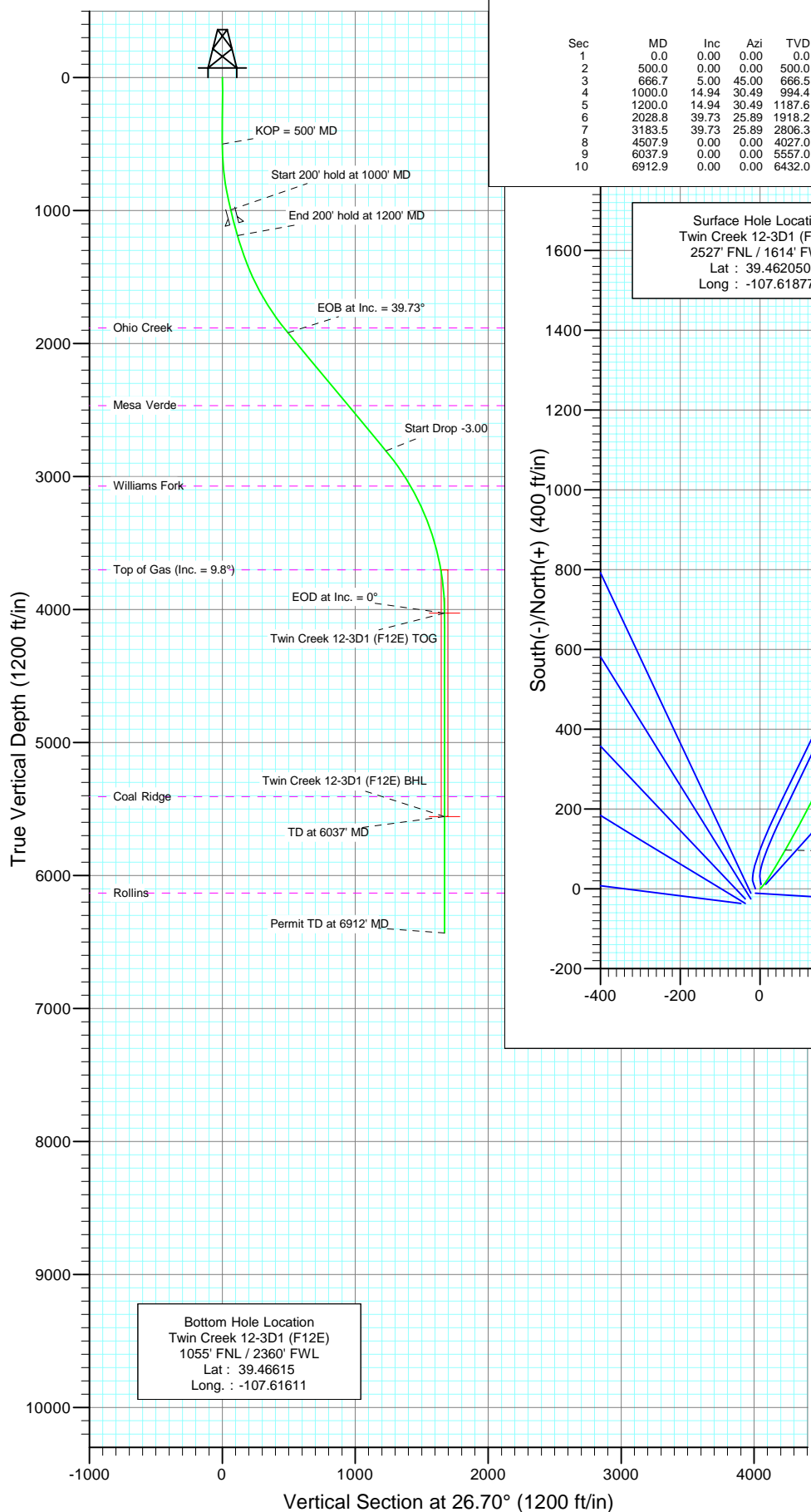
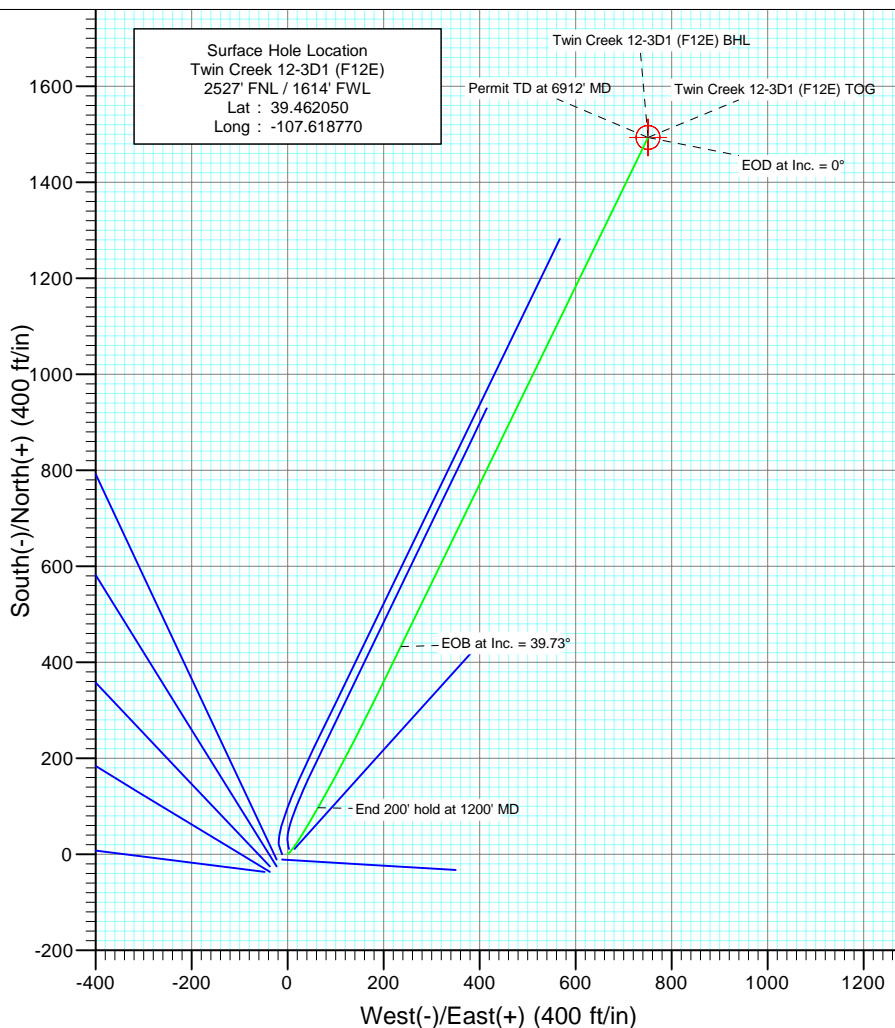




Project: Mamm Creek  
Site: (F12E)  
Well: Twin Creek 12-3D1 (F12E)  
Wellbore: DD  
Design: Plan #1



| SECTION DETAILS |        |       |       |        |        |       |      |        |        |                              |
|-----------------|--------|-------|-------|--------|--------|-------|------|--------|--------|------------------------------|
| Sec             | MD     | Inc   | Azi   | TVD    | +N/-S  | +E/-W | Dleg | TFace  | V/Sect | Target                       |
| 1               | 0.0    | 0.00  | 0.00  | 0.0    | 0.0    | 0.0   | 0.00 | 0.00   | 0.0    |                              |
| 2               | 500.0  | 0.00  | 0.00  | 500.0  | 0.0    | 0.0   | 0.00 | 0.00   | 0.0    |                              |
| 3               | 666.7  | 5.00  | 45.00 | 666.5  | 5.1    | 5.1   | 3.00 | 45.00  | 6.9    |                              |
| 4               | 1000.0 | 14.94 | 30.49 | 994.4  | 52.6   | 37.3  | 3.05 | -21.45 | 63.7   |                              |
| 5               | 1200.0 | 14.94 | 30.49 | 1187.6 | 97.0   | 63.5  | 0.00 | 0.00   | 115.2  |                              |
| 6               | 2028.8 | 39.73 | 25.89 | 1918.2 | 432.6  | 236.0 | 3.00 | -7.00  | 492.5  |                              |
| 7               | 3183.5 | 39.73 | 25.89 | 2806.3 | 1096.6 | 558.4 | 0.00 | 0.00   | 1230.6 |                              |
| 8               | 4507.9 | 0.00  | 0.00  | 4027.0 | 1493.4 | 751.0 | 3.00 | 180.00 | 1671.6 | Twin Creek 12-3D1 (F12E) TOG |
| 9               | 6037.9 | 0.00  | 0.00  | 5557.0 | 1493.4 | 751.0 | 0.00 | 0.00   | 1671.6 | Twin Creek 12-3D1 (F12E) BHL |
| 10              | 6912.9 | 0.00  | 0.00  | 6432.0 | 1493.4 | 751.0 | 0.00 | 0.00   | 1671.6 |                              |



Azimuths to True North  
Magnetic North: 10.30°

Magnetic Field  
Strength: 52425.7snT  
Dip Angle: 65.82°  
Date: 4/16/2010  
Model: IGRF200510

#### FORMATION TOP DETAILS

| TVDPath | MDPath | Formation                | DipAngle |
|---------|--------|--------------------------|----------|
| 1882.0  | 1982.2 | Ohio Creek               | 0.00     |
| 2467.0  | 2742.4 | Mesa Verde               | 0.00     |
| 3072.0  | 3507.8 | Williams Fork            | 0.00     |
| 3702.0  | 4181.3 | Top of Gas (Inc. = 9.8°) | 0.00     |
| 5407.0  | 5887.9 | Coal Ridge               | 0.00     |
| 6132.0  | 6612.9 | Rollins                  | 0.00     |

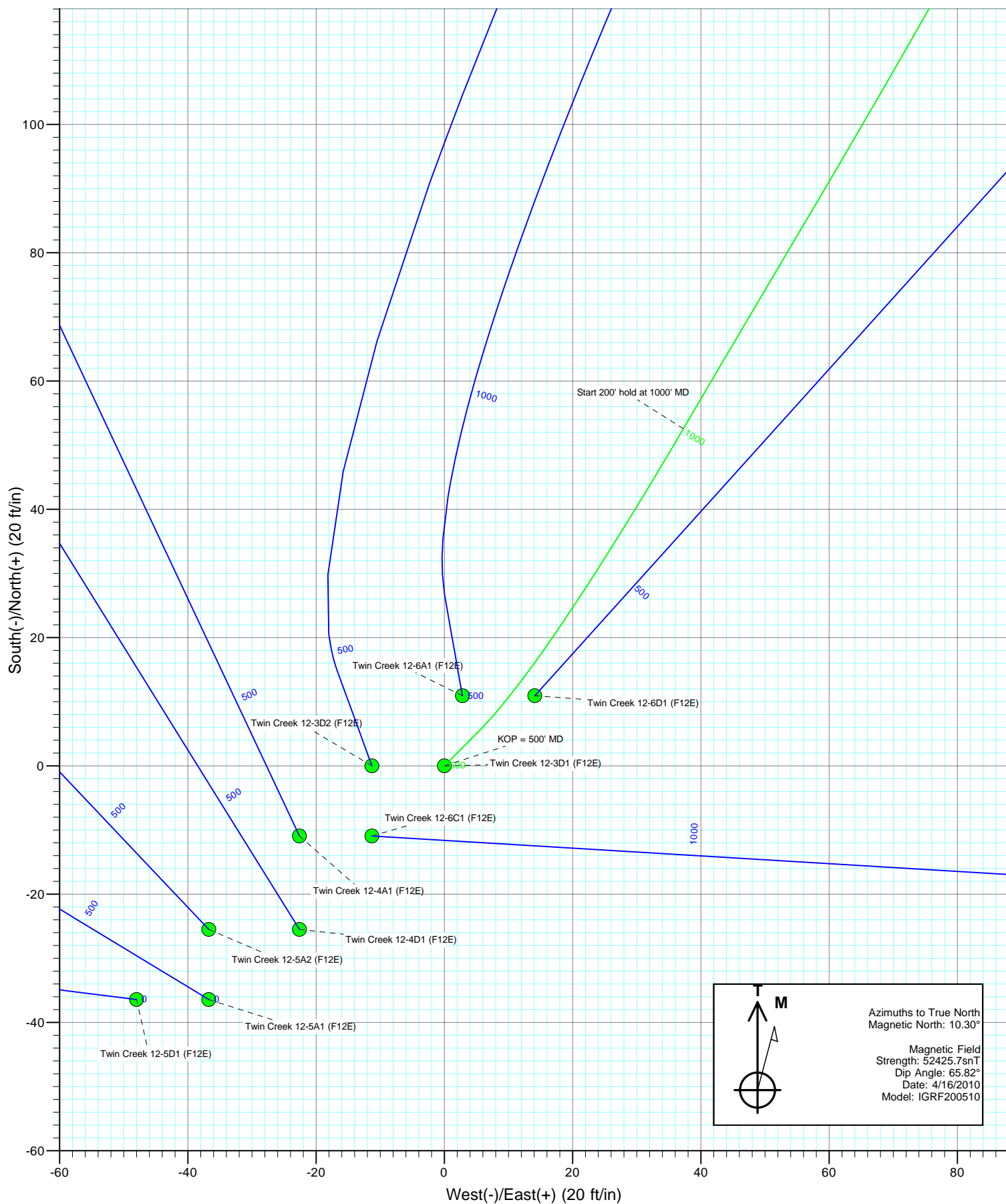
#### DESIGN DETAILS: Plan #1

1051XX; KR  
KBE @ 6167.0ft (Original Well Elev)

| Target                       | Azimuth | Origin | N/S | E/W From TVD |
|------------------------------|---------|--------|-----|--------------|
| Twin Creek 12-3D1 (F12E) BHL | 26.70   | Slot   | 0.0 | 0.0          |

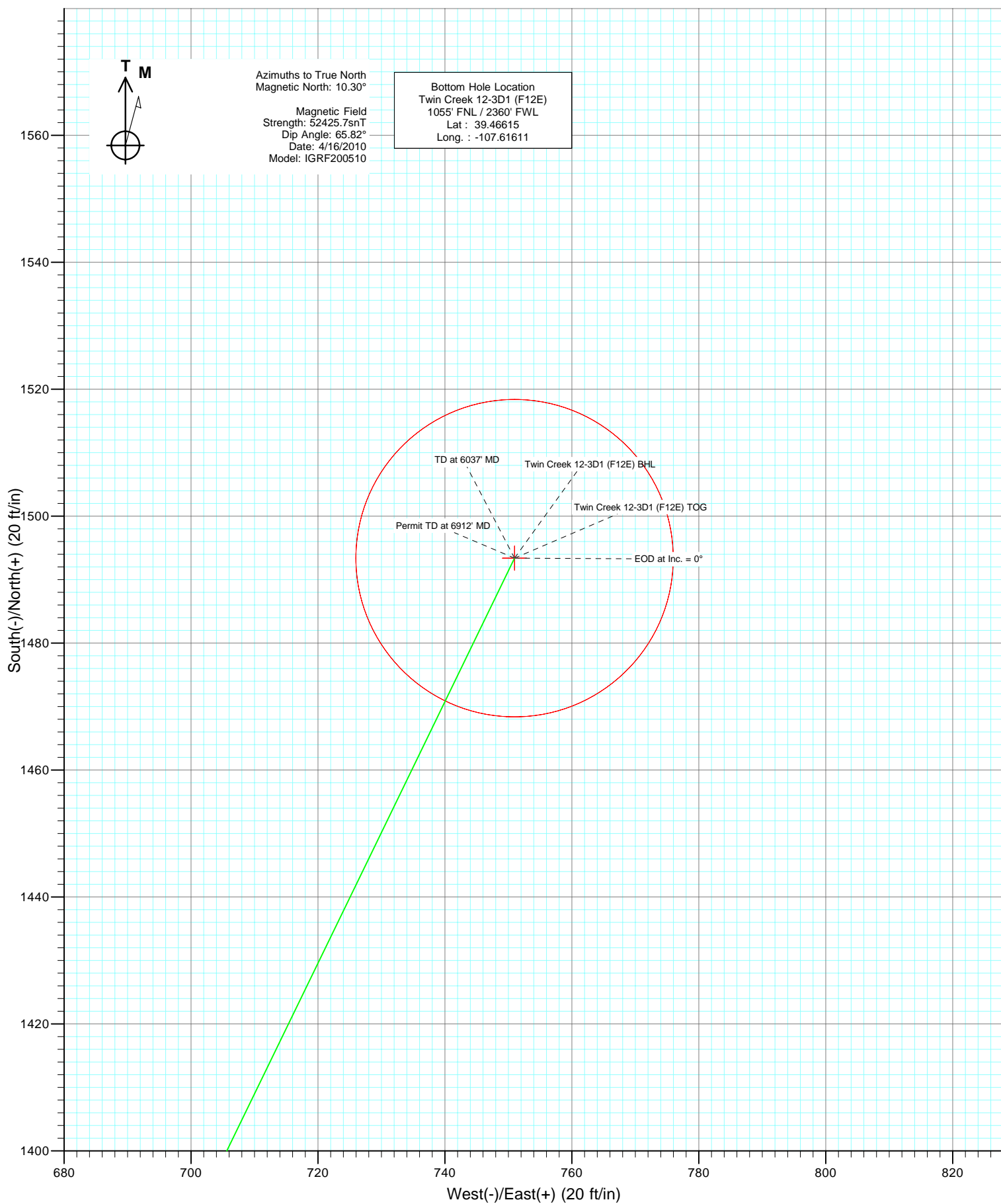


Project: Mamm Creek  
Site: (F12E)  
Well: Twin Creek 12-3D1 (F12E)  
Wellbore: DD  
Design: Plan #1





Project: Mamm Creek  
Site: (F12E)  
Well: Twin Creek 12-3D1 (F12E)  
Wellbore: DD  
Design: Plan #1



# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                     |
|------------------|------------------------------|-------------------------------------|-------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Twin Creek 12-3D1 (F12E)       |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | KBE @ 6167.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | KBE @ 6167.0ft (Original Well Elev) |
| <b>Site:</b>     | (F12E)                       | <b>North Reference:</b>             | True                                |
| <b>Well:</b>     | Twin Creek 12-3D1 (F12E)     | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Wellbore:</b> | DD                           |                                     |                                     |
| <b>Design:</b>   | Plan #1                      |                                     |                                     |

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

| Site                  |          | (F12E)       |                 |                   |             |
|-----------------------|----------|--------------|-----------------|-------------------|-------------|
| Site Position:        |          | Northing:    | 1,600,159.70 ft | Latitude:         | 39.462050   |
| From:                 | Lat/Long | Easting:     | 2,401,852.74 ft | Longitude:        | -107.618770 |
| Position Uncertainty: | 0.0 ft   | Slot Radius: | 13.200 in       | Grid Convergence: | -1.34 °     |

|                      |                          |        |                     |                 |               |             |
|----------------------|--------------------------|--------|---------------------|-----------------|---------------|-------------|
| Well                 | Twin Creek 12-3D1 (F12E) |        |                     |                 |               |             |
| Well Position        | +N/-S                    | 0.0 ft | Northing:           | 1,600,159.70 ft | Latitude:     | 39.462050   |
|                      | +E/-W                    | 0.0 ft | Easting:            | 2,401,852.74 ft | Longitude:    | -107.618770 |
| Position Uncertainty |                          | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 6,145.0 ft  |

|           |            |             |                    |                  |                        |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore  | DD         |             |                    |                  |                        |
| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF200510 | 4/16/2010   | 10.30              | 65.82            | 52,426                 |

|                   |                          |               |               |                  |
|-------------------|--------------------------|---------------|---------------|------------------|
| Design            | Plan #1                  |               |               |                  |
| Audit Notes:      |                          |               |               |                  |
| Version:          | Phase:                   | PLAN          | Tie On Depth: | 0.0              |
| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|                   | 0.0                      | 0.0           | 0.0           | 26.70            |

| Plan Sections             |                    |                |                           |               |               |                             |                            |                           |            |                      |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|----------------------------|---------------------------|------------|----------------------|
| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) | TFO<br>(°) | Target               |
| 0.0                       | 0.00               | 0.00           | 0.0                       | 0.0           | 0.0           | 0.00                        | 0.00                       | 0.00                      | 0.00       |                      |
| 500.0                     | 0.00               | 0.00           | 500.0                     | 0.0           | 0.0           | 0.00                        | 0.00                       | 0.00                      | 0.00       |                      |
| 666.7                     | 5.00               | 45.00          | 666.5                     | 5.1           | 5.1           | 3.00                        | 3.00                       | 0.00                      | 45.00      |                      |
| 1,000.0                   | 14.94              | 30.49          | 994.4                     | 52.6          | 37.3          | 3.05                        | 2.98                       | -4.35                     | -21.45     |                      |
| 1,200.0                   | 14.94              | 30.49          | 1,187.6                   | 97.0          | 63.5          | 0.00                        | 0.00                       | 0.00                      | 0.00       |                      |
| 2,028.8                   | 39.73              | 25.89          | 1,918.2                   | 432.6         | 236.0         | 3.00                        | 2.99                       | -0.55                     | -7.00      |                      |
| 3,183.5                   | 39.73              | 25.89          | 2,806.3                   | 1,096.6       | 558.4         | 0.00                        | 0.00                       | 0.00                      | 0.00       |                      |
| 4,507.9                   | 0.00               | 0.00           | 4,027.0                   | 1,493.4       | 751.0         | 3.00                        | -3.00                      | 0.00                      | 180.00     | Twin Creek 12-3D1 (F |
| 6,037.9                   | 0.00               | 0.00           | 5,557.0                   | 1,493.4       | 751.0         | 0.00                        | 0.00                       | 0.00                      | 0.00       | Twin Creek 12-3D1 (F |
| 6,912.9                   | 0.00               | 0.00           | 6,432.0                   | 1,493.4       | 751.0         | 0.00                        | 0.00                       | 0.00                      | 0.00       |                      |

# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                     |
|------------------|------------------------------|-------------------------------------|-------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Twin Creek 12-3D1 (F12E)       |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | KBE @ 6167.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | KBE @ 6167.0ft (Original Well Elev) |
| <b>Site:</b>     | (F12E)                       | <b>North Reference:</b>             | True                                |
| <b>Well:</b>     | Twin Creek 12-3D1 (F12E)     | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Wellbore:</b> | DD                           |                                     |                                     |
| <b>Design:</b>   | Plan #1                      |                                     |                                     |

### 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                 |                             |
| 300.0               | 0.00            | 0.00        | 300.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 400.0               | 0.00            | 0.00        | 400.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 500.0               | 0.00            | 0.00        | 500.0               | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | KOP = 500' MD               |
| 600.0               | 3.00            | 45.00       | 600.0               | 1.9        | 1.9        | 2.5                   | 3.00                  | 3.00                 |                             |
| 666.7               | 5.00            | 45.00       | 666.5               | 5.1        | 5.1        | 6.9                   | 3.00                  | 3.00                 |                             |
| 700.0               | 5.96            | 41.41       | 699.6               | 7.5        | 7.3        | 10.0                  | 3.05                  | 2.88                 |                             |
| 800.0               | 8.91            | 35.36       | 798.8               | 17.7       | 15.2       | 22.6                  | 3.05                  | 2.95                 |                             |
| 900.0               | 11.92           | 32.32       | 897.1               | 32.7       | 25.2       | 40.6                  | 3.05                  | 3.00                 |                             |
| 1,000.0             | 14.94           | 30.49       | 994.4               | 52.6       | 37.3       | 63.7                  | 3.05                  | 3.02                 | Start 200' hold at 1000' MD |
| 1,100.0             | 14.94           | 30.49       | 1,091.0             | 74.8       | 50.4       | 89.4                  | 0.00                  | 0.00                 |                             |
| 1,109.3             | 14.94           | 30.49       | 1,100.0             | 76.8       | 51.6       | 91.8                  | 0.00                  | 0.00                 | Surface Casing              |
| 1,200.0             | 14.94           | 30.49       | 1,187.6             | 97.0       | 63.5       | 115.2                 | 0.00                  | 0.00                 | End 200' hold at 1200' MD   |
| 1,300.0             | 17.92           | 29.30       | 1,283.5             | 121.5      | 77.5       | 143.4                 | 3.00                  | 2.98                 |                             |
| 1,400.0             | 20.91           | 28.44       | 1,377.8             | 150.6      | 93.6       | 176.6                 | 3.00                  | 2.99                 |                             |
| 1,500.0             | 23.90           | 27.79       | 1,470.3             | 184.3      | 111.5      | 214.7                 | 3.00                  | 2.99                 |                             |
| 1,600.0             | 26.89           | 27.28       | 1,560.6             | 222.3      | 131.3      | 257.6                 | 3.00                  | 2.99                 |                             |
| 1,700.0             | 29.88           | 26.86       | 1,648.6             | 264.6      | 153.0      | 305.1                 | 3.00                  | 2.99                 |                             |
| 1,800.0             | 32.88           | 26.51       | 1,733.9             | 311.1      | 176.3      | 357.2                 | 3.00                  | 2.99                 |                             |
| 1,900.0             | 35.87           | 26.22       | 1,816.5             | 361.7      | 201.4      | 413.6                 | 3.00                  | 3.00                 |                             |
| 1,982.2             | 38.33           | 26.00       | 1,882.0             | 406.2      | 223.2      | 463.2                 | 3.00                  | 3.00                 | Ohio Creek                  |
| 2,000.0             | 38.87           | 25.96       | 1,895.9             | 416.2      | 228.1      | 474.3                 | 3.00                  | 3.00                 |                             |
| 2,028.8             | 39.73           | 25.89       | 1,918.2             | 432.6      | 236.1      | 492.6                 | 3.00                  | 2.99                 | EOB at Inc. = 39.73°        |
| 2,100.0             | 39.73           | 25.89       | 1,973.0             | 473.6      | 255.9      | 538.1                 | 0.00                  | 0.00                 |                             |
| 2,200.0             | 39.73           | 25.89       | 2,049.9             | 531.1      | 283.8      | 602.0                 | 0.00                  | 0.00                 |                             |
| 2,300.0             | 39.73           | 25.89       | 2,126.8             | 588.6      | 311.8      | 665.9                 | 0.00                  | 0.00                 |                             |
| 2,400.0             | 39.73           | 25.89       | 2,203.7             | 646.1      | 339.7      | 729.8                 | 0.00                  | 0.00                 |                             |
| 2,500.0             | 39.73           | 25.89       | 2,280.6             | 703.6      | 367.6      | 793.7                 | 0.00                  | 0.00                 |                             |
| 2,600.0             | 39.73           | 25.89       | 2,357.5             | 761.1      | 395.5      | 857.6                 | 0.00                  | 0.00                 |                             |
| 2,700.0             | 39.73           | 25.89       | 2,434.4             | 818.6      | 423.4      | 921.5                 | 0.00                  | 0.00                 |                             |
| 2,742.4             | 39.73           | 25.89       | 2,467.0             | 842.9      | 435.2      | 948.6                 | 0.00                  | 0.00                 | Mesa Verde                  |
| 2,800.0             | 39.73           | 25.89       | 2,511.3             | 876.1      | 451.3      | 985.4                 | 0.00                  | 0.00                 |                             |
| 2,900.0             | 39.73           | 25.89       | 2,588.2             | 933.6      | 479.2      | 1,049.4               | 0.00                  | 0.00                 |                             |
| 3,000.0             | 39.73           | 25.89       | 2,665.1             | 991.1      | 507.1      | 1,113.3               | 0.00                  | 0.00                 |                             |
| 3,100.0             | 39.73           | 25.89       | 2,742.0             | 1,048.6    | 535.1      | 1,177.2               | 0.00                  | 0.00                 |                             |
| 3,183.5             | 39.73           | 25.89       | 2,806.2             | 1,096.6    | 558.4      | 1,230.5               | 0.00                  | 0.00                 | Start Drop -3.00            |
| 3,200.0             | 39.24           | 25.89       | 2,819.0             | 1,106.0    | 562.9      | 1,241.0               | 2.99                  | -2.99                |                             |
| 3,300.0             | 36.24           | 25.89       | 2,898.1             | 1,161.1    | 589.7      | 1,302.2               | 3.00                  | -3.00                |                             |
| 3,400.0             | 33.24           | 25.89       | 2,980.2             | 1,212.3    | 614.5      | 1,359.2               | 3.00                  | -3.00                |                             |
| 3,500.0             | 30.24           | 25.89       | 3,065.3             | 1,259.7    | 637.5      | 1,411.8               | 3.00                  | -3.00                |                             |
| 3,507.8             | 30.00           | 25.89       | 3,072.0             | 1,263.2    | 639.2      | 1,415.7               | 3.00                  | -3.00                | Williams Fork               |
| 3,600.0             | 27.24           | 25.89       | 3,152.9             | 1,302.9    | 658.5      | 1,459.8               | 3.00                  | -3.00                |                             |
| 3,700.0             | 24.24           | 25.89       | 3,243.0             | 1,342.0    | 677.5      | 1,503.3               | 3.00                  | -3.00                |                             |
| 3,800.0             | 21.24           | 25.89       | 3,335.2             | 1,376.7    | 694.3      | 1,541.9               | 3.00                  | -3.00                |                             |
| 3,900.0             | 18.24           | 25.89       | 3,429.3             | 1,407.1    | 709.1      | 1,575.7               | 3.00                  | -3.00                |                             |
| 4,000.0             | 15.24           | 25.89       | 3,525.1             | 1,433.0    | 721.7      | 1,604.5               | 3.00                  | -3.00                |                             |
| 4,100.0             | 12.24           | 25.89       | 3,622.2             | 1,454.4    | 732.0      | 1,628.2               | 3.00                  | -3.00                |                             |
| 4,181.3             | 9.80            | 25.89       | 3,702.0             | 1,468.3    | 738.8      | 1,643.7               | 3.00                  | -3.00                | Top of Gas (Inc. = 9.8°)    |
| 4,200.0             | 9.24            | 25.89       | 3,720.5             | 1,471.1    | 740.2      | 1,646.8               | 3.00                  | -3.00                |                             |
| 4,300.0             | 6.24            | 25.89       | 3,819.5             | 1,483.2    | 746.0      | 1,660.3               | 3.00                  | -3.00                |                             |

# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                     |
|------------------|------------------------------|-------------------------------------|-------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Twin Creek 12-3D1 (F12E)       |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | KBE @ 6167.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | KBE @ 6167.0ft (Original Well Elev) |
| <b>Site:</b>     | (F12E)                       | <b>North Reference:</b>             | True                                |
| <b>Well:</b>     | Twin Creek 12-3D1 (F12E)     | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Wellbore:</b> | DD                           |                                     |                                     |
| <b>Design:</b>   | Plan #1                      |                                     |                                     |

| 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                         |
| 4,400.0             | 3.24            | 25.89       | 3,919.2             | 1,490.7    | 749.6      | 1,668.5               | 3.00                  | -3.00                |   |
| 4,500.0             | 0.24            | 25.89       | 4,019.1             | 1,493.4    | 751.0      | 1,671.6               | 3.00                  | -3.00                |   |
| 4,507.9             | 0.00            | 25.89       | 4,027.0             | 1,493.4    | 751.0      | 1,671.6               | 2.99                  | -2.99                | EOD at Inc. = 0° - Twin Creek 12-3D1 (F12E) T |
| 4,600.0             | 0.00            | 0.00        | 4,119.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 4,700.0             | 0.00            | 0.00        | 4,219.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 4,800.0             | 0.00            | 0.00        | 4,319.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 4,900.0             | 0.00            | 0.00        | 4,419.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,000.0             | 0.00            | 0.00        | 4,519.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,100.0             | 0.00            | 0.00        | 4,619.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,200.0             | 0.00            | 0.00        | 4,719.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,300.0             | 0.00            | 0.00        | 4,819.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,400.0             | 0.00            | 0.00        | 4,919.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,500.0             | 0.00            | 0.00        | 5,019.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,600.0             | 0.00            | 0.00        | 5,119.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,700.0             | 0.00            | 0.00        | 5,219.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,800.0             | 0.00            | 0.00        | 5,319.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 5,887.9             | 0.00            | 0.00        | 5,407.0             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 | Coal Ridge                                    |
| 5,900.0             | 0.00            | 0.00        | 5,419.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,000.0             | 0.00            | 0.00        | 5,519.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,037.9             | 0.00            | 0.00        | 5,557.0             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 | TD at 6037' MD - Twin Creek 12-3D1 (F12E) BI  |
| 6,100.0             | 0.00            | 0.00        | 5,619.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,200.0             | 0.00            | 0.00        | 5,719.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,300.0             | 0.00            | 0.00        | 5,819.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,400.0             | 0.00            | 0.00        | 5,919.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,500.0             | 0.00            | 0.00        | 6,019.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,600.0             | 0.00            | 0.00        | 6,119.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,612.9             | 0.00            | 0.00        | 6,132.0             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 | Rollins                                       |
| 6,700.0             | 0.00            | 0.00        | 6,219.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,800.0             | 0.00            | 0.00        | 6,319.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,900.0             | 0.00            | 0.00        | 6,419.1             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |
| 6,912.9             | 0.00            | 0.00        | 6,432.0             | 1,493.4    | 751.0      | 1,671.6               | 0.00                  | 0.00                 |   |

| 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   |               |              |          |            |            |               |              |           |             |
| Twin Creek 12-3D1 (F12<br>- plan hits target center<br>- Point                | 0.00          | 0.00         | 4,027.0  | 1,493.4    | 751.0      | 1,601,635.17  | 2,402,638.33 | 39.466150 | -107.616110 |
| Twin Creek 12-3D1 (F12<br>- plan hits target center<br>- Circle (radius 25.0) | 0.00          | 0.00         | 5,557.0  | 1,493.4    | 751.0      | 1,601,635.17  | 2,402,638.33 | 39.466150 | -107.616110 |

| Casing Points       |                     |                |                      |                    |  |
|---------------------|---------------------|----------------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name           | Casing Diameter (in) | Hole Diameter (in) |  |
| 1,109.3             | 1,100.0             | Surface Casing | 0.000                | 0.000              |  |

# Cathedral Energy Services

## Planning Report

|                  |                              |                                     |                                     |
|------------------|------------------------------|-------------------------------------|-------------------------------------|
| <b>Database:</b> | EDM 5000.1 US Multi Users DB | <b>Local Co-ordinate Reference:</b> | Well Twin Creek 12-3D1 (F12E)       |
| <b>Company:</b>  | EnCana Oil & Gas (USA) Inc   | <b>TVD Reference:</b>               | KBE @ 6167.0ft (Original Well Elev) |
| <b>Project:</b>  | Mamm Creek                   | <b>MD Reference:</b>                | KBE @ 6167.0ft (Original Well Elev) |
| <b>Site:</b>     | (F12E)                       | <b>North Reference:</b>             | True                                |
| <b>Well:</b>     | Twin Creek 12-3D1 (F12E)     | <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 (°) |
|---------------------|---------------------|--------------------------|-----------|---------|-------------------|
| 1,982.2             | 1,882.0             | Ohio Creek               |           | 0.00    |                   |
| 2,742.4             | 2,467.0             | Mesa Verde               |           | 0.00    |                   |
| 3,507.8             | 3,072.0             | Williams Fork            |           | 0.00    |                   |
| 4,181.3             | 3,702.0             | Top of Gas (Inc. = 9.8°) |           | 0.00    |                   |
| 5,887.9             | 5,407.0             | Coal Ridge               |           | 0.00    |                   |
| 6,612.9             | 6,132.0             | Rollins                  |           | 0.00    |                   |

### Plan Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                     |
|---------------------|---------------------|-------------------|------------|-----------------------------|
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                             |
| 500.0               | 500.0               | 0.0               | 0.0        | KOP = 500' MD               |
| 1,000.0             | 994.4               | 5.1               | 5.1        | Start 200' hold at 1000' MD |
| 1,200.0             | 1,187.6             | 52.6              | 37.3       | End 200' hold at 1200' MD   |
| 2,028.8             | 1,918.2             | 97.0              | 63.5       | EOB at Inc. = 39.73°        |
| 3,183.5             | 2,806.3             | 432.6             | 236.0      | Start Drop -3.00            |
| 4,507.9             | 4,027.0             | 1,096.6           | 558.4      | EOD at Inc. = 0°            |
| 6,037.9             | 5,557.0             | 1,493.4           | 751.0      | TD at 6037' MD              |
| 6,912.9             | 6,432.0             | 1,493.4           | 751.0      | Permit TD at 6912' MD       |