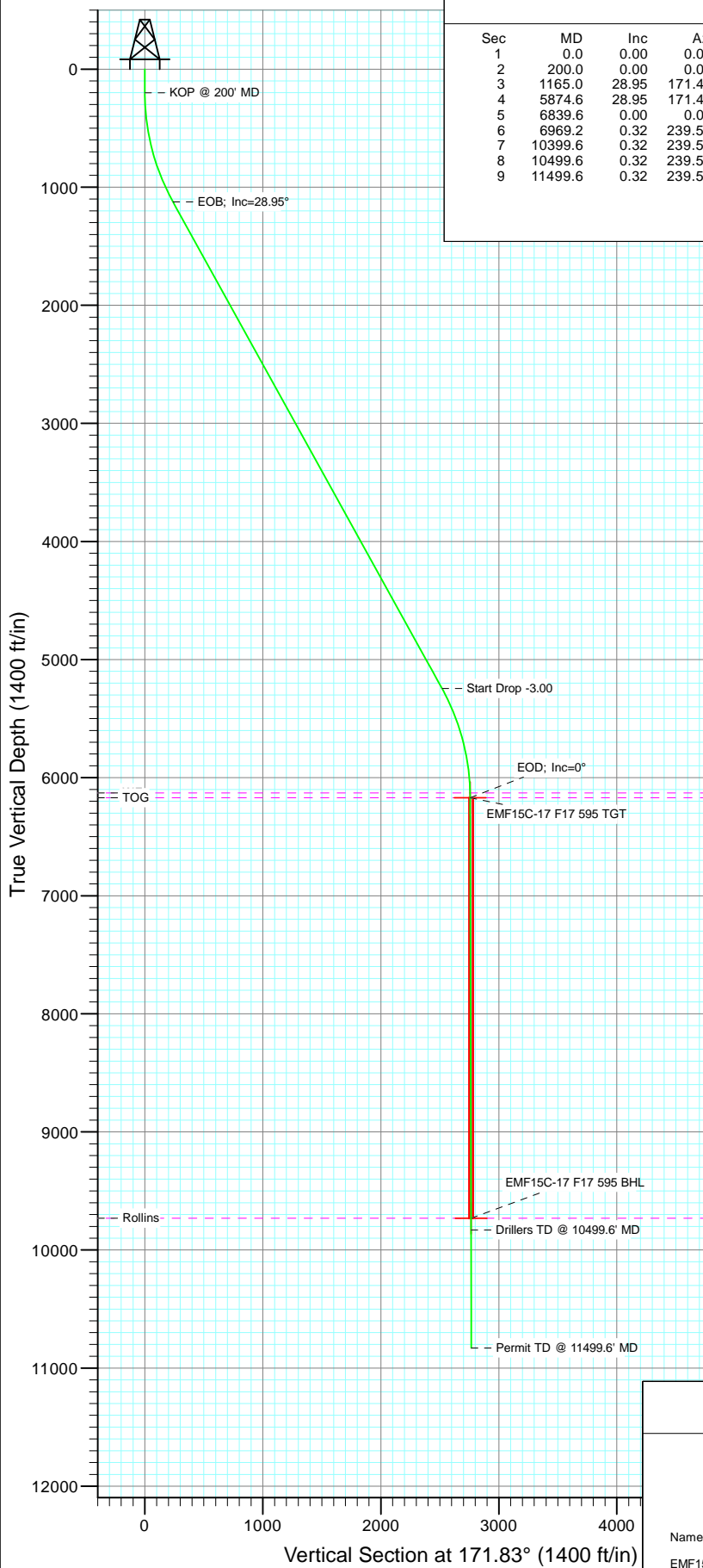
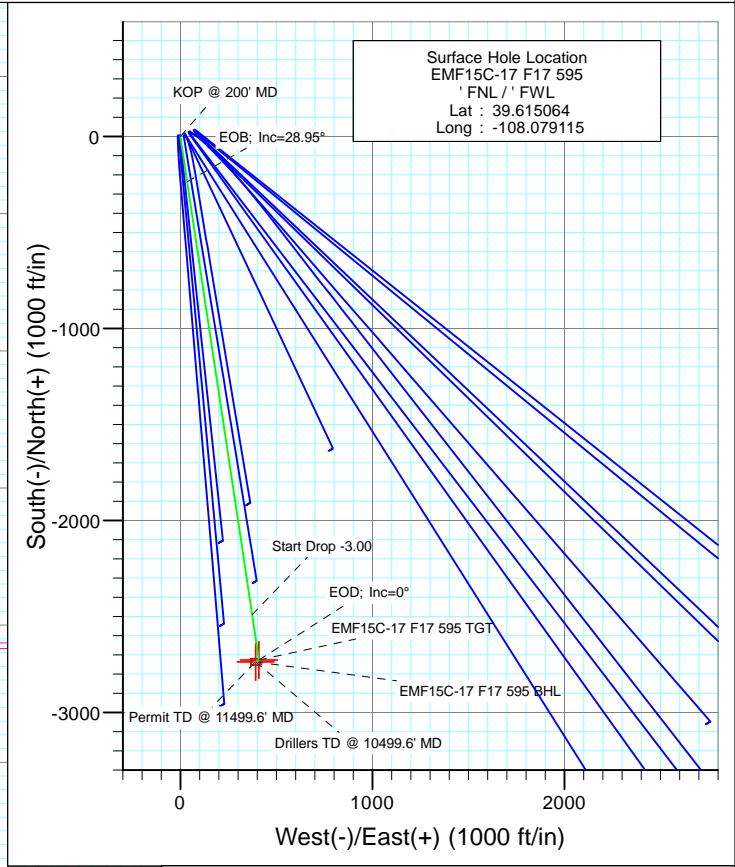




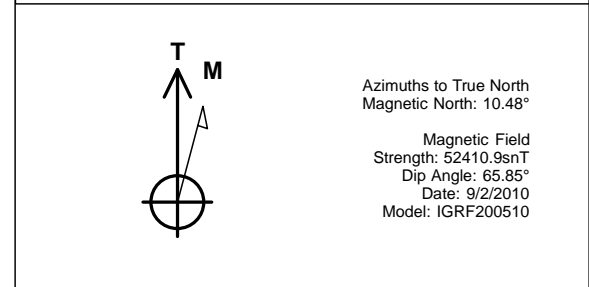
Project: North Piceance
Site: F17 595 Pad
Well: EMF15C-17 F17 595
Wellbore: DD
Design: Plan #4



| SECTION DETAILS | | | | | | | | | | |
|-----------------|---------|-------|--------|---------|---------|-------|------|--------|--------|-----------------------|
| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | 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 | 1165.0 | 28.95 | 171.45 | 1124.4 | -236.0 | 35.5 | 3.00 | 171.45 | 238.6 | |
| 4 | 5874.6 | 28.95 | 171.45 | 5245.6 | -2490.3 | 374.3 | 0.00 | 0.00 | 2518.2 | |
| 5 | 6839.6 | 0.00 | 0.00 | 6170.0 | -2726.3 | 409.8 | 3.00 | 180.00 | 2756.9 | EMF15C-17 F17 595 TGT |
| 6 | 6969.2 | 0.32 | 239.51 | 6299.6 | -2726.5 | 409.5 | 0.25 | 239.51 | 2757.0 | |
| 7 | 10399.6 | 0.32 | 239.51 | 9730.0 | -2736.3 | 392.8 | 0.00 | 0.00 | 2764.4 | EMF15C-17 F17 595 BHL |
| 8 | 10499.6 | 0.32 | 239.51 | 9830.0 | -2736.6 | 392.3 | 0.00 | 0.00 | 2764.6 | |
| 9 | 11499.6 | 0.32 | 239.51 | 10830.0 | -2739.5 | 387.4 | 0.00 | 0.00 | 2766.7 | |



| FORMATION TOP DETAILS | | |
|-----------------------|---------|-----------|
| TVDPath | MDPath | Formation |
| 6130.0 | 6799.6 | WF |
| 6170.0 | 6839.6 | TOG |
| 9730.0 | 10399.6 | Rollins |



| Plan #4 EMF15C-17 F17 595 105XXX; LR | | | | | | |
|--|-----------------------|---------|--------|-----------|-------------|-----|
| KBE2 @ 6330.0ft North American Datum 1983 Well EMF15C-17 F17 595, True North | | | | | | |
| Type | Target | Azimuth | Origin | Type | N/S | E/W |
| Target | EMF15C-17 F17 595 BHL | 171.83 | Slot | | 0.0 | 0.0 |
| From TVD | | | | | | |
| 0.0 | | | | | | |
| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | |
| EMF15C-17 F17 595 BHL | 6170.0 | -2726.3 | 409.8 | 39.607580 | -108.077661 | |
| | 9730.0 | -2736.3 | 392.8 | 39.607552 | -108.077721 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well EMF15C-17 F17 595 |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KBE2 @ 6330.0ft |
| Project: | North Piceance | MD Reference: | KBE2 @ 6330.0ft |
| Site: | F17 595 Pad | North Reference: | True |
| Well: | EMF15C-17 F17 595 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | DD | | |
| Design: | Plan #4 | | |

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

| | | | | | |
|-----------------------|----------|--------------|-----------------|-------------------|-----------------|
| Site | | F17 595 Pad | | | |
| Site Position: | | Northing: | 1,659,259.22 ft | Latitude: | 39° 36' 54.52 N |
| From: | Lat/Long | Easting: | 2,273,585.37 ft | Longitude: | 108° 4' 43.81 W |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: | -1.63 ° |

| | | | | | | |
|----------------------|-------------------|--------|---------------------|-----------------|---------------|-----------------|
| Well | EMF15C-17 F17 595 | | | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,659,232.22 ft | Latitude: | 39° 36' 54.23 N |
| | +E/-W | 0.0 ft | Easting: | 2,273,505.86 ft | Longitude: | 108° 4' 44.81 W |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 6,308.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | DD | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF200510 | 9/2/2010 | 10.48 | 65.85 | 52,411 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | Plan #4 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 171.83 |

| Plan Sections | | | | | | | | | | |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|-------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,165.0 | 28.95 | 171.45 | 1,124.4 | -236.0 | 35.5 | 3.00 | 3.00 | 0.00 | 171.45 | |
| 5,874.6 | 28.95 | 171.45 | 5,245.6 | -2,490.3 | 374.3 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,839.6 | 0.00 | 0.00 | 6,170.0 | -2,726.3 | 409.8 | 3.00 | -3.00 | 0.00 | 180.00 | EMF15C-17 F17 595 |
| 6,969.2 | 0.32 | 239.51 | 6,299.6 | -2,726.5 | 409.5 | 0.25 | 0.25 | -92.95 | 239.51 | |
| 10,399.6 | 0.32 | 239.51 | 9,730.0 | -2,736.3 | 392.8 | 0.00 | 0.00 | 0.00 | 0.00 | EMF15C-17 F17 595 |
| 10,499.6 | 0.32 | 239.51 | 9,830.0 | -2,736.6 | 392.3 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 11,499.6 | 0.32 | 239.51 | 10,830.0 | -2,739.5 | 387.4 | 0.00 | 0.00 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well EMF15C-17 F17 595 |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KBE2 @ 6330.0ft |
| Project: | North Piceance | MD Reference: | KBE2 @ 6330.0ft |
| Site: | F17 595 Pad | North Reference: | True |
| Well: | EMF15C-17 F17 595 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | DD | | |
| Design: | Plan #4 | | |

Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | KOP @ 200' MD |
| 300.0 | 3.00 | 171.45 | 300.0 | -2.6 | 0.4 | 2.6 | 3.00 | 3.00 | |
| 400.0 | 6.00 | 171.45 | 399.6 | -10.3 | 1.6 | 10.5 | 3.00 | 3.00 | |
| 500.0 | 9.00 | 171.45 | 498.8 | -23.3 | 3.5 | 23.5 | 3.00 | 3.00 | |
| 600.0 | 12.00 | 171.45 | 597.1 | -41.3 | 6.2 | 41.7 | 3.00 | 3.00 | |
| 700.0 | 15.00 | 171.45 | 694.3 | -64.4 | 9.7 | 65.1 | 3.00 | 3.00 | |
| 800.0 | 18.00 | 171.45 | 790.2 | -92.4 | 13.9 | 93.5 | 3.00 | 3.00 | |
| 900.0 | 21.00 | 171.45 | 884.4 | -125.4 | 18.9 | 126.8 | 3.00 | 3.00 | |
| 1,000.0 | 24.00 | 171.45 | 976.8 | -163.3 | 24.5 | 165.1 | 3.00 | 3.00 | |
| 1,100.0 | 27.00 | 171.45 | 1,067.1 | -205.8 | 30.9 | 208.2 | 3.00 | 3.00 | |
| 1,165.0 | 28.95 | 171.45 | 1,124.4 | -236.0 | 35.5 | 238.6 | 3.00 | 3.00 | EOB; Inc=28.95° |
| 1,200.0 | 28.95 | 171.45 | 1,155.1 | -252.8 | 38.0 | 255.6 | 0.00 | 0.00 | |
| 1,300.0 | 28.95 | 171.45 | 1,242.6 | -300.6 | 45.2 | 304.0 | 0.00 | 0.00 | |
| 1,400.0 | 28.95 | 171.45 | 1,330.1 | -348.5 | 52.4 | 352.4 | 0.00 | 0.00 | |
| 1,500.0 | 28.95 | 171.45 | 1,417.6 | -396.4 | 59.6 | 400.8 | 0.00 | 0.00 | |
| 1,600.0 | 28.95 | 171.45 | 1,505.1 | -444.2 | 66.8 | 449.2 | 0.00 | 0.00 | |
| 1,700.0 | 28.95 | 171.45 | 1,592.6 | -492.1 | 74.0 | 497.6 | 0.00 | 0.00 | |
| 1,800.0 | 28.95 | 171.45 | 1,680.1 | -540.0 | 81.2 | 546.0 | 0.00 | 0.00 | |
| 1,900.0 | 28.95 | 171.45 | 1,767.6 | -587.8 | 88.4 | 594.4 | 0.00 | 0.00 | |
| 2,000.0 | 28.95 | 171.45 | 1,855.1 | -635.7 | 95.6 | 642.8 | 0.00 | 0.00 | |
| 2,100.0 | 28.95 | 171.45 | 1,942.6 | -683.5 | 102.7 | 691.2 | 0.00 | 0.00 | |
| 2,200.0 | 28.95 | 171.45 | 2,030.1 | -731.4 | 109.9 | 739.6 | 0.00 | 0.00 | |
| 2,300.0 | 28.95 | 171.45 | 2,117.6 | -779.3 | 117.1 | 788.0 | 0.00 | 0.00 | |
| 2,400.0 | 28.95 | 171.45 | 2,205.1 | -827.1 | 124.3 | 836.4 | 0.00 | 0.00 | |
| 2,500.0 | 28.95 | 171.45 | 2,292.6 | -875.0 | 131.5 | 884.8 | 0.00 | 0.00 | |
| 2,600.0 | 28.95 | 171.45 | 2,380.2 | -922.9 | 138.7 | 933.2 | 0.00 | 0.00 | |
| 2,700.0 | 28.95 | 171.45 | 2,467.7 | -970.7 | 145.9 | 981.6 | 0.00 | 0.00 | |
| 2,800.0 | 28.95 | 171.45 | 2,555.2 | -1,018.6 | 153.1 | 1,030.0 | 0.00 | 0.00 | |
| 2,900.0 | 28.95 | 171.45 | 2,642.7 | -1,066.5 | 160.3 | 1,078.4 | 0.00 | 0.00 | |
| 3,000.0 | 28.95 | 171.45 | 2,730.2 | -1,114.3 | 167.5 | 1,126.8 | 0.00 | 0.00 | |
| 3,100.0 | 28.95 | 171.45 | 2,817.7 | -1,162.2 | 174.7 | 1,175.2 | 0.00 | 0.00 | |
| 3,200.0 | 28.95 | 171.45 | 2,905.2 | -1,210.1 | 181.9 | 1,223.6 | 0.00 | 0.00 | |
| 3,300.0 | 28.95 | 171.45 | 2,992.7 | -1,257.9 | 189.1 | 1,272.0 | 0.00 | 0.00 | |
| 3,400.0 | 28.95 | 171.45 | 3,080.2 | -1,305.8 | 196.3 | 1,320.5 | 0.00 | 0.00 | |
| 3,500.0 | 28.95 | 171.45 | 3,167.7 | -1,353.7 | 203.5 | 1,368.9 | 0.00 | 0.00 | |
| 3,600.0 | 28.95 | 171.45 | 3,255.2 | -1,401.5 | 210.7 | 1,417.3 | 0.00 | 0.00 | |
| 3,700.0 | 28.95 | 171.45 | 3,342.7 | -1,449.4 | 217.9 | 1,465.7 | 0.00 | 0.00 | |
| 3,800.0 | 28.95 | 171.45 | 3,430.2 | -1,497.3 | 225.1 | 1,514.1 | 0.00 | 0.00 | |
| 3,900.0 | 28.95 | 171.45 | 3,517.7 | -1,545.1 | 232.3 | 1,562.5 | 0.00 | 0.00 | |
| 4,000.0 | 28.95 | 171.45 | 3,605.2 | -1,593.0 | 239.5 | 1,610.9 | 0.00 | 0.00 | |
| 4,100.0 | 28.95 | 171.45 | 3,692.7 | -1,640.9 | 246.6 | 1,659.3 | 0.00 | 0.00 | |
| 4,200.0 | 28.95 | 171.45 | 3,780.2 | -1,688.7 | 253.8 | 1,707.7 | 0.00 | 0.00 | |
| 4,300.0 | 28.95 | 171.45 | 3,867.7 | -1,736.6 | 261.0 | 1,756.1 | 0.00 | 0.00 | |
| 4,400.0 | 28.95 | 171.45 | 3,955.2 | -1,784.5 | 268.2 | 1,804.5 | 0.00 | 0.00 | |
| 4,500.0 | 28.95 | 171.45 | 4,042.7 | -1,832.3 | 275.4 | 1,852.9 | 0.00 | 0.00 | |
| 4,600.0 | 28.95 | 171.45 | 4,130.2 | -1,880.2 | 282.6 | 1,901.3 | 0.00 | 0.00 | |
| 4,700.0 | 28.95 | 171.45 | 4,217.7 | -1,928.1 | 289.8 | 1,949.7 | 0.00 | 0.00 | |
| 4,800.0 | 28.95 | 171.45 | 4,305.3 | -1,975.9 | 297.0 | 1,998.1 | 0.00 | 0.00 | |
| 4,900.0 | 28.95 | 171.45 | 4,392.8 | -2,023.8 | 304.2 | 2,046.5 | 0.00 | 0.00 | |
| 5,000.0 | 28.95 | 171.45 | 4,480.3 | -2,071.7 | 311.4 | 2,094.9 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well EMF15C-17 F17 595 |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KBE2 @ 6330.0ft |
| Project: | North Piceance | MD Reference: | KBE2 @ 6330.0ft |
| Site: | F17 595 Pad | North Reference: | True |
| Well: | EMF15C-17 F17 595 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | DD | | |
| Design: | Plan #4 | | |

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 |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---|
| 5,100.0 | 28.95 | 171.45 | 4,567.8 | -2,119.5 | 318.6 | 2,143.3 | 0.00 | 0.00 | |
| 5,200.0 | 28.95 | 171.45 | 4,655.3 | -2,167.4 | 325.8 | 2,191.7 | 0.00 | 0.00 | |
| 5,300.0 | 28.95 | 171.45 | 4,742.8 | -2,215.3 | 333.0 | 2,240.1 | 0.00 | 0.00 | |
| 5,400.0 | 28.95 | 171.45 | 4,830.3 | -2,263.1 | 340.2 | 2,288.5 | 0.00 | 0.00 | |
| 5,500.0 | 28.95 | 171.45 | 4,917.8 | -2,311.0 | 347.4 | 2,336.9 | 0.00 | 0.00 | |
| 5,600.0 | 28.95 | 171.45 | 5,005.3 | -2,358.9 | 354.6 | 2,385.3 | 0.00 | 0.00 | |
| 5,700.0 | 28.95 | 171.45 | 5,092.8 | -2,406.7 | 361.8 | 2,433.7 | 0.00 | 0.00 | |
| 5,800.0 | 28.95 | 171.45 | 5,180.3 | -2,454.6 | 369.0 | 2,482.1 | 0.00 | 0.00 | |
| 5,874.6 | 28.95 | 171.45 | 5,245.6 | -2,490.3 | 374.3 | 2,518.2 | 0.00 | 0.00 | Start Drop -3.00 |
| 5,900.0 | 28.19 | 171.45 | 5,267.9 | -2,502.3 | 376.1 | 2,530.4 | 3.00 | -3.00 | |
| 6,000.0 | 25.19 | 171.45 | 5,357.2 | -2,546.7 | 382.8 | 2,575.3 | 3.00 | -3.00 | |
| 6,100.0 | 22.19 | 171.45 | 5,448.8 | -2,586.4 | 388.8 | 2,615.4 | 3.00 | -3.00 | |
| 6,200.0 | 19.19 | 171.45 | 5,542.3 | -2,621.4 | 394.0 | 2,650.8 | 3.00 | -3.00 | |
| 6,300.0 | 16.19 | 171.45 | 5,637.6 | -2,651.4 | 398.5 | 2,681.1 | 3.00 | -3.00 | |
| 6,400.0 | 13.19 | 171.45 | 5,734.3 | -2,676.5 | 402.3 | 2,706.5 | 3.00 | -3.00 | |
| 6,500.0 | 10.19 | 171.45 | 5,832.2 | -2,696.5 | 405.3 | 2,726.7 | 3.00 | -3.00 | |
| 6,600.0 | 7.19 | 171.45 | 5,931.1 | -2,711.4 | 407.6 | 2,741.8 | 3.00 | -3.00 | |
| 6,700.0 | 4.19 | 171.45 | 6,030.6 | -2,721.2 | 409.0 | 2,751.8 | 3.00 | -3.00 | |
| 6,799.6 | 1.20 | 171.45 | 6,130.0 | -2,725.9 | 409.7 | 2,756.4 | 3.00 | -3.00 | WF |
| 6,800.0 | 1.19 | 171.45 | 6,130.4 | -2,725.9 | 409.7 | 2,756.4 | 3.00 | -3.00 | |
| 6,839.6 | 0.00 | 0.00 | 6,170.0 | -2,726.3 | 409.8 | 2,756.9 | 3.00 | -3.00 | EOD; Inc=0° - TOG - EMF15C-17 F17 595 TGT |
| 6,900.0 | 0.15 | 239.51 | 6,230.4 | -2,726.3 | 409.7 | 2,756.9 | 0.25 | 0.25 | |
| 6,969.2 | 0.32 | 239.51 | 6,299.6 | -2,726.5 | 409.5 | 2,757.0 | 0.25 | 0.25 | |
| 7,000.0 | 0.32 | 239.51 | 6,330.4 | -2,726.6 | 409.3 | 2,757.1 | 0.00 | 0.00 | |
| 7,100.0 | 0.32 | 239.51 | 6,430.4 | -2,726.8 | 408.8 | 2,757.3 | 0.00 | 0.00 | |
| 7,200.0 | 0.32 | 239.51 | 6,530.4 | -2,727.1 | 408.4 | 2,757.5 | 0.00 | 0.00 | |
| 7,300.0 | 0.32 | 239.51 | 6,630.4 | -2,727.4 | 407.9 | 2,757.7 | 0.00 | 0.00 | |
| 7,400.0 | 0.32 | 239.51 | 6,730.4 | -2,727.7 | 407.4 | 2,757.9 | 0.00 | 0.00 | |
| 7,500.0 | 0.32 | 239.51 | 6,830.4 | -2,728.0 | 406.9 | 2,758.1 | 0.00 | 0.00 | |
| 7,600.0 | 0.32 | 239.51 | 6,930.4 | -2,728.3 | 406.4 | 2,758.3 | 0.00 | 0.00 | |
| 7,700.0 | 0.32 | 239.51 | 7,030.4 | -2,728.6 | 405.9 | 2,758.6 | 0.00 | 0.00 | |
| 7,800.0 | 0.32 | 239.51 | 7,130.4 | -2,728.9 | 405.4 | 2,758.8 | 0.00 | 0.00 | |
| 7,900.0 | 0.32 | 239.51 | 7,230.4 | -2,729.1 | 404.9 | 2,759.0 | 0.00 | 0.00 | |
| 8,000.0 | 0.32 | 239.51 | 7,330.4 | -2,729.4 | 404.5 | 2,759.2 | 0.00 | 0.00 | |
| 8,100.0 | 0.32 | 239.51 | 7,430.4 | -2,729.7 | 404.0 | 2,759.4 | 0.00 | 0.00 | |
| 8,200.0 | 0.32 | 239.51 | 7,530.4 | -2,730.0 | 403.5 | 2,759.6 | 0.00 | 0.00 | |
| 8,300.0 | 0.32 | 239.51 | 7,630.4 | -2,730.3 | 403.0 | 2,759.9 | 0.00 | 0.00 | |
| 8,400.0 | 0.32 | 239.51 | 7,730.4 | -2,730.6 | 402.5 | 2,760.1 | 0.00 | 0.00 | |
| 8,500.0 | 0.32 | 239.51 | 7,830.4 | -2,730.9 | 402.0 | 2,760.3 | 0.00 | 0.00 | |
| 8,600.0 | 0.32 | 239.51 | 7,930.4 | -2,731.2 | 401.5 | 2,760.5 | 0.00 | 0.00 | |
| 8,700.0 | 0.32 | 239.51 | 8,030.4 | -2,731.4 | 401.0 | 2,760.7 | 0.00 | 0.00 | |
| 8,800.0 | 0.32 | 239.51 | 8,130.4 | -2,731.7 | 400.6 | 2,760.9 | 0.00 | 0.00 | |
| 8,900.0 | 0.32 | 239.51 | 8,230.4 | -2,732.0 | 400.1 | 2,761.1 | 0.00 | 0.00 | |
| 9,000.0 | 0.32 | 239.51 | 8,330.4 | -2,732.3 | 399.6 | 2,761.4 | 0.00 | 0.00 | |
| 9,100.0 | 0.32 | 239.51 | 8,430.4 | -2,732.6 | 399.1 | 2,761.6 | 0.00 | 0.00 | |
| 9,200.0 | 0.32 | 239.51 | 8,530.4 | -2,732.9 | 398.6 | 2,761.8 | 0.00 | 0.00 | |
| 9,300.0 | 0.32 | 239.51 | 8,630.4 | -2,733.2 | 398.1 | 2,762.0 | 0.00 | 0.00 | |
| 9,400.0 | 0.32 | 239.51 | 8,730.4 | -2,733.5 | 397.6 | 2,762.2 | 0.00 | 0.00 | |
| 9,500.0 | 0.32 | 239.51 | 8,830.4 | -2,733.7 | 397.1 | 2,762.4 | 0.00 | 0.00 | |
| 9,600.0 | 0.32 | 239.51 | 8,930.4 | -2,734.0 | 396.7 | 2,762.6 | 0.00 | 0.00 | |
| 9,700.0 | 0.32 | 239.51 | 9,030.4 | -2,734.3 | 396.2 | 2,762.9 | 0.00 | 0.00 | |
| 9,800.0 | 0.32 | 239.51 | 9,130.4 | -2,734.6 | 395.7 | 2,763.1 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well EMF15C-17 F17 595 |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KBE2 @ 6330.0ft |
| Project: | North Piceance | MD Reference: | KBE2 @ 6330.0ft |
| Site: | F17 595 Pad | North Reference: | True |
| Well: | EMF15C-17 F17 595 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | DD | | |
| Design: | Plan #4 | | |

| 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 |
| 9,900.0 | 0.32 | 239.51 | 9,230.4 | -2,734.9 | 395.2 | 2,763.3 | 0.00 | 0.00 | |
| 10,000.0 | 0.32 | 239.51 | 9,330.4 | -2,735.2 | 394.7 | 2,763.5 | 0.00 | 0.00 | |
| 10,100.0 | 0.32 | 239.51 | 9,430.4 | -2,735.5 | 394.2 | 2,763.7 | 0.00 | 0.00 | |
| 10,200.0 | 0.32 | 239.51 | 9,530.4 | -2,735.7 | 393.7 | 2,763.9 | 0.00 | 0.00 | |
| 10,300.0 | 0.32 | 239.51 | 9,630.4 | -2,736.0 | 393.3 | 2,764.1 | 0.00 | 0.00 | |
| 10,399.6 | 0.32 | 239.51 | 9,730.0 | -2,736.3 | 392.8 | 2,764.4 | 0.00 | 0.00 | Rollins - EMF15C-17 F17 595 BHL |
| 10,400.0 | 0.32 | 239.51 | 9,730.4 | -2,736.3 | 392.8 | 2,764.4 | 0.00 | 0.00 | |
| 10,499.6 | 0.32 | 239.51 | 9,830.0 | -2,736.6 | 392.3 | 2,764.6 | 0.00 | 0.00 | Drillers TD @ 10499.6' MD |
| 10,500.0 | 0.32 | 239.51 | 9,830.4 | -2,736.6 | 392.3 | 2,764.6 | 0.00 | 0.00 | |
| 10,600.0 | 0.32 | 239.51 | 9,930.4 | -2,736.9 | 391.8 | 2,764.8 | 0.00 | 0.00 | |
| 10,700.0 | 0.32 | 239.51 | 10,030.4 | -2,737.2 | 391.3 | 2,765.0 | 0.00 | 0.00 | |
| 10,800.0 | 0.32 | 239.51 | 10,130.4 | -2,737.5 | 390.8 | 2,765.2 | 0.00 | 0.00 | |
| 10,900.0 | 0.32 | 239.51 | 10,230.4 | -2,737.8 | 390.3 | 2,765.4 | 0.00 | 0.00 | |
| 11,000.0 | 0.32 | 239.51 | 10,330.4 | -2,738.0 | 389.8 | 2,765.7 | 0.00 | 0.00 | |
| 11,100.0 | 0.32 | 239.51 | 10,430.4 | -2,738.3 | 389.4 | 2,765.9 | 0.00 | 0.00 | |
| 11,200.0 | 0.32 | 239.51 | 10,530.4 | -2,738.6 | 388.9 | 2,766.1 | 0.00 | 0.00 | |
| 11,300.0 | 0.32 | 239.51 | 10,630.4 | -2,738.9 | 388.4 | 2,766.3 | 0.00 | 0.00 | |
| 11,400.0 | 0.32 | 239.51 | 10,730.4 | -2,739.2 | 387.9 | 2,766.5 | 0.00 | 0.00 | |
| 11,499.6 | 0.32 | 239.51 | 10,830.0 | -2,739.5 | 387.4 | 2,766.7 | 0.00 | 0.00 | Permit TD @ 11499.6' 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 | | | | | | | | | |
| EMF15C-17 F17 595 BH- - plan hits target center - Rectangle (sides W30.0 H50.0 D0.0) | 0.00 | 0.00 | 9,730.0 | -2,736.3 | 392.8 | 1,656,485.86 | 2,273,820.79 | 39° 36' 27.19 N | 108° 4' 39.80 W |
| EMF15C-17 F17 595 TC - plan hits target center - Point | 0.00 | 0.00 | 6,170.0 | -2,726.3 | 409.8 | 1,656,495.40 | 2,273,838.10 | 39° 36' 27.29 N | 108° 4' 39.58 W |

| Formations | | | | | | |
|---------------------|---------------------|---------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 6,799.6 | 6,130.0 | WF | | 0.00 | | |
| 6,839.6 | 6,170.0 | TOG | | 0.00 | | |
| 10,399.6 | 9,730.0 | Rollins | | 0.00 | | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well EMF15C-17 F17 595 |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KBE2 @ 6330.0ft |
| Project: | North Piceance | MD Reference: | KBE2 @ 6330.0ft |
| Site: | F17 595 Pad | North Reference: | True |
| Well: | EMF15C-17 F17 595 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | DD | | |
| Design: | Plan #4 | | |

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 |
| 1,165.0 | 1,124.4 | -236.0 | 35.5 | EOB; Inc=28.95° |
| 5,874.6 | 5,245.6 | -2,490.3 | 374.3 | Start Drop -3.00 |
| 6,839.6 | 6,170.0 | -2,726.3 | 409.8 | EOD; Inc=0° |
| 10,499.6 | 9,830.0 | -2,726.5 | 409.5 | Drillers TD @ 10499.6' MD |
| 11,499.6 | 10,830.0 | -2,736.3 | 392.8 | Permit TD @ 11499.6' MD |