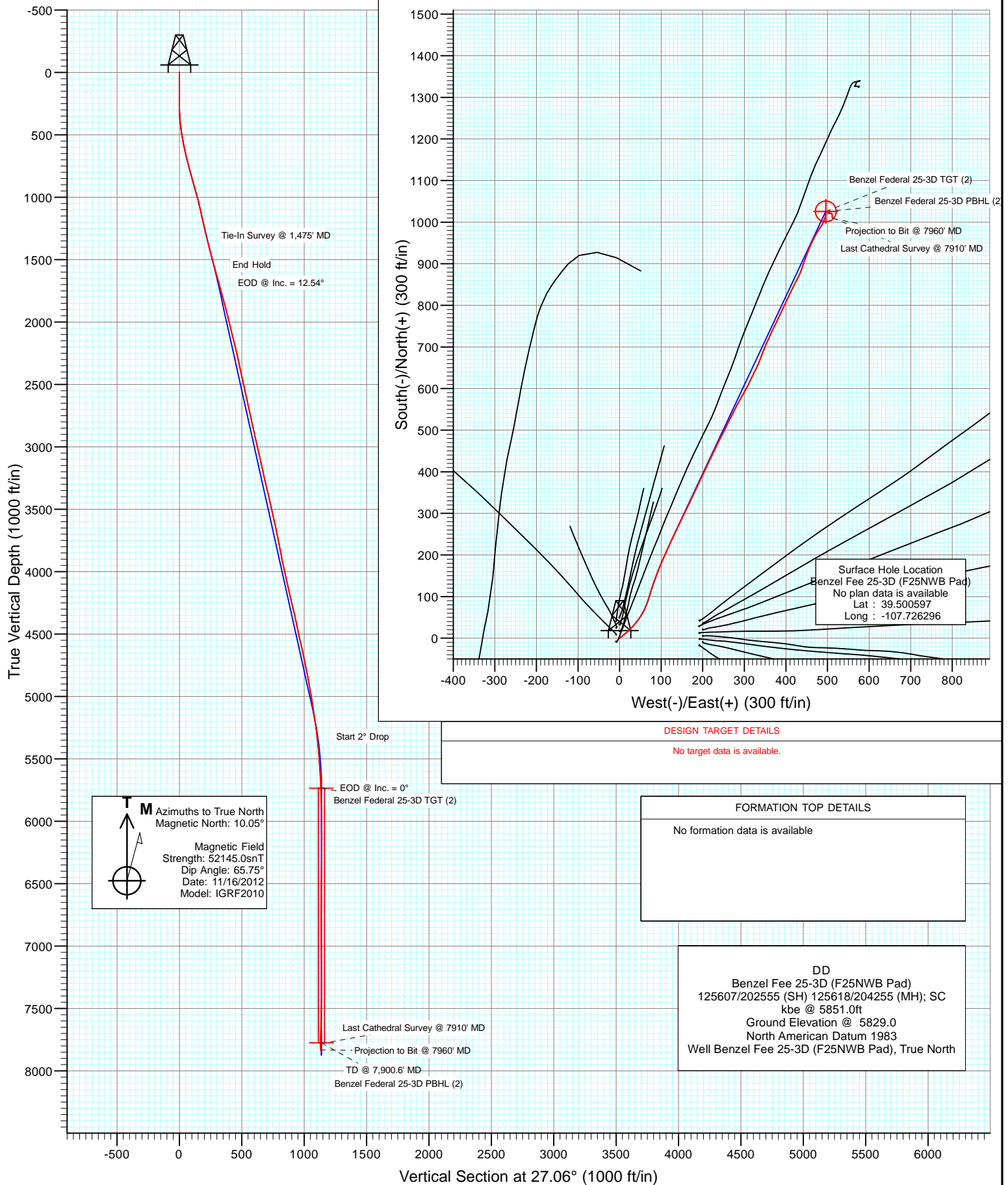
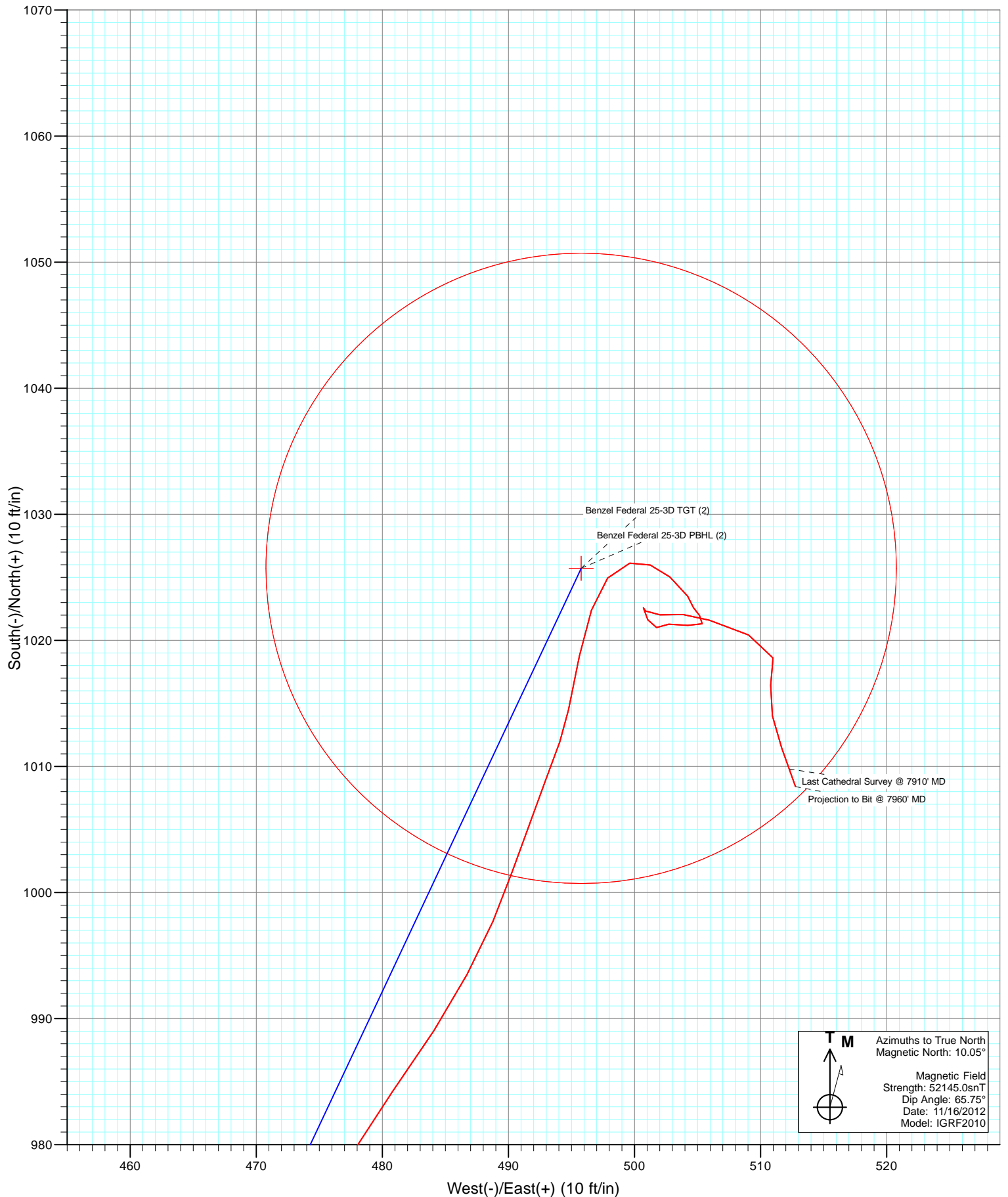




Project: Mamm Creek
Site: F25NWB Pad
Well: Benzel Fee 25-3D (F25NWB Pad)
Wellbore: DD
Design: DD





Cathedral Energy Services

Survey Report

| | | | |
|------------------|-------------------------------|-------------------------------------|------------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Benzel Fee 25-3D (F25NWB Pad) |
| Project: | Mamm Creek | TVD Reference: | kbe @ 5851.0ft |
| Site: | F25NWB Pad | MD Reference: | kbe @ 5851.0ft |
| Well: | Benzel Fee 25-3D (F25NWB Pad) | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| 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 | | F25NWB Pad | | | |
|-----------------------|----------|--------------|-----------------|-------------------|-------------|
| Site Position: | | Northing: | 1,614,821.30 ft | Latitude: | 39.500328 |
| From: | Lat/Long | Easting: | 2,371,946.03 ft | Longitude: | -107.725936 |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: | -1.40 ° |

| | | | | | | |
|----------------------|-------------------------------|--------|---------------------|-----------------|---------------|-------------|
| Well | Benzel Fee 25-3D (F25NWB Pad) | | | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,614,921.73 ft | Latitude: | 39.500597 |
| | +E/-W | 0.0 ft | Easting: | 2,371,846.88 ft | Longitude: | -107.726296 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 5,829.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | DD | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 11/16/2012 | 10.05 | 65.75 | 52,145 |

| | | | | | |
|--------------------------|-------------------------|-------------------|-------------------|----------------------|-----|
| Design | DD | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 27.06 | |

| | | | | | |
|-----------------------|----------------|--------------------------|------------------|--------------------|--|
| Survey Program | Date | 11/29/2012 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 175.0 | 7,960.0 | Survey #1 (DD) | MWD | Geolink MWD | |

| | | | | | | | | | | |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|------------------------------|-----------------------------|------------------------------|--|
| Survey | | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments | |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | | |
| 175.0 | 0.20 | 315.30 | 175.0 | 0.2 | -0.2 | 0.1 | 0.11 | 0.11 | | |
| 205.0 | 0.20 | 4.40 | 205.0 | 0.3 | -0.2 | 0.2 | 0.55 | 0.00 | | |
| 236.0 | 0.70 | 47.90 | 236.0 | 0.5 | -0.1 | 0.4 | 1.84 | 1.61 | | |
| 266.0 | 1.40 | 54.90 | 266.0 | 0.8 | 0.3 | 0.9 | 2.37 | 2.33 | | |
| 297.0 | 2.10 | 55.80 | 297.0 | 1.4 | 1.1 | 1.7 | 2.26 | 2.26 | | |
| 328.0 | 3.00 | 58.00 | 327.9 | 2.1 | 2.3 | 2.9 | 2.92 | 2.90 | | |
| 358.0 | 4.20 | 54.90 | 357.9 | 3.2 | 3.8 | 4.6 | 4.05 | 4.00 | | |
| 389.0 | 5.10 | 52.90 | 388.8 | 4.6 | 5.9 | 6.8 | 2.95 | 2.90 | | |
| 419.0 | 6.50 | 51.80 | 418.6 | 6.5 | 8.3 | 9.5 | 4.68 | 4.67 | | |
| 450.0 | 7.60 | 50.50 | 449.4 | 8.9 | 11.2 | 13.0 | 3.59 | 3.55 | | |
| 481.0 | 8.30 | 50.30 | 480.1 | 11.6 | 14.5 | 17.0 | 2.26 | 2.26 | | |
| 511.0 | 9.50 | 49.40 | 509.7 | 14.6 | 18.1 | 21.2 | 4.03 | 4.00 | | |

Cathedral Energy Services

Survey Report

| | | | |
|------------------|-------------------------------|-------------------------------------|------------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Benzel Fee 25-3D (F25NWB Pad) |
| Project: | Mamm Creek | TVD Reference: | kbe @ 5851.0ft |
| Site: | F25NWB Pad | MD Reference: | kbe @ 5851.0ft |
| Well: | Benzel Fee 25-3D (F25NWB Pad) | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 541.0 | 10.50 | 47.50 | 539.3 | 18.1 | 22.0 | 26.1 | 3.51 | 3.33 | |
| 572.0 | 11.60 | 43.50 | 569.7 | 22.2 | 26.2 | 31.7 | 4.32 | 3.55 | |
| 664.0 | 14.60 | 39.00 | 659.3 | 38.0 | 39.9 | 51.9 | 3.44 | 3.26 | |
| 757.0 | 15.40 | 31.10 | 749.1 | 57.6 | 53.6 | 75.7 | 2.36 | 0.86 | |
| 849.0 | 15.30 | 21.20 | 837.9 | 79.4 | 64.3 | 100.0 | 2.85 | -0.11 | |
| 941.0 | 16.00 | 16.50 | 926.5 | 102.9 | 72.3 | 124.5 | 1.57 | 0.76 | |
| 1,033.0 | 14.50 | 18.80 | 1,015.2 | 126.0 | 79.6 | 148.4 | 1.76 | -1.63 | |
| 1,124.0 | 12.70 | 20.30 | 1,103.7 | 146.1 | 86.8 | 169.6 | 2.02 | -1.98 | |
| 1,215.0 | 12.70 | 20.50 | 1,192.4 | 164.9 | 93.7 | 189.5 | 0.05 | 0.00 | |
| 1,306.0 | 13.20 | 23.80 | 1,281.1 | 183.8 | 101.4 | 209.8 | 0.98 | 0.55 | |
| 1,398.0 | 13.80 | 25.10 | 1,370.6 | 203.3 | 110.3 | 231.2 | 0.73 | 0.65 | |
| 1,475.0 | 14.60 | 24.20 | 1,445.2 | 220.5 | 118.2 | 250.1 | 1.08 | 1.04 | |
| 1,623.0 | 15.60 | 25.70 | 1,588.1 | 255.4 | 134.5 | 288.6 | 0.73 | 0.68 | |
| 1,715.0 | 15.90 | 25.30 | 1,676.7 | 278.0 | 145.2 | 313.6 | 0.35 | 0.33 | |
| 1,807.0 | 15.90 | 26.00 | 1,765.2 | 300.7 | 156.1 | 338.8 | 0.21 | 0.00 | |
| 1,898.0 | 14.20 | 25.80 | 1,853.0 | 321.9 | 166.5 | 362.4 | 1.87 | -1.87 | |
| 1,990.0 | 14.00 | 25.30 | 1,942.3 | 342.2 | 176.1 | 384.8 | 0.25 | -0.22 | |
| 2,081.0 | 14.00 | 25.80 | 2,030.6 | 362.0 | 185.6 | 406.8 | 0.13 | 0.00 | |
| 2,173.0 | 13.80 | 24.80 | 2,119.9 | 382.0 | 195.1 | 428.9 | 0.34 | -0.22 | |
| 2,264.0 | 13.40 | 25.20 | 2,208.3 | 401.4 | 204.1 | 450.3 | 0.45 | -0.44 | |
| 2,356.0 | 12.40 | 25.50 | 2,298.0 | 420.0 | 212.9 | 470.8 | 1.09 | -1.09 | |
| 2,447.0 | 12.40 | 25.30 | 2,386.9 | 437.6 | 221.3 | 490.4 | 0.05 | 0.00 | |
| 2,539.0 | 12.30 | 25.50 | 2,476.7 | 455.4 | 229.7 | 510.0 | 0.12 | -0.11 | |
| 2,631.0 | 12.10 | 26.40 | 2,566.7 | 472.9 | 238.2 | 529.5 | 0.30 | -0.22 | |
| 2,722.0 | 11.60 | 27.80 | 2,655.7 | 489.5 | 246.7 | 548.2 | 0.63 | -0.55 | |
| 2,813.0 | 13.50 | 25.70 | 2,744.5 | 507.2 | 255.6 | 567.9 | 2.15 | 2.09 | |
| 2,905.0 | 13.20 | 26.80 | 2,834.1 | 526.2 | 265.0 | 589.2 | 0.43 | -0.33 | |
| 2,997.0 | 12.80 | 27.50 | 2,923.7 | 544.6 | 274.4 | 609.9 | 0.47 | -0.43 | |
| 3,088.0 | 12.60 | 27.40 | 3,012.5 | 562.4 | 283.7 | 629.9 | 0.22 | -0.22 | |
| 3,180.0 | 12.30 | 29.40 | 3,102.3 | 579.8 | 293.1 | 649.7 | 0.57 | -0.33 | |
| 3,272.0 | 12.10 | 30.40 | 3,192.2 | 596.7 | 302.8 | 669.1 | 0.32 | -0.22 | |
| 3,364.0 | 13.40 | 24.90 | 3,282.0 | 614.7 | 312.2 | 689.4 | 1.93 | 1.41 | |
| 3,456.0 | 12.60 | 26.20 | 3,371.6 | 633.3 | 321.1 | 710.1 | 0.93 | -0.87 | |
| 3,547.0 | 12.70 | 26.40 | 3,460.4 | 651.2 | 329.9 | 730.0 | 0.12 | 0.11 | |
| 3,639.0 | 12.90 | 20.00 | 3,550.1 | 669.9 | 337.9 | 750.3 | 1.56 | 0.22 | |
| 3,731.0 | 12.50 | 21.70 | 3,639.9 | 688.8 | 345.1 | 770.4 | 0.59 | -0.43 | |
| 3,822.0 | 11.70 | 22.90 | 3,728.8 | 706.5 | 352.3 | 789.4 | 0.92 | -0.88 | |
| 3,913.0 | 10.20 | 26.10 | 3,818.2 | 722.2 | 359.5 | 806.7 | 1.78 | -1.65 | |
| 4,004.0 | 11.70 | 24.50 | 3,907.5 | 737.8 | 366.9 | 824.0 | 1.68 | 1.65 | |
| 4,096.0 | 12.70 | 23.90 | 3,997.4 | 755.6 | 374.8 | 843.4 | 1.10 | 1.09 | |
| 4,187.0 | 12.40 | 26.30 | 4,086.3 | 773.5 | 383.2 | 863.1 | 0.66 | -0.33 | |
| 4,279.0 | 13.30 | 27.70 | 4,176.0 | 791.7 | 392.5 | 883.6 | 1.04 | 0.98 | |
| 4,370.0 | 13.30 | 23.80 | 4,264.5 | 810.6 | 401.6 | 904.5 | 0.99 | 0.00 | |
| 4,462.0 | 12.70 | 25.90 | 4,354.2 | 829.3 | 410.3 | 925.2 | 0.83 | -0.65 | |
| 4,553.0 | 11.90 | 26.80 | 4,443.1 | 846.7 | 418.9 | 944.6 | 0.90 | -0.88 | |
| 4,645.0 | 12.00 | 27.70 | 4,533.1 | 863.6 | 427.6 | 963.6 | 0.23 | 0.11 | |
| 4,737.0 | 12.80 | 19.90 | 4,622.9 | 881.7 | 435.5 | 983.3 | 2.02 | 0.87 | |
| 4,829.0 | 12.20 | 19.50 | 4,712.8 | 900.4 | 442.2 | 1,003.0 | 0.66 | -0.65 | |
| 4,920.0 | 11.20 | 20.30 | 4,801.9 | 917.8 | 448.5 | 1,021.4 | 1.11 | -1.10 | |
| 5,012.0 | 10.60 | 22.10 | 4,892.2 | 934.0 | 454.8 | 1,038.7 | 0.75 | -0.65 | |
| 5,103.0 | 9.60 | 24.30 | 4,981.8 | 948.7 | 461.1 | 1,054.6 | 1.18 | -1.10 | |
| 5,194.0 | 8.90 | 27.50 | 5,071.6 | 961.8 | 467.4 | 1,069.2 | 0.95 | -0.77 | |
| 5,286.0 | 8.10 | 30.40 | 5,162.6 | 973.7 | 474.0 | 1,082.8 | 0.99 | -0.87 | |

Cathedral Energy Services

Survey Report

| | | | |
|------------------|-------------------------------|-------------------------------------|------------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Benzel Fee 25-3D (F25NWB Pad) |
| Project: | Mamm Creek | TVD Reference: | kbe @ 5851.0ft |
| Site: | F25NWB Pad | MD Reference: | kbe @ 5851.0ft |
| Well: | Benzel Fee 25-3D (F25NWB Pad) | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Formations / Comments |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|----------------------------------|
| 5,377.0 | 7.70 | 35.90 | 5,252.7 | 984.2 | 480.8 | 1,095.2 | 0.94 | -0.44 | |
| 5,469.0 | 6.10 | 28.20 | 5,344.1 | 993.5 | 486.7 | 1,106.2 | 2.01 | -1.74 | |
| 5,561.0 | 5.10 | 18.20 | 5,435.6 | 1,001.7 | 490.3 | 1,115.1 | 1.51 | -1.09 | |
| 5,652.0 | 4.50 | 22.20 | 5,526.3 | 1,008.9 | 492.9 | 1,122.7 | 0.75 | -0.66 | |
| 5,744.0 | 2.90 | 11.50 | 5,618.1 | 1,014.5 | 494.8 | 1,128.5 | 1.89 | -1.74 | |
| 5,835.0 | 2.60 | 11.50 | 5,709.0 | 1,018.8 | 495.6 | 1,132.7 | 0.33 | -0.33 | |
| 5,861.2 | 2.45 | 13.28 | 5,735.2 | 1,019.9 | 495.9 | 1,133.8 | 0.63 | -0.56 | Benzel Federal 25-3D TGT (2) |
| 5,927.0 | 2.10 | 18.80 | 5,800.9 | 1,022.4 | 496.6 | 1,136.4 | 0.63 | -0.54 | |
| 6,019.0 | 1.50 | 38.00 | 5,892.9 | 1,024.9 | 497.9 | 1,139.2 | 0.92 | -0.65 | |
| 6,111.0 | 1.30 | 77.10 | 5,984.9 | 1,026.1 | 499.6 | 1,141.1 | 1.04 | -0.22 | |
| 6,202.0 | 0.90 | 121.60 | 6,075.9 | 1,026.0 | 501.3 | 1,141.7 | 1.00 | -0.44 | |
| 6,293.0 | 1.40 | 121.10 | 6,166.8 | 1,025.0 | 502.8 | 1,141.6 | 0.55 | 0.55 | |
| 6,385.0 | 1.30 | 154.30 | 6,258.8 | 1,023.5 | 504.2 | 1,140.8 | 0.84 | -0.11 | |
| 6,432.0 | 1.20 | 152.10 | 6,305.8 | 1,022.6 | 504.7 | 1,140.2 | 0.24 | -0.21 | |
| 6,477.0 | 0.80 | 127.40 | 6,350.8 | 1,022.0 | 505.2 | 1,139.9 | 1.29 | -0.89 | |
| 6,569.0 | 0.50 | 226.30 | 6,442.8 | 1,021.3 | 505.4 | 1,139.4 | 1.09 | -0.33 | |
| 6,660.0 | 1.10 | 280.10 | 6,533.8 | 1,021.2 | 504.2 | 1,138.8 | 0.99 | 0.66 | |
| 6,752.0 | 0.80 | 264.10 | 6,625.8 | 1,021.3 | 502.7 | 1,138.2 | 0.43 | -0.33 | |
| 6,843.0 | 0.50 | 238.70 | 6,716.8 | 1,021.0 | 501.8 | 1,137.5 | 0.45 | -0.33 | |
| 6,935.0 | 1.10 | 337.40 | 6,808.8 | 1,021.6 | 501.1 | 1,137.7 | 1.39 | 0.65 | |
| 7,026.0 | 0.20 | 349.90 | 6,899.8 | 1,022.6 | 500.7 | 1,138.4 | 1.00 | -0.99 | |
| 7,111.0 | 0.60 | 154.00 | 6,984.7 | 1,022.3 | 500.9 | 1,138.3 | 0.93 | 0.47 | |
| 7,209.0 | 1.10 | 80.60 | 7,082.7 | 1,022.0 | 502.0 | 1,138.5 | 1.11 | 0.51 | |
| 7,301.0 | 1.20 | 96.70 | 7,174.7 | 1,022.1 | 503.9 | 1,139.4 | 0.37 | 0.11 | |
| 7,392.0 | 1.50 | 106.40 | 7,265.7 | 1,021.6 | 505.9 | 1,139.9 | 0.41 | 0.33 | |
| 7,483.0 | 2.70 | 113.30 | 7,356.6 | 1,020.4 | 509.1 | 1,140.3 | 1.35 | 1.32 | |
| 7,575.0 | 1.20 | 183.00 | 7,448.6 | 1,018.6 | 511.0 | 1,139.6 | 2.77 | -1.63 | |
| 7,667.0 | 1.50 | 186.60 | 7,540.6 | 1,016.4 | 510.8 | 1,137.6 | 0.34 | 0.33 | |
| 7,758.0 | 1.60 | 167.50 | 7,631.5 | 1,014.0 | 510.9 | 1,135.5 | 0.58 | 0.11 | |
| 7,850.0 | 1.70 | 160.60 | 7,723.5 | 1,011.5 | 511.7 | 1,133.5 | 0.24 | 0.11 | |
| 7,900.9 | 1.70 | 160.35 | 7,774.4 | 1,010.1 | 512.2 | 1,132.5 | 0.01 | 0.00 | Benzel Federal 25-3D PBHL (2) |
| 7,910.0 | 1.70 | 160.30 | 7,783.5 | 1,009.8 | 512.3 | 1,132.3 | 0.01 | 0.00 | Last Cathedral Survey @ 7910' MD |
| 7,960.0 | 1.70 | 160.30 | 7,833.4 | 1,008.4 | 512.8 | 1,131.3 | 0.00 | 0.00 | Projection to Bit @ 7960' MD |

Cathedral Energy Services

Survey Report

| | | | |
|------------------|-------------------------------|-------------------------------------|------------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Benzel Fee 25-3D (F25NWB Pad) |
| Project: | Mamm Creek | TVD Reference: | kbe @ 5851.0ft |
| Site: | F25NWB Pad | MD Reference: | kbe @ 5851.0ft |
| Well: | Benzel Fee 25-3D (F25NWB Pad) | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | USA EDM 5000 Multi Users DB |

| Targets | | | | | | | | | |
|--|-----------|----------|---------|---------|-------|--------------|--------------|-----------|-------------|
| Target Name | Dip Angle | Dip Dir. | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| - hit/miss target | (°) | (°) | (ft) | (ft) | (ft) | (ft) | (ft) | | |
| - Shape | | | | | | | | | |
| Benzel Federal 25-3D P | 0.00 | 0.00 | 7,775.0 | 1,025.7 | 495.8 | 1,615,934.99 | 2,372,367.64 | 39.503413 | -107.724539 |
| - survey misses target center by 22.7ft at 7900.9ft MD (7774.4 TVD, 1010.1 N, 512.2 E) | | | | | | | | | |
| - Circle (radius 25.0) | | | | | | | | | |
| Benzel Federal 25-3D T | 0.00 | 0.00 | 5,735.0 | 1,025.7 | 495.8 | 1,615,934.99 | 2,372,367.64 | 39.503413 | -107.724539 |
| - survey misses target center by 5.8ft at 5861.2ft MD (5735.2 TVD, 1019.9 N, 495.9 E) | | | | | | | | | |
| - Point | | | | | | | | | |

| Survey Annotations | | | | |
|--------------------|----------------|-------------------|------------|----------------------------------|
| Measured Depth | Vertical Depth | Local Coordinates | | Comment |
| (ft) | (ft) | +N/-S (ft) | +E/-W (ft) | |
| 7,910.0 | 7,783.5 | 1,009.8 | 512.3 | Last Cathedral Survey @ 7910' MD |
| 7,960.0 | 7,833.4 | 1,008.4 | 512.8 | Projection to Bit @ 7960' MD |

Checked By: _____ Approved By: _____ Date: _____