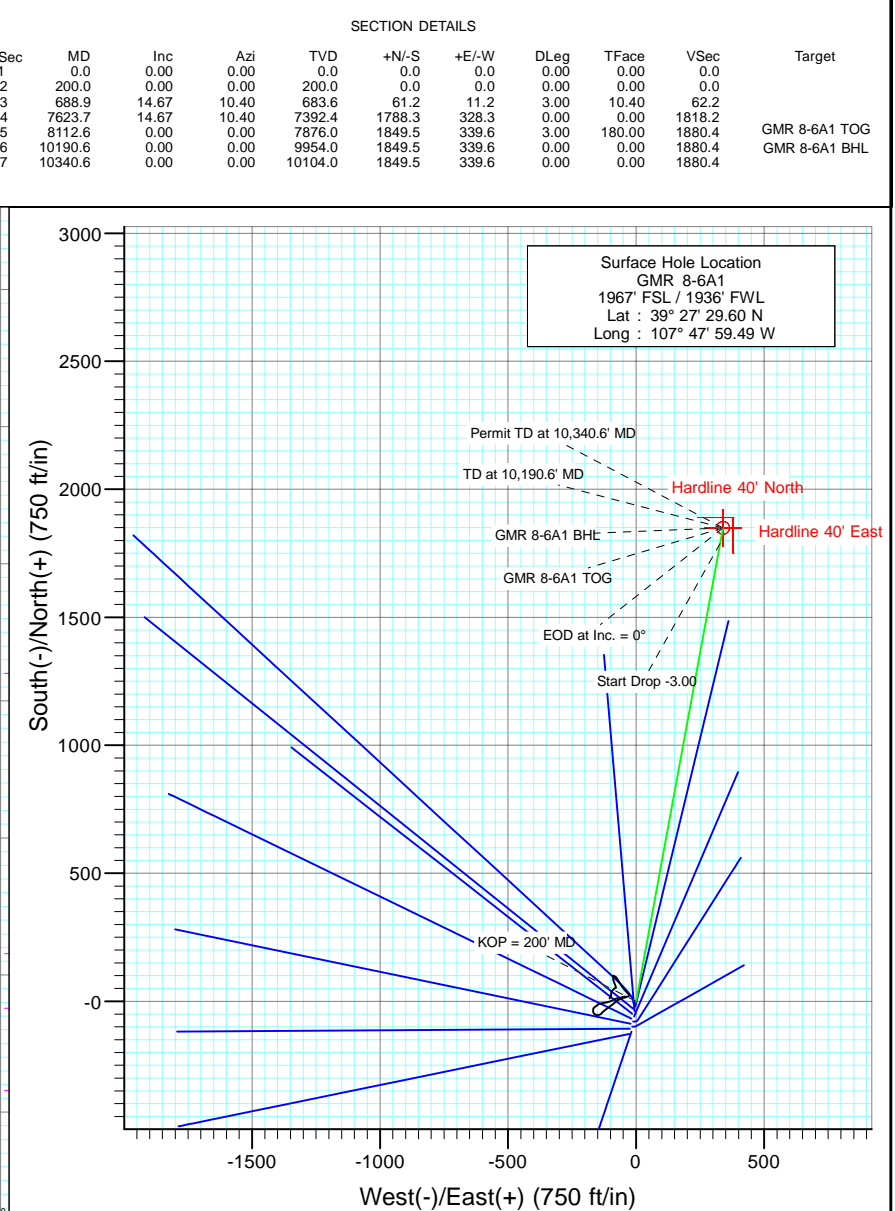
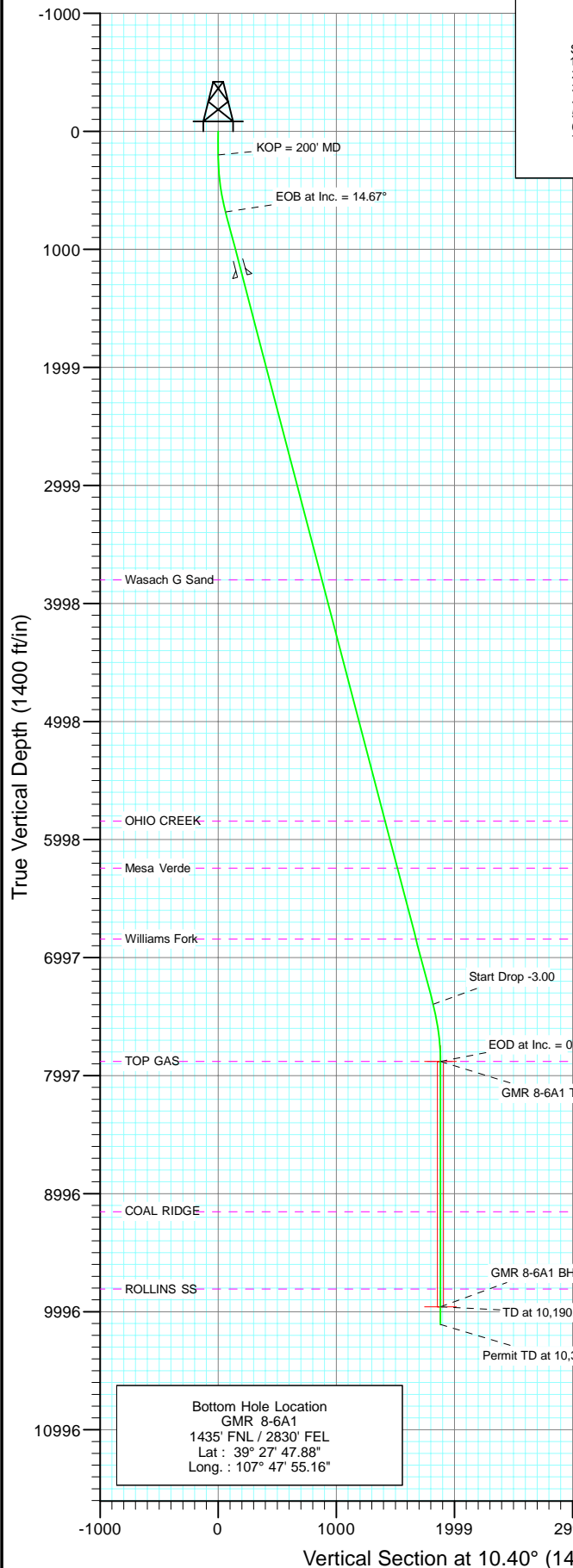




Project: Mamm Creek  
Site: NESW S8 T7S R93W (K8W Pad)  
Well: GMR 8-6A1  
Wellbore: DD  
Design: Plan #1



| 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               | 688.9   | 14.67 | 10.40 | 683.6   | 61.2   | 11.2  | 3.00 | 10.40  | 62.2   |               |
| 4               | 7623.7  | 14.67 | 10.40 | 7392.4  | 1788.3 | 328.3 | 0.00 | 0.00   | 1818.2 |               |
| 5               | 8112.6  | 0.00  | 0.00  | 7876.0  | 1849.5 | 339.6 | 3.00 | 180.00 | 1880.4 | GMR 8-6A1 TOG |
| 6               | 10190.6 | 0.00  | 0.00  | 9954.0  | 1849.5 | 339.6 | 0.00 | 0.00   | 1880.4 | GMR 8-6A1 BHL |
| 7               | 10340.6 | 0.00  | 0.00  | 10104.0 | 1849.5 | 339.6 | 0.00 | 0.00   | 1880.4 |               |



Azimuths to True North  
Magnetic North: 10.45°

Magnetic Field  
Strength: 52432.2snT  
Dip Angle: 65.80°  
Date: 10/28/2009  
Model: IGRF200510

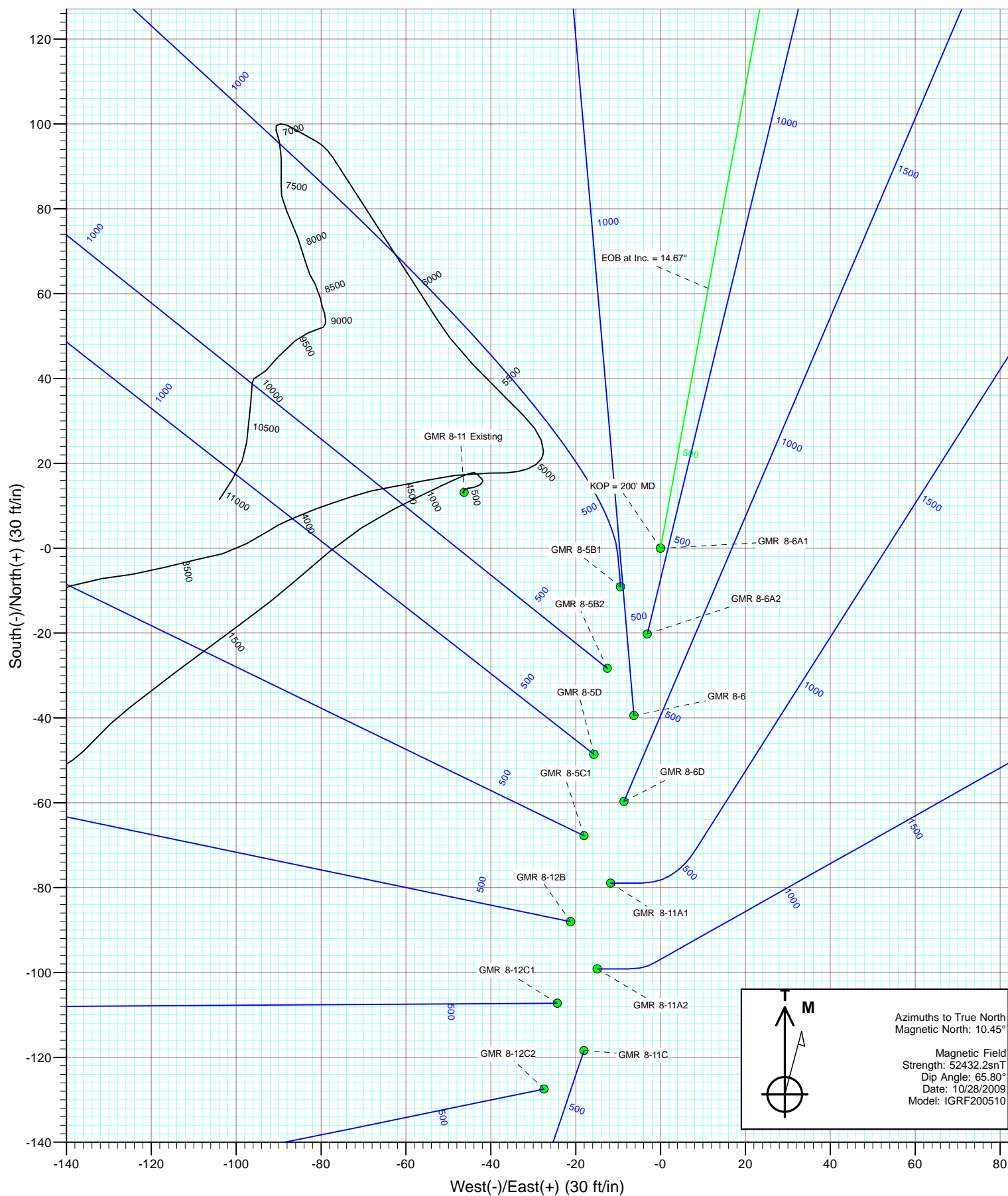
#### FORMATION TOP DETAILS

| TVDPath | MDPath  | Formation     |
|---------|---------|---------------|
| 3798.0  | 3908.2  | Wasach G Sand |
| 5842.0  | 6021.1  | OHIO CREEK    |
| 6240.0  | 6432.5  | Mesa Verde    |
| 6841.0  | 7053.7  | Williams Fork |
| 7876.0  | 8112.6  | TOP GAS       |
| 9149.0  | 9385.6  | COAL RIDGE    |
| 9804.0  | 10040.6 | ROLLINS SS    |

#### DESIGN DETAILS: Plan #1

Job #95xxx: KR  
KBE @ 7848.0ft (Original Well Elev)

| Target        | Azimuth | Origin | N/S | E/W | From TVD |
|---------------|---------|--------|-----|-----|----------|
| GMR 8-6A1 BHL | 10.40   | Slot   | 0.0 | 0.0 | 0.0      |



# Cathedral Energy Services

## Planning Report

|                  |                               |                                     |                                     |
|------------------|-------------------------------|-------------------------------------|-------------------------------------|
| <b>Database:</b> | US EDM 2003.21 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well GMR 8-6A1                      |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc    | <b>TVD Reference:</b>               | KBE @ 7848.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                    | <b>MD Reference:</b>                | KBE @ 7848.0ft (Original Well Elev) |
| <b>Site:</b>     | NESW S8 T7S R93W (K8W Pad)    | <b>North Reference:</b>             | True                                |
| <b>Well:</b>     | GMR 8-6A1                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Wellbore:</b> | DD                            |                                     |                                     |
| <b>Design:</b>   | Plan #1                       |                                     |                                     |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <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                  |          | NESW S8 T7S R93W (K8W Pad) |                 |                   |                  |
| Site Position:        |          | Northing:                  | 1,599,999.23 ft | Latitude:         | 39° 27' 29.50 N  |
| From:                 | Lat/Long | Easting:                   | 2,350,698.86 ft | Longitude:        | 107° 47' 59.56 W |
| Position Uncertainty: | 0.0 ft   | Slot Radius:               | in              | Grid Convergence: | -1.45 °          |

|                      |           |        |                     |                 |               |                  |
|----------------------|-----------|--------|---------------------|-----------------|---------------|------------------|
| Well                 | GMR 8-6A1 |        |                     |                 |               |                  |
| Well Position        | +N/-S     | 0.0 ft | Northing:           | 1,600,009.20 ft | Latitude:     | 39° 27' 29.60 N  |
|                      | +E/-W     | 0.0 ft | Easting:            | 2,350,704.61 ft | Longitude:    | 107° 47' 59.49 W |
| Position Uncertainty |           | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 7,826.0 ft       |

|                  |                   |                    |                    |                  |                       |
|------------------|-------------------|--------------------|--------------------|------------------|-----------------------|
| <b>Wellbore</b>  | DD                |                    |                    |                  |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b> | <b>Dip Angle</b> | <b>Field Strength</b> |
|                  |                   |                    | (°)                | (°)              | (nT)                  |
|                  | IGRF200510        | 10/28/2009         | 10.45              | 65.80            | 52,432                |

|                          |                         |              |              |                      |     |
|--------------------------|-------------------------|--------------|--------------|----------------------|-----|
| <b>Design</b>            | Plan #1                 |              |              |                      |     |
| <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          | 10.40                |     |

|                      |                    |                |                 |              |              |                  |                  |                  |            |               |
|----------------------|--------------------|----------------|-----------------|--------------|--------------|------------------|------------------|------------------|------------|---------------|
| <b>Plan Sections</b> |                    |                |                 |              |              |                  |                  |                  |            |               |
| <b>Measured</b>      | <b>Inclination</b> | <b>Azimuth</b> | <b>Vertical</b> | <b>+N/-S</b> | <b>+E/-W</b> | <b>Dogleg</b>    | <b>Build</b>     | <b>Turn</b>      | <b>TFO</b> | <b>Target</b> |
| <b>Depth</b>         | <b>(°)</b>         | <b>(°)</b>     | <b>Depth</b>    | <b>(ft)</b>  | <b>(ft)</b>  | <b>Rate</b>      | <b>Rate</b>      | <b>Rate</b>      | <b>(°)</b> |               |
| <b>(ft)</b>          |                    |                | <b>(ft)</b>     |              |              | <b>(°/100ft)</b> | <b>(°/100ft)</b> | <b>(°/100ft)</b> |            |               |
| 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       |               |
| 688.9                | 14.67              | 10.40          | 683.6           | 61.2         | 11.2         | 3.00             | 3.00             | 0.00             | 10.40      |               |
| 7,623.7              | 14.67              | 10.40          | 7,392.4         | 1,788.3      | 328.3        | 0.00             | 0.00             | 0.00             | 0.00       |               |
| 8,112.6              | 0.00               | 0.00           | 7,876.0         | 1,849.5      | 339.6        | 3.00             | -3.00            | 0.00             | 180.00     | GMR 8-6A1 TOG |
| 10,190.6             | 0.00               | 0.00           | 9,954.0         | 1,849.5      | 339.6        | 0.00             | 0.00             | 0.00             | 0.00       | GMR 8-6A1 BHL |
| 10,340.6             | 0.00               | 0.00           | 10,104.0        | 1,849.5      | 339.6        | 0.00             | 0.00             | 0.00             | 0.00       |               |

# Cathedral Energy Services

## Planning Report

**Database:** US EDM 2003.21 Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** Mamm Creek  
**Site:** NESW S8 T7S R93W (K8W Pad)  
**Well:** GMR 8-6A1  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well GMR 8-6A1  
**TVD Reference:** KBE @ 7848.0ft (Original Well Elev)  
**MD Reference:** KBE @ 7848.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### 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                 | Hardline 40' East - Hardline 40' North |
| 100.0               | 0.00            | 0.00        | 100.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |  |
| 200.0               | 0.00            | 0.00        | 200.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | KOP = 200' MD                          |
| 300.0               | 3.00            | 10.40       | 300.0               | 2.6        | 0.5        | 2.6                   | 3.00                  | 3.00                 |  |
| 400.0               | 6.00            | 10.40       | 399.6               | 10.3       | 1.9        | 10.5                  | 3.00                  | 3.00                 |  |
| 500.0               | 9.00            | 10.40       | 498.8               | 23.1       | 4.2        | 23.5                  | 3.00                  | 3.00                 |  |
| 600.0               | 12.00           | 10.40       | 597.1               | 41.0       | 7.5        | 41.7                  | 3.00                  | 3.00                 |  |
| 688.9               | 14.67           | 10.40       | 683.6               | 61.2       | 11.2       | 62.2                  | 3.00                  | 3.00                 | EOB at Inc. = 14.67°                   |
| 700.0               | 14.67           | 10.40       | 694.3               | 64.0       | 11.7       | 65.0                  | 0.00                  | 0.00                 |  |
| 800.0               | 14.67           | 10.40       | 791.1               | 88.9       | 16.3       | 90.4                  | 0.00                  | 0.00                 |  |
| 900.0               | 14.67           | 10.40       | 887.8               | 113.8      | 20.9       | 115.7                 | 0.00                  | 0.00                 |  |
| 1,000.0             | 14.67           | 10.40       | 984.5               | 138.7      | 25.5       | 141.0                 | 0.00                  | 0.00                 |  |
| 1,100.0             | 14.67           | 10.40       | 1,081.3             | 163.6      | 30.0       | 166.3                 | 0.00                  | 0.00                 |  |
| 1,200.0             | 14.67           | 10.40       | 1,178.0             | 188.5      | 34.6       | 191.7                 | 0.00                  | 0.00                 |  |
| 1,250.0             | 14.67           | 10.40       | 1,226.4             | 201.0      | 36.9       | 204.3                 | 0.00                  | 0.00                 | Surface Casing                         |
| 1,300.0             | 14.67           | 10.40       | 1,274.8             | 213.4      | 39.2       | 217.0                 | 0.00                  | 0.00                 |  |
| 1,400.0             | 14.67           | 10.40       | 1,371.5             | 238.3      | 43.8       | 242.3                 | 0.00                  | 0.00                 |  |
| 1,500.0             | 14.67           | 10.40       | 1,468.2             | 263.2      | 48.3       | 267.6                 | 0.00                  | 0.00                 |  |
| 1,600.0             | 14.67           | 10.40       | 1,565.0             | 288.1      | 52.9       | 292.9                 | 0.00                  | 0.00                 |  |
| 1,700.0             | 14.67           | 10.40       | 1,661.7             | 313.0      | 57.5       | 318.3                 | 0.00                  | 0.00                 |  |
| 1,800.0             | 14.67           | 10.40       | 1,758.5             | 337.9      | 62.0       | 343.6                 | 0.00                  | 0.00                 |  |
| 1,900.0             | 14.67           | 10.40       | 1,855.2             | 362.8      | 66.6       | 368.9                 | 0.00                  | 0.00                 |  |
| 2,000.0             | 14.67           | 10.40       | 1,952.0             | 387.7      | 71.2       | 394.2                 | 0.00                  | 0.00                 |  |
| 2,100.0             | 14.67           | 10.40       | 2,048.7             | 412.6      | 75.8       | 419.5                 | 0.00                  | 0.00                 |  |
| 2,200.0             | 14.67           | 10.40       | 2,145.4             | 437.5      | 80.3       | 444.9                 | 0.00                  | 0.00                 |  |
| 2,300.0             | 14.67           | 10.40       | 2,242.2             | 462.5      | 84.9       | 470.2                 | 0.00                  | 0.00                 |  |
| 2,400.0             | 14.67           | 10.40       | 2,338.9             | 487.4      | 89.5       | 495.5                 | 0.00                  | 0.00                 |  |
| 2,500.0             | 14.67           | 10.40       | 2,435.7             | 512.3      | 94.1       | 520.8                 | 0.00                  | 0.00                 |  |
| 2,600.0             | 14.67           | 10.40       | 2,532.4             | 537.2      | 98.6       | 546.1                 | 0.00                  | 0.00                 |  |
| 2,700.0             | 14.67           | 10.40       | 2,629.1             | 562.1      | 103.2      | 571.5                 | 0.00                  | 0.00                 |  |
| 2,800.0             | 14.67           | 10.40       | 2,725.9             | 587.0      | 107.8      | 596.8                 | 0.00                  | 0.00                 |  |
| 2,900.0             | 14.67           | 10.40       | 2,822.6             | 611.9      | 112.3      | 622.1                 | 0.00                  | 0.00                 |  |
| 3,000.0             | 14.67           | 10.40       | 2,919.4             | 636.8      | 116.9      | 647.4                 | 0.00                  | 0.00                 |  |
| 3,100.0             | 14.67           | 10.40       | 3,016.1             | 661.7      | 121.5      | 672.7                 | 0.00                  | 0.00                 |  |
| 3,200.0             | 14.67           | 10.40       | 3,112.8             | 686.6      | 126.1      | 698.1                 | 0.00                  | 0.00                 |  |
| 3,300.0             | 14.67           | 10.40       | 3,209.6             | 711.5      | 130.6      | 723.4                 | 0.00                  | 0.00                 |  |
| 3,400.0             | 14.67           | 10.40       | 3,306.3             | 736.4      | 135.2      | 748.7                 | 0.00                  | 0.00                 |  |
| 3,500.0             | 14.67           | 10.40       | 3,403.1             | 761.3      | 139.8      | 774.0                 | 0.00                  | 0.00                 |  |
| 3,600.0             | 14.67           | 10.40       | 3,499.8             | 786.2      | 144.4      | 799.4                 | 0.00                  | 0.00                 |  |
| 3,700.0             | 14.67           | 10.40       | 3,596.6             | 811.1      | 148.9      | 824.7                 | 0.00                  | 0.00                 |  |
| 3,800.0             | 14.67           | 10.40       | 3,693.3             | 836.0      | 153.5      | 850.0                 | 0.00                  | 0.00                 |  |
| 3,900.0             | 14.67           | 10.40       | 3,790.0             | 860.9      | 158.1      | 875.3                 | 0.00                  | 0.00                 |  |
| 3,908.2             | 14.67           | 10.40       | 3,798.0             | 863.0      | 158.4      | 877.4                 | 0.00                  | 0.00                 | Wasach G Sand                          |
| 4,000.0             | 14.67           | 10.40       | 3,886.8             | 885.8      | 162.6      | 900.6                 | 0.00                  | 0.00                 |  |
| 4,100.0             | 14.67           | 10.40       | 3,983.5             | 910.7      | 167.2      | 926.0                 | 0.00                  | 0.00                 |  |
| 4,200.0             | 14.67           | 10.40       | 4,080.3             | 935.6      | 171.8      | 951.3                 | 0.00                  | 0.00                 |  |
| 4,300.0             | 14.67           | 10.40       | 4,177.0             | 960.5      | 176.4      | 976.6                 | 0.00                  | 0.00                 |  |
| 4,400.0             | 14.67           | 10.40       | 4,273.7             | 985.4      | 180.9      | 1,001.9               | 0.00                  | 0.00                 |  |
| 4,500.0             | 14.67           | 10.40       | 4,370.5             | 1,010.4    | 185.5      | 1,027.2               | 0.00                  | 0.00                 |  |
| 4,600.0             | 14.67           | 10.40       | 4,467.2             | 1,035.3    | 190.1      | 1,052.6               | 0.00                  | 0.00                 |  |
| 4,700.0             | 14.67           | 10.40       | 4,564.0             | 1,060.2    | 194.7      | 1,077.9               | 0.00                  | 0.00                 |  |
| 4,800.0             | 14.67           | 10.40       | 4,660.7             | 1,085.1    | 199.2      | 1,103.2               | 0.00                  | 0.00                 |  |

# Cathedral Energy Services

## Planning Report

|                  |                               |                                     |                                     |
|------------------|-------------------------------|-------------------------------------|-------------------------------------|
| <b>Database:</b> | US EDM 2003.21 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well GMR 8-6A1                      |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc    | <b>TVD Reference:</b>               | KBE @ 7848.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                    | <b>MD Reference:</b>                | KBE @ 7848.0ft (Original Well Elev) |
| <b>Site:</b>     | NESW S8 T7S R93W (K8W Pad)    | <b>North Reference:</b>             | True                                |
| <b>Well:</b>     | GMR 8-6A1                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Wellbore:</b> | DD                            |                                     |                                     |
| <b>Design:</b>   | Plan #1                       |                                     |                                     |

### Planned Survey

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Comments /<br>Formations                   |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|--|
| 4,900.0                   | 14.67              | 10.40          | 4,757.4                   | 1,110.0       | 203.8         | 1,128.5                     | 0.00                        | 0.00                       |  |
| 5,000.0                   | 14.67              | 10.40          | 4,854.2                   | 1,134.9       | 208.4         | 1,153.8                     | 0.00                        | 0.00                       |  |
| 5,100.0                   | 14.67              | 10.40          | 4,950.9                   | 1,159.8       | 212.9         | 1,179.2                     | 0.00                        | 0.00                       |  |
| 5,200.0                   | 14.67              | 10.40          | 5,047.7                   | 1,184.7       | 217.5         | 1,204.5                     | 0.00                        | 0.00                       |  |
| 5,300.0                   | 14.67              | 10.40          | 5,144.4                   | 1,209.6       | 222.1         | 1,229.8                     | 0.00                        | 0.00                       |  |
| 5,400.0                   | 14.67              | 10.40          | 5,241.1                   | 1,234.5       | 226.7         | 1,255.1                     | 0.00                        | 0.00                       |  |
| 5,500.0                   | 14.67              | 10.40          | 5,337.9                   | 1,259.4       | 231.2         | 1,280.5                     | 0.00                        | 0.00                       |  |
| 5,600.0                   | 14.67              | 10.40          | 5,434.6                   | 1,284.3       | 235.8         | 1,305.8                     | 0.00                        | 0.00                       |  |
| 5,700.0                   | 14.67              | 10.40          | 5,531.4                   | 1,309.2       | 240.4         | 1,331.1                     | 0.00                        | 0.00                       |  |
| 5,800.0                   | 14.67              | 10.40          | 5,628.1                   | 1,334.1       | 245.0         | 1,356.4                     | 0.00                        | 0.00                       |  |
| 5,900.0                   | 14.67              | 10.40          | 5,724.9                   | 1,359.0       | 249.5         | 1,381.7                     | 0.00                        | 0.00                       |  |
| 6,000.0                   | 14.67              | 10.40          | 5,821.6                   | 1,383.9       | 254.1         | 1,407.1                     | 0.00                        | 0.00                       |  |
| 6,021.1                   | 14.67              | 10.40          | 5,842.0                   | 1,389.2       | 255.1         | 1,412.4                     | 0.00                        | 0.00                       | OHIO CREEK                                 |
| 6,100.0                   | 14.67              | 10.40          | 5,918.3                   | 1,408.8       | 258.7         | 1,432.4                     | 0.00                        | 0.00                       |  |
| 6,200.0                   | 14.67              | 10.40          | 6,015.1                   | 1,433.7       | 263.2         | 1,457.7                     | 0.00                        | 0.00                       |  |
| 6,300.0                   | 14.67              | 10.40          | 6,111.8                   | 1,458.6       | 267.8         | 1,483.0                     | 0.00                        | 0.00                       |  |
| 6,400.0                   | 14.67              | 10.40          | 6,208.6                   | 1,483.5       | 272.4         | 1,508.3                     | 0.00                        | 0.00                       |  |
| 6,432.5                   | 14.67              | 10.40          | 6,240.0                   | 1,491.6       | 273.9         | 1,516.6                     | 0.00                        | 0.00                       | Mesa Verde                                 |
| 6,500.0                   | 14.67              | 10.40          | 6,305.3                   | 1,508.4       | 277.0         | 1,533.7                     | 0.00                        | 0.00                       |  |
| 6,600.0                   | 14.67              | 10.40          | 6,402.0                   | 1,533.4       | 281.5         | 1,559.0                     | 0.00                        | 0.00                       |  |
| 6,700.0                   | 14.67              | 10.40          | 6,498.8                   | 1,558.3       | 286.1         | 1,584.3                     | 0.00                        | 0.00                       |  |
| 6,800.0                   | 14.67              | 10.40          | 6,595.5                   | 1,583.2       | 290.7         | 1,609.6                     | 0.00                        | 0.00                       |  |
| 6,900.0                   | 14.67              | 10.40          | 6,692.3                   | 1,608.1       | 295.2         | 1,634.9                     | 0.00                        | 0.00                       |  |
| 7,000.0                   | 14.67              | 10.40          | 6,789.0                   | 1,633.0       | 299.8         | 1,660.3                     | 0.00                        | 0.00                       |  |
| 7,053.7                   | 14.67              | 10.40          | 6,841.0                   | 1,646.4       | 302.3         | 1,673.9                     | 0.00                        | 0.00                       | Williams Fork                              |
| 7,100.0                   | 14.67              | 10.40          | 6,885.7                   | 1,657.9       | 304.4         | 1,685.6                     | 0.00                        | 0.00                       |  |
| 7,200.0                   | 14.67              | 10.40          | 6,982.5                   | 1,682.8       | 309.0         | 1,710.9                     | 0.00                        | 0.00                       |  |
| 7,300.0                   | 14.67              | 10.40          | 7,079.2                   | 1,707.7       | 313.5         | 1,736.2                     | 0.00                        | 0.00                       |  |
| 7,400.0                   | 14.67              | 10.40          | 7,176.0                   | 1,732.6       | 318.1         | 1,761.6                     | 0.00                        | 0.00                       |  |
| 7,500.0                   | 14.67              | 10.40          | 7,272.7                   | 1,757.5       | 322.7         | 1,786.9                     | 0.00                        | 0.00                       |  |
| 7,600.0                   | 14.67              | 10.40          | 7,369.5                   | 1,782.4       | 327.3         | 1,812.2                     | 0.00                        | 0.00                       |  |
| 7,623.7                   | 14.67              | 10.40          | 7,392.4                   | 1,788.3       | 328.3         | 1,818.2                     | 0.00                        | 0.00                       | Start Drop -3.00                           |
| 7,700.0                   | 12.38              | 10.40          | 7,466.6                   | 1,805.9       | 331.6         | 1,836.0                     | 3.00                        | -3.00                      |  |
| 7,800.0                   | 9.38               | 10.40          | 7,564.8                   | 1,824.4       | 335.0         | 1,854.9                     | 3.00                        | -3.00                      |  |
| 7,900.0                   | 6.38               | 10.40          | 7,663.8                   | 1,837.9       | 337.4         | 1,868.6                     | 3.00                        | -3.00                      |  |
| 8,000.0                   | 3.38               | 10.40          | 7,763.4                   | 1,846.3       | 339.0         | 1,877.1                     | 3.00                        | -3.00                      |  |
| 8,100.0                   | 0.38               | 10.40          | 7,863.4                   | 1,849.5       | 339.6         | 1,880.4                     | 3.00                        | -3.00                      |  |
| 8,112.6                   | 0.00               | 0.00           | 7,876.0                   | 1,849.5       | 339.6         | 1,880.4                     | 3.00                        | -3.00                      | EOD at Inc. = 0° - TOP GAS - GMR 8-6A1 TOC |
| 8,200.0                   | 0.00               | 0.00           | 7,963.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 8,300.0                   | 0.00               | 0.00           | 8,063.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 8,400.0                   | 0.00               | 0.00           | 8,163.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 8,500.0                   | 0.00               | 0.00           | 8,263.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 8,600.0                   | 0.00               | 0.00           | 8,363.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 8,700.0                   | 0.00               | 0.00           | 8,463.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 8,800.0                   | 0.00               | 0.00           | 8,563.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 8,900.0                   | 0.00               | 0.00           | 8,663.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 9,000.0                   | 0.00               | 0.00           | 8,763.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 9,100.0                   | 0.00               | 0.00           | 8,863.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 9,200.0                   | 0.00               | 0.00           | 8,963.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 9,300.0                   | 0.00               | 0.00           | 9,063.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |
| 9,385.6                   | 0.00               | 0.00           | 9,149.0                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       | COAL RIDGE                                 |
| 9,400.0                   | 0.00               | 0.00           | 9,163.4                   | 1,849.5       | 339.6         | 1,880.4                     | 0.00                        | 0.00                       |  |

# Cathedral Energy Services

## Planning Report

**Database:** US EDM 2003.21 Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** Mamm Creek  
**Site:** NESW S8 T7S R93W (K8W Pad)  
**Well:** GMR 8-6A1  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well GMR 8-6A1  
**TVD Reference:** KBE @ 7848.0ft (Original Well Elev)  
**MD Reference:** KBE @ 7848.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations              |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|------------------------------------|
| 9,500.0             | 0.00            | 0.00        | 9,263.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 9,600.0             | 0.00            | 0.00        | 9,363.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 9,700.0             | 0.00            | 0.00        | 9,463.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 9,800.0             | 0.00            | 0.00        | 9,563.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 9,900.0             | 0.00            | 0.00        | 9,663.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 10,000.0            | 0.00            | 0.00        | 9,763.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 10,040.6            | 0.00            | 0.00        | 9,804.0             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 | ROLLINS SS                         |
| 10,100.0            | 0.00            | 0.00        | 9,863.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 10,190.6            | 0.00            | 0.00        | 9,954.0             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 | TD at 10,190.6' MD - GMR 8-6A1 BHL |
| 10,200.0            | 0.00            | 0.00        | 9,963.4             | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 10,300.0            | 0.00            | 0.00        | 10,063.4            | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 |                                    |
| 10,340.6            | 0.00            | 0.00        | 10,104.0            | 1,849.5    | 339.6      | 1,880.4               | 0.00                  | 0.00                 | Permit TD at 10,340.6' MD          |

### Targets

| Target Name  | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude        | Longitude        |
|--|---------------|--------------|----------|------------|------------|---------------|--------------|-----------------|------------------|
| - hit/miss target  |               |              |          |            |            |               |              |                 |                  |
| - Shape  |               |              |          |            |            |               |              |                 |                  |
| GMR 8-6A1 TOG  | 0.00          | 0.00         | 7,876.0  | 1,849.5    | 339.6      | 1,601,849.53  | 2,351,090.90 | 39° 27' 47.88 N | 107° 47' 55.16 W |
| - plan hits target center  |               |              |          |            |            |               |              |                 |                  |
| - Point  |               |              |          |            |            |               |              |                 |                  |
| Hardline 40' East  | 0.00          | 0.00         | -9,899.0 | 900.5      | 383.5      | 1,600,899.69  | 2,351,110.79 | 39° 27' 38.50 N | 107° 47' 54.60 W |
| - plan misses target center by 9947.3ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)  |               |              |          |            |            |               |              |                 |                  |
| - Polygon  |               |              |          |            |            |               |              |                 |                  |
| Point 1  |               |              | -9,899.0 | 100.0      | 40.0       | 1,600,998.64  | 2,351,153.31 |                 |                  |
| Point 2  |               |              | -9,899.0 | -100.0     | 40.0       | 1,600,798.71  | 2,351,148.25 |                 |                  |
| Hardline 40' North   | 0.00          | 0.00         | -9,954.0 | 1,353.8    | -125.5     | 1,601,365.70  | 2,350,613.43 | 39° 27' 42.98 N | 107° 48' 1.09 W  |
| - plan misses target center by 10046.4ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) |               |              |          |            |            |               |              |                 |                  |
| - Polygon  |               |              |          |            |            |               |              |                 |                  |
| Point 1  |               |              | -9,954.0 | 40.0       | -40.0      | 1,601,406.70  | 2,350,574.46 |                 |                  |
| Point 2  |               |              | -9,954.0 | 40.0       | 100.0      | 1,601,403.15  | 2,350,714.41 |                 |                  |
| GMR 8-6A1 BHL  | 0.00          | 0.00         | 9,954.0  | 1,849.5    | 339.6      | 1,601,849.53  | 2,351,090.90 | 39° 27' 47.88 N | 107° 47' 55.16 W |
| - plan hits target center  |               |              |          |            |            |               |              |                 |                  |
| - Circle (radius 25.0)   |               |              |          |            |            |               |              |                 |                  |

### Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name           | Casing Diameter (in) | Hole Diameter (in) |
|---------------------|---------------------|----------------|----------------------|--------------------|
| 1,250.0             | 1,226.4             | Surface Casing | 5.500                | 6.000              |

# Cathedral Energy Services

## Planning Report

|                  |                               |                                     |                                     |
|------------------|-------------------------------|-------------------------------------|-------------------------------------|
| <b>Database:</b> | US EDM 2003.21 Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well GMR 8-6A1                      |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc    | <b>TVD Reference:</b>               | KBE @ 7848.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                    | <b>MD Reference:</b>                | KBE @ 7848.0ft (Original Well Elev) |
| <b>Site:</b>     | NESW S8 T7S R93W (K8W Pad)    | <b>North Reference:</b>             | True                                |
| <b>Well:</b>     | GMR 8-6A1                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Wellbore:</b> | DD                            |                                     |                                     |
| <b>Design:</b>   | Plan #1                       |                                     |                                     |

### Formations

| Measured Depth (ft) | Vertical Depth (ft) | Name          | Lithology | Dip (°) | Dip Direction (°) |
|---------------------|---------------------|---------------|-----------|---------|-------------------|
| 3,908.2             | 3,798.0             | Wasach G Sand |           |         |                   |
| 6,021.1             | 5,842.0             | OHIO CREEK    |           |         |                   |
| 6,432.5             | 6,240.0             | Mesa Verde    |           |         |                   |
| 7,053.7             | 6,841.0             | Williams Fork |           |         |                   |
| 8,112.6             | 7,876.0             | TOP GAS       |           |         |                   |
| 9,385.6             | 9,149.0             | COAL RIDGE    |           |         |                   |
| 10,040.6            | 9,804.0             | ROLLINS SS    |           |         |                   |

### 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' MD             |
| 688.9               | 683.6               | 61.2              | 11.2       | EOB at Inc. = 14.67°      |
| 7,623.7             | 7,392.4             | 1,788.3           | 328.3      | Start Drop -3.00          |
| 8,112.6             | 7,876.0             | 1,849.5           | 339.6      | EOD at Inc. = 0°          |
| 10,190.6            | 9,954.0             | 1,849.5           | 339.6      | TD at 10,190.6' MD        |
| 10,340.6            | 10,104.0            | 1,849.5           | 339.6      | Permit TD at 10,340.6' MD |