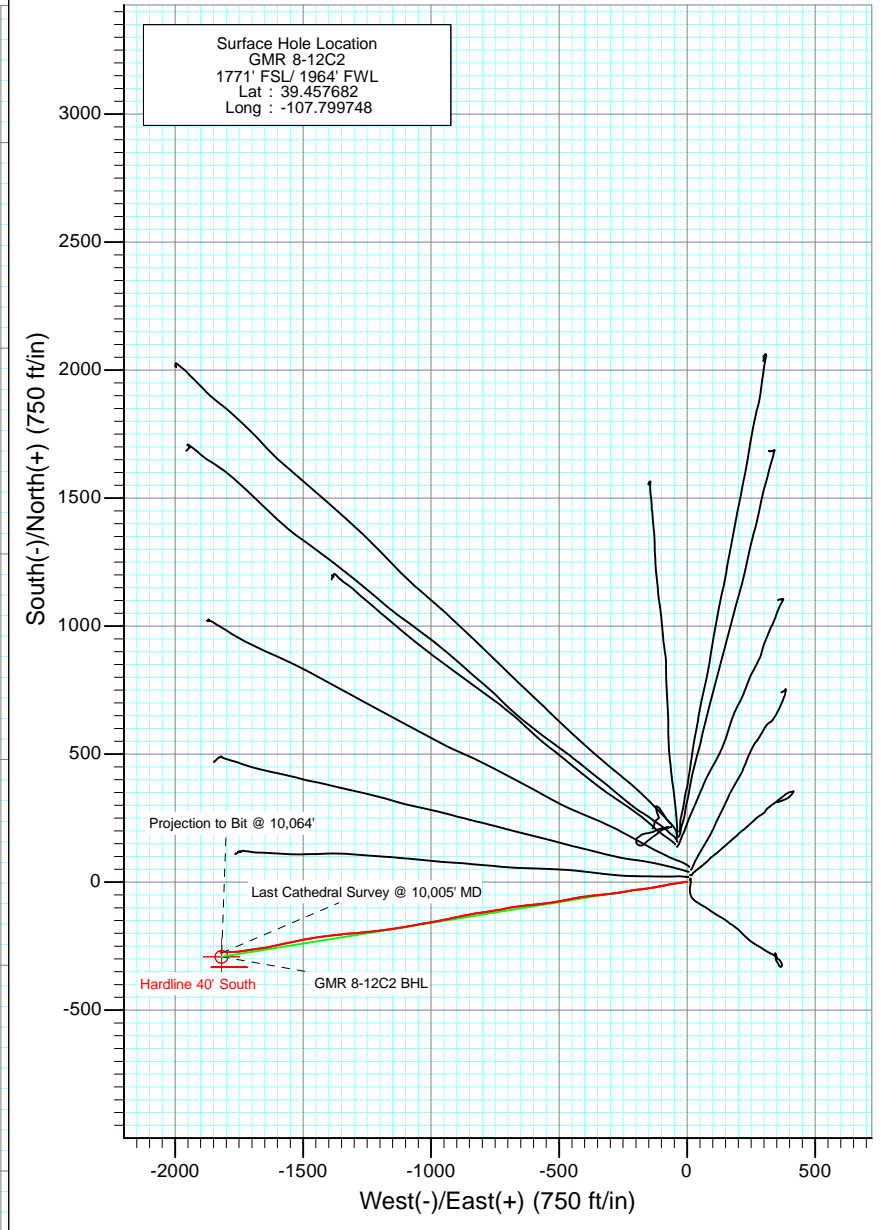
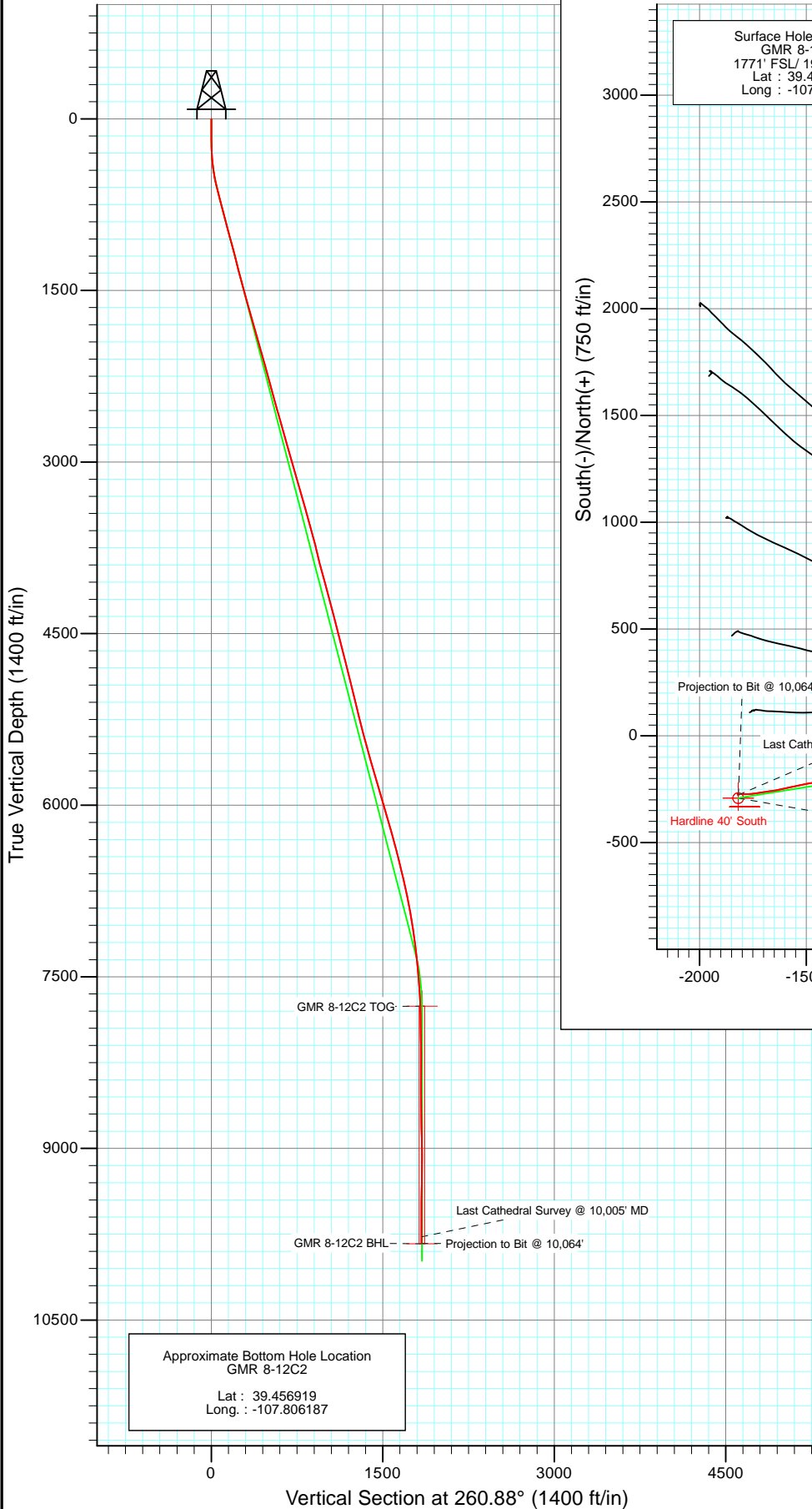




Project: Mamm Creek
 Site: NESW S8 T7S R93W (K8W Pad)
 Well: GMR 8-12C2
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.27°

Magnetic Field
 Strength: 52251.3snT
 Dip Angle: 65.75°
 Date: 5/5/2011
 Model: IGRF2010

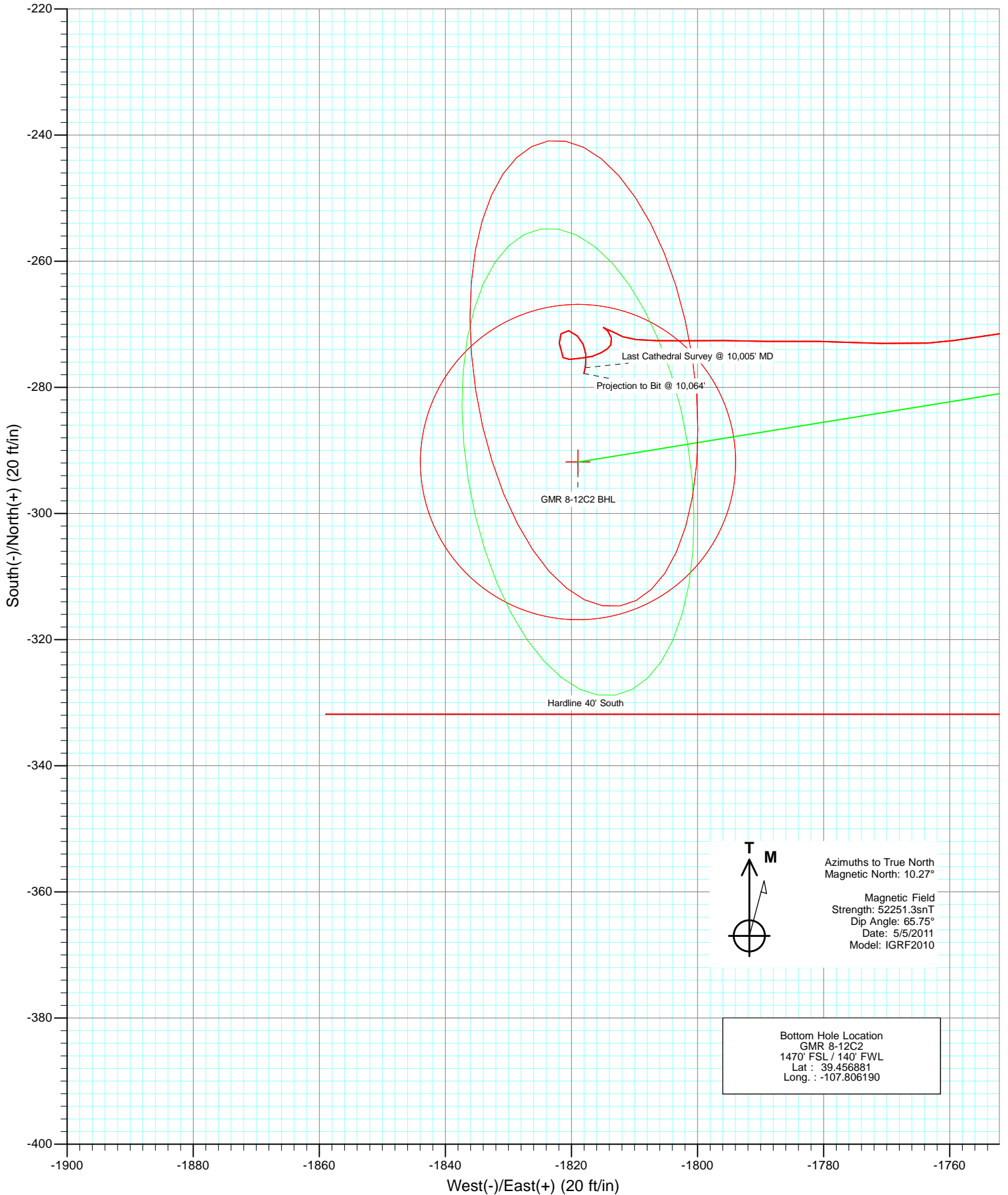
DESIGN DETAILS: DD

Job #115027 (SH); 115186 (MH) KR
 KBE @ 7859.0ft (Patterson 330)

| Target | Azimuth | Origin | N/S | E/W | From TVD |
|----------------|---------|--------|-----|-----|----------|
| GMR 8-12C2 BHL | 260.88 | Slot | 0.0 | 0.0 | 0.0 |



Project: Mamm Creek
Site: NESW S8 T7S R93W (K8W Pad)
Well: GMR 8-12C2
Wellbore: DD
Design: FINAL



Survey Report

| | |
|--|--|
| Company: EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: Well GMR 8-12C2 |
| Project: Mamm Creek | TVD Reference: KBE @ 7859.0ft (Patterson 330) |
| Site: NESW S8 T7S R93W (K8W Pad) | MD Reference: KBE @ 7859.0ft (Patterson 330) |
| Well: GMR 8-12C2 | North Reference: True |
| Wellbore: DD | Survey Calculation Method: Minimum Curvature |
| Design: DD | Database: EDM 5000.1 US 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 NESW S8 T7S R93W (K8W Pad) | | | | |
| Site Position: | Northing: | 1,599,999.23 ft | Latitude: | 39.458194 |
| From: Lat/Long | Easting: | 2,350,698.86 ft | Longitude: | -107.799878 |
| Position Uncertainty: 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: | -1.45 ° |

| | | | | |
|-----------------------------|--------------|--------|----------------------------|-----------------|
| Well GMR 8-12C2 | | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,599,811.69 ft |
| | +E/-W | 0.0 ft | Easting: | 2,350,730.77 ft |
| | | | Longitude: | -107.799748 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft |
| | | | Ground Level: | 7,826.0 ft |

| | | | | | |
|--------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore DD | | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 5/5/2011 | 10.27 | 65.75 | 52,251 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design DD | | | | |
| Audit Notes: | | | | |
| Version: 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 260.88 |

| | | |
|-----------------------|----------------|--------------------------|
| Survey Program | | Date 5/16/2011 |
| From (ft) | To (ft) | Survey (Wellbore) |
| 122.0 | 10,064.0 | Survey #1 (DD) |
| | | Tool Name |
| | | MWD |
| | | Description |
| | | 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 | |
| 122.0 | 0.30 | 237.40 | 122.0 | -0.2 | -0.3 | 0.3 | 0.25 | 0.25 | |
| 152.0 | 0.60 | 229.50 | 152.0 | -0.3 | -0.5 | 0.5 | 1.02 | 1.00 | |
| 182.0 | 0.50 | 298.40 | 182.0 | -0.4 | -0.7 | 0.7 | 2.09 | -0.33 | |
| 212.0 | 1.40 | 290.40 | 212.0 | -0.2 | -1.1 | 1.2 | 3.03 | 3.00 | |
| 242.0 | 1.50 | 275.90 | 242.0 | 0.0 | -1.9 | 1.9 | 1.26 | 0.33 | |
| 271.0 | 2.10 | 274.70 | 271.0 | 0.1 | -2.8 | 2.7 | 2.07 | 2.07 | |
| 301.0 | 3.10 | 280.30 | 300.9 | 0.3 | -4.1 | 4.0 | 3.44 | 3.33 | |
| 332.0 | 4.10 | 274.50 | 331.9 | 0.5 | -6.1 | 5.9 | 3.43 | 3.23 | |
| 363.0 | 5.30 | 269.90 | 362.8 | 0.6 | -8.6 | 8.4 | 4.05 | 3.87 | |
| 394.0 | 6.60 | 261.40 | 393.6 | 0.3 | -11.8 | 11.6 | 5.06 | 4.19 | |
| 424.0 | 7.90 | 260.00 | 423.4 | -0.3 | -15.5 | 15.4 | 4.37 | 4.33 | |
| 455.0 | 8.50 | 255.50 | 454.0 | -1.2 | -19.8 | 19.8 | 2.83 | 1.94 | |

Survey Report

| | | | |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well GMR 8-12C2 |
| Project: | Mamm Creek | TD Reference: | KBE @ 7859.0ft (Patterson 330) |
| Site: | NESW S8 T7S R93W (K8W Pad) | MVD Reference: | KBE @ 7859.0ft (Patterson 330) |
| Well: | GMR 8-12C2 | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | EDM 5000.1 US 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 |
| 486.0 | 9.20 | 258.00 | 484.7 | -2.3 | -24.5 | 24.5 | 2.58 | 2.26 | |
| 517.0 | 10.80 | 262.70 | 515.2 | -3.2 | -29.8 | 29.9 | 5.79 | 5.16 | |
| 547.0 | 11.60 | 261.70 | 544.6 | -4.0 | -35.6 | 35.8 | 2.74 | 2.67 | |
| 578.0 | 13.30 | 262.20 | 574.9 | -4.9 | -42.2 | 42.4 | 5.49 | 5.48 | |
| 609.0 | 14.50 | 262.80 | 605.0 | -5.9 | -49.6 | 49.9 | 3.90 | 3.87 | |
| 640.0 | 14.20 | 260.10 | 635.0 | -7.0 | -57.2 | 57.6 | 2.37 | -0.97 | |
| 670.0 | 14.70 | 260.00 | 664.1 | -8.3 | -64.5 | 65.0 | 1.67 | 1.67 | |
| 701.0 | 14.70 | 257.20 | 694.1 | -9.9 | -72.2 | 72.9 | 2.29 | 0.00 | |
| 732.0 | 14.20 | 259.20 | 724.1 | -11.5 | -79.8 | 80.6 | 2.28 | -1.61 | |
| 763.0 | 13.80 | 258.70 | 754.2 | -12.9 | -87.2 | 88.1 | 1.35 | -1.29 | |
| 793.0 | 14.50 | 257.80 | 783.3 | -14.4 | -94.4 | 95.4 | 2.45 | 2.33 | |
| 824.0 | 14.70 | 259.70 | 813.3 | -15.9 | -102.0 | 103.3 | 1.67 | 0.65 | |
| 855.0 | 14.70 | 257.50 | 843.2 | -17.5 | -109.7 | 111.1 | 1.80 | 0.00 | |
| 885.0 | 14.90 | 257.80 | 872.2 | -19.1 | -117.2 | 118.8 | 0.71 | 0.67 | |
| 916.0 | 14.90 | 260.50 | 902.2 | -20.6 | -125.0 | 126.7 | 2.24 | 0.00 | |
| 947.0 | 15.00 | 262.80 | 932.2 | -21.8 | -133.0 | 134.7 | 1.94 | 0.32 | |
| 978.0 | 15.10 | 263.60 | 962.1 | -22.7 | -140.9 | 142.8 | 0.74 | 0.32 | |
| 1,010.0 | 15.10 | 262.80 | 993.0 | -23.7 | -149.2 | 151.1 | 0.65 | 0.00 | |
| 1,041.0 | 15.10 | 261.40 | 1,022.9 | -24.8 | -157.2 | 159.2 | 1.18 | 0.00 | |
| 1,073.0 | 15.20 | 261.30 | 1,053.8 | -26.1 | -165.5 | 167.5 | 0.32 | 0.31 | |
| 1,104.0 | 15.10 | 261.40 | 1,083.7 | -27.3 | -173.5 | 175.6 | 0.33 | -0.32 | |
| 1,135.0 | 15.50 | 264.10 | 1,113.6 | -28.3 | -181.6 | 183.8 | 2.64 | 1.29 | |
| 1,166.0 | 14.80 | 265.60 | 1,143.5 | -29.1 | -189.7 | 191.9 | 2.59 | -2.26 | |
| 1,198.0 | 14.70 | 262.10 | 1,174.5 | -29.9 | -197.8 | 200.0 | 2.80 | -0.31 | |
| 1,220.0 | 14.20 | 262.20 | 1,195.8 | -30.7 | -203.2 | 205.5 | 2.28 | -2.27 | |
| 1,348.0 | 14.20 | 258.00 | 1,319.9 | -36.1 | -234.1 | 236.9 | 0.80 | 0.00 | |
| 1,439.0 | 14.50 | 262.10 | 1,408.1 | -40.0 | -256.3 | 259.4 | 1.16 | 0.33 | |
| 1,529.0 | 16.00 | 262.40 | 1,494.9 | -43.2 | -279.8 | 283.1 | 1.67 | 1.67 | |
| 1,620.0 | 15.60 | 262.60 | 1,582.4 | -46.4 | -304.4 | 307.9 | 0.44 | -0.44 | |
| 1,711.0 | 16.30 | 265.30 | 1,669.9 | -49.0 | -329.2 | 332.8 | 1.12 | 0.77 | |
| 1,801.0 | 15.40 | 266.10 | 1,756.5 | -50.9 | -353.7 | 357.3 | 1.03 | -1.00 | |
| 1,892.0 | 15.00 | 263.00 | 1,844.3 | -53.1 | -377.5 | 381.1 | 1.00 | -0.44 | |
| 1,983.0 | 16.30 | 259.80 | 1,932.0 | -56.8 | -401.7 | 405.7 | 1.71 | 1.43 | |
| 2,074.0 | 15.60 | 260.50 | 2,019.5 | -61.1 | -426.4 | 430.7 | 0.80 | -0.77 | |
| 2,164.0 | 16.20 | 259.40 | 2,106.0 | -65.4 | -450.6 | 455.3 | 0.75 | 0.67 | |
| 2,255.0 | 15.10 | 258.20 | 2,193.6 | -70.2 | -474.7 | 479.8 | 1.26 | -1.21 | |
| 2,346.0 | 15.90 | 261.10 | 2,281.3 | -74.5 | -498.6 | 504.1 | 1.22 | 0.88 | |
| 2,437.0 | 14.70 | 260.90 | 2,369.1 | -78.3 | -522.4 | 528.2 | 1.32 | -1.32 | |
| 2,527.0 | 15.90 | 262.30 | 2,455.9 | -81.7 | -545.8 | 551.9 | 1.39 | 1.33 | |
| 2,618.0 | 15.00 | 261.60 | 2,543.6 | -85.1 | -569.9 | 576.1 | 1.01 | -0.99 | |
| 2,709.0 | 16.20 | 265.00 | 2,631.3 | -87.9 | -594.1 | 600.6 | 1.66 | 1.32 | |
| 2,799.0 | 15.20 | 263.70 | 2,717.9 | -90.3 | -618.4 | 624.9 | 1.18 | -1.11 | |
| 2,890.0 | 16.80 | 263.40 | 2,805.4 | -93.2 | -643.3 | 649.9 | 1.76 | 1.76 | |
| 2,981.0 | 15.20 | 263.80 | 2,892.9 | -96.0 | -668.2 | 675.0 | 1.76 | -1.76 | |
| 3,072.0 | 16.50 | 257.90 | 2,980.4 | -100.0 | -692.7 | 699.8 | 2.27 | 1.43 | |
| 3,163.0 | 15.60 | 258.00 | 3,067.9 | -105.2 | -717.3 | 724.9 | 0.99 | -0.99 | |
| 3,253.0 | 16.30 | 260.80 | 3,154.4 | -109.7 | -741.6 | 749.7 | 1.16 | 0.78 | |
| 3,344.0 | 15.70 | 261.80 | 3,241.9 | -113.5 | -766.4 | 774.7 | 0.73 | -0.66 | |
| 3,435.0 | 16.40 | 260.80 | 3,329.3 | -117.4 | -791.3 | 799.9 | 0.83 | 0.77 | |
| 3,525.0 | 15.30 | 262.70 | 3,415.9 | -120.9 | -815.6 | 824.5 | 1.35 | -1.22 | |
| 3,616.0 | 15.60 | 258.90 | 3,503.6 | -124.8 | -839.5 | 848.7 | 1.16 | 0.33 | |
| 3,707.0 | 14.90 | 260.60 | 3,591.4 | -129.0 | -863.1 | 872.6 | 0.91 | -0.77 | |
| 3,798.0 | 15.30 | 257.20 | 3,679.3 | -133.6 | -886.3 | 896.3 | 1.07 | 0.44 | |

Survey Report

| | | | |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well GMR 8-12C2 |
| Project: | Mamm Creek | TVD Reference: | KBE @ 7859.0ft (Patterson 330) |
| Site: | NESW S8 T7S R93W (K8W Pad) | MD Reference: | KBE @ 7859.0ft (Patterson 330) |
| Well: | GMR 8-12C2 | North Reference: | True |
| Wellbore: | DD | Survey Calculation Method: | Minimum Curvature |
| Design: | DD | Database: | EDM 5000.1 US 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 |
| 3,888.0 | 13.10 | 255.60 | 3,766.5 | -138.8 | -907.8 | 918.3 | 2.48 | -2.44 | |
| 3,979.0 | 13.90 | 260.10 | 3,855.0 | -143.2 | -928.6 | 939.5 | 1.45 | 0.88 | |
| 4,070.0 | 16.20 | 259.60 | 3,942.9 | -147.4 | -951.8 | 963.1 | 2.53 | 2.53 | |
| 4,161.0 | 15.50 | 259.10 | 4,030.4 | -152.0 | -976.2 | 988.0 | 0.78 | -0.77 | |
| 4,251.0 | 14.40 | 258.10 | 4,117.4 | -156.6 | -999.0 | 1,011.2 | 1.26 | -1.22 | |
| 4,342.0 | 15.20 | 261.90 | 4,205.3 | -160.6 | -1,021.9 | 1,034.4 | 1.38 | 0.88 | |
| 4,433.0 | 14.30 | 260.20 | 4,293.3 | -164.2 | -1,044.8 | 1,057.6 | 1.10 | -0.99 | |
| 4,523.0 | 13.60 | 258.00 | 4,380.7 | -168.3 | -1,066.1 | 1,079.3 | 0.98 | -0.78 | |
| 4,614.0 | 15.20 | 261.90 | 4,468.8 | -172.2 | -1,088.3 | 1,101.9 | 2.06 | 1.76 | |
| 4,705.0 | 14.80 | 261.40 | 4,556.7 | -175.6 | -1,111.7 | 1,125.4 | 0.46 | -0.44 | |
| 4,796.0 | 14.20 | 259.60 | 4,644.8 | -179.3 | -1,134.1 | 1,148.2 | 0.82 | -0.66 | |
| 4,887.0 | 13.60 | 257.50 | 4,733.2 | -183.7 | -1,155.5 | 1,170.1 | 0.86 | -0.66 | |
| 4,977.0 | 14.70 | 263.50 | 4,820.4 | -187.3 | -1,177.2 | 1,192.0 | 2.04 | 1.22 | |
| 5,068.0 | 13.70 | 264.30 | 4,908.7 | -189.6 | -1,199.4 | 1,214.3 | 1.12 | -1.10 | |
| 5,159.0 | 13.50 | 262.60 | 4,997.1 | -192.1 | -1,220.7 | 1,235.7 | 0.49 | -0.22 | |
| 5,250.0 | 14.60 | 264.80 | 5,085.4 | -194.5 | -1,242.6 | 1,257.7 | 1.34 | 1.21 | |
| 5,338.0 | 12.40 | 265.00 | 5,170.9 | -196.3 | -1,263.1 | 1,278.2 | 2.50 | -2.50 | |
| 5,429.0 | 14.00 | 266.00 | 5,259.5 | -197.9 | -1,283.8 | 1,299.0 | 1.78 | 1.76 | |
| 5,520.0 | 15.10 | 265.90 | 5,347.6 | -199.5 | -1,306.6 | 1,321.7 | 1.21 | 1.21 | |
| 5,611.0 | 14.50 | 264.20 | 5,435.6 | -201.5 | -1,329.8 | 1,344.9 | 0.81 | -0.66 | |
| 5,702.0 | 16.40 | 262.60 | 5,523.3 | -204.4 | -1,353.8 | 1,369.1 | 2.14 | 2.09 | |
| 5,792.0 | 16.00 | 262.90 | 5,609.7 | -207.5 | -1,378.8 | 1,394.2 | 0.45 | -0.44 | |
| 5,883.0 | 16.20 | 261.70 | 5,697.2 | -210.9 | -1,403.8 | 1,419.4 | 0.43 | 0.22 | |
| 5,974.0 | 16.10 | 262.50 | 5,784.6 | -214.4 | -1,428.8 | 1,444.7 | 0.27 | -0.11 | |
| 6,065.0 | 16.80 | 260.80 | 5,871.8 | -218.1 | -1,454.3 | 1,470.5 | 0.93 | 0.77 | |
| 6,156.0 | 16.20 | 263.00 | 5,959.1 | -221.8 | -1,479.9 | 1,496.3 | 0.95 | -0.66 | |
| 6,246.0 | 16.10 | 259.30 | 6,045.6 | -225.6 | -1,504.6 | 1,521.4 | 1.15 | -0.11 | |
| 6,337.0 | 15.20 | 256.60 | 6,133.2 | -230.7 | -1,528.6 | 1,545.9 | 1.27 | -0.99 | |
| 6,428.0 | 15.70 | 256.60 | 6,220.9 | -236.4 | -1,552.2 | 1,570.1 | 0.55 | 0.55 | |
| 6,518.0 | 15.30 | 257.90 | 6,307.6 | -241.7 | -1,575.7 | 1,594.1 | 0.59 | -0.44 | |
| 6,609.0 | 15.60 | 258.80 | 6,395.3 | -246.6 | -1,599.4 | 1,618.3 | 0.42 | 0.33 | |
| 6,700.0 | 13.40 | 257.40 | 6,483.4 | -251.2 | -1,621.7 | 1,641.0 | 2.45 | -2.42 | |
| 6,791.0 | 13.70 | 260.40 | 6,571.9 | -255.3 | -1,642.6 | 1,662.3 | 0.84 | 0.33 | |
| 6,885.0 | 13.50 | 261.10 | 6,663.3 | -258.9 | -1,664.4 | 1,684.4 | 0.28 | -0.21 | |
| 6,975.0 | 11.70 | 264.00 | 6,751.1 | -261.5 | -1,683.9 | 1,704.1 | 2.12 | -2.00 | |
| 7,066.0 | 10.80 | 261.10 | 6,840.3 | -263.8 | -1,701.5 | 1,721.8 | 1.17 | -0.99 | |
| 7,157.0 | 10.50 | 260.00 | 6,929.8 | -266.5 | -1,718.1 | 1,738.6 | 0.40 | -0.33 | |
| 7,246.0 | 8.60 | 262.80 | 7,017.5 | -268.8 | -1,732.7 | 1,753.4 | 2.20 | -2.13 | |
| 7,336.0 | 8.80 | 261.00 | 7,106.5 | -270.7 | -1,746.1 | 1,767.0 | 0.38 | 0.22 | |
| 7,427.0 | 8.10 | 262.80 | 7,196.5 | -272.6 | -1,759.4 | 1,780.3 | 0.82 | -0.77 | |
| 7,518.0 | 6.60 | 273.70 | 7,286.8 | -273.0 | -1,771.0 | 1,791.9 | 2.24 | -1.65 | |
| 7,609.0 | 5.70 | 269.80 | 7,377.2 | -272.7 | -1,780.7 | 1,801.4 | 1.09 | -0.99 | |
| 7,699.0 | 4.80 | 270.30 | 7,466.9 | -272.7 | -1,788.9 | 1,809.5 | 1.00 | -1.00 | |
| 7,790.0 | 3.90 | 272.00 | 7,557.6 | -272.6 | -1,795.8 | 1,816.3 | 1.00 | -0.99 | |
| 7,881.0 | 3.60 | 267.30 | 7,648.4 | -272.6 | -1,801.8 | 1,822.2 | 0.47 | -0.33 | |
| 7,972.0 | 2.30 | 274.60 | 7,739.3 | -272.6 | -1,806.5 | 1,826.8 | 1.48 | -1.43 | |
| 8,062.0 | 1.80 | 271.10 | 7,829.2 | -272.4 | -1,809.7 | 1,830.0 | 0.57 | -0.56 | |
| 8,153.0 | 1.00 | 300.90 | 7,920.2 | -272.0 | -1,811.8 | 1,832.0 | 1.16 | -0.88 | |
| 8,244.0 | 1.30 | 291.90 | 8,011.2 | -271.2 | -1,813.4 | 1,833.5 | 0.38 | 0.33 | |
| 8,333.0 | 0.50 | 297.80 | 8,100.2 | -270.6 | -1,814.7 | 1,834.7 | 0.90 | -0.90 | |
| 8,423.0 | 0.20 | 107.80 | 8,190.2 | -270.5 | -1,814.9 | 1,834.8 | 0.78 | -0.33 | |
| 8,514.0 | 0.90 | 134.20 | 8,281.2 | -271.0 | -1,814.2 | 1,834.3 | 0.80 | 0.77 | |
| 8,605.0 | 0.80 | 174.10 | 8,372.2 | -272.2 | -1,813.7 | 1,833.9 | 0.65 | -0.11 | |

Survey Report

| | |
|--|--|
| Company: EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: Well GMR 8-12C2 |
| Project: Mamm Creek | TVD Reference: KBE @ 7859.0ft (Patterson 330) |
| Site: NESW S8 T7S R93W (K8W Pad) | MD Reference: KBE @ 7859.0ft (Patterson 330) |
| Well: GMR 8-12C2 | North Reference: True |
| Wellbore: DD | Survey Calculation Method: Minimum Curvature |
| Design: DD | Database: EDM 5000.1 US 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 |
| 8,696.0 | 0.60 | 198.40 | 8,463.1 | -273.3 | -1,813.7 | 1,834.1 | 0.39 | -0.22 | |
| 8,786.0 | 0.60 | 243.70 | 8,553.1 | -273.9 | -1,814.3 | 1,834.8 | 0.51 | 0.00 | |
| 8,877.0 | 0.90 | 236.60 | 8,644.1 | -274.5 | -1,815.3 | 1,835.9 | 0.34 | 0.33 | |
| 8,968.0 | 1.00 | 257.00 | 8,735.1 | -275.1 | -1,816.7 | 1,837.3 | 0.39 | 0.11 | |
| 9,059.0 | 1.20 | 265.10 | 8,826.1 | -275.4 | -1,818.4 | 1,839.1 | 0.28 | 0.22 | |
| 9,149.0 | 1.20 | 262.90 | 8,916.1 | -275.6 | -1,820.3 | 1,841.0 | 0.05 | 0.00 | |
| 9,240.0 | 0.50 | 352.70 | 9,007.1 | -275.3 | -1,821.3 | 1,841.9 | 1.43 | -0.77 | |
| 9,331.0 | 0.80 | 340.40 | 9,098.1 | -274.3 | -1,821.6 | 1,842.0 | 0.36 | 0.33 | |
| 9,422.0 | 0.90 | 349.30 | 9,189.1 | -273.0 | -1,821.9 | 1,842.2 | 0.18 | 0.11 | |
| 9,512.0 | 1.10 | 27.00 | 9,279.0 | -271.5 | -1,821.7 | 1,841.7 | 0.75 | 0.22 | |
| 9,603.0 | 1.10 | 108.20 | 9,370.0 | -271.0 | -1,820.4 | 1,840.4 | 1.57 | 0.00 | |
| 9,694.0 | 1.00 | 136.40 | 9,461.0 | -271.9 | -1,819.0 | 1,839.1 | 0.57 | -0.11 | |
| 9,785.0 | 1.00 | 152.70 | 9,552.0 | -273.1 | -1,818.1 | 1,838.4 | 0.31 | 0.00 | |
| 9,876.0 | 1.10 | 176.50 | 9,643.0 | -274.7 | -1,817.7 | 1,838.3 | 0.49 | 0.11 | |
| 9,966.0 | 0.90 | 185.10 | 9,733.0 | -276.3 | -1,817.7 | 1,838.5 | 0.28 | -0.22 | |
| 10,005.0 | 0.90 | 191.70 | 9,772.0 | -276.9 | -1,817.8 | 1,838.7 | 0.27 | 0.00 | Last Cathedral Survey @ 10,005' MD |
| 10,064.0 | 0.90 | 191.70 | 9,831.0 | -277.8 | -1,818.0 | 1,839.1 | 0.00 | 0.00 | Projection to Bit @ 10,064' |

| Targets | | | | | | | | | |
|---|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
| GMR 8-12C2 TOG - hit/miss target - Shape | 0.00 | 0.00 | 7,756.0 | -291.8 | -1,818.9 | 1,599,565.99 | 2,348,905.02 | 39.456881 | -107.806190 |
| - survey misses target center by 22.6ft at 7989.1ft MD (7756.4 TVD, -272.5 N, -1807.1 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| GMR 8-12C2 BHL - hit/miss target - Shape | 0.00 | 0.00 | 9,834.0 | -291.8 | -1,818.9 | 1,599,565.99 | 2,348,905.02 | 39.456881 | -107.806190 |
| - survey misses target center by 14.4ft at 10064.0ft MD (9831.0 TVD, -277.8 N, -1818.0 E) | | | | | | | | | |
| - Circle (radius 25.0) | | | | | | | | | |
| Hardline 40' West - hit/miss target - Shape | 0.00 | 0.00 | -9,899.0 | 1,007.9 | -1,857.3 | 1,600,866.31 | 2,348,899.62 | 39.460449 | -107.806326 |
| - survey misses target center by 10122.0ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | -9,899.0 | 40.0 | -40.0 | 1,600,907.31 | 2,348,860.65 | | |
| Point 2 | | | -9,899.0 | -40.0 | -40.0 | 1,600,827.34 | 2,348,858.62 | | |
| Hardline 40' South - hit/miss target - Shape | 0.00 | 0.00 | -9,834.0 | -291.8 | -1,818.9 | 1,599,565.99 | 2,348,905.02 | 39.456881 | -107.806190 |
| - survey misses target center by 10005.1ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) | | | | | | | | | |
| - Polygon | | | | | | | | | |
| Point 1 | | | -9,834.0 | -40.0 | 100.0 | 1,599,523.47 | 2,349,003.97 | | |
| Point 2 | | | -9,834.0 | -40.0 | -40.0 | 1,599,527.02 | 2,348,864.02 | | |

| Survey Annotations | | | | |
|---------------------|---------------------|------------|------------|------------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Comment |
| 10,005.0 | 9,772.0 | -276.9 | -1,817.8 | Last Cathedral Survey @ 10,005' MD |
| 10,064.0 | 9,831.0 | -277.8 | -1,818.0 | Projection to Bit @ 10,064' |

| | | |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|