

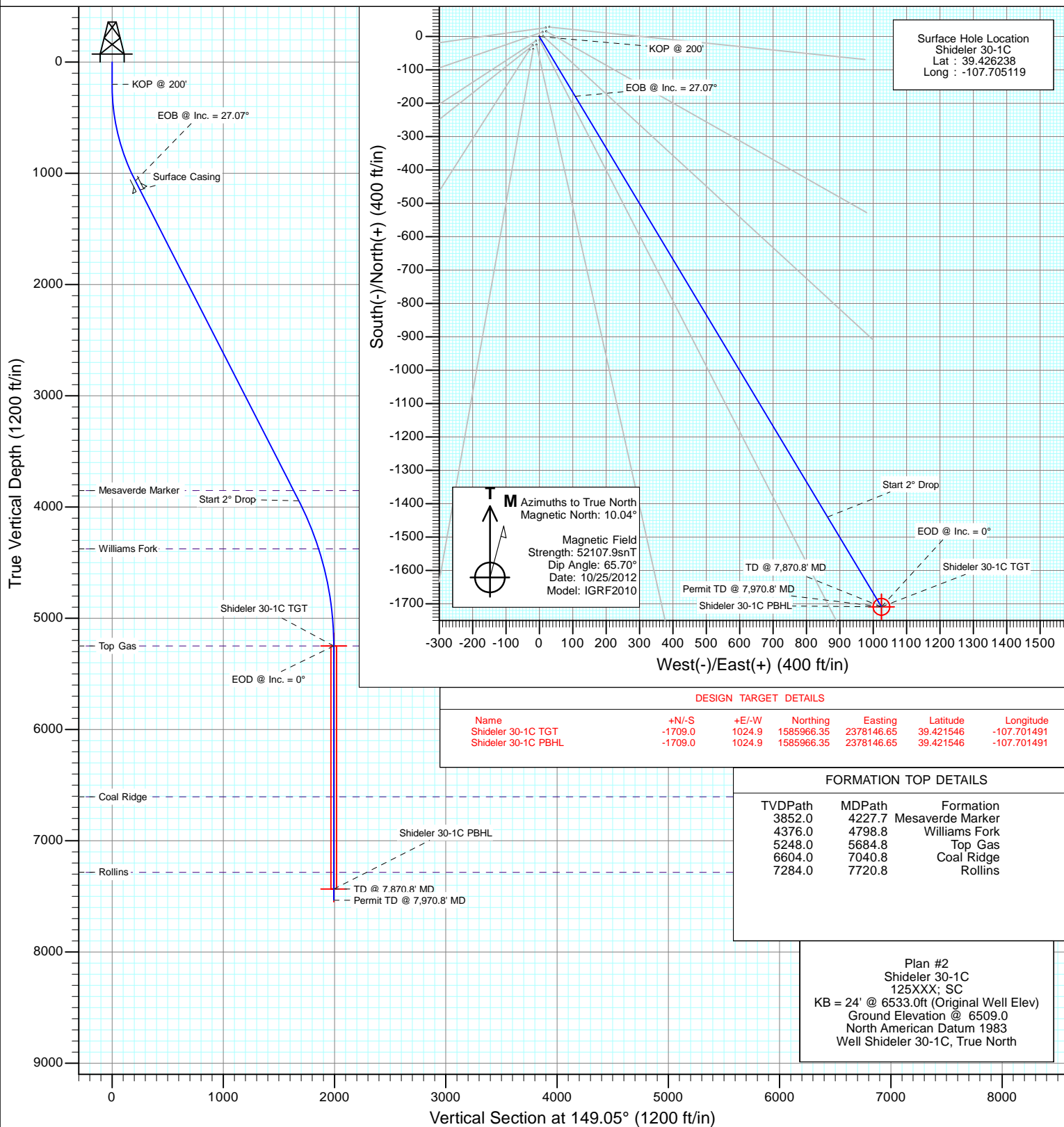


Project: Mamm Creek  
Site: O19EB Pad  
Well: Shideler 30-1C  
Wellbore: OH  
Design: Plan #2



#### SECTION DETAILS

| Sec | MD     | Inc   | Azi    | TVD    | +N/-S   | +E/-W  | Dleg | TFace  | VSec   | 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   | 1102.5 | 27.07 | 149.05 | 1069.3 | -179.5  | 107.6  | 3.00 | 149.05 | 209.3  |                     |
| 4   | 4331.1 | 27.07 | 149.05 | 3944.1 | -1439.7 | 863.4  | 0.00 | 0.00   | 1678.8 |                     |
| 5   | 5684.8 | 0.00  | 0.00   | 5248.0 | -1709.0 | 1024.9 | 2.00 | 180.00 | 1992.7 | Shideler 30-1C TGT  |
| 6   | 7870.8 | 0.00  | 0.00   | 7434.0 | -1709.0 | 1024.9 | 0.00 | 0.00   | 1992.7 | Shideler 30-1C PBHL |
| 7   | 7970.8 | 0.00  | 0.00   | 7534.0 | -1709.0 | 1024.9 | 0.00 | 0.00   | 1992.7 |                     |



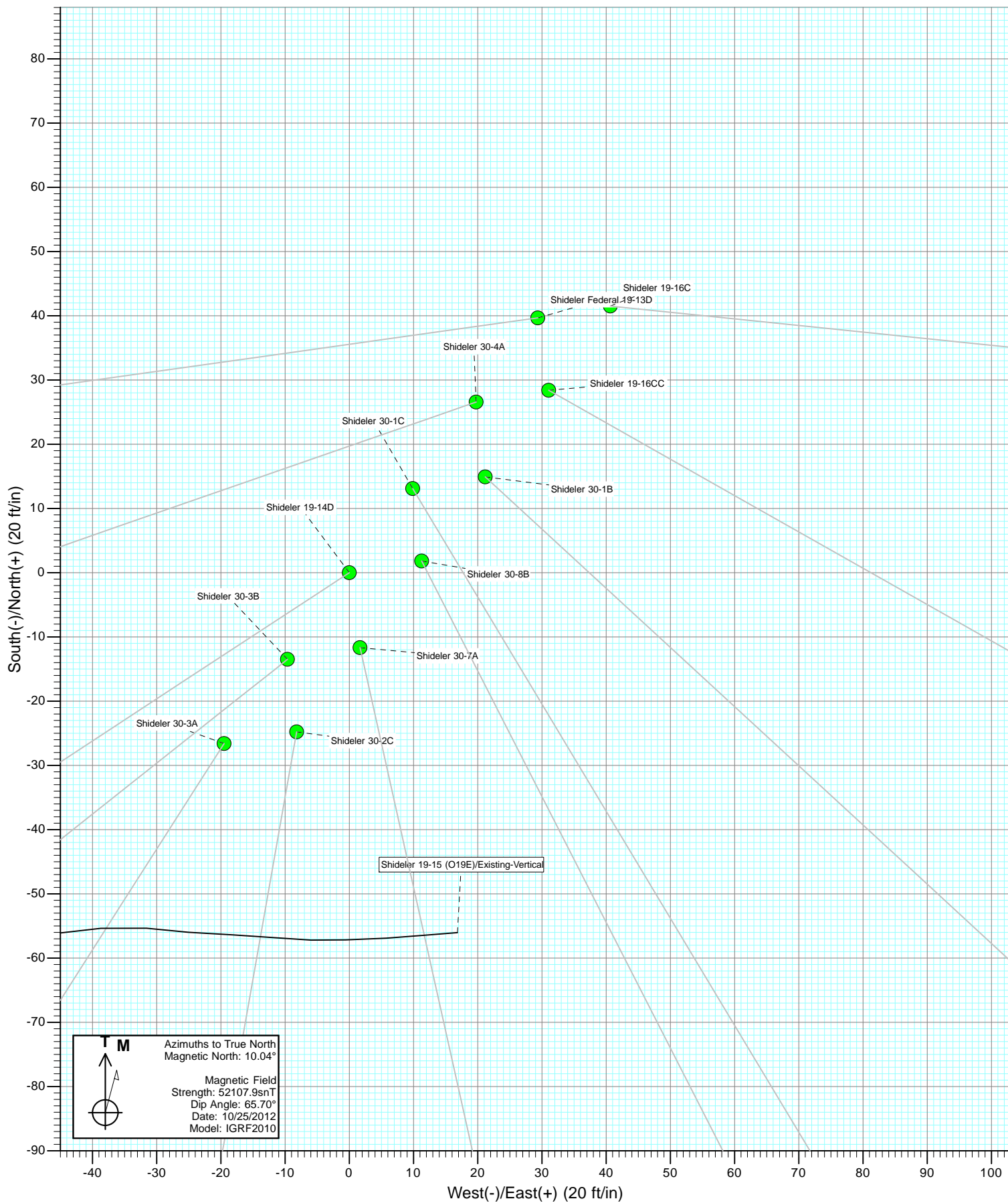
#### DESIGN TARGET DETAILS

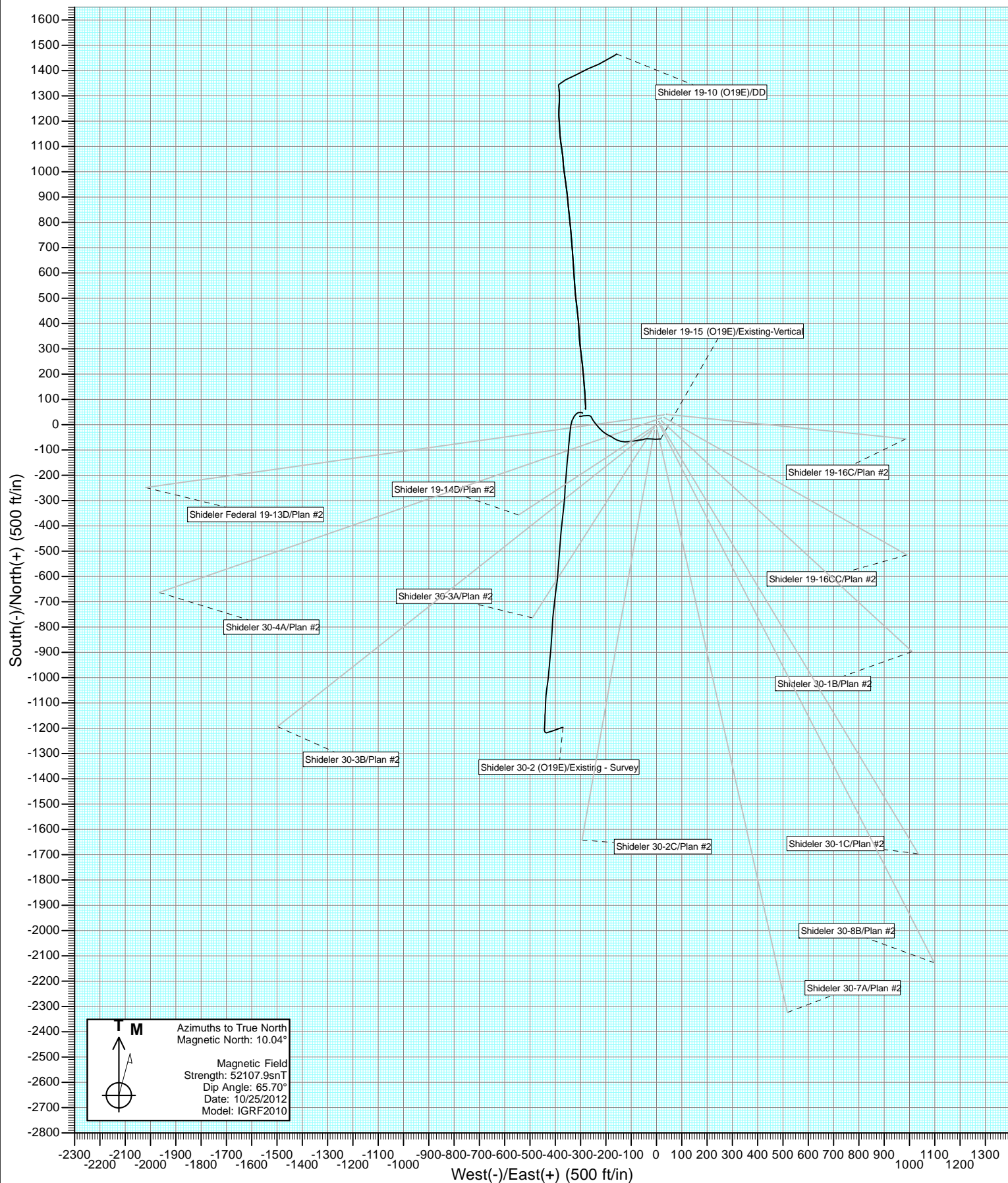
| Name                | +N/-S   | +E/-W  | Northing   | Easting    | Latitude  | Longitude   |
|---------------------|---------|--------|------------|------------|-----------|-------------|
| Shideler 30-1C TGT  | -1709.0 | 1024.9 | 1585966.35 | 2378146.65 | 39.421546 | -107.701491 |
| Shideler 30-1C PBHL | -1709.0 | 1024.9 | 1585966.35 | 2378146.65 | 39.421546 | -107.701491 |

#### FORMATION TOP DETAILS

| TVDPPath | MDPath | Formation        |
|----------|--------|------------------|
| 3852.0   | 4227.7 | Mesaverde Marker |
| 4376.0   | 4798.8 | Williams Fork    |
| 5248.0   | 5684.8 | Top Gas          |
| 6604.0   | 7040.8 | Coal Ridge       |
| 7284.0   | 7720.8 | Rollins          |

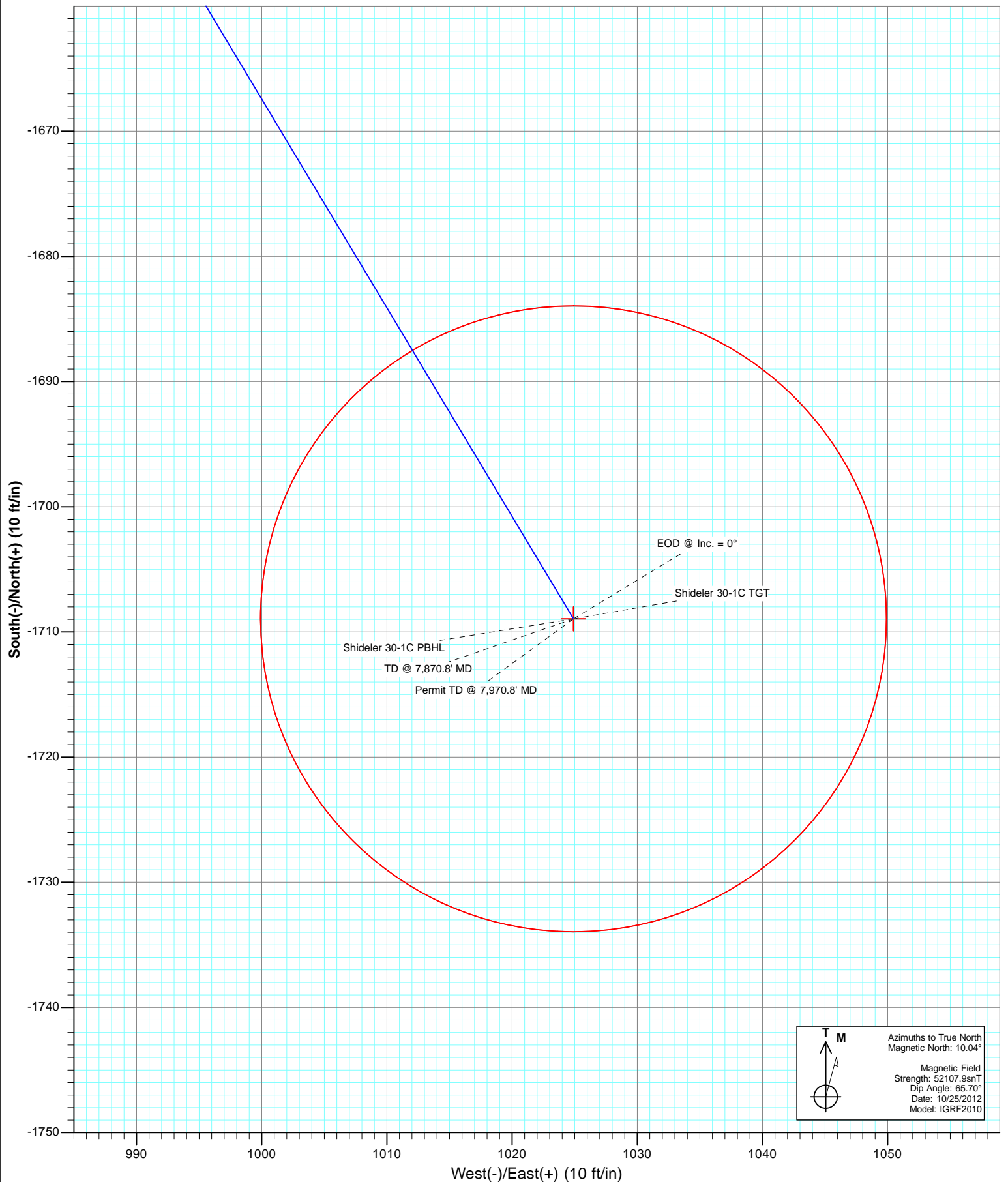
Plan #2  
Shideler 30-1C  
125XXX; SC  
KB = 24' @ 6533.0ft (Original Well Elev)  
Ground Elevation @ 6509.0  
North American Datum 1983  
Well Shideler 30-1C, True North







Project: Mamm Creek  
Site: O19EB Pad  
Well: Shideler 30-1C  
Wellbore: OH  
Plan: Plan #2



# Cathedral Energy Services

## Planning Report

|                  |                             |                                     |  |
|------------------|-----------------------------|-------------------------------------|--|
| <b>Database:</b> | USA EDM 5000 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site:</b>     | O19EB Pad                   | <b>North Reference:</b>             | True                                     |
| <b>Well:</b>     | Shideler 30-1C              | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Wellbore:</b> | OH                          |                                     |  |
| <b>Design:</b>   | Plan #2                     |                                     |  |

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

| Site                  |          | O19EB Pad    |                 |                   |             |
|-----------------------|----------|--------------|-----------------|-------------------|-------------|
| Site Position:        |          | Northing:    | 1,587,688.01 ft | Latitude:         | 39.426206   |
| From:                 | Lat/Long | Easting:     | 2,377,164.37 ft | Longitude:        | -107.705115 |
| Position Uncertainty: | 0.0 ft   | Slot Radius: | 13.200 in       | Grid Convergence: | -1.39 °     |

|                      |                |        |                     |                 |               |             |
|----------------------|----------------|--------|---------------------|-----------------|---------------|-------------|
| Well                 | Shideler 30-1C |        |                     |                 |               |             |
| Well Position        | +N/-S          | 0.0 ft | Northing:           | 1,587,699.68 ft | Latitude:     | 39.426238   |
|                      | +E/-W          | 0.0 ft | Easting:            | 2,377,163.52 ft | Longitude:    | -107.705119 |
| Position Uncertainty |                | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 6,509.0 ft  |

|                  |                   |                    |                    |                  |                       |
|------------------|-------------------|--------------------|--------------------|------------------|-----------------------|
| <b>Wellbore</b>  | OH                |                    |                    |                  |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b> | <b>Dip Angle</b> | <b>Field Strength</b> |
|                  |                   |                    | (°)                | (°)              | (nT)                  |
|                  | IGRF2010          | 10/25/2012         | 10.04              | 65.70            | 52,108                |

|                          |                         |              |                      |                  |
|--------------------------|-------------------------|--------------|----------------------|------------------|
| <b>Design</b>            | Plan #2                 |              |                      |                  |
| <b>Audit Notes:</b>      |                         |              |                      |                  |
| <b>Version:</b>          | <b>Phase:</b>           | PLAN         | <b>Tie On Depth:</b> | 0.0              |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b> | <b>+E/-W</b>         | <b>Direction</b> |
|                          | (ft)                    | (ft)         | (ft)                 | (°)              |
|                          | 0.0                     | 0.0          | 0.0                  | 149.05           |

|                       |                    |                |                       |              |              |                    |                   |                  |            |                     |
|-----------------------|--------------------|----------------|-----------------------|--------------|--------------|--------------------|-------------------|------------------|------------|---------------------|
| <b>Plan Sections</b>  |                    |                |                       |              |              |                    |                   |                  |            |                     |
| <b>Measured Depth</b> | <b>Inclination</b> | <b>Azimuth</b> | <b>Vertical Depth</b> | <b>+N/-S</b> | <b>+E/-W</b> | <b>Dogleg Rate</b> | <b>Build Rate</b> | <b>Turn Rate</b> | <b>TFO</b> | <b>Target</b>       |
| (ft)                  | (°)                | (°)            | (ft)                  | (ft)         | (ft)         | (°/100ft)          | (°/100ft)         | (°/100ft)        | (°)        |                     |
| 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       |                     |
| 1,102.5               | 27.07              | 149.05         | 1,069.3               | -179.5       | 107.6        | 3.00               | 3.00              | 0.00             | 149.05     |                     |
| 4,331.1               | 27.07              | 149.05         | 3,944.1               | -1,439.7     | 863.4        | 0.00               | 0.00              | 0.00             | 0.00       |                     |
| 5,684.8               | 0.00               | 0.00           | 5,248.0               | -1,709.0     | 1,024.9      | 2.00               | -2.00             | 0.00             | 180.00     | Shideler 30-1C TGT  |
| 7,870.8               | 0.00               | 0.00           | 7,434.0               | -1,709.0     | 1,024.9      | 0.00               | 0.00              | 0.00             | 0.00       | Shideler 30-1C PBHL |
| 7,970.8               | 0.00               | 0.00           | 7,534.0               | -1,709.0     | 1,024.9      | 0.00               | 0.00              | 0.00             | 0.00       |                     |

# Cathedral Energy Services

## Planning Report

|                  |                             |                                     |  |
|------------------|-----------------------------|-------------------------------------|--|
| <b>Database:</b> | USA EDM 5000 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site:</b>     | O19EB Pad                   | <b>North Reference:</b>             | True                                     |
| <b>Well:</b>     | Shideler 30-1C              | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Wellbore:</b> | OH                          |                                     |  |
| <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'            |
| 300.0               | 3.00            | 149.05      | 300.0               | -2.2       | 1.3        | 2.6                   | 3.00                  | 3.00                 |                       |
| 400.0               | 6.00            | 149.05      | 399.6               | -9.0       | 5.4        | 10.5                  | 3.00                  | 3.00                 |                       |
| 500.0               | 9.00            | 149.05      | 498.8               | -20.2      | 12.1       | 23.5                  | 3.00                  | 3.00                 |                       |
| 600.0               | 12.00           | 149.05      | 597.1               | -35.8      | 21.5       | 41.7                  | 3.00                  | 3.00                 |                       |
| 700.0               | 15.00           | 149.05      | 694.3               | -55.8      | 33.5       | 65.1                  | 3.00                  | 3.00                 |                       |
| 800.0               | 18.00           | 149.05      | 790.2               | -80.2      | 48.1       | 93.5                  | 3.00                  | 3.00                 |                       |
| 900.0               | 21.00           | 149.05      | 884.4               | -108.8     | 65.2       | 126.9                 | 3.00                  | 3.00                 |                       |
| 1,000.0             | 24.00           | 149.05      | 976.8               | -141.6     | 84.9       | 165.1                 | 3.00                  | 3.00                 |                       |
| 1,102.5             | 27.07           | 149.05      | 1,069.3             | -179.5     | 107.6      | 209.3                 | 3.00                  | 3.00                 | EOB @ Inc. = 27.07°   |
| 1,192.7             | 27.07           | 149.05      | 1,149.6             | -214.7     | 128.8      | 250.4                 | 0.00                  | 0.00                 | Surface Casing        |
| 1,200.0             | 27.07           | 149.05      | 1,156.1             | -217.6     | 130.5      | 253.7                 | 0.00                  | 0.00                 |                       |
| 1,300.0             | 27.07           | 149.05      | 1,245.1             | -256.6     | 153.9      | 299.2                 | 0.00                  | 0.00                 |                       |
| 1,400.0             | 27.07           | 149.05      | 1,334.2             | -295.6     | 177.3      | 344.7                 | 0.00                  | 0.00                 |                       |
| 1,500.0             | 27.07           | 149.05      | 1,423.2             | -334.7     | 200.7      | 390.2                 | 0.00                  | 0.00                 |                       |
| 1,600.0             | 27.07           | 149.05      | 1,512.3             | -373.7     | 224.1      | 435.7                 | 0.00                  | 0.00                 |                       |
| 1,700.0             | 27.07           | 149.05      | 1,601.3             | -412.7     | 247.5      | 481.2                 | 0.00                  | 0.00                 |                       |
| 1,800.0             | 27.07           | 149.05      | 1,690.4             | -451.7     | 270.9      | 526.8                 | 0.00                  | 0.00                 |                       |
| 1,900.0             | 27.07           | 149.05      | 1,779.4             | -490.8     | 294.3      | 572.3                 | 0.00                  | 0.00                 |                       |
| 2,000.0             | 27.07           | 149.05      | 1,868.4             | -529.8     | 317.7      | 617.8                 | 0.00                  | 0.00                 |                       |
| 2,100.0             | 27.07           | 149.05      | 1,957.5             | -568.8     | 341.2      | 663.3                 | 0.00                  | 0.00                 |                       |
| 2,200.0             | 27.07           | 149.05      | 2,046.5             | -607.9     | 364.6      | 708.8                 | 0.00                  | 0.00                 |                       |
| 2,300.0             | 27.07           | 149.05      | 2,135.6             | -646.9     | 388.0      | 754.3                 | 0.00                  | 0.00                 |                       |
| 2,400.0             | 27.07           | 149.05      | 2,224.6             | -685.9     | 411.4      | 799.9                 | 0.00                  | 0.00                 |                       |
| 2,500.0             | 27.07           | 149.05      | 2,313.6             | -725.0     | 434.8      | 845.4                 | 0.00                  | 0.00                 |                       |
| 2,600.0             | 27.07           | 149.05      | 2,402.7             | -764.0     | 458.2      | 890.9                 | 0.00                  | 0.00                 |                       |
| 2,700.0             | 27.07           | 149.05      | 2,491.7             | -803.0     | 481.6      | 936.4                 | 0.00                  | 0.00                 |                       |
| 2,800.0             | 27.07           | 149.05      | 2,580.8             | -842.1     | 505.0      | 981.9                 | 0.00                  | 0.00                 |                       |
| 2,900.0             | 27.07           | 149.05      | 2,669.8             | -881.1     | 528.4      | 1,027.4               | 0.00                  | 0.00                 |                       |
| 3,000.0             | 27.07           | 149.05      | 2,758.9             | -920.1     | 551.8      | 1,072.9               | 0.00                  | 0.00                 |                       |
| 3,100.0             | 27.07           | 149.05      | 2,847.9             | -959.2     | 575.2      | 1,118.5               | 0.00                  | 0.00                 |                       |
| 3,200.0             | 27.07           | 149.05      | 2,936.9             | -998.2     | 598.7      | 1,164.0               | 0.00                  | 0.00                 |                       |
| 3,300.0             | 27.07           | 149.05      | 3,026.0             | -1,037.2   | 622.1      | 1,209.5               | 0.00                  | 0.00                 |                       |
| 3,400.0             | 27.07           | 149.05      | 3,115.0             | -1,076.3   | 645.5      | 1,255.0               | 0.00                  | 0.00                 |                       |
| 3,500.0             | 27.07           | 149.05      | 3,204.1             | -1,115.3   | 668.9      | 1,300.5               | 0.00                  | 0.00                 |                       |
| 3,600.0             | 27.07           | 149.05      | 3,293.1             | -1,154.3   | 692.3      | 1,346.0               | 0.00                  | 0.00                 |                       |
| 3,700.0             | 27.07           | 149.05      | 3,382.1             | -1,193.4   | 715.7      | 1,391.5               | 0.00                  | 0.00                 |                       |
| 3,800.0             | 27.07           | 149.05      | 3,471.2             | -1,232.4   | 739.1      | 1,437.1               | 0.00                  | 0.00                 |                       |
| 3,900.0             | 27.07           | 149.05      | 3,560.2             | -1,271.4   | 762.5      | 1,482.6               | 0.00                  | 0.00                 |                       |
| 4,000.0             | 27.07           | 149.05      | 3,649.3             | -1,310.5   | 785.9      | 1,528.1               | 0.00                  | 0.00                 |                       |
| 4,100.0             | 27.07           | 149.05      | 3,738.3             | -1,349.5   | 809.3      | 1,573.6               | 0.00                  | 0.00                 |                       |
| 4,200.0             | 27.07           | 149.05      | 3,827.4             | -1,388.5   | 832.8      | 1,619.1               | 0.00                  | 0.00                 |                       |
| 4,227.7             | 27.07           | 149.05      | 3,852.0             | -1,399.3   | 839.2      | 1,631.7               | 0.00                  | 0.00                 | Mesaverde Marker      |
| 4,300.0             | 27.07           | 149.05      | 3,916.4             | -1,427.6   | 856.2      | 1,664.6               | 0.00                  | 0.00                 |                       |
| 4,331.1             | 27.07           | 149.05      | 3,944.1             | -1,439.7   | 863.4      | 1,678.8               | 0.00                  | 0.00                 | Start 2° Drop         |
| 4,400.0             | 25.70           | 149.05      | 4,005.8             | -1,466.0   | 879.2      | 1,709.4               | 2.00                  | -2.00                |                       |
| 4,500.0             | 23.70           | 149.05      | 4,096.7             | -1,501.8   | 900.7      | 1,751.2               | 2.00                  | -2.00                |                       |
| 4,600.0             | 21.70           | 149.05      | 4,188.9             | -1,534.9   | 920.5      | 1,789.8               | 2.00                  | -2.00                |                       |
| 4,700.0             | 19.70           | 149.05      | 4,282.4             | -1,565.2   | 938.7      | 1,825.1               | 2.00                  | -2.00                |                       |
| 4,798.8             | 17.72           | 149.05      | 4,376.0             | -1,592.4   | 955.0      | 1,856.8               | 2.00                  | -2.00                | Williams Fork         |

# Cathedral Energy Services

## Planning Report

|                  |                             |                                     |  |
|------------------|-----------------------------|-------------------------------------|--|
| <b>Database:</b> | USA EDM 5000 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site:</b>     | O19EB Pad                   | <b>North Reference:</b>             | True                                     |
| <b>Well:</b>     | Shideler 30-1C              | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Wellbore:</b> | OH                          |                                     |  |
| <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     |
| 4,800.0             | 17.70           | 149.05      | 4,377.2             | -1,592.7   | 955.2      | 1,857.2               | 2.00                  | -2.00                |                           |
| 4,900.0             | 15.70           | 149.05      | 4,472.9             | -1,617.3   | 970.0      | 1,885.9               | 2.00                  | -2.00                |                           |
| 5,000.0             | 13.70           | 149.05      | 4,569.7             | -1,639.1   | 983.0      | 1,911.3               | 2.00                  | -2.00                |                           |
| 5,100.0             | 11.70           | 149.05      | 4,667.2             | -1,657.9   | 994.3      | 1,933.2               | 2.00                  | -2.00                |                           |
| 5,200.0             | 9.70            | 149.05      | 4,765.5             | -1,673.9   | 1,003.9    | 1,951.8               | 2.00                  | -2.00                |                           |
| 5,300.0             | 7.70            | 149.05      | 4,864.3             | -1,686.8   | 1,011.6    | 1,966.9               | 2.00                  | -2.00                |                           |
| 5,400.0             | 5.70            | 149.05      | 4,963.6             | -1,696.8   | 1,017.6    | 1,978.6               | 2.00                  | -2.00                |                           |
| 5,500.0             | 3.70            | 149.05      | 5,063.3             | -1,703.8   | 1,021.8    | 1,986.8               | 2.00                  | -2.00                |                           |
| 5,600.0             | 1.70            | 149.05      | 5,163.2             | -1,707.9   | 1,024.3    | 1,991.5               | 2.00                  | -2.00                |                           |
| 5,684.8             | 0.00            | 0.00        | 5,248.0             | -1,709.0   | 1,024.9    | 1,992.7               | 2.00                  | -2.00                | EOD @ Inc. = 0° - Top Gas |
| 5,700.0             | 0.00            | 0.00        | 5,263.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 5,800.0             | 0.00            | 0.00        | 5,363.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 5,900.0             | 0.00            | 0.00        | 5,463.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,000.0             | 0.00            | 0.00        | 5,563.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,100.0             | 0.00            | 0.00        | 5,663.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,200.0             | 0.00            | 0.00        | 5,763.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,300.0             | 0.00            | 0.00        | 5,863.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,400.0             | 0.00            | 0.00        | 5,963.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,500.0             | 0.00            | 0.00        | 6,063.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,600.0             | 0.00            | 0.00        | 6,163.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,700.0             | 0.00            | 0.00        | 6,263.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,800.0             | 0.00            | 0.00        | 6,363.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 6,900.0             | 0.00            | 0.00        | 6,463.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,000.0             | 0.00            | 0.00        | 6,563.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,040.8             | 0.00            | 0.00        | 6,604.0             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 | Coal Ridge                |
| 7,100.0             | 0.00            | 0.00        | 6,663.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,200.0             | 0.00            | 0.00        | 6,763.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,300.0             | 0.00            | 0.00        | 6,863.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,400.0             | 0.00            | 0.00        | 6,963.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,500.0             | 0.00            | 0.00        | 7,063.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,600.0             | 0.00            | 0.00        | 7,163.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,700.0             | 0.00            | 0.00        | 7,263.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,720.8             | 0.00            | 0.00        | 7,284.0             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 | Rollins                   |
| 7,800.0             | 0.00            | 0.00        | 7,363.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,870.8             | 0.00            | 0.00        | 7,434.0             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 | TD @ 7,870.8' MD          |
| 7,900.0             | 0.00            | 0.00        | 7,463.2             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 |                           |
| 7,970.8             | 0.00            | 0.00        | 7,534.0             | -1,709.0   | 1,024.9    | 1,992.7               | 0.00                  | 0.00                 | Permit TD @ 7,970.8' MD   |

| Targets                   |               |              |          |            |            |               |              |           |             |
|---------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name               |               |              |          |            |            |               |              |           |             |
| - hit/miss target         | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
| - Shape                   |               |              |          |            |            |               |              |           |             |
| Shideler 30-1C TGT        | 0.00          | 0.00         | 5,248.0  | -1,709.0   | 1,024.9    | 1,585,966.35  | 2,378,146.65 | 39.421546 | -107.701491 |
| - plan hits target center |               |              |          |            |            |               |              |           |             |
| - Point                   |               |              |          |            |            |               |              |           |             |
| Shideler 30-1C PBHL       | 0.00          | 0.00         | 7,434.0  | -1,709.0   | 1,024.9    | 1,585,966.35  | 2,378,146.65 | 39.421546 | -107.701491 |
| - plan hits target center |               |              |          |            |            |               |              |           |             |
| - Circle (radius 25.0)    |               |              |          |            |            |               |              |           |             |

# Cathedral Energy Services

## Planning Report

|                  |                             |                                     |  |
|------------------|-----------------------------|-------------------------------------|--|
| <b>Database:</b> | USA EDM 5000 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc  | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site:</b>     | O19EB Pad                   | <b>North Reference:</b>             | True                                     |
| <b>Well:</b>     | Shideler 30-1C              | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Wellbore:</b> | OH                          |                                     |  |
| <b>Design:</b>   | Plan #2                     |                                     |  |

| Casing Points       |                     |                |                      |                    |
|---------------------|---------------------|----------------|----------------------|--------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name           | Casing Diameter (in) | Hole Diameter (in) |
| 1,192.7             | 1,149.6             | Surface Casing |                      |                    |

| Formations          |                     |                  |           |         |                   |
|---------------------|---------------------|------------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name             | Lithology | Dip (°) | Dip Direction (°) |
| 4,227.7             | 3,852.0             | Mesaverde Marker |           |         |                   |
| 4,798.8             | 4,376.0             | Williams Fork    |           |         |                   |
| 5,684.8             | 5,248.0             | Top Gas          |           |         |                   |
| 7,040.8             | 6,604.0             | Coal Ridge       |           |         |                   |
| 7,720.8             | 7,284.0             | Rollins          |           |         |                   |

| Plan Annotations    |                     |                   |            |                         |
|---------------------|---------------------|-------------------|------------|-------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                 |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                         |
| 200.0               | 200.0               | 0.0               | 0.0        | KOP @ 200'              |
| 1,102.5             | 1,069.3             | -179.5            | 107.6      | EOB @ Inc. = 27.07°     |
| 4,331.1             | 3,944.1             | -1,439.7          | 863.4      | Start 2° Drop           |
| 5,684.8             | 5,248.0             | -1,709.0          | 1,024.9    | EOD @ Inc. = 0°         |
| 7,870.8             | 7,434.0             | -1,709.0          | 1,024.9    | TD @ 7,870.8' MD        |
| 7,970.8             | 7,534.0             | -1,709.0          | 1,024.9    | Permit TD @ 7,970.8' MD |



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

**Mamm Creek**

**O19EB Pad**

**Shideler 30-1C**

**OH**

**Plan #2**

## **Anticollision Report**

**13 November, 2012**

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Reference                    | Plan #2   |                |                     |
|------------------------------|---|----------------|---------------------|
| Filter type:                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |                |                     |
| Interpolation Method:        | MD Interval 100.0ft   | Error Model:   | Systematic Ellipse  |
| Depth Range:                 | Unlimited   | Scan Method:   | Closest Approach 3D |
| Results Limited by:          | Maximum center-center distance of 500.0ft                           | Error Surface: | Elliptical Conic    |
| Warning Levels Evaluated at: | 2.00 Sigma  |                |                     |

| Survey Tool Program |            | Date              | 11/13/2012 |             |  |
|---------------------|------------|-------------------|------------|-------------|--|
| From<br>(ft)        | To<br>(ft) | Survey (Wellbore) | Tool Name  | Description |  |
| 0.0                 | 7,970.8    | Plan #2 (OH)      | MWD        | Geolink MWD |  |

| Summary  |                               |                            |                               |                                |                   |              |
|--|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|--------------|
| Site Name  | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning      |
| Offset Well - Wellbore - Design                        |                               |                            |                               |                                |                   |              |
| O19EB Pad  |                               |                            |                               |                                |                   |              |
| (Existing Offset) Shideler 19-6D - Existing - Existing |                               |                            |                               |                                |                   | Out of range |
| Shideler 19-14D - OH - Plan #2                         | 272.6                         | 272.4                      | 16.1                          | 15.2                           | 18.433            | CC, ES       |
| Shideler 19-14D - OH - Plan #2                         | 400.0                         | 398.2                      | 21.4                          | 20.1                           | 15.710            | SF           |
| Shideler 19-16C - OH - Plan #2                         | 200.0                         | 200.0                      | 41.9                          | 41.3                           | 68.193            | CC, ES       |
| Shideler 19-16C - OH - Plan #2                         | 800.0                         | 787.2                      | 114.6                         | 110.6                          | 28.859            | SF           |
| Shideler 19-16CC - OH - Plan #2                        | 200.0                         | 200.0                      | 26.1                          | 25.5                           | 42.535            | CC           |
| Shideler 19-16CC - OH - Plan #2                        | 300.0                         | 300.0                      | 26.5                          | 25.5                           | 27.257            | ES           |
| Shideler 19-16CC - OH - Plan #2                        | 800.0                         | 797.3                      | 70.1                          | 66.1                           | 17.646            | SF           |
| Shideler 30-1B - OH - Plan #2                          | 326.3                         | 326.2                      | 10.6                          | 9.6                            | 9.885             | CC, ES       |
| Shideler 30-1B - OH - Plan #2                          | 400.0                         | 399.7                      | 12.0                          | 10.7                           | 8.853             | SF           |
| Shideler 30-2C - OH - Plan #2                          | 200.0                         | 200.0                      | 42.0                          | 41.4                           | 68.321            | CC, ES       |
| Shideler 30-2C - OH - Plan #2                          | 1,200.0                       | 1,163.6                    | 190.8                         | 181.5                          | 20.625            | SF           |
| Shideler 30-3A - OH - Plan #2                          | 241.2                         | 240.8                      | 49.3                          | 48.5                           | 64.853            | CC, ES       |
| Shideler 30-3A - OH - Plan #2                          | 800.0                         | 781.8                      | 116.3                         | 112.5                          | 30.077            | SF           |
| Shideler 30-3B - OH - Plan #2                          | 200.0                         | 200.0                      | 33.0                          | 32.4                           | 53.663            | CC, ES       |
| Shideler 30-3B - OH - Plan #2                          | 500.0                         | 492.0                      | 53.7                          | 51.8                           | 29.473            | SF           |
| Shideler 30-4A - OH - Plan #2                          | 200.0                         | 200.0                      | 16.7                          | 16.1                           | 27.206            | CC           |
| Shideler 30-4A - OH - Plan #2                          | 300.0                         | 300.4                      | 16.8                          | 15.9                           | 17.322            | ES           |
| Shideler 30-4A - OH - Plan #2                          | 400.0                         | 400.2                      | 20.1                          | 18.7                           | 14.855            | SF           |
| Shideler 30-7A - OH - Plan #2                          | 365.6                         | 364.3                      | 24.6                          | 23.4                           | 20.173            | CC           |
| Shideler 30-7A - OH - Plan #2                          | 400.0                         | 398.4                      | 24.7                          | 23.4                           | 18.200            | ES           |
| Shideler 30-7A - OH - Plan #2                          | 1,300.0                       | 1,287.4                    | 108.8                         | 97.1                           | 9.316             | SF           |
| Shideler 30-8B - OH - Plan #2                          | 200.0                         | 200.0                      | 11.4                          | 10.8                           | 18.522            | CC           |
| Shideler 30-8B - OH - Plan #2                          | 500.0                         | 498.3                      | 11.9                          | 10.2                           | 6.876             | ES           |
| Shideler 30-8B - OH - Plan #2                          | 1,100.0                       | 1,095.0                    | 20.6                          | 12.5                           | 2.537             | SF           |
| Shideler Federal 19-13D - OH - Plan #2                 | 318.9                         | 320.1                      | 32.4                          | 31.3                           | 30.670            | CC, ES       |
| Shideler Federal 19-13D - OH - Plan #2                 | 400.0                         | 400.9                      | 34.3                          | 32.9                           | 24.762            | SF           |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 19-14D - OH - 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            | -142.98                     | -13.1                                   | -9.9          | 16.4                       |                             |      |                              |                      |         |
| 100.0  | 100.0                     | 100.0                     | 100.0                     | 0.1               | 0.1            | -142.98                     | -13.1                                   | -9.9          | 16.4                       | 16.2                        | 0.27 | 61.902                       |                      |         |
| 200.0  | 200.0                     | 200.0                     | 200.0                     | 0.3               | 0.3            | -142.98                     | -13.1                                   | -9.9          | 16.4                       | 15.8                        | 0.61 | 26.731                       |                      |         |
| 272.6  | 272.6                     | 272.4                     | 272.4                     | 0.4               | 0.4            | 72.67                       | -13.2                                   | -10.0         | 16.1                       | 15.2                        | 0.87 | 18.433 CC, ES                |                      |         |
| 300.0  | 300.0                     | 299.5                     | 299.5                     | 0.5               | 0.5            | 77.27                       | -13.5                                   | -10.4         | 16.3                       | 15.3                        | 0.97 | 16.756                       |                      |         |
| 400.0  | 399.6                     | 398.2                     | 398.0                     | 0.7               | 0.7            | 100.50                      | -16.3                                   | -14.7         | 21.4                       | 20.1                        | 1.36 | 15.710 SF                    |                      |         |
| 500.0  | 498.8                     | 495.5                     | 494.9                     | 1.0               | 0.9            | 117.20                      | -21.7                                   | -23.1         | 35.4                       | 33.6                        | 1.80 | 19.632                       |                      |         |
| 600.0  | 597.1                     | 593.0                     | 591.4                     | 1.4               | 1.2            | 126.59                      | -28.8                                   | -33.8         | 56.0                       | 53.7                        | 2.30 | 24.406                       |                      |         |
| 700.0  | 694.3                     | 689.4                     | 687.1                     | 1.8               | 1.4            | 133.39                      | -35.8                                   | -44.5         | 80.8                       | 78.0                        | 2.82 | 28.674                       |                      |         |
| 800.0  | 790.2                     | 784.6                     | 781.4                     | 2.3               | 1.7            | 138.57                      | -42.6                                   | -55.0         | 110.1                      | 106.7                       | 3.36 | 32.781                       |                      |         |
| 900.0  | 884.4                     | 878.2                     | 874.2                     | 3.0               | 2.0            | 142.60                      | -49.4                                   | -65.4         | 143.8                      | 139.9                       | 3.90 | 36.877                       |                      |         |
| 1,000.0  | 976.8                     | 970.0                     | 965.2                     | 3.7               | 2.2            | 145.79                      | -56.1                                   | -75.5         | 182.2                      | 177.7                       | 4.44 | 41.023                       |                      |         |
| 1,100.0  | 1,067.1                   | 1,059.7                   | 1,054.1                   | 4.5               | 2.5            | 148.33                      | -62.5                                   | -85.4         | 225.1                      | 220.1                       | 4.98 | 45.222                       |                      |         |
| 1,200.0  | 1,156.1                   | 1,148.2                   | 1,141.8                   | 5.3               | 2.7            | 150.89                      | -68.9                                   | -95.2         | 270.6                      | 265.1                       | 5.50 | 49.155                       |                      |         |
| 1,300.0  | 1,245.1                   | 1,236.7                   | 1,229.5                   | 6.1               | 3.0            | 152.73                      | -75.3                                   | -105.0        | 316.4                      | 310.4                       | 6.03 | 52.475                       |                      |         |
| 1,400.0  | 1,334.2                   | 1,325.2                   | 1,317.2                   | 7.0               | 3.2            | 154.10                      | -81.7                                   | -114.8        | 362.4                      | 355.8                       | 6.55 | 55.307                       |                      |         |
| 1,500.0  | 1,423.2                   | 1,413.7                   | 1,404.9                   | 7.8               | 3.5            | 155.17                      | -88.1                                   | -124.6        | 408.5                      | 401.4                       | 7.07 | 57.747                       |                      |         |
| 1,600.0  | 1,512.3                   | 1,502.2                   | 1,492.7                   | 8.6               | 3.7            | 156.02                      | -94.5                                   | -134.3        | 454.7                      | 447.1                       | 7.60 | 59.869                       |                      |         |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 19-16C - OH - 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            | 47.30                       | 28.4                                    | 30.8          | 41.9                       |                             |                     |               |                    |        |
| 100.0  | 100.0                  | 100.0                  | 100.0                  | 0.1               | 0.1            | 47.30                       | 28.4                                    | 30.8          | 41.9                       | 41.6                        | 0.27                | 157.921       |                    |        |
| 200.0  | 200.0                  | 200.0                  | 200.0                  | 0.3               | 0.3            | 47.30                       | 28.4                                    | 30.8          | 41.9                       | 41.3                        | 0.61                | 68.193 CC, ES |                    |        |
| 300.0  | 300.0                  | 299.3                  | 299.3                  | 0.5               | 0.5            | -104.47                     | 28.3                                    | 31.4          | 42.9                       | 41.9                        | 0.97                | 44.210        |                    |        |
| 400.0  | 399.6                  | 397.7                  | 397.5                  | 0.7               | 0.7            | -108.51                     | 27.8                                    | 36.5          | 48.2                       | 46.8                        | 1.37                | 35.187        |                    |        |
| 500.0  | 498.8                  | 495.6                  | 495.0                  | 1.0               | 0.9            | -112.04                     | 26.8                                    | 46.5          | 58.3                       | 56.5                        | 1.86                | 31.413        |                    |        |
| 600.0  | 597.1                  | 592.9                  | 591.0                  | 1.4               | 1.2            | -114.51                     | 25.3                                    | 61.3          | 73.2                       | 70.7                        | 2.46                | 29.737        |                    |        |
| 700.0  | 694.3                  | 689.8                  | 686.1                  | 1.8               | 1.6            | -116.26                     | 23.3                                    | 80.6          | 92.4                       | 89.2                        | 3.18                | 29.095        |                    |        |
| 800.0  | 790.2                  | 787.2                  | 781.2                  | 2.3               | 1.9            | -119.11                     | 21.2                                    | 100.7         | 114.6                      | 110.6                       | 3.97                | 28.859 SF     |                    |        |
| 900.0  | 884.4                  | 883.5                  | 875.5                  | 3.0               | 2.3            | -122.64                     | 19.2                                    | 120.7         | 139.7                      | 134.9                       | 4.81                | 29.063        |                    |        |
| 1,000.0  | 976.8                  | 978.6                  | 968.5                  | 3.7               | 2.7            | -126.31                     | 17.1                                    | 140.4         | 168.4                      | 162.7                       | 5.66                | 29.728        |                    |        |
| 1,100.0  | 1,067.1                | 1,072.3                | 1,060.1                | 4.5               | 3.1            | -129.80                     | 15.1                                    | 159.8         | 200.8                      | 194.3                       | 6.52                | 30.811        |                    |        |
| 1,200.0  | 1,156.1                | 1,165.1                | 1,150.8                | 5.3               | 3.4            | -133.40                     | 13.2                                    | 179.0         | 235.8                      | 228.5                       | 7.33                | 32.171        |                    |        |
| 1,300.0  | 1,245.1                | 1,257.8                | 1,241.6                | 6.1               | 3.8            | -136.09                     | 11.2                                    | 198.2         | 271.4                      | 263.3                       | 8.12                | 33.409        |                    |        |
| 1,400.0  | 1,334.2                | 1,350.6                | 1,332.3                | 7.0               | 4.2            | -138.16                     | 9.2                                     | 217.4         | 307.5                      | 298.6                       | 8.91                | 34.516        |                    |        |
| 1,500.0  | 1,423.2                | 1,443.4                | 1,423.1                | 7.8               | 4.6            | -139.80                     | 7.2                                     | 236.7         | 343.8                      | 334.1                       | 9.68                | 35.500        |                    |        |
| 1,600.0  | 1,512.3                | 1,536.1                | 1,513.8                | 8.6               | 4.9            | -141.12                     | 5.3                                     | 255.9         | 380.3                      | 369.8                       | 10.45               | 36.375        |                    |        |
| 1,700.0  | 1,601.3                | 1,628.9                | 1,604.5                | 9.4               | 5.3            | -142.22                     | 3.3                                     | 275.1         | 416.9                      | 405.7                       | 11.22               | 37.155        |                    |        |
| 1,800.0  | 1,690.4                | 1,721.7                | 1,695.3                | 10.3              | 5.7            | -143.14                     | 1.3                                     | 294.3         | 453.7                      | 441.7                       | 11.99               | 37.853        |                    |        |
| 1,900.0  | 1,779.4                | 1,814.5                | 1,786.0                | 11.1              | 6.1            | -143.92                     | -0.7                                    | 313.5         | 490.5                      | 477.8                       | 12.75               | 38.479        |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 19-16CC - OH - 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 (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) | Uncertainty Axis | Factor    |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | 54.17                 | 15.3                              | 21.2       | 26.1                 |                       |                  |           |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | 54.17                 | 15.3                              | 21.2       | 26.1                 | 25.9                  | 0.27             | 98.503    |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | 54.17                 | 15.3                              | 21.2       | 26.1                 | 25.5                  | 0.61             | 42.535 CC |                    |        |
| 300.0   | 300.0               | 300.0               | 300.0               | 0.5             | 0.5         | -100.52               | 15.3                              | 21.2       | 26.5                 | 25.5                  | 0.97             | 27.257 ES |                    |        |
| 400.0   | 399.6               | 399.5               | 399.4               | 0.7             | 0.7         | -110.76               | 14.0                              | 23.4       | 29.2                 | 27.9                  | 1.37             | 21.413    |                    |        |
| 500.0   | 498.8               | 499.0               | 498.7               | 1.0             | 0.9         | -117.92               | 10.2                              | 30.2       | 35.4                 | 33.5                  | 1.83             | 19.295    |                    |        |
| 600.0   | 597.1               | 598.6               | 597.4               | 1.4             | 1.1         | -121.77               | 3.8                               | 41.5       | 44.4                 | 42.0                  | 2.41             | 18.448    |                    |        |
| 700.0   | 694.3               | 698.1               | 695.2               | 1.8             | 1.5         | -123.31               | -5.1                              | 57.2       | 56.0                 | 52.9                  | 3.12             | 17.973    |                    |        |
| 800.0   | 790.2               | 797.3               | 791.7               | 2.3             | 1.9         | -123.55               | -16.4                             | 77.2       | 70.1                 | 66.1                  | 3.97             | 17.646 SF |                    |        |
| 900.0   | 884.4               | 895.8               | 887.2               | 3.0             | 2.3         | -125.26               | -28.4                             | 98.5       | 87.0                 | 82.1                  | 4.88             | 17.830    |                    |        |
| 1,000.0   | 976.8               | 993.6               | 981.9               | 3.7             | 2.8         | -128.48               | -40.4                             | 119.6      | 107.1                | 101.3                 | 5.77             | 18.551    |                    |        |
| 1,100.0   | 1,067.1             | 1,090.3             | 1,075.5             | 4.5             | 3.2         | -132.22               | -52.2                             | 140.5      | 130.9                | 124.3                 | 6.63             | 19.745    |                    |        |
| 1,200.0   | 1,156.1             | 1,186.4             | 1,168.6             | 5.3             | 3.7         | -135.90               | -64.0                             | 161.3      | 157.1                | 149.7                 | 7.42             | 21.171    |                    |        |
| 1,300.0   | 1,245.1             | 1,282.5             | 1,261.7             | 6.1             | 4.1         | -138.54               | -75.8                             | 182.1      | 183.7                | 175.5                 | 8.20             | 22.401    |                    |        |
| 1,400.0   | 1,334.2             | 1,378.6             | 1,354.8             | 7.0             | 4.6         | -140.51               | -87.5                             | 202.9      | 210.7                | 201.7                 | 8.98             | 23.460    |                    |        |
| 1,500.0   | 1,423.2             | 1,474.7             | 1,447.8             | 7.8             | 5.0         | -142.03               | -99.3                             | 223.7      | 237.7                | 228.0                 | 9.75             | 24.374    |                    |        |
| 1,600.0   | 1,512.3             | 1,570.8             | 1,540.9             | 8.6             | 5.5         | -143.24               | -111.1                            | 244.5      | 265.0                | 254.4                 | 10.53            | 25.169    |                    |        |
| 1,700.0   | 1,601.3             | 1,666.9             | 1,634.0             | 9.4             | 5.9         | -144.23               | -122.8                            | 265.3      | 292.3                | 281.0                 | 11.30            | 25.865    |                    |        |
| 1,800.0   | 1,690.4             | 1,763.0             | 1,727.1             | 10.3            | 6.4         | -145.05               | -134.6                            | 286.1      | 319.6                | 307.6                 | 12.07            | 26.478    |                    |        |
| 1,900.0   | 1,779.4             | 1,859.0             | 1,820.1             | 11.1            | 6.9         | -145.74               | -146.4                            | 306.9      | 347.0                | 334.2                 | 12.84            | 27.022    |                    |        |
| 2,000.0   | 1,868.4             | 1,955.1             | 1,913.2             | 11.9            | 7.3         | -146.32               | -158.1                            | 327.7      | 374.5                | 360.9                 | 13.61            | 27.507    |                    |        |
| 2,100.0   | 1,957.5             | 2,051.2             | 2,006.3             | 12.8            | 7.8         | -146.83               | -169.9                            | 348.4      | 402.0                | 387.6                 | 14.39            | 27.942    |                    |        |
| 2,200.0   | 2,046.5             | 2,147.3             | 2,099.4             | 13.6            | 8.2         | -147.28               | -181.7                            | 369.2      | 429.5                | 414.3                 | 15.16            | 28.334    |                    |        |
| 2,300.0   | 2,135.6             | 2,243.4             | 2,192.4             | 14.4            | 8.7         | -147.67               | -193.4                            | 390.0      | 457.0                | 441.1                 | 15.93            | 28.690    |                    |        |
| 2,400.0   | 2,224.6             | 2,339.5             | 2,285.5             | 15.3            | 9.1         | -148.01               | -205.2                            | 410.8      | 484.6                | 467.9                 | 16.70            | 29.014    |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-1B - OH - Plan #2 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                  |              | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|--------------|--------------------|--------|
| Survey Program: O-MWD                                   |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                  |              | Offset Well Error: | 0.0 ft |
| Reference   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       | Total            | Separation   | 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) | Uncertainty Axis | Factor       |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | 80.87                 | 1.8                               | 11.3       | 11.4                 |                       |                  |              |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | 80.87                 | 1.8                               | 11.3       | 11.4                 | 11.2                  | 0.27             | 43.139       |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | 80.87                 | 1.8                               | 11.3       | 11.4                 | 10.8                  | 0.61             | 18.628       |                    |        |
| 300.0   | 300.0               | 300.0               | 300.0               | 0.5             | 0.5         | -81.26                | 1.8                               | 11.3       | 10.7                 | 9.8                   | 0.97             | 11.063       |                    |        |
| 326.3   | 326.2               | 326.2               | 326.2               | 0.5             | 0.5         | -89.57                | 1.8                               | 11.3       | 10.6                 | 9.6                   | 1.07             | 9.885 CC, ES |                    |        |
| 400.0   | 399.6               | 399.7               | 399.7               | 0.7             | 0.7         | -113.45               | 0.8                               | 12.4       | 12.0                 | 10.7                  | 1.36             | 8.853 SF     |                    |        |
| 500.0   | 498.8               | 499.7               | 499.5               | 1.0             | 0.9         | -131.92               | -3.6                              | 17.2       | 17.3                 | 15.6                  | 1.77             | 9.783        |                    |        |
| 600.0   | 597.1               | 599.9               | 599.0               | 1.4             | 1.1         | -138.82               | -11.6                             | 25.8       | 24.7                 | 22.4                  | 2.24             | 11.022       |                    |        |
| 700.0   | 694.3               | 700.4               | 698.0               | 1.8             | 1.4         | -140.66               | -23.1                             | 38.3       | 33.3                 | 30.5                  | 2.80             | 11.871       |                    |        |
| 800.0   | 790.2               | 801.1               | 796.2               | 2.3             | 1.8         | -140.28               | -38.2                             | 54.7       | 42.9                 | 39.4                  | 3.50             | 12.255       |                    |        |
| 900.0   | 884.4               | 901.9               | 893.2               | 3.0             | 2.4         | -138.89               | -56.8                             | 74.9       | 53.6                 | 49.2                  | 4.37             | 12.268       |                    |        |
| 1,000.0   | 976.8               | 1,001.4             | 987.9               | 3.7             | 2.9         | -138.34               | -77.4                             | 97.3       | 66.3                 | 61.0                  | 5.31             | 12.497       |                    |        |
| 1,100.0   | 1,067.1             | 1,100.0             | 1,081.7             | 4.5             | 3.4         | -140.20               | -97.9                             | 119.5      | 82.9                 | 76.8                  | 6.16             | 13.468       |                    |        |
| 1,200.0   | 1,156.1             | 1,198.1             | 1,175.1             | 5.3             | 4.0         | -142.62               | -118.2                            | 141.6      | 101.7                | 94.8                  | 6.93             | 14.677       |                    |        |
| 1,300.0   | 1,245.1             | 1,296.2             | 1,268.5             | 6.1             | 4.5         | -144.30               | -138.6                            | 163.8      | 120.7                | 112.9                 | 7.71             | 15.646       |                    |        |
| 1,400.0   | 1,334.2             | 1,394.4             | 1,362.0             | 7.0             | 5.1         | -145.51               | -159.0                            | 185.9      | 139.7                | 131.2                 | 8.50             | 16.438       |                    |        |
| 1,500.0   | 1,423.2             | 1,492.5             | 1,455.4             | 7.8             | 5.6         | -146.44               | -179.4                            | 208.0      | 158.7                | 149.4                 | 9.28             | 17.096       |                    |        |
| 1,600.0   | 1,512.3             | 1,590.7             | 1,548.8             | 8.6             | 6.2         | -147.17               | -199.8                            | 230.2      | 177.8                | 167.7                 | 10.07            | 17.650       |                    |        |
| 1,700.0   | 1,601.3             | 1,688.8             | 1,642.2             | 9.4             | 6.8         | -147.76               | -220.2                            | 252.3      | 196.9                | 186.0                 | 10.86            | 18.122       |                    |        |
| 1,800.0   | 1,690.4             | 1,786.9             | 1,735.6             | 10.3            | 7.3         | -148.24               | -240.6                            | 274.4      | 216.0                | 204.3                 | 11.66            | 18.529       |                    |        |
| 1,900.0   | 1,779.4             | 1,885.1             | 1,829.0             | 11.1            | 7.9         | -148.64               | -261.0                            | 296.5      | 235.1                | 222.7                 | 12.45            | 18.884       |                    |        |
| 2,000.0   | 1,868.4             | 1,983.2             | 1,922.4             | 11.9            | 8.4         | -148.99               | -281.4                            | 318.7      | 254.3                | 241.0                 | 13.25            | 19.195       |                    |        |
| 2,100.0   | 1,957.5             | 2,081.4             | 2,015.9             | 12.8            | 9.0         | -149.28               | -301.7                            | 340.8      | 273.4                | 259.4                 | 14.04            | 19.471       |                    |        |
| 2,200.0   | 2,046.5             | 2,179.5             | 2,109.3             | 13.6            | 9.6         | -149.54               | -322.1                            | 362.9      | 292.6                | 277.7                 | 14.84            | 19.717       |                    |        |
| 2,300.0   | 2,135.6             | 2,277.7             | 2,202.7             | 14.4            | 10.1        | -149.76               | -342.5                            | 385.1      | 311.7                | 296.1                 | 15.64            | 19.937       |                    |        |
| 2,400.0   | 2,224.6             | 2,375.8             | 2,296.1             | 15.3            | 10.7        | -149.96               | -362.9                            | 407.2      | 330.9                | 314.5                 | 16.43            | 20.136       |                    |        |
| 2,500.0   | 2,313.6             | 2,473.9             | 2,389.5             | 16.1            | 11.2        | -150.14               | -383.3                            | 429.3      | 350.1                | 332.8                 | 17.23            | 20.316       |                    |        |
| 2,600.0   | 2,402.7             | 2,572.1             | 2,482.9             | 16.9            | 11.8        | -150.30               | -403.7                            | 451.5      | 369.2                | 351.2                 | 18.03            | 20.480       |                    |        |
| 2,700.0   | 2,491.7             | 2,670.2             | 2,576.3             | 17.8            | 12.4        | -150.44               | -424.1                            | 473.6      | 388.4                | 369.6                 | 18.83            | 20.630       |                    |        |
| 2,800.0   | 2,580.8             | 2,768.4             | 2,669.8             | 18.6            | 12.9        | -150.57               | -444.5                            | 495.7      | 407.6                | 387.9                 | 19.62            | 20.768       |                    |        |
| 2,900.0   | 2,669.8             | 2,866.5             | 2,763.2             | 19.4            | 13.5        | -150.69               | -464.8                            | 517.8      | 426.7                | 406.3                 | 20.42            | 20.894       |                    |        |
| 3,000.0   | 2,758.9             | 2,964.6             | 2,856.6             | 20.3            | 14.1        | -150.80               | -485.2                            | 540.0      | 445.9                | 424.7                 | 21.22            | 21.011       |                    |        |
| 3,100.0   | 2,847.9             | 3,062.8             | 2,950.0             | 21.1            | 14.6        | -150.90               | -505.6                            | 562.1      | 465.1                | 443.1                 | 22.02            | 21.120       |                    |        |
| 3,200.0   | 2,936.9             | 3,160.9             | 3,043.4             | 21.9            | 15.2        | -150.99               | -526.0                            | 584.2      | 484.3                | 461.5                 | 22.82            | 21.221       |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-2C - OH - 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 (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) | Uncertainty Axis | Factor        |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -154.49               | -37.9                             | -18.1      | 42.0                 |                       |                  |               |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -154.49               | -37.9                             | -18.1      | 42.0                 | 41.7                  | 0.27             | 158.216       |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -154.49               | -37.9                             | -18.1      | 42.0                 | 41.4                  | 0.61             | 68.321 CC, ES |                    |        |
| 300.0   | 300.0               | 297.9               | 297.9               | 0.5             | 0.5         | 58.39                 | -40.4                             | -18.5      | 43.0                 | 42.1                  | 0.97             | 44.508        |                    |        |
| 400.0   | 399.6               | 395.6               | 395.3               | 0.7             | 0.7         | 63.60                 | -47.7                             | -19.8      | 46.4                 | 45.1                  | 1.36             | 34.219        |                    |        |
| 500.0   | 498.8               | 492.9               | 491.8               | 1.0             | 1.0         | 70.61                 | -60.0                             | -22.0      | 52.9                 | 51.0                  | 1.84             | 28.751        |                    |        |
| 600.0   | 597.1               | 589.7               | 587.0               | 1.4             | 1.3         | 77.77                 | -76.9                             | -25.0      | 62.8                 | 60.4                  | 2.46             | 25.504        |                    |        |
| 700.0   | 694.3               | 685.8               | 680.6               | 1.8             | 1.7         | 84.00                 | -98.4                             | -28.8      | 76.7                 | 73.4                  | 3.26             | 23.516        |                    |        |
| 800.0   | 790.2               | 781.0               | 772.1               | 2.3             | 2.2         | 88.94                 | -124.2                            | -33.3      | 94.3                 | 90.1                  | 4.22             | 22.326        |                    |        |
| 900.0   | 884.4               | 875.5               | 861.5               | 3.0             | 2.8         | 92.67                 | -154.3                            | -38.6      | 115.7                | 110.4                 | 5.33             | 21.687        |                    |        |
| 1,000.0   | 976.8               | 972.2               | 952.4               | 3.7             | 3.4         | 96.54                 | -186.9                            | -44.4      | 139.2                | 132.6                 | 6.58             | 21.146        |                    |        |
| 1,100.0   | 1,067.1             | 1,068.1             | 1,042.5             | 4.5             | 4.0         | 100.85                | -219.2                            | -50.1      | 164.2                | 156.2                 | 7.92             | 20.730        |                    |        |
| 1,200.0   | 1,156.1             | 1,163.6             | 1,132.2             | 5.3             | 4.5         | 105.36                | -251.3                            | -55.8      | 190.8                | 181.5                 | 9.25             | 20.625 SF     |                    |        |
| 1,300.0   | 1,245.1             | 1,259.0             | 1,221.9             | 6.1             | 5.1         | 108.79                | -283.4                            | -61.4      | 218.2                | 207.7                 | 10.55            | 20.684        |                    |        |
| 1,400.0   | 1,334.2             | 1,354.4             | 1,311.6             | 7.0             | 5.7         | 111.45                | -315.6                            | -67.1      | 246.3                | 234.4                 | 11.83            | 20.817        |                    |        |
| 1,500.0   | 1,423.2             | 1,449.9             | 1,401.2             | 7.8             | 6.3         | 113.57                | -347.7                            | -72.8      | 274.7                | 261.6                 | 13.09            | 20.980        |                    |        |
| 1,600.0   | 1,512.3             | 1,545.3             | 1,490.9             | 8.6             | 6.9         | 115.29                | -379.9                            | -78.5      | 303.4                | 289.1                 | 14.34            | 21.150        |                    |        |
| 1,700.0   | 1,601.3             | 1,640.7             | 1,580.6             | 9.4             | 7.5         | 116.72                | -412.0                            | -84.2      | 332.3                | 316.7                 | 15.59            | 21.319        |                    |        |
| 1,800.0   | 1,690.4             | 1,736.1             | 1,670.2             | 10.3            | 8.1         | 117.92                | -444.1                            | -89.8      | 361.4                | 344.6                 | 16.82            | 21.481        |                    |        |
| 1,900.0   | 1,779.4             | 1,831.6             | 1,759.9             | 11.1            | 8.7         | 118.94                | -476.3                            | -95.5      | 390.6                | 372.5                 | 18.05            | 21.634        |                    |        |
| 2,000.0   | 1,868.4             | 1,927.0             | 1,849.6             | 11.9            | 9.3         | 119.82                | -508.4                            | -101.2     | 419.9                | 400.6                 | 19.28            | 21.777        |                    |        |
| 2,100.0   | 1,957.5             | 2,022.4             | 1,939.3             | 12.8            | 9.8         | 120.59                | -540.6                            | -106.9     | 449.3                | 428.8                 | 20.51            | 21.910        |                    |        |
| 2,200.0   | 2,046.5             | 2,117.8             | 2,028.9             | 13.6            | 10.4        | 121.26                | -572.7                            | -112.5     | 478.7                | 457.0                 | 21.73            | 22.034        |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-3A - OH - 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 (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) | Uncertainty Axis | Factor        |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -143.50               | -39.7                             | -29.4      | 49.4                 |                       |                  |               |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -143.50               | -39.7                             | -29.4      | 49.4                 | 49.1                  | 0.27             | 186.169       |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -143.50               | -39.7                             | -29.4      | 49.4                 | 48.8                  | 0.61             | 80.391        |                    |        |
| 241.2   | 241.2               | 240.8               | 240.8               | 0.4             | 0.4         | 67.92                 | -39.8                             | -29.4      | 49.3                 | 48.5                  | 0.76             | 64.853 CC, ES |                    |        |
| 300.0   | 300.0               | 298.1               | 298.1               | 0.5             | 0.5         | 70.04                 | -40.9                             | -30.1      | 49.9                 | 48.9                  | 0.97             | 51.537        |                    |        |
| 400.0   | 399.6               | 395.2               | 395.0               | 0.7             | 0.7         | 76.81                 | -46.1                             | -33.5      | 53.9                 | 52.6                  | 1.36             | 39.701        |                    |        |
| 500.0   | 498.8               | 491.6               | 490.7               | 1.0             | 0.9         | 85.48                 | -55.4                             | -39.4      | 62.9                 | 61.0                  | 1.83             | 34.396        |                    |        |
| 600.0   | 597.1               | 587.6               | 585.5               | 1.4             | 1.2         | 93.74                 | -68.5                             | -47.8      | 77.4                 | 75.0                  | 2.41             | 32.184        |                    |        |
| 700.0   | 694.3               | 685.2               | 681.5               | 1.8             | 1.5         | 101.80                | -83.0                             | -57.0      | 95.3                 | 92.2                  | 3.10             | 30.774        |                    |        |
| 800.0   | 790.2               | 781.8               | 776.6               | 2.3             | 1.9         | 109.44                | -97.3                             | -66.2      | 116.3                | 112.5                 | 3.87             | 30.077 SF     |                    |        |
| 900.0   | 884.4               | 877.2               | 870.5               | 3.0             | 2.2         | 116.33                | -111.5                            | -75.2      | 141.2                | 136.5                 | 4.68             | 30.199        |                    |        |
| 1,000.0   | 976.8               | 971.1               | 963.0               | 3.7             | 2.5         | 122.33                | -125.4                            | -84.1      | 170.4                | 164.9                 | 5.49             | 31.052        |                    |        |
| 1,100.0   | 1,067.1             | 1,063.3             | 1,053.7             | 4.5             | 2.9         | 127.42                | -139.1                            | -92.9      | 204.2                | 197.9                 | 6.29             | 32.489        |                    |        |
| 1,200.0   | 1,156.1             | 1,154.6             | 1,143.5             | 5.3             | 3.2         | 132.19                | -152.6                            | -101.5     | 241.2                | 234.2                 | 7.03             | 34.329        |                    |        |
| 1,300.0   | 1,245.1             | 1,245.8             | 1,233.3             | 6.1             | 3.5         | 135.73                | -166.2                            | -110.2     | 279.3                | 271.6                 | 7.74             | 36.092        |                    |        |
| 1,400.0   | 1,334.2             | 1,337.0             | 1,323.1             | 7.0             | 3.8         | 138.42                | -179.7                            | -118.8     | 318.2                | 309.7                 | 8.43             | 37.720        |                    |        |
| 1,500.0   | 1,423.2             | 1,428.2             | 1,412.9             | 7.8             | 4.1         | 140.54                | -193.3                            | -127.5     | 357.5                | 348.4                 | 9.12             | 39.200        |                    |        |
| 1,600.0   | 1,512.3             | 1,519.4             | 1,502.7             | 8.6             | 4.5         | 142.24                | -206.8                            | -136.1     | 397.1                | 387.3                 | 9.80             | 40.537        |                    |        |
| 1,700.0   | 1,601.3             | 1,610.7             | 1,592.5             | 9.4             | 4.8         | 143.64                | -220.3                            | -144.8     | 437.0                | 426.5                 | 10.47            | 41.744        |                    |        |
| 1,800.0   | 1,690.4             | 1,701.9             | 1,682.3             | 10.3            | 5.1         | 144.80                | -233.9                            | -153.4     | 477.1                | 465.9                 | 11.14            | 42.834        |                    |        |



# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-3B - OH - 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         | -143.76               | -26.6                             | -19.5      | 33.0                 |                       |                        |                   |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -143.76               | -26.6                             | -19.5      | 33.0                 | 32.7                  | 0.27                   | 124.271           |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -143.76               | -26.6                             | -19.5      | 33.0                 | 32.4                  | 0.61                   | 53.663 CC, ES     |                    |        |
| 300.0   | 300.0               | 298.2               | 298.2               | 0.5             | 0.5         | 72.19                 | -28.2                             | -21.5      | 34.6                 | 33.6                  | 0.97                   | 35.698            |                    |        |
| 400.0   | 399.6               | 395.8               | 395.5               | 0.7             | 0.7         | 84.29                 | -32.8                             | -27.4      | 40.7                 | 39.4                  | 1.36                   | 29.935            |                    |        |
| 500.0   | 498.8               | 492.0               | 490.9               | 1.0             | 1.0         | 97.08                 | -40.4                             | -37.0      | 53.7                 | 51.8                  | 1.82                   | 29.473 SF         |                    |        |
| 600.0   | 597.1               | 586.3               | 583.7               | 1.4             | 1.3         | 106.62                | -50.8                             | -50.0      | 74.2                 | 71.9                  | 2.37                   | 31.313            |                    |        |
| 700.0   | 694.3               | 678.1               | 673.1               | 1.8             | 1.7         | 112.79                | -63.6                             | -66.1      | 102.1                | 99.1                  | 3.02                   | 33.814            |                    |        |
| 800.0   | 790.2               | 766.9               | 758.6               | 2.3             | 2.2         | 116.60                | -78.5                             | -84.9      | 136.7                | 133.0                 | 3.77                   | 36.292            |                    |        |
| 900.0   | 884.4               | 852.4               | 839.8               | 3.0             | 2.7         | 118.89                | -95.1                             | -106.0     | 177.5                | 172.9                 | 4.60                   | 38.541            |                    |        |
| 1,000.0   | 976.8               | 934.2               | 916.2               | 3.7             | 3.2         | 120.17                | -113.2                            | -128.7     | 223.9                | 218.4                 | 5.52                   | 40.589            |                    |        |
| 1,100.0   | 1,067.1             | 1,018.2             | 993.9               | 4.5             | 3.8         | 121.12                | -133.1                            | -153.9     | 274.8                | 268.3                 | 6.51                   | 42.193            |                    |        |
| 1,200.0   | 1,156.1             | 1,102.7             | 1,071.9             | 5.3             | 4.4         | 123.27                | -153.3                            | -179.3     | 327.4                | 319.8                 | 7.55                   | 43.386            |                    |        |
| 1,300.0   | 1,245.1             | 1,187.2             | 1,149.9             | 6.1             | 5.0         | 124.86                | -173.4                            | -204.7     | 380.2                | 371.6                 | 8.58                   | 44.293            |                    |        |
| 1,400.0   | 1,334.2             | 1,271.7             | 1,228.0             | 7.0             | 5.6         | 126.06                | -193.5                            | -230.1     | 433.2                | 423.6                 | 9.62                   | 45.010            |                    |        |
| 1,500.0   | 1,423.2             | 1,356.2             | 1,306.0             | 7.8             | 6.2         | 127.01                | -213.7                            | -255.5     | 486.3                | 475.6                 | 10.67                  | 45.591            |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-4A - OH - 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         | 36.26                 | 13.5                              | 9.9        | 16.7                 |                       |                        |                   |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | 36.26                 | 13.5                              | 9.9        | 16.7                 | 16.4                  | 0.27                   | 63.004            |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | 36.26                 | 13.5                              | 9.9        | 16.7                 | 16.1                  | 0.61                   | 27.206 CC         |                    |        |
| 300.0   | 300.0               | 300.4               | 300.4               | 0.5             | 0.5         | -123.99               | 13.0                              | 8.5        | 16.8                 | 15.9                  | 0.97                   | 17.322 ES         |                    |        |
| 400.0   | 399.6               | 400.2               | 400.0               | 0.7             | 0.7         | -157.81               | 10.8                              | 2.3        | 20.1                 | 18.7                  | 1.35                   | 14.855 SF         |                    |        |
| 500.0   | 498.8               | 498.2               | 497.2               | 1.0             | 0.9         | 173.69                | 7.1                               | -8.5       | 34.2                 | 32.4                  | 1.76                   | 19.475            |                    |        |
| 600.0   | 597.1               | 593.5               | 591.2               | 1.4             | 1.3         | 160.02                | 1.8                               | -23.6      | 59.0                 | 56.8                  | 2.22                   | 26.534            |                    |        |
| 700.0   | 694.3               | 685.3               | 680.9               | 1.8             | 1.7         | 153.22                | -4.6                              | -42.3      | 92.4                 | 89.6                  | 2.76                   | 33.473            |                    |        |
| 800.0   | 790.2               | 773.0               | 765.6               | 2.3             | 2.1         | 149.26                | -12.2                             | -63.9      | 133.3                | 129.9                 | 3.36                   | 39.634            |                    |        |
| 900.0   | 884.4               | 856.2               | 844.8               | 3.0             | 2.6         | 146.58                | -20.4                             | -87.8      | 181.1                | 177.0                 | 4.03                   | 44.952            |                    |        |
| 1,000.0   | 976.8               | 934.5               | 918.3               | 3.7             | 3.1         | 144.52                | -29.3                             | -113.2     | 235.1                | 230.4                 | 4.75                   | 49.525            |                    |        |
| 1,100.0   | 1,067.1             | 1,007.6             | 985.9               | 4.5             | 3.6         | 142.74                | -38.4                             | -139.5     | 295.0                | 289.4                 | 5.52                   | 53.476            |                    |        |
| 1,200.0   | 1,156.1             | 1,078.6             | 1,050.5             | 5.3             | 4.2         | 142.32                | -48.1                             | -167.3     | 358.5                | 352.2                 | 6.34                   | 56.507            |                    |        |
| 1,300.0   | 1,245.1             | 1,155.3             | 1,120.0             | 6.1             | 4.8         | 141.92                | -58.7                             | -198.0     | 422.6                | 415.4                 | 7.21                   | 58.591            |                    |        |
| 1,400.0   | 1,334.2             | 1,232.0             | 1,189.5             | 7.0             | 5.4         | 141.63                | -69.4                             | -228.7     | 486.8                | 478.7                 | 8.09                   | 60.179            |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-7A - OH - 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 (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) | Uncertainty Axis | Factor     |                    |        |
| 0.0   | 0.0                 | 0.0                 | 0.0                 | 0.0             | 0.0         | -161.70               | -24.8                             | -8.2       | 26.1                 |                       |                  |            |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | -161.70               | -24.8                             | -8.2       | 26.1                 | 25.8                  | 0.27             | 98.335     |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | -161.70               | -24.8                             | -8.2       | 26.1                 | 25.5                  | 0.61             | 42.463     |                    |        |
| 300.0   | 300.0               | 299.4               | 299.4               | 0.5             | 0.5         | 53.04                 | -25.4                             | -8.1       | 25.0                 | 24.0                  | 0.97             | 25.819     |                    |        |
| 365.6   | 365.4               | 364.3               | 364.3               | 0.6             | 0.6         | 57.75                 | -28.1                             | -7.4       | 24.6                 | 23.4                  | 1.22             | 20.173 CC  |                    |        |
| 400.0   | 399.6               | 398.4               | 398.2               | 0.7             | 0.7         | 60.69                 | -30.4                             | -6.9       | 24.7                 | 23.4                  | 1.36             | 18.200 ES  |                    |        |
| 500.0   | 498.8               | 497.4               | 496.7               | 1.0             | 0.9         | 70.23                 | -40.4                             | -4.7       | 26.4                 | 24.5                  | 1.86             | 14.203     |                    |        |
| 600.0   | 597.1               | 596.4               | 594.5               | 1.4             | 1.2         | 79.58                 | -55.3                             | -1.4       | 30.2                 | 27.7                  | 2.52             | 11.980     |                    |        |
| 700.0   | 694.3               | 695.4               | 691.4               | 1.8             | 1.6         | 87.23                 | -75.2                             | 3.1        | 36.2                 | 32.8                  | 3.36             | 10.768     |                    |        |
| 800.0   | 790.2               | 794.4               | 787.0               | 2.3             | 2.1         | 92.83                 | -100.0                            | 8.6        | 44.3                 | 39.9                  | 4.37             | 10.123     |                    |        |
| 900.0   | 884.4               | 893.3               | 881.2               | 3.0             | 2.6         | 96.69                 | -129.5                            | 15.2       | 54.3                 | 48.7                  | 5.55             | 9.776      |                    |        |
| 1,000.0   | 976.8               | 992.1               | 973.5               | 3.7             | 3.3         | 99.25                 | -163.7                            | 22.8       | 66.0                 | 59.1                  | 6.89             | 9.581      |                    |        |
| 1,100.0   | 1,067.1             | 1,090.7             | 1,063.8             | 4.5             | 4.0         | 100.91                | -202.5                            | 31.5       | 79.3                 | 71.0                  | 8.39             | 9.462      |                    |        |
| 1,200.0   | 1,156.1             | 1,189.2             | 1,151.8             | 5.3             | 4.8         | 100.88                | -245.7                            | 41.1       | 93.8                 | 83.8                  | 9.98             | 9.391      |                    |        |
| 1,300.0   | 1,245.1             | 1,287.4             | 1,237.1             | 6.1             | 5.7         | 98.19                 | -293.0                            | 51.7       | 108.8                | 97.1                  | 11.68            | 9.316 SF   |                    |        |
| 1,400.0   | 1,334.2             | 1,385.6             | 1,320.7             | 7.0             | 6.6         | 94.51                 | -343.5                            | 63.0       | 124.7                | 111.3                 | 13.36            | 9.331      |                    |        |
| 1,500.0   | 1,423.2             | 1,484.1             | 1,404.3             | 7.8             | 7.5         | 91.60                 | -394.1                            | 74.3       | 141.0                | 126.0                 | 15.01            | 9.391      |                    |        |
| 1,600.0   | 1,512.3             | 1,582.5             | 1,488.0             | 8.6             | 8.4         | 89.30                 | -444.8                            | 85.6       | 157.6                | 140.9                 | 16.64            | 9.471      |                    |        |
| 1,700.0   | 1,601.3             | 1,680.9             | 1,571.6             | 9.4             | 9.4         | 87.44                 | -495.4                            | 96.9       | 174.4                | 156.1                 | 18.25            | 9.558      |                    |        |
| 1,800.0   | 1,690.4             | 1,779.4             | 1,655.3             | 10.3            | 10.3        | 85.91                 | -546.0                            | 108.2      | 191.3                | 171.5                 | 19.84            | 9.644      |                    |        |
| 1,900.0   | 1,779.4             | 1,877.8             | 1,738.9             | 11.1            | 11.2        | 84.63                 | -596.7                            | 119.5      | 208.4                | 187.0                 | 21.42            | 9.727      |                    |        |
| 2,000.0   | 1,868.4             | 1,976.2             | 1,822.6             | 11.9            | 12.1        | 83.54                 | -647.3                            | 130.8      | 225.5                | 202.5                 | 23.00            | 9.805      |                    |        |
| 2,100.0   | 1,957.5             | 2,074.7             | 1,906.2             | 12.8            | 13.0        | 82.60                 | -698.0                            | 142.1      | 242.7                | 218.2                 | 24.57            | 9.879      |                    |        |
| 2,200.0   | 2,046.5             | 2,173.1             | 1,989.8             | 13.6            | 14.0        | 81.79                 | -748.6                            | 153.4      | 260.0                | 233.9                 | 26.14            | 9.948      |                    |        |
| 2,300.0   | 2,135.6             | 2,271.5             | 2,073.5             | 14.4            | 14.9        | 81.08                 | -799.3                            | 164.7      | 277.3                | 249.6                 | 27.70            | 10.012     |                    |        |
| 2,400.0   | 2,224.6             | 2,370.0             | 2,157.1             | 15.3            | 15.8        | 80.45                 | -849.9                            | 176.0      | 294.7                | 265.4                 | 29.26            | 10.071     |                    |        |
| 2,500.0   | 2,313.6             | 2,468.4             | 2,240.8             | 16.1            | 16.7        | 79.90                 | -900.6                            | 187.3      | 312.0                | 281.2                 | 30.81            | 10.126     |                    |        |
| 2,600.0   | 2,402.7             | 2,566.8             | 2,324.4             | 16.9            | 17.7        | 79.40                 | -951.2                            | 198.6      | 329.4                | 297.1                 | 32.37            | 10.177     |                    |        |
| 2,700.0   | 2,491.7             | 2,665.3             | 2,408.1             | 17.8            | 18.6        | 78.95                 | -1,001.8                          | 210.0      | 346.9                | 312.9                 | 33.92            | 10.225     |                    |        |
| 2,800.0   | 2,580.8             | 2,763.7             | 2,491.7             | 18.6            | 19.5        | 78.55                 | -1,052.5                          | 221.3      | 364.3                | 328.8                 | 35.47            | 10.269     |                    |        |
| 2,900.0   | 2,669.8             | 2,862.2             | 2,575.4             | 19.4            | 20.4        | 78.18                 | -1,103.1                          | 232.6      | 381.8                | 344.7                 | 37.02            | 10.311     |                    |        |
| 3,000.0   | 2,758.9             | 2,960.6             | 2,659.0             | 20.3            | 21.4        | 77.84                 | -1,153.8                          | 243.9      | 399.2                | 360.7                 | 38.57            | 10.350     |                    |        |
| 3,100.0   | 2,847.9             | 3,059.0             | 2,742.7             | 21.1            | 22.3        | 77.53                 | -1,204.4                          | 255.2      | 416.7                | 376.6                 | 40.12            | 10.386     |                    |        |
| 3,200.0   | 2,936.9             | 3,157.5             | 2,826.3             | 21.9            | 23.2        | 77.25                 | -1,255.1                          | 266.5      | 434.2                | 392.5                 | 41.67            | 10.420     |                    |        |
| 3,300.0   | 3,026.0             | 3,255.9             | 2,910.0             | 22.8            | 24.2        | 76.99                 | -1,305.7                          | 277.8      | 451.7                | 408.5                 | 43.22            | 10.452     |                    |        |
| 3,400.0   | 3,115.0             | 3,354.3             | 2,993.6             | 23.6            | 25.1        | 76.75                 | -1,356.4                          | 289.1      | 469.2                | 424.5                 | 44.76            | 10.483     |                    |        |
| 3,500.0   | 3,204.1             | 3,452.8             | 3,077.3             | 24.4            | 26.0        | 76.52                 | -1,407.0                          | 300.4      | 486.8                | 440.4                 | 46.31            | 10.511     |                    |        |

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 Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-8B - OH - Plan #2 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                        |                   |         | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------|--------------------|--------|
| Survey Program: O-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         | 172.87                | -11.3                             | 1.4        | 11.4                 |                       |                        |                   |         |                    |        |
| 100.0   | 100.0               | 100.0               | 100.0               | 0.1             | 0.1         | 172.87                | -11.3                             | 1.4        | 11.4                 | 11.1                  | 0.27                   | 42.893            |         |                    |        |
| 200.0   | 200.0               | 200.0               | 200.0               | 0.3             | 0.3         | 172.87                | -11.3                             | 1.4        | 11.4                 | 10.8                  | 0.61                   | 18.522 CC         |         |                    |        |
| 300.0   | 300.0               | 299.4               | 299.4               | 0.5             | 0.5         | 24.67                 | -13.6                             | 2.6        | 11.4                 | 10.5                  | 0.96                   | 11.854            |         |                    |        |
| 400.0   | 399.6               | 398.9               | 398.5               | 0.7             | 0.7         | 27.16                 | -20.5                             | 6.1        | 11.6                 | 10.3                  | 1.33                   | 8.735             |         |                    |        |
| 500.0   | 498.8               | 498.3               | 497.1               | 1.0             | 1.0         | 31.13                 | -32.0                             | 12.0       | 11.9                 | 10.2                  | 1.74                   | 6.876 ES          |         |                    |        |
| 600.0   | 597.1               | 597.8               | 594.9               | 1.4             | 1.3         | 36.27                 | -48.0                             | 20.2       | 12.5                 | 10.3                  | 2.25                   | 5.569             |         |                    |        |
| 700.0   | 694.3               | 697.2               | 691.6               | 1.8             | 1.8         | 42.15                 | -68.6                             | 30.7       | 13.4                 | 10.4                  | 2.93                   | 4.562             |         |                    |        |
| 800.0   | 790.2               | 796.6               | 787.0               | 2.3             | 2.3         | 48.29                 | -93.6                             | 43.5       | 14.6                 | 10.7                  | 3.85                   | 3.785             |         |                    |        |
| 900.0   | 884.4               | 896.1               | 880.8               | 3.0             | 2.9         | 54.25                 | -123.0                            | 58.5       | 16.2                 | 11.1                  | 5.03                   | 3.214             |         |                    |        |
| 1,000.0   | 976.8               | 995.5               | 972.7               | 3.7             | 3.6         | 59.72                 | -156.7                            | 75.7       | 18.2                 | 11.7                  | 6.47                   | 2.813             |         |                    |        |
| 1,100.0   | 1,067.1             | 1,095.0             | 1,062.6             | 4.5             | 4.4         | 64.54                 | -194.6                            | 95.0       | 20.6                 | 12.5                  | 8.12                   | 2.537 SF          |         |                    |        |
| 1,200.0   | 1,156.1             | 1,194.3             | 1,150.0             | 5.3             | 5.3         | 63.33                 | -236.6                            | 116.5      | 24.4                 | 14.9                  | 9.54                   | 2.560             |         |                    |        |
| 1,300.0   | 1,245.1             | 1,293.2             | 1,234.4             | 6.1             | 6.3         | 54.34                 | -282.4                            | 139.9      | 31.3                 | 21.0                  | 10.21                  | 3.060             |         |                    |        |
| 1,400.0   | 1,334.2             | 1,392.3             | 1,317.4             | 7.0             | 7.3         | 45.28                 | -330.8                            | 164.6      | 41.0                 | 30.7                  | 10.38                  | 3.954             |         |                    |        |
| 1,500.0   | 1,423.2             | 1,491.7             | 1,400.4             | 7.8             | 8.2         | 39.72                 | -379.4                            | 189.4      | 51.5                 | 40.8                  | 10.65                  | 4.835             |         |                    |        |
| 1,600.0   | 1,512.3             | 1,591.0             | 1,483.5             | 8.6             | 9.2         | 36.06                 | -428.0                            | 214.2      | 62.2                 | 51.2                  | 11.02                  | 5.651             |         |                    |        |
| 1,700.0   | 1,601.3             | 1,690.4             | 1,566.5             | 9.4             | 10.2        | 33.48                 | -476.5                            | 239.0      | 73.2                 | 61.7                  | 11.46                  | 6.390             |         |                    |        |
| 1,800.0   | 1,690.4             | 1,789.8             | 1,649.6             | 10.3            | 11.2        | 31.57                 | -525.1                            | 263.8      | 84.3                 | 72.3                  | 11.94                  | 7.055             |         |                    |        |
| 1,900.0   | 1,779.4             | 1,889.1             | 1,732.6             | 11.1            | 12.2        | 30.11                 | -573.7                            | 288.6      | 95.4                 | 82.9                  | 12.46                  | 7.653             |         |                    |        |
| 2,000.0   | 1,868.4             | 1,988.5             | 1,815.6             | 11.9            | 13.2        | 28.95                 | -622.3                            | 313.4      | 106.6                | 93.5                  | 13.01                  | 8.192             |         |                    |        |
| 2,100.0   | 1,957.5             | 2,087.8             | 1,898.7             | 12.8            | 14.2        | 28.02                 | -670.8                            | 338.2      | 117.8                | 104.2                 | 13.57                  | 8.679             |         |                    |        |
| 2,200.0   | 2,046.5             | 2,187.2             | 1,981.7             | 13.6            | 15.2        | 27.25                 | -719.4                            | 363.0      | 129.0                | 114.9                 | 14.14                  | 9.121             |         |                    |        |
| 2,300.0   | 2,135.6             | 2,286.5             | 2,064.8             | 14.4            | 16.2        | 26.60                 | -768.0                            | 387.8      | 140.3                | 125.5                 | 14.73                  | 9.522             |         |                    |        |
| 2,400.0   | 2,224.6             | 2,385.9             | 2,147.8             | 15.3            | 17.2        | 26.04                 | -816.6                            | 412.6      | 151.5                | 136.2                 | 15.32                  | 9.888             |         |                    |        |
| 2,500.0   | 2,313.6             | 2,485.2             | 2,230.9             | 16.1            | 18.2        | 25.57                 | -865.1                            | 437.5      | 162.8                | 146.9                 | 15.92                  | 10.224            |         |                    |        |
| 2,600.0   | 2,402.7             | 2,584.6             | 2,313.9             | 16.9            | 19.2        | 25.15                 | -913.7                            | 462.3      | 174.1                | 157.6                 | 16.53                  | 10.533            |         |                    |        |
| 2,700.0   | 2,491.7             | 2,683.9             | 2,397.0             | 17.8            | 20.1        | 24.79                 | -962.3                            | 487.1      | 185.4                | 168.3                 | 17.14                  | 10.817            |         |                    |        |
| 2,800.0   | 2,580.8             | 2,783.3             | 2,480.0             | 18.6            | 21.1        | 24.47                 | -1,010.9                          | 511.9      | 196.7                | 178.9                 | 17.75                  | 11.080            |         |                    |        |
| 2,900.0   | 2,669.8             | 2,882.6             | 2,563.0             | 19.4            | 22.1        | 24.18                 | -1,059.4                          | 536.7      | 208.0                | 189.6                 | 18.37                  | 11.324            |         |                    |        |
| 3,000.0   | 2,758.9             | 2,982.0             | 2,646.1             | 20.3            | 23.1        | 23.92                 | -1,108.0                          | 561.5      | 219.3                | 200.3                 | 18.99                  | 11.550            |         |                    |        |
| 3,100.0   | 2,847.9             | 3,081.3             | 2,729.1             | 21.1            | 24.1        | 23.69                 | -1,156.6                          | 586.3      | 230.6                | 211.0                 | 19.61                  | 11.762            |         |                    |        |
| 3,200.0   | 2,936.9             | 3,180.7             | 2,812.2             | 21.9            | 25.1        | 23.48                 | -1,205.2                          | 611.1      | 242.0                | 221.7                 | 20.23                  | 11.959            |         |                    |        |
| 3,300.0   | 3,026.0             | 3,280.1             | 2,895.2             | 22.8            | 26.1        | 23.29                 | -1,253.7                          | 635.9      | 253.3                | 232.4                 | 20.86                  | 12.143            |         |                    |        |
| 3,400.0   | 3,115.0             | 3,379.4             | 2,978.3             | 23.6            | 27.1        | 23.11                 | -1,302.3                          | 660.7      | 264.6                | 243.1                 | 21.49                  | 12.317            |         |                    |        |
| 3,500.0   | 3,204.1             | 3,478.8             | 3,061.3             | 24.4            | 28.1        | 22.95                 | -1,350.9                          | 685.5      | 276.0                | 253.8                 | 22.11                  | 12.479            |         |                    |        |
| 3,600.0   | 3,293.1             | 3,578.1             | 3,144.3             | 25.3            | 29.1        | 22.80                 | -1,399.5                          | 710.3      | 287.3                | 264.5                 | 22.74                  | 12.632            |         |                    |        |
| 3,700.0   | 3,382.1             | 3,677.5             | 3,227.4             | 26.1            | 30.1        | 22.66                 | -1,448.0                          | 735.1      | 298.6                | 275.3                 | 23.37                  | 12.777            |         |                    |        |
| 3,800.0   | 3,471.2             | 3,776.8             | 3,310.4             | 26.9            | 31.1        | 22.54                 | -1,496.6                          | 759.9      | 310.0                | 286.0                 | 24.00                  | 12.913            |         |                    |        |
| 3,900.0   | 3,560.2             | 3,876.2             | 3,393.5             | 27.8            | 32.1        | 22.42                 | -1,545.2                          | 784.7      | 321.3                | 296.7                 | 24.63                  | 13.042            |         |                    |        |
| 4,000.0   | 3,649.3             | 3,975.5             | 3,476.5             | 28.6            | 33.1        | 22.31                 | -1,593.8                          | 809.5      | 332.6                | 307.4                 | 25.27                  | 13.165            |         |                    |        |
| 4,100.0   | 3,738.3             | 4,074.9             | 3,559.6             | 29.4            | 34.1        | 22.21                 | -1,642.3                          | 834.3      | 344.0                | 318.1                 | 25.90                  | 13.281            |         |                    |        |
| 4,200.0   | 3,827.4             | 4,174.2             | 3,642.6             | 30.3            | 35.1        | 22.11                 | -1,690.9                          | 859.1      | 355.3                | 328.8                 | 26.53                  | 13.391            |         |                    |        |
| 4,300.0   | 3,916.4             | 4,278.6             | 3,730.0             | 31.1            | 36.1        | 22.03                 | -1,741.7                          | 885.1      | 366.4                | 339.2                 | 27.19                  | 13.475            |         |                    |        |
| 4,400.0   | 4,005.8             | 4,392.1             | 3,827.0             | 31.9            | 37.2        | 22.11                 | -1,794.3                          | 911.9      | 375.3                | 347.3                 | 27.98                  | 13.414            |         |                    |        |
| 4,500.0   | 4,096.7             | 4,506.1             | 3,926.6             | 32.6            | 38.1        | 22.22                 | -1,843.6                          | 937.1      | 383.5                | 354.8                 | 28.73                  | 13.348            |         |                    |        |
| 4,600.0   | 4,188.9             | 4,620.4             | 4,028.7             | 33.3            | 39.0        | 22.30                 | -1,889.5                          | 960.5      | 391.1                | 361.7                 | 29.43                  | 13.291            |         |                    |        |
| 4,700.0   | 4,282.4             | 4,735.1             | 4,133.0             | 33.9            | 39.9        | 22.38                 | -1,931.8                          | 982.2      | 398.3                | 368.2                 | 30.08                  | 13.242            |         |                    |        |
| 4,800.0   | 4,377.2             | 4,850.2             | 4,239.6             | 34.5            | 40.6        | 22.44                 | -1,970.5                          | 1,001.9    | 404.8                | 374.1                 | 30.67                  | 13.199            |         |                    |        |
| 4,900.0   | 4,472.9             | 4,965.6             | 4,348.1             | 35.0            | 41.3        | 22.50                 | -2,005.4                          | 1,019.8    | 410.7                | 379.5                 | 31.21                  | 13.162            |         |                    |        |
| 5,000.0   | 4,569.7             | 5,081.2             | 4,458.3             | 35.4            | 41.9        | 22.54                 | -2,036.5                          | 1,035.6    | 416.1                | 384.4                 | 31.69                  | 13.129            |         |                    |        |
| 5,100.0   | 4,667.2             | 5,197.2             | 4,570.1             | 35.8            | 42.5        | 22.57                 | -2,063.7                          | 1,049.5    | 420.9                | 388.7                 | 32.12                  | 13.102            |         |                    |        |

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 Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| Offset Design O19EB Pad - Shideler 30-8B - OH - 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               |                      | 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 | Separation<br>Factor |                    |        |
| 5,200.0   | 4,765.5                | 5,313.3                | 4,683.3                | 36.2              | 42.9           | 22.59                       | -2,086.9                                | 1,061.3       | 425.0                      | 392.5                       | 32.50               | 13.079               |                    |        |
| 5,300.0   | 4,864.3                | 5,429.7                | 4,797.7                | 36.4              | 43.3           | 22.60                       | -2,105.9                                | 1,071.1       | 428.5                      | 395.7                       | 32.81               | 13.060               |                    |        |
| 5,400.0   | 4,963.6                | 5,546.2                | 4,913.0                | 36.6              | 43.6           | 22.60                       | -2,120.9                                | 1,078.7       | 431.4                      | 398.4                       | 33.08               | 13.043               |                    |        |
| 5,500.0   | 5,063.3                | 5,662.9                | 5,029.0                | 36.8              | 43.8           | 22.59                       | -2,131.7                                | 1,084.2       | 433.7                      | 400.4                       | 33.29               | 13.029               |                    |        |
| 5,600.0   | 5,163.2                | 5,779.6                | 5,145.5                | 36.9              | 43.9           | 22.57                       | -2,138.2                                | 1,087.6       | 435.3                      | 401.9                       | 33.45               | 13.016               |                    |        |
| 5,700.0   | 5,263.2                | 5,896.5                | 5,262.3                | 36.9              | 44.0           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 402.7                       | 33.57               | 12.997               |                    |        |
| 5,800.0   | 5,363.2                | 5,997.3                | 5,363.2                | 37.0              | 44.0           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 402.5                       | 33.78               | 12.916               |                    |        |
| 5,900.0   | 5,463.2                | 6,097.3                | 5,463.2                | 37.0              | 44.1           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 402.3                       | 33.99               | 12.835               |                    |        |
| 6,000.0   | 5,563.2                | 6,197.3                | 5,563.2                | 37.1              | 44.1           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 402.1                       | 34.21               | 12.754               |                    |        |
| 6,100.0   | 5,663.2                | 6,297.3                | 5,663.2                | 37.1              | 44.1           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 401.9                       | 34.43               | 12.674               |                    |        |
| 6,200.0   | 5,763.2                | 6,397.3                | 5,763.2                | 37.2              | 44.2           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 401.7                       | 34.65               | 12.593               |                    |        |
| 6,300.0   | 5,863.2                | 6,497.3                | 5,863.2                | 37.2              | 44.2           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 401.4                       | 34.87               | 12.513               |                    |        |
| 6,400.0   | 5,963.2                | 6,597.3                | 5,963.2                | 37.3              | 44.3           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 401.2                       | 35.09               | 12.433               |                    |        |
| 6,500.0   | 6,063.2                | 6,697.3                | 6,063.2                | 37.3              | 44.3           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 401.0                       | 35.32               | 12.354               |                    |        |
| 6,600.0   | 6,163.2                | 6,797.3                | 6,163.2                | 37.4              | 44.4           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 400.8                       | 35.55               | 12.275               |                    |        |
| 6,700.0   | 6,263.2                | 6,897.3                | 6,263.2                | 37.4              | 44.4           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 400.5                       | 35.78               | 12.196               |                    |        |
| 6,800.0   | 6,363.2                | 6,997.3                | 6,363.2                | 37.5              | 44.5           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 400.3                       | 36.01               | 12.117               |                    |        |
| 6,900.0   | 6,463.2                | 7,097.3                | 6,463.2                | 37.5              | 44.5           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 400.1                       | 36.24               | 12.039               |                    |        |
| 7,000.0   | 6,563.2                | 7,197.3                | 6,563.2                | 37.6              | 44.6           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 399.8                       | 36.48               | 11.962               |                    |        |
| 7,100.0   | 6,663.2                | 7,297.3                | 6,663.2                | 37.7              | 44.6           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 399.6                       | 36.71               | 11.884               |                    |        |
| 7,200.0   | 6,763.2                | 7,397.3                | 6,763.2                | 37.7              | 44.7           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 399.4                       | 36.95               | 11.808               |                    |        |
| 7,300.0   | 6,863.2                | 7,497.3                | 6,863.2                | 37.8              | 44.7           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 399.1                       | 37.19               | 11.731               |                    |        |
| 7,400.0   | 6,963.2                | 7,597.3                | 6,963.2                | 37.8              | 44.8           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 398.9                       | 37.44               | 11.655               |                    |        |
| 7,500.0   | 7,063.2                | 7,697.3                | 7,063.2                | 37.9              | 44.8           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 398.6                       | 37.68               | 11.580               |                    |        |
| 7,600.0   | 7,163.2                | 7,797.3                | 7,163.2                | 38.0              | 44.9           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 398.4                       | 37.93               | 11.505               |                    |        |
| 7,700.0   | 7,263.2                | 7,897.3                | 7,263.2                | 38.0              | 44.9           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 398.1                       | 38.17               | 11.430               |                    |        |
| 7,800.0   | 7,363.2                | 7,997.3                | 7,363.2                | 38.1              | 45.0           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 397.9                       | 38.42               | 11.356               |                    |        |
| 7,900.0   | 7,463.2                | 8,097.3                | 7,463.2                | 38.1              | 45.0           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 397.6                       | 38.67               | 11.282               |                    |        |
| 7,970.8   | 7,534.0                | 8,168.1                | 7,534.0                | 38.2              | 45.1           | 171.58                      | -2,140.6                                | 1,088.8       | 436.3                      | 397.5                       | 38.85               | 11.231               |                    |        |

# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

| <b>Offset Design</b> O19EB Pad - Shideler Federal 19-13D - OH - 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            | 36.25                       | 26.6                                    | 19.5          | 33.0                       |                             |                              |                      |                                  |
| 100.0   | 100.0                  | 100.0                  | 100.0                  | 0.1               | 0.1            | 36.25                       | 26.6                                    | 19.5          | 33.0                       | 32.7                        | 0.27                         | 124.258              |                                  |
| 200.0   | 200.0                  | 200.0                  | 200.0                  | 0.3               | 0.3            | 36.25                       | 26.6                                    | 19.5          | 33.0                       | 32.3                        | 0.61                         | 53.657               |                                  |
| 300.0   | 300.0                  | 301.0                  | 301.0                  | 0.5               | 0.5            | -120.52                     | 26.2                                    | 16.8          | 32.4                       | 31.4                        | 0.98                         | 33.173               |                                  |
| 318.9   | 318.9                  | 320.1                  | 320.0                  | 0.5               | 0.5            | -123.75                     | 26.1                                    | 15.8          | 32.4                       | 31.3                        | 1.06                         | 30.670 CC, ES        |                                  |
| 400.0   | 399.6                  | 400.9                  | 400.5                  | 0.7               | 0.7            | -142.87                     | 25.1                                    | 9.0           | 34.3                       | 32.9                        | 1.39                         | 24.762 SF            |                                  |
| 500.0   | 498.8                  | 498.5                  | 497.3                  | 1.0               | 1.0            | -168.64                     | 23.3                                    | -3.6          | 46.3                       | 44.5                        | 1.81                         | 25.539               |                                  |
| 600.0   | 597.1                  | 592.8                  | 590.1                  | 1.4               | 1.3            | 174.32                      | 21.0                                    | -20.4         | 70.9                       | 68.6                        | 2.24                         | 31.587               |                                  |
| 700.0   | 694.3                  | 683.1                  | 678.0                  | 1.8               | 1.7            | 164.76                      | 18.1                                    | -40.7         | 106.0                      | 103.3                       | 2.72                         | 39.032               |                                  |
| 800.0   | 790.2                  | 768.6                  | 760.3                  | 2.3               | 2.2            | 159.09                      | 14.9                                    | -63.7         | 149.8                      | 146.5                       | 3.24                         | 46.281               |                                  |
| 900.0   | 884.4                  | 848.9                  | 836.5                  | 3.0               | 2.7            | 155.36                      | 11.4                                    | -88.6         | 201.1                      | 197.2                       | 3.80                         | 52.885               |                                  |
| 1,000.0   | 976.8                  | 923.6                  | 906.4                  | 3.7               | 3.2            | 152.62                      | 7.8                                     | -114.6        | 259.0                      | 254.6                       | 4.41                         | 58.781               |                                  |
| 1,100.0   | 1,067.1                | 992.6                  | 970.0                  | 4.5               | 3.7            | 150.39                      | 4.0                                     | -141.0        | 323.0                      | 317.9                       | 5.05                         | 63.954               |                                  |
| 1,200.0   | 1,156.1                | 1,059.9                | 1,031.2                | 5.3               | 4.3            | 149.57                      | 0.1                                     | -168.9        | 390.6                      | 384.9                       | 5.76                         | 67.793               |                                  |
| 1,300.0   | 1,245.1                | 1,133.0                | 1,097.4                | 6.1               | 4.8            | 148.90                      | -4.2                                    | -199.6        | 458.8                      | 452.3                       | 6.51                         | 70.441               |                                  |

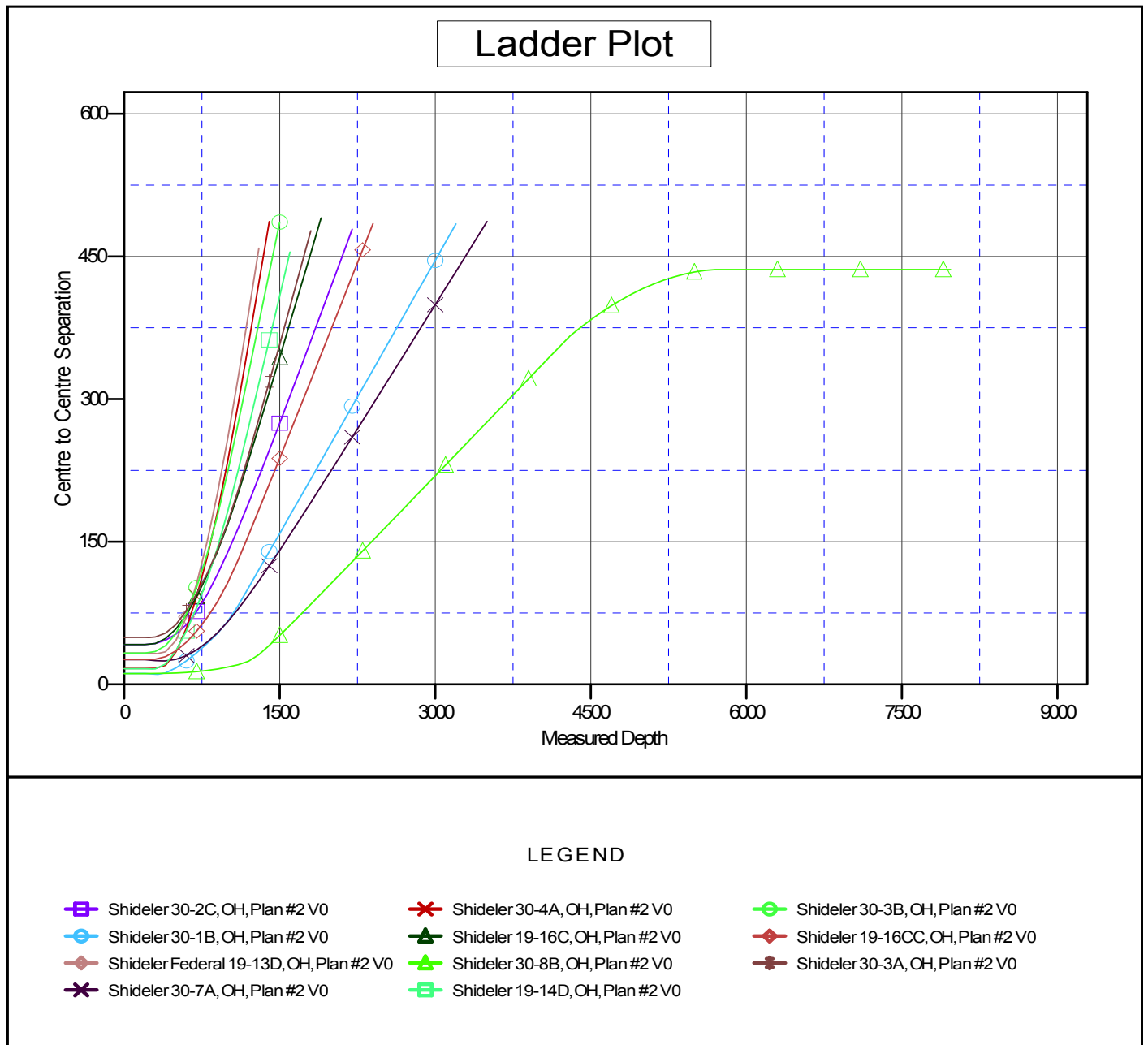
# Cathedral Energy Services

## Anticollision Report

|                           |                            |                                     |  |
|---------------------------|----------------------------|-------------------------------------|--|
| <b>Company:</b>           | EnCana Oil & Gas (USA) Inc | <b>Local Co-ordinate Reference:</b> | Well Shideler 30-1C                      |
| <b>Project:</b>           | Mamm Creek                 | <b>TVD Reference:</b>               | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Reference Site:</b>    | O19EB Pad                  | <b>MD Reference:</b>                | KB = 24' @ 6533.0ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0ft                      | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | Shideler 30-1C             | <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> | OH                         | <b>Database:</b>                    | USA EDM 5000 Multi Users DB              |
| <b>Reference Design:</b>  | Plan #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

Reference Depths are relative to KB = 24' @ 6533.0ft (Original Well Ele)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Shideler 30-1C  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.39°



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