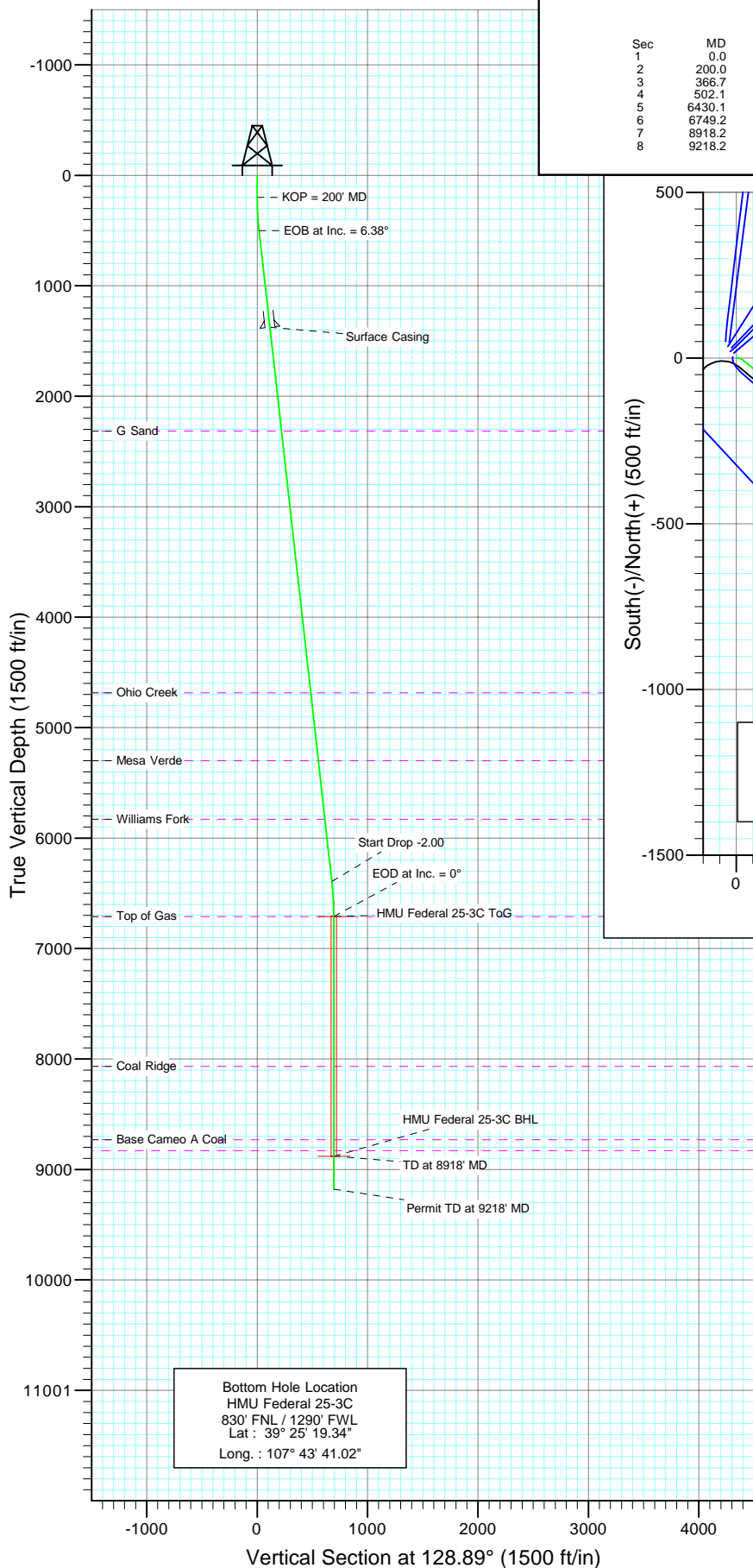
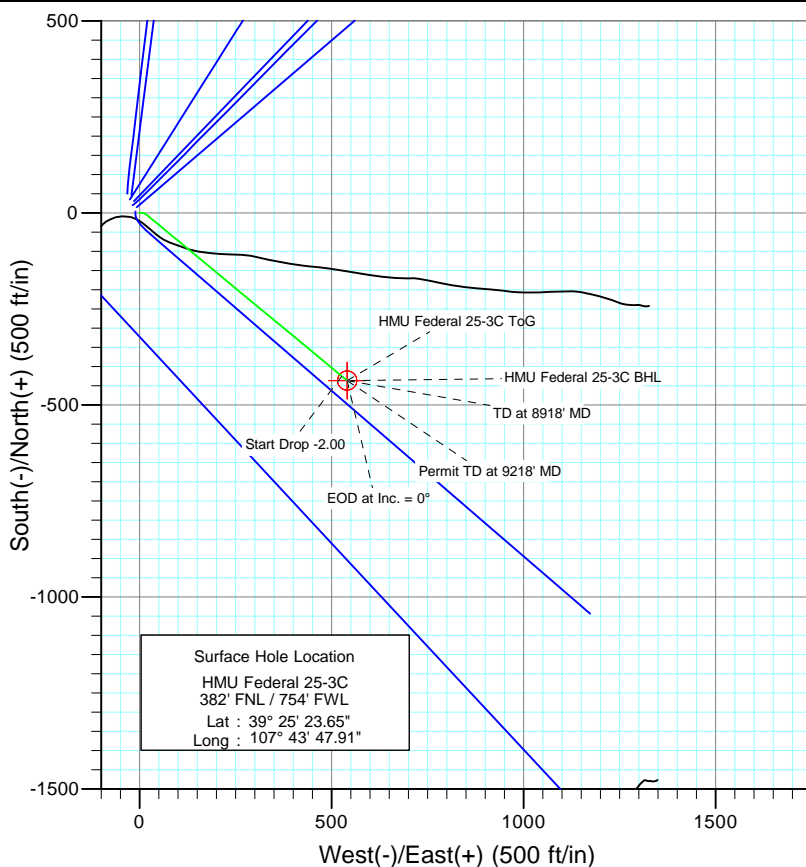




Project: Mamm Creek  
Site: (D25W)  
Well: HMU Federal 25-3C  
Wellbore: DD  
Design: Plan #2



| SECTION DETAILS |        |      |        |        |        |       |      |        |       |                       |
|-----------------|--------|------|--------|--------|--------|-------|------|--------|-------|-----------------------|
| Sec             | MD     | Inc  | Azi    | TVD    | +N/-S  | +E/-W | Dleg | TFace  | VSect | Target                |
| 1               | 0.0    | 0.00 | 0.00   | 0.0    | 0.0    | 0.0   | 0.00 | 0.00   | 0.0   |                       |
| 2               | 200.0  | 0.00 | 0.00   | 200.0  | 0.0    | 0.0   | 0.00 | 0.00   | 0.0   |                       |
| 3               | 366.7  | 5.00 | 90.00  | 366.5  | 0.0    | 7.3   | 3.00 | 90.00  | 5.7   |                       |
| 4               | 502.1  | 6.38 | 129.58 | 501.3  | -4.8   | 19.0  | 3.00 | 91.01  | 17.8  |                       |
| 5               | 6430.1 | 6.38 | 129.58 | 6392.5 | -424.7 | 527.0 | 0.00 | 0.00   | 676.8 |                       |
| 6               | 6749.2 | 0.00 | 0.00   | 6711.0 | -436.1 | 540.7 | 2.00 | 180.00 | 694.6 | HMU Federal 25-3C ToG |
| 7               | 8918.2 | 0.00 | 0.00   | 8880.0 | -436.1 | 540.7 | 0.00 | 0.00   | 694.6 | HMU Federal 25-3C BHL |
| 8               | 9218.2 | 0.00 | 0.00   | 9180.0 | -436.1 | 540.7 | 0.00 | 0.00   | 694.6 |                       |



Azimuths to True North  
Magnetic North: 10.30°

Magnetic Field  
Strength: 52346.4snT  
Dip Angle: 65.76°  
Date: 8/25/2010  
Model: IGRF200510

#### FORMATION TOP DETAILS

| TVDPPath | MDPath | Formation         |
|----------|--------|-------------------|
| 2316.0   | 2328.2 | G Sand            |
| 4685.0   | 4711.9 | Ohio Creek        |
| 5300.0   | 5330.8 | Mesa Verde        |
| 5829.0   | 5863.1 | Williams Fork     |
| 6711.0   | 6749.2 | Top of Gas        |
| 8067.0   | 8105.2 | Coal Ridge        |
| 8730.0   | 8768.2 | Base Cameo A Coal |
| 8829.0   | 8867.2 | Rollins           |

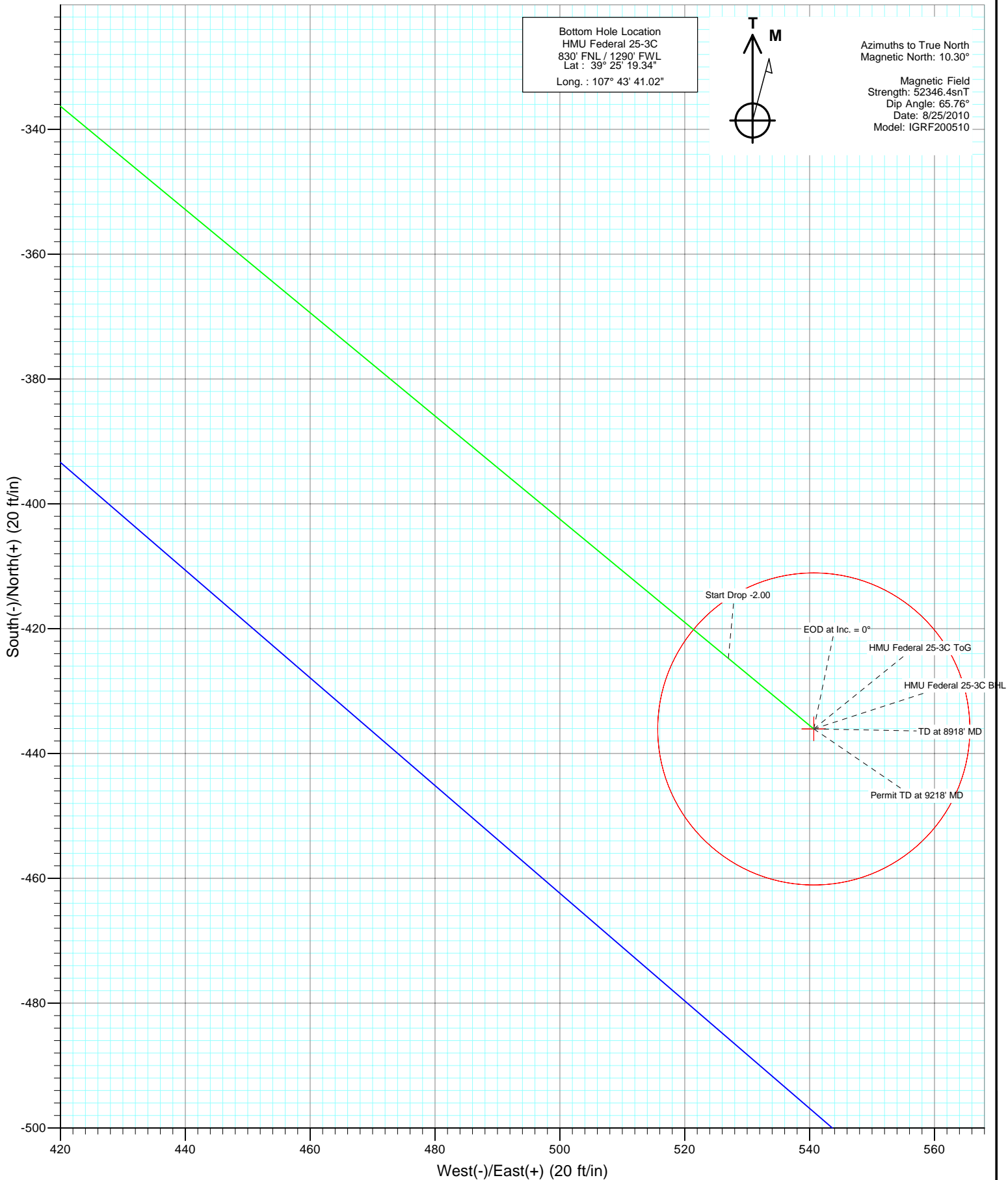
DESIGN DETAILS: Plan #2  
Job #10xxxx: KR

WELL @ 7250.0ft (Original Well Elev)

| Target                | Azimuth | Origin | N/S | E/W | From TVD |
|-----------------------|---------|--------|-----|-----|----------|
| HMU Federal 25-3C BHL | 128.89  | Slot   | 0.0 | 0.0 | 0.0      |



Project: Mamm Creek  
Site: (D25W)  
Well: HMU Federal 25-3C  
Wellbore: DD  
Design: Plan #2



# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                      |
|------------------|------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site:</b>     | (D25W)                       | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | HMU Federal 25-3C            | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | DD                           |                                     |                                      |
| <b>Design:</b>   | Plan #2                      |                                     |                                      |

|             |                           |               |                |
|-------------|---------------------------|---------------|----------------|
| Project     | Mamm Creek                |               |                |
| Map System: | US State Plane 1983       | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983 |               |                |
| Map Zone:   | Colorado Central Zone     |               |                |

| Site                  |          | (D25W)       |                 |                   |             |
|-----------------------|----------|--------------|-----------------|-------------------|-------------|
| Site Position:        |          | Northing:    | 1,586,700.90 ft | Latitude:         | 39.423009   |
| From:                 | Lat/Long | Easting:     | 2,369,887.50 ft | Longitude:        | -107.730782 |
| Position Uncertainty: | 0.0 ft   | Slot Radius: | 13.200 in       | Grid Convergence: | -1.41 °     |

|                      |                   |        |                     |                 |               |             |
|----------------------|-------------------|--------|---------------------|-----------------|---------------|-------------|
| Well                 | HMU Federal 25-3C |        |                     |                 |               |             |
| Well Position        | +N/-S             | 0.0 ft | Northing:           | 1,586,777.99 ft | Latitude:     | 39.423236   |
|                      | +E/-W             | 0.0 ft | Easting:            | 2,370,117.44 ft | Longitude:    | -107.729975 |
| Position Uncertainty |                   | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 7,228.0 ft  |

|           |            |             |                    |                  |                        |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore  | DD         |             |                    |                  |                        |
| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF200510 | 8/25/2010   | 10.30              | 65.76            | 52,346                 |

|                   |                          |               |               |                  |
|-------------------|--------------------------|---------------|---------------|------------------|
| Design            | Plan #2                  |               |               |                  |
| Audit Notes:      |                          |               |               |                  |
| Version:          | Phase:                   | PLAN          | Tie On Depth: | 0.0              |
| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|                   | 0.0                      | 0.0           | 0.0           | 128.89           |

| Plan Sections       |                 |             |                     |            |            |                       |                      |                     |         |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target              |
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 200.0               | 0.00            | 0.00        | 200.0               | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 366.7               | 5.00            | 90.00       | 366.5               | 0.0        | 7.3        | 3.00                  | 3.00                 | 0.00                | 90.00   |                     |
| 502.1               | 6.38            | 129.58      | 501.3               | -4.8       | 19.0       | 3.00                  | 1.02                 | 29.22               | 91.01   |                     |
| 6,430.1             | 6.38            | 129.58      | 6,392.5             | -424.7     | 527.0      | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 6,749.2             | 0.00            | 0.00        | 6,711.0             | -436.1     | 540.7      | 2.00                  | -2.00                | 0.00                | 180.00  | HMU Federal 25-3C 1 |
| 8,918.2             | 0.00            | 0.00        | 8,880.0             | -436.1     | 540.7      | 0.00                  | 0.00                 | 0.00                | 0.00    | HMU Federal 25-3C E |
| 9,218.2             | 0.00            | 0.00        | 9,180.0             | -436.1     | 540.7      | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |

# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                      |
|------------------|------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site:</b>     | (D25W)                       | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | HMU Federal 25-3C            | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | DD                           |                                     |                                      |
| <b>Design:</b>   | Plan #2                      |                                     |                                      |

### Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 100.0               | 0.00            | 0.00        | 100.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                       |
| 200.0               | 0.00            | 0.00        | 200.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | KOP = 200' MD         |
| 300.0               | 3.00            | 90.00       | 300.0               | 0.0        | 2.6        | 2.0                   | 3.00                  | 3.00                 |                       |
| 366.7               | 5.00            | 90.00       | 366.5               | 0.0        | 7.3        | 5.7                   | 3.00                  | 3.00                 |                       |
| 400.0               | 5.08            | 101.36      | 399.7               | -0.3       | 10.2       | 8.1                   | 3.00                  | 0.24                 |                       |
| 500.0               | 6.34            | 129.13      | 499.2               | -4.7       | 18.8       | 17.6                  | 3.00                  | 1.26                 |                       |
| 502.1               | 6.38            | 129.58      | 501.3               | -4.8       | 19.0       | 17.8                  | 2.99                  | 1.85                 | EOB at Inc. = 6.38°   |
| 600.0               | 6.38            | 129.58      | 598.6               | -11.7      | 27.4       | 28.7                  | 0.00                  | 0.00                 |                       |
| 700.0               | 6.38            | 129.58      | 697.9               | -18.8      | 35.9       | 39.8                  | 0.00                  | 0.00                 |                       |
| 800.0               | 6.38            | 129.58      | 797.3               | -25.9      | 44.5       | 50.9                  | 0.00                  | 0.00                 |                       |
| 900.0               | 6.38            | 129.58      | 896.7               | -33.0      | 53.1       | 62.0                  | 0.00                  | 0.00                 |                       |
| 1,000.0             | 6.38            | 129.58      | 996.1               | -40.1      | 61.6       | 73.1                  | 0.00                  | 0.00                 |                       |
| 1,100.0             | 6.38            | 129.58      | 1,095.5             | -47.2      | 70.2       | 84.3                  | 0.00                  | 0.00                 |                       |
| 1,200.0             | 6.38            | 129.58      | 1,194.8             | -54.2      | 78.8       | 95.4                  | 0.00                  | 0.00                 |                       |
| 1,300.0             | 6.38            | 129.58      | 1,294.2             | -61.3      | 87.4       | 106.5                 | 0.00                  | 0.00                 |                       |
| 1,382.0             | 6.38            | 129.58      | 1,375.7             | -67.1      | 94.4       | 115.6                 | 0.00                  | 0.00                 | Surface Casing        |
| 1,400.0             | 6.38            | 129.58      | 1,393.6             | -68.4      | 95.9       | 117.6                 | 0.00                  | 0.00                 |                       |
| 1,500.0             | 6.38            | 129.58      | 1,493.0             | -75.5      | 104.5      | 128.7                 | 0.00                  | 0.00                 |                       |
| 1,600.0             | 6.38            | 129.58      | 1,592.4             | -82.6      | 113.1      | 139.8                 | 0.00                  | 0.00                 |                       |
| 1,700.0             | 6.38            | 129.58      | 1,691.7             | -89.7      | 121.6      | 151.0                 | 0.00                  | 0.00                 |                       |
| 1,800.0             | 6.38            | 129.58      | 1,791.1             | -96.7      | 130.2      | 162.1                 | 0.00                  | 0.00                 |                       |
| 1,900.0             | 6.38            | 129.58      | 1,890.5             | -103.8     | 138.8      | 173.2                 | 0.00                  | 0.00                 |                       |
| 2,000.0             | 6.38            | 129.58      | 1,989.9             | -110.9     | 147.3      | 184.3                 | 0.00                  | 0.00                 |                       |
| 2,100.0             | 6.38            | 129.58      | 2,089.3             | -118.0     | 155.9      | 195.4                 | 0.00                  | 0.00                 |                       |
| 2,200.0             | 6.38            | 129.58      | 2,188.6             | -125.1     | 164.5      | 206.6                 | 0.00                  | 0.00                 |                       |
| 2,300.0             | 6.38            | 129.58      | 2,288.0             | -132.2     | 173.0      | 217.7                 | 0.00                  | 0.00                 |                       |
| 2,328.2             | 6.38            | 129.58      | 2,316.0             | -134.2     | 175.5      | 220.8                 | 0.00                  | 0.00                 | G Sand                |
| 2,400.0             | 6.38            | 129.58      | 2,387.4             | -139.2     | 181.6      | 228.8                 | 0.00                  | 0.00                 |                       |
| 2,500.0             | 6.38            | 129.58      | 2,486.8             | -146.3     | 190.2      | 239.9                 | 0.00                  | 0.00                 |                       |
| 2,600.0             | 6.38            | 129.58      | 2,586.2             | -153.4     | 198.8      | 251.0                 | 0.00                  | 0.00                 |                       |
| 2,700.0             | 6.38            | 129.58      | 2,685.5             | -160.5     | 207.3      | 262.1                 | 0.00                  | 0.00                 |                       |
| 2,800.0             | 6.38            | 129.58      | 2,784.9             | -167.6     | 215.9      | 273.3                 | 0.00                  | 0.00                 |                       |
| 2,900.0             | 6.38            | 129.58      | 2,884.3             | -174.7     | 224.5      | 284.4                 | 0.00                  | 0.00                 |                       |
| 3,000.0             | 6.38            | 129.58      | 2,983.7             | -181.8     | 233.0      | 295.5                 | 0.00                  | 0.00                 |                       |
| 3,100.0             | 6.38            | 129.58      | 3,083.1             | -188.8     | 241.6      | 306.6                 | 0.00                  | 0.00                 |                       |
| 3,200.0             | 6.38            | 129.58      | 3,182.4             | -195.9     | 250.2      | 317.7                 | 0.00                  | 0.00                 |                       |
| 3,300.0             | 6.38            | 129.58      | 3,281.8             | -203.0     | 258.7      | 328.8                 | 0.00                  | 0.00                 |                       |
| 3,400.0             | 6.38            | 129.58      | 3,381.2             | -210.1     | 267.3      | 340.0                 | 0.00                  | 0.00                 |                       |
| 3,500.0             | 6.38            | 129.58      | 3,480.6             | -217.2     | 275.9      | 351.1                 | 0.00                  | 0.00                 |                       |
| 3,600.0             | 6.38            | 129.58      | 3,580.0             | -224.3     | 284.5      | 362.2                 | 0.00                  | 0.00                 |                       |
| 3,700.0             | 6.38            | 129.58      | 3,679.3             | -231.3     | 293.0      | 373.3                 | 0.00                  | 0.00                 |                       |
| 3,800.0             | 6.38            | 129.58      | 3,778.7             | -238.4     | 301.6      | 384.4                 | 0.00                  | 0.00                 |                       |
| 3,900.0             | 6.38            | 129.58      | 3,878.1             | -245.5     | 310.2      | 395.6                 | 0.00                  | 0.00                 |                       |
| 4,000.0             | 6.38            | 129.58      | 3,977.5             | -252.6     | 318.7      | 406.7                 | 0.00                  | 0.00                 |                       |
| 4,100.0             | 6.38            | 129.58      | 4,076.9             | -259.7     | 327.3      | 417.8                 | 0.00                  | 0.00                 |                       |
| 4,200.0             | 6.38            | 129.58      | 4,176.2             | -266.8     | 335.9      | 428.9                 | 0.00                  | 0.00                 |                       |
| 4,300.0             | 6.38            | 129.58      | 4,275.6             | -273.8     | 344.4      | 440.0                 | 0.00                  | 0.00                 |                       |
| 4,400.0             | 6.38            | 129.58      | 4,375.0             | -280.9     | 353.0      | 451.1                 | 0.00                  | 0.00                 |                       |
| 4,500.0             | 6.38            | 129.58      | 4,474.4             | -288.0     | 361.6      | 462.3                 | 0.00                  | 0.00                 |                       |
| 4,600.0             | 6.38            | 129.58      | 4,573.8             | -295.1     | 370.1      | 473.4                 | 0.00                  | 0.00                 |                       |
| 4,700.0             | 6.38            | 129.58      | 4,673.1             | -302.2     | 378.7      | 484.5                 | 0.00                  | 0.00                 |                       |

# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                      |
|------------------|------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site:</b>     | (D25W)                       | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | HMU Federal 25-3C            | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | DD                           |                                     |                                      |
| <b>Design:</b>   | Plan #2                      |                                     |                                      |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |   |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations                             |
| 4,711.9             | 6.38            | 129.58      | 4,685.0             | -303.0     | 379.7      | 485.8                 | 0.00                  | 0.00                 | Ohio Creek  |
| 4,800.0             | 6.38            | 129.58      | 4,772.5             | -309.3     | 387.3      | 495.6                 | 0.00                  | 0.00                 |   |
| 4,900.0             | 6.38            | 129.58      | 4,871.9             | -316.3     | 395.9      | 506.7                 | 0.00                  | 0.00                 |   |
| 5,000.0             | 6.38            | 129.58      | 4,971.3             | -323.4     | 404.4      | 517.8                 | 0.00                  | 0.00                 |   |
| 5,100.0             | 6.38            | 129.58      | 5,070.7             | -330.5     | 413.0      | 529.0                 | 0.00                  | 0.00                 |   |
| 5,200.0             | 6.38            | 129.58      | 5,170.0             | -337.6     | 421.6      | 540.1                 | 0.00                  | 0.00                 |   |
| 5,300.0             | 6.38            | 129.58      | 5,269.4             | -344.7     | 430.1      | 551.2                 | 0.00                  | 0.00                 |   |
| 5,330.8             | 6.38            | 129.58      | 5,300.0             | -346.9     | 432.8      | 554.6                 | 0.00                  | 0.00                 | Mesa Verde  |
| 5,400.0             | 6.38            | 129.58      | 5,368.8             | -351.8     | 438.7      | 562.3                 | 0.00                  | 0.00                 |   |
| 5,500.0             | 6.38            | 129.58      | 5,468.2             | -358.9     | 447.3      | 573.4                 | 0.00                  | 0.00                 |   |
| 5,600.0             | 6.38            | 129.58      | 5,567.6             | -365.9     | 455.8      | 584.6                 | 0.00                  | 0.00                 |   |
| 5,700.0             | 6.38            | 129.58      | 5,666.9             | -373.0     | 464.4      | 595.7                 | 0.00                  | 0.00                 |   |
| 5,800.0             | 6.38            | 129.58      | 5,766.3             | -380.1     | 473.0      | 606.8                 | 0.00                  | 0.00                 |   |
| 5,863.1             | 6.38            | 129.58      | 5,829.0             | -384.6     | 478.4      | 613.8                 | 0.00                  | 0.00                 | Williams Fork                                     |
| 5,900.0             | 6.38            | 129.58      | 5,865.7             | -387.2     | 481.6      | 617.9                 | 0.00                  | 0.00                 |   |
| 6,000.0             | 6.38            | 129.58      | 5,965.1             | -394.3     | 490.1      | 629.0                 | 0.00                  | 0.00                 |   |
| 6,100.0             | 6.38            | 129.58      | 6,064.5             | -401.4     | 498.7      | 640.1                 | 0.00                  | 0.00                 |   |
| 6,200.0             | 6.38            | 129.58      | 6,163.8             | -408.4     | 507.3      | 651.3                 | 0.00                  | 0.00                 |   |
| 6,300.0             | 6.38            | 129.58      | 6,263.2             | -415.5     | 515.8      | 662.4                 | 0.00                  | 0.00                 |   |
| 6,400.0             | 6.38            | 129.58      | 6,362.6             | -422.6     | 524.4      | 673.5                 | 0.00                  | 0.00                 |   |
| 6,430.1             | 6.38            | 129.58      | 6,392.5             | -424.7     | 527.0      | 676.8                 | 0.00                  | 0.00                 | Start Drop -2.00                                  |
| 6,500.0             | 4.98            | 129.58      | 6,462.1             | -429.1     | 532.3      | 683.8                 | 2.00                  | -2.00                |   |
| 6,600.0             | 2.98            | 129.58      | 6,561.8             | -433.6     | 537.7      | 690.7                 | 2.00                  | -2.00                |   |
| 6,700.0             | 0.98            | 129.58      | 6,661.8             | -435.8     | 540.3      | 694.2                 | 2.00                  | -2.00                |   |
| 6,749.2             | 0.00            | 0.00        | 6,711.0             | -436.1     | 540.7      | 694.6                 | 2.00                  | -2.00                | EOD at Inc. = 0° - Top of Gas - HMU Federal 25-3C |
| 6,800.0             | 0.00            | 0.00        | 6,761.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 6,900.0             | 0.00            | 0.00        | 6,861.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,000.0             | 0.00            | 0.00        | 6,961.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,100.0             | 0.00            | 0.00        | 7,061.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,200.0             | 0.00            | 0.00        | 7,161.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,300.0             | 0.00            | 0.00        | 7,261.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,400.0             | 0.00            | 0.00        | 7,361.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,500.0             | 0.00            | 0.00        | 7,461.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,600.0             | 0.00            | 0.00        | 7,561.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,700.0             | 0.00            | 0.00        | 7,661.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,800.0             | 0.00            | 0.00        | 7,761.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 7,900.0             | 0.00            | 0.00        | 7,861.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,000.0             | 0.00            | 0.00        | 7,961.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,100.0             | 0.00            | 0.00        | 8,061.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,105.2             | 0.00            | 0.00        | 8,067.0             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 | Coal Ridge  |
| 8,200.0             | 0.00            | 0.00        | 8,161.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,300.0             | 0.00            | 0.00        | 8,261.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,400.0             | 0.00            | 0.00        | 8,361.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,500.0             | 0.00            | 0.00        | 8,461.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,600.0             | 0.00            | 0.00        | 8,561.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,700.0             | 0.00            | 0.00        | 8,661.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,768.2             | 0.00            | 0.00        | 8,730.0             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 | Base Cameo A Coal                                 |
| 8,800.0             | 0.00            | 0.00        | 8,761.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,867.2             | 0.00            | 0.00        | 8,829.0             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 | Rollins   |
| 8,900.0             | 0.00            | 0.00        | 8,861.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |
| 8,918.2             | 0.00            | 0.00        | 8,880.0             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 | TD at 8918' MD - HMU Federal 25-3C BHL            |
| 9,000.0             | 0.00            | 0.00        | 8,961.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |   |

# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                      |
|------------------|------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site:</b>     | (D25W)                       | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | HMU Federal 25-3C            | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | DD                           |                                     |                                      |
| <b>Design:</b>   | Plan #2                      |                                     |                                      |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |                       |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
| 9,100.0             | 0.00            | 0.00        | 9,061.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |                       |
| 9,200.0             | 0.00            | 0.00        | 9,161.8             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 |                       |
| 9,218.2             | 0.00            | 0.00        | 9,180.0             | -436.1     | 540.7      | 694.6                 | 0.00                  | 0.00                 | Permit TD at 9218' MD |

| Targets               |                           |               |              |          |            |            |               |              |                       |
|-----------------------|---------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------------------|
| Target Name           | - hit/miss target         | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) |                       |
| - Shape               |                           |               |              |          |            |            |               |              | Latitude Longitude    |
| HMU Federal 25-3C BHI | - plan hits target center | 0.00          | 0.00         | 8,880.0  | -436.1     | 540.7      | 1,586,328.80  | 2,370,647.24 | 39.422039 -107.728061 |
|                       | - Circle (radius 25.0)    |               |              |          |            |            |               |              |                       |
| HMU Federal 25-3C ToC | - plan hits target center | 0.00          | 0.00         | 6,711.0  | -436.1     | 540.7      | 1,586,328.80  | 2,370,647.24 | 39.422039 -107.728061 |
|                       | - Point                   |               |              |          |            |            |               |              |                       |

| Casing Points       |                     |                |                      |                    |  |
|---------------------|---------------------|----------------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name           | Casing Diameter (in) | Hole Diameter (in) |  |
| 1,382.0             | 1,375.7             | Surface Casing | 5.500                | 6.000              |  |

| Formations          |                     |                   |           |         |                   |
|---------------------|---------------------|-------------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name              | Lithology | Dip (°) | Dip Direction (°) |
| 2,328.2             | 2,316.0             | G Sand            |           |         |                   |
| 4,711.9             | 4,685.0             | Ohio Creek        |           |         |                   |
| 5,330.8             | 5,300.0             | Mesa Verde        |           |         |                   |
| 5,863.1             | 5,829.0             | Williams Fork     |           |         |                   |
| 6,749.2             | 6,711.0             | Top of Gas        |           |         |                   |
| 8,105.2             | 8,067.0             | Coal Ridge        |           |         |                   |
| 8,768.2             | 8,730.0             | Base Cameo A Coal |           |         |                   |
| 8,867.2             | 8,829.0             | Rollins           |           |         |                   |

| Plan Annotations    |                     |                   |            |                       |  |
|---------------------|---------------------|-------------------|------------|-----------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |                       |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment               |  |
| 200.0               | 200.0               | 0.0               | 0.0        | KOP = 200' MD         |  |
| 502.1               | 501.3               | -4.8              | 19.0       | EOB at Inc. = 6.38°   |  |
| 6,430.1             | 6,392.5             | -424.7            | 527.0      | Start Drop -2.00      |  |
| 6,749.2             | 6,711.0             | -436.1            | 540.7      | EOD at Inc. = 0°      |  |
| 8,918.2             | 8,880.0             | -436.1            | 540.7      | TD at 8918' MD        |  |
| 9,218.2             | 9,180.0             | -436.1            | 540.7      | Permit TD at 9218' MD |  |

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

**Mamm Creek**

**(D25W)**

**HMU Federal 25-3C**

**DD**

**Plan #2**

## **Anticollision Report**

**09 September, 2010**

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

|                                     |   |
|-------------------------------------|---|
| <b>Reference</b>                    | Plan #2   |
| <b>Filter type:</b>                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |
| <b>Interpolation Method:</b>        | Stations  |
| <b>Depth Range:</b>                 | 0.0 to 999,999.0ft  |
| <b>Results Limited by:</b>          | Maximum center-center distance of 500.0ft                           |
| <b>Warning Levels Evaluated at:</b> | 2.00 Sigma  |
| <b>Error Model:</b>                 | Systematic Ellipse  |
| <b>Scan Method:</b>                 | Closest Approach 3D   |
| <b>Error Surface:</b>               | Elliptical Conic  |

|                            |                |                          |
|----------------------------|----------------|--------------------------|
| <b>Survey Tool Program</b> | <b>Date</b>    | 9/9/2010                 |
| <b>From (ft)</b>           | <b>To (ft)</b> | <b>Survey (Wellbore)</b> |
| 0.0                        | 9,218.2        | Plan #2 (DD)             |
|                            |                | <b>Tool Name</b>         |
|                            |                | MWD                      |
|                            |                | <b>Description</b>       |
|                            |                | Geolink MWD              |



# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

### Summary

| Site Name   | Reference<br>Measured<br>Depth<br>(ft) | Offset<br>Measured<br>Depth<br>(ft) | Distance<br>Between<br>Centres<br>(ft) | Distance<br>Between<br>Ellipses<br>(ft) | Separation<br>Factor | Warning      |
|---|--|-------------------------------------|--|---|----------------------|--------------|
| <b>Offset Well - Wellbore - Design</b>                |  |                                     |  |   |                      |              |
| (D25W)  |  |                                     |  |   |                      |              |
| HMU 25-3D (Existing) - Excel Drilling - Surveys       | 2,495.3                                | 2,520.0                             | 44.6                                   | 32.7                                    | 3.751                | CC           |
| HMU 25-3D (Existing) - Excel Drilling - Surveys       | 2,500.0                                | 2,524.6                             | 44.6                                   | 32.6                                    | 3.724                | ES           |
| HMU 25-3D (Existing) - Excel Drilling - Surveys       | 2,600.0                                | 2,623.1                             | 47.8                                   | 34.3                                    | 3.537                | SF           |
| HMU 26-1C (Existing) - Baker Hughes (Inteq) - Surveys | 220.9                                  | 222.2                               | 122.6                                  | 121.9                                   | 175.900              | CC, ES       |
| HMU 26-1C (Existing) - Baker Hughes (Inteq) - Surveys | 1,000.0                                | 949.7                               | 263.6                                  | 260.1                                   | 75.543               | SF           |
| HMU Federal 24-13A1 - DD - Plan #2                    | 200.0                                  | 200.0                               | 60.1                                   | 59.5                                    | 96.768               | CC, ES       |
| HMU Federal 24-13A1 - DD - Plan #2                    | 502.1                                  | 491.3                               | 93.2                                   | 91.4                                    | 53.563               | SF           |
| HMU Federal 24-13D1 - DD - Plan #2                    | 200.0                                  | 200.0                               | 51.1                                   | 50.5                                    | 82.301               | CC, ES       |
| HMU Federal 24-13D1 - DD - Plan #2                    | 502.1                                  | 493.2                               | 82.7                                   | 81.0                                    | 47.352               | SF           |
| HMU Federal 24-13D2 - DD - Plan #2                    | 200.0                                  | 200.0                               | 43.4                                   | 42.8                                    | 69.867               | CC, ES       |
| HMU Federal 24-13D2 - DD - Plan #2                    | 2,000.0                                | 1,989.9                             | 226.2                                  | 219.3                                   | 32.866               | SF           |
| HMU Federal 24-14A1 - DD - Plan #2                    | 200.0                                  | 200.0                               | 34.4                                   | 33.8                                    | 55.349               | CC, ES       |
| HMU Federal 24-14A1 - DD - Plan #2                    | 502.1                                  | 498.3                               | 55.7                                   | 53.9                                    | 30.022               | SF           |
| HMU Federal 24-14A2 - DD - Plan #2                    | 200.0                                  | 200.0                               | 27.1                                   | 26.5                                    | 43.639               | CC, ES       |
| HMU Federal 24-14A2 - DD - Plan #2                    | 400.0                                  | 399.7                               | 34.9                                   | 33.6                                    | 26.226               | SF           |
| HMU Federal 24-14A3 - DD - Plan #2                    | 200.0                                  | 200.0                               | 16.7                                   | 16.1                                    | 26.940               | CC, ES       |
| HMU Federal 24-14A3 - DD - Plan #2                    | 400.0                                  | 399.3                               | 24.1                                   | 22.7                                    | 17.198               | SF           |
| HMU Federal 26-1B - DD - Plan #2                      | 200.0                                  | 200.0                               | 250.5                                  | 249.8                                   | 403.109              | CC, ES       |
| HMU Federal 26-1B - DD - Plan #2                      | 1,300.0                                | 1,218.3                             | 475.6                                  | 470.8                                   | 99.289               | SF           |
| HMU Federal 26-1D - DD - Plan #2                      | 200.0                                  | 200.0                               | 243.8                                  | 243.2                                   | 392.340              | CC, ES       |
| HMU Federal 26-1D - DD - Plan #2                      | 1,500.0                                | 1,425.0                             | 497.2                                  | 491.5                                   | 87.333               | SF           |
| HMU Federal 26-8B1 - DD - Plan #2                     | 200.0                                  | 200.0                               | 252.4                                  | 251.8                                   | 406.269              | CC, ES       |
| HMU Federal 26-8B1 - DD - Plan #2                     | 1,200.0                                | 1,095.8                             | 473.8                                  | 469.2                                   | 103.044              | SF           |
| HMU Fee 23-16B1 - DD - Plan #1                        | 200.0                                  | 200.0                               | 242.5                                  | 241.9                                   | 390.311              | CC, ES       |
| HMU Fee 23-16B1 - DD - Plan #1                        | 1,200.0                                | 1,084.6                             | 470.2                                  | 465.3                                   | 96.313               | SF           |
| HMU Fee 23-16B2 - DD - Plan #1                        | 200.0                                  | 200.0                               | 242.1                                  | 241.5                                   | 389.600              | CC, ES       |
| HMU Fee 23-16B2 - DD - Plan #1                        | 1,200.0                                | 1,107.8                             | 385.8                                  | 381.3                                   | 85.260               | SF           |
| HMU Fee 23-16C1 - DD - Plan #1                        | 200.0                                  | 200.0                               | 249.6                                  | 249.0                                   | 401.735              | CC, ES       |
| HMU Fee 23-16C1 - DD - Plan #1                        | 1,300.0                                | 1,215.9                             | 479.8                                  | 474.9                                   | 98.553               | SF           |
| HMU Fee 23-16D - DD - Plan #1                         | 200.0                                  | 200.0                               | 249.9                                  | 249.3                                   | 402.165              | CC, ES       |
| HMU Fee 23-16D - DD - Plan #1                         | 1,300.0                                | 1,221.9                             | 473.7                                  | 468.7                                   | 96.128               | SF           |
| HMU Fee 25-6B - DD - Plan #1                          | 200.0                                  | 200.0                               | 11.7                                   | 11.1                                    | 18.843               | CC, ES       |
| HMU Fee 25-6B - DD - Plan #1                          | 800.0                                  | 800.6                               | 36.2                                   | 32.7                                    | 10.283               | SF           |
| HMU Fee 25-6D - DD - Plan #1                          | 869.9                                  | 883.9                               | 235.7                                  | 231.2                                   | 52.086               | CC           |
| HMU Fee 25-6D - DD - Plan #1                          | 900.0                                  | 912.9                               | 235.9                                  | 231.1                                   | 49.171               | ES           |
| HMU Fee 25-6D - DD - Plan #1                          | 1,600.0                                | 1,587.2                             | 305.7                                  | 295.7                                   | 30.612               | SF           |
| MCU 26-8C (Existing) - Excel Drilling - Surveys       | 210.8                                  | 211.6                               | 142.2                                  | 141.5                                   | 212.177              | CC, ES       |
| MCU 26-8C (Existing) - Excel Drilling - Surveys       | 1,700.0                                | 1,663.7                             | 277.2                                  | 270.8                                   | 43.572               | SF           |
| <b>NWNE 25-7S-93W (B25)</b>                           |  |                                     |  |   |                      |              |
| Shideler 25-2C - DD - DD                              |  |                                     |  |   |                      | Out of range |
| <b>NWSW Sec25-T7S-R93W (L25W Pad)</b>                 |  |                                     |  |   |                      |              |
| Shideler 25-6 (L25W) - DD - DD                        |  |                                     |  |   |                      | Out of range |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU 25-3D (Existing) - Excel Drilling - Surveys |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Site Error: | 0.0 ft  |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|---------|
| Survey Program:  |                     | 238-MWD             |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Well Error: | 0.0 ft  |
| Reference  |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                        |                   |                    | Warning |
| Measured Depth (ft)  | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor |                    |         |
| 0.0  | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -114.89               | -59.7                             | -128.7     | 141.9                |                       |                        |                   |                    |         |
| 100.0  | 100.0               | 100.8               | 100.8               | 0.1             | 0.2         | -114.91               | -59.6                             | -128.4     | 141.6                | 141.3                 | 0.30                   | 476.118           |                    |         |
| 200.0  | 200.0               | 201.6               | 201.6               | 0.3             | 0.3         | -114.97               | -59.4                             | -127.5     | 140.7                | 140.1                 | 0.63                   | 222.245           |                    |         |
| 228.0  | 228.0               | 229.9               | 229.8               | 0.4             | 0.4         | 155.04                | -59.3                             | -127.2     | 140.5                | 139.8                 | 0.72                   | 194.086           |                    |         |
| 300.0  | 300.0               | 302.8               | 302.8               | 0.5             | 0.5         | 155.43                | -58.8                             | -126.1     | 141.5                | 140.6                 | 0.98                   | 144.701           |                    |         |
| 366.7  | 366.5               | 370.3               | 370.3               | 0.6             | 0.6         | 156.27                | -58.0                             | -124.7     | 144.2                | 143.0                 | 1.22                   | 118.654           |                    |         |
| 400.0  | 399.7               | 404.0               | 404.0               | 0.7             | 0.7         | 145.57                | -57.4                             | -124.0     | 145.8                | 144.5                 | 1.34                   | 109.099           |                    |         |
| 502.1  | 501.3               | 507.1               | 507.0               | 0.9             | 0.9         | 120.82                | -54.8                             | -121.2     | 148.9                | 147.2                 | 1.73                   | 86.087            |                    |         |
| 600.0  | 598.6               | 605.7               | 605.4               | 1.2             | 1.1         | 125.16                | -51.5                             | -117.8     | 150.7                | 148.6                 | 2.12                   | 71.229            |                    |         |
| 700.0  | 697.9               | 706.2               | 705.8               | 1.4             | 1.3         | 129.67                | -47.5                             | -113.7     | 152.6                | 150.1                 | 2.51                   | 60.703            |                    |         |
| 800.0  | 797.3               | 806.6               | 806.0               | 1.7             | 1.5         | 134.26                | -42.7                             | -109.0     | 154.6                | 151.7                 | 2.91                   | 53.152            |                    |         |
| 900.0  | 896.7               | 907.0               | 906.0               | 1.9             | 1.7         | 138.94                | -37.2                             | -103.5     | 156.9                | 153.6                 | 3.30                   | 47.532            |                    |         |
| 1,000.0  | 996.1               | 1,007.9             | 1,006.6             | 2.2             | 2.0         | 143.87                | -30.7                             | -97.0      | 159.3                | 155.6                 | 3.71                   | 42.993            |                    |         |
| 1,100.0  | 1,095.5             | 1,110.6             | 1,108.7             | 2.4             | 2.2         | 149.03                | -23.4                             | -88.8      | 161.3                | 157.2                 | 4.11                   | 39.242            |                    |         |
| 1,200.0  | 1,194.8             | 1,215.4             | 1,212.6             | 2.7             | 2.5         | 154.14                | -16.6                             | -77.3      | 161.6                | 157.1                 | 4.53                   | 35.650            |                    |         |
| 1,300.0  | 1,294.2             | 1,321.8             | 1,317.6             | 3.0             | 2.9         | 159.44                | -10.7                             | -61.5      | 158.9                | 154.0                 | 4.97                   | 31.985            |                    |         |
| 1,400.0  | 1,393.6             | 1,427.1             | 1,421.1             | 3.2             | 3.2         | 164.15                | -8.4                              | -42.1      | 153.0                | 147.6                 | 5.39                   | 28.371            |                    |         |
| 1,500.0  | 1,493.0             | 1,529.8             | 1,521.8             | 3.5             | 3.5         | 167.68                | -10.9                             | -21.9      | 144.8                | 139.0                 | 5.79                   | 25.012            |                    |         |
| 1,600.0  | 1,592.4             | 1,632.1             | 1,621.8             | 3.7             | 3.8         | 169.47                | -19.2                             | -2.0       | 134.6                | 128.5                 | 6.13                   | 21.974            |                    |         |
| 1,700.0  | 1,691.7             | 1,732.7             | 1,719.8             | 4.0             | 4.1         | 168.93                | -32.9                             | 16.2       | 123.0                | 116.6                 | 6.41                   | 19.195            |                    |         |
| 1,800.0  | 1,791.1             | 1,831.8             | 1,816.1             | 4.3             | 4.4         | 167.70                | -47.6                             | 33.9       | 110.9                | 104.2                 | 6.68                   | 16.614            |                    |         |
| 1,900.0  | 1,890.5             | 1,930.9             | 1,912.6             | 4.5             | 4.8         | 166.38                | -61.8                             | 51.5       | 99.4                 | 92.4                  | 6.99                   | 14.218            |                    |         |
| 2,000.0  | 1,989.9             | 2,030.6             | 2,009.7             | 4.8             | 5.2         | 166.80                | -73.4                             | 70.8       | 87.5                 | 80.2                  | 7.33                   | 11.948            |                    |         |
| 2,100.0  | 2,089.3             | 2,129.5             | 2,106.0             | 5.0             | 5.6         | 170.12                | -81.6                             | 91.7       | 75.7                 | 68.0                  | 7.74                   | 9.779             |                    |         |
| 2,200.0  | 2,188.6             | 2,228.4             | 2,202.5             | 5.3             | 6.0         | 175.34                | -88.8                             | 112.4      | 64.9                 | 56.7                  | 8.25                   | 7.873             |                    |         |
| 2,300.0  | 2,288.0             | 2,327.6             | 2,299.2             | 5.6             | 6.4         | -177.20               | -95.8                             | 133.3      | 55.1                 | 46.1                  | 8.95                   | 6.155             |                    |         |
| 2,400.0  | 2,387.4             | 2,426.2             | 2,395.1             | 5.8             | 6.8         | -163.86               | -100.6                            | 155.5      | 47.3                 | 37.1                  | 10.17                  | 4.648             |                    |         |
| 2,495.3  | 2,482.1             | 2,520.0             | 2,486.2             | 6.1             | 7.2         | -145.63               | -103.3                            | 177.6      | 44.6                 | 32.7                  | 11.88                  | 3.751 CC          |                    |         |
| 2,500.0  | 2,486.8             | 2,524.6             | 2,490.7             | 6.1             | 7.3         | -144.68               | -103.4                            | 178.7      | 44.6                 | 32.6                  | 11.96                  | 3.724 ES          |                    |         |
| 2,600.0  | 2,586.2             | 2,623.1             | 2,586.3             | 6.4             | 7.7         | -125.50               | -105.7                            | 202.0      | 47.8                 | 34.3                  | 13.53                  | 3.537 SF          |                    |         |
| 2,700.0  | 2,685.5             | 2,721.4             | 2,681.9             | 6.6             | 8.1         | -110.70               | -107.2                            | 225.0      | 56.2                 | 41.8                  | 14.43                  | 3.896             |                    |         |
| 2,800.0  | 2,784.9             | 2,819.9             | 2,777.7             | 6.9             | 8.6         | -100.40               | -108.2                            | 248.0      | 67.9                 | 52.9                  | 14.95                  | 4.541             |                    |         |
| 2,900.0  | 2,884.3             | 2,918.3             | 2,873.2             | 7.1             | 9.0         | -92.66                | -109.5                            | 271.9      | 81.4                 | 66.1                  | 15.31                  | 5.315             |                    |         |
| 3,000.0  | 2,983.7             | 3,018.8             | 2,970.3             | 7.4             | 9.5         | -85.75                | -112.7                            | 297.3      | 95.3                 | 79.7                  | 15.58                  | 6.115             |                    |         |
| 3,100.0  | 3,083.1             | 3,117.8             | 3,065.8             | 7.7             | 10.0        | -79.45                | -118.6                            | 322.9      | 108.8                | 93.1                  | 15.75                  | 6.912             |                    |         |
| 3,200.0  | 3,182.4             | 3,216.0             | 3,160.6             | 7.9             | 10.5        | -74.83                | -124.1                            | 348.0      | 123.3                | 107.4                 | 15.93                  | 7.742             |                    |         |
| 3,300.0  | 3,281.8             | 3,314.0             | 3,255.3             | 8.2             | 11.0        | -71.57                | -128.9                            | 372.6      | 138.4                | 122.2                 | 16.17                  | 8.558             |                    |         |
| 3,400.0  | 3,381.2             | 3,411.6             | 3,349.6             | 8.4             | 11.4        | -69.13                | -133.0                            | 397.3      | 154.4                | 137.9                 | 16.46                  | 9.377             |                    |         |
| 3,500.0  | 3,480.6             | 3,508.6             | 3,443.2             | 8.7             | 11.9        | -67.20                | -136.5                            | 422.6      | 171.5                | 154.7                 | 16.78                  | 10.221            |                    |         |
| 3,600.0  | 3,580.0             | 3,605.5             | 3,536.5             | 9.0             | 12.4        | -65.64                | -139.6                            | 448.5      | 189.6                | 172.5                 | 17.12                  | 11.075            |                    |         |
| 3,700.0  | 3,679.3             | 3,702.4             | 3,629.7             | 9.2             | 12.9        | -64.47                | -142.0                            | 474.8      | 208.6                | 191.1                 | 17.49                  | 11.924            |                    |         |
| 3,800.0  | 3,778.7             | 3,803.3             | 3,726.9             | 9.5             | 13.4        | -63.26                | -145.4                            | 502.1      | 227.1                | 209.2                 | 17.87                  | 12.708            |                    |         |
| 3,900.0  | 3,878.1             | 3,901.3             | 3,821.1             | 9.7             | 13.9        | -62.08                | -149.6                            | 528.6      | 245.3                | 227.1                 | 18.23                  | 13.459            |                    |         |
| 4,000.0  | 3,977.5             | 4,003.0             | 3,919.2             | 10.0            | 14.4        | -61.06                | -154.1                            | 555.3      | 262.9                | 244.3                 | 18.60                  | 14.130            |                    |         |
| 4,100.0  | 4,076.9             | 4,103.0             | 4,015.7             | 10.3            | 14.9        | -60.21                | -158.7                            | 580.7      | 279.6                | 260.6                 | 18.99                  | 14.724            |                    |         |
| 4,200.0  | 4,176.2             | 4,201.5             | 4,111.1             | 10.5            | 15.4        | -59.61                | -162.7                            | 605.2      | 296.0                | 276.7                 | 19.39                  | 15.266            |                    |         |
| 4,300.0  | 4,275.6             | 4,298.7             | 4,205.2             | 10.8            | 15.9        | -59.26                | -165.6                            | 629.4      | 312.9                | 293.0                 | 19.82                  | 15.784            |                    |         |
| 4,400.0  | 4,375.0             | 4,396.5             | 4,299.9             | 11.1            | 16.3        | -59.08                | -167.7                            | 653.8      | 330.0                | 309.8                 | 20.27                  | 16.280            |                    |         |
| 4,500.0  | 4,474.4             | 4,494.3             | 4,394.6             | 11.3            | 16.8        | -59.06                | -169.0                            | 677.9      | 347.3                | 326.6                 | 20.74                  | 16.745            |                    |         |
| 4,600.0  | 4,573.8             | 4,594.1             | 4,491.4             | 11.6            | 17.3        | -59.21                | -169.2                            | 702.5      | 364.9                | 343.6                 | 21.25                  | 17.170            |                    |         |
| 4,700.0  | 4,673.1             | 4,697.6             | 4,591.8             | 11.8            | 17.7        | -59.11                | -171.3                            | 727.4      | 381.2                | 359.5                 | 21.74                  | 17.534            |                    |         |
| 4,800.0  | 4,772.5             | 4,798.4             | 4,689.6             | 12.1            | 18.2        | -58.73                | -175.6                            | 751.4      | 396.7                | 374.5                 | 22.18                  | 17.884            |                    |         |

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

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU 25-3D (Existing) - Excel Drilling - Surveys |                |                |                |                 |        |                   |                              |       |                 |                  |                        |                   | Offset Site Error: 0.0 ft |         |                           |  |
|--|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------------|-------|-----------------|------------------|------------------------|-------------------|---------------------------|---------|---------------------------|--|
| Survey Program: 238-MWD  |                |                |                |                 |        |                   |                              |       |                 |                  |                        |                   |                           |         | Offset Well Error: 0.0 ft |  |
| Reference  |                | Offset         |                | Semi Major Axis |        |                   | Distance                     |       |                 |                  |                        |                   |                           | Warning |                           |  |
| Measured Depth   | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre +N/-S | +E/-W | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor |                           |         |                           |  |
| (ft)   | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | (ft)                         | (ft)  | (ft)            | (ft)             |                        |                   |                           |         |                           |  |
| 4,900.0  | 4,871.9        | 4,896.7        | 4,784.9        | 12.4            | 18.7   | -58.26            | -180.6                       | 775.0 | 412.0           | 389.4            | 22.59                  | 18.236            |                           |         |                           |  |
| 5,000.0  | 4,971.3        | 4,994.1        | 4,879.3        | 12.6            | 19.1   | -57.90            | -185.1                       | 798.4 | 427.6           | 404.6            | 23.01                  | 18.583            |                           |         |                           |  |
| 5,100.0  | 5,070.7        | 5,092.4        | 4,974.6        | 12.9            | 19.6   | -57.64            | -188.9                       | 822.1 | 443.4           | 420.0            | 23.45                  | 18.911            |                           |         |                           |  |
| 5,200.0  | 5,170.0        | 5,189.1        | 5,068.4        | 13.1            | 20.0   | -57.41            | -192.5                       | 845.5 | 459.5           | 435.6            | 23.88                  | 19.241            |                           |         |                           |  |
| 5,300.0  | 5,269.4        | 5,284.9        | 5,161.2        | 13.4            | 20.5   | -57.31            | -195.0                       | 869.0 | 476.1           | 451.8            | 24.33                  | 19.566            |                           |         |                           |  |
| 5,400.0  | 5,368.8        | 5,387.1        | 5,260.3        | 13.7            | 21.0   | -57.30            | -197.1                       | 893.9 | 492.8           | 468.0            | 24.81                  | 19.864            |                           |         |                           |  |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU 26-1C (Existing) - Baker Hughes (Inteq) - Surveys |                |                |                |                 |        |                   |                        |            |                 |                  |                        | Offset Site Error: | 0.0 ft             |         |
|--|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|------------------------|--------------------|--------------------|---------|
| Survey Program: 170-MWD  |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                    | Offset Well Error: | 0.0 ft  |
| Reference  |                | Offset         |                | Semi Major Axis |        |                   | Distance               |            |                 |                  |                        |                    |                    | Warning |
| Measured Depth   | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor  |                    |         |
| (ft)   | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             |                        |                    |                    |         |
| 0.0  | 0.0            | 0.0            | 0.0            | 0.0             | 0.0    | -85.77            | 9.1                    | -123.2     | 123.5           |                  |                        |                    |                    |         |
| 100.0  | 100.0          | 100.5          | 100.5          | 0.1             | 0.2    | -85.85            | 8.9                    | -123.0     | 123.3           | 123.0            | 0.29                   | 426.458            |                    |         |
| 200.0  | 200.0          | 201.1          | 201.1          | 0.3             | 0.3    | -86.07            | 8.4                    | -122.4     | 122.7           | 122.1            | 0.62                   | 196.526            |                    |         |
| 220.9  | 220.9          | 222.2          | 222.2          | 0.3             | 0.4    | -176.13           | 8.3                    | -122.2     | 122.6           | 121.9            | 0.70                   | 175.900            | CC, ES             |         |
| 300.0  | 300.0          | 299.7          | 299.7          | 0.5             | 0.5    | -176.46           | 7.7                    | -121.5     | 124.4           | 123.4            | 0.97                   | 128.182            |                    |         |
| 366.7  | 366.5          | 362.2          | 362.2          | 0.6             | 0.6    | -177.00           | 6.8                    | -122.6     | 130.2           | 129.0            | 1.20                   | 108.848            |                    |         |
| 400.0  | 399.7          | 393.5          | 393.4          | 0.7             | 0.7    | 171.25            | 6.0                    | -123.9     | 134.4           | 133.1            | 1.31                   | 102.628            |                    |         |
| 502.1  | 501.3          | 490.5          | 490.2          | 0.9             | 0.8    | 143.03            | 3.2                    | -130.0     | 149.6           | 147.9            | 1.67                   | 89.499             |                    |         |
| 600.0  | 598.6          | 583.2          | 582.5          | 1.2             | 1.0    | 144.08            | 0.4                    | -138.0     | 166.6           | 164.5            | 2.03                   | 82.203             |                    |         |
| 700.0  | 697.9          | 675.8          | 674.5          | 1.4             | 1.3    | 145.11            | -1.7                   | -148.4     | 186.6           | 184.2            | 2.39                   | 78.171             |                    |         |
| 800.0  | 797.3          | 767.1          | 764.8          | 1.7             | 1.5    | 145.92            | -3.4                   | -161.5     | 209.8           | 207.0            | 2.75                   | 76.287             |                    |         |
| 900.0  | 896.7          | 858.3          | 854.7          | 1.9             | 1.8    | 146.49            | -5.3                   | -177.0     | 235.5           | 232.4            | 3.12                   | 75.590             |                    |         |
| 1,000.0  | 996.1          | 949.7          | 944.3          | 2.2             | 2.2    | 146.75            | -7.7                   | -194.7     | 263.6           | 260.1            | 3.49                   | 75.543             | SF                 |         |
| 1,100.0  | 1,095.5        | 1,044.4        | 1,037.0        | 2.4             | 2.5    | 146.90            | -10.5                  | -214.0     | 292.5           | 288.6            | 3.87                   | 75.581             |                    |         |
| 1,200.0  | 1,194.8        | 1,138.2        | 1,128.7        | 2.7             | 2.9    | 147.01            | -13.2                  | -233.4     | 321.8           | 317.5            | 4.25                   | 75.679             |                    |         |
| 1,300.0  | 1,294.2        | 1,232.4        | 1,220.6        | 3.0             | 3.3    | 147.02            | -16.4                  | -253.7     | 351.8           | 347.2            | 4.64                   | 75.869             |                    |         |
| 1,400.0  | 1,393.6        | 1,329.8        | 1,315.9        | 3.2             | 3.7    | 147.05            | -19.6                  | -274.2     | 381.3           | 376.3            | 5.03                   | 75.835             |                    |         |
| 1,500.0  | 1,493.0        | 1,423.7        | 1,407.6        | 3.5             | 4.1    | 147.06            | -22.8                  | -294.2     | 411.1           | 405.7            | 5.42                   | 75.899             |                    |         |
| 1,600.0  | 1,592.4        | 1,518.2        | 1,499.7        | 3.7             | 4.5    | 146.98            | -26.5                  | -314.5     | 441.0           | 435.2            | 5.81                   | 75.933             |                    |         |
| 1,700.0  | 1,691.7        | 1,614.4        | 1,593.6        | 4.0             | 4.9    | 146.92            | -30.3                  | -335.3     | 471.1           | 464.9            | 6.20                   | 75.953             |                    |         |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 24-13A1 - DD - Plan #2 |                        |                        |                        |                   |                |                             |   |               |                            |                             |                     |               | Offset Site Error: | 0.0 ft |
|---|------------------------|------------------------|------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|---------------------|---------------|--------------------|--------|
| Survey Program: 0-MWD                                     |                        |                        |                        |                   |                |                             |   |               |                            |                             |                     |               | Offset Well Error: | 0.0 ft |
| Reference   |                        | Offset                 |                        | Semi Major Axis   |                |                             | Distance                                |               |                            |                             | Total               | Separation    | Warning            |        |
| Measured Depth<br>(ft)                                    | Vertical Depth<br>(ft) | Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Uncertainty<br>Axis | Factor        |                    |        |
| 0.0   | 0.0                    | 0.0                    | 0.0                    | 0.0               | 0.0            | -32.07                      | 51.0                                    | -31.9         | 60.1                       |                             |                     |               |                    |        |
| 100.0   | 100.0                  | 100.0                  | 100.0                  | 0.1               | 0.1            | -32.07                      | 51.0                                    | -31.9         | 60.1                       | 59.9                        | 0.27                | 220.830       |                    |        |
| 200.0   | 200.0                  | 200.0                  | 200.0                  | 0.3               | 0.3            | -32.07                      | 51.0                                    | -31.9         | 60.1                       | 59.5                        | 0.62                | 96.768 CC, ES |                    |        |
| 300.0   | 300.0                  | 297.3                  | 297.2                  | 0.5               | 0.5            | -122.74                     | 53.4                                    | -31.9         | 63.7                       | 62.7                        | 0.97                | 65.386        |                    |        |
| 366.7   | 366.5                  | 361.7                  | 361.5                  | 0.6               | 0.6            | -123.75                     | 57.8                                    | -31.9         | 70.0                       | 68.8                        | 1.22                | 57.213        |                    |        |
| 400.0   | 399.7                  | 393.9                  | 393.6                  | 0.7               | 0.7            | -135.50                     | 60.8                                    | -31.9         | 74.4                       | 73.0                        | 1.35                | 55.116        |                    |        |
| 502.1   | 501.3                  | 491.3                  | 490.1                  | 0.9               | 1.0            | -161.97                     | 73.0                                    | -31.0         | 93.2                       | 91.4                        | 1.74                | 53.563 SF     |                    |        |
| 600.0   | 598.6                  | 583.2                  | 580.7                  | 1.2               | 1.3            | -158.48                     | 88.9                                    | -29.3         | 116.9                      | 114.7                       | 2.13                | 54.820        |                    |        |
| 700.0   | 697.9                  | 679.7                  | 675.4                  | 1.4               | 1.6            | -155.67                     | 106.9                                   | -27.1         | 142.5                      | 139.9                       | 2.54                | 56.084        |                    |        |
| 800.0   | 797.3                  | 776.2                  | 770.2                  | 1.7               | 1.9            | -153.71                     | 125.0                                   | -25.0         | 168.3                      | 165.4                       | 2.95                | 57.075        |                    |        |
| 900.0   | 896.7                  | 872.6                  | 864.9                  | 1.9               | 2.3            | -152.28                     | 143.0                                   | -22.8         | 194.3                      | 190.9                       | 3.36                | 57.866        |                    |        |
| 1,000.0   | 996.1                  | 969.1                  | 959.7                  | 2.2               | 2.6            | -151.18                     | 161.0                                   | -20.7         | 220.3                      | 216.6                       | 3.77                | 58.511        |                    |        |
| 1,100.0   | 1,095.5                | 1,065.6                | 1,054.4                | 2.4               | 3.0            | -150.32                     | 179.1                                   | -18.5         | 246.4                      | 242.3                       | 4.17                | 59.045        |                    |        |
| 1,200.0   | 1,194.8                | 1,162.0                | 1,149.2                | 2.7               | 3.4            | -149.62                     | 197.1                                   | -16.4         | 272.6                      | 268.0                       | 4.58                | 59.495        |                    |        |
| 1,300.0   | 1,294.2                | 1,258.5                | 1,243.9                | 3.0               | 3.7            | -149.04                     | 215.1                                   | -14.3         | 298.8                      | 293.8                       | 4.99                | 59.878        |                    |        |
| 1,400.0   | 1,393.6                | 1,355.0                | 1,338.6                | 3.2               | 4.1            | -148.56                     | 233.2                                   | -12.1         | 325.0                      | 319.6                       | 5.40                | 60.208        |                    |        |
| 1,500.0   | 1,493.0                | 1,451.4                | 1,433.4                | 3.5               | 4.4            | -148.15                     | 251.2                                   | -10.0         | 351.2                      | 345.4                       | 5.81                | 60.495        |                    |        |
| 1,600.0   | 1,592.4                | 1,547.9                | 1,528.1                | 3.7               | 4.8            | -147.79                     | 269.2                                   | -7.8          | 377.5                      | 371.3                       | 6.21                | 60.747        |                    |        |
| 1,700.0   | 1,691.7                | 1,644.4                | 1,622.9                | 4.0               | 5.1            | -147.48                     | 287.3                                   | -5.7          | 403.8                      | 397.1                       | 6.62                | 60.971        |                    |        |
| 1,800.0   | 1,791.1                | 1,740.8                | 1,717.6                | 4.3               | 5.5            | -147.21                     | 305.3                                   | -3.5          | 430.0                      | 423.0                       | 7.03                | 61.169        |                    |        |
| 1,900.0   | 1,890.5                | 1,837.3                | 1,812.4                | 4.5               | 5.9            | -146.97                     | 323.3                                   | -1.4          | 456.3                      | 448.9                       | 7.44                | 61.348        |                    |        |
| 2,000.0   | 1,989.9                | 1,933.8                | 1,907.1                | 4.8               | 6.2            | -146.76                     | 341.4                                   | 0.8           | 482.6                      | 474.7                       | 7.85                | 61.508        |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 24-13D1 - DD - Plan #2 |                           |                           |                           |                   |                |                             |   |               |                            |                             |                              |                      | Offset Site Error: | 0.0 ft |
|---|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|----------------------|--------------------|--------|
| Survey Program: 0-MWD                                     |                           |                           |                           |                   |                |                             |   |               |                            |                             |                              |                      | Offset Well Error: | 0.0 ft |
| Reference   |                           | Offset                    |                           | Semi Major Axis   |                |                             | Distance                                |               |                            |                             | Total<br>Uncertainty<br>Axis | Separation<br>Factor | Warning            |        |
| Measured<br>Depth<br>(ft)                                 | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                              |                      |                    |        |
| 0.0   | 0.0                       | 0.0                       | 0.0                       | 0.0               | 0.0            | -24.48                      | 46.5                                    | -21.2         | 51.1                       |                             |                              |                      |                    |        |
| 100.0   | 100.0                     | 100.0                     | 100.0                     | 0.1               | 0.1            | -24.48                      | 46.5                                    | -21.2         | 51.1                       | 50.9                        | 0.27                         | 187.814              |                    |        |
| 200.0   | 200.0                     | 200.0                     | 200.0                     | 0.3               | 0.3            | -24.48                      | 46.5                                    | -21.2         | 51.1                       | 50.5                        | 0.62                         | 82.301 CC, ES        |                    |        |
| 300.0   | 300.0                     | 297.7                     | 297.6                     | 0.5               | 0.5            | -115.46                     | 49.0                                    | -20.9         | 54.4                       | 53.4                        | 0.98                         | 55.767               |                    |        |
| 366.7   | 366.5                     | 362.4                     | 362.2                     | 0.6               | 0.6            | -116.92                     | 53.4                                    | -20.3         | 60.2                       | 59.0                        | 1.23                         | 48.941               |                    |        |
| 400.0   | 399.7                     | 394.6                     | 394.3                     | 0.7               | 0.7            | -128.90                     | 56.4                                    | -19.9         | 64.4                       | 63.0                        | 1.36                         | 47.379               |                    |        |
| 502.1   | 501.3                     | 493.2                     | 492.1                     | 0.9               | 1.0            | -156.19                     | 68.5                                    | -18.4         | 82.7                       | 81.0                        | 1.75                         | 47.352 SF            |                    |        |
| 600.0   | 598.6                     | 588.9                     | 586.9                     | 1.2               | 1.2            | -154.57                     | 81.1                                    | -16.8         | 103.5                      | 101.3                       | 2.13                         | 48.564               |                    |        |
| 700.0   | 697.9                     | 686.6                     | 683.7                     | 1.4               | 1.5            | -153.47                     | 94.0                                    | -15.2         | 124.7                      | 122.2                       | 2.52                         | 49.406               |                    |        |
| 800.0   | 797.3                     | 784.3                     | 780.6                     | 1.7               | 1.8            | -152.69                     | 107.0                                   | -13.5         | 145.9                      | 143.0                       | 2.92                         | 50.012               |                    |        |
| 900.0   | 896.7                     | 882.0                     | 877.4                     | 1.9               | 2.0            | -152.10                     | 119.9                                   | -11.9         | 167.2                      | 163.9                       | 3.31                         | 50.468               |                    |        |
| 1,000.0   | 996.1                     | 979.7                     | 974.2                     | 2.2               | 2.3            | -151.65                     | 132.8                                   | -10.2         | 188.5                      | 184.8                       | 3.71                         | 50.823               |                    |        |
| 1,100.0   | 1,095.5                   | 1,077.4                   | 1,071.1                   | 2.4               | 2.6            | -151.29                     | 145.7                                   | -8.6          | 209.8                      | 205.7                       | 4.10                         | 51.108               |                    |        |
| 1,200.0   | 1,194.8                   | 1,175.1                   | 1,167.9                   | 2.7               | 2.9            | -151.00                     | 158.6                                   | -6.9          | 231.1                      | 226.6                       | 4.50                         | 51.341               |                    |        |
| 1,300.0   | 1,294.2                   | 1,272.8                   | 1,264.7                   | 3.0               | 3.2            | -150.76                     | 171.6                                   | -5.3          | 252.4                      | 247.5                       | 4.90                         | 51.536               |                    |        |
| 1,400.0   | 1,393.6                   | 1,370.5                   | 1,361.5                   | 3.2               | 3.5            | -150.55                     | 184.5                                   | -3.7          | 273.7                      | 268.4                       | 5.29                         | 51.700               |                    |        |
| 1,500.0   | 1,493.0                   | 1,468.2                   | 1,458.4                   | 3.5               | 3.7            | -150.37                     | 197.4                                   | -2.0          | 295.0                      | 289.3                       | 5.69                         | 51.842               |                    |        |
| 1,600.0   | 1,592.4                   | 1,565.9                   | 1,555.2                   | 3.7               | 4.0            | -150.22                     | 210.3                                   | -0.4          | 316.3                      | 310.2                       | 6.09                         | 51.964               |                    |        |
| 1,700.0   | 1,691.7                   | 1,663.6                   | 1,652.0                   | 4.0               | 4.3            | -150.09                     | 223.3                                   | 1.3           | 337.6                      | 331.1                       | 6.48                         | 52.071               |                    |        |
| 1,800.0   | 1,791.1                   | 1,761.3                   | 1,748.8                   | 4.3               | 4.6            | -149.97                     | 236.2                                   | 2.9           | 358.9                      | 352.0                       | 6.88                         | 52.165               |                    |        |
| 1,900.0   | 1,890.5                   | 1,859.0                   | 1,845.7                   | 4.5               | 4.9            | -149.87                     | 249.1                                   | 4.5           | 380.2                      | 373.0                       | 7.28                         | 52.249               |                    |        |
| 2,000.0   | 1,989.9                   | 1,956.7                   | 1,942.5                   | 4.8               | 5.2            | -149.77                     | 262.0                                   | 6.2           | 401.6                      | 393.9                       | 7.67                         | 52.324               |                    |        |
| 2,100.0   | 2,089.3                   | 2,054.4                   | 2,039.3                   | 5.0               | 5.4            | -149.69                     | 275.0                                   | 7.8           | 422.9                      | 414.8                       | 8.07                         | 52.392               |                    |        |
| 2,200.0   | 2,188.6                   | 2,152.1                   | 2,136.2                   | 5.3               | 5.7            | -149.61                     | 287.9                                   | 9.5           | 444.2                      | 435.7                       | 8.47                         | 52.453               |                    |        |
| 2,300.0   | 2,288.0                   | 2,249.8                   | 2,233.0                   | 5.6               | 6.0            | -149.54                     | 300.8                                   | 11.1          | 465.5                      | 456.7                       | 8.87                         | 52.508               |                    |        |
| 2,400.0   | 2,387.4                   | 2,347.5                   | 2,329.8                   | 5.8               | 6.3            | -149.48                     | 313.7                                   | 12.8          | 486.8                      | 477.6                       | 9.26                         | 52.559               |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 24-13D2 - DD - Plan #2 |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   | Offset Site Error: | 0.0 ft  |
|---|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|------------------------|-------------------|--------------------|---------|
| Survey Program: 0-MWD                                     |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   | Offset Well Error: | 0.0 ft  |
| Reference   |                | Offset         |                | Semi Major Axis |        |                   | Distance               |            |                 |                  |                        |                   |                    | Warning |
| Measured Depth  | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor |                    |         |
| (ft)  | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             |                        |                   |                    |         |
| 0.0   | 0.0            | 0.0            | 0.0            | 0.0             | 0.0    | -35.34            | 35.4                   | -25.1      | 43.4            |                  |                        |                   |                    |         |
| 100.0   | 100.0          | 100.0          | 100.0          | 0.1             | 0.1    | -35.34            | 35.4                   | -25.1      | 43.4            | 43.1             | 0.27                   | 159.440           |                    |         |
| 200.0   | 200.0          | 200.0          | 200.0          | 0.3             | 0.3    | -35.34            | 35.4                   | -25.1      | 43.4            | 42.8             | 0.62                   | 69.867 CC, ES     |                    |         |
| 300.0   | 300.0          | 300.0          | 300.0          | 0.5             | 0.5    | -128.02           | 35.4                   | -25.1      | 45.0            | 44.0             | 0.98                   | 46.112            |                    |         |
| 366.7   | 366.5          | 366.5          | 366.5          | 0.6             | 0.6    | -132.33           | 35.4                   | -25.1      | 48.0            | 46.8             | 1.22                   | 39.383            |                    |         |
| 400.0   | 399.7          | 399.7          | 399.7          | 0.7             | 0.7    | -145.91           | 35.4                   | -25.1      | 50.2            | 48.9             | 1.34                   | 37.520            |                    |         |
|   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                    |         |
| 502.1   | 501.3          | 501.3          | 501.3          | 0.9             | 0.8    | -177.19           | 35.4                   | -25.1      | 59.7            | 58.0             | 1.69                   | 35.400            |                    |         |
| 600.0   | 598.6          | 598.6          | 598.6          | 1.2             | 1.0    | -177.63           | 35.4                   | -25.1      | 70.5            | 68.5             | 2.02                   | 34.851            |                    |         |
| 700.0   | 697.9          | 697.9          | 697.9          | 1.4             | 1.2    | -177.95           | 35.4                   | -25.1      | 81.7            | 79.3             | 2.37                   | 34.449            |                    |         |
| 800.0   | 797.3          | 797.3          | 797.3          | 1.7             | 1.4    | -178.20           | 35.4                   | -25.1      | 92.8            | 90.1             | 2.72                   | 34.147            |                    |         |
| 900.0   | 896.7          | 896.7          | 896.7          | 1.9             | 1.5    | -178.39           | 35.4                   | -25.1      | 103.9           | 100.8            | 3.06                   | 33.912            |                    |         |
|   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                    |         |
| 1,000.0   | 996.1          | 996.1          | 996.1          | 2.2             | 1.7    | -178.54           | 35.4                   | -25.1      | 115.0           | 111.6            | 3.41                   | 33.723            |                    |         |
| 1,100.0   | 1,095.5        | 1,095.5        | 1,095.5        | 2.4             | 1.9    | -178.67           | 35.4                   | -25.1      | 126.1           | 122.4            | 3.76                   | 33.568            |                    |         |
| 1,200.0   | 1,194.8        | 1,194.8        | 1,194.8        | 2.7             | 2.0    | -178.78           | 35.4                   | -25.1      | 137.2           | 133.1            | 4.10                   | 33.439            |                    |         |
| 1,300.0   | 1,294.2        | 1,294.2        | 1,294.2        | 3.0             | 2.2    | -178.87           | 35.4                   | -25.1      | 148.3           | 143.9            | 4.45                   | 33.329            |                    |         |
| 1,400.0   | 1,393.6        | 1,393.6        | 1,393.6        | 3.2             | 2.4    | -178.95           | 35.4                   | -25.1      | 159.5           | 154.7            | 4.80                   | 33.235            |                    |         |
|   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                    |         |
| 1,500.0   | 1,493.0        | 1,493.0        | 1,493.0        | 3.5             | 2.6    | -179.02           | 35.4                   | -25.1      | 170.6           | 165.4            | 5.15                   | 33.154            |                    |         |
| 1,600.0   | 1,592.4        | 1,592.4        | 1,592.4        | 3.7             | 2.7    | -179.08           | 35.4                   | -25.1      | 181.7           | 176.2            | 5.49                   | 33.082            |                    |         |
| 1,700.0   | 1,691.7        | 1,691.7        | 1,691.7        | 4.0             | 2.9    | -179.13           | 35.4                   | -25.1      | 192.8           | 187.0            | 5.84                   | 33.019            |                    |         |
| 1,800.0   | 1,791.1        | 1,791.1        | 1,791.1        | 4.3             | 3.1    | -179.18           | 35.4                   | -25.1      | 203.9           | 197.7            | 6.19                   | 32.962            |                    |         |
| 1,900.0   | 1,890.5        | 1,890.5        | 1,890.5        | 4.5             | 3.3    | -179.22           | 35.4                   | -25.1      | 215.0           | 208.5            | 6.53                   | 32.912            |                    |         |
|   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                    |         |
| 2,000.0   | 1,989.9        | 1,989.9        | 1,989.9        | 4.8             | 3.4    | -179.26           | 35.4                   | -25.1      | 226.2           | 219.3            | 6.88                   | 32.866 SF         |                    |         |
| 2,100.0   | 2,089.3        | 2,087.7        | 2,087.6        | 5.0             | 3.6    | -178.81           | 37.1                   | -24.0      | 237.6           | 230.3            | 7.23                   | 32.867            |                    |         |
| 2,200.0   | 2,188.6        | 2,184.7        | 2,184.4        | 5.3             | 3.8    | -177.28           | 43.0                   | -20.3      | 249.8           | 242.2            | 7.59                   | 32.934            |                    |         |
| 2,300.0   | 2,288.0        | 2,281.7        | 2,280.7        | 5.6             | 4.0    | -174.91           | 52.7                   | -14.2      | 263.2           | 255.3            | 7.96                   | 33.057            |                    |         |
| 2,400.0   | 2,387.4        | 2,380.1        | 2,378.3        | 5.8             | 4.2    | -172.53           | 63.4                   | -7.5       | 277.3           | 268.9            | 8.36                   | 33.171            |                    |         |
|   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                    |         |
| 2,500.0   | 2,486.8        | 2,478.4        | 2,475.8        | 6.1             | 4.4    | -170.38           | 74.1                   | -0.7       | 291.8           | 283.0            | 8.77                   | 33.279            |                    |         |
| 2,600.0   | 2,586.2        | 2,576.8        | 2,573.4        | 6.4             | 4.6    | -168.44           | 84.8                   | 6.0        | 306.7           | 297.5            | 9.19                   | 33.383            |                    |         |
| 2,700.0   | 2,685.5        | 2,675.2        | 2,670.9        | 6.6             | 4.8    | -166.67           | 95.4                   | 12.8       | 321.8           | 312.2            | 9.61                   | 33.486            |                    |         |
| 2,800.0   | 2,784.9        | 2,773.6        | 2,768.5        | 6.9             | 5.1    | -165.07           | 106.1                  | 19.5       | 337.3           | 327.2            | 10.04                  | 33.587            |                    |         |
| 2,900.0   | 2,884.3        | 2,871.9        | 2,866.1        | 7.1             | 5.3    | -163.60           | 116.8                  | 26.3       | 353.0           | 342.5            | 10.48                  | 33.689            |                    |         |
|   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                    |         |
| 3,000.0   | 2,983.7        | 2,970.3        | 2,963.6        | 7.4             | 5.5    | -162.26           | 127.5                  | 33.0       | 368.9           | 358.0            | 10.92                  | 33.790            |                    |         |
| 3,100.0   | 3,083.1        | 3,068.7        | 3,061.2        | 7.7             | 5.8    | -161.03           | 138.2                  | 39.7       | 385.0           | 373.6            | 11.36                  | 33.893            |                    |         |
| 3,200.0   | 3,182.4        | 3,167.0        | 3,158.7        | 7.9             | 6.0    | -159.90           | 148.9                  | 46.5       | 401.2           | 389.4            | 11.80                  | 33.995            |                    |         |
| 3,300.0   | 3,281.8        | 3,265.4        | 3,256.3        | 8.2             | 6.3    | -158.86           | 159.6                  | 53.2       | 417.6           | 405.3            | 12.25                  | 34.098            |                    |         |
| 3,400.0   | 3,381.2        | 3,363.8        | 3,353.8        | 8.4             | 6.5    | -157.90           | 170.3                  | 60.0       | 434.1           | 421.4            | 12.69                  | 34.201            |                    |         |
|   |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   |                    |         |
| 3,500.0   | 3,480.6        | 3,462.2        | 3,451.4        | 8.7             | 6.8    | -157.00           | 181.0                  | 66.7       | 450.7           | 437.6            | 13.14                  | 34.303            |                    |         |
| 3,600.0   | 3,580.0        | 3,560.5        | 3,549.0        | 9.0             | 7.0    | -156.17           | 191.7                  | 73.5       | 467.4           | 453.8            | 13.59                  | 34.404            |                    |         |
| 3,700.0   | 3,679.3        | 3,658.9        | 3,646.5        | 9.2             | 7.3    | -155.40           | 202.4                  | 80.2       | 484.2           | 470.2            | 14.03                  | 34.504            |                    |         |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 24-14A1 - DD - Plan #2 |                        |                        |                        |                   |                |                             |   |               |                            |                             |                     |               | Offset Site Error: | 0.0 ft |
|---|------------------------|------------------------|------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|---------------------|---------------|--------------------|--------|
| Survey Program: 0-MWD                                     |                        |                        |                        |                   |                |                             |   |               |                            |                             |                     |               | Offset Well Error: | 0.0 ft |
| Reference   |                        | Offset                 |                        | Semi Major Axis   |                |                             | Distance                                |               |                            |                             | Total               | Separation    | Warning            |        |
| Measured Depth<br>(ft)                                    | Vertical Depth<br>(ft) | Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Uncertainty<br>Axis | Factor        |                    |        |
| 0.0   | 0.0                    | 0.0                    | 0.0                    | 0.0               | 0.0            | -24.25                      | 31.4                                    | -14.1         | 34.4                       |                             |                     |               |                    |        |
| 100.0   | 100.0                  | 100.0                  | 100.0                  | 0.1               | 0.1            | -24.25                      | 31.4                                    | -14.1         | 34.4                       | 34.1                        | 0.27                | 126.308       |                    |        |
| 200.0   | 200.0                  | 200.0                  | 200.0                  | 0.3               | 0.3            | -24.25                      | 31.4                                    | -14.1         | 34.4                       | 33.8                        | 0.62                | 55.349 CC, ES |                    |        |
| 300.0   | 300.0                  | 299.3                  | 299.2                  | 0.5               | 0.5            | -114.15                     | 33.2                                    | -12.3         | 36.4                       | 35.4                        | 0.98                | 37.047        |                    |        |
| 366.7   | 366.5                  | 365.4                  | 365.2                  | 0.6               | 0.6            | -114.00                     | 36.5                                    | -9.2          | 40.1                       | 38.8                        | 1.26                | 31.842        |                    |        |
| 400.0   | 399.7                  | 398.3                  | 398.0                  | 0.7               | 0.7            | -124.81                     | 38.8                                    | -7.0          | 42.7                       | 41.3                        | 1.40                | 30.562        |                    |        |
| 502.1   | 501.3                  | 498.3                  | 497.1                  | 0.9               | 1.0            | -146.95                     | 48.1                                    | 2.0           | 55.7                       | 53.9                        | 1.86                | 30.022 SF     |                    |        |
| 600.0   | 598.6                  | 592.5                  | 589.7                  | 1.2               | 1.3            | -139.62                     | 60.3                                    | 13.7          | 73.9                       | 71.5                        | 2.34                | 31.537        |                    |        |
| 700.0   | 697.9                  | 686.7                  | 681.5                  | 1.4               | 1.8            | -133.00                     | 75.8                                    | 28.6          | 96.3                       | 93.5                        | 2.86                | 33.675        |                    |        |
| 800.0   | 797.3                  | 778.7                  | 769.9                  | 1.7               | 2.2            | -127.44                     | 94.1                                    | 46.2          | 123.1                      | 119.7                       | 3.39                | 36.355        |                    |        |
| 900.0   | 896.7                  | 868.1                  | 854.6                  | 1.9               | 2.8            | -122.86                     | 114.7                                   | 66.1          | 154.2                      | 150.2                       | 3.91                | 39.468        |                    |        |
| 1,000.0   | 996.1                  | 956.0                  | 936.4                  | 2.2               | 3.4            | -119.08                     | 137.7                                   | 88.2          | 189.4                      | 185.0                       | 4.41                | 42.985        |                    |        |
| 1,100.0   | 1,095.5                | 1,048.3                | 1,022.0                | 2.4               | 4.0            | -116.12                     | 162.8                                   | 112.3         | 226.4                      | 221.5                       | 4.91                | 46.101        |                    |        |
| 1,200.0   | 1,194.8                | 1,140.7                | 1,107.5                | 2.7               | 4.6            | -113.99                     | 187.9                                   | 136.5         | 263.8                      | 258.4                       | 5.41                | 48.767        |                    |        |
| 1,300.0   | 1,294.2                | 1,233.0                | 1,193.0                | 3.0               | 5.3            | -112.39                     | 213.0                                   | 160.6         | 301.5                      | 295.6                       | 5.91                | 51.051        |                    |        |
| 1,400.0   | 1,393.6                | 1,325.4                | 1,278.6                | 3.2               | 5.9            | -111.14                     | 238.1                                   | 184.8         | 339.3                      | 332.9                       | 6.40                | 53.024        |                    |        |
| 1,500.0   | 1,493.0                | 1,417.8                | 1,364.1                | 3.5               | 6.6            | -110.14                     | 263.2                                   | 208.9         | 377.2                      | 370.3                       | 6.89                | 54.742        |                    |        |
| 1,600.0   | 1,592.4                | 1,510.1                | 1,449.7                | 3.7               | 7.2            | -109.33                     | 288.3                                   | 233.0         | 415.1                      | 407.8                       | 7.38                | 56.249        |                    |        |
| 1,700.0   | 1,691.7                | 1,602.5                | 1,535.2                | 4.0               | 7.8            | -108.65                     | 313.4                                   | 257.2         | 453.2                      | 445.3                       | 7.87                | 57.580        |                    |        |
| 1,800.0   | 1,791.1                | 1,694.8                | 1,620.7                | 4.3               | 8.5            | -108.07                     | 338.5                                   | 281.3         | 491.3                      | 482.9                       | 8.36                | 58.764        |                    |        |



# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 24-14A2 - DD - Plan #2 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD                                     |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Well Error: | 0.0 ft |
| Reference   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                        | Warning           |                    |        |
| Measured Depth (ft)                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -41.73                | 20.2                              | -18.0      | 27.1                 |                       |                        |                   |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -41.73                | 20.2                              | -18.0      | 27.1                 | 26.8                  | 0.27                   | 99.586            |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -41.73                | 20.2                              | -18.0      | 27.1                 | 26.5                  | 0.62                   | 43.639 CC, ES     |                    |        |
| 300.0   | 300.0               | 300.0               | 300.0               | 0.5             | 0.5         | -135.56               | 20.2                              | -18.0      | 28.9                 | 27.9                  | 0.97                   | 29.691            |                    |        |
| 366.7   | 366.5               | 366.5               | 366.5               | 0.6             | 0.6         | -141.26               | 20.2                              | -18.0      | 32.4                 | 31.2                  | 1.21                   | 26.712            |                    |        |
| 400.0   | 399.7               | 399.7               | 399.7               | 0.7             | 0.7         | -155.24               | 20.2                              | -18.0      | 34.9                 | 33.6                  | 1.33                   | 26.226 SF         |                    |        |
| 502.1   | 501.3               | 501.3               | 501.3               | 0.9             | 0.8         | 174.45                | 20.2                              | -18.0      | 44.7                 | 43.0                  | 1.68                   | 26.659            |                    |        |
| 600.0   | 598.6               | 599.2               | 599.2               | 1.2             | 1.0         | 178.15                | 21.9                              | -16.1      | 54.9                 | 52.9                  | 2.02                   | 27.157            |                    |        |
| 700.0   | 697.9               | 698.8               | 698.4               | 1.4             | 1.2         | -174.78               | 26.9                              | -10.2      | 64.9                 | 62.5                  | 2.40                   | 26.995            |                    |        |
| 800.0   | 797.3               | 797.1               | 795.9               | 1.7             | 1.4         | -165.88               | 35.5                              | -0.8       | 76.3                 | 73.4                  | 2.85                   | 26.737            |                    |        |
| 900.0   | 896.7               | 894.0               | 891.2               | 1.9             | 1.8         | -156.43               | 47.5                              | 11.8       | 90.6                 | 87.2                  | 3.38                   | 26.824            |                    |        |
| 1,000.0   | 996.1               | 988.9               | 983.6               | 2.2             | 2.1         | -147.48               | 62.6                              | 27.4       | 109.0                | 105.0                 | 3.96                   | 27.548            |                    |        |
| 1,100.0   | 1,095.5             | 1,081.5             | 1,072.6             | 2.4             | 2.6         | -139.63               | 80.7                              | 45.5       | 132.2                | 127.6                 | 4.56                   | 29.003            |                    |        |
| 1,200.0   | 1,194.8             | 1,171.4             | 1,157.7             | 2.7             | 3.1         | -133.04               | 101.2                             | 65.9       | 160.3                | 155.2                 | 5.14                   | 31.175            |                    |        |
| 1,300.0   | 1,294.2             | 1,264.7             | 1,245.2             | 3.0             | 3.6         | -127.69               | 124.1                             | 88.6       | 191.8                | 186.1                 | 5.71                   | 33.587            |                    |        |
| 1,400.0   | 1,393.6             | 1,358.3             | 1,333.0             | 3.2             | 4.2         | -123.83               | 147.2                             | 111.4      | 224.5                | 218.2                 | 6.25                   | 35.885            |                    |        |
| 1,500.0   | 1,493.0             | 1,451.9             | 1,420.8             | 3.5             | 4.8         | -120.94               | 170.2                             | 134.1      | 257.8                | 251.0                 | 6.78                   | 38.003            |                    |        |
| 1,600.0   | 1,592.4             | 1,545.5             | 1,508.6             | 3.7             | 5.4         | -118.71               | 193.2                             | 156.9      | 291.6                | 284.3                 | 7.30                   | 39.932            |                    |        |
| 1,700.0   | 1,691.7             | 1,639.0             | 1,596.4             | 4.0             | 6.0         | -116.94               | 216.3                             | 179.7      | 325.6                | 317.8                 | 7.81                   | 41.680            |                    |        |
| 1,800.0   | 1,791.1             | 1,732.6             | 1,684.2             | 4.3             | 6.6         | -115.50               | 239.3                             | 202.5      | 360.0                | 351.6                 | 8.32                   | 43.264            |                    |        |
| 1,900.0   | 1,890.5             | 1,826.2             | 1,772.0             | 4.5             | 7.1         | -114.32               | 262.3                             | 225.3      | 394.4                | 385.6                 | 8.82                   | 44.701            |                    |        |
| 2,000.0   | 1,989.9             | 1,919.8             | 1,859.8             | 4.8             | 7.7         | -113.32               | 285.4                             | 248.0      | 429.1                | 419.7                 | 9.33                   | 46.008            |                    |        |
| 2,100.0   | 2,089.3             | 2,013.3             | 1,947.6             | 5.0             | 8.3         | -112.47               | 308.4                             | 270.8      | 463.8                | 453.9                 | 9.83                   | 47.200            |                    |        |
| 2,200.0   | 2,188.6             | 2,106.9             | 2,035.4             | 5.3             | 8.9         | -111.74               | 331.4                             | 293.6      | 498.5                | 488.2                 | 10.32                  | 48.290            |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 24-14A3 - DD - Plan #2 |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   | Offset Site Error: | 0.0 ft |
|---|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD                                     |                |                |                |                 |        |                   |                        |            |                 |                  |                        |                   | Offset Well Error: | 0.0 ft |
| Reference   |                | Offset         |                | Semi Major Axis |        |                   | Distance               |            |                 |                  |                        |                   |                    |        |
| Measured Depth  | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor | Warning            |        |
| Depth (ft)  | Depth (ft)     | Depth (ft)     | Depth (ft)     | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             |                        |                   |                    |        |
| 0.0   | 0.0            | 0.0            | 0.0            | 0.0             | 0.0    | -24.95            | 15.2                   | -7.1       | 16.7            |                  |                        |                   |                    |        |
| 100.0   | 100.0          | 100.0          | 100.0          | 0.1             | 0.1    | -24.95            | 15.2                   | -7.1       | 16.7            | 16.5             | 0.27                   | 61.480            |                    |        |
| 200.0   | 200.0          | 200.0          | 200.0          | 0.3             | 0.3    | -24.95            | 15.2                   | -7.1       | 16.7            | 16.1             | 0.62                   | 26.940            | CC, ES             |        |
| 300.0   | 300.0          | 299.7          | 299.7          | 0.5             | 0.5    | -114.47           | 16.9                   | -5.1       | 18.5            | 17.6             | 0.98                   | 18.835            |                    |        |
| 366.7   | 366.5          | 366.1          | 365.9          | 0.6             | 0.6    | -113.80           | 19.9                   | -1.6       | 21.8            | 20.5             | 1.26                   | 17.242            |                    |        |
| 400.0   | 399.7          | 399.3          | 398.9          | 0.7             | 0.7    | -123.93           | 21.9                   | 0.8        | 24.1            | 22.7             | 1.40                   | 17.198            | SF                 |        |
| 502.1   | 501.3          | 500.0          | 498.8          | 0.9             | 1.0    | -142.20           | 30.5                   | 10.8       | 36.3            | 34.4             | 1.87                   | 19.405            |                    |        |
| 600.0   | 598.6          | 594.7          | 591.9          | 1.2             | 1.3    | -132.64           | 41.6                   | 23.8       | 53.9            | 51.5             | 2.36                   | 22.834            |                    |        |
| 700.0   | 697.9          | 689.7          | 684.3          | 1.4             | 1.8    | -125.07           | 55.8                   | 40.3       | 76.0            | 73.1             | 2.88                   | 26.425            |                    |        |
| 800.0   | 797.3          | 783.6          | 774.6          | 1.7             | 2.2    | -119.23           | 72.6                   | 60.0       | 102.3           | 98.9             | 3.38                   | 30.253            |                    |        |
| 900.0   | 896.7          | 879.3          | 866.3          | 1.9             | 2.7    | -115.37           | 90.5                   | 80.9       | 130.2           | 126.3            | 3.88                   | 33.519            |                    |        |
| 1,000.0   | 996.1          | 975.0          | 958.0          | 2.2             | 3.2    | -112.87           | 108.4                  | 101.7      | 158.4           | 154.1            | 4.38                   | 36.140            |                    |        |
| 1,100.0   | 1,095.5        | 1,070.8        | 1,049.7        | 2.4             | 3.8    | -111.13           | 126.3                  | 122.6      | 186.9           | 182.0            | 4.88                   | 38.270            |                    |        |
| 1,200.0   | 1,194.8        | 1,166.5        | 1,141.4        | 2.7             | 4.3    | -109.85           | 144.2                  | 143.5      | 215.5           | 210.1            | 5.38                   | 40.027            |                    |        |
| 1,300.0   | 1,294.2        | 1,262.2        | 1,233.1        | 3.0             | 4.8    | -108.87           | 162.1                  | 164.4      | 244.1           | 238.2            | 5.88                   | 41.499            |                    |        |
| 1,400.0   | 1,393.6        | 1,358.0        | 1,324.8        | 3.2             | 5.3    | -108.10           | 180.0                  | 185.3      | 272.8           | 266.4            | 6.38                   | 42.748            |                    |        |
| 1,500.0   | 1,493.0        | 1,453.7        | 1,416.5        | 3.5             | 5.8    | -107.47           | 197.9                  | 206.2      | 301.5           | 294.7            | 6.88                   | 43.821            |                    |        |
| 1,600.0   | 1,592.4        | 1,549.4        | 1,508.2        | 3.7             | 6.3    | -106.95           | 215.8                  | 227.1      | 330.3           | 322.9            | 7.38                   | 44.751            |                    |        |
| 1,700.0   | 1,691.7        | 1,645.2        | 1,599.9        | 4.0             | 6.8    | -106.52           | 233.7                  | 247.9      | 359.1           | 351.2            | 7.88                   | 45.565            |                    |        |
| 1,800.0   | 1,791.1        | 1,740.9        | 1,691.6        | 4.3             | 7.4    | -106.15           | 251.6                  | 268.8      | 387.9           | 379.5            | 8.38                   | 46.284            |                    |        |
| 1,900.0   | 1,890.5        | 1,836.7        | 1,783.3        | 4.5             | 7.9    | -105.83           | 269.5                  | 289.7      | 416.7           | 407.8            | 8.88                   | 46.923            |                    |        |
| 2,000.0   | 1,989.9        | 1,932.4        | 1,875.0        | 4.8             | 8.4    | -105.55           | 287.4                  | 310.6      | 445.5           | 436.1            | 9.38                   | 47.494            |                    |        |
| 2,100.0   | 2,089.3        | 2,028.1        | 1,966.7        | 5.0             | 8.9    | -105.30           | 305.2                  | 331.5      | 474.3           | 464.4            | 9.88                   | 48.008            |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 26-1B - DD - Plan #2 |                           |                           |                           |                   |                |                             |   |               |                            |                             |                              |                      | Offset Site Error: | 0.0 ft  |
|---|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|----------------------|--------------------|---------|
| Survey Program: 0-MWD                                   |                           |                           |                           |                   |                |                             |   |               |                            |                             |                              |                      | Offset Well Error: | 0.0 ft  |
| Reference   |                           | Offset                    |                           | Semi Major Axis   |                |                             | Distance                                |               |                            |                             |                              |                      |                    | Warning |
| Measured Depth<br>Depth<br>(ft)                         | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Total<br>Uncertainty<br>Axis | Separation<br>Factor |                    |         |
| 0.0   | 0.0                       | 0.0                       | 0.0                       | 0.0               | 0.0            | -119.79                     | -124.4                                  | -217.4        | 250.5                      |                             |                              |                      |                    |         |
| 100.0   | 100.0                     | 100.0                     | 100.0                     | 0.1               | 0.1            | -119.79                     | -124.4                                  | -217.4        | 250.5                      | 250.2                       | 0.27                         | 919.914              |                    |         |
| 200.0   | 200.0                     | 200.0                     | 200.0                     | 0.3               | 0.3            | -119.79                     | -124.4                                  | -217.4        | 250.5                      | 249.8                       | 0.62                         | 403.109              | CC, ES             |         |
| 300.0   | 300.0                     | 290.7                     | 290.6                     | 0.5               | 0.5            | 150.73                      | -124.1                                  | -219.5        | 254.6                      | 253.6                       | 0.96                         | 265.541              |                    |         |
| 366.7   | 366.5                     | 350.5                     | 350.3                     | 0.6               | 0.6            | 151.60                      | -123.4                                  | -223.2        | 261.9                      | 260.7                       | 1.19                         | 219.715              |                    |         |
| 400.0   | 399.7                     | 380.1                     | 379.8                     | 0.7               | 0.7            | 140.82                      | -122.9                                  | -225.7        | 266.6                      | 265.3                       | 1.31                         | 203.201              |                    |         |
| 502.1   | 501.3                     | 469.5                     | 468.6                     | 0.9               | 0.9            | 115.11                      | -121.0                                  | -236.0        | 282.1                      | 280.4                       | 1.71                         | 164.523              |                    |         |
| 600.0   | 598.6                     | 553.2                     | 551.2                     | 1.2               | 1.2            | 118.27                      | -118.6                                  | -249.4        | 300.4                      | 298.3                       | 2.11                         | 142.400              |                    |         |
| 700.0   | 697.9                     | 645.3                     | 641.5                     | 1.4               | 1.5            | 121.63                      | -115.3                                  | -267.1        | 323.0                      | 320.5                       | 2.52                         | 128.071              |                    |         |
| 800.0   | 797.3                     | 740.8                     | 735.1                     | 1.7               | 1.9            | 124.69                      | -111.9                                  | -285.6        | 346.8                      | 343.8                       | 2.93                         | 118.463              |                    |         |
| 900.0   | 896.7                     | 836.3                     | 828.7                     | 1.9               | 2.2            | 127.37                      | -108.5                                  | -304.2        | 371.4                      | 368.1                       | 3.32                         | 111.900              |                    |         |
| 1,000.0   | 996.1                     | 931.8                     | 922.4                     | 2.2               | 2.6            | 129.71                      | -105.1                                  | -322.7        | 396.7                      | 393.0                       | 3.70                         | 107.244              |                    |         |
| 1,100.0   | 1,095.5                   | 1,027.3                   | 1,016.0                   | 2.4               | 3.0            | 131.78                      | -101.7                                  | -341.2        | 422.6                      | 418.5                       | 4.07                         | 103.835              |                    |         |
| 1,200.0   | 1,194.8                   | 1,122.8                   | 1,109.6                   | 2.7               | 3.3            | 133.61                      | -98.3                                   | -359.7        | 448.9                      | 444.5                       | 4.43                         | 101.268              |                    |         |
| 1,300.0   | 1,294.2                   | 1,218.3                   | 1,203.3                   | 3.0               | 3.7            | 135.24                      | -94.9                                   | -378.3        | 475.6                      | 470.8                       | 4.79                         | 99.289               | SF                 |         |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Federal 26-1D - DD - Plan #2 |                           |                           |                           |                   |                |                             |   |               |                              |                      |         |                | Offset Site Error: | 0.0 ft |
|---|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|------------------------------|----------------------|---------|----------------|--------------------|--------|
| Survey Program: 0-MWD                                   |                           |                           |                           |                   |                |                             |   |               |                              |                      |         |                | Offset Well Error: | 0.0 ft |
| Reference   |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Distance                                |               | Total<br>Uncertainty<br>Axis | Separation<br>Factor | Warning |                |                    |        |
| Measured<br>Depth<br>(ft)                               | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) |                              |                      |         |                |                    |        |
| 0.0   | 0.0                       | 0.0                       | 0.0                       | 0.0               | 0.0            | -121.81                     | -128.5                                  | -207.2        | 243.8                        |                      |         |                |                    |        |
| 100.0   | 100.0                     | 100.0                     | 100.0                     | 0.1               | 0.1            | -121.81                     | -128.5                                  | -207.2        | 243.8                        | 243.5                | 0.27    | 895.340        |                    |        |
| 200.0   | 200.0                     | 200.0                     | 200.0                     | 0.3               | 0.3            | -121.81                     | -128.5                                  | -207.2        | 243.8                        | 243.2                | 0.62    | 392.340 CC, ES |                    |        |
| 300.0   | 300.0                     | 288.5                     | 288.5                     | 0.5               | 0.5            | 148.43                      | -129.5                                  | -209.0        | 248.3                        | 247.4                | 0.95    | 260.740        |                    |        |
| 366.7   | 366.5                     | 346.9                     | 346.8                     | 0.6               | 0.6            | 148.84                      | -131.2                                  | -212.1        | 256.4                        | 255.2                | 1.18    | 217.965        |                    |        |
| 400.0   | 399.7                     | 375.9                     | 375.6                     | 0.7               | 0.7            | 137.75                      | -132.3                                  | -214.3        | 261.5                        | 260.2                | 1.29    | 202.702        |                    |        |
| 502.1   | 501.3                     | 463.8                     | 462.9                     | 0.9               | 0.9            | 110.83                      | -137.1                                  | -223.2        | 278.6                        | 276.9                | 1.67    | 167.123        |                    |        |
| 600.0   | 598.6                     | 550.0                     | 548.1                     | 1.2               | 1.2            | 112.63                      | -143.5                                  | -235.2        | 298.1                        | 296.1                | 2.04    | 146.254        |                    |        |
| 700.0   | 697.9                     | 647.2                     | 643.9                     | 1.4               | 1.5            | 114.42                      | -151.2                                  | -249.8        | 319.5                        | 317.1                | 2.44    | 131.056        |                    |        |
| 800.0   | 797.3                     | 744.4                     | 739.7                     | 1.7               | 1.8            | 115.98                      | -159.0                                  | -264.3        | 341.2                        | 338.3                | 2.84    | 120.146        |                    |        |
| 900.0   | 896.7                     | 841.7                     | 835.5                     | 1.9               | 2.1            | 117.35                      | -166.8                                  | -278.8        | 363.0                        | 359.8                | 3.24    | 111.943        |                    |        |
| 1,000.0   | 996.1                     | 938.9                     | 931.3                     | 2.2               | 2.5            | 118.57                      | -174.5                                  | -293.4        | 385.1                        | 381.4                | 3.65    | 105.560        |                    |        |
| 1,100.0   | 1,095.5                   | 1,036.1                   | 1,027.2                   | 2.4               | 2.8            | 119.65                      | -182.3                                  | -307.9        | 407.3                        | 403.2                | 4.05    | 100.454        |                    |        |
| 1,200.0   | 1,194.8                   | 1,133.4                   | 1,123.0                   | 2.7               | 3.1            | 120.63                      | -190.1                                  | -322.4        | 429.6                        | 425.2                | 4.46    | 96.277         |                    |        |
| 1,300.0   | 1,294.2                   | 1,230.6                   | 1,218.8                   | 3.0               | 3.5            | 121.51                      | -197.8                                  | -337.0        | 452.1                        | 447.2                | 4.87    | 92.798         |                    |        |
| 1,400.0   | 1,393.6                   | 1,327.8                   | 1,314.6                   | 3.2               | 3.8            | 122.30                      | -205.6                                  | -351.5        | 474.6                        | 469.3                | 5.28    | 89.855         |                    |        |
| 1,500.0   | 1,493.0                   | 1,425.0                   | 1,410.5                   | 3.5               | 4.1            | 123.02                      | -213.4                                  | -366.0        | 497.2                        | 491.5                | 5.69    | 87.333 SF      |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| <b>Offset Design</b> (D25W) - HMU Federal 26-8B1 - DD - Plan #2 |                        |                        |                        |                   |                |                             |   |               |                            |                             |                              |                      | <b>Offset Site Error:</b> | 0.0 ft |
|---|------------------------|------------------------|------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|----------------------|---------------------------|--------|
| Survey Program: 0-MWD   |                        |                        |                        |                   |                |                             |   |               |                            |                             |                              |                      | <b>Offset Well Error:</b> | 0.0 ft |
| Reference   |                        | Offset                 |                        | Semi Major Axis   |                |                             | Distance                                |               |                            |                             |                              |                      | Warning                   |        |
| Measured Depth<br>(ft)  | Vertical Depth<br>(ft) | Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Total<br>Uncertainty<br>Axis | Separation<br>Factor |                           |        |
| 0.0   | 0.0                    | 0.0                    | 0.0                    | 0.0               | 0.0            | -123.58                     | -139.6                                  | -210.3        | 252.4                      |                             |                              |                      |                           |        |
| 100.0   | 100.0                  | 100.0                  | 100.0                  | 0.1               | 0.1            | -123.58                     | -139.6                                  | -210.3        | 252.4                      | 252.2                       | 0.27                         | 927.125              |                           |        |
| 200.0   | 200.0                  | 200.0                  | 200.0                  | 0.3               | 0.3            | -123.58                     | -139.6                                  | -210.3        | 252.4                      | 251.8                       | 0.62                         | 406.269              | CC, ES                    |        |
| 300.0   | 300.0                  | 288.2                  | 288.2                  | 0.5               | 0.5            | 146.57                      | -141.0                                  | -211.8        | 256.9                      | 255.9                       | 0.95                         | 269.750              |                           |        |
| 366.7   | 366.5                  | 346.5                  | 346.4                  | 0.6               | 0.6            | 146.81                      | -143.4                                  | -214.5        | 264.8                      | 263.7                       | 1.18                         | 224.907              |                           |        |
| 400.0   | 399.7                  | 375.5                  | 375.2                  | 0.7               | 0.7            | 135.63                      | -145.0                                  | -216.3        | 269.9                      | 268.6                       | 1.29                         | 208.849              |                           |        |
| 502.1   | 501.3                  | 463.4                  | 462.5                  | 0.9               | 0.9            | 108.32                      | -151.7                                  | -223.8        | 286.4                      | 284.7                       | 1.67                         | 171.030              |                           |        |
| 600.0   | 598.6                  | 546.5                  | 544.6                  | 1.2               | 1.2            | 109.56                      | -160.5                                  | -233.7        | 305.3                      | 303.2                       | 2.05                         | 148.726              |                           |        |
| 700.0   | 697.9                  | 630.0                  | 626.4                  | 1.4               | 1.5            | 110.53                      | -171.7                                  | -246.3        | 328.9                      | 326.4                       | 2.45                         | 134.463              |                           |        |
| 800.0   | 797.3                  | 713.6                  | 707.5                  | 1.7               | 1.9            | 111.24                      | -185.2                                  | -261.6        | 356.6                      | 353.7                       | 2.85                         | 125.266              |                           |        |
| 900.0   | 896.7                  | 809.2                  | 799.7                  | 1.9               | 2.3            | 111.89                      | -201.7                                  | -280.1        | 385.8                      | 382.5                       | 3.28                         | 117.732              |                           |        |
| 1,000.0   | 996.1                  | 904.7                  | 892.0                  | 2.2               | 2.8            | 112.45                      | -218.2                                  | -298.6        | 415.1                      | 411.4                       | 3.71                         | 111.793              |                           |        |
| 1,100.0   | 1,095.5                | 1,000.3                | 984.3                  | 2.4               | 3.2            | 112.94                      | -234.7                                  | -317.1        | 444.4                      | 440.3                       | 4.15                         | 106.997              |                           |        |
| 1,200.0   | 1,194.8                | 1,095.8                | 1,076.6                | 2.7               | 3.7            | 113.36                      | -251.1                                  | -335.6        | 473.8                      | 469.2                       | 4.60                         | 103.044              | SF                        |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Fee 23-16B1 - DD - Plan #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Site Error: 0.0 ft |  |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------------------------|--|
| Survey Program: 0-MWD                                 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Well Error: 0.0 ft |  |
| Reference   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                        |                   |                           |  |
| Measured Depth (ft)                                   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | Warning                   |  |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -109.94               | -82.7                             | -228.0     | 242.5                |                       |                        |                   |                           |  |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -109.94               | -82.7                             | -228.0     | 242.5                | 242.2                 | 0.27                   | 890.708           |                           |  |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -109.94               | -82.7                             | -228.0     | 242.5                | 241.9                 | 0.62                   | 390.311           | CC, ES                    |  |
| 300.0   | 300.0               | 295.0               | 295.0               | 0.5             | 0.5         | 160.73                | -81.0                             | -229.6     | 246.0                | 245.0                 | 0.97                   | 253.956           |                           |  |
| 366.7   | 366.5               | 357.7               | 357.6               | 0.6             | 0.6         | 161.86                | -78.0                             | -232.4     | 252.2                | 251.0                 | 1.22                   | 207.382           |                           |  |
| 400.0   | 399.7               | 388.8               | 388.5               | 0.7             | 0.7         | 151.25                | -75.9                             | -234.4     | 256.2                | 254.9                 | 1.34                   | 190.778           |                           |  |
| 502.1   | 501.3               | 482.4               | 481.4               | 0.9             | 0.9         | 126.36                | -67.5                             | -242.3     | 269.4                | 267.6                 | 1.78                   | 151.111           |                           |  |
| 600.0   | 598.6               | 569.7               | 567.4               | 1.2             | 1.3         | 130.57                | -56.7                             | -252.4     | 285.1                | 282.9                 | 2.23                   | 127.615           |                           |  |
| 700.0   | 697.9               | 656.3               | 652.0               | 1.4             | 1.6         | 134.92                | -43.2                             | -265.2     | 305.6                | 302.9                 | 2.71                   | 112.880           |                           |  |
| 800.0   | 797.3               | 740.2               | 733.0               | 1.7             | 2.0         | 139.14                | -27.5                             | -280.0     | 330.8                | 327.6                 | 3.18                   | 104.145           |                           |  |
| 900.0   | 896.7               | 821.1               | 810.2               | 1.9             | 2.5         | 143.09                | -9.8                              | -296.6     | 361.0                | 357.3                 | 3.63                   | 99.535            |                           |  |
| 1,000.0   | 996.1               | 905.1               | 889.4               | 2.2             | 3.0         | 146.93                | 10.6                              | -315.9     | 395.6                | 391.5                 | 4.06                   | 97.321            |                           |  |
| 1,100.0   | 1,095.5             | 994.9               | 973.8               | 2.4             | 3.5         | 150.46                | 32.8                              | -336.8     | 432.2                | 427.7                 | 4.49                   | 96.346            |                           |  |
| 1,200.0   | 1,194.8             | 1,084.6             | 1,058.2             | 2.7             | 4.1         | 153.46                | 55.0                              | -357.6     | 470.2                | 465.3                 | 4.88                   | 96.313            | SF                        |  |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Fee 23-16B2 - DD - Plan #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD                                 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Well Error: | 0.0 ft |
| Reference   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                        |                   | Warning            |        |
| Measured Depth (ft)                                   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -113.92               | -98.1                             | -221.3     | 242.1                |                       |                        |                   |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -113.92               | -98.1                             | -221.3     | 242.1                | 241.8                 | 0.27                   | 889.085           |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -113.92               | -98.1                             | -221.3     | 242.1                | 241.5                 | 0.62                   | 389.600           | CC, ES             |        |
| 300.0   | 300.0               | 300.0               | 300.0               | 0.5             | 0.5         | 156.30                | -98.1                             | -221.3     | 244.5                | 243.5                 | 0.97                   | 251.754           |                    |        |
| 366.7   | 366.5               | 366.5               | 366.5               | 0.6             | 0.6         | 156.68                | -98.1                             | -221.3     | 248.7                | 247.5                 | 1.21                   | 206.331           |                    |        |
| 400.0   | 399.7               | 399.7               | 399.7               | 0.7             | 0.7         | 145.62                | -98.1                             | -221.3     | 251.3                | 250.0                 | 1.33                   | 189.584           |                    |        |
| 502.1   | 501.3               | 500.0               | 500.0               | 0.9             | 0.8         | 119.01                | -98.1                             | -221.3     | 257.8                | 256.0                 | 1.71                   | 150.325           |                    |        |
| 600.0   | 598.6               | 592.1               | 592.1               | 1.2             | 1.0         | 121.38                | -96.7                             | -223.0     | 264.4                | 262.4                 | 2.09                   | 126.512           |                    |        |
| 700.0   | 697.9               | 683.5               | 683.2               | 1.4             | 1.2         | 124.39                | -92.4                             | -228.0     | 274.4                | 271.9                 | 2.48                   | 110.612           |                    |        |
| 800.0   | 797.3               | 773.2               | 772.2               | 1.7             | 1.4         | 127.83                | -85.4                             | -236.1     | 287.9                | 285.1                 | 2.88                   | 99.900            |                    |        |
| 900.0   | 896.7               | 860.6               | 858.5               | 1.9             | 1.7         | 131.48                | -76.0                             | -247.1     | 305.6                | 302.3                 | 3.29                   | 92.767            |                    |        |
| 1,000.0   | 996.1               | 945.7               | 941.7               | 2.2             | 2.0         | 135.16                | -64.4                             | -260.6     | 327.7                | 324.0                 | 3.71                   | 88.309            |                    |        |
| 1,100.0   | 1,095.5             | 1,028.2             | 1,021.5             | 2.4             | 2.3         | 138.72                | -50.9                             | -276.4     | 354.4                | 350.3                 | 4.12                   | 85.936            |                    |        |
| 1,200.0   | 1,194.8             | 1,107.8             | 1,097.6             | 2.7             | 2.7         | 142.07                | -35.7                             | -294.1     | 385.8                | 381.3                 | 4.52                   | 85.260            | SF                 |        |
| 1,300.0   | 1,294.2             | 1,195.3             | 1,180.5             | 3.0             | 3.2         | 145.46                | -17.4                             | -315.4     | 420.8                | 415.9                 | 4.93                   | 85.384            |                    |        |
| 1,400.0   | 1,393.6             | 1,285.8             | 1,266.2             | 3.2             | 3.7         | 148.46                | 1.5                               | -337.6     | 457.2                | 451.9                 | 5.32                   | 85.942            |                    |        |
| 1,500.0   | 1,493.0             | 1,376.3             | 1,351.8             | 3.5             | 4.2         | 151.04                | 20.5                              | -359.7     | 494.6                | 488.9                 | 5.69                   | 86.854            |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Fee 23-16C1 - DD - Plan #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD                                 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Well Error: | 0.0 ft |
| Reference   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                        |                   | Warning            |        |
| Measured Depth (ft)                                   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -115.96               | -109.3                            | -224.4     | 249.6                |                       |                        |                   |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -115.96               | -109.3                            | -224.4     | 249.6                | 249.3                 | 0.27                   | 916.779           |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -115.96               | -109.3                            | -224.4     | 249.6                | 249.0                 | 0.62                   | 401.735 CC, ES    |                    |        |
| 300.0   | 300.0               | 291.9               | 291.9               | 0.5             | 0.5         | 154.61                | -108.4                            | -226.5     | 253.6                | 252.6                 | 0.96                   | 263.684           |                    |        |
| 366.7   | 366.5               | 352.6               | 352.4               | 0.6             | 0.6         | 155.56                | -106.9                            | -230.0     | 260.6                | 259.4                 | 1.20                   | 217.363           |                    |        |
| 400.0   | 399.7               | 382.6               | 382.3               | 0.7             | 0.7         | 144.83                | -105.8                            | -232.4     | 265.1                | 263.8                 | 1.32                   | 200.689           |                    |        |
| 502.1   | 501.3               | 473.2               | 472.2               | 0.9             | 0.9         | 119.37                | -101.5                            | -242.3     | 280.1                | 278.4                 | 1.74                   | 161.445           |                    |        |
| 600.0   | 598.6               | 557.8               | 555.7               | 1.2             | 1.2         | 122.86                | -96.0                             | -255.1     | 297.9                | 295.7                 | 2.15                   | 138.530           |                    |        |
| 700.0   | 697.9               | 646.7               | 642.7               | 1.4             | 1.6         | 126.54                | -88.8                             | -271.8     | 320.4                | 317.8                 | 2.58                   | 124.420           |                    |        |
| 800.0   | 797.3               | 741.6               | 735.5               | 1.7             | 1.9         | 130.03                | -80.8                             | -290.2     | 344.8                | 341.8                 | 3.00                   | 115.122           |                    |        |
| 900.0   | 896.7               | 836.5               | 828.2               | 1.9             | 2.3         | 133.07                | -72.9                             | -308.7     | 370.4                | 367.0                 | 3.40                   | 109.026           |                    |        |
| 1,000.0   | 996.1               | 931.3               | 920.9               | 2.2             | 2.7         | 135.72                | -64.9                             | -327.1     | 396.8                | 393.0                 | 3.78                   | 104.899           |                    |        |
| 1,100.0   | 1,095.5             | 1,026.2             | 1,013.6             | 2.4             | 3.1         | 138.05                | -57.0                             | -345.6     | 423.9                | 419.7                 | 4.15                   | 102.036           |                    |        |
| 1,200.0   | 1,194.8             | 1,121.0             | 1,106.3             | 2.7             | 3.5         | 140.11                | -49.0                             | -364.0     | 451.6                | 447.1                 | 4.52                   | 100.009           |                    |        |
| 1,300.0   | 1,294.2             | 1,215.9             | 1,199.0             | 3.0             | 3.9         | 141.92                | -41.0                             | -382.5     | 479.8                | 474.9                 | 4.87                   | 98.553 SF         |                    |        |



# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Fee 23-16D - DD - Plan #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        | Offset Site Error: | 0.0 ft            |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|--------------------|-------------------|
| Survey Program: 0-MWD                                |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        | Offset Well Error: | 0.0 ft            |
| Reference  |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                        | Warning            |                   |
| Measured Depth (ft)                                  | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis |                    | Separation Factor |
| 0.0  | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -112.12               | -94.1                             | -231.5     | 249.9                |                       |                        |                    |                   |
| 100.0  | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -112.12               | -94.1                             | -231.5     | 249.9                | 249.6                 | 0.27                   | 917.760            |                   |
| 200.0  | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -112.12               | -94.1                             | -231.5     | 249.9                | 249.3                 | 0.62                   | 402.165            | CC, ES            |
| 300.0  | 300.0               | 289.4               | 289.3               | 0.5             | 0.5         | 158.24                | -93.9                             | -233.6     | 254.4                | 253.4                 | 0.95                   | 266.707            |                   |
| 366.7  | 366.5               | 348.3               | 348.1               | 0.6             | 0.6         | 158.85                | -93.6                             | -237.2     | 262.4                | 261.3                 | 1.18                   | 222.884            |                   |
| 400.0  | 399.7               | 378.4               | 378.1               | 0.7             | 0.7         | 147.90                | -93.3                             | -239.8     | 267.6                | 266.3                 | 1.29                   | 206.799            |                   |
| 502.1  | 501.3               | 474.3               | 473.4               | 0.9             | 0.9         | 122.10                | -90.2                             | -249.8     | 283.4                | 281.7                 | 1.70                   | 166.776            |                   |
| 600.0  | 598.6               | 564.1               | 562.2               | 1.2             | 1.2         | 125.64                | -83.7                             | -261.8     | 300.2                | 298.1                 | 2.12                   | 141.909            |                   |
| 700.0  | 697.9               | 653.7               | 650.1               | 1.4             | 1.5         | 129.50                | -73.9                             | -276.1     | 320.5                | 317.9                 | 2.55                   | 125.857            |                   |
| 800.0  | 797.3               | 748.4               | 742.6               | 1.7             | 1.9         | 133.41                | -61.8                             | -292.4     | 343.3                | 340.3                 | 2.98                   | 115.020            |                   |
| 900.0  | 896.7               | 843.1               | 835.1               | 1.9             | 2.2         | 136.84                | -49.8                             | -308.8     | 367.4                | 364.0                 | 3.40                   | 107.964            |                   |
| 1,000.0  | 996.1               | 937.8               | 927.6               | 2.2             | 2.6         | 139.86                | -37.7                             | -325.1     | 392.7                | 388.9                 | 3.80                   | 103.219            |                   |
| 1,100.0  | 1,095.5             | 1,032.5             | 1,020.1             | 2.4             | 3.0         | 142.52                | -25.7                             | -341.4     | 419.0                | 414.8                 | 4.19                   | 99.967             |                   |
| 1,200.0  | 1,194.8             | 1,127.2             | 1,112.6             | 2.7             | 3.4         | 144.88                | -13.6                             | -357.7     | 446.0                | 441.4                 | 4.56                   | 97.708             |                   |
| 1,300.0  | 1,294.2             | 1,221.9             | 1,205.1             | 3.0             | 3.8         | 146.97                | -1.6                              | -374.0     | 473.7                | 468.7                 | 4.93                   | 96.128             | SF                |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Fee 25-6B - DD - Plan #1 |                           |                           |                           |                   |                |                             |   |               |                              |                      |         |               | Offset Site Error: | 0.0 ft |
|---|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|------------------------------|----------------------|---------|---------------|--------------------|--------|
| Survey Program: 0-MWD                               |                           |                           |                           |                   |                |                             |   |               |                              |                      |         |               | Offset Well Error: | 0.0 ft |
| Reference   |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Distance                                |               | Total<br>Uncertainty<br>Axis | Separation<br>Factor | Warning |               |                    |        |
| Measured<br>Depth<br>(ft)                           | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) |                              |                      |         |               |                    |        |
| 0.0   | 0.0                       | 0.0                       | 0.0                       | 0.0               | 0.0            | -69.78                      | 4.0                                     | -11.0         | 11.7                         |                      |         |               |                    |        |
| 100.0   | 100.0                     | 100.0                     | 100.0                     | 0.1               | 0.1            | -69.78                      | 4.0                                     | -11.0         | 11.7                         | 11.4                 | 0.27    | 43.000        |                    |        |
| 200.0   | 200.0                     | 200.0                     | 200.0                     | 0.3               | 0.3            | -69.78                      | 4.0                                     | -11.0         | 11.7                         | 11.1                 | 0.62    | 18.843 CC, ES |                    |        |
| 300.0   | 300.0                     | 300.1                     | 300.0                     | 0.5               | 0.5            | -174.01                     | 1.4                                     | -11.0         | 13.7                         | 12.7                 | 0.98    | 13.981        |                    |        |
| 366.7   | 366.5                     | 366.4                     | 366.2                     | 0.6               | 0.6            | 170.02                      | -3.2                                    | -11.0         | 18.5                         | 17.3                 | 1.23    | 15.067        |                    |        |
| 400.0   | 399.7                     | 399.8                     | 399.4                     | 0.7               | 0.7            | 152.67                      | -6.2                                    | -10.7         | 21.7                         | 20.4                 | 1.36    | 15.927        |                    |        |
| 502.1   | 501.3                     | 502.5                     | 501.5                     | 0.9               | 1.0            | 114.83                      | -17.0                                   | -6.6          | 28.3                         | 26.5                 | 1.85    | 15.330        |                    |        |
| 600.0   | 598.6                     | 601.2                     | 599.0                     | 1.2               | 1.3            | 105.43                      | -29.4                                   | 2.2           | 30.7                         | 28.3                 | 2.39    | 12.844        |                    |        |
| 700.0   | 697.9                     | 701.4                     | 697.2                     | 1.4               | 1.6            | 88.96                       | -44.0                                   | 15.8          | 32.2                         | 29.2                 | 3.02    | 10.677        |                    |        |
| 800.0   | 797.3                     | 800.6                     | 793.4                     | 1.7               | 2.1            | 66.98                       | -60.3                                   | 33.9          | 36.2                         | 32.7                 | 3.52    | 10.283 SF     |                    |        |
| 900.0   | 896.7                     | 899.4                     | 888.7                     | 1.9               | 2.6            | 48.97                       | -77.4                                   | 53.7          | 45.1                         | 41.3                 | 3.81    | 11.846        |                    |        |
| 1,000.0   | 996.1                     | 998.2                     | 984.0                     | 2.2               | 3.0            | 37.54                       | -94.4                                   | 73.4          | 56.9                         | 52.8                 | 4.04    | 14.080        |                    |        |
| 1,100.0   | 1,095.5                   | 1,097.0                   | 1,079.2                   | 2.4               | 3.5            | 30.19                       | -111.4                                  | 93.1          | 70.1                         | 65.8                 | 4.29    | 16.351        |                    |        |
| 1,200.0   | 1,194.8                   | 1,195.8                   | 1,174.5                   | 2.7               | 4.0            | 25.22                       | -128.4                                  | 112.8         | 84.1                         | 79.5                 | 4.56    | 18.449        |                    |        |
| 1,300.0   | 1,294.2                   | 1,294.6                   | 1,269.8                   | 3.0               | 4.5            | 21.68                       | -145.4                                  | 132.6         | 98.6                         | 93.7                 | 4.85    | 20.324        |                    |        |
| 1,400.0   | 1,393.6                   | 1,393.4                   | 1,365.1                   | 3.2               | 5.0            | 19.05                       | -162.4                                  | 152.3         | 113.3                        | 108.1                | 5.15    | 21.983        |                    |        |
| 1,500.0   | 1,493.0                   | 1,492.2                   | 1,460.4                   | 3.5               | 5.4            | 17.03                       | -179.5                                  | 172.0         | 128.2                        | 122.7                | 5.47    | 23.449        |                    |        |
| 1,600.0   | 1,592.4                   | 1,591.0                   | 1,555.7                   | 3.7               | 5.9            | 15.42                       | -196.5                                  | 191.8         | 143.2                        | 137.4                | 5.79    | 24.748        |                    |        |
| 1,700.0   | 1,691.7                   | 1,689.8                   | 1,651.0                   | 4.0               | 6.4            | 14.13                       | -213.5                                  | 211.5         | 158.3                        | 152.2                | 6.11    | 25.903        |                    |        |
| 1,800.0   | 1,791.1                   | 1,788.6                   | 1,746.3                   | 4.3               | 6.9            | 13.06                       | -230.5                                  | 231.2         | 173.5                        | 167.1                | 6.44    | 26.936        |                    |        |
| 1,900.0   | 1,890.5                   | 1,887.4                   | 1,841.6                   | 4.5               | 7.4            | 12.16                       | -247.5                                  | 250.9         | 188.7                        | 182.0                | 6.77    | 27.864        |                    |        |
| 2,000.0   | 1,989.9                   | 1,986.2                   | 1,936.9                   | 4.8               | 7.9            | 11.40                       | -264.6                                  | 270.7         | 204.0                        | 196.9                | 7.11    | 28.701        |                    |        |
| 2,100.0   | 2,089.3                   | 2,085.0                   | 2,032.2                   | 5.0               | 8.4            | 10.74                       | -281.6                                  | 290.4         | 219.3                        | 211.9                | 7.44    | 29.460        |                    |        |
| 2,200.0   | 2,188.6                   | 2,183.7                   | 2,127.5                   | 5.3               | 8.9            | 10.17                       | -298.6                                  | 310.1         | 234.6                        | 226.9                | 7.78    | 30.150        |                    |        |
| 2,300.0   | 2,288.0                   | 2,282.5                   | 2,222.8                   | 5.6               | 9.4            | 9.67                        | -315.6                                  | 329.9         | 250.0                        | 241.9                | 8.12    | 30.781        |                    |        |
| 2,400.0   | 2,387.4                   | 2,381.3                   | 2,318.1                   | 5.8               | 9.9            | 9.22                        | -332.6                                  | 349.6         | 265.3                        | 256.9                | 8.46    | 31.360        |                    |        |
| 2,500.0   | 2,486.8                   | 2,480.1                   | 2,413.4                   | 6.1               | 10.4           | 8.83                        | -349.6                                  | 369.3         | 280.7                        | 271.9                | 8.80    | 31.892        |                    |        |
| 2,600.0   | 2,586.2                   | 2,578.9                   | 2,508.7                   | 6.4               | 10.9           | 8.48                        | -366.7                                  | 389.0         | 296.1                        | 287.0                | 9.14    | 32.384        |                    |        |
| 2,700.0   | 2,685.5                   | 2,677.7                   | 2,604.0                   | 6.6               | 11.4           | 8.16                        | -383.7                                  | 408.8         | 311.5                        | 302.0                | 9.49    | 32.839        |                    |        |
| 2,800.0   | 2,784.9                   | 2,776.5                   | 2,699.3                   | 6.9               | 11.8           | 7.87                        | -400.7                                  | 428.5         | 326.9                        | 317.1                | 9.83    | 33.262        |                    |        |
| 2,900.0   | 2,884.3                   | 2,875.3                   | 2,794.6                   | 7.1               | 12.3           | 7.61                        | -417.7                                  | 448.2         | 342.3                        | 332.2                | 10.17   | 33.655        |                    |        |
| 3,000.0   | 2,983.7                   | 2,974.1                   | 2,889.9                   | 7.4               | 12.8           | 7.37                        | -434.7                                  | 467.9         | 357.8                        | 347.2                | 10.52   | 34.022        |                    |        |
| 3,100.0   | 3,083.1                   | 3,072.9                   | 2,985.2                   | 7.7               | 13.3           | 7.15                        | -451.8                                  | 487.7         | 373.2                        | 362.3                | 10.86   | 34.366        |                    |        |
| 3,200.0   | 3,182.4                   | 3,171.7                   | 3,080.5                   | 7.9               | 13.8           | 6.94                        | -468.8                                  | 507.4         | 388.6                        | 377.4                | 11.20   | 34.687        |                    |        |
| 3,300.0   | 3,281.8                   | 3,270.5                   | 3,175.8                   | 8.2               | 14.3           | 6.76                        | -485.8                                  | 527.1         | 404.0                        | 392.5                | 11.55   | 34.989        |                    |        |
| 3,400.0   | 3,381.2                   | 3,369.3                   | 3,271.1                   | 8.4               | 14.8           | 6.58                        | -502.8                                  | 546.9         | 419.5                        | 407.6                | 11.89   | 35.274        |                    |        |
| 3,500.0   | 3,480.6                   | 3,468.1                   | 3,366.3                   | 8.7               | 15.3           | 6.42                        | -519.8                                  | 566.6         | 434.9                        | 422.7                | 12.24   | 35.542        |                    |        |
| 3,600.0   | 3,580.0                   | 3,566.9                   | 3,461.6                   | 9.0               | 15.8           | 6.27                        | -536.8                                  | 586.3         | 450.4                        | 437.8                | 12.58   | 35.795        |                    |        |
| 3,700.0   | 3,679.3                   | 3,665.6                   | 3,556.9                   | 9.2               | 16.3           | 6.13                        | -553.9                                  | 606.0         | 465.8                        | 452.9                | 12.93   | 36.034        |                    |        |
| 3,800.0   | 3,778.7                   | 3,764.4                   | 3,652.2                   | 9.5               | 16.8           | 6.00                        | -570.9                                  | 625.8         | 481.3                        | 468.0                | 13.27   | 36.260        |                    |        |
| 3,900.0   | 3,878.1                   | 3,863.2                   | 3,747.5                   | 9.7               | 17.3           | 5.88                        | -587.9                                  | 645.5         | 496.7                        | 483.1                | 13.62   | 36.475        |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - HMU Fee 25-6D - DD - Plan #1 |                     |                     |                     |                 |             |                       |                        |            |                      |                       |                        |                   | Offset Site Error: 0.0 ft |         |                           |  |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------------------------|---------|---------------------------|--|
| Survey Program: 0-MWD                               |                     |                     |                     |                 |             |                       |                        |            |                      |                       |                        |                   |                           |         | Offset Well Error: 0.0 ft |  |
| Reference   |                     | Offset              |                     | Semi Major Axis |             |                       |                        | Distance   |                      |                       |                        |                   |                           | Warning |                           |  |
| Measured Depth (ft)                                 | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre |            | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor |                           |         |                           |  |
|   |                     |                     |                     |                 |             |                       | +N/-S (ft)             | +E/-W (ft) |                      |                       |                        |                   |                           |         |                           |  |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -117.88               | -113.3                 | -214.2     | 242.3                |                       |                        |                   |                           |         |                           |  |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -117.88               | -113.3                 | -214.2     | 242.3                | 242.1                 | 0.27                   | 890.097           |                           |         |                           |  |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -117.88               | -113.3                 | -214.2     | 242.3                | 241.7                 | 0.62                   | 390.043           |                           |         |                           |  |
| 300.0   | 300.0               | 311.4               | 311.4               | 0.5             | 0.5         | 152.08                | -113.3                 | -211.0     | 242.1                | 241.1                 | 1.00                   | 243.297           |                           |         |                           |  |
| 302.4   | 302.4               | 313.9               | 313.9               | 0.5             | 0.5         | 152.08                | -113.4                 | -210.8     | 242.1                | 241.1                 | 1.00                   | 241.085           |                           |         |                           |  |
| 366.7   | 366.5               | 379.4               | 379.2               | 0.6             | 0.7         | 151.83                | -114.6                 | -206.5     | 242.9                | 241.6                 | 1.25                   | 194.561           |                           |         |                           |  |
| 400.0   | 399.7               | 413.4               | 413.0               | 0.7             | 0.7         | 140.28                | -116.0                 | -203.7     | 243.5                | 242.1                 | 1.39                   | 175.779           |                           |         |                           |  |
| 502.1   | 501.3               | 517.3               | 516.1               | 0.9             | 1.0         | 111.46                | -123.2                 | -192.9     | 243.1                | 241.3                 | 1.88                   | 129.660           |                           |         |                           |  |
| 600.0   | 598.6               | 616.5               | 613.8               | 1.2             | 1.4         | 110.04                | -134.3                 | -179.4     | 240.9                | 238.4                 | 2.44                   | 98.826            |                           |         |                           |  |
| 700.0   | 697.9               | 717.0               | 711.6               | 1.4             | 1.8         | 107.33                | -149.6                 | -162.8     | 238.3                | 235.2                 | 3.12                   | 76.392            |                           |         |                           |  |
| 800.0   | 797.3               | 815.9               | 806.8               | 1.7             | 2.3         | 103.36                | -168.8                 | -143.5     | 236.3                | 232.4                 | 3.91                   | 60.386            |                           |         |                           |  |
| 869.9   | 866.8               | 883.9               | 871.3               | 1.9             | 2.7         | 99.89                 | -184.2                 | -128.5     | 235.7                | 231.2                 | 4.53                   | 52.086 CC         |                           |         |                           |  |
| 900.0   | 896.7               | 912.9               | 898.5               | 1.9             | 2.9         | 98.24                 | -191.4                 | -121.7     | 235.9                | 231.1                 | 4.80                   | 49.171 ES         |                           |         |                           |  |
| 1,000.0   | 996.1               | 1,008.8             | 987.8               | 2.2             | 3.5         | 92.24                 | -216.9                 | -97.9      | 238.3                | 232.6                 | 5.71                   | 41.696            |                           |         |                           |  |
| 1,100.0   | 1,095.5             | 1,105.2             | 1,077.3             | 2.4             | 4.2         | 86.25                 | -243.0                 | -73.6      | 243.6                | 237.0                 | 6.60                   | 36.928            |                           |         |                           |  |
| 1,200.0   | 1,194.8             | 1,201.6             | 1,166.9             | 2.7             | 4.8         | 80.57                 | -269.1                 | -49.3      | 251.7                | 244.3                 | 7.42                   | 33.927            |                           |         |                           |  |
| 1,300.0   | 1,294.2             | 1,298.0             | 1,256.5             | 3.0             | 5.5         | 75.26                 | -295.2                 | -25.0      | 262.2                | 254.1                 | 8.17                   | 32.106            |                           |         |                           |  |
| 1,400.0   | 1,393.6             | 1,394.4             | 1,346.0             | 3.2             | 6.1         | 70.38                 | -321.4                 | -0.7       | 274.9                | 266.1                 | 8.84                   | 31.095            |                           |         |                           |  |
| 1,500.0   | 1,493.0             | 1,490.8             | 1,435.6             | 3.5             | 6.8         | 65.94                 | -347.5                 | 23.6       | 289.5                | 280.1                 | 9.45                   | 30.652            |                           |         |                           |  |
| 1,600.0   | 1,592.4             | 1,587.2             | 1,525.2             | 3.7             | 7.4         | 61.93                 | -373.6                 | 47.9       | 305.7                | 295.7                 | 9.99                   | 30.612 SF         |                           |         |                           |  |
| 1,700.0   | 1,691.7             | 1,683.6             | 1,614.7             | 4.0             | 8.1         | 58.31                 | -399.7                 | 72.1       | 323.3                | 312.8                 | 10.48                  | 30.860            |                           |         |                           |  |
| 1,800.0   | 1,791.1             | 1,780.0             | 1,704.3             | 4.3             | 8.8         | 55.07                 | -425.8                 | 96.4       | 342.0                | 331.1                 | 10.92                  | 31.317            |                           |         |                           |  |
| 1,900.0   | 1,890.5             | 1,876.4             | 1,793.9             | 4.5             | 9.4         | 52.16                 | -452.0                 | 120.7      | 361.7                | 350.4                 | 11.33                  | 31.921            |                           |         |                           |  |
| 2,000.0   | 1,989.9             | 1,972.8             | 1,883.4             | 4.8             | 10.1        | 49.55                 | -478.1                 | 145.0      | 382.3                | 370.6                 | 11.72                  | 32.631            |                           |         |                           |  |
| 2,100.0   | 2,089.3             | 2,069.2             | 1,973.0             | 5.0             | 10.7        | 47.20                 | -504.2                 | 169.3      | 403.5                | 391.5                 | 12.08                  | 33.413            |                           |         |                           |  |
| 2,200.0   | 2,188.6             | 2,165.6             | 2,062.6             | 5.3             | 11.4        | 45.09                 | -530.3                 | 193.6      | 425.4                | 413.0                 | 12.42                  | 34.244            |                           |         |                           |  |
| 2,300.0   | 2,288.0             | 2,262.1             | 2,152.1             | 5.6             | 12.1        | 43.18                 | -556.4                 | 217.9      | 447.7                | 435.0                 | 12.75                  | 35.105            |                           |         |                           |  |
| 2,400.0   | 2,387.4             | 2,358.5             | 2,241.7             | 5.8             | 12.7        | 41.45                 | -582.6                 | 242.2      | 470.5                | 457.5                 | 13.08                  | 35.982            |                           |         |                           |  |
| 2,500.0   | 2,486.8             | 2,454.9             | 2,331.3             | 6.1             | 13.4        | 39.87                 | -608.7                 | 266.4      | 493.7                | 480.3                 | 13.39                  | 36.864            |                           |         |                           |  |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |                                      |
|---------------------------|----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well HMU Federal 25-3C               |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | WELL @ 7250.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | (D25W)                     | <b>MD Reference:</b>                | WELL @ 7250.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                 |
| <b>Reference Well:</b>    | HMU Federal 25-3C          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Well Error:</b>        | 0.0ft                      | <b>Output errors are at</b>         | 2.00 sigma                           |
| <b>Reference Wellbore</b> | DD                         | <b>Database:</b>                    | EDM 5000.1 US Multi Users DB         |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                         |

| Offset Design (D25W) - MCU 26-8C (Existing) - Excel Drilling - Surveys |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Site Error: | 0.0 ft  |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|---------|
| Survey Program: 264-MWD  |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   | Offset Well Error: | 0.0 ft  |
| Reference  |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                        |                   |                    | Warning |
| Measured Depth (ft)  | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor |                    |         |
| 0.0  | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -106.90               | -41.5                             | -136.5     | 142.7                |                       |                        |                   |                    |         |
| 100.0  | 100.0               | 100.4               | 100.4               | 0.1             | 0.2         | -106.82               | -41.3                             | -136.5     | 142.6                | 142.3                 | 0.30                   | 479.878           |                    |         |
| 200.0  | 200.0               | 200.7               | 200.7               | 0.3             | 0.3         | -106.59               | -40.6                             | -136.3     | 142.2                | 141.5                 | 0.63                   | 224.767           |                    |         |
| 210.8  | 210.8               | 211.6               | 211.6               | 0.3             | 0.3         | 163.45                | -40.5                             | -136.2     | 142.2                | 141.5                 | 0.67                   | 212.177 CC, ES    |                    |         |
| 300.0  | 300.0               | 300.9               | 300.9               | 0.5             | 0.5         | 164.08                | -39.5                             | -135.9     | 144.1                | 143.1                 | 0.98                   | 147.713           |                    |         |
| 366.7  | 366.5               | 367.3               | 367.3               | 0.6             | 0.6         | 164.92                | -38.4                             | -135.8     | 148.1                | 146.9                 | 1.21                   | 122.438           |                    |         |
| 400.0  | 399.7               | 400.5               | 400.5               | 0.7             | 0.7         | 154.14                | -37.8                             | -135.8     | 150.7                | 149.4                 | 1.33                   | 113.365           |                    |         |
| 502.1  | 501.3               | 503.2               | 503.2               | 0.9             | 0.9         | 129.12                | -35.4                             | -135.6     | 157.6                | 155.9                 | 1.72                   | 91.843            |                    |         |
| 600.0  | 598.6               | 601.0               | 600.8               | 1.2             | 1.0         | 133.26                | -31.8                             | -134.6     | 163.3                | 161.2                 | 2.09                   | 78.082            |                    |         |
| 700.0  | 697.9               | 701.7               | 701.5               | 1.4             | 1.2         | 136.98                | -28.7                             | -133.2     | 169.5                | 167.0                 | 2.47                   | 68.631            |                    |         |
| 800.0  | 797.3               | 802.0               | 801.8               | 1.7             | 1.4         | 140.21                | -26.3                             | -130.9     | 175.4                | 172.6                 | 2.84                   | 61.725            |                    |         |
| 900.0  | 896.7               | 900.4               | 900.2               | 1.9             | 1.6         | 142.76                | -25.3                             | -128.5     | 181.8                | 178.6                 | 3.20                   | 56.753            |                    |         |
| 1,000.0  | 996.1               | 996.3               | 996.0               | 2.2             | 1.7         | 144.37                | -26.4                             | -127.8     | 189.9                | 186.3                 | 3.56                   | 53.405            |                    |         |
| 1,100.0  | 1,095.5             | 1,094.2             | 1,093.9             | 2.4             | 1.9         | 145.63                | -28.4                             | -128.4     | 199.5                | 195.6                 | 3.91                   | 50.997            |                    |         |
| 1,200.0  | 1,194.8             | 1,192.0             | 1,191.6             | 2.7             | 2.1         | 146.51                | -31.2                             | -129.8     | 209.9                | 205.6                 | 4.27                   | 49.170            |                    |         |
| 1,300.0  | 1,294.2             | 1,290.7             | 1,290.2             | 3.0             | 2.2         | 146.55                | -36.9                             | -132.2     | 221.0                | 216.3                 | 4.64                   | 47.664            |                    |         |
| 1,400.0  | 1,393.6             | 1,388.5             | 1,387.5             | 3.2             | 2.4         | 145.76                | -45.7                             | -135.2     | 232.3                | 227.3                 | 5.02                   | 46.247            |                    |         |
| 1,500.0  | 1,493.0             | 1,484.3             | 1,482.5             | 3.5             | 2.6         | 144.35                | -57.3                             | -139.4     | 244.8                | 239.4                 | 5.44                   | 45.012            |                    |         |
| 1,600.0  | 1,592.4             | 1,577.3             | 1,574.2             | 3.7             | 2.8         | 142.39                | -71.7                             | -145.4     | 259.3                | 253.4                 | 5.89                   | 43.997            |                    |         |
| 1,700.0  | 1,691.7             | 1,663.7             | 1,658.7             | 4.0             | 3.0         | 140.19                | -87.6                             | -153.5     | 277.2                | 270.8                 | 6.36                   | 43.572 SF         |                    |         |
| 1,800.0  | 1,791.1             | 1,748.1             | 1,740.8             | 4.3             | 3.3         | 138.31                | -103.0                            | -165.4     | 300.0                | 293.1                 | 6.83                   | 43.893            |                    |         |
| 1,900.0  | 1,890.5             | 1,830.2             | 1,820.1             | 4.5             | 3.6         | 136.68                | -118.3                            | -180.3     | 327.1                | 319.8                 | 7.31                   | 44.761            |                    |         |
| 2,000.0  | 1,989.9             | 1,910.5             | 1,896.7             | 4.8             | 4.0         | 135.24                | -133.8                            | -198.4     | 358.8                | 351.0                 | 7.78                   | 46.100            |                    |         |
| 2,100.0  | 2,089.3             | 1,994.5             | 1,975.9             | 5.0             | 4.4         | 133.63                | -152.3                            | -219.6     | 393.7                | 385.5                 | 8.29                   | 47.471            |                    |         |
| 2,200.0  | 2,188.6             | 2,080.5             | 2,056.0             | 5.3             | 4.9         | 131.89                | -173.7                            | -242.5     | 430.8                | 422.0                 | 8.83                   | 48.795            |                    |         |
| 2,300.0  | 2,288.0             | 2,176.4             | 2,144.7             | 5.6             | 5.5         | 129.94                | -199.9                            | -267.8     | 468.5                | 459.0                 | 9.41                   | 49.760            |                    |         |

# Cathedral Energy Services

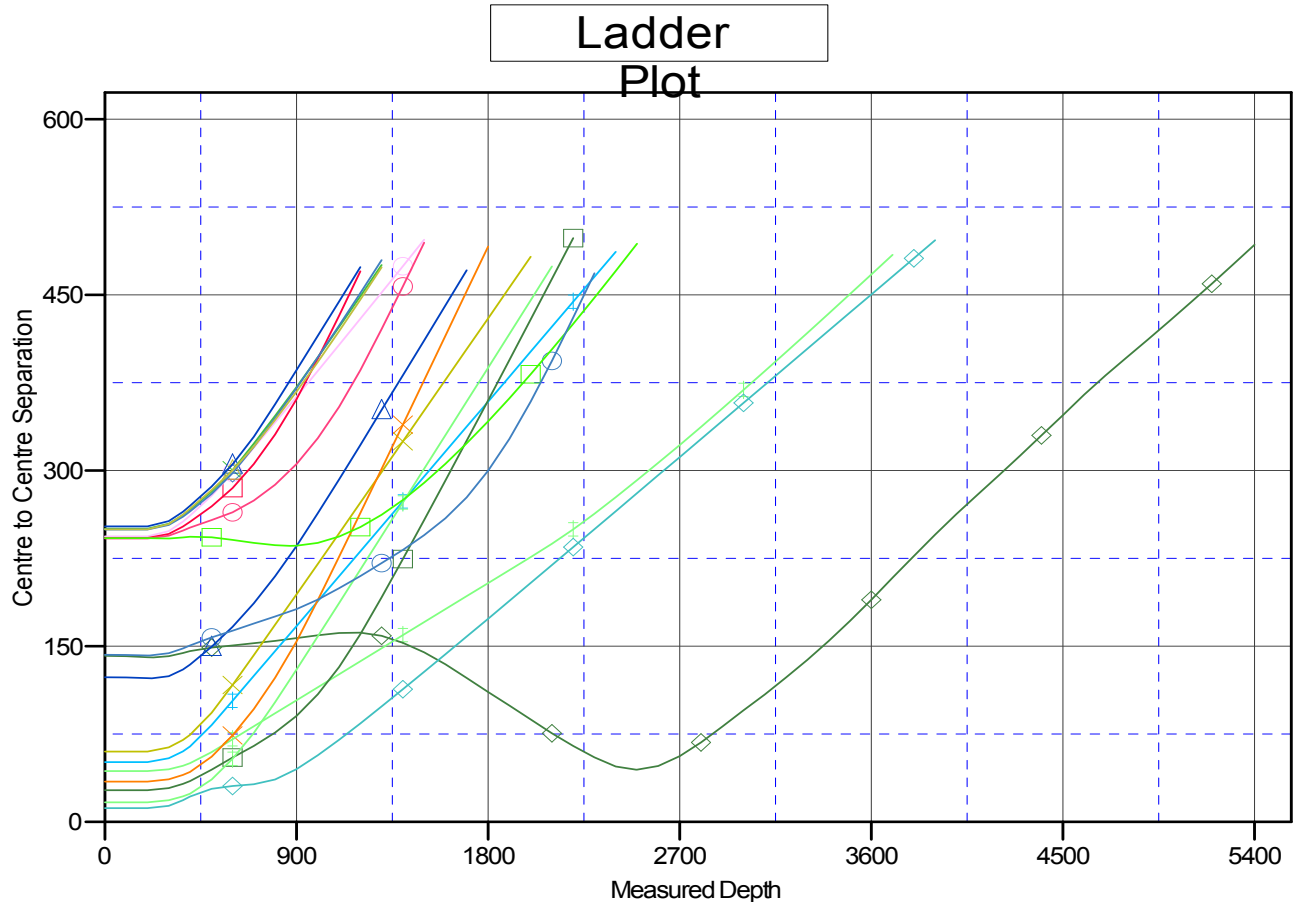
## Anticollision Report

**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** Mamm Creek  
**Reference Site:** (D25W)  
**Site Error:** 0.0ft  
**Reference Well:** HMU Federal 25-3C  
**Well Error:** 0.0ft  
**Reference Wellbore:** DD  
**Reference Design:** Plan #2

**Local Co-ordinate Reference:** Well HMU Federal 25-3C  
**TVD Reference:** WELL @ 7250.0ft (Original Well Elev)  
**MD Reference:** WELL @ 7250.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** EDM 5000.1 US Multi Users DB  
**Offset TVD Reference:** Offset Datum

Reference Depths are relative to WELL @ 7250.0ft (Original Well Elev)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °

Coordinates are relative to: HMU Federal 25-3C  
 Coordinate System is US State Plane 1983, Colorado Central Zone  
 Grid Convergence at Surface is: -1.41°



### LEGEND

|   |                                     |  |
|---|-------------------------------------|--|
| MU 25-3D (Existing), Excel Drilling, Surveys V0       | HMU Federal 24-14A2, DD, Plan #2 V0 | HMU Fee 23-16B2, DD, Plan #1 V0                  |
| MU 26-1C (Existing), Baker Hughes (Inteq), Surveys V0 | HMU Federal 24-14A3, DD, Plan #2 V0 | HMU Fee 23-16C1, DD, Plan #1 V0                  |
| MU Federal 24-13A1, DD, Plan #2 V0                    | HMU Federal 26-1B, DD, Plan #2 V0   | HMU Fee 23-16D, DD, Plan #1 V0                   |
| MU Federal 24-13D1, DD, Plan #2 V0                    | HMU Federal 26-1D, DD, Plan #2 V0   | HMU Fee 25-6B, DD, Plan #1 V0                    |
| MU Federal 24-13D2, DD, Plan #2 V0                    | HMU Federal 26-8B1, DD, Plan #2 V0  | HMU Fee 25-6D, DD, Plan #1 V0                    |
| MU Federal 24-14A1, DD, Plan #2 V0                    | HMU Fee 23-16B1, DD, Plan #1 V0     | MCU 26-8C (Existing), Excel Drilling, Surveys V0 |