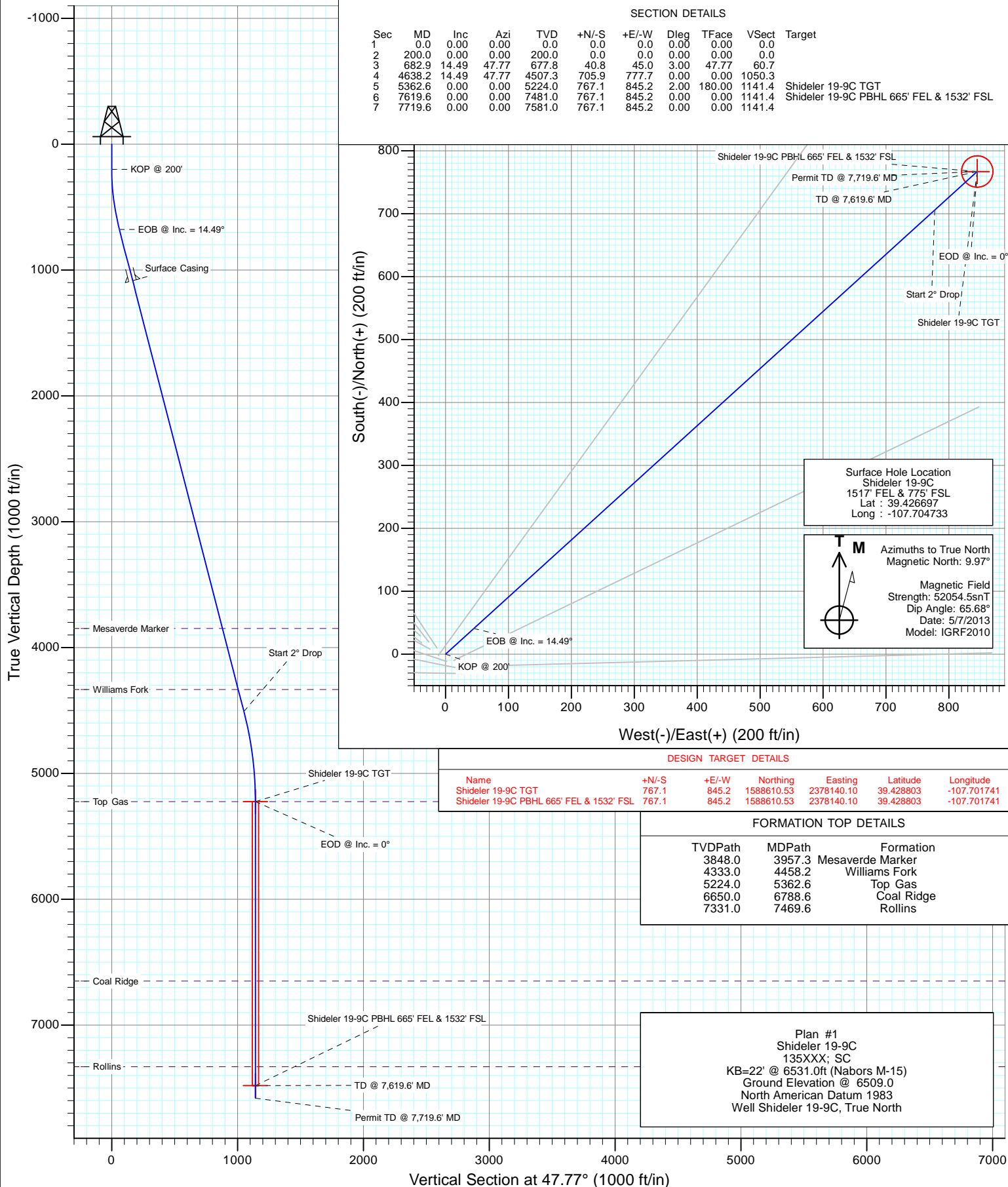


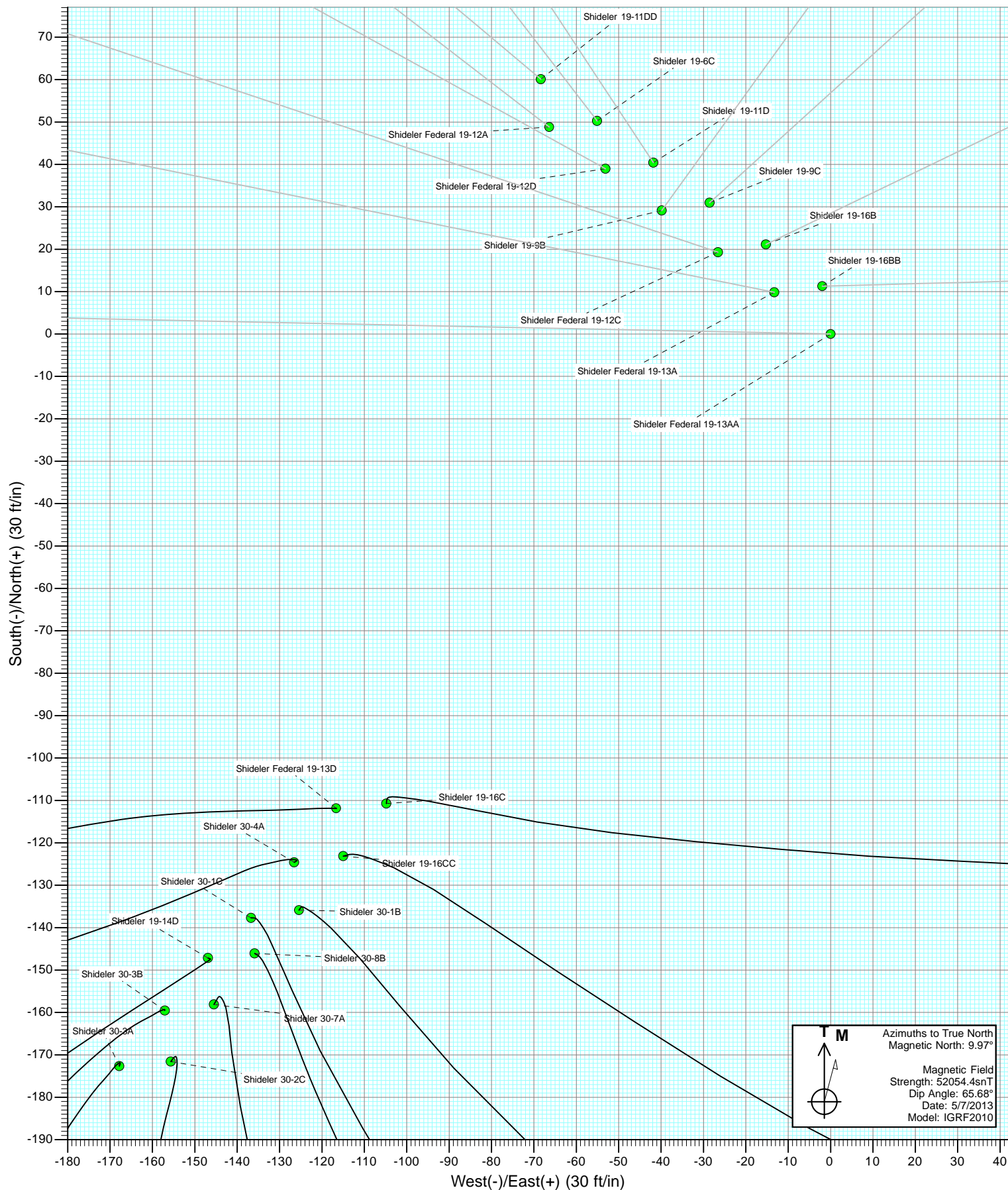


Project: Mamm Creek
Site: O19EB Pad (2nd Occupation)
Well: Shideler 19-9C
Wellbore: OH
Design: Plan #1



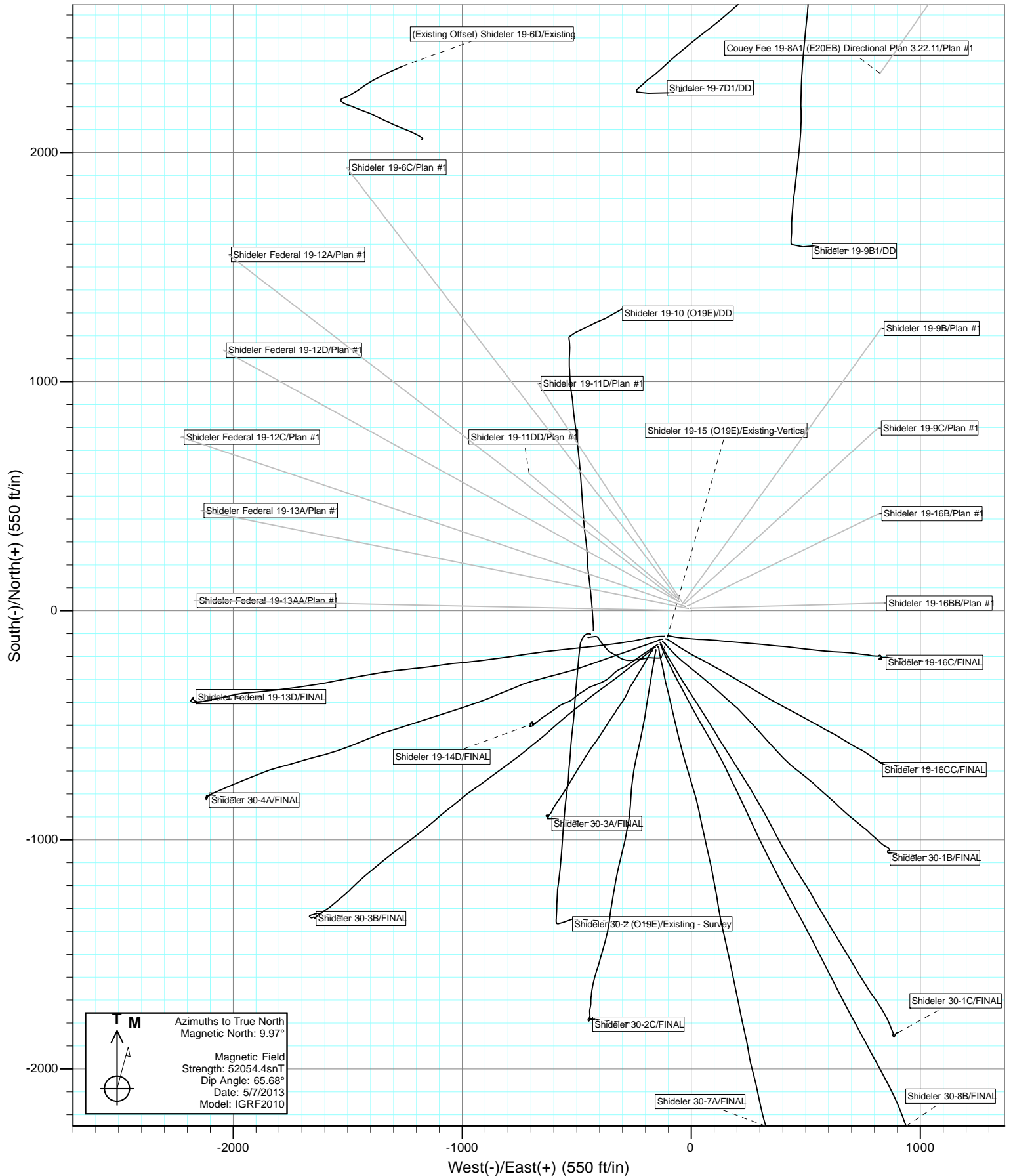


Project: Mamm Creek
Site: O19EB Pad (2nd Occupation)



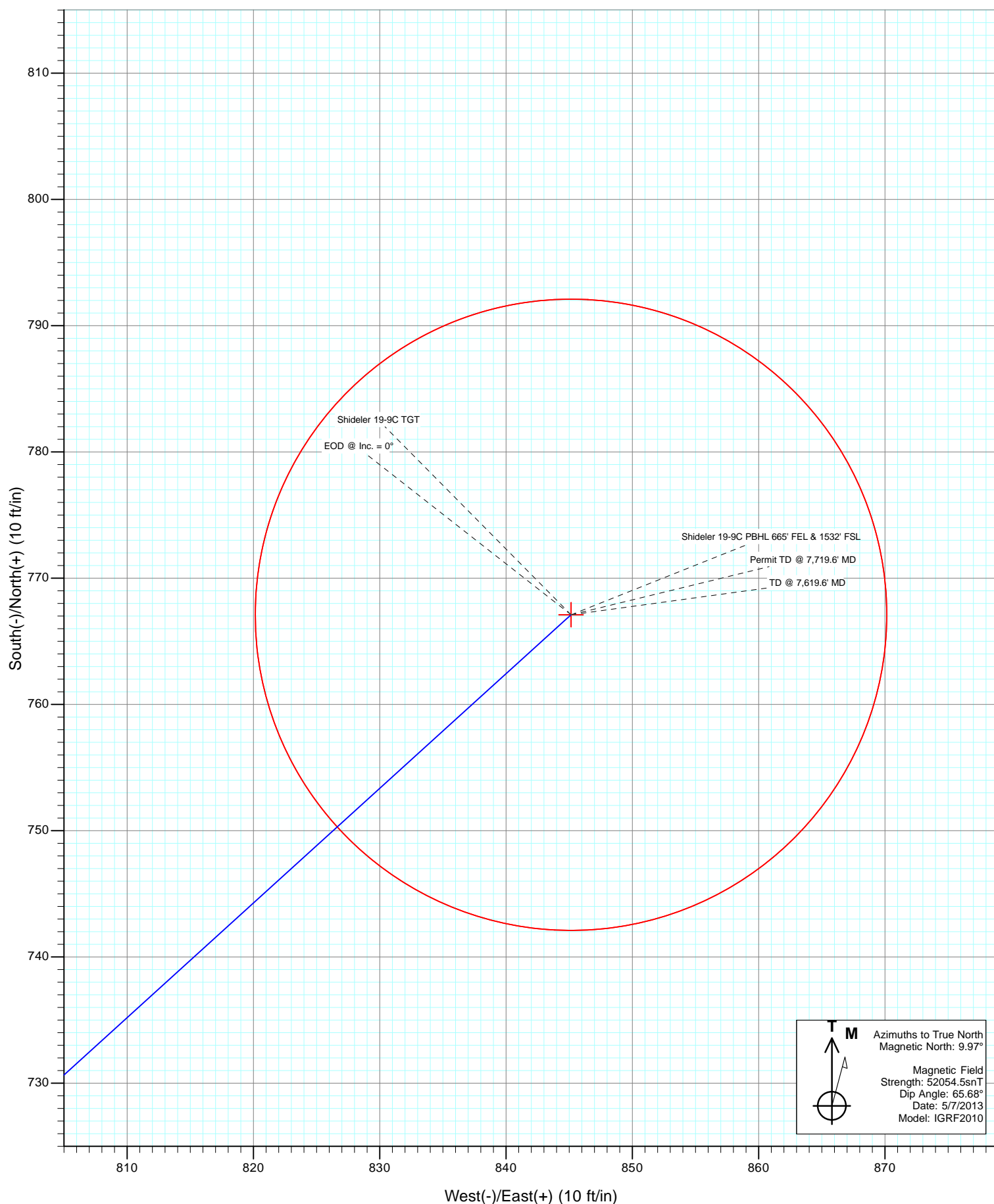


Project: Mamm Creek
Site: O19EB Pad (2nd Occupation)





Project: Mamm Creek
Site: O19EB Pad (2nd Occupation)
Well: Shideler 19-9C
Wellbore: OH
Design: Plan #1



Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|---------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Project: | Mamm Creek | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site: | O19EB Pad (2nd Occupation) | North Reference: | True |
| Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | 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 | | O19EB Pad (2nd Occupation) | | | |
| Site Position: | | Northing: | 1,587,894.27 ft | Latitude: | 39.426777 |
| From: | Lat/Long | Easting: | 2,377,237.48 ft | Longitude: | -107.704874 |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: | -1.39 ° |

| | | | | | | |
|----------------------|----------------|--------|---------------------|-----------------|---------------|-------------|
| Well | Shideler 19-9C | | | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,587,864.16 ft | Latitude: | 39.426697 |
| | +E/-W | 0.0 ft | Easting: | 2,377,276.59 ft | Longitude: | -107.704733 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 6,509.0 ft |

| | | | | | |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 5/7/2013 | 9.97 | 65.68 | 52,054 |

| | | | | |
|-------------------|------------------|-------|---------------|-----------|
| Design | Plan #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) | +N/-S | +E/-W | Direction |
| | (ft) | (ft) | (ft) | (°) |
| | 0.0 | 0.0 | 0.0 | 47.77 |

| 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 | |
| 682.9 | 14.49 | 47.77 | 677.8 | 40.8 | 45.0 | 3.00 | 3.00 | 0.00 | 47.77 | |
| 4,638.2 | 14.49 | 47.77 | 4,507.3 | 705.9 | 777.7 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 5,362.6 | 0.00 | 0.00 | 5,224.0 | 767.1 | 845.2 | 2.00 | -2.00 | 0.00 | 180.00 | Shideler 19-9C TGT |
| 7,619.6 | 0.00 | 0.00 | 7,481.0 | 767.1 | 845.2 | 0.00 | 0.00 | 0.00 | 0.00 | Shideler 19-9C PBHL |
| 7,719.6 | 0.00 | 0.00 | 7,581.0 | 767.1 | 845.2 | 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 Shideler 19-9C |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Project: | Mamm Creek | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site: | O19EB Pad (2nd Occupation) | North Reference: | True |
| Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | 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 | KOP @ 200' |
| 300.0 | 3.00 | 47.77 | 300.0 | 1.8 | 1.9 | 2.6 | 3.00 | 3.00 | |
| 400.0 | 6.00 | 47.77 | 399.6 | 7.0 | 7.7 | 10.5 | 3.00 | 3.00 | |
| 500.0 | 9.00 | 47.77 | 498.8 | 15.8 | 17.4 | 23.5 | 3.00 | 3.00 | |
| 600.0 | 12.00 | 47.77 | 597.1 | 28.0 | 30.9 | 41.7 | 3.00 | 3.00 | |
| 682.9 | 14.49 | 47.77 | 677.8 | 40.8 | 45.0 | 60.7 | 3.00 | 3.00 | EOB @ Inc. = 14.49° |
| 700.0 | 14.49 | 47.77 | 694.3 | 43.7 | 48.1 | 65.0 | 0.00 | 0.00 | |
| 800.0 | 14.49 | 47.77 | 791.1 | 60.5 | 66.7 | 90.0 | 0.00 | 0.00 | |
| 900.0 | 14.49 | 47.77 | 888.0 | 77.3 | 85.2 | 115.0 | 0.00 | 0.00 | |
| 1,000.0 | 14.49 | 47.77 | 984.8 | 94.1 | 103.7 | 140.1 | 0.00 | 0.00 | |
| 1,100.0 | 14.49 | 47.77 | 1,081.6 | 110.9 | 122.2 | 165.1 | 0.00 | 0.00 | |
| 1,103.5 | 14.49 | 47.77 | 1,085.0 | 111.5 | 122.9 | 166.0 | 0.00 | 0.00 | Surface Casing |
| 1,200.0 | 14.49 | 47.77 | 1,178.4 | 127.8 | 140.8 | 190.1 | 0.00 | 0.00 | |
| 1,300.0 | 14.49 | 47.77 | 1,275.2 | 144.6 | 159.3 | 215.1 | 0.00 | 0.00 | |
| 1,400.0 | 14.49 | 47.77 | 1,372.1 | 161.4 | 177.8 | 240.1 | 0.00 | 0.00 | |
| 1,500.0 | 14.49 | 47.77 | 1,468.9 | 178.2 | 196.3 | 265.1 | 0.00 | 0.00 | |
| 1,600.0 | 14.49 | 47.77 | 1,565.7 | 195.0 | 214.9 | 290.2 | 0.00 | 0.00 | |
| 1,700.0 | 14.49 | 47.77 | 1,662.5 | 211.8 | 233.4 | 315.2 | 0.00 | 0.00 | |
| 1,800.0 | 14.49 | 47.77 | 1,759.3 | 228.6 | 251.9 | 340.2 | 0.00 | 0.00 | |
| 1,900.0 | 14.49 | 47.77 | 1,856.2 | 245.5 | 270.4 | 365.2 | 0.00 | 0.00 | |
| 2,000.0 | 14.49 | 47.77 | 1,953.0 | 262.3 | 289.0 | 390.2 | 0.00 | 0.00 | |
| 2,100.0 | 14.49 | 47.77 | 2,049.8 | 279.1 | 307.5 | 415.3 | 0.00 | 0.00 | |
| 2,200.0 | 14.49 | 47.77 | 2,146.6 | 295.9 | 326.0 | 440.3 | 0.00 | 0.00 | |
| 2,300.0 | 14.49 | 47.77 | 2,243.4 | 312.7 | 344.5 | 465.3 | 0.00 | 0.00 | |
| 2,400.0 | 14.49 | 47.77 | 2,340.3 | 329.5 | 363.1 | 490.3 | 0.00 | 0.00 | |
| 2,500.0 | 14.49 | 47.77 | 2,437.1 | 346.3 | 381.6 | 515.3 | 0.00 | 0.00 | |
| 2,600.0 | 14.49 | 47.77 | 2,533.9 | 363.2 | 400.1 | 540.3 | 0.00 | 0.00 | |
| 2,700.0 | 14.49 | 47.77 | 2,630.7 | 380.0 | 418.6 | 565.4 | 0.00 | 0.00 | |
| 2,800.0 | 14.49 | 47.77 | 2,727.5 | 396.8 | 437.2 | 590.4 | 0.00 | 0.00 | |
| 2,900.0 | 14.49 | 47.77 | 2,824.4 | 413.6 | 455.7 | 615.4 | 0.00 | 0.00 | |
| 3,000.0 | 14.49 | 47.77 | 2,921.2 | 430.4 | 474.2 | 640.4 | 0.00 | 0.00 | |
| 3,100.0 | 14.49 | 47.77 | 3,018.0 | 447.2 | 492.7 | 665.4 | 0.00 | 0.00 | |
| 3,200.0 | 14.49 | 47.77 | 3,114.8 | 464.0 | 511.3 | 690.5 | 0.00 | 0.00 | |
| 3,300.0 | 14.49 | 47.77 | 3,211.6 | 480.9 | 529.8 | 715.5 | 0.00 | 0.00 | |
| 3,400.0 | 14.49 | 47.77 | 3,308.5 | 497.7 | 548.3 | 740.5 | 0.00 | 0.00 | |
| 3,500.0 | 14.49 | 47.77 | 3,405.3 | 514.5 | 566.8 | 765.5 | 0.00 | 0.00 | |
| 3,600.0 | 14.49 | 47.77 | 3,502.1 | 531.3 | 585.4 | 790.5 | 0.00 | 0.00 | |
| 3,700.0 | 14.49 | 47.77 | 3,598.9 | 548.1 | 603.9 | 815.5 | 0.00 | 0.00 | |
| 3,800.0 | 14.49 | 47.77 | 3,695.7 | 564.9 | 622.4 | 840.6 | 0.00 | 0.00 | |
| 3,900.0 | 14.49 | 47.77 | 3,792.6 | 581.7 | 640.9 | 865.6 | 0.00 | 0.00 | |
| 3,957.3 | 14.49 | 47.77 | 3,848.0 | 591.4 | 651.5 | 879.9 | 0.00 | 0.00 | Mesaverde Marker |
| 4,000.0 | 14.49 | 47.77 | 3,889.4 | 598.6 | 659.5 | 890.6 | 0.00 | 0.00 | |
| 4,100.0 | 14.49 | 47.77 | 3,986.2 | 615.4 | 678.0 | 915.6 | 0.00 | 0.00 | |
| 4,200.0 | 14.49 | 47.77 | 4,083.0 | 632.2 | 696.5 | 940.6 | 0.00 | 0.00 | |
| 4,300.0 | 14.49 | 47.77 | 4,179.8 | 649.0 | 715.0 | 965.7 | 0.00 | 0.00 | |
| 4,400.0 | 14.49 | 47.77 | 4,276.7 | 665.8 | 733.6 | 990.7 | 0.00 | 0.00 | |
| 4,458.2 | 14.49 | 47.77 | 4,333.0 | 675.6 | 744.3 | 1,005.2 | 0.00 | 0.00 | Williams Fork |
| 4,500.0 | 14.49 | 47.77 | 4,373.5 | 682.6 | 752.1 | 1,015.7 | 0.00 | 0.00 | |
| 4,600.0 | 14.49 | 47.77 | 4,470.3 | 699.5 | 770.6 | 1,040.7 | 0.00 | 0.00 | |
| 4,638.2 | 14.49 | 47.77 | 4,507.3 | 705.9 | 777.7 | 1,050.3 | 0.00 | 0.00 | Start 2° Drop |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|---------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Project: | Mamm Creek | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site: | O19EB Pad (2nd Occupation) | North Reference: | True |
| Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | 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 |
| 4,700.0 | 13.25 | 47.77 | 4,567.3 | 715.8 | 788.7 | 1,065.1 | 2.00 | -2.00 | |
| 4,800.0 | 11.25 | 47.77 | 4,665.0 | 730.1 | 804.4 | 1,086.3 | 2.00 | -2.00 | |
| 4,900.0 | 9.25 | 47.77 | 4,763.4 | 742.1 | 817.6 | 1,104.1 | 2.00 | -2.00 | |
| 5,000.0 | 7.25 | 47.77 | 4,862.4 | 751.7 | 828.2 | 1,118.5 | 2.00 | -2.00 | |
| 5,100.0 | 5.25 | 47.77 | 4,961.8 | 759.0 | 836.2 | 1,129.3 | 2.00 | -2.00 | |
| 5,200.0 | 3.25 | 47.77 | 5,061.5 | 764.0 | 841.7 | 1,136.8 | 2.00 | -2.00 | |
| 5,300.0 | 1.25 | 47.77 | 5,161.4 | 766.6 | 844.6 | 1,140.7 | 2.00 | -2.00 | |
| 5,362.6 | 0.00 | 0.00 | 5,224.0 | 767.1 | 845.2 | 1,141.4 | 2.00 | -2.00 | EOD @ Inc. = 0° - Top Gas |
| 5,400.0 | 0.00 | 0.00 | 5,261.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 5,500.0 | 0.00 | 0.00 | 5,361.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 5,600.0 | 0.00 | 0.00 | 5,461.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 5,700.0 | 0.00 | 0.00 | 5,561.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 5,800.0 | 0.00 | 0.00 | 5,661.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 5,900.0 | 0.00 | 0.00 | 5,761.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,000.0 | 0.00 | 0.00 | 5,861.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,100.0 | 0.00 | 0.00 | 5,961.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,200.0 | 0.00 | 0.00 | 6,061.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,300.0 | 0.00 | 0.00 | 6,161.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,400.0 | 0.00 | 0.00 | 6,261.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,500.0 | 0.00 | 0.00 | 6,361.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,600.0 | 0.00 | 0.00 | 6,461.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,700.0 | 0.00 | 0.00 | 6,561.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,788.6 | 0.00 | 0.00 | 6,650.0 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | Coal Ridge |
| 6,800.0 | 0.00 | 0.00 | 6,661.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 6,900.0 | 0.00 | 0.00 | 6,761.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,000.0 | 0.00 | 0.00 | 6,861.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,100.0 | 0.00 | 0.00 | 6,961.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,200.0 | 0.00 | 0.00 | 7,061.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,300.0 | 0.00 | 0.00 | 7,161.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,400.0 | 0.00 | 0.00 | 7,261.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,469.6 | 0.00 | 0.00 | 7,331.0 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | Rollins |
| 7,500.0 | 0.00 | 0.00 | 7,361.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,600.0 | 0.00 | 0.00 | 7,461.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,619.6 | 0.00 | 0.00 | 7,481.0 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | TD @ 7,619.6' MD |
| 7,700.0 | 0.00 | 0.00 | 7,561.4 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | |
| 7,719.6 | 0.00 | 0.00 | 7,581.0 | 767.1 | 845.2 | 1,141.4 | 0.00 | 0.00 | Permit TD @ 7,719.6' 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 | | | | | | | | | |
| Shideler 19-9C TGT | 0.00 | 0.00 | 5,224.0 | 767.1 | 845.2 | 1,588,610.53 | 2,378,140.10 | 39.428803 | -107.701741 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |
| Shideler 19-9C PBHL 66 | 0.00 | 0.00 | 7,481.0 | 767.1 | 845.2 | 1,588,610.53 | 2,378,140.10 | 39.428803 | -107.701741 |
| - plan hits target center | | | | | | | | | |
| - Circle (radius 25.0) | | | | | | | | | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|---------------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Project: | Mamm Creek | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site: | O19EB Pad (2nd Occupation) | North Reference: | True |
| Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| Casing Points | | | | |
|---------------------|---------------------|----------------|----------------------|--------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) |
| 1,103.5 | 1,085.0 | Surface Casing | | |

| Formations | | | | | |
|---------------------|---------------------|------------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
| 3,957.3 | 3,848.0 | Mesaverde Marker | | | |
| 4,458.2 | 4,333.0 | Williams Fork | | | |
| 5,362.6 | 5,224.0 | Top Gas | | | |
| 6,788.6 | 6,650.0 | Coal Ridge | | | |
| 7,469.6 | 7,331.0 | Rollins | | | |

| 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' |
| 682.9 | 677.8 | 40.8 | 45.0 | EOB @ Inc. = 14.49° |
| 4,638.2 | 4,507.3 | 705.9 | 777.7 | Start 2° Drop |
| 5,362.6 | 5,224.0 | 767.1 | 845.2 | EOD @ Inc. = 0° |
| 7,619.6 | 7,481.0 | 767.1 | 845.2 | TD @ 7,619.6' MD |
| 7,719.6 | 7,581.0 | 767.1 | 845.2 | Permit TD @ 7,719.6' MD |

EnCana Oil & Gas (USA) Inc

Mamm Creek

O19EB Pad (2nd Occupation)

Shideler 19-9C

OH

Plan #1

Anticollision Report

09 May, 2013

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Reference | Plan #1 | | |
|------------------------------|---|----------------|---------------------|
| Filter type: | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| Interpolation Method: | MD Interval 100.0ft | Error Model: | Systematic Ellipse |
| Depth Range: | Unlimited | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum center-center distance of 500.0ft | Error Surface: | Elliptical Conic |
| Warning Levels Evaluated at: | 2.00 Sigma | | |

| | | | | |
|----------------------------|----------------|--------------------------|------------------|--------------------|
| Survey Tool Program | Date | 5/8/2013 | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
| 0.0 | 7,719.6 | Plan #1 (OH) | MWD | Geolink MWD |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|--|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|--------------|
| Site Name | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning |
| Offset Well - Wellbore - Design | | | | | | |
| H9 Pad SE NE 19-7S-92W | | | | | | |
| Shideler 19-9B1 - DD - DD | | | | | | Out of range |
| O19EB Pad (1st Occupation) | | | | | | |
| (Existing Offset) Shideler 19-6D - Existing - Existing | | | | | | Out of range |
| Shideler 19-14D - OH - FINAL | 201.2 | 201.4 | 213.7 | 213.1 | 341.213 | CC, ES |
| Shideler 19-14D - OH - FINAL | 1,200.0 | 1,115.8 | 499.1 | 495.2 | 126.085 | SF |
| Shideler 19-16C - OH - FINAL | 222.4 | 224.2 | 159.9 | 159.2 | 227.302 | CC, ES |
| Shideler 19-16C - OH - FINAL | 2,300.0 | 2,279.8 | 489.9 | 474.5 | 31.820 | SF |
| Shideler 19-16CC - OH - FINAL | 215.8 | 217.2 | 176.0 | 175.3 | 258.777 | CC, ES |
| Shideler 19-16CC - OH - FINAL | 1,600.0 | 1,550.6 | 487.0 | 477.4 | 50.510 | SF |
| Shideler 30-1B - OH - FINAL | 211.6 | 212.8 | 192.4 | 191.7 | 289.548 | CC, ES |
| Shideler 30-1B - OH - FINAL | 1,400.0 | 1,324.7 | 497.9 | 490.1 | 63.617 | SF |
| Shideler 30-1C - OH - FINAL | 208.7 | 209.6 | 200.0 | 199.3 | 305.859 | CC, ES |
| Shideler 30-1C - OH - FINAL | 1,100.0 | 975.4 | 463.4 | 458.2 | 88.905 | SF |
| Shideler 30-2C - OH - FINAL | 214.3 | 216.0 | 237.6 | 237.0 | 352.086 | CC, ES |
| Shideler 30-2C - OH - FINAL | 1,000.0 | 846.0 | 488.0 | 484.6 | 142.481 | SF |
| Shideler 30-3A - OH - FINAL | 204.9 | 205.5 | 246.0 | 245.3 | 384.509 | CC, ES |
| Shideler 30-3A - OH - FINAL | 1,000.0 | 899.3 | 481.7 | 478.5 | 147.847 | SF |
| Shideler 30-3B - OH - FINAL | 204.0 | 204.5 | 229.6 | 229.0 | 360.864 | CC, ES |
| Shideler 30-3B - OH - FINAL | 800.0 | 701.6 | 386.0 | 383.5 | 151.183 | SF |
| Shideler 30-4A - OH - FINAL | 200.4 | 200.5 | 183.1 | 182.4 | 293.847 | CC, ES |
| Shideler 30-4A - OH - FINAL | 700.0 | 642.4 | 292.2 | 289.8 | 125.318 | SF |
| Shideler 30-7A - OH - FINAL | 221.7 | 224.1 | 220.3 | 219.6 | 313.932 | CC, ES |
| Shideler 30-7A - OH - FINAL | 1,100.0 | 946.2 | 499.3 | 495.0 | 114.158 | SF |
| Shideler 30-8B - OH - FINAL | 172.0 | 172.0 | 207.0 | 206.5 | 395.097 | CC |
| Shideler 30-8B - OH - FINAL | 200.0 | 199.4 | 207.0 | 206.4 | 333.463 | ES |
| Shideler 30-8B - OH - FINAL | 1,100.0 | 964.1 | 483.1 | 478.0 | 96.109 | SF |
| Shideler Federal 19-13D - OH - FINAL | 0.0 | 0.0 | 167.8 | | | |
| Shideler Federal 19-13D - OH - FINAL | 200.0 | 199.5 | 167.8 | 167.2 | 270.457 | ES |
| Shideler Federal 19-13D - OH - FINAL | 700.0 | 645.5 | 274.1 | 271.7 | 112.240 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

Summary

| Site Name Offset Well - Wellbore - Design | Reference | Offset | Distance | | Separation Factor | Warning |
|--|---------------------------|---------------------------|----------------------------|-----------------------------|----------------------|---------|
| | Measured Depth (ft) | Measured Depth (ft) | Between Centres (ft) | Between Ellipses (ft) | | |
| O19EB Pad (2nd Occupation) | | | | | | |
| Shideler 19-11D - OH - Plan #1 | 200.0 | 200.0 | 16.3 | 15.7 | 26.251 | CC, ES |
| Shideler 19-11D - OH - Plan #1 | 400.0 | 399.6 | 21.2 | 19.8 | 15.690 | SF |
| Shideler 19-11DD - OH - Plan #1 | 200.0 | 200.0 | 49.4 | 48.7 | 79.426 | CC, ES |
| Shideler 19-11DD - OH - Plan #1 | 500.0 | 489.8 | 76.2 | 74.4 | 42.489 | SF |
| Shideler 19-16B - OH - Plan #1 | 306.2 | 306.1 | 16.2 | 15.2 | 16.155 | CC, ES |
| Shideler 19-16B - OH - Plan #1 | 7,719.6 | 7,673.3 | 374.1 | 333.9 | 9.319 | SF |
| Shideler 19-16BB - OH - Plan #1 | 356.9 | 356.8 | 32.4 | 31.2 | 26.953 | CC, ES |
| Shideler 19-16BB - OH - Plan #1 | 500.0 | 498.3 | 37.3 | 35.5 | 20.615 | SF |
| Shideler 19-6C - OH - Plan #1 | 200.0 | 200.0 | 32.8 | 32.2 | 52.840 | CC, ES |
| Shideler 19-6C - OH - Plan #1 | 500.0 | 496.2 | 48.1 | 46.3 | 27.160 | SF |
| Shideler 19-9B - OH - Plan #1 | 200.0 | 200.0 | 11.4 | 10.8 | 18.419 | CC, ES |
| Shideler 19-9B - OH - Plan #1 | 1,200.0 | 1,205.3 | 47.5 | 39.1 | 5.663 | SF |
| Shideler Federal 19-12A - OH - Plan #1 | 200.0 | 200.0 | 41.9 | 41.2 | 67.356 | CC, ES |
| Shideler Federal 19-12A - OH - Plan #1 | 400.0 | 394.6 | 56.3 | 54.9 | 41.500 | SF |
| Shideler Federal 19-12C - OH - Plan #1 | 200.0 | 200.0 | 11.8 | 11.2 | 19.027 | CC, ES |
| Shideler Federal 19-12C - OH - Plan #1 | 300.0 | 300.0 | 13.4 | 12.4 | 13.763 | SF |
| Shideler Federal 19-12D - OH - Plan #1 | 200.0 | 200.0 | 25.9 | 25.2 | 41.604 | CC, ES |
| Shideler Federal 19-12D - OH - Plan #1 | 400.0 | 398.5 | 33.6 | 32.3 | 25.024 | SF |
| Shideler Federal 19-13A - OH - Plan #1 | 337.5 | 338.1 | 25.9 | 24.8 | 22.930 | CC, ES |
| Shideler Federal 19-13A - OH - Plan #1 | 400.0 | 400.3 | 27.0 | 25.7 | 19.732 | SF |
| Shideler Federal 19-13AA - OH - Plan #1 | 380.3 | 381.6 | 39.0 | 37.6 | 29.257 | CC, ES |
| Shideler Federal 19-13AA - OH - Plan #1 | 500.0 | 498.2 | 47.9 | 46.0 | 25.650 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 19-14D - OH - FINAL | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 172-MWD, 1613-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -146.39 | -178.1 | -118.4 | 213.9 | | | | | |
| 100.0 | 100.0 | 100.2 | 100.2 | 0.1 | 0.2 | -146.43 | -178.2 | -118.2 | 213.8 | 213.5 | 0.29 | 740.522 | | |
| 200.0 | 200.0 | 200.1 | 200.1 | 0.3 | 0.3 | -146.54 | -178.3 | -117.8 | 213.7 | 213.1 | 0.62 | 343.675 | | |
| 201.2 | 201.2 | 201.4 | 201.4 | 0.3 | 0.3 | 165.68 | -178.3 | -117.8 | 213.7 | 213.1 | 0.63 | 341.213 CC, ES | | |
| 300.0 | 300.0 | 296.1 | 296.1 | 0.5 | 0.5 | 165.87 | -178.8 | -118.3 | 217.0 | 216.0 | 0.96 | 225.201 | | |
| 400.0 | 399.6 | 386.0 | 385.9 | 0.7 | 0.6 | 166.56 | -180.8 | -121.3 | 228.3 | 227.0 | 1.29 | 176.338 | | |
| 500.0 | 498.8 | 478.0 | 477.6 | 1.0 | 0.8 | 167.81 | -185.1 | -127.9 | 248.8 | 247.2 | 1.63 | 152.520 | | |
| 600.0 | 597.1 | 564.2 | 563.1 | 1.4 | 1.1 | 169.19 | -190.8 | -136.8 | 277.8 | 275.8 | 1.96 | 141.927 | | |
| 700.0 | 694.3 | 657.2 | 655.3 | 1.8 | 1.3 | 170.61 | -197.5 | -146.9 | 312.6 | 310.3 | 2.29 | 136.500 | | |
| 800.0 | 791.1 | 748.8 | 746.1 | 2.3 | 1.6 | 171.90 | -204.2 | -157.0 | 349.4 | 346.8 | 2.63 | 132.966 | | |
| 900.0 | 888.0 | 842.0 | 838.5 | 2.7 | 1.8 | 172.97 | -211.2 | -167.3 | 386.5 | 383.6 | 2.97 | 130.329 | | |
| 1,000.0 | 984.8 | 933.4 | 929.1 | 3.2 | 2.1 | 173.84 | -218.0 | -177.4 | 423.7 | 420.4 | 3.30 | 128.466 | | |
| 1,100.0 | 1,081.6 | 1,025.0 | 1,019.8 | 3.7 | 2.3 | 174.57 | -225.0 | -187.7 | 461.3 | 457.6 | 3.63 | 127.083 | | |
| 1,200.0 | 1,178.4 | 1,115.8 | 1,109.7 | 4.1 | 2.6 | 175.18 | -232.2 | -198.1 | 499.1 | 495.2 | 3.96 | 126.085 SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 19-16C - OH - FINAL | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|--------------------|---------|
| Survey Program: 173-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -151.71 | -141.7 | -76.3 | 160.9 | | | | |
| 100.0 | 100.0 | 100.8 | 100.8 | 0.1 | 0.2 | -151.67 | -141.4 | -76.2 | 160.7 | 160.4 | 0.29 | 554.516 | |
| 200.0 | 200.0 | 201.3 | 201.3 | 0.3 | 0.3 | -151.58 | -140.7 | -76.1 | 160.0 | 159.4 | 0.62 | 256.405 | |
| 222.4 | 222.4 | 224.2 | 224.1 | 0.4 | 0.4 | 160.67 | -140.5 | -76.1 | 159.9 | 159.2 | 0.70 | 227.302 | CC, ES |
| 300.0 | 300.0 | 302.6 | 302.5 | 0.5 | 0.5 | 160.56 | -140.1 | -74.6 | 161.2 | 160.2 | 0.98 | 165.213 | |
| 400.0 | 399.6 | 405.0 | 404.7 | 0.7 | 0.7 | 159.19 | -140.9 | -67.6 | 166.1 | 164.8 | 1.35 | 123.097 | |
| 500.0 | 498.8 | 505.5 | 504.4 | 1.0 | 0.9 | 156.76 | -143.2 | -55.6 | 175.0 | 173.3 | 1.79 | 97.832 | |
| 600.0 | 597.1 | 607.0 | 604.6 | 1.4 | 1.3 | 153.88 | -146.3 | -39.3 | 188.1 | 185.8 | 2.32 | 81.112 | |
| 700.0 | 694.3 | 708.5 | 704.1 | 1.8 | 1.6 | 151.16 | -148.9 | -19.6 | 204.4 | 201.5 | 2.95 | 69.385 | |
| 800.0 | 791.1 | 807.9 | 801.2 | 2.3 | 2.0 | 148.85 | -151.1 | 1.6 | 221.6 | 218.0 | 3.63 | 61.003 | |
| 900.0 | 888.0 | 907.2 | 898.0 | 2.7 | 2.5 | 146.70 | -153.0 | 23.5 | 238.6 | 234.3 | 4.37 | 54.641 | |
| 1,000.0 | 984.8 | 1,006.8 | 994.9 | 3.2 | 2.9 | 144.65 | -154.7 | 46.5 | 255.5 | 250.4 | 5.14 | 49.714 | |
| 1,100.0 | 1,081.6 | 1,105.2 | 1,090.8 | 3.7 | 3.3 | 142.98 | -155.7 | 68.8 | 272.1 | 266.2 | 5.91 | 46.041 | |
| 1,200.0 | 1,178.4 | 1,202.2 | 1,185.5 | 4.1 | 3.7 | 141.68 | -157.0 | 89.9 | 289.3 | 282.7 | 6.67 | 43.357 | |
| 1,300.0 | 1,275.2 | 1,300.4 | 1,281.3 | 4.6 | 4.1 | 140.50 | -158.4 | 111.3 | 306.8 | 299.4 | 7.46 | 41.133 | |
| 1,400.0 | 1,372.1 | 1,398.2 | 1,376.6 | 5.1 | 4.6 | 139.36 | -160.0 | 133.1 | 324.5 | 316.3 | 8.26 | 39.314 | |
| 1,500.0 | 1,468.9 | 1,496.2 | 1,472.2 | 5.5 | 5.0 | 138.40 | -161.7 | 154.6 | 342.5 | 333.5 | 9.05 | 37.832 | |
| 1,600.0 | 1,565.7 | 1,593.8 | 1,567.4 | 6.0 | 5.4 | 137.49 | -163.6 | 176.3 | 360.6 | 350.8 | 9.87 | 36.555 | |
| 1,700.0 | 1,662.5 | 1,690.8 | 1,661.9 | 6.5 | 5.8 | 136.67 | -165.6 | 197.8 | 379.1 | 368.4 | 10.66 | 35.548 | |
| 1,800.0 | 1,759.3 | 1,787.9 | 1,756.7 | 7.0 | 6.2 | 136.04 | -167.8 | 218.6 | 397.9 | 386.4 | 11.46 | 34.731 | |
| 1,900.0 | 1,856.2 | 1,890.9 | 1,857.5 | 7.4 | 6.6 | 135.53 | -169.8 | 240.0 | 416.3 | 404.1 | 12.24 | 34.006 | |
| 2,000.0 | 1,953.0 | 1,989.2 | 1,953.7 | 7.9 | 7.0 | 135.17 | -170.9 | 259.8 | 434.2 | 421.1 | 13.02 | 33.350 | |
| 2,100.0 | 2,049.8 | 2,084.2 | 2,046.6 | 8.4 | 7.4 | 134.77 | -172.5 | 279.5 | 452.4 | 438.6 | 13.79 | 32.808 | |
| 2,200.0 | 2,146.6 | 2,181.8 | 2,142.0 | 8.9 | 7.8 | 134.35 | -174.5 | 300.1 | 471.1 | 456.5 | 14.58 | 32.302 | |
| 2,300.0 | 2,243.4 | 2,279.8 | 2,237.7 | 9.4 | 8.2 | 133.89 | -176.6 | 321.3 | 489.9 | 474.5 | 15.40 | 31.820 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 19-16CC - OH - FINAL | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|---------------------------|---------|
| Survey Program: 202-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Total Uncertainty Axis | Separation Factor | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -150.71 | -154.1 | -86.4 | 176.7 | | | | |
| 100.0 | 100.0 | 100.5 | 100.5 | 0.1 | 0.2 | -150.76 | -154.0 | -86.2 | 176.5 | 176.2 | 0.29 | 602.263 | |
| 200.0 | 200.0 | 201.1 | 201.1 | 0.3 | 0.3 | -150.91 | -153.8 | -85.6 | 176.1 | 175.4 | 0.62 | 281.895 | |
| 215.8 | 215.8 | 217.2 | 217.2 | 0.3 | 0.3 | 161.29 | -153.8 | -85.4 | 176.0 | 175.3 | 0.68 | 258.777 | CC, ES |
| 300.0 | 300.0 | 301.9 | 301.9 | 0.5 | 0.5 | 161.18 | -153.7 | -84.1 | 177.7 | 176.7 | 0.98 | 182.003 | |
| 400.0 | 399.6 | 401.5 | 401.3 | 0.7 | 0.7 | 160.64 | -154.6 | -80.0 | 184.0 | 182.6 | 1.34 | 137.563 | |
| 500.0 | 498.8 | 499.5 | 499.0 | 1.0 | 0.9 | 159.40 | -157.8 | -72.6 | 195.5 | 193.8 | 1.73 | 112.887 | |
| 600.0 | 597.1 | 594.5 | 593.3 | 1.4 | 1.1 | 157.54 | -163.9 | -62.0 | 213.3 | 211.1 | 2.19 | 97.512 | |
| 700.0 | 694.3 | 688.7 | 686.0 | 1.8 | 1.5 | 155.29 | -173.1 | -48.2 | 237.4 | 234.6 | 2.73 | 86.906 | |
| 800.0 | 791.1 | 783.1 | 778.0 | 2.3 | 1.8 | 152.81 | -184.7 | -30.7 | 264.2 | 260.8 | 3.38 | 78.265 | |
| 900.0 | 888.0 | 878.3 | 870.2 | 2.7 | 2.3 | 150.23 | -197.6 | -10.7 | 291.7 | 287.6 | 4.09 | 71.382 | |
| 1,000.0 | 984.8 | 975.5 | 963.9 | 3.2 | 2.7 | 147.78 | -211.2 | 11.1 | 319.7 | 314.9 | 4.85 | 65.974 | |
| 1,100.0 | 1,081.6 | 1,075.6 | 1,060.5 | 3.7 | 3.2 | 145.63 | -223.9 | 34.0 | 346.9 | 341.2 | 5.64 | 61.520 | |
| 1,200.0 | 1,178.4 | 1,171.0 | 1,152.5 | 4.1 | 3.7 | 143.79 | -235.6 | 56.7 | 373.9 | 367.4 | 6.45 | 58.007 | |
| 1,300.0 | 1,275.2 | 1,265.3 | 1,243.1 | 4.6 | 4.2 | 142.09 | -247.5 | 79.7 | 401.4 | 394.1 | 7.25 | 55.335 | |
| 1,400.0 | 1,372.1 | 1,357.6 | 1,331.9 | 5.1 | 4.7 | 140.72 | -259.7 | 101.6 | 429.8 | 421.7 | 8.03 | 53.491 | |
| 1,500.0 | 1,468.9 | 1,454.8 | 1,425.6 | 5.5 | 5.1 | 139.54 | -272.4 | 124.0 | 458.5 | 449.6 | 8.84 | 51.870 | |
| 1,600.0 | 1,565.7 | 1,550.6 | 1,518.0 | 6.0 | 5.6 | 138.51 | -284.8 | 146.2 | 487.0 | 477.4 | 9.64 | 50.510 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 30-1B - OH - FINAL | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|---------------------------|---------|
| Survey Program: 202-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -149.85 | -166.8 | -96.9 | 192.9 | | | | |
| 100.0 | 100.0 | 100.5 | 100.5 | 0.1 | 0.2 | -149.86 | -166.7 | -96.8 | 192.8 | 192.5 | 0.29 | 658.935 | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.3 | 0.3 | -149.87 | -166.4 | -96.6 | 192.4 | 191.8 | 0.62 | 308.558 | |
| 211.6 | 211.6 | 212.8 | 212.8 | 0.3 | 0.3 | 162.36 | -166.3 | -96.5 | 192.4 | 191.7 | 0.66 | 289.548 CC, ES | |
| 300.0 | 300.0 | 300.7 | 300.7 | 0.5 | 0.5 | 162.47 | -166.1 | -96.0 | 194.3 | 193.3 | 0.97 | 199.905 | |
| 400.0 | 399.6 | 398.8 | 398.7 | 0.7 | 0.7 | 162.18 | -167.7 | -93.3 | 201.8 | 200.5 | 1.32 | 152.485 | |
| 500.0 | 498.8 | 494.0 | 493.7 | 1.0 | 0.9 | 161.31 | -172.0 | -88.3 | 215.6 | 213.9 | 1.69 | 127.267 | |
| 600.0 | 597.1 | 585.7 | 584.8 | 1.4 | 1.1 | 159.91 | -179.9 | -81.1 | 236.5 | 234.4 | 2.11 | 112.280 | |
| 700.0 | 694.3 | 676.4 | 674.2 | 1.8 | 1.4 | 158.11 | -191.5 | -71.3 | 264.6 | 262.0 | 2.59 | 102.208 | |
| 800.0 | 791.1 | 767.7 | 763.3 | 2.3 | 1.7 | 156.04 | -206.5 | -58.1 | 296.1 | 292.9 | 3.17 | 93.441 | |
| 900.0 | 888.0 | 862.5 | 854.7 | 2.7 | 2.2 | 153.40 | -224.2 | -40.1 | 328.2 | 324.4 | 3.86 | 85.087 | |
| 1,000.0 | 984.8 | 955.4 | 943.4 | 3.2 | 2.7 | 150.77 | -242.5 | -19.7 | 360.9 | 356.4 | 4.59 | 78.560 | |
| 1,100.0 | 1,081.6 | 1,048.1 | 1,031.5 | 3.7 | 3.2 | 148.31 | -261.4 | 2.1 | 394.5 | 389.1 | 5.37 | 73.409 | |
| 1,200.0 | 1,178.4 | 1,141.7 | 1,120.0 | 4.1 | 3.7 | 146.02 | -280.8 | 25.5 | 428.5 | 422.3 | 6.19 | 69.241 | |
| 1,300.0 | 1,275.2 | 1,235.1 | 1,208.2 | 4.6 | 4.3 | 143.98 | -300.0 | 49.5 | 462.9 | 455.8 | 7.01 | 66.000 | |
| 1,400.0 | 1,372.1 | 1,324.7 | 1,292.7 | 5.1 | 4.9 | 142.24 | -318.8 | 72.8 | 497.9 | 490.1 | 7.83 | 63.617 SF | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 30-1C - OH - FINAL | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|--------------------|---------|
| Survey Program: 111-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -147.32 | -168.6 | -108.2 | 200.4 | | | | |
| 100.0 | 100.0 | 100.2 | 100.2 | 0.1 | 0.1 | -147.34 | -168.6 | -108.1 | 200.3 | 200.0 | 0.28 | 724.705 | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.3 | 0.3 | -147.49 | -168.7 | -107.5 | 200.0 | 199.4 | 0.62 | 320.841 | |
| 208.7 | 208.7 | 209.6 | 209.6 | 0.3 | 0.3 | 164.72 | -168.7 | -107.4 | 200.0 | 199.3 | 0.65 | 305.859 | CC, ES |
| 300.0 | 300.0 | 296.8 | 296.8 | 0.5 | 0.5 | 164.38 | -169.9 | -106.1 | 202.8 | 201.8 | 0.97 | 209.593 | |
| 400.0 | 399.6 | 387.9 | 387.6 | 0.7 | 0.7 | 163.35 | -175.3 | -103.1 | 213.7 | 212.4 | 1.32 | 162.142 | |
| 500.0 | 498.8 | 478.0 | 477.1 | 1.0 | 0.9 | 161.73 | -185.4 | -98.7 | 233.3 | 231.6 | 1.70 | 137.374 | |
| 600.0 | 597.1 | 569.0 | 566.6 | 1.4 | 1.2 | 159.64 | -200.0 | -91.9 | 260.8 | 258.6 | 2.15 | 121.465 | |
| 700.0 | 694.3 | 658.2 | 653.5 | 1.8 | 1.6 | 157.30 | -217.7 | -82.2 | 294.9 | 292.2 | 2.67 | 110.635 | |
| 800.0 | 791.1 | 742.7 | 734.8 | 2.3 | 2.0 | 155.20 | -237.3 | -70.4 | 332.6 | 329.4 | 3.25 | 102.428 | |
| 900.0 | 888.0 | 823.8 | 811.8 | 2.7 | 2.5 | 153.05 | -259.1 | -57.1 | 373.2 | 369.3 | 3.87 | 96.353 | |
| 1,000.0 | 984.8 | 901.2 | 884.0 | 3.2 | 3.0 | 150.92 | -282.8 | -42.7 | 416.7 | 412.2 | 4.53 | 91.969 | |
| 1,100.0 | 1,081.6 | 975.4 | 952.1 | 3.7 | 3.5 | 148.86 | -308.2 | -27.2 | 463.4 | 458.2 | 5.21 | 88.905 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 30-2C - OH - FINAL | | | | | | | | | | | | Offset Site Error: 0.0 ft | |
|--|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|-------------------|---------------------------|---------|
| Survey Program: 172-MWD, 1616-MWD | | | | | | | | | | | | Offset Well Error: 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | | Between Centres | Between Ellipses | Total Uncertainty | Separation | |
| Depth (ft) | Depth (ft) | Depth (ft) | Depth (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | Axis | Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -147.88 | -202.5 | -127.1 | 239.1 | | | | |
| 100.0 | 100.0 | 101.7 | 101.7 | 0.1 | 0.2 | -147.89 | -202.2 | -126.9 | 238.7 | 238.4 | 0.29 | 818.448 | |
| 200.0 | 200.0 | 202.0 | 202.0 | 0.3 | 0.3 | -147.93 | -201.4 | -126.2 | 237.7 | 237.1 | 0.63 | 379.477 | |
| 214.3 | 214.3 | 216.0 | 216.0 | 0.3 | 0.3 | 164.29 | -201.3 | -126.1 | 237.6 | 237.0 | 0.67 | 352.086 | CC, ES |
| 300.0 | 300.0 | 294.0 | 294.0 | 0.5 | 0.5 | 164.23 | -202.1 | -125.7 | 240.6 | 239.7 | 0.96 | 250.546 | |
| 400.0 | 399.6 | 384.1 | 383.9 | 0.7 | 0.6 | 164.15 | -206.2 | -126.0 | 252.2 | 250.9 | 1.29 | 194.803 | |
| 500.0 | 498.8 | 467.8 | 467.4 | 1.0 | 0.8 | 164.06 | -213.8 | -127.8 | 273.5 | 271.9 | 1.62 | 168.443 | |
| 600.0 | 597.1 | 551.6 | 550.2 | 1.4 | 1.1 | 163.80 | -225.6 | -130.3 | 304.2 | 302.2 | 1.96 | 154.830 | |
| 700.0 | 694.3 | 629.6 | 626.8 | 1.8 | 1.3 | 163.37 | -240.3 | -132.6 | 343.3 | 341.0 | 2.31 | 148.506 | |
| 800.0 | 791.1 | 703.5 | 698.6 | 2.3 | 1.7 | 163.15 | -257.4 | -135.5 | 387.9 | 385.3 | 2.67 | 145.057 | |
| 900.0 | 888.0 | 774.4 | 766.7 | 2.7 | 2.0 | 162.79 | -276.9 | -138.8 | 436.3 | 433.2 | 3.04 | 143.373 | |
| 1,000.0 | 984.8 | 846.0 | 834.5 | 3.2 | 2.4 | 162.33 | -299.5 | -142.6 | 488.0 | 484.6 | 3.43 | 142.481 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 30-3A - OH - FINAL | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|-------------------|------------|--------------------|---------|
| Survey Program: 172-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | | Between Centres | Between Ellipses | Total Uncertainty | Separation | | |
| (ft) | (ft) | (ft) | (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | Axis | Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -145.63 | -203.6 | -139.3 | 246.7 | | | | | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.1 | 0.2 | -145.62 | -203.4 | -139.2 | 246.5 | 246.2 | 0.29 | 850.145 | | |
| 200.0 | 200.0 | 200.8 | 200.8 | 0.3 | 0.3 | -145.57 | -202.9 | -139.1 | 246.0 | 245.3 | 0.62 | 394.889 | | |
| 204.9 | 204.9 | 205.5 | 205.5 | 0.3 | 0.3 | 166.66 | -202.8 | -139.1 | 246.0 | 245.3 | 0.64 | 384.509 | CC, ES | |
| 300.0 | 300.0 | 294.0 | 294.0 | 0.5 | 0.5 | 166.87 | -203.3 | -140.0 | 249.5 | 248.5 | 0.96 | 259.904 | | |
| 400.0 | 399.6 | 381.3 | 381.1 | 0.7 | 0.6 | 167.23 | -206.7 | -142.8 | 262.1 | 260.8 | 1.29 | 203.791 | | |
| 500.0 | 498.8 | 464.9 | 464.4 | 1.0 | 0.8 | 167.69 | -212.9 | -147.8 | 284.2 | 282.6 | 1.61 | 177.044 | | |
| 600.0 | 597.1 | 548.7 | 547.4 | 1.4 | 1.1 | 168.00 | -222.8 | -154.2 | 315.7 | 313.8 | 1.92 | 164.164 | | |
| 700.0 | 694.3 | 634.7 | 632.1 | 1.8 | 1.3 | 168.25 | -235.4 | -161.5 | 354.6 | 352.3 | 2.24 | 157.933 | | |
| 800.0 | 791.1 | 721.6 | 717.5 | 2.3 | 1.6 | 168.69 | -249.0 | -169.5 | 396.3 | 393.7 | 2.58 | 153.614 | | |
| 900.0 | 888.0 | 809.2 | 803.5 | 2.7 | 1.9 | 168.99 | -263.7 | -177.8 | 438.8 | 435.9 | 2.92 | 150.441 | | |
| 1,000.0 | 984.8 | 899.3 | 891.9 | 3.2 | 2.3 | 169.19 | -279.2 | -186.2 | 481.7 | 478.5 | 3.26 | 147.847 | SF | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 30-3B - OH - FINAL | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 160-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -145.99 | -190.5 | -128.5 | 229.8 | | | | | |
| 100.0 | 100.0 | 100.2 | 100.2 | 0.1 | 0.2 | -145.98 | -190.4 | -128.5 | 229.8 | 229.5 | 0.29 | 800.651 | | |
| 200.0 | 200.0 | 200.6 | 200.6 | 0.3 | 0.3 | -145.96 | -190.3 | -128.5 | 229.6 | 229.0 | 0.62 | 368.892 | | |
| 204.0 | 204.0 | 204.5 | 204.5 | 0.3 | 0.3 | 166.27 | -190.3 | -128.5 | 229.6 | 229.0 | 0.64 | 360.864 | CC, ES | |
| 300.0 | 300.0 | 294.0 | 294.0 | 0.5 | 0.5 | 166.58 | -190.6 | -129.8 | 233.2 | 232.3 | 0.96 | 242.933 | | |
| 400.0 | 399.6 | 382.9 | 382.8 | 0.7 | 0.6 | 167.38 | -192.9 | -133.9 | 245.6 | 244.3 | 1.29 | 190.167 | | |
| 500.0 | 498.8 | 467.5 | 467.0 | 1.0 | 0.8 | 168.43 | -197.6 | -140.8 | 267.6 | 266.0 | 1.62 | 165.576 | | |
| 600.0 | 597.1 | 548.6 | 547.1 | 1.4 | 1.1 | 169.36 | -205.4 | -149.7 | 299.4 | 297.4 | 1.93 | 155.055 | | |
| 700.0 | 694.3 | 627.1 | 624.3 | 1.8 | 1.4 | 170.28 | -215.5 | -160.7 | 340.1 | 337.9 | 2.24 | 151.724 | | |
| 800.0 | 791.1 | 701.6 | 696.8 | 2.3 | 1.7 | 171.42 | -226.2 | -173.9 | 386.0 | 383.5 | 2.55 | 151.183 | SF | |
| 900.0 | 888.0 | 771.5 | 764.0 | 2.7 | 2.0 | 172.38 | -238.0 | -188.5 | 435.5 | 432.7 | 2.85 | 152.662 | | |
| 1,000.0 | 984.8 | 846.0 | 834.8 | 3.2 | 2.5 | 173.33 | -252.5 | -206.8 | 488.9 | 485.8 | 3.16 | 154.845 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | O19EB Pad (1st Occupation) - Shideler 30-4A - OH - FINAL | | Offset Site Error: | | 0.0 ft |
|-------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|--|--------|--------------------|--|--------|
| Survey Program: 111-MWD | | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -147.78 | -155.5 | -98.0 | 183.8 | | | | | | | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.1 | 0.1 | -147.83 | -155.4 | -97.7 | 183.6 | 183.3 | 0.28 | 660.873 | | | | |
| 200.0 | 200.0 | 200.1 | 200.1 | 0.3 | 0.3 | -147.87 | -155.0 | -97.4 | 183.1 | 182.4 | 0.62 | 294.437 | | | | |
| 200.4 | 200.4 | 200.5 | 200.5 | 0.3 | 0.3 | 164.36 | -155.0 | -97.4 | 183.1 | 182.4 | 0.62 | 293.847 | CC, ES | | | |
| 300.0 | 300.0 | 294.0 | 294.0 | 0.5 | 0.5 | 165.12 | -154.9 | -99.5 | 186.7 | 185.8 | 0.96 | 194.277 | | | | |
| 400.0 | 399.6 | 386.0 | 385.7 | 0.7 | 0.7 | 166.85 | -156.1 | -105.6 | 199.2 | 197.9 | 1.30 | 152.672 | | | | |
| 500.0 | 498.8 | 473.2 | 472.4 | 1.0 | 0.9 | 168.86 | -159.6 | -114.7 | 221.2 | 219.5 | 1.64 | 134.567 | | | | |
| 600.0 | 597.1 | 559.3 | 557.5 | 1.4 | 1.1 | 171.05 | -164.9 | -127.1 | 252.6 | 250.6 | 1.99 | 127.051 | | | | |
| 700.0 | 694.3 | 642.4 | 638.8 | 1.8 | 1.4 | 173.32 | -170.7 | -142.4 | 292.2 | 289.8 | 2.33 | 125.318 | SF | | | |
| 800.0 | 791.1 | 719.7 | 714.0 | 2.3 | 1.8 | 175.48 | -176.6 | -159.7 | 336.8 | 334.1 | 2.68 | 125.788 | | | | |
| 900.0 | 888.0 | 792.2 | 783.6 | 2.7 | 2.2 | 177.30 | -183.2 | -178.5 | 385.1 | 382.1 | 3.02 | 127.698 | | | | |
| 1,000.0 | 984.8 | 860.7 | 848.6 | 3.2 | 2.6 | 178.89 | -190.4 | -199.2 | 437.3 | 433.9 | 3.35 | 130.618 | | | | |
| 1,100.0 | 1,081.6 | 927.8 | 911.4 | 3.7 | 3.0 | -179.68 | -198.1 | -221.7 | 492.7 | 489.0 | 3.68 | 133.853 | | | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | O19EB Pad (1st Occupation) - Shideler 30-7A - OH - FINAL | | Offset Site Error: | | 0.0 ft |
|---------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--|---------|--------------------|--|--------|
| Survey Program: | | | | | | | | | | | | | 172-MWD | | Offset Well Error: | | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -148.26 | -189.0 | -116.9 | 222.3 | | | | | | | | |
| 100.0 | 100.0 | 102.1 | 102.1 | 0.1 | 0.2 | -148.26 | -188.6 | -116.7 | 221.8 | 221.5 | 0.29 | 758.228 | | | | | |
| 200.0 | 200.0 | 203.0 | 203.0 | 0.3 | 0.3 | -148.25 | -187.5 | -116.0 | 220.5 | 219.9 | 0.63 | 350.739 | | | | | |
| 221.7 | 221.7 | 224.1 | 224.1 | 0.3 | 0.4 | 163.98 | -187.3 | -115.9 | 220.3 | 219.6 | 0.70 | 313.932 | CC, ES | | | | |
| 300.0 | 300.0 | 297.5 | 297.5 | 0.5 | 0.5 | 163.90 | -187.7 | -115.1 | 222.7 | 221.7 | 0.97 | 230.373 | | | | | |
| 400.0 | 399.6 | 387.1 | 387.0 | 0.7 | 0.6 | 163.47 | -191.8 | -113.7 | 233.3 | 232.0 | 1.30 | 178.918 | | | | | |
| 500.0 | 498.8 | 478.0 | 477.4 | 1.0 | 0.8 | 162.86 | -200.3 | -112.7 | 253.2 | 251.5 | 1.66 | 152.793 | | | | | |
| 600.0 | 597.1 | 563.7 | 562.3 | 1.4 | 1.1 | 161.95 | -212.2 | -110.9 | 281.1 | 279.1 | 2.03 | 138.320 | | | | | |
| 700.0 | 694.3 | 646.4 | 643.5 | 1.8 | 1.4 | 160.79 | -227.5 | -107.8 | 316.9 | 314.4 | 2.44 | 129.729 | | | | | |
| 800.0 | 791.1 | 725.9 | 720.7 | 2.3 | 1.7 | 159.72 | -245.8 | -103.8 | 357.6 | 354.7 | 2.90 | 123.378 | | | | | |
| 900.0 | 888.0 | 801.5 | 793.3 | 2.7 | 2.1 | 158.50 | -266.7 | -99.1 | 401.6 | 398.2 | 3.37 | 119.082 | | | | | |
| 1,000.0 | 984.8 | 874.4 | 862.3 | 3.2 | 2.5 | 157.32 | -289.6 | -94.5 | 449.0 | 445.1 | 3.86 | 116.242 | | | | | |
| 1,100.0 | 1,081.6 | 946.2 | 929.3 | 3.7 | 3.0 | 156.13 | -314.8 | -89.6 | 499.3 | 495.0 | 4.37 | 114.158 | SF | | | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler 30-8B - OH - FINAL | | | | | | | | | | | | Offset Site Error: 0.0 ft | | | |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|---------------------------|----|---------------------------|--|
| Survey Program: 142-MWD | | | | | | | | | | | | | | Offset Well Error: 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -148.77 | -177.0 | -107.3 | 207.0 | | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -148.84 | -177.2 | -107.1 | 207.0 | 206.7 | 0.28 | 729.659 | | | |
| 172.0 | 172.0 | 172.0 | 172.0 | 0.3 | 0.3 | -148.98 | -177.4 | -106.7 | 207.0 | 206.5 | 0.52 | 395.097 | CC | | |
| 200.0 | 200.0 | 199.4 | 199.4 | 0.3 | 0.3 | -149.08 | -177.6 | -106.4 | 207.0 | 206.4 | 0.62 | 333.463 | ES | | |
| 300.0 | 300.0 | 294.0 | 293.9 | 0.5 | 0.5 | 162.57 | -180.1 | -104.7 | 210.9 | 210.0 | 0.97 | 218.140 | | | |
| 400.0 | 399.6 | 386.0 | 385.7 | 0.7 | 0.7 | 161.63 | -186.1 | -102.0 | 222.6 | 221.3 | 1.32 | 168.340 | | | |
| 500.0 | 498.8 | 476.4 | 475.4 | 1.0 | 0.9 | 160.30 | -196.4 | -98.2 | 242.8 | 241.0 | 1.70 | 142.549 | | | |
| 600.0 | 597.1 | 565.6 | 563.3 | 1.4 | 1.2 | 158.62 | -210.5 | -92.6 | 270.7 | 268.6 | 2.13 | 127.363 | | | |
| 700.0 | 694.3 | 650.0 | 645.6 | 1.8 | 1.5 | 156.79 | -227.6 | -85.0 | 306.1 | 303.5 | 2.60 | 117.691 | | | |
| 800.0 | 791.1 | 731.5 | 724.0 | 2.3 | 1.9 | 155.11 | -247.6 | -75.6 | 346.0 | 342.8 | 3.15 | 109.900 | | | |
| 900.0 | 888.0 | 809.6 | 798.0 | 2.7 | 2.4 | 153.31 | -270.1 | -64.8 | 388.9 | 385.2 | 3.73 | 104.225 | | | |
| 1,000.0 | 984.8 | 887.6 | 870.7 | 3.2 | 2.9 | 151.42 | -295.4 | -52.4 | 434.9 | 430.5 | 4.36 | 99.703 | | | |
| 1,100.0 | 1,081.6 | 964.1 | 940.9 | 3.7 | 3.5 | 149.49 | -322.4 | -38.1 | 483.1 | 478.0 | 5.03 | 96.109 | SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (1st Occupation) - Shideler Federal 19-13D - OH - FINAL | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|------------------------|--------------------|---------|
| Survey Program: 111-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor | Warning |
| (ft) | (ft) | (ft) | (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -148.31 | -142.8 | -88.1 | 167.8 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -148.34 | -142.8 | -88.1 | 167.8 | 167.5 | 0.28 | 607.753 | |
| 153.7 | 153.7 | 153.7 | 153.7 | 0.2 | 0.2 | -148.36 | -142.8 | -88.0 | 167.8 | 167.3 | 0.46 | 365.108 | |
| 200.0 | 200.0 | 199.5 | 199.5 | 0.3 | 0.3 | -148.33 | -142.8 | -88.1 | 167.8 | 167.2 | 0.62 | 270.457 ES | |
| 300.0 | 300.0 | 295.7 | 295.7 | 0.5 | 0.5 | 164.78 | -142.8 | -90.5 | 171.6 | 170.6 | 0.96 | 177.861 | |
| 400.0 | 399.6 | 386.0 | 385.7 | 0.7 | 0.7 | 166.97 | -143.0 | -97.0 | 183.5 | 182.2 | 1.31 | 140.076 | |
| 500.0 | 498.8 | 478.0 | 476.9 | 1.0 | 0.9 | 170.40 | -143.4 | -109.0 | 204.4 | 202.7 | 1.69 | 120.746 | |
| 600.0 | 597.1 | 569.0 | 566.4 | 1.4 | 1.2 | 174.22 | -144.1 | -125.6 | 234.7 | 232.6 | 2.09 | 112.379 | |
| 700.0 | 694.3 | 645.5 | 640.9 | 1.8 | 1.6 | 177.13 | -146.0 | -142.4 | 274.1 | 271.7 | 2.44 | 112.240 SF | |
| 800.0 | 791.1 | 722.1 | 715.0 | 2.3 | 1.9 | 179.60 | -149.5 | -161.8 | 319.5 | 316.7 | 2.81 | 113.661 | |
| 900.0 | 888.0 | 794.7 | 784.3 | 2.7 | 2.4 | -178.39 | -153.9 | -182.8 | 368.8 | 365.6 | 3.18 | 116.131 | |
| 1,000.0 | 984.8 | 864.0 | 849.6 | 3.2 | 2.8 | -176.66 | -158.8 | -205.6 | 421.9 | 418.3 | 3.54 | 119.154 | |
| 1,100.0 | 1,081.6 | 938.0 | 918.1 | 3.7 | 3.3 | -174.89 | -164.0 | -233.0 | 478.0 | 474.1 | 3.93 | 121.504 | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-11D - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|------------------------|------------------------|------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|----------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -54.49 | 9.5 | -13.3 | 16.3 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -54.49 | 9.5 | -13.3 | 16.3 | 16.0 | 0.27 | 59.905 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -54.49 | 9.5 | -13.3 | 16.3 | 15.7 | 0.62 | 26.251 CC, ES | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -110.86 | 9.5 | -13.3 | 17.1 | 16.1 | 0.98 | 17.448 | | |
| 400.0 | 399.6 | 399.6 | 399.6 | 0.7 | 0.7 | -130.99 | 9.5 | -13.3 | 21.2 | 19.8 | 1.35 | 15.690 SF | | |
| 500.0 | 498.8 | 498.1 | 498.0 | 1.0 | 0.8 | -144.83 | 11.6 | -14.7 | 32.4 | 30.6 | 1.72 | 18.810 | | |
| 600.0 | 597.1 | 595.5 | 595.1 | 1.4 | 1.0 | -148.61 | 17.8 | -18.8 | 50.8 | 48.6 | 2.13 | 23.825 | | |
| 700.0 | 694.3 | 691.2 | 690.1 | 1.8 | 1.3 | -148.58 | 28.0 | -25.5 | 75.4 | 72.8 | 2.62 | 28.827 | | |
| 800.0 | 791.1 | 785.5 | 782.9 | 2.3 | 1.6 | -146.73 | 41.8 | -34.6 | 103.3 | 100.1 | 3.19 | 32.368 | | |
| 900.0 | 888.0 | 878.3 | 873.3 | 2.7 | 2.0 | -143.80 | 59.2 | -46.1 | 133.3 | 129.5 | 3.85 | 34.605 | | |
| 1,000.0 | 984.8 | 972.7 | 964.7 | 3.2 | 2.4 | -141.04 | 79.1 | -59.2 | 164.8 | 160.3 | 4.56 | 36.150 | | |
| 1,100.0 | 1,081.6 | 1,067.4 | 1,056.3 | 3.7 | 2.8 | -139.15 | 99.0 | -72.3 | 196.5 | 191.3 | 5.27 | 37.275 | | |
| 1,200.0 | 1,178.4 | 1,162.1 | 1,147.9 | 4.1 | 3.2 | -137.78 | 118.9 | -85.4 | 228.4 | 222.4 | 5.99 | 38.128 | | |
| 1,300.0 | 1,275.2 | 1,256.7 | 1,239.5 | 4.6 | 3.6 | -136.75 | 138.8 | -98.6 | 260.4 | 253.7 | 6.71 | 38.795 | | |
| 1,400.0 | 1,372.1 | 1,351.4 | 1,331.1 | 5.1 | 4.1 | -135.95 | 158.7 | -111.7 | 292.4 | 285.0 | 7.43 | 39.332 | | |
| 1,500.0 | 1,468.9 | 1,446.0 | 1,422.7 | 5.5 | 4.5 | -135.30 | 178.6 | -124.9 | 324.5 | 316.3 | 8.16 | 39.772 | | |
| 1,600.0 | 1,565.7 | 1,540.7 | 1,514.4 | 6.0 | 5.0 | -134.77 | 198.5 | -138.0 | 356.6 | 347.7 | 8.88 | 40.139 | | |
| 1,700.0 | 1,662.5 | 1,635.4 | 1,606.0 | 6.5 | 5.4 | -134.33 | 218.4 | -151.1 | 388.7 | 379.1 | 9.61 | 40.450 | | |
| 1,800.0 | 1,759.3 | 1,730.0 | 1,697.6 | 7.0 | 5.9 | -133.95 | 238.3 | -164.3 | 420.8 | 410.5 | 10.34 | 40.717 | | |
| 1,900.0 | 1,856.2 | 1,824.7 | 1,789.2 | 7.4 | 6.3 | -133.63 | 258.3 | -177.4 | 453.0 | 441.9 | 11.06 | 40.949 | | |
| 2,000.0 | 1,953.0 | 1,919.4 | 1,880.8 | 7.9 | 6.8 | -133.35 | 278.2 | -190.5 | 485.1 | 473.4 | 11.79 | 41.152 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-11DD - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|------------------------------|----------------------|---------|---------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | Highside Toolface (°) | Distance | | Total Uncertainty Axis | Separation Factor | Warning | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | | | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -53.81 | 29.1 | -39.8 | 49.4 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -53.81 | 29.1 | -39.8 | 49.4 | 49.1 | 0.27 | 181.254 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -53.81 | 29.1 | -39.8 | 49.4 | 48.7 | 0.62 | 79.426 CC, ES | | |
| 300.0 | 300.0 | 298.0 | 298.0 | 0.5 | 0.5 | -104.21 | 30.0 | -40.9 | 51.4 | 50.4 | 0.97 | 52.683 | | |
| 400.0 | 399.6 | 394.7 | 394.5 | 0.7 | 0.7 | -110.37 | 34.0 | -45.6 | 60.0 | 58.6 | 1.36 | 44.120 | | |
| 500.0 | 498.8 | 489.8 | 488.9 | 1.0 | 0.9 | -117.00 | 40.9 | -53.8 | 76.2 | 74.4 | 1.79 | 42.489 SF | | |
| 600.0 | 597.1 | 583.7 | 581.6 | 1.4 | 1.2 | -122.38 | 50.7 | -65.4 | 100.1 | 97.8 | 2.29 | 43.803 | | |
| 700.0 | 694.3 | 678.9 | 675.4 | 1.8 | 1.5 | -127.21 | 61.3 | -78.0 | 128.7 | 125.9 | 2.83 | 45.509 | | |
| 800.0 | 791.1 | 773.7 | 768.7 | 2.3 | 1.8 | -131.17 | 71.8 | -90.5 | 159.2 | 155.8 | 3.38 | 47.099 | | |
| 900.0 | 888.0 | 868.5 | 862.1 | 2.7 | 2.2 | -133.85 | 82.4 | -103.1 | 190.1 | 186.2 | 3.93 | 48.313 | | |
| 1,000.0 | 984.8 | 963.2 | 955.4 | 3.2 | 2.5 | -135.79 | 93.0 | -115.6 | 221.3 | 216.8 | 4.49 | 49.263 | | |
| 1,100.0 | 1,081.6 | 1,058.0 | 1,048.8 | 3.7 | 2.8 | -137.25 | 103.5 | -128.2 | 252.6 | 247.6 | 5.05 | 50.022 | | |
| 1,200.0 | 1,178.4 | 1,152.8 | 1,142.1 | 4.1 | 3.1 | -138.39 | 114.1 | -140.7 | 284.1 | 278.5 | 5.61 | 50.643 | | |
| 1,300.0 | 1,275.2 | 1,247.6 | 1,235.5 | 4.6 | 3.5 | -139.30 | 124.7 | -153.3 | 315.7 | 309.5 | 6.17 | 51.159 | | |
| 1,400.0 | 1,372.1 | 1,342.4 | 1,328.8 | 5.1 | 3.8 | -140.05 | 135.2 | -165.8 | 347.3 | 340.6 | 6.73 | 51.594 | | |
| 1,500.0 | 1,468.9 | 1,437.1 | 1,422.2 | 5.5 | 4.1 | -140.67 | 145.8 | -178.3 | 379.0 | 371.7 | 7.29 | 51.965 | | |
| 1,600.0 | 1,565.7 | 1,531.9 | 1,515.6 | 6.0 | 4.5 | -141.19 | 156.4 | -190.9 | 410.7 | 402.8 | 7.85 | 52.287 | | |
| 1,700.0 | 1,662.5 | 1,626.7 | 1,608.9 | 6.5 | 4.8 | -141.64 | 166.9 | -203.4 | 442.4 | 434.0 | 8.42 | 52.567 | | |
| 1,800.0 | 1,759.3 | 1,721.5 | 1,702.3 | 7.0 | 5.1 | -142.03 | 177.5 | -216.0 | 474.1 | 465.2 | 8.98 | 52.814 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-16B - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|---------------|--------------------|--------|
| Survey Program: O-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | Distance | | Total | | Separation | | Warning | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Uncertainty Axis | Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 126.52 | -9.8 | 13.3 | 16.5 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 126.52 | -9.8 | 13.3 | 16.5 | 16.2 | 0.27 | 60.673 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 126.52 | -9.8 | 13.3 | 16.5 | 15.9 | 0.62 | 26.587 | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 87.86 | -9.8 | 13.3 | 16.2 | 15.2 | 0.98 | 16.563 | | |
| 306.2 | 306.2 | 306.1 | 306.1 | 0.5 | 0.5 | 89.01 | -9.8 | 13.3 | 16.2 | 15.2 | 1.00 | 16.155 CC, ES | | |
| 400.0 | 399.6 | 399.7 | 399.6 | 0.7 | 0.7 | 105.56 | -8.7 | 15.6 | 17.6 | 16.2 | 1.38 | 12.785 | | |
| 500.0 | 498.8 | 499.6 | 499.2 | 1.0 | 0.9 | 118.13 | -5.3 | 22.7 | 21.8 | 19.9 | 1.84 | 11.833 | | |
| 600.0 | 597.1 | 599.7 | 598.5 | 1.4 | 1.1 | 124.91 | 0.4 | 34.4 | 27.9 | 25.5 | 2.39 | 11.704 | | |
| 700.0 | 694.3 | 699.9 | 697.0 | 1.8 | 1.5 | 127.83 | 8.3 | 50.8 | 35.6 | 32.5 | 3.04 | 11.693 | | |
| 800.0 | 791.1 | 799.6 | 794.6 | 2.3 | 1.9 | 128.85 | 17.2 | 69.2 | 43.5 | 39.8 | 3.74 | 11.646 | | |
| 900.0 | 888.0 | 899.3 | 892.2 | 2.7 | 2.2 | 129.55 | 26.0 | 87.6 | 51.5 | 47.1 | 4.45 | 11.581 | | |
| 1,000.0 | 984.8 | 999.0 | 989.7 | 3.2 | 2.6 | 130.07 | 34.9 | 106.0 | 59.5 | 54.3 | 5.16 | 11.519 | | |
| 1,100.0 | 1,081.6 | 1,098.7 | 1,087.3 | 3.7 | 3.0 | 130.46 | 43.8 | 124.3 | 67.4 | 61.5 | 5.88 | 11.464 | | |
| 1,200.0 | 1,178.4 | 1,198.4 | 1,184.9 | 4.1 | 3.4 | 130.77 | 52.7 | 142.7 | 75.4 | 68.8 | 6.60 | 11.416 | | |
| 1,300.0 | 1,275.2 | 1,298.0 | 1,282.5 | 4.6 | 3.8 | 131.02 | 61.5 | 161.1 | 83.4 | 76.0 | 7.33 | 11.375 | | |
| 1,400.0 | 1,372.1 | 1,397.7 | 1,380.0 | 5.1 | 4.2 | 131.23 | 70.4 | 179.5 | 91.3 | 83.3 | 8.06 | 11.340 | | |
| 1,500.0 | 1,468.9 | 1,497.4 | 1,477.6 | 5.5 | 4.6 | 131.41 | 79.3 | 197.8 | 99.3 | 90.5 | 8.78 | 11.309 | | |
| 1,600.0 | 1,565.7 | 1,597.1 | 1,575.2 | 6.0 | 5.0 | 131.55 | 88.1 | 216.2 | 107.3 | 97.8 | 9.51 | 11.283 | | |
| 1,700.0 | 1,662.5 | 1,696.8 | 1,672.7 | 6.5 | 5.4 | 131.68 | 97.0 | 234.6 | 115.3 | 105.0 | 10.24 | 11.259 | | |
| 1,800.0 | 1,759.3 | 1,796.4 | 1,770.3 | 7.0 | 5.8 | 131.79 | 105.9 | 253.0 | 123.3 | 112.3 | 10.97 | 11.238 | | |
| 1,900.0 | 1,856.2 | 1,896.1 | 1,867.9 | 7.4 | 6.2 | 131.89 | 114.8 | 271.3 | 131.2 | 119.5 | 11.70 | 11.219 | | |
| 2,000.0 | 1,953.0 | 1,995.8 | 1,965.5 | 7.9 | 6.6 | 131.98 | 123.6 | 289.7 | 139.2 | 126.8 | 12.43 | 11.203 | | |
| 2,100.0 | 2,049.8 | 2,095.5 | 2,063.0 | 8.4 | 7.0 | 132.05 | 132.5 | 308.1 | 147.2 | 134.0 | 13.16 | 11.188 | | |
| 2,200.0 | 2,146.6 | 2,195.2 | 2,160.6 | 8.9 | 7.4 | 132.12 | 141.4 | 326.4 | 155.2 | 141.3 | 13.89 | 11.174 | | |
| 2,300.0 | 2,243.4 | 2,294.8 | 2,258.2 | 9.4 | 7.8 | 132.19 | 150.2 | 344.8 | 163.1 | 148.5 | 14.62 | 11.161 | | |
| 2,400.0 | 2,340.3 | 2,394.5 | 2,355.7 | 9.8 | 8.2 | 132.24 | 159.1 | 363.2 | 171.1 | 155.8 | 15.35 | 11.150 | | |
| 2,500.0 | 2,437.1 | 2,494.2 | 2,453.3 | 10.3 | 8.6 | 132.29 | 168.0 | 381.6 | 179.1 | 163.0 | 16.08 | 11.140 | | |
| 2,600.0 | 2,533.9 | 2,593.9 | 2,550.9 | 10.8 | 9.0 | 132.34 | 176.9 | 399.9 | 187.1 | 170.3 | 16.81 | 11.130 | | |
| 2,700.0 | 2,630.7 | 2,693.6 | 2,648.4 | 11.3 | 9.4 | 132.38 | 185.7 | 418.3 | 195.1 | 177.5 | 17.54 | 11.121 | | |
| 2,800.0 | 2,727.5 | 2,793.3 | 2,746.0 | 11.7 | 9.8 | 132.42 | 194.6 | 436.7 | 203.0 | 184.8 | 18.27 | 11.113 | | |
| 2,900.0 | 2,824.4 | 2,892.9 | 2,843.6 | 12.2 | 10.2 | 132.46 | 203.5 | 455.1 | 211.0 | 192.0 | 19.00 | 11.106 | | |
| 3,000.0 | 2,921.2 | 2,992.6 | 2,941.2 | 12.7 | 10.6 | 132.49 | 212.3 | 473.4 | 219.0 | 199.3 | 19.73 | 11.099 | | |
| 3,100.0 | 3,018.0 | 3,092.3 | 3,038.7 | 13.2 | 11.0 | 132.53 | 221.2 | 491.8 | 227.0 | 206.5 | 20.46 | 11.092 | | |
| 3,200.0 | 3,114.8 | 3,192.0 | 3,136.3 | 13.6 | 11.4 | 132.56 | 230.1 | 510.2 | 235.0 | 213.8 | 21.19 | 11.086 | | |
| 3,300.0 | 3,211.6 | 3,291.7 | 3,233.9 | 14.1 | 11.8 | 132.58 | 238.9 | 528.6 | 242.9 | 221.0 | 21.93 | 11.080 | | |
| 3,400.0 | 3,308.5 | 3,391.3 | 3,331.4 | 14.6 | 12.2 | 132.61 | 247.8 | 546.9 | 250.9 | 228.3 | 22.66 | 11.075 | | |
| 3,500.0 | 3,405.3 | 3,491.0 | 3,429.0 | 15.1 | 12.6 | 132.63 | 256.7 | 565.3 | 258.9 | 235.5 | 23.39 | 11.070 | | |
| 3,600.0 | 3,502.1 | 3,590.7 | 3,526.6 | 15.5 | 13.0 | 132.66 | 265.6 | 583.7 | 266.9 | 242.8 | 24.12 | 11.065 | | |
| 3,700.0 | 3,598.9 | 3,690.4 | 3,624.2 | 16.0 | 13.4 | 132.68 | 274.4 | 602.1 | 274.9 | 250.0 | 24.85 | 11.061 | | |
| 3,800.0 | 3,695.7 | 3,790.1 | 3,721.7 | 16.5 | 13.8 | 132.70 | 283.3 | 620.4 | 282.8 | 257.3 | 25.58 | 11.056 | | |
| 3,900.0 | 3,792.6 | 3,889.7 | 3,819.3 | 17.0 | 14.2 | 132.72 | 292.2 | 638.8 | 290.8 | 264.5 | 26.31 | 11.052 | | |
| 4,000.0 | 3,889.4 | 3,989.4 | 3,916.9 | 17.5 | 14.6 | 132.74 | 301.0 | 657.2 | 298.8 | 271.8 | 27.04 | 11.048 | | |
| 4,100.0 | 3,986.2 | 4,089.1 | 4,014.4 | 17.9 | 15.0 | 132.75 | 309.9 | 675.5 | 306.8 | 279.0 | 27.78 | 11.045 | | |
| 4,200.0 | 4,083.0 | 4,188.8 | 4,112.0 | 18.4 | 15.4 | 132.77 | 318.8 | 693.9 | 314.8 | 286.2 | 28.51 | 11.041 | | |
| 4,300.0 | 4,179.8 | 4,288.5 | 4,209.6 | 18.9 | 15.8 | 132.78 | 327.7 | 712.3 | 322.7 | 293.5 | 29.24 | 11.038 | | |
| 4,400.0 | 4,276.7 | 4,388.1 | 4,307.1 | 19.4 | 16.2 | 132.80 | 336.5 | 730.7 | 330.7 | 300.7 | 29.97 | 11.035 | | |
| 4,500.0 | 4,373.5 | 4,487.8 | 4,404.7 | 19.8 | 16.6 | 132.81 | 345.4 | 749.0 | 338.7 | 308.0 | 30.70 | 11.032 | | |
| 4,600.0 | 4,470.3 | 4,587.5 | 4,502.3 | 20.3 | 17.0 | 132.83 | 354.3 | 767.4 | 346.7 | 315.2 | 31.43 | 11.029 | | |
| 4,700.0 | 4,567.3 | 4,687.2 | 4,599.9 | 20.8 | 17.4 | 132.83 | 363.1 | 785.8 | 354.2 | 322.0 | 32.17 | 11.010 | | |
| 4,800.0 | 4,665.0 | 4,783.9 | 4,694.6 | 21.2 | 17.8 | 132.56 | 371.5 | 803.1 | 359.8 | 326.9 | 32.91 | 10.932 | | |
| 4,900.0 | 4,763.4 | 4,878.4 | 4,787.8 | 21.5 | 18.1 | 132.33 | 378.4 | 817.5 | 364.4 | 330.9 | 33.55 | 10.863 | | |
| 5,000.0 | 4,862.4 | 4,973.1 | 4,881.6 | 21.8 | 18.3 | 132.14 | 384.1 | 829.1 | 368.2 | 334.1 | 34.08 | 10.802 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-16B - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 5,100.0 | 4,961.8 | 5,067.7 | 4,975.7 | 22.0 | 18.5 | 132.00 | 388.3 | 837.9 | 371.0 | 336.5 | 34.51 | 10.749 | | |
| 5,200.0 | 5,061.5 | 5,162.4 | 5,070.1 | 22.1 | 18.7 | 131.90 | 391.2 | 843.9 | 372.9 | 338.0 | 34.85 | 10.701 | | |
| 5,300.0 | 5,161.4 | 5,257.1 | 5,164.8 | 22.2 | 18.8 | 131.85 | 392.8 | 847.1 | 373.9 | 338.8 | 35.08 | 10.659 | | |
| 5,400.0 | 5,261.4 | 5,353.7 | 5,261.4 | 22.3 | 18.9 | 179.61 | 393.0 | 847.7 | 374.1 | 338.8 | 35.26 | 10.610 | | |
| 5,500.0 | 5,361.4 | 5,453.7 | 5,361.4 | 22.4 | 19.0 | 179.61 | 393.0 | 847.7 | 374.1 | 338.6 | 35.44 | 10.554 | | |
| 5,600.0 | 5,461.4 | 5,553.7 | 5,461.4 | 22.5 | 19.1 | 179.61 | 393.0 | 847.7 | 374.1 | 338.4 | 35.63 | 10.498 | | |
| 5,700.0 | 5,561.4 | 5,653.7 | 5,561.4 | 22.5 | 19.1 | 179.61 | 393.0 | 847.7 | 374.1 | 338.3 | 35.82 | 10.442 | | |
| 5,800.0 | 5,661.4 | 5,753.7 | 5,661.4 | 22.6 | 19.2 | 179.61 | 393.0 | 847.7 | 374.1 | 338.1 | 36.02 | 10.386 | | |
| 5,900.0 | 5,761.4 | 5,853.7 | 5,761.4 | 22.7 | 19.3 | 179.61 | 393.0 | 847.7 | 374.1 | 337.9 | 36.21 | 10.330 | | |
| 6,000.0 | 5,861.4 | 5,953.7 | 5,861.4 | 22.8 | 19.4 | 179.61 | 393.0 | 847.7 | 374.1 | 337.7 | 36.41 | 10.274 | | |
| 6,100.0 | 5,961.4 | 6,053.7 | 5,961.4 | 22.9 | 19.5 | 179.61 | 393.0 | 847.7 | 374.1 | 337.5 | 36.61 | 10.218 | | |
| 6,200.0 | 6,061.4 | 6,153.7 | 6,061.4 | 22.9 | 19.6 | 179.61 | 393.0 | 847.7 | 374.1 | 337.3 | 36.81 | 10.161 | | |
| 6,300.0 | 6,161.4 | 6,253.7 | 6,161.4 | 23.0 | 19.7 | 179.61 | 393.0 | 847.7 | 374.1 | 337.1 | 37.02 | 10.105 | | |
| 6,400.0 | 6,261.4 | 6,353.7 | 6,261.4 | 23.1 | 19.8 | 179.61 | 393.0 | 847.7 | 374.1 | 336.9 | 37.23 | 10.049 | | |
| 6,500.0 | 6,361.4 | 6,453.7 | 6,361.4 | 23.2 | 19.9 | 179.61 | 393.0 | 847.7 | 374.1 | 336.6 | 37.43 | 9.993 | | |
| 6,600.0 | 6,461.4 | 6,553.7 | 6,461.4 | 23.3 | 20.0 | 179.61 | 393.0 | 847.7 | 374.1 | 336.4 | 37.65 | 9.937 | | |
| 6,700.0 | 6,561.4 | 6,653.7 | 6,561.4 | 23.4 | 20.1 | 179.61 | 393.0 | 847.7 | 374.1 | 336.2 | 37.86 | 9.881 | | |
| 6,800.0 | 6,661.4 | 6,753.7 | 6,661.4 | 23.4 | 20.2 | 179.61 | 393.0 | 847.7 | 374.1 | 336.0 | 38.07 | 9.825 | | |
| 6,900.0 | 6,761.4 | 6,853.7 | 6,761.4 | 23.5 | 20.3 | 179.61 | 393.0 | 847.7 | 374.1 | 335.8 | 38.29 | 9.769 | | |
| 7,000.0 | 6,861.4 | 6,953.7 | 6,861.4 | 23.6 | 20.4 | 179.61 | 393.0 | 847.7 | 374.1 | 335.6 | 38.51 | 9.714 | | |
| 7,100.0 | 6,961.4 | 7,053.7 | 6,961.4 | 23.7 | 20.5 | 179.61 | 393.0 | 847.7 | 374.1 | 335.3 | 38.73 | 9.658 | | |
| 7,200.0 | 7,061.4 | 7,153.7 | 7,061.4 | 23.8 | 20.6 | 179.61 | 393.0 | 847.7 | 374.1 | 335.1 | 38.95 | 9.603 | | |
| 7,300.0 | 7,161.4 | 7,253.7 | 7,161.4 | 23.9 | 20.7 | 179.61 | 393.0 | 847.7 | 374.1 | 334.9 | 39.18 | 9.548 | | |
| 7,400.0 | 7,261.4 | 7,353.7 | 7,261.4 | 24.0 | 20.8 | 179.61 | 393.0 | 847.7 | 374.1 | 334.7 | 39.41 | 9.493 | | |
| 7,500.0 | 7,361.4 | 7,453.7 | 7,361.4 | 24.1 | 20.9 | 179.61 | 393.0 | 847.7 | 374.1 | 334.4 | 39.63 | 9.438 | | |
| 7,600.0 | 7,461.4 | 7,553.7 | 7,461.4 | 24.2 | 21.0 | 179.61 | 393.0 | 847.7 | 374.1 | 334.2 | 39.86 | 9.384 | | |
| 7,700.0 | 7,561.4 | 7,653.7 | 7,561.4 | 24.3 | 21.2 | 179.61 | 393.0 | 847.7 | 374.1 | 334.0 | 40.10 | 9.330 | | |
| 7,719.6 | 7,581.0 | 7,673.3 | 7,581.0 | 24.3 | 21.2 | 179.61 | 393.0 | 847.7 | 374.1 | 333.9 | 40.14 | 9.319 SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-16BB - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|---------------|--------------------|--------|
| Survey Program: O-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | Distance | | Total | | Separation | | Warning | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Uncertainty Axis | Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 126.52 | -19.7 | 26.6 | 33.0 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 126.52 | -19.7 | 26.6 | 33.0 | 32.8 | 0.27 | 121.355 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 126.52 | -19.7 | 26.6 | 33.0 | 32.4 | 0.62 | 53.178 | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 83.27 | -19.7 | 26.6 | 32.6 | 31.7 | 0.98 | 33.341 | | |
| 356.9 | 356.8 | 356.8 | 356.8 | 0.6 | 0.6 | 90.00 | -19.7 | 26.6 | 32.4 | 31.2 | 1.20 | 26.953 CC, ES | | |
| 400.0 | 399.6 | 399.6 | 399.6 | 0.7 | 0.7 | 97.03 | -19.7 | 26.6 | 32.7 | 31.3 | 1.37 | 23.788 | | |
| 500.0 | 498.8 | 498.3 | 498.2 | 1.0 | 0.8 | 113.60 | -19.6 | 29.1 | 37.3 | 35.5 | 1.81 | 20.615 SF | | |
| 600.0 | 597.1 | 597.0 | 596.6 | 1.4 | 1.0 | 124.58 | -19.4 | 36.7 | 47.8 | 45.5 | 2.29 | 20.861 | | |
| 700.0 | 694.3 | 695.6 | 694.4 | 1.8 | 1.3 | 130.19 | -19.1 | 49.4 | 62.8 | 59.9 | 2.85 | 22.004 | | |
| 800.0 | 791.1 | 794.3 | 791.5 | 2.3 | 1.6 | 131.22 | -18.6 | 66.9 | 79.1 | 75.6 | 3.50 | 22.583 | | |
| 900.0 | 888.0 | 892.9 | 888.4 | 2.7 | 1.9 | 131.14 | -18.1 | 85.5 | 95.4 | 91.3 | 4.20 | 22.741 | | |
| 1,000.0 | 984.8 | 991.6 | 985.2 | 3.2 | 2.3 | 131.09 | -17.6 | 104.2 | 111.8 | 106.9 | 4.91 | 22.778 | | |
| 1,100.0 | 1,081.6 | 1,090.2 | 1,082.1 | 3.7 | 2.6 | 131.05 | -17.2 | 122.9 | 128.1 | 122.5 | 5.63 | 22.765 | | |
| 1,200.0 | 1,178.4 | 1,188.9 | 1,179.0 | 4.1 | 3.0 | 131.02 | -16.7 | 141.6 | 144.4 | 138.1 | 6.35 | 22.731 | | |
| 1,300.0 | 1,275.2 | 1,287.5 | 1,275.9 | 4.6 | 3.4 | 131.00 | -16.2 | 160.3 | 160.8 | 153.7 | 7.09 | 22.689 | | |
| 1,400.0 | 1,372.1 | 1,386.2 | 1,372.7 | 5.1 | 3.7 | 130.98 | -15.7 | 179.0 | 177.1 | 169.3 | 7.82 | 22.645 | | |
| 1,500.0 | 1,468.9 | 1,484.9 | 1,469.6 | 5.5 | 4.1 | 130.96 | -15.2 | 197.7 | 193.4 | 184.9 | 8.56 | 22.603 | | |
| 1,600.0 | 1,565.7 | 1,583.5 | 1,566.5 | 6.0 | 4.5 | 130.95 | -14.7 | 216.3 | 209.8 | 200.5 | 9.30 | 22.562 | | |
| 1,700.0 | 1,662.5 | 1,682.2 | 1,663.3 | 6.5 | 4.8 | 130.93 | -14.2 | 235.0 | 226.1 | 216.0 | 10.04 | 22.525 | | |
| 1,800.0 | 1,759.3 | 1,780.8 | 1,760.2 | 7.0 | 5.2 | 130.92 | -13.8 | 253.7 | 242.4 | 231.6 | 10.78 | 22.490 | | |
| 1,900.0 | 1,856.2 | 1,879.5 | 1,857.1 | 7.4 | 5.6 | 130.92 | -13.3 | 272.4 | 258.7 | 247.2 | 11.52 | 22.458 | | |
| 2,000.0 | 1,953.0 | 1,978.1 | 1,954.0 | 7.9 | 5.9 | 130.91 | -12.8 | 291.1 | 275.1 | 262.8 | 12.26 | 22.429 | | |
| 2,100.0 | 2,049.8 | 2,076.8 | 2,050.8 | 8.4 | 6.3 | 130.90 | -12.3 | 309.8 | 291.4 | 278.4 | 13.01 | 22.402 | | |
| 2,200.0 | 2,146.6 | 2,175.5 | 2,147.7 | 8.9 | 6.7 | 130.89 | -11.8 | 328.5 | 307.7 | 294.0 | 13.75 | 22.377 | | |
| 2,300.0 | 2,243.4 | 2,274.1 | 2,244.6 | 9.4 | 7.0 | 130.89 | -11.3 | 347.1 | 324.1 | 309.6 | 14.50 | 22.353 | | |
| 2,400.0 | 2,340.3 | 2,372.8 | 2,341.4 | 9.8 | 7.4 | 130.88 | -10.8 | 365.8 | 340.4 | 325.1 | 15.24 | 22.332 | | |
| 2,500.0 | 2,437.1 | 2,471.4 | 2,438.3 | 10.3 | 7.8 | 130.88 | -10.4 | 384.5 | 356.7 | 340.7 | 15.99 | 22.312 | | |
| 2,600.0 | 2,533.9 | 2,570.1 | 2,535.2 | 10.8 | 8.2 | 130.87 | -9.9 | 403.2 | 373.0 | 356.3 | 16.73 | 22.294 | | |
| 2,700.0 | 2,630.7 | 2,668.8 | 2,632.1 | 11.3 | 8.5 | 130.87 | -9.4 | 421.9 | 389.4 | 371.9 | 17.48 | 22.277 | | |
| 2,800.0 | 2,727.5 | 2,767.4 | 2,728.9 | 11.7 | 8.9 | 130.87 | -8.9 | 440.6 | 405.7 | 387.5 | 18.23 | 22.261 | | |
| 2,900.0 | 2,824.4 | 2,866.1 | 2,825.8 | 12.2 | 9.3 | 130.86 | -8.4 | 459.3 | 422.0 | 403.1 | 18.97 | 22.246 | | |
| 3,000.0 | 2,921.2 | 2,964.7 | 2,922.7 | 12.7 | 9.7 | 130.86 | -7.9 | 477.9 | 438.4 | 418.6 | 19.72 | 22.232 | | |
| 3,100.0 | 3,018.0 | 3,063.4 | 3,019.5 | 13.2 | 10.0 | 130.86 | -7.4 | 496.6 | 454.7 | 434.2 | 20.46 | 22.218 | | |
| 3,200.0 | 3,114.8 | 3,162.0 | 3,116.4 | 13.6 | 10.4 | 130.86 | -7.0 | 515.3 | 471.0 | 449.8 | 21.21 | 22.206 | | |
| 3,300.0 | 3,211.6 | 3,260.7 | 3,213.3 | 14.1 | 10.8 | 130.85 | -6.5 | 534.0 | 487.4 | 465.4 | 21.96 | 22.194 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-6C - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -53.98 | 19.3 | -26.6 | 32.8 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -53.98 | 19.3 | -26.6 | 32.8 | 32.6 | 0.27 | 120.583 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -53.98 | 19.3 | -26.6 | 32.8 | 32.2 | 0.62 | 52.840 CC, ES | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -106.12 | 19.3 | -26.6 | 33.5 | 32.5 | 0.98 | 34.210 | | |
| 400.0 | 399.6 | 398.8 | 398.8 | 0.7 | 0.7 | -117.31 | 19.8 | -26.9 | 37.0 | 35.6 | 1.36 | 27.174 | | |
| 500.0 | 498.8 | 496.2 | 496.1 | 1.0 | 0.8 | -127.51 | 23.7 | -30.0 | 48.1 | 46.3 | 1.77 | 27.160 SF | | |
| 600.0 | 597.1 | 592.2 | 591.5 | 1.4 | 1.1 | -133.49 | 31.5 | -35.9 | 67.1 | 64.9 | 2.23 | 30.107 | | |
| 700.0 | 694.3 | 686.2 | 684.4 | 1.8 | 1.3 | -136.39 | 42.7 | -44.5 | 93.2 | 90.5 | 2.76 | 33.828 | | |
| 800.0 | 791.1 | 778.3 | 774.7 | 2.3 | 1.7 | -137.06 | 57.2 | -55.7 | 123.5 | 120.2 | 3.35 | 36.887 | | |
| 900.0 | 888.0 | 868.7 | 862.3 | 2.7 | 2.1 | -136.11 | 74.8 | -69.2 | 156.5 | 152.5 | 4.01 | 39.052 | | |
| 1,000.0 | 984.8 | 956.9 | 946.7 | 3.2 | 2.6 | -134.45 | 95.1 | -84.8 | 192.4 | 187.6 | 4.72 | 40.719 | | |
| 1,100.0 | 1,081.6 | 1,042.7 | 1,027.6 | 3.7 | 3.1 | -132.52 | 117.8 | -102.3 | 231.0 | 225.6 | 5.48 | 42.162 | | |
| 1,200.0 | 1,178.4 | 1,125.8 | 1,104.7 | 4.1 | 3.7 | -130.51 | 142.5 | -121.3 | 272.7 | 266.4 | 6.26 | 43.547 | | |
| 1,300.0 | 1,275.2 | 1,206.1 | 1,177.8 | 4.6 | 4.3 | -128.55 | 168.9 | -141.6 | 317.2 | 310.2 | 7.06 | 44.959 | | |
| 1,400.0 | 1,372.1 | 1,283.5 | 1,246.8 | 5.1 | 4.9 | -126.69 | 196.6 | -162.9 | 364.7 | 356.9 | 7.86 | 46.383 | | |
| 1,500.0 | 1,468.9 | 1,357.8 | 1,311.7 | 5.5 | 5.6 | -124.95 | 225.2 | -184.9 | 415.1 | 406.4 | 8.67 | 47.876 | | |
| 1,600.0 | 1,565.7 | 1,429.0 | 1,372.5 | 6.0 | 6.3 | -123.34 | 254.6 | -207.5 | 468.2 | 458.8 | 9.46 | 49.483 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-9B - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|------------------------------|----------------------|---------|---------------|--------------------|--------|
| Survey Program: O-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | Highside Toolface (°) | Distance | | Total Uncertainty Axis | Separation Factor | Warning | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | | | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -99.13 | -1.8 | -11.3 | 11.4 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -99.13 | -1.8 | -11.3 | 11.4 | 11.2 | 0.27 | 42.033 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -99.13 | -1.8 | -11.3 | 11.4 | 10.8 | 0.62 | 18.419 CC, ES | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -152.86 | -1.8 | -11.3 | 13.7 | 12.7 | 0.97 | 14.114 | | |
| 400.0 | 399.6 | 400.5 | 400.5 | 0.7 | 0.7 | -158.73 | 0.3 | -9.8 | 18.8 | 17.4 | 1.33 | 14.139 | | |
| 500.0 | 498.8 | 501.3 | 500.9 | 1.0 | 0.9 | -159.68 | 6.8 | -5.1 | 24.3 | 22.6 | 1.70 | 14.338 | | |
| 600.0 | 597.1 | 602.3 | 601.1 | 1.4 | 1.2 | -158.35 | 17.5 | 2.7 | 30.4 | 28.3 | 2.11 | 14.406 | | |
| 700.0 | 694.3 | 703.6 | 700.6 | 1.8 | 1.5 | -155.86 | 32.6 | 13.6 | 36.8 | 34.2 | 2.60 | 14.181 | | |
| 800.0 | 791.1 | 805.1 | 799.2 | 2.3 | 2.0 | -150.67 | 52.0 | 27.6 | 40.8 | 37.5 | 3.25 | 12.549 | | |
| 900.0 | 888.0 | 906.4 | 896.2 | 2.7 | 2.5 | -141.19 | 75.6 | 44.6 | 41.5 | 37.2 | 4.23 | 9.804 | | |
| 987.2 | 972.4 | 993.8 | 978.7 | 3.1 | 3.0 | -128.53 | 99.1 | 61.6 | 40.9 | 35.4 | 5.45 | 7.507 | | |
| 1,000.0 | 984.8 | 1,006.6 | 990.7 | 3.2 | 3.1 | -126.50 | 102.6 | 64.1 | 40.9 | 35.3 | 5.64 | 7.253 | | |
| 1,100.0 | 1,081.6 | 1,105.9 | 1,084.1 | 3.7 | 3.7 | -111.24 | 130.2 | 84.0 | 42.8 | 35.7 | 7.12 | 6.016 | | |
| 1,200.0 | 1,178.4 | 1,205.3 | 1,177.4 | 4.1 | 4.3 | -98.11 | 157.7 | 103.9 | 47.5 | 39.1 | 8.39 | 5.663 SF | | |
| 1,300.0 | 1,275.2 | 1,304.6 | 1,270.8 | 4.6 | 4.9 | -87.73 | 185.2 | 123.8 | 54.2 | 44.8 | 9.40 | 5.764 | | |
| 1,400.0 | 1,372.1 | 1,404.0 | 1,364.2 | 5.1 | 5.5 | -79.81 | 212.8 | 143.7 | 62.2 | 52.0 | 10.22 | 6.083 | | |
| 1,500.0 | 1,468.9 | 1,503.3 | 1,457.5 | 5.5 | 6.2 | -73.78 | 240.3 | 163.6 | 71.1 | 60.2 | 10.95 | 6.498 | | |
| 1,600.0 | 1,565.7 | 1,602.7 | 1,550.9 | 6.0 | 6.8 | -69.13 | 267.9 | 183.5 | 80.7 | 69.1 | 11.62 | 6.947 | | |
| 1,700.0 | 1,662.5 | 1,702.1 | 1,644.3 | 6.5 | 7.4 | -65.48 | 295.4 | 203.4 | 90.7 | 78.4 | 12.26 | 7.397 | | |
| 1,800.0 | 1,759.3 | 1,801.4 | 1,737.6 | 7.0 | 8.0 | -62.56 | 323.0 | 223.3 | 100.9 | 88.1 | 12.88 | 7.834 | | |
| 1,900.0 | 1,856.2 | 1,900.8 | 1,831.0 | 7.4 | 8.7 | -60.18 | 350.5 | 243.1 | 111.4 | 97.9 | 13.51 | 8.249 | | |
| 2,000.0 | 1,953.0 | 2,000.1 | 1,924.4 | 7.9 | 9.3 | -58.22 | 378.0 | 263.0 | 122.0 | 107.9 | 14.13 | 8.640 | | |
| 2,100.0 | 2,049.8 | 2,099.5 | 2,017.7 | 8.4 | 9.9 | -56.57 | 405.6 | 282.9 | 132.8 | 118.0 | 14.75 | 9.005 | | |
| 2,200.0 | 2,146.6 | 2,198.8 | 2,111.1 | 8.9 | 10.5 | -55.17 | 433.1 | 302.8 | 143.6 | 128.3 | 15.37 | 9.347 | | |
| 2,300.0 | 2,243.4 | 2,298.2 | 2,204.5 | 9.4 | 11.2 | -53.96 | 460.7 | 322.7 | 154.6 | 138.6 | 15.99 | 9.665 | | |
| 2,400.0 | 2,340.3 | 2,397.5 | 2,297.8 | 9.8 | 11.8 | -52.92 | 488.2 | 342.6 | 165.5 | 148.9 | 16.62 | 9.962 | | |
| 2,500.0 | 2,437.1 | 2,496.9 | 2,391.2 | 10.3 | 12.4 | -52.00 | 515.8 | 362.5 | 176.6 | 159.3 | 17.24 | 10.239 | | |
| 2,600.0 | 2,533.9 | 2,596.2 | 2,484.5 | 10.8 | 13.0 | -51.19 | 543.3 | 382.4 | 187.6 | 169.7 | 17.87 | 10.498 | | |
| 2,700.0 | 2,630.7 | 2,695.6 | 2,577.9 | 11.3 | 13.7 | -50.48 | 570.8 | 402.3 | 198.7 | 180.2 | 18.50 | 10.739 | | |
| 2,800.0 | 2,727.5 | 2,794.9 | 2,671.3 | 11.7 | 14.3 | -49.83 | 598.4 | 422.2 | 209.8 | 190.7 | 19.14 | 10.966 | | |
| 2,900.0 | 2,824.4 | 2,894.3 | 2,764.6 | 12.2 | 14.9 | -49.26 | 625.9 | 442.1 | 221.0 | 201.2 | 19.77 | 11.178 | | |
| 3,000.0 | 2,921.2 | 2,993.6 | 2,858.0 | 12.7 | 15.5 | -48.74 | 653.5 | 461.9 | 232.1 | 211.7 | 20.40 | 11.377 | | |
| 3,100.0 | 3,018.0 | 3,093.0 | 2,951.4 | 13.2 | 16.2 | -48.26 | 681.0 | 481.8 | 243.3 | 222.3 | 21.04 | 11.565 | | |
| 3,200.0 | 3,114.8 | 3,192.4 | 3,044.7 | 13.6 | 16.8 | -47.83 | 708.6 | 501.7 | 254.5 | 232.9 | 21.68 | 11.741 | | |
| 3,300.0 | 3,211.6 | 3,291.7 | 3,138.1 | 14.1 | 17.4 | -47.43 | 736.1 | 521.6 | 265.7 | 243.4 | 22.32 | 11.908 | | |
| 3,400.0 | 3,308.5 | 3,391.1 | 3,231.5 | 14.6 | 18.1 | -47.07 | 763.6 | 541.5 | 277.0 | 254.0 | 22.96 | 12.065 | | |
| 3,500.0 | 3,405.3 | 3,490.4 | 3,324.8 | 15.1 | 18.7 | -46.73 | 791.2 | 561.4 | 288.2 | 264.6 | 23.60 | 12.214 | | |
| 3,600.0 | 3,502.1 | 3,589.8 | 3,418.2 | 15.5 | 19.3 | -46.42 | 818.7 | 581.3 | 299.4 | 275.2 | 24.24 | 12.355 | | |
| 3,700.0 | 3,598.9 | 3,689.1 | 3,511.5 | 16.0 | 19.9 | -46.14 | 846.3 | 601.2 | 310.7 | 285.8 | 24.88 | 12.488 | | |
| 3,800.0 | 3,695.7 | 3,788.5 | 3,604.9 | 16.5 | 20.6 | -45.87 | 873.8 | 621.1 | 322.0 | 296.4 | 25.52 | 12.615 | | |
| 3,900.0 | 3,792.6 | 3,887.8 | 3,698.3 | 17.0 | 21.2 | -45.62 | 901.3 | 641.0 | 333.2 | 307.1 | 26.16 | 12.736 | | |
| 4,000.0 | 3,889.4 | 3,987.2 | 3,791.6 | 17.5 | 21.8 | -45.39 | 928.9 | 660.9 | 344.5 | 317.7 | 26.81 | 12.850 | | |
| 4,100.0 | 3,986.2 | 4,086.5 | 3,885.0 | 17.9 | 22.5 | -45.17 | 956.4 | 680.7 | 355.8 | 328.3 | 27.45 | 12.960 | | |
| 4,200.0 | 4,083.0 | 4,185.9 | 3,978.4 | 18.4 | 23.1 | -44.96 | 984.0 | 700.6 | 367.0 | 338.9 | 28.10 | 13.064 | | |
| 4,300.0 | 4,179.8 | 4,285.2 | 4,071.7 | 18.9 | 23.7 | -44.77 | 1,011.5 | 720.5 | 378.3 | 349.6 | 28.74 | 13.164 | | |
| 4,400.0 | 4,276.7 | 4,384.6 | 4,165.1 | 19.4 | 24.3 | -44.59 | 1,039.1 | 740.4 | 389.6 | 360.2 | 29.39 | 13.259 | | |
| 4,500.0 | 4,373.5 | 4,486.5 | 4,260.9 | 19.8 | 25.0 | -44.42 | 1,067.2 | 760.8 | 400.8 | 370.8 | 30.04 | 13.344 | | |
| 4,600.0 | 4,470.3 | 4,599.5 | 4,368.1 | 20.3 | 25.6 | -44.47 | 1,096.2 | 781.7 | 409.9 | 379.1 | 30.80 | 13.306 | | |
| 4,700.0 | 4,567.3 | 4,713.0 | 4,477.1 | 20.8 | 26.2 | -44.83 | 1,121.8 | 800.2 | 416.0 | 384.4 | 31.66 | 13.142 | | |
| 4,800.0 | 4,665.0 | 4,826.7 | 4,587.5 | 21.2 | 26.7 | -45.20 | 1,144.0 | 816.2 | 421.2 | 388.8 | 32.42 | 12.992 | | |
| 4,900.0 | 4,763.4 | 4,940.6 | 4,699.1 | 21.5 | 27.1 | -45.49 | 1,162.5 | 829.6 | 425.6 | 392.5 | 33.09 | 12.863 | | |
| 5,000.0 | 4,862.4 | 5,054.7 | 4,811.6 | 21.8 | 27.4 | -45.73 | 1,177.5 | 840.4 | 429.0 | 395.4 | 33.65 | 12.752 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler 19-9B - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 5,100.0 | 4,961.8 | 5,168.9 | 4,924.9 | 22.0 | 27.7 | -45.92 | 1,188.9 | 848.6 | 431.7 | 397.5 | 34.10 | 12.657 | | |
| 5,200.0 | 5,061.5 | 5,283.2 | 5,038.8 | 22.1 | 27.9 | -46.04 | 1,196.6 | 854.2 | 433.4 | 398.9 | 34.46 | 12.576 | | |
| 5,300.0 | 5,161.4 | 5,397.5 | 5,153.0 | 22.2 | 28.0 | -46.12 | 1,200.6 | 857.1 | 434.3 | 399.5 | 34.72 | 12.508 | | |
| 5,400.0 | 5,261.4 | 5,505.9 | 5,261.4 | 22.3 | 28.0 | 1.64 | 1,201.3 | 857.6 | 434.3 | 399.4 | 34.90 | 12.444 | | |
| 5,500.0 | 5,361.4 | 5,605.9 | 5,361.4 | 22.4 | 28.1 | 1.64 | 1,201.3 | 857.6 | 434.3 | 399.2 | 35.09 | 12.376 | | |
| 5,600.0 | 5,461.4 | 5,705.9 | 5,461.4 | 22.5 | 28.2 | 1.64 | 1,201.3 | 857.6 | 434.3 | 399.1 | 35.29 | 12.308 | | |
| 5,700.0 | 5,561.4 | 5,805.9 | 5,561.4 | 22.5 | 28.2 | 1.64 | 1,201.3 | 857.6 | 434.3 | 398.9 | 35.48 | 12.241 | | |
| 5,800.0 | 5,661.4 | 5,905.9 | 5,661.4 | 22.6 | 28.3 | 1.64 | 1,201.3 | 857.6 | 434.3 | 398.7 | 35.68 | 12.173 | | |
| 5,900.0 | 5,761.4 | 6,005.9 | 5,761.4 | 22.7 | 28.3 | 1.64 | 1,201.3 | 857.6 | 434.3 | 398.5 | 35.88 | 12.105 | | |
| 6,000.0 | 5,861.4 | 6,105.9 | 5,861.4 | 22.8 | 28.4 | 1.64 | 1,201.3 | 857.6 | 434.3 | 398.3 | 36.08 | 12.037 | | |
| 6,100.0 | 5,961.4 | 6,205.9 | 5,961.4 | 22.9 | 28.5 | 1.64 | 1,201.3 | 857.6 | 434.3 | 398.1 | 36.29 | 11.969 | | |
| 6,200.0 | 6,061.4 | 6,305.9 | 6,061.4 | 22.9 | 28.5 | 1.64 | 1,201.3 | 857.6 | 434.3 | 397.8 | 36.50 | 11.901 | | |
| 6,300.0 | 6,161.4 | 6,405.9 | 6,161.4 | 23.0 | 28.6 | 1.64 | 1,201.3 | 857.6 | 434.3 | 397.6 | 36.71 | 11.833 | | |
| 6,400.0 | 6,261.4 | 6,505.9 | 6,261.4 | 23.1 | 28.7 | 1.64 | 1,201.3 | 857.6 | 434.3 | 397.4 | 36.92 | 11.766 | | |
| 6,500.0 | 6,361.4 | 6,605.9 | 6,361.4 | 23.2 | 28.8 | 1.64 | 1,201.3 | 857.6 | 434.3 | 397.2 | 37.13 | 11.698 | | |
| 6,600.0 | 6,461.4 | 6,705.9 | 6,461.4 | 23.3 | 28.8 | 1.64 | 1,201.3 | 857.6 | 434.3 | 397.0 | 37.35 | 11.631 | | |
| 6,700.0 | 6,561.4 | 6,805.9 | 6,561.4 | 23.4 | 28.9 | 1.64 | 1,201.3 | 857.6 | 434.3 | 396.8 | 37.56 | 11.563 | | |
| 6,800.0 | 6,661.4 | 6,905.9 | 6,661.4 | 23.4 | 29.0 | 1.64 | 1,201.3 | 857.6 | 434.3 | 396.6 | 37.78 | 11.496 | | |
| 6,900.0 | 6,761.4 | 7,005.9 | 6,761.4 | 23.5 | 29.0 | 1.64 | 1,201.3 | 857.6 | 434.3 | 396.3 | 38.00 | 11.429 | | |
| 7,000.0 | 6,861.4 | 7,105.9 | 6,861.4 | 23.6 | 29.1 | 1.64 | 1,201.3 | 857.6 | 434.3 | 396.1 | 38.23 | 11.362 | | |
| 7,100.0 | 6,961.4 | 7,205.9 | 6,961.4 | 23.7 | 29.2 | 1.64 | 1,201.3 | 857.6 | 434.3 | 395.9 | 38.45 | 11.296 | | |
| 7,200.0 | 7,061.4 | 7,305.9 | 7,061.4 | 23.8 | 29.3 | 1.64 | 1,201.3 | 857.6 | 434.3 | 395.7 | 38.68 | 11.230 | | |
| 7,300.0 | 7,161.4 | 7,405.9 | 7,161.4 | 23.9 | 29.3 | 1.64 | 1,201.3 | 857.6 | 434.3 | 395.4 | 38.91 | 11.164 | | |
| 7,400.0 | 7,261.4 | 7,505.9 | 7,261.4 | 24.0 | 29.4 | 1.64 | 1,201.3 | 857.6 | 434.3 | 395.2 | 39.14 | 11.098 | | |
| 7,500.0 | 7,361.4 | 7,605.9 | 7,361.4 | 24.1 | 29.5 | 1.64 | 1,201.3 | 857.6 | 434.3 | 395.0 | 39.37 | 11.032 | | |
| 7,600.0 | 7,461.4 | 7,705.9 | 7,461.4 | 24.2 | 29.6 | 1.64 | 1,201.3 | 857.6 | 434.3 | 394.7 | 39.60 | 10.967 | | |
| 7,700.0 | 7,561.4 | 7,805.9 | 7,561.4 | 24.3 | 29.7 | 1.64 | 1,201.3 | 857.6 | 434.3 | 394.5 | 39.84 | 10.902 | | |
| 7,706.4 | 7,567.8 | 7,812.3 | 7,567.8 | 24.3 | 29.7 | 1.64 | 1,201.3 | 857.6 | 434.3 | 394.5 | 39.85 | 10.898 | | |
| 7,719.6 | 7,581.0 | 7,821.5 | 7,577.0 | 24.3 | 29.7 | 1.64 | 1,201.3 | 857.6 | 434.4 | 394.5 | 39.88 | 10.892 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler Federal 19-12A - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|----------------------------------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -64.75 | 17.9 | -37.9 | 41.9 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -64.75 | 17.9 | -37.9 | 41.9 | 41.6 | 0.27 | 153.709 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -64.75 | 17.9 | -37.9 | 41.9 | 41.2 | 0.62 | 67.356 CC, ES | |
| 300.0 | 300.0 | 297.8 | 297.7 | 0.5 | 0.5 | -114.74 | 19.4 | -39.8 | 45.4 | 44.4 | 0.97 | 46.604 | |
| 400.0 | 399.6 | 394.6 | 394.3 | 0.7 | 0.7 | -119.62 | 23.9 | -45.7 | 56.3 | 54.9 | 1.36 | 41.500 SF | |
| 500.0 | 498.8 | 489.6 | 488.5 | 1.0 | 1.0 | -124.42 | 31.2 | -55.2 | 75.0 | 73.2 | 1.79 | 41.916 | |
| 600.0 | 597.1 | 582.1 | 579.6 | 1.4 | 1.3 | -127.97 | 41.1 | -68.0 | 101.3 | 99.0 | 2.28 | 44.411 | |
| 700.0 | 694.3 | 671.3 | 666.6 | 1.8 | 1.7 | -130.41 | 53.2 | -83.7 | 135.1 | 132.2 | 2.84 | 47.601 | |
| 800.0 | 791.1 | 757.7 | 749.8 | 2.3 | 2.1 | -131.92 | 67.2 | -101.9 | 173.7 | 170.3 | 3.43 | 50.618 | |
| 900.0 | 888.0 | 841.4 | 829.4 | 2.7 | 2.6 | -132.24 | 83.0 | -122.4 | 215.7 | 211.7 | 4.05 | 53.215 | |
| 1,000.0 | 984.8 | 922.2 | 905.1 | 3.2 | 3.2 | -131.97 | 100.2 | -144.7 | 261.0 | 256.3 | 4.70 | 55.555 | |
| 1,100.0 | 1,081.6 | 1,000.0 | 976.8 | 3.7 | 3.7 | -131.39 | 118.6 | -168.7 | 309.3 | 303.9 | 5.35 | 57.764 | |
| 1,200.0 | 1,178.4 | 1,074.9 | 1,044.6 | 4.1 | 4.4 | -130.67 | 138.0 | -193.9 | 360.5 | 354.5 | 6.03 | 59.793 | |
| 1,300.0 | 1,275.2 | 1,146.6 | 1,108.4 | 4.6 | 5.0 | -129.88 | 158.1 | -219.9 | 414.5 | 407.8 | 6.71 | 61.818 | |
| 1,400.0 | 1,372.1 | 1,215.3 | 1,168.1 | 5.1 | 5.6 | -129.07 | 178.7 | -246.6 | 471.2 | 463.8 | 7.38 | 63.872 | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler Federal 19-12C - OH - Plan #1 | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Total Uncertainty Axis | Separation Factor | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 170.37 | -11.7 | 2.0 | 11.8 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 170.37 | -11.7 | 2.0 | 11.8 | 11.5 | 0.27 | 43.420 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 170.37 | -11.7 | 2.0 | 11.8 | 11.2 | 0.62 | 19.027 CC, ES | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 132.02 | -11.7 | 2.0 | 13.4 | 12.4 | 0.97 | 13.763 SF | |
| 400.0 | 399.6 | 399.6 | 399.6 | 0.7 | 0.7 | 151.14 | -11.5 | 1.4 | 19.6 | 18.2 | 1.33 | 14.707 | |
| 500.0 | 498.8 | 498.0 | 497.9 | 1.0 | 0.8 | 171.23 | -9.8 | -3.5 | 33.1 | 31.4 | 1.67 | 19.777 | |
| 600.0 | 597.1 | 593.8 | 593.2 | 1.4 | 1.1 | -176.15 | -6.7 | -12.8 | 55.9 | 53.9 | 2.03 | 27.507 | |
| 700.0 | 694.3 | 686.2 | 684.4 | 1.8 | 1.3 | -168.91 | -2.3 | -26.0 | 87.8 | 85.3 | 2.44 | 36.021 | |
| 800.0 | 791.1 | 775.3 | 771.8 | 2.3 | 1.7 | -164.27 | 3.3 | -42.7 | 124.9 | 122.0 | 2.90 | 43.124 | |
| 900.0 | 888.0 | 861.5 | 855.4 | 2.7 | 2.1 | -160.74 | 10.0 | -62.6 | 165.6 | 162.2 | 3.39 | 48.781 | |
| 1,000.0 | 984.8 | 944.6 | 935.0 | 3.2 | 2.5 | -157.89 | 17.5 | -85.1 | 209.7 | 205.8 | 3.92 | 53.482 | |
| 1,100.0 | 1,081.6 | 1,024.4 | 1,010.5 | 3.7 | 3.0 | -155.51 | 25.8 | -109.8 | 257.1 | 252.7 | 4.47 | 57.568 | |
| 1,200.0 | 1,178.4 | 1,100.0 | 1,080.9 | 4.1 | 3.5 | -153.50 | 34.6 | -135.9 | 307.8 | 302.7 | 5.02 | 61.315 | |
| 1,300.0 | 1,275.2 | 1,174.2 | 1,148.8 | 4.6 | 4.1 | -151.73 | 44.0 | -164.0 | 361.4 | 355.8 | 5.60 | 64.583 | |
| 1,400.0 | 1,372.1 | 1,244.0 | 1,211.7 | 5.1 | 4.7 | -150.20 | 53.7 | -192.8 | 417.9 | 411.8 | 6.17 | 67.743 | |
| 1,500.0 | 1,468.9 | 1,310.6 | 1,270.6 | 5.5 | 5.3 | -148.85 | 63.6 | -222.3 | 477.2 | 470.4 | 6.74 | 70.822 | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler Federal 19-12D - OH - Plan #1 | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Total Uncertainty Axis | Separation Factor | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -71.93 | 8.0 | -24.6 | 25.9 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -71.93 | 8.0 | -24.6 | 25.9 | 25.6 | 0.27 | 94.943 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -71.93 | 8.0 | -24.6 | 25.9 | 25.2 | 0.62 | 41.604 CC, ES | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -124.45 | 8.0 | -24.6 | 27.2 | 26.3 | 0.98 | 27.915 | |
| 400.0 | 399.6 | 398.5 | 398.5 | 0.7 | 0.7 | -134.62 | 8.7 | -25.8 | 33.6 | 32.3 | 1.34 | 25.024 SF | |
| 500.0 | 498.8 | 495.4 | 495.1 | 1.0 | 0.9 | -141.85 | 11.7 | -31.2 | 48.9 | 47.2 | 1.73 | 28.334 | |
| 600.0 | 597.1 | 589.9 | 589.1 | 1.4 | 1.1 | -145.30 | 16.9 | -40.6 | 72.8 | 70.7 | 2.14 | 33.986 | |
| 700.0 | 694.3 | 681.4 | 679.3 | 1.8 | 1.4 | -146.71 | 24.0 | -53.6 | 104.7 | 102.1 | 2.60 | 40.195 | |
| 800.0 | 791.1 | 770.0 | 766.0 | 2.3 | 1.7 | -146.92 | 33.0 | -69.8 | 141.4 | 138.3 | 3.11 | 45.448 | |
| 900.0 | 888.0 | 856.0 | 849.2 | 2.7 | 2.1 | -146.17 | 43.5 | -88.8 | 181.4 | 177.8 | 3.66 | 49.594 | |
| 1,000.0 | 984.8 | 939.2 | 928.6 | 3.2 | 2.6 | -145.04 | 55.3 | -110.3 | 224.6 | 220.4 | 4.24 | 53.029 | |
| 1,100.0 | 1,081.6 | 1,019.3 | 1,004.1 | 3.7 | 3.1 | -143.78 | 68.3 | -133.9 | 270.9 | 266.1 | 4.84 | 56.032 | |
| 1,200.0 | 1,178.4 | 1,100.0 | 1,078.9 | 4.1 | 3.7 | -142.45 | 83.0 | -160.4 | 320.3 | 314.8 | 5.46 | 58.619 | |
| 1,300.0 | 1,275.2 | 1,170.3 | 1,143.0 | 4.6 | 4.2 | -141.28 | 97.0 | -185.7 | 372.5 | 366.4 | 6.08 | 61.248 | |
| 1,400.0 | 1,372.1 | 1,241.1 | 1,206.4 | 5.1 | 4.8 | -140.12 | 112.2 | -213.3 | 427.6 | 420.9 | 6.72 | 63.665 | |
| 1,500.0 | 1,468.9 | 1,308.7 | 1,265.7 | 5.5 | 5.4 | -139.03 | 127.8 | -241.5 | 485.3 | 477.9 | 7.34 | 66.078 | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler Federal 19-13A - OH - Plan #1 | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Total Uncertainty Axis | Separation Factor | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 144.16 | -21.1 | 15.3 | 26.1 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 144.16 | -21.1 | 15.3 | 26.1 | 25.8 | 0.27 | 95.689 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 144.16 | -21.1 | 15.3 | 26.1 | 25.4 | 0.62 | 41.931 | |
| 300.0 | 300.0 | 300.4 | 300.4 | 0.5 | 0.5 | 103.16 | -21.0 | 14.6 | 26.0 | 25.1 | 0.98 | 26.584 | |
| 337.5 | 337.4 | 338.1 | 338.0 | 0.6 | 0.6 | 110.51 | -20.7 | 13.3 | 25.9 | 24.8 | 1.13 | 22.930 CC, ES | |
| 400.0 | 399.6 | 400.3 | 400.2 | 0.7 | 0.7 | 128.55 | -20.0 | 9.5 | 27.0 | 25.7 | 1.37 | 19.732 SF | |
| 500.0 | 498.8 | 498.0 | 497.3 | 1.0 | 0.9 | 159.85 | -18.0 | -0.5 | 38.2 | 36.5 | 1.75 | 21.798 | |
| 600.0 | 597.1 | 592.3 | 590.5 | 1.4 | 1.2 | 178.79 | -15.1 | -14.7 | 63.2 | 61.0 | 2.12 | 29.725 | |
| 700.0 | 694.3 | 682.3 | 678.6 | 1.8 | 1.6 | -171.57 | -11.5 | -32.5 | 99.0 | 96.5 | 2.52 | 39.215 | |
| 800.0 | 791.1 | 768.5 | 762.1 | 2.3 | 2.0 | -166.11 | -7.3 | -53.3 | 140.9 | 137.9 | 2.98 | 47.336 | |
| 900.0 | 888.0 | 851.3 | 841.4 | 2.7 | 2.4 | -162.40 | -2.6 | -76.8 | 186.5 | 183.1 | 3.45 | 54.012 | |
| 1,000.0 | 984.8 | 930.6 | 916.3 | 3.2 | 2.9 | -159.62 | 2.5 | -102.4 | 235.7 | 231.8 | 3.95 | 59.706 | |
| 1,100.0 | 1,081.6 | 1,006.4 | 986.8 | 3.7 | 3.5 | -157.42 | 8.0 | -129.7 | 288.2 | 283.7 | 4.45 | 64.740 | |
| 1,200.0 | 1,178.4 | 1,078.7 | 1,053.0 | 4.1 | 4.0 | -155.62 | 13.7 | -158.3 | 343.8 | 338.8 | 4.97 | 69.219 | |
| 1,300.0 | 1,275.2 | 1,147.6 | 1,114.9 | 4.6 | 4.6 | -154.11 | 19.7 | -187.8 | 402.2 | 396.7 | 5.48 | 73.426 | |
| 1,400.0 | 1,372.1 | 1,222.9 | 1,181.8 | 5.1 | 5.3 | -152.69 | 26.5 | -221.8 | 462.7 | 456.7 | 6.02 | 76.918 | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design O19EB Pad (2nd Occupation) - Shideler Federal 19-13AA - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|----------------------------------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 137.33 | -31.0 | 28.5 | 42.1 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 137.33 | -31.0 | 28.5 | 42.1 | 41.8 | 0.27 | 154.617 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 137.33 | -31.0 | 28.5 | 42.1 | 41.5 | 0.62 | 67.753 | |
| 300.0 | 300.0 | 301.3 | 301.3 | 0.5 | 0.5 | 96.11 | -30.9 | 25.8 | 40.5 | 39.5 | 0.99 | 41.031 | |
| 380.3 | 380.0 | 381.6 | 381.4 | 0.7 | 0.7 | 111.87 | -30.8 | 19.9 | 39.0 | 37.6 | 1.33 | 29.257 CC, ES | |
| 400.0 | 399.6 | 401.2 | 400.8 | 0.7 | 0.7 | 117.14 | -30.7 | 17.9 | 39.1 | 37.7 | 1.42 | 27.632 | |
| 500.0 | 498.8 | 498.2 | 497.0 | 1.0 | 1.0 | 146.39 | -30.5 | 5.3 | 47.9 | 46.0 | 1.87 | 25.650 SF | |
| 600.0 | 597.1 | 591.3 | 588.5 | 1.4 | 1.3 | 167.69 | -30.1 | -11.4 | 72.4 | 70.2 | 2.24 | 32.407 | |
| 700.0 | 694.3 | 679.4 | 674.4 | 1.8 | 1.7 | 179.44 | -29.7 | -31.3 | 110.0 | 107.4 | 2.59 | 42.541 | |
| 800.0 | 791.1 | 763.2 | 755.1 | 2.3 | 2.2 | -173.88 | -29.3 | -53.9 | 154.6 | 151.6 | 2.98 | 51.930 | |
| 900.0 | 888.0 | 843.4 | 831.3 | 2.7 | 2.7 | -169.59 | -28.7 | -78.8 | 203.3 | 200.0 | 3.39 | 59.991 | |
| 1,000.0 | 984.8 | 919.9 | 903.0 | 3.2 | 3.2 | -166.54 | -28.2 | -105.5 | 255.8 | 252.0 | 3.82 | 67.038 | |
| 1,100.0 | 1,081.6 | 992.7 | 970.2 | 3.7 | 3.7 | -164.24 | -27.6 | -133.6 | 311.6 | 307.3 | 4.25 | 73.305 | |
| 1,200.0 | 1,178.4 | 1,061.9 | 1,033.0 | 4.1 | 4.3 | -162.42 | -27.0 | -162.6 | 370.4 | 365.7 | 4.69 | 78.937 | |
| 1,300.0 | 1,275.2 | 1,134.2 | 1,097.6 | 4.6 | 4.9 | -160.82 | -26.3 | -195.1 | 431.6 | 426.5 | 5.14 | 83.901 | |
| 1,400.0 | 1,372.1 | 1,212.4 | 1,167.3 | 5.1 | 5.6 | -159.48 | -25.6 | -230.4 | 493.4 | 487.8 | 5.62 | 87.860 | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Shideler 19-9C |
| Project: | Mamm Creek | TVD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Reference Site: | O19EB Pad (2nd Occupation) | MD Reference: | KB=22' @ 6531.0ft (Nabors M-15) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Shideler 19-9C | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to KB=22' @ 6531.0ft (Nabors M-15)

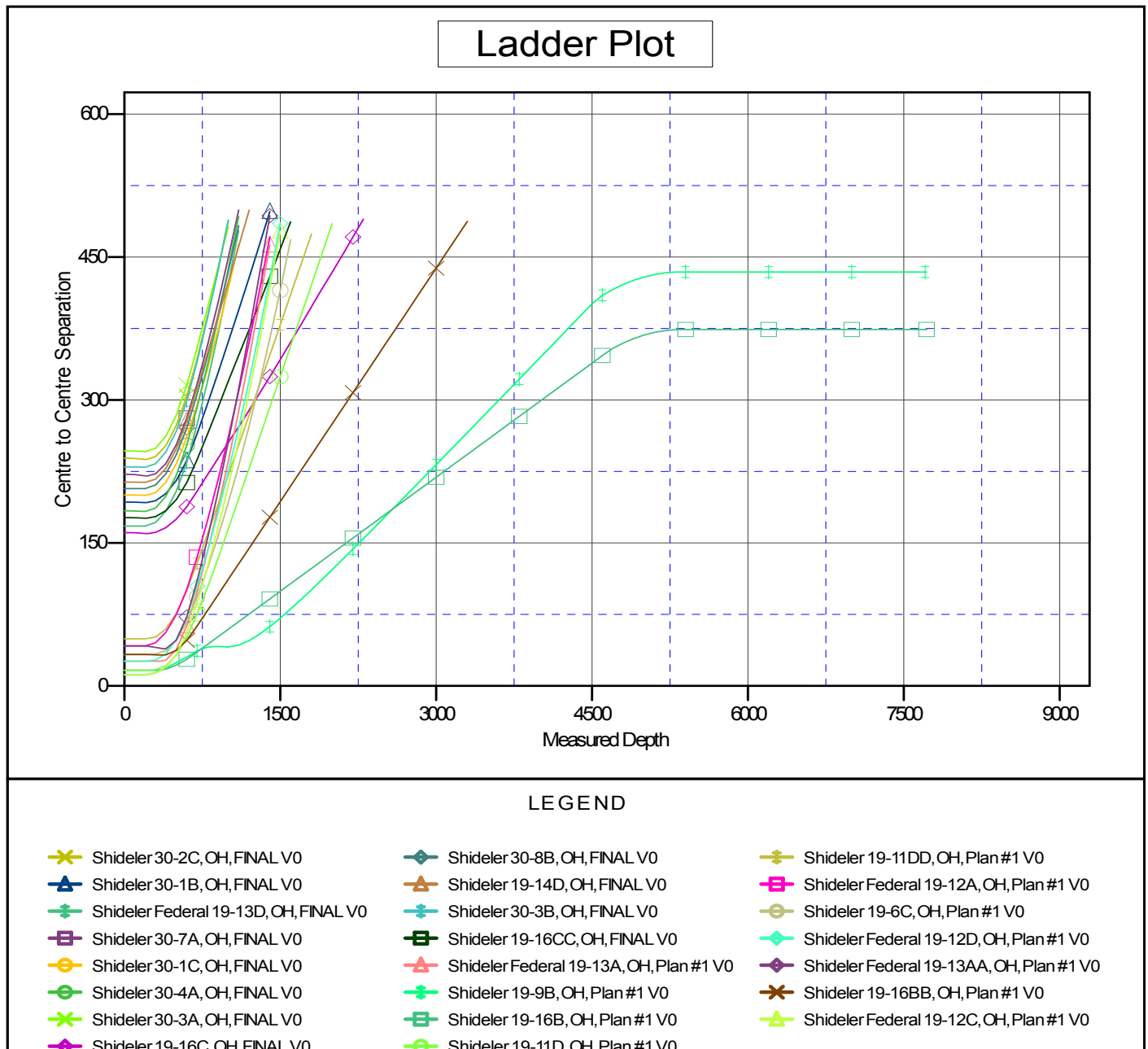
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Shideler 19-9C

Coordinate System is US State Plane 1983, Colorado Central Zone

Grid Convergence at Surface is: -1.39°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation