 0.89                  | -0.84                |                       |
| 3,825.0             | 5.20            | 123.40      | 3,810.1             | -158.9     | 270.5      | -158.9                | 1.28                  | 1.28                 |                       |
| 3,920.0             | 5.50            | 116.90      | 3,904.7             | -163.3     | 278.2      | -163.3                | 0.71                  | 0.32                 |                       |
| 4,015.0             | 5.20            | 124.40      | 3,999.3             | -167.8     | 285.8      | -167.8                | 0.80                  | -0.32                |                       |
| 4,110.0             | 5.70            | 129.70      | 4,093.8             | -173.3     | 293.0      | -173.3                | 0.75                  | 0.53                 |                       |
| 4,204.0             | 5.10            | 131.40      | 4,187.4             | -179.0     | 299.7      | -179.0                | 0.66                  | -0.64                |                       |
| 4,299.0             | 4.60            | 129.10      | 4,282.1             | -184.2     | 305.8      | -184.2                | 0.56                  | -0.53                |                       |
| 4,394.0             | 5.50            | 126.30      | 4,376.7             | -189.3     | 312.4      | -189.3                | 0.98                  | 0.95                 |                       |
| 4,489.0             | 4.70            | 119.10      | 4,471.3             | -193.9     | 319.5      | -193.9                | 1.08                  | -0.84                |                       |
| 4,583.0             | 6.20            | 113.80      | 4,564.9             | -197.8     | 327.5      | -197.8                | 1.68                  | 1.60                 |                       |
| 4,678.0             | 5.50            | 109.70      | 4,659.4             | -201.4     | 336.5      | -201.4                | 0.86                  | -0.74                |                       |
| 4,773.0             | 5.00            | 116.90      | 4,754.0             | -204.8     | 344.5      | -204.8                | 0.87                  | -0.53                |                       |
| 4,867.0             | 5.30            | 112.00      | 4,847.6             | -208.3     | 352.2      | -208.3                | 0.57                  | 0.32                 |                       |
| 4,962.0             | 6.40            | 113.70      | 4,942.1             | -212.1     | 361.1      | -212.1                | 1.17                  | 1.16                 |                       |
| 5,057.0             | 5.90            | 113.20      | 5,036.6             | -216.1     | 370.4      | -216.1                | 0.53                  | -0.53                |                       |
| 5,152.0             | 5.20            | 113.10      | 5,131.2             | -219.8     | 378.9      | -219.8                | 0.74                  | -0.74                |                       |
| 5,246.0             | 4.70            | 118.60      | 5,224.8             | -223.3     | 386.2      | -223.3                | 0.73                  | -0.53                |                       |
| 5,341.0             | 6.00            | 120.60      | 5,319.4             | -227.7     | 393.8      | -227.7                | 1.38                  | 1.37                 |                       |
| 5,436.0             | 5.50            | 122.30      | 5,413.9             | -232.6     | 402.0      | -232.6                | 0.56                  | -0.53                |                       |
| 5,530.0             | 4.90            | 119.50      | 5,507.5             | -237.0     | 409.3      | -237.0                | 0.69                  | -0.64                |                       |
| 5,625.0             | 5.70            | 127.20      | 5,602.1             | -241.9     | 416.6      | -241.9                | 1.13                  | 0.84                 |                       |
| 5,719.0             | 5.00            | 119.70      | 5,695.7             | -246.7     | 423.8      | -246.7                | 1.05                  | -0.74                |                       |
| 5,814.0             | 4.30            | 112.00      | 5,790.4             | -250.1     | 430.7      | -250.1                | 0.99                  | -0.74                |                       |
| 5,909.0             | 4.40            | 120.40      | 5,885.1             | -253.3     | 437.2      | -253.3                | 0.68                  | 0.11                 |                       |
| 6,003.0             | 5.30            | 125.10      | 5,978.8             | -257.6     | 443.8      | -257.6                | 1.05                  | 0.96                 |                       |

# Cathedral Energy Services

## Survey Report

|                  |                             |                                     |                             |
|------------------|-----------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>Local Co-ordinate Reference:</b> | Well Marcus State 3E-36H    |
| <b>Project:</b>  | DJ Wattenberg               | <b>TVD Reference:</b>               | KBE @ 5052.0ft (Ensign 135) |
| <b>Site:</b>     | S36 T2N-R66W (Marcus State) | <b>MD Reference:</b>                | KBE @ 5052.0ft (Ensign 135) |
| <b>Well:</b>     | Marcus State 3E-36H         | <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             | 4.50            | 120.20      | 6,073.4             | -262.0     | 450.7      | -262.0                | 0.95                  | -0.84                |                       |
| 6,192.0             | 4.80            | 115.70      | 6,167.1             | -265.5     | 457.4      | -265.5                | 0.50                  | 0.32                 |                       |
| 6,287.0             | 4.20            | 112.30      | 6,261.8             | -268.6     | 464.2      | -268.6                | 0.69                  | -0.63                |                       |
| 6,381.0             | 4.80            | 112.90      | 6,355.5             | -271.4     | 471.0      | -271.4                | 0.64                  | 0.64                 |                       |
| 6,476.0             | 5.60            | 118.70      | 6,450.1             | -275.2     | 478.7      | -275.2                | 1.01                  | 0.84                 |                       |
| 6,571.0             | 4.70            | 115.90      | 6,544.8             | -279.1     | 486.3      | -279.1                | 0.98                  | -0.95                |                       |
| 6,666.0             | 5.00            | 112.90      | 6,639.4             | -282.4     | 493.6      | -282.4                | 0.41                  | 0.32                 |                       |
| 6,760.0             | 4.80            | 104.20      | 6,733.1             | -285.0     | 501.2      | -285.0                | 0.82                  | -0.21                |                       |
| 6,855.0             | 5.80            | 83.30       | 6,827.7             | -285.4     | 509.8      | -285.4                | 2.27                  | 1.05                 |                       |
| 6,887.0             | 5.40            | 84.10       | 6,859.5             | -285.1     | 512.9      | -285.1                | 1.27                  | -1.25                |                       |
| 6,918.0             | 6.00            | 64.10       | 6,890.4             | -284.2     | 515.8      | -284.2                | 6.65                  | 1.94                 |                       |
| 6,950.0             | 8.40            | 43.90       | 6,922.1             | -281.8     | 518.9      | -281.8                | 10.79                 | 7.50                 |                       |
| 6,981.0             | 11.10           | 31.60       | 6,952.7             | -277.6     | 522.1      | -277.6                | 10.95                 | 8.71                 |                       |
| 7,013.0             | 13.10           | 20.90       | 6,984.0             | -271.6     | 525.0      | -271.6                | 9.37                  | 6.25                 |                       |
| 7,044.0             | 15.10           | 15.00       | 7,014.0             | -264.4     | 527.3      | -264.4                | 7.94                  | 6.45                 |                       |
| 7,076.0             | 16.70           | 9.80        | 7,044.8             | -255.9     | 529.1      | -255.9                | 6.69                  | 5.00                 |                       |
| 7,108.0             | 19.10           | 6.30        | 7,075.3             | -246.1     | 530.5      | -246.1                | 8.22                  | 7.50                 |                       |
| 7,139.0             | 21.90           | 4.20        | 7,104.3             | -235.3     | 531.5      | -235.3                | 9.34                  | 9.03                 |                       |
| 7,171.0             | 25.10           | 2.60        | 7,133.6             | -222.6     | 532.2      | -222.6                | 10.20                 | 10.00                |                       |
| 7,202.0             | 28.40           | 2.50        | 7,161.3             | -208.6     | 532.9      | -208.6                | 10.65                 | 10.65                |                       |
| 7,234.0             | 31.40           | 3.00        | 7,189.1             | -192.7     | 533.6      | -192.7                | 9.41                  | 9.37                 |                       |
| 7,266.0             | 33.20           | 3.50        | 7,216.1             | -175.6     | 534.6      | -175.6                | 5.69                  | 5.62                 |                       |
| 7,297.0             | 36.40           | 3.70        | 7,241.6             | -158.0     | 535.7      | -158.0                | 10.33                 | 10.32                |                       |
| 7,329.0             | 40.30           | 5.20        | 7,266.6             | -138.2     | 537.3      | -138.2                | 12.53                 | 12.19                |                       |
| 7,360.0             | 43.70           | 5.90        | 7,289.7             | -117.6     | 539.3      | -117.6                | 11.07                 | 10.97                |                       |
| 7,392.0             | 47.00           | 6.10        | 7,312.2             | -94.9      | 541.6      | -94.9                 | 10.32                 | 10.31                |                       |
| 7,423.0             | 50.80           | 5.80        | 7,332.5             | -71.7      | 544.1      | -71.7                 | 12.28                 | 12.26                |                       |
| 7,455.0             | 54.10           | 6.00        | 7,352.0             | -46.5      | 546.7      | -46.5                 | 10.32                 | 10.31                |                       |
| 7,487.0             | 56.80           | 5.70        | 7,370.2             | -20.2      | 549.4      | -20.2                 | 8.47                  | 8.44                 |                       |
| 7,518.0             | 59.60           | 5.30        | 7,386.5             | 6.0        | 551.9      | 6.0                   | 9.10                  | 9.03                 |                       |
| 7,550.0             | 62.20           | 3.30        | 7,402.1             | 33.9       | 554.0      | 33.9                  | 9.79                  | 8.12                 |                       |
| 7,581.0             | 65.80           | 2.40        | 7,415.7             | 61.7       | 555.4      | 61.7                  | 11.90                 | 11.61                |                       |
| 7,613.0             | 68.60           | 1.20        | 7,428.1             | 91.2       | 556.3      | 91.2                  | 9.41                  | 8.75                 |                       |
| 7,645.0             | 70.70           | 0.50        | 7,439.2             | 121.2      | 556.7      | 121.2                 | 6.88                  | 6.56                 |                       |
| 7,676.0             | 72.90           | 359.80      | 7,448.9             | 150.6      | 556.8      | 150.6                 | 7.41                  | 7.10                 |                       |
| 7,682.0             | 73.20           | 359.60      | 7,450.6             | 156.3      | 556.8      | 156.3                 | 5.93                  | 5.00                 |                       |
| 7,700.0             | 74.50           | 359.60      | 7,455.6             | 173.6      | 556.6      | 173.6                 | 7.22                  | 7.22                 |                       |
| 7,731.0             | 76.70           | 358.90      | 7,463.3             | 203.7      | 556.3      | 203.7                 | 7.43                  | 7.10                 |                       |
| 7,763.0             | 78.90           | 359.20      | 7,470.1             | 234.9      | 555.7      | 234.9                 | 6.94                  | 6.87                 |                       |
| 7,795.0             | 82.50           | 0.40        | 7,475.3             | 266.5      | 555.6      | 266.5                 | 11.84                 | 11.25                |                       |
| 7,826.0             | 86.00           | 1.30        | 7,478.4             | 297.3      | 556.1      | 297.3                 | 11.65                 | 11.29                |                       |
| 7,858.0             | 88.90           | 2.00        | 7,479.8             | 329.3      | 557.0      | 329.3                 | 9.32                  | 9.06                 |                       |
| 7,889.0             | 90.90           | 2.00        | 7,479.9             | 360.3      | 558.1      | 360.3                 | 6.45                  | 6.45                 |                       |
| 7,921.0             | 91.00           | 2.40        | 7,479.3             | 392.2      | 559.3      | 392.2                 | 1.29                  | 0.31                 |                       |
| 8,015.0             | 91.00           | 2.70        | 7,477.7             | 486.1      | 563.5      | 486.1                 | 0.32                  | 0.00                 |                       |
| 8,110.0             | 91.20           | 2.70        | 7,475.9             | 581.0      | 568.0      | 581.0                 | 0.21                  | 0.21                 |                       |
| 8,204.0             | 91.40           | 2.50        | 7,473.7             | 674.9      | 572.2      | 674.9                 | 0.30                  | 0.21                 |                       |
| 8,299.0             | 90.20           | 1.40        | 7,472.4             | 769.8      | 575.5      | 769.8                 | 1.71                  | -1.26                |                       |
| 8,394.0             | 89.90           | 1.30        | 7,472.3             | 864.8      | 577.7      | 864.8                 | 0.33                  | -0.32                |                       |
| 8,489.0             | 90.20           | 0.50        | 7,472.2             | 959.8      | 579.2      | 959.8                 | 0.90                  | 0.32                 |                       |
| 8,583.0             | 90.00           | 359.30      | 7,472.1             | 1,053.8    | 579.0      | 1,053.8               | 1.29                  | -0.21                |                       |
| 8,678.0             | 90.00           | 359.60      | 7,472.1             | 1,148.8    | 578.1      | 1,148.8               | 0.32                  | 0.00                 |                       |
| 8,773.0             | 90.20           | 0.90        | 7,471.9             | 1,243.8    | 578.5      | 1,243.8               | 1.38                  | 0.21                 |                       |

# Cathedral Energy Services

## Survey Report

|                  |                             |                                     |                             |
|------------------|-----------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>Local Co-ordinate Reference:</b> | Well Marcus State 3E-36H    |
| <b>Project:</b>  | DJ Wattenberg               | <b>TVD Reference:</b>               | KBE @ 5052.0ft (Ensign 135) |
| <b>Site:</b>     | S36 T2N-R66W (Marcus State) | <b>MD Reference:</b>                | KBE @ 5052.0ft (Ensign 135) |
| <b>Well:</b>     | Marcus State 3E-36H         | <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   |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---|
| 8,868.0             | 89.80           | 0.20        | 7,471.9             | 1,338.8    | 579.4      | 1,338.8               | 0.85                  | -0.42                |   |
| 8,963.0             | 89.90           | 1.50        | 7,472.2             | 1,433.8    | 580.9      | 1,433.8               | 1.37                  | 0.11                 |   |
| 9,057.0             | 89.50           | 1.60        | 7,472.7             | 1,527.7    | 583.4      | 1,527.7               | 0.44                  | -0.43                |   |
| 9,152.0             | 89.70           | 1.80        | 7,473.3             | 1,622.7    | 586.2      | 1,622.7               | 0.30                  | 0.21                 |   |
| 9,247.0             | 90.70           | 1.40        | 7,473.0             | 1,717.6    | 588.9      | 1,717.6               | 1.13                  | 1.05                 |   |
| 9,341.0             | 90.50           | 1.30        | 7,472.0             | 1,811.6    | 591.1      | 1,811.6               | 0.24                  | -0.21                |   |
| 9,436.0             | 88.90           | 358.40      | 7,472.5             | 1,906.6    | 590.8      | 1,906.6               | 3.49                  | -1.68                |   |
| 9,531.0             | 89.50           | 358.20      | 7,473.8             | 2,001.5    | 588.0      | 2,001.5               | 0.67                  | 0.63                 |   |
| 9,626.0             | 90.00           | 358.20      | 7,474.2             | 2,096.5    | 585.0      | 2,096.5               | 0.53                  | 0.53                 |   |
| 9,720.0             | 88.80           | 357.10      | 7,475.2             | 2,190.4    | 581.2      | 2,190.4               | 1.73                  | -1.28                |   |
| 9,815.0             | 88.50           | 358.90      | 7,477.5             | 2,285.3    | 577.9      | 2,285.3               | 1.92                  | -0.32                |   |
| 9,910.0             | 89.00           | 0.50        | 7,479.5             | 2,380.3    | 577.4      | 2,380.3               | 1.76                  | 0.53                 |   |
| 10,005.0            | 88.60           | 2.50        | 7,481.5             | 2,475.2    | 579.9      | 2,475.2               | 2.15                  | -0.42                |   |
| 10,100.0            | 89.50           | 2.70        | 7,483.1             | 2,570.1    | 584.2      | 2,570.1               | 0.97                  | 0.95                 |   |
| 10,194.0            | 89.40           | 2.30        | 7,484.0             | 2,664.0    | 588.3      | 2,664.0               | 0.44                  | -0.11                |   |
| 10,289.0            | 90.20           | 1.30        | 7,484.3             | 2,759.0    | 591.2      | 2,759.0               | 1.35                  | 0.84                 |   |
| 10,384.0            | 90.30           | 1.90        | 7,483.9             | 2,853.9    | 593.9      | 2,853.9               | 0.64                  | 0.11                 |   |
| 10,479.0            | 89.40           | 1.30        | 7,484.2             | 2,948.9    | 596.6      | 2,948.9               | 1.14                  | -0.95                |   |
| 10,573.0            | 89.40           | 2.40        | 7,485.2             | 3,042.8    | 599.6      | 3,042.8               | 1.17                  | 0.00                 |   |
| 10,668.0            | 89.90           | 2.00        | 7,485.7             | 3,137.8    | 603.2      | 3,137.8               | 0.67                  | 0.53                 |   |
| 10,763.0            | 91.40           | 2.20        | 7,484.7             | 3,232.7    | 606.7      | 3,232.7               | 1.59                  | 1.58                 |   |
| 10,857.0            | 91.50           | 2.30        | 7,482.3             | 3,326.6    | 610.4      | 3,326.6               | 0.15                  | 0.11                 |   |
| 10,952.0            | 91.70           | 0.80        | 7,479.6             | 3,421.5    | 613.0      | 3,421.5               | 1.59                  | 0.21                 |   |
| 11,047.0            | 90.70           | 359.00      | 7,477.6             | 3,516.5    | 612.8      | 3,516.5               | 2.17                  | -1.05                |   |
| 11,141.0            | 89.30           | 357.20      | 7,477.6             | 3,610.4    | 609.7      | 3,610.4               | 2.43                  | -1.49                |   |
| 11,235.0            | 90.00           | 356.80      | 7,478.2             | 3,704.3    | 604.8      | 3,704.3               | 0.86                  | 0.74                 |   |
| 11,330.0            | 89.90           | 357.80      | 7,478.3             | 3,799.2    | 600.3      | 3,799.2               | 1.06                  | -0.11                |   |
| 11,425.0            | 90.20           | 358.50      | 7,478.2             | 3,894.1    | 597.2      | 3,894.1               | 0.80                  | 0.32                 |   |
| 11,520.0            | 90.50           | 359.90      | 7,477.6             | 3,989.1    | 595.9      | 3,989.1               | 1.51                  | 0.32                 |   |
| 11,615.0            | 90.50           | 358.40      | 7,476.8             | 4,084.1    | 594.5      | 4,084.1               | 1.58                  | 0.00                 |   |
| 11,709.0            | 90.90           | 357.60      | 7,475.7             | 4,178.0    | 591.2      | 4,178.0               | 0.95                  | 0.43                 |   |
| 11,803.0            | 90.20           | 357.10      | 7,474.7             | 4,271.9    | 586.9      | 4,271.9               | 0.92                  | -0.74                |   |
| 11,898.0            | 89.70           | 356.90      | 7,474.8             | 4,366.8    | 581.9      | 4,366.8               | 0.57                  | -0.53                |   |
| 11,993.0            | 90.20           | 356.50      | 7,474.9             | 4,461.7    | 576.4      | 4,461.7               | 0.67                  | 0.53                 |   |
| 12,051.0            | 90.60           | 356.20      | 7,474.5             | 4,519.5    | 572.7      | 4,519.5               | 0.86                  | 0.69                 | Last Cathedral Survey @ 12,051' MD<br>Projection to Bit @ 12,101' |
| 12,101.0            | 90.60           | 356.20      | 7,474.0             | 4,569.4    | 569.4      | 4,569.4               | 0.00                  | 0.00                 |   |

# Cathedral Energy Services

## Survey Report

|                  |                             |                                     |                             |
|------------------|-----------------------------|-------------------------------------|-----------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>Local Co-ordinate Reference:</b> | Well Marcus State 3E-36H    |
| <b>Project:</b>  | DJ Wattenberg               | <b>TVD Reference:</b>               | KBE @ 5052.0ft (Ensign 135) |
| <b>Site:</b>     | S36 T2N-R66W (Marcus State) | <b>MD Reference:</b>                | KBE @ 5052.0ft (Ensign 135) |
| <b>Well:</b>     | Marcus State 3E-36H         | <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)         |           |             |
| Marcus State 3E-36H P1   | 0.00      | 0.00     | 7,496.0 | 4,557.2 | 588.2 | 1,280,505.06 | 3,215,991.35 | 40.100790 | -104.727897 |
| - actual wellpath misses target center by 28.3ft at 12087.3ft MD (7474.1 TVD, 4555.7 N, 570.3 E) |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |
| Marcus State 3E-36H 1C   | 0.00      | 0.00     | 7,485.0 | 3,047.9 | 606.4 | 1,278,996.06 | 3,216,022.65 | 40.096647 | -104.727832 |
| - actual wellpath misses target center by 6.6ft at 10578.4ft MD (7485.2 TVD, 3048.2 N, 599.8 E)  |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |
| Marcus State 3E-36H 9C   | 0.00      | 0.00     | 7,469.0 | 1,748.1 | 591.7 | 1,277,696.10 | 3,216,019.20 | 40.093079 | -104.727885 |
| - actual wellpath misses target center by 4.2ft at 9277.5ft MD (7472.6 TVD, 1748.1 N, 589.6 E)   |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |
| Marcus State 3E-36H P1   | 0.00      | 0.00     | 7,476.0 | 4,557.2 | 588.2 | 1,280,505.06 | 3,215,991.35 | 40.100790 | -104.727897 |
| - actual wellpath misses target center by 18.0ft at 12087.5ft MD (7474.1 TVD, 4555.9 N, 570.3 E) |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |
| Marcus State 3E-36H 1C   | 0.00      | 0.00     | 7,485.0 | 2,648.0 | 604.2 | 1,278,596.09 | 3,216,023.95 | 40.095549 | -104.727840 |
| - actual wellpath misses target center by 16.6ft at 10178.7ft MD (7483.8 TVD, 2648.7 N, 587.6 E) |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |
| Marcus State 3E-36H 11   | 0.00      | 0.00     | 7,476.0 | 3,547.6 | 589.5 | 1,279,495.61 | 3,216,001.46 | 40.098019 | -104.727893 |
| - actual wellpath misses target center by 22.6ft at 11078.9ft MD (7477.4 TVD, 3548.4 N, 612.1 E) |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |
| Interp @ 7469.0 (Marcus)   | 0.00      | 0.00     | 7,469.0 | 1,500.3 | 588.2 | 1,277,448.37 | 3,216,017.90 | 40.092399 | -104.727898 |
| - actual wellpath misses target center by 6.5ft at 9029.8ft MD (7472.4 TVD, 1500.5 N, 582.6 E)   |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |
| Interp @ 7476.0 (Marcus)   | 0.00      | 0.00     | 7,476.0 | 1,500.3 | 588.2 | 1,277,448.37 | 3,216,017.90 | 40.092399 | -104.727898 |
| - actual wellpath misses target center by 6.6ft at 9029.8ft MD (7472.4 TVD, 1500.5 N, 582.6 E)   |           |          |         |         |       |              |              |           |             |
| - Point  |           |          |         |         |       |              |              |           |             |

| Design Annotations  |                     |                   |            |                                    |  |
|---------------------|---------------------|-------------------|------------|------------------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |                                    |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment                            |  |
| 12,051.0            | 7,474.5             | 4,519.5           | 572.7      | Last Cathedral Survey @ 12,051' MD |  |
| 12,101.0            | 7,474.0             | 4,569.4           | 569.4      | Projection to Bit @ 12,101'        |  |

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