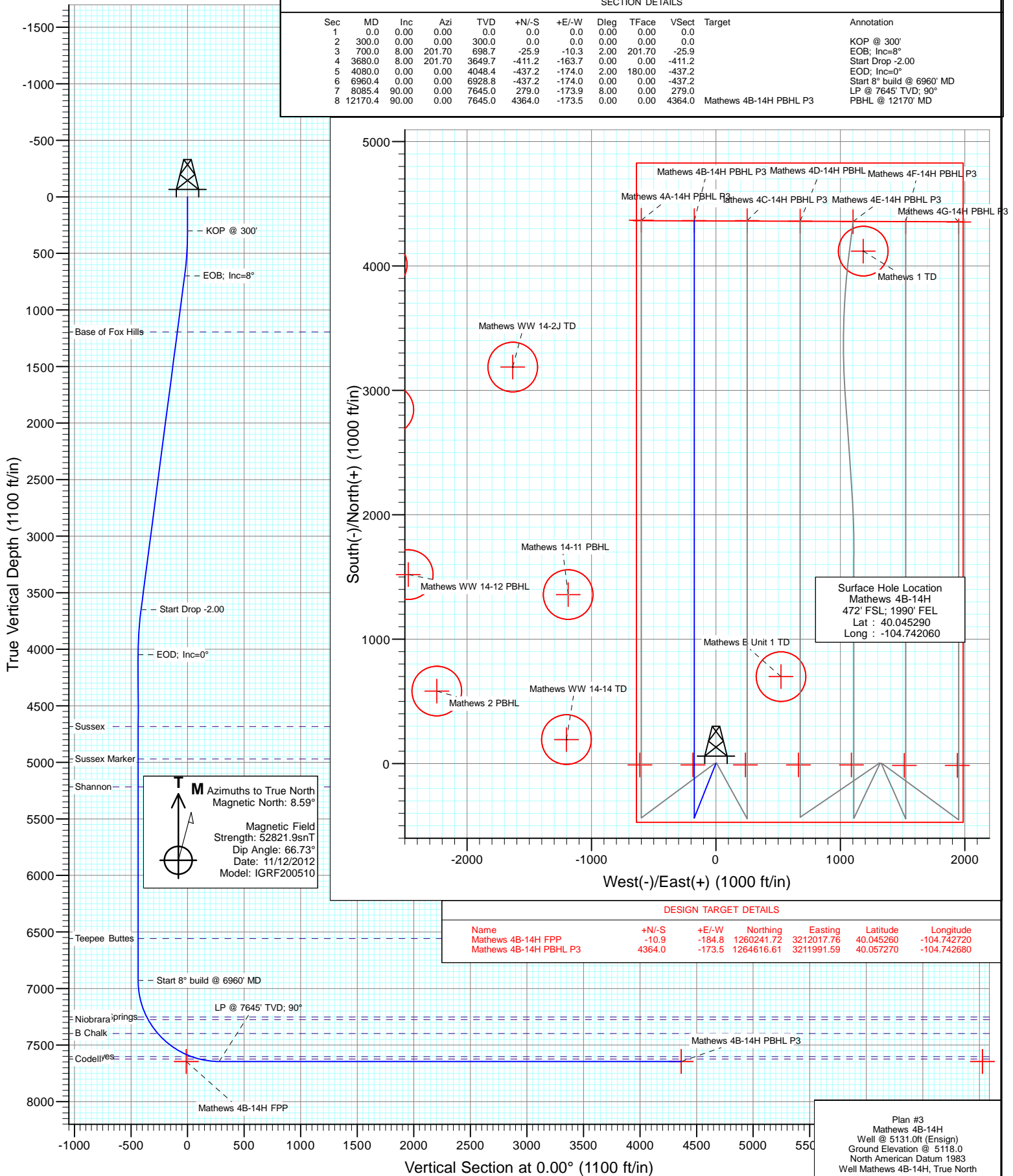




Project: DJ Wattenberg
Site: SWSE S14 T1N-R66W (Mathews)
Well: Mathews 4B-14H
Wellbore: HZ
Design: Plan #3



Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Project: | DJ Wattenberg | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site: | SWSE S14 T1N-R66W (Mathews) | North Reference: | True |
| Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | HZ | | |
| Design: | Plan #2 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | DJ Wattenberg | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| Site | | SWSE S14 T1N-R66W (Mathews) | | | |
|-----------------------|----------|-----------------------------|-----------------|-------------------|-------------|
| Site Position: | | Northing: | 1,260,084.79 ft | Latitude: | 40.044810 |
| From: | Lat/Long | Easting: | 3,212,836.64 ft | Longitude: | -104.739800 |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: | 0.49 ° |

| Well | Mathews 4B-14H | | | | | |
|----------------------|----------------|--------|---------------------|-----------------|---------------|-------------|
| Well Position | +N/-S | 0.0 ft | Northing: | 1,260,254.21 ft | Latitude: | 40.045290 |
| | +E/-W | 0.0 ft | Easting: | 3,212,202.44 ft | Longitude: | -104.742060 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 5,118.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | HZ | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF200510 | 11/12/2012 | 8.59 | 66.73 | 52,822 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | Plan #2 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 0.00 |

| 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 | |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 700.0 | 8.00 | 201.70 | 698.7 | -25.9 | -10.3 | 2.00 | 2.00 | 0.00 | 201.70 | |
| 3,680.0 | 8.00 | 201.70 | 3,649.7 | -411.2 | -163.7 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,080.0 | 0.00 | 0.00 | 4,048.4 | -437.2 | -174.0 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 6,960.4 | 0.00 | 0.00 | 6,928.8 | -437.2 | -174.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,085.4 | 90.00 | 0.00 | 7,645.0 | 279.0 | -173.9 | 8.00 | 8.00 | 0.00 | 0.00 | |
| 12,170.4 | 90.00 | 0.00 | 7,645.0 | 4,364.0 | -173.5 | 0.00 | 0.00 | 0.00 | 0.00 | Mathews 4B-14H PB |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Project: | DJ Wattenberg | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site: | SWSE S14 T1N-R66W (Mathews) | North Reference: | True |
| Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | HZ | | |
| Design: | Plan #2 | | |

Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | KOP @ 300' |
| 400.0 | 2.00 | 201.70 | 400.0 | -1.6 | -0.6 | -1.6 | 2.00 | 2.00 | |
| 500.0 | 4.00 | 201.70 | 499.8 | -6.5 | -2.6 | -6.5 | 2.00 | 2.00 | |
| 600.0 | 6.00 | 201.70 | 599.5 | -14.6 | -5.8 | -14.6 | 2.00 | 2.00 | |
| 700.0 | 8.00 | 201.70 | 698.7 | -25.9 | -10.3 | -25.9 | 2.00 | 2.00 | EOB; Inc=8° |
| 800.0 | 8.00 | 201.70 | 797.7 | -38.8 | -15.5 | -38.8 | 0.00 | 0.00 | |
| 900.0 | 8.00 | 201.70 | 896.8 | -51.8 | -20.6 | -51.8 | 0.00 | 0.00 | |
| 1,000.0 | 8.00 | 201.70 | 995.8 | -64.7 | -25.7 | -64.7 | 0.00 | 0.00 | |
| 1,100.0 | 8.00 | 201.70 | 1,094.8 | -77.6 | -30.9 | -77.6 | 0.00 | 0.00 | |
| 1,200.0 | 8.00 | 201.70 | 1,193.8 | -90.6 | -36.0 | -90.6 | 0.00 | 0.00 | |
| 1,200.2 | 8.00 | 201.70 | 1,194.0 | -90.6 | -36.0 | -90.6 | 0.00 | 0.00 | Base of Fox Hills |
| 1,300.0 | 8.00 | 201.70 | 1,292.9 | -103.5 | -41.2 | -103.5 | 0.00 | 0.00 | |
| 1,400.0 | 8.00 | 201.70 | 1,391.9 | -116.4 | -46.3 | -116.4 | 0.00 | 0.00 | |
| 1,500.0 | 8.00 | 201.70 | 1,490.9 | -129.4 | -51.5 | -129.4 | 0.00 | 0.00 | |
| 1,600.0 | 8.00 | 201.70 | 1,589.9 | -142.3 | -56.6 | -142.3 | 0.00 | 0.00 | |
| 1,700.0 | 8.00 | 201.70 | 1,689.0 | -155.2 | -61.8 | -155.2 | 0.00 | 0.00 | |
| 1,800.0 | 8.00 | 201.70 | 1,788.0 | -168.1 | -66.9 | -168.1 | 0.00 | 0.00 | |
| 1,900.0 | 8.00 | 201.70 | 1,887.0 | -181.1 | -72.1 | -181.1 | 0.00 | 0.00 | |
| 2,000.0 | 8.00 | 201.70 | 1,986.1 | -194.0 | -77.2 | -194.0 | 0.00 | 0.00 | |
| 2,100.0 | 8.00 | 201.70 | 2,085.1 | -206.9 | -82.4 | -206.9 | 0.00 | 0.00 | |
| 2,200.0 | 8.00 | 201.70 | 2,184.1 | -219.9 | -87.5 | -219.9 | 0.00 | 0.00 | |
| 2,300.0 | 8.00 | 201.70 | 2,283.1 | -232.8 | -92.6 | -232.8 | 0.00 | 0.00 | |
| 2,400.0 | 8.00 | 201.70 | 2,382.2 | -245.7 | -97.8 | -245.7 | 0.00 | 0.00 | |
| 2,500.0 | 8.00 | 201.70 | 2,481.2 | -258.7 | -102.9 | -258.7 | 0.00 | 0.00 | |
| 2,600.0 | 8.00 | 201.70 | 2,580.2 | -271.6 | -108.1 | -271.6 | 0.00 | 0.00 | |
| 2,700.0 | 8.00 | 201.70 | 2,679.2 | -284.5 | -113.2 | -284.5 | 0.00 | 0.00 | |
| 2,800.0 | 8.00 | 201.70 | 2,778.3 | -297.5 | -118.4 | -297.5 | 0.00 | 0.00 | |
| 2,900.0 | 8.00 | 201.70 | 2,877.3 | -310.4 | -123.5 | -310.4 | 0.00 | 0.00 | |
| 3,000.0 | 8.00 | 201.70 | 2,976.3 | -323.3 | -128.7 | -323.3 | 0.00 | 0.00 | |
| 3,100.0 | 8.00 | 201.70 | 3,075.3 | -336.2 | -133.8 | -336.2 | 0.00 | 0.00 | |
| 3,200.0 | 8.00 | 201.70 | 3,174.4 | -349.2 | -139.0 | -349.2 | 0.00 | 0.00 | |
| 3,300.0 | 8.00 | 201.70 | 3,273.4 | -362.1 | -144.1 | -362.1 | 0.00 | 0.00 | |
| 3,400.0 | 8.00 | 201.70 | 3,372.4 | -375.0 | -149.2 | -375.0 | 0.00 | 0.00 | |
| 3,500.0 | 8.00 | 201.70 | 3,471.5 | -388.0 | -154.4 | -388.0 | 0.00 | 0.00 | |
| 3,600.0 | 8.00 | 201.70 | 3,570.5 | -400.9 | -159.5 | -400.9 | 0.00 | 0.00 | |
| 3,680.0 | 8.00 | 201.70 | 3,649.7 | -411.2 | -163.7 | -411.2 | 0.00 | 0.00 | Start Drop -2.00 |
| 3,700.0 | 7.60 | 201.70 | 3,669.5 | -413.8 | -164.7 | -413.8 | 2.00 | -2.00 | |
| 3,800.0 | 5.60 | 201.70 | 3,768.8 | -424.4 | -168.9 | -424.4 | 2.00 | -2.00 | |
| 3,900.0 | 3.60 | 201.70 | 3,868.5 | -431.9 | -171.9 | -431.9 | 2.00 | -2.00 | |
| 4,000.0 | 1.60 | 201.70 | 3,968.4 | -436.1 | -173.6 | -436.1 | 2.00 | -2.00 | |
| 4,080.0 | 0.00 | 0.00 | 4,048.4 | -437.2 | -174.0 | -437.2 | 2.00 | -2.00 | EOD; Inc=0° |
| 4,100.0 | 0.00 | 0.00 | 4,068.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,200.0 | 0.00 | 0.00 | 4,168.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,300.0 | 0.00 | 0.00 | 4,268.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,400.0 | 0.00 | 0.00 | 4,368.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,500.0 | 0.00 | 0.00 | 4,468.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,600.0 | 0.00 | 0.00 | 4,568.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,700.0 | 0.00 | 0.00 | 4,668.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,715.6 | 0.00 | 0.00 | 4,684.0 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | Sussex |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Project: | DJ Wattenberg | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site: | SWSE S14 T1N-R66W (Mathews) | North Reference: | True |
| Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | HZ | | |
| Design: | Plan #2 | | |

| 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 |
| 4,800.0 | 0.00 | 0.00 | 4,768.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 4,900.0 | 0.00 | 0.00 | 4,868.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,000.0 | 0.00 | 0.00 | 4,968.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,001.6 | 0.00 | 0.00 | 4,970.0 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | Sussex Marker |
| 5,100.0 | 0.00 | 0.00 | 5,068.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,200.0 | 0.00 | 0.00 | 5,168.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,248.6 | 0.00 | 0.00 | 5,217.0 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | Shannon |
| 5,300.0 | 0.00 | 0.00 | 5,268.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,400.0 | 0.00 | 0.00 | 5,368.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,500.0 | 0.00 | 0.00 | 5,468.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,600.0 | 0.00 | 0.00 | 5,568.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,700.0 | 0.00 | 0.00 | 5,668.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,800.0 | 0.00 | 0.00 | 5,768.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 5,900.0 | 0.00 | 0.00 | 5,868.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,000.0 | 0.00 | 0.00 | 5,968.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,100.0 | 0.00 | 0.00 | 6,068.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,200.0 | 0.00 | 0.00 | 6,168.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,300.0 | 0.00 | 0.00 | 6,268.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,400.0 | 0.00 | 0.00 | 6,368.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,500.0 | 0.00 | 0.00 | 6,468.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,589.6 | 0.00 | 0.00 | 6,558.0 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | Teepee Buttes |
| 6,600.0 | 0.00 | 0.00 | 6,568.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,700.0 | 0.00 | 0.00 | 6,668.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,800.0 | 0.00 | 0.00 | 6,768.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,900.0 | 0.00 | 0.00 | 6,868.4 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | |
| 6,960.4 | 0.00 | 0.00 | 6,928.8 | -437.2 | -174.0 | -437.2 | 0.00 | 0.00 | Start 8° build @ 6960' MD |
| 7,000.0 | 3.17 | 0.00 | 6,968.4 | -436.1 | -174.0 | -436.1 | 8.00 | 8.00 | |
| 7,100.0 | 11.17 | 0.00 | 7,067.5 | -423.6 | -174.0 | -423.6 | 8.00 | 8.00 | |
| 7,200.0 | 19.17 | 0.00 | 7,164.0 | -397.4 | -174.0 | -397.4 | 8.00 | 8.00 | |
| 7,295.7 | 26.83 | 0.00 | 7,252.0 | -360.1 | -174.0 | -360.1 | 8.00 | 8.00 | Sharon Springs |
| 7,300.0 | 27.17 | 0.00 | 7,255.8 | -358.1 | -174.0 | -358.1 | 8.00 | 8.00 | |
| 7,321.7 | 28.91 | 0.00 | 7,275.0 | -347.9 | -174.0 | -347.9 | 8.00 | 8.00 | Niobrara |
| 7,400.0 | 35.17 | 0.00 | 7,341.3 | -306.4 | -174.0 | -306.4 | 8.00 | 8.00 | |
| 7,472.0 | 40.93 | 0.00 | 7,398.0 | -262.1 | -173.9 | -262.1 | 8.00 | 8.00 | B Chalk |
| 7,500.0 | 43.17 | 0.00 | 7,418.8 | -243.3 | -173.9 | -243.3 | 8.00 | 8.00 | |
| 7,600.0 | 51.17 | 0.00 | 7,486.7 | -170.0 | -173.9 | -170.0 | 8.00 | 8.00 | |
| 7,700.0 | 59.17 | 0.00 | 7,543.8 | -88.0 | -173.9 | -88.0 | 8.00 | 8.00 | |
| 7,800.0 | 67.17 | 0.00 | 7,588.9 | 1.1 | -173.9 | 1.1 | 8.00 | 8.00 | |
| 7,836.0 | 70.04 | 0.00 | 7,602.0 | 34.6 | -173.9 | 34.6 | 8.00 | 8.00 | Ft. Hayes |
| 7,900.0 | 75.17 | 0.00 | 7,621.1 | 95.7 | -173.9 | 95.7 | 8.00 | 8.00 | |
| 7,907.4 | 75.76 | 0.00 | 7,623.0 | 102.9 | -173.9 | 102.9 | 8.00 | 8.00 | Codell |
| 8,000.0 | 83.17 | 0.00 | 7,639.9 | 193.8 | -173.9 | 193.8 | 8.00 | 8.00 | |
| 8,085.4 | 90.00 | 0.00 | 7,645.0 | 279.0 | -173.9 | 279.0 | 8.00 | 8.00 | LP @ 7645' TVD; 90° |
| 8,100.0 | 90.00 | 0.00 | 7,645.0 | 293.6 | -173.9 | 293.6 | 0.00 | 0.00 | |
| 8,200.0 | 90.00 | 0.00 | 7,645.0 | 393.6 | -173.9 | 393.6 | 0.00 | 0.00 | |
| 8,300.0 | 90.00 | 0.00 | 7,645.0 | 493.6 | -173.9 | 493.6 | 0.00 | 0.00 | |
| 8,400.0 | 90.00 | 0.00 | 7,645.0 | 593.6 | -173.9 | 593.6 | 0.00 | 0.00 | |
| 8,500.0 | 90.00 | 0.00 | 7,645.0 | 693.6 | -173.9 | 693.6 | 0.00 | 0.00 | |
| 8,600.0 | 90.00 | 0.00 | 7,645.0 | 793.6 | -173.9 | 793.6 | 0.00 | 0.00 | |
| 8,700.0 | 90.00 | 0.00 | 7,645.0 | 893.6 | -173.8 | 893.6 | 0.00 | 0.00 | |
| 8,800.0 | 90.00 | 0.00 | 7,645.0 | 993.6 | -173.8 | 993.6 | 0.00 | 0.00 | |
| 8,900.0 | 90.00 | 0.00 | 7,645.0 | 1,093.6 | -173.8 | 1,093.6 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Project: | DJ Wattenberg | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site: | SWSE S14 T1N-R66W (Mathews) | North Reference: | True |
| Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | HZ | | |
| Design: | Plan #2 | | |

| Planned Survey | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
| 9,000.0 | 90.00 | 0.00 | 7,645.0 | 1,193.6 | -173.8 | 1,193.6 | 0.00 | 0.00 | |
| 9,100.0 | 90.00 | 0.00 | 7,645.0 | 1,293.6 | -173.8 | 1,293.6 | 0.00 | 0.00 | |
| 9,200.0 | 90.00 | 0.00 | 7,645.0 | 1,393.6 | -173.8 | 1,393.6 | 0.00 | 0.00 | |
| 9,300.0 | 90.00 | 0.00 | 7,645.0 | 1,493.6 | -173.8 | 1,493.6 | 0.00 | 0.00 | |
| 9,400.0 | 90.00 | 0.00 | 7,645.0 | 1,593.6 | -173.8 | 1,593.6 | 0.00 | 0.00 | |
| 9,500.0 | 90.00 | 0.00 | 7,645.0 | 1,693.6 | -173.8 | 1,693.6 | 0.00 | 0.00 | |
| 9,600.0 | 90.00 | 0.00 | 7,645.0 | 1,793.6 | -173.8 | 1,793.6 | 0.00 | 0.00 | |
| 9,700.0 | 90.00 | 0.00 | 7,645.0 | 1,893.6 | -173.8 | 1,893.6 | 0.00 | 0.00 | |
| 9,800.0 | 90.00 | 0.00 | 7,645.0 | 1,993.6 | -173.8 | 1,993.6 | 0.00 | 0.00 | |
| 9,900.0 | 90.00 | 0.00 | 7,645.0 | 2,093.6 | -173.7 | 2,093.6 | 0.00 | 0.00 | |
| 10,000.0 | 90.00 | 0.00 | 7,645.0 | 2,193.6 | -173.7 | 2,193.6 | 0.00 | 0.00 | |
| 10,100.0 | 90.00 | 0.00 | 7,645.0 | 2,293.6 | -173.7 | 2,293.6 | 0.00 | 0.00 | |
| 10,200.0 | 90.00 | 0.00 | 7,645.0 | 2,393.6 | -173.7 | 2,393.6 | 0.00 | 0.00 | |
| 10,300.0 | 90.00 | 0.00 | 7,645.0 | 2,493.6 | -173.7 | 2,493.6 | 0.00 | 0.00 | |
| 10,400.0 | 90.00 | 0.00 | 7,645.0 | 2,593.6 | -173.7 | 2,593.6 | 0.00 | 0.00 | |
| 10,500.0 | 90.00 | 0.00 | 7,645.0 | 2,693.6 | -173.7 | 2,693.6 | 0.00 | 0.00 | |
| 10,600.0 | 90.00 | 0.00 | 7,645.0 | 2,793.6 | -173.7 | 2,793.6 | 0.00 | 0.00 | |
| 10,700.0 | 90.00 | 0.00 | 7,645.0 | 2,893.6 | -173.7 | 2,893.6 | 0.00 | 0.00 | |
| 10,800.0 | 90.00 | 0.00 | 7,645.0 | 2,993.6 | -173.7 | 2,993.6 | 0.00 | 0.00 | |
| 10,900.0 | 90.00 | 0.00 | 7,645.0 | 3,093.6 | -173.7 | 3,093.6 | 0.00 | 0.00 | |
| 11,000.0 | 90.00 | 0.00 | 7,645.0 | 3,193.6 | -173.7 | 3,193.6 | 0.00 | 0.00 | |
| 11,100.0 | 90.00 | 0.00 | 7,645.0 | 3,293.6 | -173.6 | 3,293.6 | 0.00 | 0.00 | |
| 11,200.0 | 90.00 | 0.00 | 7,645.0 | 3,393.6 | -173.6 | 3,393.6 | 0.00 | 0.00 | |
| 11,300.0 | 90.00 | 0.00 | 7,645.0 | 3,493.6 | -173.6 | 3,493.6 | 0.00 | 0.00 | |
| 11,400.0 | 90.00 | 0.00 | 7,645.0 | 3,593.6 | -173.6 | 3,593.6 | 0.00 | 0.00 | |
| 11,500.0 | 90.00 | 0.00 | 7,645.0 | 3,693.6 | -173.6 | 3,693.6 | 0.00 | 0.00 | |
| 11,600.0 | 90.00 | 0.00 | 7,645.0 | 3,793.6 | -173.6 | 3,793.6 | 0.00 | 0.00 | |
| 11,700.0 | 90.00 | 0.00 | 7,645.0 | 3,893.6 | -173.6 | 3,893.6 | 0.00 | 0.00 | |
| 11,800.0 | 90.00 | 0.00 | 7,645.0 | 3,993.6 | -173.6 | 3,993.6 | 0.00 | 0.00 | |
| 11,900.0 | 90.00 | 0.00 | 7,645.0 | 4,093.6 | -173.6 | 4,093.6 | 0.00 | 0.00 | |
| 12,000.0 | 90.00 | 0.00 | 7,645.0 | 4,193.6 | -173.6 | 4,193.6 | 0.00 | 0.00 | |
| 12,100.0 | 90.00 | 0.00 | 7,645.0 | 4,293.6 | -173.6 | 4,293.6 | 0.00 | 0.00 | |
| 12,170.4 | 90.00 | 0.00 | 7,645.0 | 4,364.0 | -173.5 | 4,364.0 | 0.00 | 0.00 | PBHL @ 12170' MD |

| Targets | | | | | | | | | |
|--|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
| Mathews 4B-14H PBHL - hit/miss target - Shape | 0.00 | 0.00 | 7,645.0 | 7,026.9 | -165.1 | 1,267,279.45 | 3,211,977.25 | 40.064580 | -104.742650 |
| - plan misses target center by 2662.9ft at 12170.4ft MD (7645.0 TVD, 4364.0 N, -173.5 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| Mathews 4B-14H FPP - hit/miss target - Shape | 0.00 | 0.00 | 7,645.0 | -10.9 | -184.8 | 1,260,241.72 | 3,212,017.76 | 40.045260 | -104.742720 |
| - plan misses target center by 57.5ft at 7809.2ft MD (7592.4 TVD, 9.7 N, -173.9 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| Mathews 4B-14H PBHL - hit/miss target - Shape | 0.00 | 0.00 | 7,645.0 | 4,364.0 | -173.5 | 1,264,616.61 | 3,211,991.59 | 40.057270 | -104.742680 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Company: | EnCana Oil & Gas (USA) Inc | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Project: | DJ Wattenberg | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site: | SWSE S14 T1N-R66W (Mathews) | North Reference: | True |
| Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | HZ | | |
| Design: | Plan #2 | | |

| Formations | | | | | | |
|---------------------|---------------------|-------------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 1,200.2 | 1,194.0 | Base of Fox Hills | | 0.00 | | |
| 4,715.6 | 4,684.0 | Sussex | | 0.00 | | |
| 5,001.6 | 4,970.0 | Sussex Marker | | 0.00 | | |
| 5,248.6 | 5,217.0 | Shannon | | 0.00 | | |
| 6,589.6 | 6,558.0 | Teepee Buttes | | 0.00 | | |
| 7,295.7 | 7,252.0 | Sharon Springs | | 0.00 | | |
| 7,321.7 | 7,275.0 | Niobrara | | 0.00 | | |
| 7,472.0 | 7,398.0 | B Chalk | | 0.00 | | |
| 7,836.0 | 7,602.0 | Ft. Hayes | | 0.00 | | |
| 7,907.4 | 7,623.0 | Codell | | 0.00 | | |

| Plan Annotations | | | | | |
|---------------------|---------------------|-------------------|------------|---------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | | |
| | | +N/-S (ft) | +E/-W (ft) | Comment | |
| 300.0 | 300.0 | 0.0 | 0.0 | KOP @ 300' | |
| 700.0 | 698.7 | -25.9 | -10.3 | EOB; Inc=8° | |
| 3,680.0 | 3,649.7 | -411.2 | -163.7 | Start Drop -2.00 | |
| 4,080.0 | 4,048.4 | -437.2 | -174.0 | EOD; Inc=0° | |
| 6,960.4 | 6,928.8 | -437.2 | -174.0 | Start 8° build @ 6960' MD | |
| 8,085.4 | 7,645.0 | 279.0 | -173.9 | LP @ 7645' TVD; 90° | |
| 12,170.4 | 7,645.0 | 4,364.0 | -173.5 | PBHL @ 12170' MD | |

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

SWSE S14 T1N-R66W (Mathews)

Mathews 4B-14H

HZ

Plan #3

Anticollision Report

27 December, 2012

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Reference | Plan #3 | | |
|------------------------------|---|----------------|---------------------|
| Filter type: | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| Interpolation Method: | Stations | Error Model: | Systematic Ellipse |
| Depth Range: | Unlimited | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum center-center distance of 10,000.0ft | Error Surface: | Elliptical Conic |
| Warning Levels Evaluated at: | 2.00 Sigma | | |

| Survey Tool Program | | Date | 12/27/2012 | | |
|---------------------|------------|-------------------|------------|-------------|--|
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 0.0 | 12,169.5 | Plan #3 (HZ) | MWD | Geolink MWD | |

| 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 | | | | | | |
| SWSE S14 T1N-R66W (Mathews) | | | | | | |
| 05-123-07177, Mathews 1 (Exisitng) - VT (Existing) - Exis | 11,926.1 | 7,633.0 | 1,358.2 | 1,269.6 | 15.338 | CC, ES |
| 05-123-07177, Mathews 1 (Exisitng) - VT (Existing) - Exis | 12,170.4 | 7,633.0 | 1,380.0 | 1,287.2 | 14.876 | SF |
| 05-123-17474, Mathews WW 14-2J (Existing) - VT (Exist | 10,993.7 | 7,633.0 | 1,458.4 | 1,385.8 | 20.106 | CC |
| 05-123-17474, Mathews WW 14-2J (Existing) - VT (Exist | 11,000.0 | 7,633.0 | 1,458.4 | 1,385.7 | 20.076 | ES |
| 05-123-17474, Mathews WW 14-2J (Existing) - VT (Exist | 11,500.0 | 7,633.0 | 1,543.7 | 1,462.5 | 19.009 | SF |
| 05-123-17475, Mathews WW 14-11 (Existing) - Existing - | 9,165.0 | 7,628.0 | 1,013.2 | 970.9 | 23.977 | CC, ES |
| 05-123-17475, Mathews WW 14-11 (Existing) - Existing - | 9,600.0 | 7,628.0 | 1,102.6 | 1,053.4 | 22.420 | SF |
| 05-123-17477, Mathews WW 14-14 (Existing) - VT (Exist | 7,998.8 | 7,627.8 | 1,026.6 | 998.8 | 37.014 | CC |
| 05-123-17477, Mathews WW 14-14 (Existing) - VT (Exist | 8,000.0 | 7,627.9 | 1,026.6 | 998.8 | 37.005 | ES |
| 05-123-17477, Mathews WW 14-14 (Existing) - VT (Exist | 8,500.0 | 7,633.0 | 1,142.3 | 1,109.6 | 34.934 | SF |
| Mathews 4A-14H - HZ - Plan #3 | 200.0 | 200.0 | 11.2 | 10.5 | 17.156 | CC, ES |
| Mathews 4A-14H - HZ - Plan #3 | 12,170.4 | 11,990.8 | 479.0 | 336.8 | 3.368 | SF |
| Mathews 4C-14H - HZ - Plan #3 | 300.0 | 300.0 | 8.4 | 7.4 | 8.384 | CC, ES |
| Mathews 4C-14H - HZ - Plan #3 | 12,170.4 | 11,960.2 | 479.0 | 336.9 | 3.370 | SF |
| Mathews 4D-14H - HZ - Plan #3 | 12,152.4 | 12,162.9 | 851.0 | 692.6 | 5.375 | CC |
| Mathews 4D-14H - HZ - Plan #3 | 12,170.4 | 12,177.2 | 851.0 | 692.1 | 5.356 | ES, SF |
| Mathews 4E-14H - HZ - Plan #3 | 11,181.0 | 10,952.1 | 1,218.6 | 1,095.8 | 9.921 | CC |
| Mathews 4E-14H - HZ - Plan #3 | 11,400.0 | 11,133.1 | 1,222.0 | 1,092.4 | 9.430 | ES |
| Mathews 4E-14H - HZ - Plan #3 | 12,170.4 | 11,788.6 | 1,286.6 | 1,132.7 | 8.357 | SF |
| Mathews 4F-14H - HZ - Plan #3 | 300.0 | 286.0 | 1,329.8 | 1,328.9 | 1,360.619 | CC, ES |
| Mathews 4F-14H - HZ - Plan #3 | 12,170.4 | 12,161.4 | 1,699.1 | 1,540.3 | 10.698 | SF |
| Mathews 4G-14H - HZ - Plan #3 | 200.0 | 186.0 | 1,341.1 | 1,340.4 | 2,134.350 | CC, ES |
| Mathews 4G-14H - HZ - Plan #3 | 12,170.4 | 11,970.0 | 2,136.0 | 1,978.0 | 13.523 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|------------|--------------------|--------|
| Survey Program: 0-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 | 16.04 | 4,119.6 | 1,184.6 | 4,286.6 | | | | | |
| 100.0 | 100.0 | 88.0 | 88.0 | 0.2 | 0.1 | 16.04 | 4,119.6 | 1,184.6 | 4,286.6 | 4,286.3 | 0.29 | N/A | | |
| 200.0 | 200.0 | 188.0 | 188.0 | 0.3 | 0.3 | 16.04 | 4,119.6 | 1,184.6 | 4,286.6 | 4,285.9 | 0.63 | 6,784.597 | | |
| 300.0 | 300.0 | 288.0 | 288.0 | 0.5 | 0.5 | 16.04 | 4,119.6 | 1,184.6 | 4,286.6 | 4,285.6 | 0.98 | 4,370.151 | | |
| 400.0 | 400.0 | 388.0 | 388.0 | 0.7 | 0.7 | 174.34 | 4,119.6 | 1,184.6 | 4,288.3 | 4,287.0 | 1.33 | 3,225.654 | | |
| 500.0 | 499.8 | 487.8 | 487.8 | 0.9 | 0.8 | 174.34 | 4,119.6 | 1,184.6 | 4,293.5 | 4,291.8 | 1.68 | 2,560.773 | | |
| 600.0 | 599.5 | 587.5 | 587.5 | 1.1 | 1.0 | 174.33 | 4,119.6 | 1,184.6 | 4,302.2 | 4,300.2 | 2.02 | 2,127.713 | | |
| 700.0 | 698.7 | 686.7 | 686.7 | 1.3 | 1.2 | 174.32 | 4,119.6 | 1,184.6 | 4,314.3 | 4,312.0 | 2.36 | 1,824.309 | | |
| 800.0 | 797.7 | 785.7 | 785.7 | 1.6 | 1.3 | 174.34 | 4,119.6 | 1,184.6 | 4,328.2 | 4,325.5 | 2.71 | 1,595.330 | | |
| 900.0 | 896.8 | 884.8 | 884.8 | 1.9 | 1.5 | 174.36 | 4,119.6 | 1,184.6 | 4,342.0 | 4,339.0 | 3.06 | 1,418.419 | | |
| 1,000.0 | 995.8 | 983.8 | 983.8 | 2.2 | 1.7 | 174.38 | 4,119.6 | 1,184.6 | 4,355.9 | 4,352.5 | 3.41 | 1,277.635 | | |
| 1,100.0 | 1,094.8 | 1,082.8 | 1,082.8 | 2.5 | 1.9 | 174.40 | 4,119.6 | 1,184.6 | 4,369.7 | 4,366.0 | 3.76 | 1,162.939 | | |
| 1,200.0 | 1,193.8 | 1,181.8 | 1,181.8 | 2.8 | 2.0 | 174.41 | 4,119.6 | 1,184.6 | 4,383.6 | 4,379.5 | 4.11 | 1,067.696 | | |
| 1,300.0 | 1,292.9 | 1,280.9 | 1,280.9 | 3.1 | 2.2 | 174.43 | 4,119.6 | 1,184.6 | 4,397.4 | 4,393.0 | 4.45 | 987.345 | | |
| 1,400.0 | 1,391.9 | 1,379.9 | 1,379.9 | 3.3 | 2.4 | 174.45 | 4,119.6 | 1,184.6 | 4,411.3 | 4,406.5 | 4.80 | 918.648 | | |
| 1,500.0 | 1,490.9 | 1,478.9 | 1,478.9 | 3.6 | 2.6 | 174.47 | 4,119.6 | 1,184.6 | 4,425.1 | 4,420.0 | 5.15 | 859.240 | | |
| 1,600.0 | 1,589.9 | 1,577.9 | 1,577.9 | 3.9 | 2.7 | 174.48 | 4,119.6 | 1,184.6 | 4,439.0 | 4,433.5 | 5.50 | 807.357 | | |
| 1,700.0 | 1,689.0 | 1,677.0 | 1,677.0 | 4.2 | 2.9 | 174.50 | 4,119.6 | 1,184.6 | 4,452.8 | 4,447.0 | 5.85 | 761.654 | | |
| 1,800.0 | 1,788.0 | 1,776.0 | 1,776.0 | 4.5 | 3.1 | 174.52 | 4,119.6 | 1,184.6 | 4,466.7 | 4,460.5 | 6.19 | 721.090 | | |
| 1,900.0 | 1,887.0 | 1,875.0 | 1,875.0 | 4.8 | 3.2 | 174.54 | 4,119.6 | 1,184.6 | 4,480.6 | 4,474.0 | 6.54 | 684.844 | | |
| 2,000.0 | 1,986.1 | 1,974.1 | 1,974.1 | 5.1 | 3.4 | 174.55 | 4,119.6 | 1,184.6 | 4,494.4 | 4,487.5 | 6.89 | 652.261 | | |
| 2,100.0 | 2,085.1 | 2,073.1 | 2,073.1 | 5.4 | 3.6 | 174.57 | 4,119.6 | 1,184.6 | 4,508.3 | 4,501.0 | 7.24 | 622.813 | | |
| 2,200.0 | 2,184.1 | 2,172.1 | 2,172.1 | 5.7 | 3.8 | 174.59 | 4,119.6 | 1,184.6 | 4,522.1 | 4,514.5 | 7.59 | 596.069 | | |
| 2,300.0 | 2,283.1 | 2,271.1 | 2,271.1 | 6.0 | 3.9 | 174.60 | 4,119.6 | 1,184.6 | 4,536.0 | 4,528.0 | 7.93 | 571.671 | | |
| 2,400.0 | 2,382.2 | 2,370.2 | 2,370.2 | 6.3 | 4.1 | 174.62 | 4,119.6 | 1,184.6 | 4,549.8 | 4,541.6 | 8.28 | 549.325 | | |
| 2,500.0 | 2,481.2 | 2,469.2 | 2,469.2 | 6.6 | 4.3 | 174.64 | 4,119.6 | 1,184.6 | 4,563.7 | 4,555.1 | 8.63 | 528.782 | | |
| 2,600.0 | 2,580.2 | 2,568.2 | 2,568.2 | 6.9 | 4.5 | 174.65 | 4,119.6 | 1,184.6 | 4,577.5 | 4,568.6 | 8.98 | 509.832 | | |
| 2,700.0 | 2,679.2 | 2,667.2 | 2,667.2 | 7.2 | 4.6 | 174.67 | 4,119.6 | 1,184.6 | 4,591.4 | 4,582.1 | 9.33 | 492.297 | | |
| 2,800.0 | 2,778.3 | 2,766.3 | 2,766.3 | 7.5 | 4.8 | 174.68 | 4,119.6 | 1,184.6 | 4,605.3 | 4,595.6 | 9.67 | 476.024 | | |
| 2,900.0 | 2,877.3 | 2,865.3 | 2,865.3 | 7.8 | 5.0 | 174.70 | 4,119.6 | 1,184.6 | 4,619.1 | 4,609.1 | 10.02 | 460.882 | | |
| 3,000.0 | 2,976.3 | 2,964.3 | 2,964.3 | 8.1 | 5.2 | 174.72 | 4,119.6 | 1,184.6 | 4,633.0 | 4,622.6 | 10.37 | 446.756 | | |
| 3,100.0 | 3,075.3 | 3,063.3 | 3,063.3 | 8.4 | 5.3 | 174.73 | 4,119.6 | 1,184.6 | 4,646.8 | 4,636.1 | 10.72 | 433.548 | | |
| 3,200.0 | 3,174.4 | 3,162.4 | 3,162.4 | 8.7 | 5.5 | 174.75 | 4,119.6 | 1,184.6 | 4,660.7 | 4,649.6 | 11.07 | 421.171 | | |
| 3,300.0 | 3,273.4 | 3,261.4 | 3,261.4 | 9.0 | 5.7 | 174.76 | 4,119.6 | 1,184.6 | 4,674.6 | 4,663.1 | 11.41 | 409.549 | | |
| 3,400.0 | 3,372.4 | 3,360.4 | 3,360.4 | 9.3 | 5.8 | 174.78 | 4,119.6 | 1,184.6 | 4,688.4 | 4,676.7 | 11.76 | 398.616 | | |
| 3,500.0 | 3,471.5 | 3,459.5 | 3,459.5 | 9.6 | 6.0 | 174.79 | 4,119.6 | 1,184.6 | 4,702.3 | 4,690.2 | 12.11 | 388.310 | | |
| 3,600.0 | 3,570.5 | 3,558.5 | 3,558.5 | 9.9 | 6.2 | 174.81 | 4,119.6 | 1,184.6 | 4,716.1 | 4,703.7 | 12.46 | 378.581 | | |
| 3,680.0 | 3,649.7 | 3,637.7 | 3,637.7 | 10.1 | 6.3 | 174.82 | 4,119.6 | 1,184.6 | 4,727.2 | 4,714.5 | 12.74 | 371.180 | | |
| 3,700.0 | 3,669.5 | 3,657.5 | 3,657.5 | 10.2 | 6.4 | 174.83 | 4,119.6 | 1,184.6 | 4,729.9 | 4,717.1 | 12.81 | 369.249 | | |
| 3,800.0 | 3,768.8 | 3,756.8 | 3,756.8 | 10.4 | 6.5 | 174.86 | 4,119.6 | 1,184.6 | 4,741.4 | 4,728.2 | 13.17 | 359.920 | | |
| 3,900.0 | 3,868.5 | 3,856.5 | 3,856.5 | 10.6 | 6.7 | 174.89 | 4,119.6 | 1,184.6 | 4,749.4 | 4,735.8 | 13.53 | 351.092 | | |
| 4,000.0 | 3,968.4 | 3,956.4 | 3,956.4 | 10.8 | 6.9 | 174.90 | 4,119.6 | 1,184.6 | 4,753.9 | 4,740.0 | 13.87 | 342.721 | | |
| 4,080.0 | 4,048.4 | 4,036.4 | 4,036.4 | 10.9 | 7.0 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,740.9 | 14.14 | 336.325 | | |
| 4,100.0 | 4,068.4 | 4,056.4 | 4,056.4 | 10.9 | 7.1 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,740.8 | 14.21 | 334.674 | | |
| 4,200.0 | 4,168.4 | 4,156.4 | 4,156.4 | 11.0 | 7.2 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,740.4 | 14.56 | 326.658 | | |
| 4,300.0 | 4,268.4 | 4,256.4 | 4,256.4 | 11.1 | 7.4 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,740.1 | 14.91 | 319.017 | | |
| 4,400.0 | 4,368.4 | 4,356.4 | 4,356.4 | 11.2 | 7.6 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,739.7 | 15.25 | 311.725 | | |
| 4,500.0 | 4,468.4 | 4,456.4 | 4,456.4 | 11.4 | 7.8 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,739.4 | 15.60 | 304.758 | | |
| 4,600.0 | 4,568.4 | 4,556.4 | 4,556.4 | 11.5 | 7.9 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,739.1 | 15.95 | 298.096 | | |
| 4,700.0 | 4,668.4 | 4,656.4 | 4,656.4 | 11.6 | 8.1 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,738.7 | 16.30 | 291.718 | | |
| 4,800.0 | 4,768.4 | 4,756.4 | 4,756.4 | 11.7 | 8.3 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,738.4 | 16.65 | 285.607 | | |
| 4,900.0 | 4,868.4 | 4,856.4 | 4,856.4 | 11.9 | 8.5 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,738.0 | 17.00 | 279.747 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | 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) | Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | | |
| 5,000.0 | 4,968.4 | 4,956.4 | 4,956.4 | 12.0 | 8.6 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,737.7 | 17.35 | 274.122 | | | |
| 5,100.0 | 5,068.4 | 5,056.4 | 5,056.4 | 12.1 | 8.8 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,737.3 | 17.70 | 268.719 | | | |
| 5,200.0 | 5,168.4 | 5,156.4 | 5,156.4 | 12.2 | 9.0 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,737.0 | 18.04 | 263.525 | | | |
| 5,300.0 | 5,268.4 | 5,256.4 | 5,256.4 | 12.4 | 9.2 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,736.6 | 18.39 | 258.527 | | | |
| 5,400.0 | 5,368.4 | 5,356.4 | 5,356.4 | 12.5 | 9.3 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,736.3 | 18.74 | 253.716 | | | |
| 5,500.0 | 5,468.4 | 5,456.4 | 5,456.4 | 12.6 | 9.5 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,735.9 | 19.09 | 249.080 | | | |
| 5,600.0 | 5,568.4 | 5,556.4 | 5,556.4 | 12.8 | 9.7 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,735.6 | 19.44 | 244.610 | | | |
| 5,700.0 | 5,668.4 | 5,656.4 | 5,656.4 | 12.9 | 9.8 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,735.2 | 19.79 | 240.298 | | | |
| 5,800.0 | 5,768.4 | 5,756.4 | 5,756.4 | 13.0 | 10.0 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,734.9 | 20.14 | 236.135 | | | |
| 5,900.0 | 5,868.4 | 5,856.4 | 5,856.4 | 13.2 | 10.2 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,734.5 | 20.49 | 232.114 | | | |
| 6,000.0 | 5,968.4 | 5,956.4 | 5,956.4 | 13.3 | 10.4 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,734.2 | 20.83 | 228.227 | | | |
| 6,100.0 | 6,068.4 | 6,056.4 | 6,056.4 | 13.4 | 10.5 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,733.8 | 21.18 | 224.469 | | | |
| 6,200.0 | 6,168.4 | 6,156.4 | 6,156.4 | 13.6 | 10.7 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,733.5 | 21.53 | 220.832 | | | |
| 6,300.0 | 6,268.4 | 6,256.4 | 6,256.4 | 13.7 | 10.9 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,733.1 | 21.88 | 217.311 | | | |
| 6,400.0 | 6,368.4 | 6,356.4 | 6,356.4 | 13.9 | 11.1 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,732.8 | 22.23 | 213.900 | | | |
| 6,500.0 | 6,468.4 | 6,456.4 | 6,456.4 | 14.0 | 11.2 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,732.4 | 22.58 | 210.595 | | | |
| 6,600.0 | 6,568.4 | 6,556.4 | 6,556.4 | 14.1 | 11.4 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,732.1 | 22.93 | 207.390 | | | |
| 6,700.0 | 6,668.4 | 6,656.4 | 6,656.4 | 14.3 | 11.6 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,731.7 | 23.28 | 204.281 | | | |
| 6,800.0 | 6,768.4 | 6,756.4 | 6,756.4 | 14.4 | 11.8 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,731.4 | 23.63 | 201.265 | | | |
| 6,900.0 | 6,868.4 | 6,856.4 | 6,856.4 | 14.6 | 11.9 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,731.0 | 23.97 | 198.336 | | | |
| 6,960.4 | 6,928.8 | 6,916.8 | 6,916.8 | 14.7 | 12.0 | 16.60 | 4,119.6 | 1,184.6 | 4,755.0 | 4,730.8 | 24.19 | 196.607 | | | |
| 7,000.0 | 6,968.4 | 6,956.4 | 6,956.4 | 14.7 | 12.1 | 16.62 | 4,119.6 | 1,184.6 | 4,754.0 | 4,729.7 | 24.27 | 195.864 | | | |
| 7,050.0 | 7,018.2 | 7,006.2 | 7,006.2 | 14.7 | 12.2 | 16.74 | 4,119.6 | 1,184.6 | 4,749.6 | 4,725.3 | 24.32 | 195.333 | | | |
| 7,100.0 | 7,067.5 | 7,055.5 | 7,055.5 | 14.7 | 12.3 | 16.95 | 4,119.6 | 1,184.6 | 4,742.0 | 4,717.7 | 24.29 | 195.248 | | | |
| 7,150.0 | 7,116.2 | 7,104.2 | 7,104.2 | 14.7 | 12.4 | 17.25 | 4,119.6 | 1,184.6 | 4,731.1 | 4,706.9 | 24.19 | 195.593 | | | |
| 7,200.0 | 7,164.0 | 7,152.0 | 7,152.0 | 14.6 | 12.5 | 17.66 | 4,119.6 | 1,184.6 | 4,717.0 | 4,692.9 | 24.02 | 196.350 | | | |
| 7,250.0 | 7,210.6 | 7,198.6 | 7,198.6 | 14.5 | 12.5 | 18.18 | 4,119.6 | 1,184.6 | 4,699.7 | 4,675.9 | 23.80 | 197.493 | | | |
| 7,300.0 | 7,255.8 | 7,243.8 | 7,243.8 | 14.4 | 12.6 | 18.83 | 4,119.6 | 1,184.6 | 4,679.3 | 4,655.8 | 23.52 | 198.983 | | | |
| 7,350.0 | 7,299.5 | 7,287.5 | 7,287.5 | 14.3 | 12.7 | 19.62 | 4,119.6 | 1,184.6 | 4,656.0 | 4,632.8 | 23.19 | 200.763 | | | |
| 7,400.0 | 7,341.3 | 7,329.3 | 7,329.3 | 14.2 | 12.8 | 20.57 | 4,119.6 | 1,184.6 | 4,629.9 | 4,607.0 | 22.84 | 202.750 | | | |
| 7,450.0 | 7,381.1 | 7,369.1 | 7,369.1 | 14.1 | 12.8 | 21.73 | 4,119.6 | 1,184.6 | 4,601.0 | 4,578.5 | 22.46 | 204.821 | | | |
| 7,500.0 | 7,418.8 | 7,406.8 | 7,406.8 | 14.0 | 12.9 | 23.11 | 4,119.6 | 1,184.6 | 4,569.6 | 4,547.5 | 22.10 | 206.797 | | | |
| 7,550.0 | 7,454.0 | 7,442.0 | 7,442.0 | 13.9 | 13.0 | 24.78 | 4,119.6 | 1,184.6 | 4,535.7 | 4,514.0 | 21.76 | 208.428 | | | |
| 7,600.0 | 7,486.7 | 7,474.7 | 7,474.7 | 13.8 | 13.0 | 26.79 | 4,119.6 | 1,184.6 | 4,499.7 | 4,478.2 | 21.49 | 209.378 | | | |
| 7,650.0 | 7,516.7 | 7,504.7 | 7,504.7 | 13.8 | 13.1 | 29.23 | 4,119.6 | 1,184.6 | 4,461.5 | 4,440.2 | 21.33 | 209.214 | | | |
| 7,700.0 | 7,543.8 | 7,531.8 | 7,531.8 | 13.8 | 13.1 | 32.20 | 4,119.6 | 1,184.6 | 4,421.5 | 4,400.2 | 21.32 | 207.431 | | | |
| 7,750.0 | 7,567.9 | 7,555.9 | 7,555.9 | 13.8 | 13.2 | 35.85 | 4,119.6 | 1,184.6 | 4,379.9 | 4,358.4 | 21.52 | 203.525 | | | |
| 7,800.0 | 7,588.9 | 7,576.9 | 7,576.9 | 13.9 | 13.2 | 40.36 | 4,119.6 | 1,184.6 | 4,336.8 | 4,314.8 | 22.00 | 197.132 | | | |
| 7,850.0 | 7,606.7 | 7,594.7 | 7,594.7 | 14.1 | 13.2 | 45.94 | 4,119.6 | 1,184.6 | 4,292.4 | 4,269.6 | 22.80 | 188.243 | | | |
| 7,900.0 | 7,621.1 | 7,609.1 | 7,609.1 | 14.2 | 13.3 | 52.82 | 4,119.6 | 1,184.6 | 4,247.1 | 4,223.1 | 23.94 | 177.420 | | | |
| 7,950.0 | 7,632.2 | 7,620.2 | 7,620.2 | 14.5 | 13.3 | 61.19 | 4,119.6 | 1,184.6 | 4,200.9 | 4,175.6 | 25.32 | 165.881 | | | |
| 8,000.0 | 7,639.9 | 7,627.9 | 7,627.9 | 14.8 | 13.3 | 71.02 | 4,119.6 | 1,184.6 | 4,154.2 | 4,127.5 | 26.75 | 155.300 | | | |
| 8,050.0 | 7,644.1 | 7,632.1 | 7,632.1 | 15.1 | 13.3 | 81.97 | 4,119.6 | 1,184.6 | 4,107.2 | 4,079.3 | 27.89 | 147.286 | | | |
| 8,085.4 | 7,645.0 | 7,633.0 | 7,633.0 | 15.4 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 4,073.8 | 4,045.4 | 28.35 | 143.690 | | | |
| 8,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 15.5 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 4,060.0 | 4,031.6 | 28.47 | 142.625 | | | |
| 8,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 16.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,965.9 | 3,936.6 | 29.34 | 135.159 | | | |
| 8,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 17.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,872.1 | 3,841.8 | 30.35 | 127.562 | | | |
| 8,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 18.4 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,778.6 | 3,747.2 | 31.48 | 120.032 | | | |
| 8,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 19.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,685.5 | 3,652.8 | 32.70 | 112.709 | | | |
| 8,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 20.9 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,592.7 | 3,558.7 | 34.00 | 105.684 | | | |
| 8,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 22.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,500.4 | 3,465.0 | 35.35 | 99.007 | | | |
| 8,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 23.7 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,408.4 | 3,371.6 | 36.77 | 92.705 | | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-07177, Mathews 1 (Exisiting) - VT (Existing) - Existing | | | | | | | | | | | | | 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) | Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| | | | | | | | | | | | | | | |
| 8,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 25.1 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,316.9 | 3,278.7 | 38.22 | 86.781 | | |
| 9,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 26.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,226.0 | 3,186.2 | 39.71 | 81.231 | | |
| 9,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 28.1 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,135.5 | 3,094.3 | 41.24 | 76.040 | | |
| 9,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 29.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 3,045.7 | 3,002.9 | 42.78 | 71.189 | | |
| 9,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 31.2 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,956.5 | 2,912.2 | 44.35 | 66.659 | | |
| 9,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 32.8 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,868.1 | 2,822.1 | 45.94 | 62.429 | | |
| 9,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 34.4 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,780.4 | 2,732.9 | 47.55 | 58.478 | | |
| 9,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 36.0 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,693.6 | 2,644.4 | 49.17 | 54.787 | | |
| 9,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 37.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,607.7 | 2,556.9 | 50.80 | 51.337 | | |
| 9,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 39.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,522.9 | 2,470.5 | 52.44 | 48.112 | | |
| 9,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 40.9 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,439.2 | 2,385.1 | 54.09 | 45.097 | | |
| 10,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 42.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,356.8 | 2,301.1 | 55.75 | 42.276 | | |
| 10,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 44.2 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,275.8 | 2,218.4 | 57.41 | 39.638 | | |
| 10,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 45.9 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,196.4 | 2,137.3 | 59.09 | 37.172 | | |
| 10,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 47.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,118.7 | 2,057.9 | 60.77 | 34.866 | | |
| 10,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 49.2 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 2,043.0 | 1,980.5 | 62.45 | 32.713 | | |
| 10,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 50.9 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,969.4 | 1,905.2 | 64.14 | 30.705 | | |
| 10,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 52.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,898.2 | 1,832.4 | 65.83 | 28.834 | | |
| 10,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 54.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,829.8 | 1,762.2 | 67.53 | 27.096 | | |
| 10,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 56.0 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,764.3 | 1,695.1 | 69.23 | 25.485 | | |
| 10,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 57.7 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,702.2 | 1,631.3 | 70.93 | 23.997 | | |
| 11,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 59.4 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,643.9 | 1,571.2 | 72.64 | 22.630 | | |
| 11,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 61.1 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,589.7 | 1,515.4 | 74.35 | 21.381 | | |
| 11,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 62.8 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,540.1 | 1,464.0 | 76.06 | 20.248 | | |
| 11,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 64.5 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,495.6 | 1,417.8 | 77.78 | 19.229 | | |
| 11,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 66.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,456.5 | 1,377.0 | 79.49 | 18.323 | | |
| 11,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 68.0 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,423.5 | 1,342.3 | 81.21 | 17.528 | | |
| 11,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 69.7 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,396.8 | 1,313.9 | 82.93 | 16.843 | | |
| 11,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 71.4 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,376.9 | 1,292.2 | 84.65 | 16.265 | | |
| 11,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 73.1 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,364.0 | 1,277.7 | 86.37 | 15.792 | | |
| 11,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 74.9 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,358.5 | 1,270.4 | 88.10 | 15.420 | | |
| 11,926.1 | 7,645.0 | 7,633.0 | 7,633.0 | 75.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,358.2 | 1,269.6 | 88.55 | 15.338 CC, ES | | |
| 12,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 76.6 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,360.2 | 1,270.4 | 89.83 | 15.143 | | |
| 12,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 78.3 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,369.3 | 1,277.7 | 91.55 | 14.956 | | |
| 12,170.4 | 7,645.0 | 7,633.0 | 7,633.0 | 79.5 | 13.3 | 90.00 | 4,119.6 | 1,184.6 | 1,380.0 | 1,287.2 | 92.77 | 14.876 SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | | 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 | -27.11 | 3,187.5 | -1,632.0 | 3,581.0 | | | | | | |
| 100.0 | 100.0 | 88.0 | 88.0 | 0.2 | 0.1 | -27.11 | 3,187.5 | -1,632.0 | 3,581.0 | 3,580.7 | 0.29 | N/A | | | |
| 200.0 | 200.0 | 188.0 | 188.0 | 0.3 | 0.3 | -27.11 | 3,187.5 | -1,632.0 | 3,581.0 | 3,580.3 | 0.63 | 5,667.817 | | | |
| 300.0 | 300.0 | 288.0 | 288.0 | 0.5 | 0.5 | -27.11 | 3,187.5 | -1,632.0 | 3,581.0 | 3,580.0 | 0.98 | 3,650.801 | | | |
| 400.0 | 400.0 | 388.0 | 388.0 | 0.7 | 0.7 | 131.19 | 3,187.5 | -1,632.0 | 3,582.1 | 3,580.8 | 1.33 | 2,690.815 | | | |
| 500.0 | 499.8 | 487.8 | 487.8 | 0.9 | 0.8 | 131.20 | 3,187.5 | -1,632.0 | 3,585.6 | 3,583.9 | 1.69 | 2,123.177 | | | |
| 600.0 | 599.5 | 587.5 | 587.5 | 1.1 | 1.0 | 131.22 | 3,187.5 | -1,632.0 | 3,591.3 | 3,589.3 | 2.06 | 1,742.674 | | | |
| 700.0 | 698.7 | 686.7 | 686.7 | 1.3 | 1.2 | 131.24 | 3,187.5 | -1,632.0 | 3,599.4 | 3,596.9 | 2.45 | 1,466.587 | | | |
| 800.0 | 797.7 | 785.7 | 785.7 | 1.6 | 1.3 | 131.41 | 3,187.5 | -1,632.0 | 3,608.6 | 3,605.8 | 2.86 | 1,262.458 | | | |
| 900.0 | 896.8 | 884.8 | 884.8 | 1.9 | 1.5 | 131.57 | 3,187.5 | -1,632.0 | 3,617.9 | 3,614.6 | 3.27 | 1,107.189 | | | |
| 1,000.0 | 995.8 | 983.8 | 983.8 | 2.2 | 1.7 | 131.74 | 3,187.5 | -1,632.0 | 3,627.2 | 3,623.5 | 3.68 | 985.683 | | | |
| 1,100.0 | 1,094.8 | 1,082.8 | 1,082.8 | 2.5 | 1.9 | 131.90 | 3,187.5 | -1,632.0 | 3,636.5 | 3,632.4 | 4.09 | 888.270 | | | |
| 1,200.0 | 1,193.8 | 1,181.8 | 1,181.8 | 2.8 | 2.0 | 132.06 | 3,187.5 | -1,632.0 | 3,645.9 | 3,641.4 | 4.51 | 808.564 | | | |
| 1,300.0 | 1,292.9 | 1,280.9 | 1,280.9 | 3.1 | 2.2 | 132.22 | 3,187.5 | -1,632.0 | 3,655.3 | 3,650.4 | 4.92 | 742.209 | | | |
| 1,400.0 | 1,391.9 | 1,379.9 | 1,379.9 | 3.3 | 2.4 | 132.38 | 3,187.5 | -1,632.0 | 3,664.7 | 3,659.4 | 5.34 | 686.153 | | | |
| 1,500.0 | 1,490.9 | 1,478.9 | 1,478.9 | 3.6 | 2.6 | 132.54 | 3,187.5 | -1,632.0 | 3,674.2 | 3,668.4 | 5.76 | 638.195 | | | |
| 1,600.0 | 1,589.9 | 1,577.9 | 1,577.9 | 3.9 | 2.7 | 132.70 | 3,187.5 | -1,632.0 | 3,683.6 | 3,677.5 | 6.17 | 596.714 | | | |
| 1,700.0 | 1,689.0 | 1,677.0 | 1,677.0 | 4.2 | 2.9 | 132.86 | 3,187.5 | -1,632.0 | 3,693.1 | 3,686.5 | 6.59 | 560.491 | | | |
| 1,800.0 | 1,788.0 | 1,776.0 | 1,776.0 | 4.5 | 3.1 | 133.02 | 3,187.5 | -1,632.0 | 3,702.7 | 3,695.7 | 7.00 | 528.594 | | | |
| 1,900.0 | 1,887.0 | 1,875.0 | 1,875.0 | 4.8 | 3.2 | 133.17 | 3,187.5 | -1,632.0 | 3,712.2 | 3,704.8 | 7.42 | 500.296 | | | |
| 2,000.0 | 1,986.1 | 1,974.1 | 1,974.1 | 5.1 | 3.4 | 133.33 | 3,187.5 | -1,632.0 | 3,721.8 | 3,714.0 | 7.83 | 475.024 | | | |
| 2,100.0 | 2,085.1 | 2,073.1 | 2,073.1 | 5.4 | 3.6 | 133.48 | 3,187.5 | -1,632.0 | 3,731.4 | 3,723.2 | 8.25 | 452.321 | | | |
| 2,200.0 | 2,184.1 | 2,172.1 | 2,172.1 | 5.7 | 3.8 | 133.64 | 3,187.5 | -1,632.0 | 3,741.1 | 3,732.4 | 8.66 | 431.815 | | | |
| 2,300.0 | 2,283.1 | 2,271.1 | 2,271.1 | 6.0 | 3.9 | 133.79 | 3,187.5 | -1,632.0 | 3,750.7 | 3,741.6 | 9.08 | 413.204 | | | |
| 2,400.0 | 2,382.2 | 2,370.2 | 2,370.2 | 6.3 | 4.1 | 133.94 | 3,187.5 | -1,632.0 | 3,760.4 | 3,750.9 | 9.49 | 396.239 | | | |
| 2,500.0 | 2,481.2 | 2,469.2 | 2,469.2 | 6.6 | 4.3 | 134.09 | 3,187.5 | -1,632.0 | 3,770.1 | 3,760.2 | 9.90 | 380.710 | | | |
| 2,600.0 | 2,580.2 | 2,568.2 | 2,568.2 | 6.9 | 4.5 | 134.24 | 3,187.5 | -1,632.0 | 3,779.9 | 3,769.6 | 10.32 | 366.445 | | | |
| 2,700.0 | 2,679.2 | 2,667.2 | 2,667.2 | 7.2 | 4.6 | 134.39 | 3,187.5 | -1,632.0 | 3,789.7 | 3,778.9 | 10.73 | 353.295 | | | |
| 2,800.0 | 2,778.3 | 2,766.3 | 2,766.3 | 7.5 | 4.8 | 134.54 | 3,187.5 | -1,632.0 | 3,799.4 | 3,788.3 | 11.14 | 341.135 | | | |
| 2,900.0 | 2,877.3 | 2,865.3 | 2,865.3 | 7.8 | 5.0 | 134.69 | 3,187.5 | -1,632.0 | 3,809.3 | 3,797.7 | 11.55 | 329.859 | | | |
| 3,000.0 | 2,976.3 | 2,964.3 | 2,964.3 | 8.1 | 5.2 | 134.84 | 3,187.5 | -1,632.0 | 3,819.1 | 3,807.2 | 11.96 | 319.373 | | | |
| 3,100.0 | 3,075.3 | 3,063.3 | 3,063.3 | 8.4 | 5.3 | 134.99 | 3,187.5 | -1,632.0 | 3,829.0 | 3,816.6 | 12.37 | 309.597 | | | |
| 3,200.0 | 3,174.4 | 3,162.4 | 3,162.4 | 8.7 | 5.5 | 135.13 | 3,187.5 | -1,632.0 | 3,838.9 | 3,826.1 | 12.78 | 300.463 | | | |
| 3,300.0 | 3,273.4 | 3,261.4 | 3,261.4 | 9.0 | 5.7 | 135.28 | 3,187.5 | -1,632.0 | 3,848.8 | 3,835.6 | 13.18 | 291.910 | | | |
| 3,400.0 | 3,372.4 | 3,360.4 | 3,360.4 | 9.3 | 5.8 | 135.42 | 3,187.5 | -1,632.0 | 3,858.8 | 3,845.2 | 13.59 | 283.883 | | | |
| 3,500.0 | 3,471.5 | 3,459.5 | 3,459.5 | 9.6 | 6.0 | 135.57 | 3,187.5 | -1,632.0 | 3,868.7 | 3,854.7 | 14.00 | 276.337 | | | |
| 3,600.0 | 3,570.5 | 3,558.5 | 3,558.5 | 9.9 | 6.2 | 135.71 | 3,187.5 | -1,632.0 | 3,878.7 | 3,864.3 | 14.41 | 269.229 | | | |
| 3,680.0 | 3,649.7 | 3,637.7 | 3,637.7 | 10.1 | 6.3 | 135.82 | 3,187.5 | -1,632.0 | 3,886.8 | 3,872.0 | 14.73 | 263.833 | | | |
| 3,700.0 | 3,669.5 | 3,657.5 | 3,657.5 | 10.2 | 6.4 | 135.88 | 3,187.5 | -1,632.0 | 3,888.7 | 3,873.9 | 14.81 | 262.529 | | | |
| 3,800.0 | 3,768.8 | 3,756.8 | 3,756.8 | 10.4 | 6.5 | 136.11 | 3,187.5 | -1,632.0 | 3,897.0 | 3,881.8 | 15.19 | 256.574 | | | |
| 3,900.0 | 3,868.5 | 3,856.5 | 3,856.5 | 10.6 | 6.7 | 136.27 | 3,187.5 | -1,632.0 | 3,902.8 | 3,887.3 | 15.54 | 251.175 | | | |
| 4,000.0 | 3,968.4 | 3,956.4 | 3,956.4 | 10.8 | 6.9 | 136.36 | 3,187.5 | -1,632.0 | 3,906.1 | 3,890.2 | 15.86 | 246.263 | | | |
| 4,080.0 | 4,048.4 | 4,036.4 | 4,036.4 | 10.9 | 7.0 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,890.8 | 16.10 | 242.604 | | | |
| 4,100.0 | 4,068.4 | 4,056.4 | 4,056.4 | 10.9 | 7.1 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,890.7 | 16.17 | 241.671 | | | |
| 4,200.0 | 4,168.4 | 4,156.4 | 4,156.4 | 11.0 | 7.2 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,890.4 | 16.48 | 237.097 | | | |
| 4,300.0 | 4,268.4 | 4,256.4 | 4,256.4 | 11.1 | 7.4 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,890.1 | 16.79 | 232.676 | | | |
| 4,400.0 | 4,368.4 | 4,356.4 | 4,356.4 | 11.2 | 7.6 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,889.8 | 17.11 | 228.401 | | | |
| 4,500.0 | 4,468.4 | 4,456.4 | 4,456.4 | 11.4 | 7.8 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,889.5 | 17.42 | 224.266 | | | |
| 4,600.0 | 4,568.4 | 4,556.4 | 4,556.4 | 11.5 | 7.9 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,889.2 | 17.74 | 220.265 | | | |
| 4,700.0 | 4,668.4 | 4,656.4 | 4,656.4 | 11.6 | 8.1 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,888.8 | 18.05 | 216.391 | | | |
| 4,800.0 | 4,768.4 | 4,756.4 | 4,756.4 | 11.7 | 8.3 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,888.5 | 18.37 | 212.640 | | | |
| 4,900.0 | 4,868.4 | 4,856.4 | 4,856.4 | 11.9 | 8.5 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,888.2 | 18.69 | 209.006 | | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | 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 | | |
| 5,000.0 | 4,968.4 | 4,956.4 | 4,956.4 | 12.0 | 8.6 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,887.9 | 19.01 | 205.484 | | |
| 5,100.0 | 5,068.4 | 5,056.4 | 5,056.4 | 12.1 | 8.8 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,887.6 | 19.33 | 202.070 | | |
| 5,200.0 | 5,168.4 | 5,156.4 | 5,156.4 | 12.2 | 9.0 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,887.2 | 19.66 | 198.759 | | |
| 5,300.0 | 5,268.4 | 5,256.4 | 5,256.4 | 12.4 | 9.2 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,886.9 | 19.98 | 195.547 | | |
| 5,400.0 | 5,368.4 | 5,356.4 | 5,356.4 | 12.5 | 9.3 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,886.6 | 20.30 | 192.430 | | |
| 5,500.0 | 5,468.4 | 5,456.4 | 5,456.4 | 12.6 | 9.5 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,886.3 | 20.63 | 189.404 | | |
| 5,600.0 | 5,568.4 | 5,556.4 | 5,556.4 | 12.8 | 9.7 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,885.9 | 20.95 | 186.465 | | |
| 5,700.0 | 5,668.4 | 5,656.4 | 5,656.4 | 12.9 | 9.8 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,885.6 | 21.28 | 183.610 | | |
| 5,800.0 | 5,768.4 | 5,756.4 | 5,756.4 | 13.0 | 10.0 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,885.3 | 21.60 | 180.836 | | |
| 5,900.0 | 5,868.4 | 5,856.4 | 5,856.4 | 13.2 | 10.2 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,885.0 | 21.93 | 178.139 | | |
| 6,000.0 | 5,968.4 | 5,956.4 | 5,956.4 | 13.3 | 10.4 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,884.6 | 22.26 | 175.517 | | |
| 6,100.0 | 6,068.4 | 6,056.4 | 6,056.4 | 13.4 | 10.5 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,884.3 | 22.59 | 172.966 | | |
| 6,200.0 | 6,168.4 | 6,156.4 | 6,156.4 | 13.6 | 10.7 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,884.0 | 22.92 | 170.484 | | |
| 6,300.0 | 6,268.4 | 6,256.4 | 6,256.4 | 13.7 | 10.9 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,883.6 | 23.25 | 168.069 | | |
| 6,400.0 | 6,368.4 | 6,356.4 | 6,356.4 | 13.9 | 11.1 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,883.3 | 23.58 | 165.717 | | |
| 6,500.0 | 6,468.4 | 6,456.4 | 6,456.4 | 14.0 | 11.2 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,883.0 | 23.91 | 163.427 | | |
| 6,600.0 | 6,568.4 | 6,556.4 | 6,556.4 | 14.1 | 11.4 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,882.7 | 24.24 | 161.196 | | |
| 6,700.0 | 6,668.4 | 6,656.4 | 6,656.4 | 14.3 | 11.6 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,882.3 | 24.57 | 159.022 | | |
| 6,800.0 | 6,768.4 | 6,756.4 | 6,756.4 | 14.4 | 11.8 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,882.0 | 24.90 | 156.903 | | |
| 6,900.0 | 6,868.4 | 6,856.4 | 6,856.4 | 14.6 | 11.9 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,881.7 | 25.23 | 154.838 | | |
| 6,960.4 | 6,928.8 | 6,916.8 | 6,916.8 | 14.7 | 12.0 | -21.91 | 3,187.5 | -1,632.0 | 3,906.9 | 3,881.5 | 25.43 | 153.615 | | |
| 7,000.0 | 6,968.4 | 6,956.4 | 6,956.4 | 14.7 | 12.1 | -21.95 | 3,187.5 | -1,632.0 | 3,905.9 | 3,880.4 | 25.52 | 153.055 | | |
| 7,050.0 | 7,018.2 | 7,006.2 | 7,006.2 | 14.7 | 12.2 | -22.10 | 3,187.5 | -1,632.0 | 3,901.7 | 3,876.1 | 25.56 | 152.644 | | |
| 7,100.0 | 7,067.5 | 7,055.5 | 7,055.5 | 14.7 | 12.3 | -22.38 | 3,187.5 | -1,632.0 | 3,894.3 | 3,868.8 | 25.53 | 152.548 | | |
| 7,150.0 | 7,116.2 | 7,104.2 | 7,104.2 | 14.7 | 12.4 | -22.77 | 3,187.5 | -1,632.0 | 3,883.8 | 3,858.3 | 25.42 | 152.755 | | |
| 7,200.0 | 7,164.0 | 7,152.0 | 7,152.0 | 14.6 | 12.5 | -23.30 | 3,187.5 | -1,632.0 | 3,870.1 | 3,844.8 | 25.25 | 153.246 | | |
| 7,250.0 | 7,210.6 | 7,198.6 | 7,198.6 | 14.5 | 12.5 | -23.98 | 3,187.5 | -1,632.0 | 3,853.4 | 3,828.3 | 25.02 | 153.997 | | |
| 7,300.0 | 7,255.8 | 7,243.8 | 7,243.8 | 14.4 | 12.6 | -24.81 | 3,187.5 | -1,632.0 | 3,833.7 | 3,809.0 | 24.74 | 154.970 | | |
| 7,350.0 | 7,299.5 | 7,287.5 | 7,287.5 | 14.3 | 12.7 | -25.83 | 3,187.5 | -1,632.0 | 3,811.2 | 3,786.8 | 24.41 | 156.112 | | |
| 7,400.0 | 7,341.3 | 7,329.3 | 7,329.3 | 14.2 | 12.8 | -27.05 | 3,187.5 | -1,632.0 | 3,785.9 | 3,761.9 | 24.06 | 157.347 | | |
| 7,450.0 | 7,381.1 | 7,369.1 | 7,369.1 | 14.1 | 12.8 | -28.51 | 3,187.5 | -1,632.0 | 3,758.1 | 3,734.4 | 23.70 | 158.563 | | |
| 7,500.0 | 7,418.8 | 7,406.8 | 7,406.8 | 14.0 | 12.9 | -30.24 | 3,187.5 | -1,632.0 | 3,727.8 | 3,704.4 | 23.36 | 159.605 | | |
| 7,550.0 | 7,454.0 | 7,442.0 | 7,442.0 | 13.9 | 13.0 | -32.28 | 3,187.5 | -1,632.0 | 3,695.2 | 3,672.1 | 23.06 | 160.267 | | |
| 7,600.0 | 7,486.7 | 7,474.7 | 7,474.7 | 13.8 | 13.0 | -34.71 | 3,187.5 | -1,632.0 | 3,660.4 | 3,637.6 | 22.84 | 160.288 | | |
| 7,650.0 | 7,516.7 | 7,504.7 | 7,504.7 | 13.8 | 13.1 | -37.58 | 3,187.5 | -1,632.0 | 3,623.8 | 3,601.0 | 22.74 | 159.369 | | |
| 7,700.0 | 7,543.8 | 7,531.8 | 7,531.8 | 13.8 | 13.1 | -40.98 | 3,187.5 | -1,632.0 | 3,585.4 | 3,562.6 | 22.81 | 157.216 | | |
| 7,750.0 | 7,567.9 | 7,555.9 | 7,555.9 | 13.8 | 13.2 | -44.99 | 3,187.5 | -1,632.0 | 3,545.4 | 3,522.3 | 23.08 | 153.617 | | |
| 7,800.0 | 7,588.9 | 7,576.9 | 7,576.9 | 13.9 | 13.2 | -49.71 | 3,187.5 | -1,632.0 | 3,504.1 | 3,480.5 | 23.59 | 148.547 | | |
| 7,850.0 | 7,606.7 | 7,594.7 | 7,594.7 | 14.1 | 13.2 | -55.20 | 3,187.5 | -1,632.0 | 3,461.7 | 3,437.3 | 24.33 | 142.255 | | |
| 7,900.0 | 7,621.1 | 7,609.1 | 7,609.1 | 14.2 | 13.3 | -61.51 | 3,187.5 | -1,632.0 | 3,418.3 | 3,393.1 | 25.27 | 135.276 | | |
| 7,950.0 | 7,632.2 | 7,620.2 | 7,620.2 | 14.5 | 13.3 | -68.59 | 3,187.5 | -1,632.0 | 3,374.3 | 3,348.0 | 26.29 | 128.336 | | |
| 8,000.0 | 7,639.9 | 7,627.9 | 7,627.9 | 14.8 | 13.3 | -76.28 | 3,187.5 | -1,632.0 | 3,329.8 | 3,302.6 | 27.26 | 122.164 | | |
| 8,050.0 | 7,644.1 | 7,632.1 | 7,632.1 | 15.1 | 13.3 | -84.30 | 3,187.5 | -1,632.0 | 3,285.1 | 3,257.1 | 28.01 | 117.290 | | |
| 8,085.4 | 7,645.0 | 7,633.0 | 7,633.0 | 15.4 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 3,253.5 | 3,225.1 | 28.35 | 114.755 | | |
| 8,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 15.5 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 3,240.4 | 3,212.0 | 28.47 | 113.833 | | |
| 8,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 16.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 3,151.4 | 3,122.1 | 29.34 | 107.401 | | |
| 8,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 17.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 3,063.1 | 3,032.8 | 30.35 | 100.911 | | |
| 8,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 18.4 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,975.6 | 2,944.1 | 31.48 | 94.522 | | |
| 8,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 19.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,888.8 | 2,856.1 | 32.70 | 88.346 | | |
| 8,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 20.9 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,803.0 | 2,769.0 | 34.00 | 82.452 | | |
| 8,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 22.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,718.1 | 2,682.7 | 35.35 | 76.880 | | |
| 8,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 23.7 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,634.2 | 2,597.5 | 36.77 | 71.648 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-17474, Mathews WW 14-2J (Existing) - VT (Existing) - Exis | | | | | | | | | | | | | 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 | | |
| 8,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 25.1 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,551.5 | 2,513.3 | 38.22 | 66.757 | | |
| 9,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 26.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,470.2 | 2,430.4 | 39.71 | 62.200 | | |
| 9,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 28.1 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,390.2 | 2,348.9 | 41.24 | 57.964 | | |
| 9,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 29.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,311.7 | 2,269.0 | 42.78 | 54.034 | | |
| 9,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 31.2 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,235.0 | 2,190.7 | 44.35 | 50.392 | | |
| 9,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 32.8 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,160.3 | 2,114.3 | 45.94 | 47.021 | | |
| 9,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 34.4 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,087.6 | 2,040.0 | 47.55 | 43.906 | | |
| 9,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 36.0 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 2,017.2 | 1,968.1 | 49.17 | 41.029 | | |
| 9,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 37.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,949.5 | 1,898.7 | 50.80 | 38.378 | | |
| 9,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 39.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,884.6 | 1,832.2 | 52.44 | 35.940 | | |
| 9,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 40.9 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,822.9 | 1,768.8 | 54.09 | 33.702 | | |
| 10,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 42.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,764.7 | 1,709.0 | 55.75 | 31.655 | | |
| 10,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 44.2 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,710.4 | 1,653.0 | 57.41 | 29.791 | | |
| 10,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 45.9 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,660.3 | 1,601.3 | 59.09 | 28.100 | | |
| 10,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 47.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,614.9 | 1,554.2 | 60.77 | 26.576 | | |
| 10,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 49.2 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,574.6 | 1,512.1 | 62.45 | 25.213 | | |
| 10,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 50.9 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,539.7 | 1,475.5 | 64.14 | 24.005 | | |
| 10,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 52.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,510.6 | 1,444.7 | 65.83 | 22.945 | | |
| 10,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 54.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,487.6 | 1,420.1 | 67.53 | 22.029 | | |
| 10,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 56.0 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,471.2 | 1,401.9 | 69.23 | 21.250 | | |
| 10,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 57.7 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,461.4 | 1,390.4 | 70.93 | 20.602 | | |
| 10,993.7 | 7,645.0 | 7,633.0 | 7,633.0 | 59.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,458.4 | 1,385.8 | 72.53 | 20.106 CC | | |
| 11,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 59.4 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,458.4 | 1,385.7 | 72.64 | 20.076 ES | | |
| 11,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 61.1 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,462.2 | 1,387.9 | 74.35 | 19.667 | | |
| 11,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 62.8 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,472.9 | 1,396.8 | 76.06 | 19.364 | | |
| 11,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 64.5 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,490.2 | 1,412.4 | 77.78 | 19.160 | | |
| 11,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 66.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,513.9 | 1,434.4 | 79.49 | 19.045 | | |
| 11,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 68.0 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,543.7 | 1,462.5 | 81.21 | 19.009 SF | | |
| 11,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 69.7 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,579.4 | 1,496.4 | 82.93 | 19.044 | | |
| 11,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 71.4 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,620.4 | 1,535.7 | 84.65 | 19.142 | | |
| 11,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 73.1 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,666.4 | 1,580.0 | 86.37 | 19.293 | | |
| 11,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 74.9 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,717.0 | 1,628.9 | 88.10 | 19.490 | | |
| 12,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 76.6 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,771.8 | 1,682.0 | 89.83 | 19.725 | | |
| 12,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 78.3 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,830.5 | 1,738.9 | 91.55 | 19.994 | | |
| 12,170.4 | 7,645.0 | 7,633.0 | 7,633.0 | 79.5 | 13.3 | -90.00 | 3,187.5 | -1,632.0 | 1,873.9 | 1,781.1 | 92.77 | 20.199 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | SWSE S14 T1N-R66W (Mathews) - 05-123-17475, Mathews WW 14-11 (Existing) - Existing - Existing | | 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 | -41.14 | 1,358.8 | -1,187.0 | 1,804.3 | | | | | | |
| 100.0 | 100.0 | 83.0 | 83.0 | 0.2 | 0.1 | -41.14 | 1,358.8 | -1,187.0 | 1,804.2 | 1,803.9 | 0.30 | 6,080.150 | | | |
| 200.0 | 200.0 | 183.0 | 183.0 | 0.3 | 0.3 | -41.14 | 1,358.8 | -1,187.0 | 1,804.2 | 1,803.6 | 0.65 | 2,793.904 | | | |
| 300.0 | 300.0 | 283.0 | 283.0 | 0.5 | 0.5 | -41.14 | 1,358.8 | -1,187.0 | 1,804.2 | 1,803.2 | 0.99 | 1,813.587 | | | |
| 400.0 | 400.0 | 383.0 | 383.0 | 0.7 | 0.7 | 117.20 | 1,358.8 | -1,187.0 | 1,805.0 | 1,803.7 | 1.35 | 1,341.094 | | | |
| 500.0 | 499.8 | 482.8 | 482.8 | 0.9 | 0.8 | 117.30 | 1,358.8 | -1,187.0 | 1,807.4 | 1,805.7 | 1.71 | 1,058.475 | | | |
| 600.0 | 599.5 | 582.5 | 582.5 | 1.1 | 1.0 | 117.47 | 1,358.8 | -1,187.0 | 1,811.4 | 1,809.4 | 2.09 | 866.767 | | | |
| 700.0 | 698.7 | 681.7 | 681.7 | 1.3 | 1.2 | 117.71 | 1,358.8 | -1,187.0 | 1,817.1 | 1,814.6 | 2.50 | 726.317 | | | |
| 800.0 | 797.7 | 780.7 | 780.7 | 1.6 | 1.4 | 118.10 | 1,358.8 | -1,187.0 | 1,823.7 | 1,820.8 | 2.93 | 623.337 | | | |
| 900.0 | 896.8 | 879.8 | 879.8 | 1.9 | 1.5 | 118.48 | 1,358.8 | -1,187.0 | 1,830.3 | 1,827.0 | 3.36 | 545.454 | | | |
| 1,000.0 | 995.8 | 978.8 | 978.8 | 2.2 | 1.7 | 118.86 | 1,358.8 | -1,187.0 | 1,837.1 | 1,833.3 | 3.79 | 484.854 | | | |
| 1,100.0 | 1,094.8 | 1,077.8 | 1,077.8 | 2.5 | 1.9 | 119.23 | 1,358.8 | -1,187.0 | 1,843.9 | 1,839.6 | 4.22 | 436.524 | | | |
| 1,200.0 | 1,193.8 | 1,176.8 | 1,176.8 | 2.8 | 2.1 | 119.60 | 1,358.8 | -1,187.0 | 1,850.7 | 1,846.1 | 4.66 | 397.163 | | | |
| 1,300.0 | 1,292.9 | 1,275.9 | 1,275.9 | 3.1 | 2.2 | 119.97 | 1,358.8 | -1,187.0 | 1,857.7 | 1,852.6 | 5.10 | 364.532 | | | |
| 1,400.0 | 1,391.9 | 1,374.9 | 1,374.9 | 3.3 | 2.4 | 120.34 | 1,358.8 | -1,187.0 | 1,864.8 | 1,859.2 | 5.53 | 337.067 | | | |
| 1,500.0 | 1,490.9 | 1,473.9 | 1,473.9 | 3.6 | 2.6 | 120.71 | 1,358.8 | -1,187.0 | 1,871.9 | 1,865.9 | 5.97 | 313.648 | | | |
| 1,600.0 | 1,589.9 | 1,572.9 | 1,572.9 | 3.9 | 2.7 | 121.07 | 1,358.8 | -1,187.0 | 1,879.1 | 1,872.7 | 6.40 | 293.454 | | | |
| 1,700.0 | 1,689.0 | 1,672.0 | 1,672.0 | 4.2 | 2.9 | 121.43 | 1,358.8 | -1,187.0 | 1,886.3 | 1,879.5 | 6.84 | 275.870 | | | |
| 1,800.0 | 1,788.0 | 1,771.0 | 1,771.0 | 4.5 | 3.1 | 121.79 | 1,358.8 | -1,187.0 | 1,893.7 | 1,886.4 | 7.27 | 260.425 | | | |
| 1,900.0 | 1,887.0 | 1,870.0 | 1,870.0 | 4.8 | 3.3 | 122.14 | 1,358.8 | -1,187.0 | 1,901.1 | 1,893.4 | 7.70 | 246.757 | | | |
| 2,000.0 | 1,986.1 | 1,969.1 | 1,969.1 | 5.1 | 3.4 | 122.49 | 1,358.8 | -1,187.0 | 1,908.6 | 1,900.5 | 8.14 | 234.579 | | | |
| 2,100.0 | 2,085.1 | 2,068.1 | 2,068.1 | 5.4 | 3.6 | 122.84 | 1,358.8 | -1,187.0 | 1,916.2 | 1,907.6 | 8.57 | 223.663 | | | |
| 2,200.0 | 2,184.1 | 2,167.1 | 2,167.1 | 5.7 | 3.8 | 123.19 | 1,358.8 | -1,187.0 | 1,923.8 | 1,914.8 | 9.00 | 213.824 | | | |
| 2,300.0 | 2,283.1 | 2,266.1 | 2,266.1 | 6.0 | 4.0 | 123.53 | 1,358.8 | -1,187.0 | 1,931.5 | 1,922.1 | 9.43 | 204.912 | | | |
| 2,400.0 | 2,382.2 | 2,365.2 | 2,365.2 | 6.3 | 4.1 | 123.87 | 1,358.8 | -1,187.0 | 1,939.3 | 1,929.4 | 9.85 | 196.805 | | | |
| 2,500.0 | 2,481.2 | 2,464.2 | 2,464.2 | 6.6 | 4.3 | 124.21 | 1,358.8 | -1,187.0 | 1,947.1 | 1,936.8 | 10.28 | 189.399 | | | |
| 2,600.0 | 2,580.2 | 2,563.2 | 2,563.2 | 6.9 | 4.5 | 124.54 | 1,358.8 | -1,187.0 | 1,955.0 | 1,944.3 | 10.71 | 182.607 | | | |
| 2,700.0 | 2,679.2 | 2,662.2 | 2,662.2 | 7.2 | 4.6 | 124.88 | 1,358.8 | -1,187.0 | 1,963.0 | 1,951.9 | 11.13 | 176.359 | | | |
| 2,800.0 | 2,778.3 | 2,761.3 | 2,761.3 | 7.5 | 4.8 | 125.20 | 1,358.8 | -1,187.0 | 1,971.1 | 1,959.5 | 11.55 | 170.592 | | | |
| 2,900.0 | 2,877.3 | 2,860.3 | 2,860.3 | 7.8 | 5.0 | 125.53 | 1,358.8 | -1,187.0 | 1,979.2 | 1,967.2 | 11.98 | 165.254 | | | |
| 3,000.0 | 2,976.3 | 2,959.3 | 2,959.3 | 8.1 | 5.2 | 125.86 | 1,358.8 | -1,187.0 | 1,987.3 | 1,974.9 | 12.40 | 160.298 | | | |
| 3,100.0 | 3,075.3 | 3,058.3 | 3,058.3 | 8.4 | 5.3 | 126.18 | 1,358.8 | -1,187.0 | 1,995.6 | 1,982.8 | 12.82 | 155.687 | | | |
| 3,200.0 | 3,174.4 | 3,157.4 | 3,157.4 | 8.7 | 5.5 | 126.50 | 1,358.8 | -1,187.0 | 2,003.9 | 1,990.6 | 13.24 | 151.386 | | | |
| 3,300.0 | 3,273.4 | 3,256.4 | 3,256.4 | 9.0 | 5.7 | 126.81 | 1,358.8 | -1,187.0 | 2,012.2 | 1,998.6 | 13.65 | 147.365 | | | |
| 3,400.0 | 3,372.4 | 3,355.4 | 3,355.4 | 9.3 | 5.9 | 127.13 | 1,358.8 | -1,187.0 | 2,020.7 | 2,006.6 | 14.07 | 143.599 | | | |
| 3,500.0 | 3,471.5 | 3,454.5 | 3,454.5 | 9.6 | 6.0 | 127.44 | 1,358.8 | -1,187.0 | 2,029.1 | 2,014.6 | 14.49 | 140.065 | | | |
| 3,600.0 | 3,570.5 | 3,553.5 | 3,553.5 | 9.9 | 6.2 | 127.75 | 1,358.8 | -1,187.0 | 2,037.7 | 2,022.8 | 14.90 | 136.741 | | | |
| 3,680.0 | 3,649.7 | 3,632.7 | 3,632.7 | 10.1 | 6.3 | 127.99 | 1,358.8 | -1,187.0 | 2,044.6 | 2,029.3 | 15.23 | 134.223 | | | |
| 3,700.0 | 3,669.5 | 3,652.5 | 3,652.5 | 10.2 | 6.4 | 128.08 | 1,358.8 | -1,187.0 | 2,046.2 | 2,030.9 | 15.31 | 133.619 | | | |
| 3,800.0 | 3,768.8 | 3,751.8 | 3,751.8 | 10.4 | 6.5 | 128.44 | 1,358.8 | -1,187.0 | 2,053.4 | 2,037.7 | 15.69 | 130.870 | | | |
| 3,900.0 | 3,868.5 | 3,851.5 | 3,851.5 | 10.6 | 6.7 | 128.70 | 1,358.8 | -1,187.0 | 2,058.4 | 2,042.4 | 16.04 | 128.351 | | | |
| 4,000.0 | 3,968.4 | 3,951.4 | 3,951.4 | 10.8 | 6.9 | 128.84 | 1,358.8 | -1,187.0 | 2,061.2 | 2,044.9 | 16.36 | 126.024 | | | |
| 4,080.0 | 4,048.4 | 4,031.4 | 4,031.4 | 10.9 | 7.0 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,045.3 | 16.59 | 124.261 | | | |
| 4,100.0 | 4,068.4 | 4,051.4 | 4,051.4 | 10.9 | 7.1 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,045.3 | 16.65 | 123.807 | | | |
| 4,200.0 | 4,168.4 | 4,151.4 | 4,151.4 | 11.0 | 7.2 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,045.0 | 16.96 | 121.579 | | | |
| 4,300.0 | 4,268.4 | 4,251.4 | 4,251.4 | 11.1 | 7.4 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,044.7 | 17.27 | 119.421 | | | |
| 4,400.0 | 4,368.4 | 4,351.4 | 4,351.4 | 11.2 | 7.6 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,044.4 | 17.57 | 117.329 | | | |
| 4,500.0 | 4,468.4 | 4,451.4 | 4,451.4 | 11.4 | 7.8 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,044.1 | 17.88 | 115.302 | | | |
| 4,600.0 | 4,568.4 | 4,551.4 | 4,551.4 | 11.5 | 7.9 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,043.7 | 18.19 | 113.335 | | | |
| 4,700.0 | 4,668.4 | 4,651.4 | 4,651.4 | 11.6 | 8.1 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,043.4 | 18.50 | 111.428 | | | |
| 4,800.0 | 4,768.4 | 4,751.4 | 4,751.4 | 11.7 | 8.3 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,043.1 | 18.82 | 109.577 | | | |
| 4,900.0 | 4,868.4 | 4,851.4 | 4,851.4 | 11.9 | 8.5 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,042.8 | 19.13 | 107.781 | | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | 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 | | |
| 5,000.0 | 4,968.4 | 4,951.4 | 4,951.4 | 12.0 | 8.6 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,042.5 | 19.45 | 106.037 | | |
| 5,100.0 | 5,068.4 | 5,051.4 | 5,051.4 | 12.1 | 8.8 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,042.2 | 19.76 | 104.343 | | |
| 5,200.0 | 5,168.4 | 5,151.4 | 5,151.4 | 12.2 | 9.0 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,041.9 | 20.08 | 102.698 | | |
| 5,300.0 | 5,268.4 | 5,251.4 | 5,251.4 | 12.4 | 9.2 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,041.5 | 20.40 | 101.099 | | |
| 5,400.0 | 5,368.4 | 5,351.4 | 5,351.4 | 12.5 | 9.3 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,041.2 | 20.71 | 99.545 | | |
| 5,500.0 | 5,468.4 | 5,451.4 | 5,451.4 | 12.6 | 9.5 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,040.9 | 21.03 | 98.034 | | |
| 5,600.0 | 5,568.4 | 5,551.4 | 5,551.4 | 12.8 | 9.7 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,040.6 | 21.35 | 96.565 | | |
| 5,700.0 | 5,668.4 | 5,651.4 | 5,651.4 | 12.9 | 9.9 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,040.3 | 21.67 | 95.135 | | |
| 5,800.0 | 5,768.4 | 5,751.4 | 5,751.4 | 13.0 | 10.0 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,039.9 | 22.00 | 93.744 | | |
| 5,900.0 | 5,868.4 | 5,851.4 | 5,851.4 | 13.2 | 10.2 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,039.6 | 22.32 | 92.391 | | |
| 6,000.0 | 5,968.4 | 5,951.4 | 5,951.4 | 13.3 | 10.4 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,039.3 | 22.64 | 91.072 | | |
| 6,100.0 | 6,068.4 | 6,051.4 | 6,051.4 | 13.4 | 10.6 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,039.0 | 22.96 | 89.789 | | |
| 6,200.0 | 6,168.4 | 6,151.4 | 6,151.4 | 13.6 | 10.7 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,038.6 | 23.29 | 88.538 | | |
| 6,300.0 | 6,268.4 | 6,251.4 | 6,251.4 | 13.7 | 10.9 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,038.3 | 23.61 | 87.320 | | |
| 6,400.0 | 6,368.4 | 6,351.4 | 6,351.4 | 13.9 | 11.1 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,038.0 | 23.94 | 86.132 | | |
| 6,500.0 | 6,468.4 | 6,451.4 | 6,451.4 | 14.0 | 11.3 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,037.7 | 24.27 | 84.974 | | |
| 6,600.0 | 6,568.4 | 6,551.4 | 6,551.4 | 14.1 | 11.4 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,037.3 | 24.59 | 83.845 | | |
| 6,700.0 | 6,668.4 | 6,651.4 | 6,651.4 | 14.3 | 11.6 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,037.0 | 24.92 | 82.744 | | |
| 6,800.0 | 6,768.4 | 6,751.4 | 6,751.4 | 14.4 | 11.8 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,036.7 | 25.25 | 81.669 | | |
| 6,900.0 | 6,868.4 | 6,851.4 | 6,851.4 | 14.6 | 12.0 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,036.4 | 25.58 | 80.621 | | |
| 6,960.4 | 6,928.8 | 6,911.8 | 6,911.8 | 14.7 | 12.1 | -29.43 | 1,358.8 | -1,187.0 | 2,061.9 | 2,036.2 | 25.77 | 80.000 | | |
| 7,000.0 | 6,968.4 | 6,951.4 | 6,951.4 | 14.7 | 12.1 | -29.48 | 1,358.8 | -1,187.0 | 2,061.0 | 2,035.1 | 25.86 | 79.687 | | |
| 7,050.0 | 7,018.2 | 7,001.2 | 7,001.2 | 14.7 | 12.2 | -29.70 | 1,358.8 | -1,187.0 | 2,057.1 | 2,031.2 | 25.91 | 79.383 | | |
| 7,100.0 | 7,067.5 | 7,050.5 | 7,050.5 | 14.7 | 12.3 | -30.09 | 1,358.8 | -1,187.0 | 2,050.1 | 2,024.2 | 25.90 | 79.168 | | |
| 7,150.0 | 7,116.2 | 7,099.2 | 7,099.2 | 14.7 | 12.4 | -30.66 | 1,358.8 | -1,187.0 | 2,040.2 | 2,014.4 | 25.82 | 79.033 | | |
| 7,200.0 | 7,164.0 | 7,147.0 | 7,147.0 | 14.6 | 12.5 | -31.42 | 1,358.8 | -1,187.0 | 2,027.4 | 2,001.8 | 25.68 | 78.962 | | |
| 7,250.0 | 7,210.6 | 7,193.6 | 7,193.6 | 14.5 | 12.6 | -32.38 | 1,358.8 | -1,187.0 | 2,011.8 | 1,986.3 | 25.49 | 78.933 | | |
| 7,300.0 | 7,255.8 | 7,238.8 | 7,238.8 | 14.4 | 12.6 | -33.56 | 1,358.8 | -1,187.0 | 1,993.5 | 1,968.2 | 25.26 | 78.917 | | |
| 7,350.0 | 7,299.5 | 7,282.5 | 7,282.5 | 14.3 | 12.7 | -34.98 | 1,358.8 | -1,187.0 | 1,972.6 | 1,947.5 | 25.01 | 78.875 | | |
| 7,400.0 | 7,341.3 | 7,324.3 | 7,324.3 | 14.2 | 12.8 | -36.66 | 1,358.8 | -1,187.0 | 1,949.1 | 1,924.4 | 24.75 | 78.754 | | |
| 7,450.0 | 7,381.1 | 7,364.1 | 7,364.1 | 14.1 | 12.9 | -38.64 | 1,358.8 | -1,187.0 | 1,923.4 | 1,898.9 | 24.51 | 78.490 | | |
| 7,500.0 | 7,418.8 | 7,401.8 | 7,401.8 | 14.0 | 12.9 | -40.93 | 1,358.8 | -1,187.0 | 1,895.5 | 1,871.2 | 24.30 | 78.003 | | |
| 7,550.0 | 7,454.0 | 7,437.0 | 7,437.0 | 13.9 | 13.0 | -43.57 | 1,358.8 | -1,187.0 | 1,865.6 | 1,841.5 | 24.16 | 77.211 | | |
| 7,600.0 | 7,486.7 | 7,469.7 | 7,469.7 | 13.8 | 13.0 | -46.59 | 1,358.8 | -1,187.0 | 1,834.0 | 1,809.9 | 24.12 | 76.032 | | |
| 7,650.0 | 7,516.7 | 7,499.7 | 7,499.7 | 13.8 | 13.1 | -50.00 | 1,358.8 | -1,187.0 | 1,800.8 | 1,776.6 | 24.20 | 74.411 | | |
| 7,700.0 | 7,543.8 | 7,526.8 | 7,526.8 | 13.8 | 13.1 | -53.80 | 1,358.8 | -1,187.0 | 1,766.2 | 1,741.8 | 24.42 | 72.334 | | |
| 7,750.0 | 7,567.9 | 7,550.9 | 7,550.9 | 13.8 | 13.2 | -57.99 | 1,358.8 | -1,187.0 | 1,730.5 | 1,705.8 | 24.77 | 69.850 | | |
| 7,800.0 | 7,588.9 | 7,571.9 | 7,571.9 | 13.9 | 13.2 | -62.53 | 1,358.8 | -1,187.0 | 1,694.0 | 1,668.7 | 25.26 | 67.068 | | |
| 7,850.0 | 7,606.7 | 7,589.7 | 7,589.7 | 14.1 | 13.2 | -67.33 | 1,358.8 | -1,187.0 | 1,656.7 | 1,630.9 | 25.83 | 64.141 | | |
| 7,900.0 | 7,621.1 | 7,604.1 | 7,604.1 | 14.2 | 13.3 | -72.30 | 1,358.8 | -1,187.0 | 1,619.2 | 1,592.7 | 26.44 | 61.227 | | |
| 7,950.0 | 7,632.2 | 7,615.2 | 7,615.2 | 14.5 | 13.3 | -77.31 | 1,358.8 | -1,187.0 | 1,581.4 | 1,554.4 | 27.05 | 58.461 | | |
| 8,000.0 | 7,639.9 | 7,622.9 | 7,622.9 | 14.8 | 13.3 | -82.21 | 1,358.8 | -1,187.0 | 1,543.8 | 1,516.2 | 27.60 | 55.927 | | |
| 8,050.0 | 7,644.1 | 7,627.1 | 7,627.1 | 15.1 | 13.3 | -86.89 | 1,358.8 | -1,187.0 | 1,506.6 | 1,478.5 | 28.08 | 53.654 | | |
| 8,085.4 | 7,645.0 | 7,628.0 | 7,628.0 | 15.4 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,480.6 | 1,452.2 | 28.37 | 52.198 | | |
| 8,100.0 | 7,645.0 | 7,628.0 | 7,628.0 | 15.5 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,470.0 | 1,441.5 | 28.48 | 51.614 | | |
| 8,200.0 | 7,645.0 | 7,628.0 | 7,628.0 | 16.3 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,399.2 | 1,369.9 | 29.36 | 47.663 | | |
| 8,300.0 | 7,645.0 | 7,628.0 | 7,628.0 | 17.3 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,332.2 | 1,301.9 | 30.37 | 43.869 | | |
| 8,400.0 | 7,645.0 | 7,628.0 | 7,628.0 | 18.4 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,269.6 | 1,238.1 | 31.49 | 40.312 | | |
| 8,500.0 | 7,645.0 | 7,628.0 | 7,628.0 | 19.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,212.0 | 1,179.2 | 32.71 | 37.048 | | |
| 8,600.0 | 7,645.0 | 7,628.0 | 7,628.0 | 20.9 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,160.1 | 1,126.1 | 34.01 | 34.111 | | |
| 8,700.0 | 7,645.0 | 7,628.0 | 7,628.0 | 22.3 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,114.8 | 1,079.4 | 35.37 | 31.520 | | |
| 8,800.0 | 7,645.0 | 7,628.0 | 7,628.0 | 23.7 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,076.9 | 1,040.2 | 36.78 | 29.280 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | 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) | Between Centres (ft) | Between Ellipses (ft) | | | | |
| 8,900.0 | 7,645.0 | 7,628.0 | 7,628.0 | 25.1 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,047.3 | 1,009.0 | 38.24 | 27.390 | | |
| 9,000.0 | 7,645.0 | 7,628.0 | 7,628.0 | 26.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,026.5 | 986.8 | 39.73 | 25.840 | | |
| 9,100.0 | 7,645.0 | 7,628.0 | 7,628.0 | 28.1 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,015.3 | 974.0 | 41.25 | 24.613 | | |
| 9,165.0 | 7,645.0 | 7,628.0 | 7,628.0 | 29.1 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,013.2 | 970.9 | 42.26 | 23.977 CC, ES | | |
| 9,200.0 | 7,645.0 | 7,628.0 | 7,628.0 | 29.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,013.8 | 971.0 | 42.80 | 23.688 | | |
| 9,300.0 | 7,645.0 | 7,628.0 | 7,628.0 | 31.2 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,022.1 | 977.8 | 44.37 | 23.038 | | |
| 9,400.0 | 7,645.0 | 7,628.0 | 7,628.0 | 32.8 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,040.1 | 994.1 | 45.96 | 22.632 | | |
| 9,500.0 | 7,645.0 | 7,628.0 | 7,628.0 | 34.4 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,067.1 | 1,019.6 | 47.56 | 22.437 | | |
| 9,600.0 | 7,645.0 | 7,628.0 | 7,628.0 | 36.0 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,102.6 | 1,053.4 | 49.18 | 22.420 SF | | |
| 9,700.0 | 7,645.0 | 7,628.0 | 7,628.0 | 37.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,145.7 | 1,094.9 | 50.81 | 22.550 | | |
| 9,800.0 | 7,645.0 | 7,628.0 | 7,628.0 | 39.3 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,195.7 | 1,143.3 | 52.45 | 22.796 | | |
| 9,900.0 | 7,645.0 | 7,628.0 | 7,628.0 | 40.9 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,251.7 | 1,197.6 | 54.10 | 23.135 | | |
| 10,000.0 | 7,645.0 | 7,628.0 | 7,628.0 | 42.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,312.9 | 1,257.1 | 55.76 | 23.545 | | |
| 10,100.0 | 7,645.0 | 7,628.0 | 7,628.0 | 44.2 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,378.7 | 1,321.2 | 57.43 | 24.007 | | |
| 10,200.0 | 7,645.0 | 7,628.0 | 7,628.0 | 45.9 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,448.3 | 1,389.2 | 59.10 | 24.506 | | |
| 10,300.0 | 7,645.0 | 7,628.0 | 7,628.0 | 47.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,521.4 | 1,460.6 | 60.78 | 25.031 | | |
| 10,400.0 | 7,645.0 | 7,628.0 | 7,628.0 | 49.2 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,597.4 | 1,534.9 | 62.46 | 25.573 | | |
| 10,500.0 | 7,645.0 | 7,628.0 | 7,628.0 | 50.9 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,675.9 | 1,611.8 | 64.15 | 26.123 | | |
| 10,600.0 | 7,645.0 | 7,628.0 | 7,628.0 | 52.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,756.6 | 1,690.8 | 65.85 | 26.677 | | |
| 10,700.0 | 7,645.0 | 7,628.0 | 7,628.0 | 54.3 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,839.2 | 1,771.7 | 67.54 | 27.230 | | |
| 10,800.0 | 7,645.0 | 7,628.0 | 7,628.0 | 56.0 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 1,923.4 | 1,854.2 | 69.24 | 27.778 | | |
| 10,900.0 | 7,645.0 | 7,628.0 | 7,628.0 | 57.7 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,009.1 | 1,938.2 | 70.95 | 28.319 | | |
| 11,000.0 | 7,645.0 | 7,628.0 | 7,628.0 | 59.4 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,096.1 | 2,023.4 | 72.65 | 28.850 | | |
| 11,100.0 | 7,645.0 | 7,628.0 | 7,628.0 | 61.1 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,184.2 | 2,109.8 | 74.36 | 29.371 | | |
| 11,200.0 | 7,645.0 | 7,628.0 | 7,628.0 | 62.8 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,273.2 | 2,197.2 | 76.08 | 29.881 | | |
| 11,300.0 | 7,645.0 | 7,628.0 | 7,628.0 | 64.5 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,363.2 | 2,285.4 | 77.79 | 30.379 | | |
| 11,400.0 | 7,645.0 | 7,628.0 | 7,628.0 | 66.3 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,453.9 | 2,374.4 | 79.51 | 30.864 | | |
| 11,500.0 | 7,645.0 | 7,628.0 | 7,628.0 | 68.0 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,545.3 | 2,464.1 | 81.22 | 31.337 | | |
| 11,600.0 | 7,645.0 | 7,628.0 | 7,628.0 | 69.7 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,637.3 | 2,554.4 | 82.94 | 31.797 | | |
| 11,700.0 | 7,645.0 | 7,628.0 | 7,628.0 | 71.4 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,729.9 | 2,645.3 | 84.67 | 32.244 | | |
| 11,800.0 | 7,645.0 | 7,628.0 | 7,628.0 | 73.1 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,823.0 | 2,736.7 | 86.39 | 32.678 | | |
| 11,900.0 | 7,645.0 | 7,628.0 | 7,628.0 | 74.9 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 2,916.6 | 2,828.5 | 88.11 | 33.101 | | |
| 12,000.0 | 7,645.0 | 7,628.0 | 7,628.0 | 76.6 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 3,010.6 | 2,920.7 | 89.84 | 33.511 | | |
| 12,100.0 | 7,645.0 | 7,628.0 | 7,628.0 | 78.3 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 3,104.9 | 3,013.4 | 91.57 | 33.909 | | |
| 12,170.4 | 7,645.0 | 7,628.0 | 7,628.0 | 79.5 | 13.3 | -90.00 | 1,358.8 | -1,187.0 | 3,171.6 | 3,078.8 | 92.78 | 34.182 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-17477, Mathews WW 14-14 (Existing) - VT (Existing) - Exis | | | | | | | | | | | | | 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 | -80.88 | 192.7 | -1,200.5 | 1,215.9 | | | | | | |
| 100.0 | 100.0 | 88.0 | 88.0 | 0.2 | 0.1 | -80.88 | 192.7 | -1,200.5 | 1,215.9 | 1,215.6 | 0.29 | 4,259.228 | | | |
| 200.0 | 200.0 | 188.0 | 188.0 | 0.3 | 0.3 | -80.88 | 192.7 | -1,200.5 | 1,215.9 | 1,215.2 | 0.63 | 1,924.419 | | | |
| 300.0 | 300.0 | 288.0 | 288.0 | 0.5 | 0.5 | -80.88 | 192.7 | -1,200.5 | 1,215.9 | 1,214.9 | 0.98 | 1,239.573 | | | |
| 400.0 | 400.0 | 388.0 | 388.0 | 0.7 | 0.7 | 77.51 | 192.7 | -1,200.5 | 1,215.5 | 1,214.2 | 1.33 | 912.189 | | | |
| 500.0 | 499.8 | 487.8 | 487.8 | 0.9 | 0.8 | 77.77 | 192.7 | -1,200.5 | 1,214.4 | 1,212.7 | 1.70 | 715.522 | | | |
| 600.0 | 599.5 | 587.5 | 587.5 | 1.1 | 1.0 | 78.21 | 192.7 | -1,200.5 | 1,212.5 | 1,210.5 | 2.09 | 580.866 | | | |
| 700.0 | 698.7 | 686.7 | 686.7 | 1.3 | 1.2 | 78.82 | 192.7 | -1,200.5 | 1,210.1 | 1,207.6 | 2.51 | 481.190 | | | |
| 800.0 | 797.7 | 785.7 | 785.7 | 1.6 | 1.3 | 79.46 | 192.7 | -1,200.5 | 1,207.5 | 1,204.5 | 2.96 | 408.346 | | | |
| 900.0 | 896.8 | 884.8 | 884.8 | 1.9 | 1.5 | 80.10 | 192.7 | -1,200.5 | 1,205.0 | 1,201.6 | 3.41 | 353.574 | | | |
| 1,000.0 | 995.8 | 983.8 | 983.8 | 2.2 | 1.7 | 80.75 | 192.7 | -1,200.5 | 1,202.6 | 1,198.8 | 3.86 | 311.184 | | | |
| 1,100.0 | 1,094.8 | 1,082.8 | 1,082.8 | 2.5 | 1.9 | 81.40 | 192.7 | -1,200.5 | 1,200.4 | 1,196.1 | 4.33 | 277.539 | | | |
| 1,200.0 | 1,193.8 | 1,181.8 | 1,181.8 | 2.8 | 2.0 | 82.05 | 192.7 | -1,200.5 | 1,198.4 | 1,193.6 | 4.79 | 250.256 | | | |
| 1,300.0 | 1,292.9 | 1,280.9 | 1,280.9 | 3.1 | 2.2 | 82.70 | 192.7 | -1,200.5 | 1,196.6 | 1,191.3 | 5.25 | 227.726 | | | |
| 1,400.0 | 1,391.9 | 1,379.9 | 1,379.9 | 3.3 | 2.4 | 83.36 | 192.7 | -1,200.5 | 1,194.9 | 1,189.1 | 5.72 | 208.834 | | | |
| 1,500.0 | 1,490.9 | 1,478.9 | 1,478.9 | 3.6 | 2.6 | 84.02 | 192.7 | -1,200.5 | 1,193.3 | 1,187.1 | 6.19 | 192.781 | | | |
| 1,600.0 | 1,589.9 | 1,577.9 | 1,577.9 | 3.9 | 2.7 | 84.68 | 192.7 | -1,200.5 | 1,191.9 | 1,185.3 | 6.66 | 178.985 | | | |
| 1,700.0 | 1,689.0 | 1,677.0 | 1,677.0 | 4.2 | 2.9 | 85.34 | 192.7 | -1,200.5 | 1,190.7 | 1,183.6 | 7.13 | 167.012 | | | |
| 1,800.0 | 1,788.0 | 1,776.0 | 1,776.0 | 4.5 | 3.1 | 86.00 | 192.7 | -1,200.5 | 1,189.6 | 1,182.0 | 7.60 | 156.530 | | | |
| 1,900.0 | 1,887.0 | 1,875.0 | 1,875.0 | 4.8 | 3.2 | 86.66 | 192.7 | -1,200.5 | 1,188.7 | 1,180.7 | 8.07 | 147.284 | | | |
| 2,000.0 | 1,986.1 | 1,974.1 | 1,974.1 | 5.1 | 3.4 | 87.32 | 192.7 | -1,200.5 | 1,188.0 | 1,179.5 | 8.54 | 139.072 | | | |
| 2,100.0 | 2,085.1 | 2,073.1 | 2,073.1 | 5.4 | 3.6 | 87.99 | 192.7 | -1,200.5 | 1,187.4 | 1,178.4 | 9.01 | 131.736 | | | |
| 2,200.0 | 2,184.1 | 2,172.1 | 2,172.1 | 5.7 | 3.8 | 88.65 | 192.7 | -1,200.5 | 1,187.0 | 1,177.5 | 9.48 | 125.147 | | | |
| 2,300.0 | 2,283.1 | 2,271.1 | 2,271.1 | 6.0 | 3.9 | 89.32 | 192.7 | -1,200.5 | 1,186.8 | 1,176.8 | 9.96 | 119.199 | | | |
| 2,400.0 | 2,382.2 | 2,370.2 | 2,370.2 | 6.3 | 4.1 | 89.98 | 192.7 | -1,200.5 | 1,186.7 | 1,176.3 | 10.43 | 113.808 | | | |
| 2,402.4 | 2,384.5 | 2,372.5 | 2,372.5 | 6.3 | 4.1 | 90.00 | 192.7 | -1,200.5 | 1,186.7 | 1,176.2 | 10.44 | 113.685 | | | |
| 2,500.0 | 2,481.2 | 2,469.2 | 2,469.2 | 6.6 | 4.3 | 90.65 | 192.7 | -1,200.5 | 1,186.8 | 1,175.9 | 10.90 | 108.900 | | | |
| 2,600.0 | 2,580.2 | 2,568.2 | 2,568.2 | 6.9 | 4.5 | 91.31 | 192.7 | -1,200.5 | 1,187.0 | 1,175.6 | 11.37 | 104.418 | | | |
| 2,700.0 | 2,679.2 | 2,667.2 | 2,667.2 | 7.2 | 4.6 | 91.98 | 192.7 | -1,200.5 | 1,187.4 | 1,175.6 | 11.84 | 100.310 | | | |
| 2,800.0 | 2,778.3 | 2,766.3 | 2,766.3 | 7.5 | 4.8 | 92.64 | 192.7 | -1,200.5 | 1,188.0 | 1,175.7 | 12.31 | 96.533 | | | |
| 2,900.0 | 2,877.3 | 2,865.3 | 2,865.3 | 7.8 | 5.0 | 93.31 | 192.7 | -1,200.5 | 1,188.7 | 1,175.9 | 12.77 | 93.052 | | | |
| 3,000.0 | 2,976.3 | 2,964.3 | 2,964.3 | 8.1 | 5.2 | 93.97 | 192.7 | -1,200.5 | 1,189.6 | 1,176.3 | 13.24 | 89.835 | | | |
| 3,100.0 | 3,075.3 | 3,063.3 | 3,063.3 | 8.4 | 5.3 | 94.63 | 192.7 | -1,200.5 | 1,190.6 | 1,176.9 | 13.71 | 86.854 | | | |
| 3,200.0 | 3,174.4 | 3,162.4 | 3,162.4 | 8.7 | 5.5 | 95.29 | 192.7 | -1,200.5 | 1,191.9 | 1,177.7 | 14.17 | 84.087 | | | |
| 3,300.0 | 3,273.4 | 3,261.4 | 3,261.4 | 9.0 | 5.7 | 95.95 | 192.7 | -1,200.5 | 1,193.2 | 1,178.6 | 14.64 | 81.513 | | | |
| 3,400.0 | 3,372.4 | 3,360.4 | 3,360.4 | 9.3 | 5.8 | 96.61 | 192.7 | -1,200.5 | 1,194.8 | 1,179.7 | 15.10 | 79.113 | | | |
| 3,500.0 | 3,471.5 | 3,459.5 | 3,459.5 | 9.6 | 6.0 | 97.26 | 192.7 | -1,200.5 | 1,196.5 | 1,180.9 | 15.56 | 76.873 | | | |
| 3,600.0 | 3,570.5 | 3,558.5 | 3,558.5 | 9.9 | 6.2 | 97.92 | 192.7 | -1,200.5 | 1,198.3 | 1,182.3 | 16.03 | 74.777 | | | |
| 3,680.0 | 3,649.7 | 3,637.7 | 3,637.7 | 10.1 | 6.3 | 98.44 | 192.7 | -1,200.5 | 1,199.9 | 1,183.5 | 16.39 | 73.197 | | | |
| 3,700.0 | 3,669.5 | 3,657.5 | 3,657.5 | 10.2 | 6.4 | 98.57 | 192.7 | -1,200.5 | 1,200.3 | 1,183.8 | 16.48 | 72.822 | | | |
| 3,800.0 | 3,768.8 | 3,756.8 | 3,756.8 | 10.4 | 6.5 | 99.15 | 192.7 | -1,200.5 | 1,202.1 | 1,185.2 | 16.89 | 71.180 | | | |
| 3,900.0 | 3,868.5 | 3,856.5 | 3,856.5 | 10.6 | 6.7 | 99.55 | 192.7 | -1,200.5 | 1,203.4 | 1,186.2 | 17.25 | 69.763 | | | |
| 4,000.0 | 3,968.4 | 3,956.4 | 3,956.4 | 10.8 | 6.9 | 99.78 | 192.7 | -1,200.5 | 1,204.2 | 1,186.6 | 17.57 | 68.537 | | | |
| 4,080.0 | 4,048.4 | 4,036.4 | 4,036.4 | 10.9 | 7.0 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,186.6 | 17.80 | 67.662 | | | |
| 4,100.0 | 4,068.4 | 4,056.4 | 4,056.4 | 10.9 | 7.1 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,186.5 | 17.86 | 67.443 | | | |
| 4,200.0 | 4,168.4 | 4,156.4 | 4,156.4 | 11.0 | 7.2 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,186.2 | 18.15 | 66.363 | | | |
| 4,300.0 | 4,268.4 | 4,256.4 | 4,256.4 | 11.1 | 7.4 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,185.9 | 18.44 | 65.311 | | | |
| 4,400.0 | 4,368.4 | 4,356.4 | 4,356.4 | 11.2 | 7.6 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,185.6 | 18.73 | 64.288 | | | |
| 4,500.0 | 4,468.4 | 4,456.4 | 4,456.4 | 11.4 | 7.8 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,185.3 | 19.03 | 63.291 | | | |
| 4,600.0 | 4,568.4 | 4,556.4 | 4,556.4 | 11.5 | 7.9 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,185.0 | 19.33 | 62.320 | | | |
| 4,700.0 | 4,668.4 | 4,656.4 | 4,656.4 | 11.6 | 8.1 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,184.8 | 19.62 | 61.374 | | | |
| 4,800.0 | 4,768.4 | 4,756.4 | 4,756.4 | 11.7 | 8.3 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,184.5 | 19.92 | 60.453 | | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | SWSE S14 T1N-R66W (Mathews) - 05-123-17477, Mathews WW 14-14 (Existing) - VT (Existing) - Exis | | Offset Site Error: | | 0.0 ft | |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|--|-------------------|--------------------|--------------------|--------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | | | |
| 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 | Warning | | | |
| 4,900.0 | 4,868.4 | 4,856.4 | 4,856.4 | 11.9 | 8.5 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,184.2 | 20.22 | 59.555 | | | | |
| 5,000.0 | 4,968.4 | 4,956.4 | 4,956.4 | 12.0 | 8.6 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,183.8 | 20.52 | 58.680 | | | | |
| 5,100.0 | 5,068.4 | 5,056.4 | 5,056.4 | 12.1 | 8.8 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,183.5 | 20.83 | 57.826 | | | | |
| 5,200.0 | 5,168.4 | 5,156.4 | 5,156.4 | 12.2 | 9.0 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,183.2 | 21.13 | 56.995 | | | | |
| 5,300.0 | 5,268.4 | 5,256.4 | 5,256.4 | 12.4 | 9.2 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,182.9 | 21.44 | 56.183 | | | | |
| 5,400.0 | 5,368.4 | 5,356.4 | 5,356.4 | 12.5 | 9.3 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,182.6 | 21.74 | 55.392 | | | | |
| 5,500.0 | 5,468.4 | 5,456.4 | 5,456.4 | 12.6 | 9.5 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,182.3 | 22.05 | 54.621 | | | | |
| 5,600.0 | 5,568.4 | 5,556.4 | 5,556.4 | 12.8 | 9.7 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,182.0 | 22.36 | 53.868 | | | | |
| 5,700.0 | 5,668.4 | 5,656.4 | 5,656.4 | 12.9 | 9.8 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,181.7 | 22.67 | 53.133 | | | | |
| 5,800.0 | 5,768.4 | 5,756.4 | 5,756.4 | 13.0 | 10.0 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,181.4 | 22.98 | 52.416 | | | | |
| 5,900.0 | 5,868.4 | 5,856.4 | 5,856.4 | 13.2 | 10.2 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,181.1 | 23.29 | 51.715 | | | | |
| 6,000.0 | 5,968.4 | 5,956.4 | 5,956.4 | 13.3 | 10.4 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,180.8 | 23.60 | 51.032 | | | | |
| 6,100.0 | 6,068.4 | 6,056.4 | 6,056.4 | 13.4 | 10.5 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,180.5 | 23.91 | 50.364 | | | | |
| 6,200.0 | 6,168.4 | 6,156.4 | 6,156.4 | 13.6 | 10.7 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,180.1 | 24.23 | 49.712 | | | | |
| 6,300.0 | 6,268.4 | 6,256.4 | 6,256.4 | 13.7 | 10.9 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,179.8 | 24.54 | 49.075 | | | | |
| 6,400.0 | 6,368.4 | 6,356.4 | 6,356.4 | 13.9 | 11.1 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,179.5 | 24.86 | 48.453 | | | | |
| 6,500.0 | 6,468.4 | 6,456.4 | 6,456.4 | 14.0 | 11.2 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,179.2 | 25.17 | 47.844 | | | | |
| 6,600.0 | 6,568.4 | 6,556.4 | 6,556.4 | 14.1 | 11.4 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,178.9 | 25.49 | 47.250 | | | | |
| 6,700.0 | 6,668.4 | 6,656.4 | 6,656.4 | 14.3 | 11.6 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,178.6 | 25.81 | 46.668 | | | | |
| 6,800.0 | 6,768.4 | 6,756.4 | 6,756.4 | 14.4 | 11.8 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,178.2 | 26.13 | 46.100 | | | | |
| 6,900.0 | 6,868.4 | 6,856.4 | 6,856.4 | 14.6 | 11.9 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,177.9 | 26.44 | 45.544 | | | | |
| 6,960.4 | 6,928.8 | 6,916.8 | 6,916.8 | 14.7 | 12.0 | -58.47 | 192.7 | -1,200.5 | 1,204.4 | 1,177.7 | 26.64 | 45.214 | | | | |
| 7,000.0 | 6,968.4 | 6,956.4 | 6,956.4 | 14.7 | 12.1 | -58.55 | 192.7 | -1,200.5 | 1,203.8 | 1,177.1 | 26.74 | 45.024 | | | | |
| 7,050.0 | 7,018.2 | 7,006.2 | 7,006.2 | 14.7 | 12.2 | -58.90 | 192.7 | -1,200.5 | 1,201.5 | 1,174.6 | 26.82 | 44.801 | | | | |
| 7,100.0 | 7,067.5 | 7,055.5 | 7,055.5 | 14.7 | 12.3 | -59.51 | 192.7 | -1,200.5 | 1,197.3 | 1,170.5 | 26.85 | 44.589 | | | | |
| 7,150.0 | 7,116.2 | 7,104.2 | 7,104.2 | 14.7 | 12.4 | -60.37 | 192.7 | -1,200.5 | 1,191.5 | 1,164.7 | 26.85 | 44.381 | | | | |
| 7,200.0 | 7,164.0 | 7,152.0 | 7,152.0 | 14.6 | 12.5 | -61.50 | 192.7 | -1,200.5 | 1,184.1 | 1,157.3 | 26.81 | 44.168 | | | | |
| 7,250.0 | 7,210.6 | 7,198.6 | 7,198.6 | 14.5 | 12.5 | -62.87 | 192.7 | -1,200.5 | 1,175.2 | 1,148.5 | 26.75 | 43.941 | | | | |
| 7,300.0 | 7,255.8 | 7,243.8 | 7,243.8 | 14.4 | 12.6 | -64.48 | 192.7 | -1,200.5 | 1,165.0 | 1,138.3 | 26.67 | 43.689 | | | | |
| 7,350.0 | 7,299.5 | 7,287.5 | 7,287.5 | 14.3 | 12.7 | -66.31 | 192.7 | -1,200.5 | 1,153.7 | 1,127.1 | 26.58 | 43.403 | | | | |
| 7,400.0 | 7,341.3 | 7,329.3 | 7,329.3 | 14.2 | 12.8 | -68.33 | 192.7 | -1,200.5 | 1,141.5 | 1,115.0 | 26.50 | 43.073 | | | | |
| 7,450.0 | 7,381.1 | 7,369.1 | 7,369.1 | 14.1 | 12.8 | -70.50 | 192.7 | -1,200.5 | 1,128.6 | 1,102.2 | 26.43 | 42.694 | | | | |
| 7,500.0 | 7,418.8 | 7,406.8 | 7,406.8 | 14.0 | 12.9 | -72.79 | 192.7 | -1,200.5 | 1,115.3 | 1,088.9 | 26.39 | 42.263 | | | | |
| 7,550.0 | 7,454.0 | 7,442.0 | 7,442.0 | 13.9 | 13.0 | -75.15 | 192.7 | -1,200.5 | 1,101.9 | 1,075.6 | 26.37 | 41.783 | | | | |
| 7,600.0 | 7,486.7 | 7,474.7 | 7,474.7 | 13.8 | 13.0 | -77.51 | 192.7 | -1,200.5 | 1,088.8 | 1,062.4 | 26.39 | 41.262 | | | | |
| 7,650.0 | 7,516.7 | 7,504.7 | 7,504.7 | 13.8 | 13.1 | -79.82 | 192.7 | -1,200.5 | 1,076.1 | 1,049.7 | 26.43 | 40.710 | | | | |
| 7,700.0 | 7,543.8 | 7,531.8 | 7,531.8 | 13.8 | 13.1 | -82.02 | 192.7 | -1,200.5 | 1,064.3 | 1,037.7 | 26.51 | 40.141 | | | | |
| 7,750.0 | 7,567.9 | 7,555.9 | 7,555.9 | 13.8 | 13.2 | -84.05 | 192.7 | -1,200.5 | 1,053.6 | 1,026.9 | 26.63 | 39.568 | | | | |
| 7,800.0 | 7,588.9 | 7,576.9 | 7,576.9 | 13.9 | 13.2 | -85.86 | 192.7 | -1,200.5 | 1,044.3 | 1,017.5 | 26.77 | 39.003 | | | | |
| 7,850.0 | 7,606.7 | 7,594.7 | 7,594.7 | 14.1 | 13.2 | -87.39 | 192.7 | -1,200.5 | 1,036.7 | 1,009.8 | 26.96 | 38.458 | | | | |
| 7,900.0 | 7,621.1 | 7,609.1 | 7,609.1 | 14.2 | 13.3 | -88.62 | 192.7 | -1,200.5 | 1,031.2 | 1,004.0 | 27.18 | 37.939 | | | | |
| 7,950.0 | 7,632.2 | 7,620.2 | 7,620.2 | 14.5 | 13.3 | -89.49 | 192.7 | -1,200.5 | 1,027.7 | 1,000.3 | 27.44 | 37.453 | | | | |
| 7,998.8 | 7,639.8 | 7,627.8 | 7,627.8 | 14.8 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,026.6 | 998.8 | 27.73 | 37.014 CC | | | | |
| 8,000.0 | 7,639.9 | 7,627.9 | 7,627.9 | 14.8 | 13.3 | -90.01 | 192.7 | -1,200.5 | 1,026.6 | 998.8 | 27.74 | 37.005 ES | | | | |
| 8,050.0 | 7,644.1 | 7,632.1 | 7,632.1 | 15.1 | 13.3 | -90.14 | 192.7 | -1,200.5 | 1,027.9 | 999.8 | 28.08 | 36.598 | | | | |
| 8,085.4 | 7,645.0 | 7,633.0 | 7,633.0 | 15.4 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,030.2 | 1,001.9 | 28.35 | 36.337 | | | | |
| 8,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 15.5 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,031.5 | 1,003.1 | 28.47 | 36.237 | | | | |
| 8,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 16.3 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,046.1 | 1,016.7 | 29.34 | 35.650 | | | | |
| 8,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 17.3 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,069.8 | 1,039.4 | 30.35 | 35.243 | | | | |
| 8,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 18.4 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,102.1 | 1,070.6 | 31.48 | 35.010 | | | | |
| 8,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 19.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,142.3 | 1,109.6 | 32.70 | 34.934 SF | | | | |
| 8,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 20.9 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,189.6 | 1,155.6 | 34.00 | 34.992 | | | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-17477, Mathews WW 14-14 (Existing) - VT (Existing) - Exis | | | | | | | | | | | | | 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 | | |
| 8,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 22.3 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,243.1 | 1,207.7 | 35.35 | 35.161 | | |
| 8,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 23.7 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,302.1 | 1,265.3 | 36.77 | 35.416 | | |
| 8,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 25.1 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,365.9 | 1,327.7 | 38.22 | 35.736 | | |
| 9,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 26.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,433.8 | 1,394.1 | 39.71 | 36.105 | | |
| 9,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 28.1 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,505.3 | 1,464.1 | 41.24 | 36.506 | | |
| 9,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 29.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,580.0 | 1,537.2 | 42.78 | 36.929 | | |
| 9,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 31.2 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,657.3 | 1,612.9 | 44.35 | 37.365 | | |
| 9,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 32.8 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,736.9 | 1,690.9 | 45.94 | 37.806 | | |
| 9,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 34.4 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,818.5 | 1,770.9 | 47.55 | 38.246 | | |
| 9,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 36.0 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,901.9 | 1,852.7 | 49.17 | 38.683 | | |
| 9,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 37.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 1,986.8 | 1,936.0 | 50.80 | 39.113 | | |
| 9,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 39.3 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,073.0 | 2,020.6 | 52.44 | 39.533 | | |
| 9,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 40.9 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,160.5 | 2,106.4 | 54.09 | 39.943 | | |
| 10,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 42.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,249.0 | 2,193.2 | 55.75 | 40.342 | | |
| 10,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 44.2 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,338.4 | 2,281.0 | 57.41 | 40.728 | | |
| 10,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 45.9 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,428.6 | 2,369.6 | 59.09 | 41.102 | | |
| 10,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 47.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,519.6 | 2,458.9 | 60.77 | 41.464 | | |
| 10,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 49.2 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,611.3 | 2,548.8 | 62.45 | 41.813 | | |
| 10,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 50.9 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,703.5 | 2,639.4 | 64.14 | 42.150 | | |
| 10,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 52.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,796.3 | 2,730.4 | 65.83 | 42.475 | | |
| 10,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 54.3 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,889.5 | 2,822.0 | 67.53 | 42.789 | | |
| 10,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 56.0 | 13.3 | -90.00 | 192.7 | -1,200.5 | 2,983.2 | 2,914.0 | 69.23 | 43.091 | | |
| 10,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 57.7 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,077.3 | 3,006.4 | 70.93 | 43.382 | | |
| 11,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 59.4 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,171.7 | 3,099.1 | 72.64 | 43.663 | | |
| 11,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 61.1 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,266.5 | 3,192.2 | 74.35 | 43.934 | | |
| 11,200.0 | 7,645.0 | 7,633.0 | 7,633.0 | 62.8 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,361.6 | 3,285.5 | 76.06 | 44.195 | | |
| 11,300.0 | 7,645.0 | 7,633.0 | 7,633.0 | 64.5 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,456.9 | 3,379.2 | 77.78 | 44.448 | | |
| 11,400.0 | 7,645.0 | 7,633.0 | 7,633.0 | 66.3 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,552.6 | 3,473.1 | 79.49 | 44.691 | | |
| 11,500.0 | 7,645.0 | 7,633.0 | 7,633.0 | 68.0 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,648.4 | 3,567.2 | 81.21 | 44.925 | | |
| 11,600.0 | 7,645.0 | 7,633.0 | 7,633.0 | 69.7 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,744.5 | 3,661.5 | 82.93 | 45.152 | | |
| 11,700.0 | 7,645.0 | 7,633.0 | 7,633.0 | 71.4 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,840.7 | 3,756.1 | 84.65 | 45.371 | | |
| 11,800.0 | 7,645.0 | 7,633.0 | 7,633.0 | 73.1 | 13.3 | -90.00 | 192.7 | -1,200.5 | 3,937.2 | 3,850.8 | 86.37 | 45.583 | | |
| 11,900.0 | 7,645.0 | 7,633.0 | 7,633.0 | 74.9 | 13.3 | -90.00 | 192.7 | -1,200.5 | 4,033.8 | 3,945.7 | 88.10 | 45.787 | | |
| 12,000.0 | 7,645.0 | 7,633.0 | 7,633.0 | 76.6 | 13.3 | -90.00 | 192.7 | -1,200.5 | 4,130.6 | 4,040.8 | 89.83 | 45.985 | | |
| 12,100.0 | 7,645.0 | 7,633.0 | 7,633.0 | 78.3 | 13.3 | -90.00 | 192.7 | -1,200.5 | 4,227.5 | 4,136.0 | 91.55 | 46.176 | | |
| 12,170.4 | 7,645.0 | 7,633.0 | 7,633.0 | 79.5 | 13.3 | -90.00 | 192.7 | -1,200.5 | 4,295.9 | 4,203.1 | 92.77 | 46.307 | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4A-14H - HZ - Plan #3 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|---------------|--------------------|--------|
| Survey Program: 0-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 | -90.02 | 0.0 | -11.2 | 11.2 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.2 | 0.2 | -90.02 | 0.0 | -11.2 | 11.2 | 10.9 | 0.30 | 36.876 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -90.02 | 0.0 | -11.2 | 11.2 | 10.5 | 0.65 | 17.156 CC, ES | | |
| 300.0 | 300.0 | 299.6 | 299.6 | 0.5 | 0.5 | -94.71 | -1.0 | -12.6 | 12.6 | 11.6 | 1.00 | 12.621 | | |
| 400.0 | 400.0 | 399.1 | 399.0 | 0.7 | 0.7 | 59.36 | -4.1 | -16.8 | 16.3 | 15.0 | 1.36 | 12.039 | | |
| 500.0 | 499.8 | 498.4 | 497.9 | 0.9 | 0.9 | 60.53 | -9.3 | -23.7 | 21.4 | 19.6 | 1.73 | 12.346 | | |
| 600.0 | 599.5 | 597.5 | 596.2 | 1.1 | 1.2 | 63.97 | -16.4 | -33.3 | 27.7 | 25.6 | 2.15 | 12.932 | | |
| 700.0 | 698.7 | 696.3 | 693.8 | 1.3 | 1.5 | 68.00 | -25.6 | -45.6 | 35.7 | 33.0 | 2.63 | 13.540 | | |
| 800.0 | 797.7 | 794.6 | 790.4 | 1.6 | 1.9 | 70.00 | -36.7 | -60.6 | 45.8 | 42.6 | 3.16 | 14.460 | | |
| 900.0 | 896.8 | 893.9 | 887.5 | 1.9 | 2.2 | 70.07 | -49.0 | -77.1 | 57.4 | 53.7 | 3.70 | 15.496 | | |
| 1,000.0 | 995.8 | 993.2 | 984.6 | 2.2 | 2.6 | 70.12 | -61.3 | -93.7 | 69.0 | 64.7 | 4.25 | 16.231 | | |
| 1,100.0 | 1,094.8 | 1,092.5 | 1,081.8 | 2.5 | 3.0 | 70.15 | -73.6 | -110.3 | 80.6 | 75.8 | 4.80 | 16.776 | | |
| 1,200.0 | 1,193.8 | 1,191.9 | 1,178.9 | 2.8 | 3.4 | 70.17 | -85.9 | -126.9 | 92.2 | 86.8 | 5.36 | 17.194 | | |
| 1,300.0 | 1,292.9 | 1,291.2 | 1,276.1 | 3.1 | 3.8 | 70.19 | -98.2 | -143.4 | 103.8 | 97.8 | 5.92 | 17.524 | | |
| 1,400.0 | 1,391.9 | 1,390.5 | 1,373.2 | 3.3 | 4.2 | 70.20 | -110.5 | -160.0 | 115.4 | 108.9 | 6.48 | 17.790 | | |
| 1,500.0 | 1,490.9 | 1,489.8 | 1,470.4 | 3.6 | 4.6 | 70.22 | -122.8 | -176.6 | 127.0 | 119.9 | 7.05 | 18.009 | | |
| 1,600.0 | 1,589.9 | 1,589.2 | 1,567.5 | 3.9 | 5.0 | 70.23 | -135.2 | -193.2 | 138.6 | 131.0 | 7.62 | 18.191 | | |
| 1,700.0 | 1,689.0 | 1,688.5 | 1,664.7 | 4.2 | 5.4 | 70.24 | -147.5 | -209.8 | 150.2 | 142.0 | 8.19 | 18.346 | | |
| 1,800.0 | 1,788.0 | 1,787.8 | 1,761.9 | 4.5 | 5.8 | 70.24 | -159.8 | -226.3 | 161.8 | 153.0 | 8.75 | 18.479 | | |
| 1,900.0 | 1,887.0 | 1,887.1 | 1,859.0 | 4.8 | 6.2 | 70.25 | -172.1 | -242.9 | 173.4 | 164.0 | 9.32 | 18.595 | | |
| 2,000.0 | 1,986.1 | 1,986.5 | 1,956.2 | 5.1 | 6.6 | 70.25 | -184.4 | -259.5 | 185.0 | 175.1 | 9.89 | 18.696 | | |
| 2,100.0 | 2,085.1 | 2,085.8 | 2,053.3 | 5.4 | 7.0 | 70.26 | -196.7 | -276.1 | 196.6 | 186.1 | 10.46 | 18.785 | | |
| 2,200.0 | 2,184.1 | 2,185.1 | 2,150.5 | 5.7 | 7.4 | 70.26 | -209.0 | -292.7 | 208.2 | 197.1 | 11.04 | 18.864 | | |
| 2,300.0 | 2,283.1 | 2,284.4 | 2,247.6 | 6.0 | 7.8 | 70.27 | -221.3 | -309.2 | 219.8 | 208.2 | 11.61 | 18.934 | | |
| 2,400.0 | 2,382.2 | 2,383.8 | 2,344.8 | 6.3 | 8.2 | 70.27 | -233.7 | -325.8 | 231.4 | 219.2 | 12.18 | 18.998 | | |
| 2,500.0 | 2,481.2 | 2,483.1 | 2,441.9 | 6.6 | 8.6 | 70.27 | -246.0 | -342.4 | 243.0 | 230.2 | 12.75 | 19.055 | | |
| 2,600.0 | 2,580.2 | 2,582.4 | 2,539.1 | 6.9 | 9.0 | 70.28 | -258.3 | -359.0 | 254.6 | 241.3 | 13.32 | 19.108 | | |
| 2,700.0 | 2,679.2 | 2,681.7 | 2,636.2 | 7.2 | 9.4 | 70.28 | -270.6 | -375.5 | 266.2 | 252.3 | 13.90 | 19.155 | | |
| 2,800.0 | 2,778.3 | 2,781.1 | 2,733.4 | 7.5 | 9.8 | 70.28 | -282.9 | -392.1 | 277.8 | 263.3 | 14.47 | 19.199 | | |
| 2,900.0 | 2,877.3 | 2,880.4 | 2,830.5 | 7.8 | 10.2 | 70.28 | -295.2 | -408.7 | 289.4 | 274.3 | 15.04 | 19.239 | | |
| 3,000.0 | 2,976.3 | 2,979.7 | 2,927.7 | 8.1 | 10.6 | 70.29 | -307.5 | -425.3 | 301.0 | 285.4 | 15.62 | 19.276 | | |
| 3,100.0 | 3,075.3 | 3,079.0 | 3,024.9 | 8.4 | 11.0 | 70.29 | -319.8 | -441.9 | 312.6 | 296.4 | 16.19 | 19.310 | | |
| 3,200.0 | 3,174.4 | 3,178.4 | 3,122.0 | 8.7 | 11.5 | 70.29 | -332.2 | -458.4 | 324.2 | 307.4 | 16.76 | 19.342 | | |
| 3,300.0 | 3,273.4 | 3,277.7 | 3,219.2 | 9.0 | 11.9 | 70.29 | -344.5 | -475.0 | 335.8 | 318.5 | 17.34 | 19.371 | | |
| 3,400.0 | 3,372.4 | 3,377.0 | 3,316.3 | 9.3 | 12.3 | 70.29 | -356.8 | -491.6 | 347.4 | 329.5 | 17.91 | 19.398 | | |
| 3,500.0 | 3,471.5 | 3,476.3 | 3,413.5 | 9.6 | 12.7 | 70.29 | -369.1 | -508.2 | 359.0 | 340.5 | 18.48 | 19.424 | | |
| 3,600.0 | 3,570.5 | 3,575.7 | 3,510.6 | 9.9 | 13.1 | 70.30 | -381.4 | -524.8 | 370.6 | 351.5 | 19.06 | 19.448 | | |
| 3,680.0 | 3,649.7 | 3,655.1 | 3,588.4 | 10.1 | 13.4 | 70.30 | -391.3 | -538.0 | 379.9 | 360.4 | 19.51 | 19.466 | | |
| 3,700.0 | 3,669.5 | 3,675.0 | 3,607.8 | 10.2 | 13.5 | 70.33 | -393.7 | -541.3 | 382.2 | 362.6 | 19.63 | 19.470 | | |
| 3,800.0 | 3,768.8 | 3,780.7 | 3,711.3 | 10.4 | 13.9 | 70.25 | -406.4 | -558.5 | 394.2 | 374.1 | 20.13 | 19.578 | | |
| 3,900.0 | 3,868.5 | 3,892.3 | 3,821.3 | 10.6 | 14.2 | 69.97 | -417.6 | -573.5 | 404.7 | 384.1 | 20.54 | 19.702 | | |
| 4,000.0 | 3,968.4 | 4,004.4 | 3,932.5 | 10.8 | 14.5 | 69.55 | -426.3 | -585.2 | 413.3 | 392.5 | 20.84 | 19.831 | | |
| 4,080.0 | 4,048.4 | 4,094.5 | 4,022.2 | 10.9 | 14.7 | -89.20 | -431.3 | -592.0 | 418.9 | 397.9 | 21.01 | 19.936 | | |
| 4,100.0 | 4,068.4 | 4,117.1 | 4,044.7 | 10.9 | 14.7 | -89.34 | -432.3 | -593.3 | 420.1 | 399.0 | 21.05 | 19.959 | | |
| 4,200.0 | 4,168.4 | 4,230.3 | 4,157.8 | 11.0 | 14.9 | -89.82 | -435.8 | -598.0 | 424.2 | 402.9 | 21.25 | 19.961 | | |
| 4,300.0 | 4,268.4 | 4,341.0 | 4,268.4 | 11.1 | 15.0 | -89.93 | -436.6 | -599.1 | 425.1 | 403.7 | 21.49 | 19.784 | | |
| 4,400.0 | 4,368.4 | 4,441.0 | 4,368.4 | 11.2 | 15.1 | -89.93 | -436.6 | -599.1 | 425.1 | 403.4 | 21.73 | 19.561 | | |
| 4,500.0 | 4,468.4 | 4,541.0 | 4,468.4 | 11.4 | 15.2 | -89.93 | -436.6 | -599.1 | 425.1 | 403.2 | 21.98 | 19.340 | | |
| 4,600.0 | 4,568.4 | 4,641.0 | 4,568.4 | 11.5 | 15.3 | -89.93 | -436.6 | -599.1 | 425.1 | 402.9 | 22.23 | 19.121 | | |
| 4,700.0 | 4,668.4 | 4,741.0 | 4,668.4 | 11.6 | 15.4 | -89.93 | -436.6 | -599.1 | 425.1 | 402.7 | 22.49 | 18.905 | | |
| 4,800.0 | 4,768.4 | 4,841.0 | 4,768.4 | 11.7 | 15.4 | -89.93 | -436.6 | -599.1 | 425.1 | 402.4 | 22.74 | 18.692 | | |
| 4,900.0 | 4,868.4 | 4,941.0 | 4,868.4 | 11.9 | 15.5 | -89.93 | -436.6 | -599.1 | 425.1 | 402.1 | 23.00 | 18.482 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|--------------------|--------|
| Survey Program: 0-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 | | |
| 5,000.0 | 4,968.4 | 5,041.0 | 4,968.4 | 12.0 | 15.6 | -89.93 | -436.6 | -599.1 | 425.1 | 401.9 | 23.26 | 18.275 | |
| 5,100.0 | 5,068.4 | 5,141.0 | 5,068.4 | 12.1 | 15.7 | -89.93 | -436.6 | -599.1 | 425.1 | 401.6 | 23.53 | 18.070 | |
| 5,200.0 | 5,168.4 | 5,241.0 | 5,168.4 | 12.2 | 15.8 | -89.93 | -436.6 | -599.1 | 425.1 | 401.4 | 23.79 | 17.868 | |
| 5,300.0 | 5,268.4 | 5,341.0 | 5,268.4 | 12.4 | 15.9 | -89.93 | -436.6 | -599.1 | 425.1 | 401.1 | 24.06 | 17.669 | |
| 5,400.0 | 5,368.4 | 5,441.0 | 5,368.4 | 12.5 | 16.0 | -89.93 | -436.6 | -599.1 | 425.1 | 400.8 | 24.33 | 17.474 | |
| 5,500.0 | 5,468.4 | 5,541.0 | 5,468.4 | 12.6 | 16.1 | -89.93 | -436.6 | -599.1 | 425.1 | 400.5 | 24.60 | 17.281 | |
| 5,600.0 | 5,568.4 | 5,641.0 | 5,568.4 | 12.8 | 16.3 | -89.93 | -436.6 | -599.1 | 425.1 | 400.3 | 24.88 | 17.090 | |
| 5,700.0 | 5,668.4 | 5,741.0 | 5,668.4 | 12.9 | 16.4 | -89.93 | -436.6 | -599.1 | 425.1 | 400.0 | 25.15 | 16.903 | |
| 5,800.0 | 5,768.4 | 5,841.0 | 5,768.4 | 13.0 | 16.5 | -89.93 | -436.6 | -599.1 | 425.1 | 399.7 | 25.43 | 16.719 | |
| 5,900.0 | 5,868.4 | 5,941.0 | 5,868.4 | 13.2 | 16.6 | -89.93 | -436.6 | -599.1 | 425.1 | 399.4 | 25.71 | 16.537 | |
| 6,000.0 | 5,968.4 | 6,041.0 | 5,968.4 | 13.3 | 16.7 | -89.93 | -436.6 | -599.1 | 425.1 | 399.2 | 25.99 | 16.359 | |
| 6,100.0 | 6,068.4 | 6,141.0 | 6,068.4 | 13.4 | 16.8 | -89.93 | -436.6 | -599.1 | 425.1 | 398.9 | 26.27 | 16.183 | |
| 6,200.0 | 6,168.4 | 6,241.0 | 6,168.4 | 13.6 | 16.9 | -89.93 | -436.6 | -599.1 | 425.1 | 398.6 | 26.56 | 16.010 | |
| 6,300.0 | 6,268.4 | 6,341.0 | 6,268.4 | 13.7 | 17.0 | -89.93 | -436.6 | -599.1 | 425.1 | 398.3 | 26.84 | 15.839 | |
| 6,400.0 | 6,368.4 | 6,441.0 | 6,368.4 | 13.9 | 17.1 | -89.93 | -436.6 | -599.1 | 425.1 | 398.0 | 27.13 | 15.672 | |
| 6,500.0 | 6,468.4 | 6,541.0 | 6,468.4 | 14.0 | 17.2 | -89.93 | -436.6 | -599.1 | 425.1 | 397.7 | 27.42 | 15.507 | |
| 6,600.0 | 6,568.4 | 6,641.0 | 6,568.4 | 14.1 | 17.4 | -89.93 | -436.6 | -599.1 | 425.1 | 397.4 | 27.71 | 15.344 | |
| 6,700.0 | 6,668.4 | 6,741.0 | 6,668.4 | 14.3 | 17.5 | -89.93 | -436.6 | -599.1 | 425.1 | 397.1 | 28.00 | 15.185 | |
| 6,743.1 | 6,711.5 | 6,784.1 | 6,711.5 | 14.3 | 17.5 | -89.93 | -436.6 | -599.1 | 425.1 | 397.0 | 28.12 | 15.117 | |
| 6,800.0 | 6,768.4 | 6,840.8 | 6,768.2 | 14.4 | 17.6 | -89.60 | -434.2 | -599.1 | 425.2 | 396.9 | 28.29 | 15.028 | |
| 6,900.0 | 6,868.4 | 6,938.3 | 6,864.5 | 14.6 | 17.5 | -87.62 | -419.5 | -599.1 | 425.5 | 396.9 | 28.66 | 14.848 | |
| 6,960.4 | 6,928.8 | 6,994.7 | 6,919.0 | 14.7 | 17.5 | -85.69 | -405.1 | -599.1 | 426.5 | 397.6 | 28.91 | 14.752 | |
| 7,000.0 | 6,968.4 | 7,030.6 | 6,953.0 | 14.7 | 17.5 | -84.21 | -393.7 | -599.1 | 427.5 | 398.5 | 29.05 | 14.714 | |
| 7,050.0 | 7,018.2 | 7,075.3 | 6,994.5 | 14.7 | 17.4 | -82.38 | -377.2 | -599.1 | 429.3 | 400.1 | 29.17 | 14.715 | |
| 7,100.0 | 7,067.5 | 7,119.2 | 7,034.3 | 14.7 | 17.3 | -80.60 | -358.4 | -599.1 | 431.4 | 402.2 | 29.22 | 14.766 | |
| 7,150.0 | 7,116.2 | 7,162.5 | 7,072.2 | 14.7 | 17.2 | -78.89 | -337.6 | -599.1 | 433.9 | 404.7 | 29.19 | 14.866 | |
| 7,200.0 | 7,164.0 | 7,205.3 | 7,108.4 | 14.6 | 17.2 | -77.24 | -314.8 | -599.1 | 436.7 | 407.6 | 29.09 | 15.012 | |
| 7,250.0 | 7,210.6 | 7,250.0 | 7,144.7 | 14.5 | 17.1 | -75.59 | -288.7 | -599.1 | 439.7 | 410.8 | 28.92 | 15.204 | |
| 7,300.0 | 7,255.8 | 7,289.1 | 7,175.1 | 14.4 | 17.0 | -74.17 | -264.0 | -599.1 | 442.9 | 414.2 | 28.70 | 15.433 | |
| 7,350.0 | 7,299.5 | 7,330.4 | 7,205.6 | 14.3 | 16.9 | -72.76 | -236.3 | -599.1 | 446.2 | 417.7 | 28.42 | 15.699 | |
| 7,400.0 | 7,341.3 | 7,371.2 | 7,234.2 | 14.2 | 16.9 | -71.43 | -207.2 | -599.1 | 449.5 | 421.4 | 28.10 | 15.996 | |
| 7,450.0 | 7,381.1 | 7,411.6 | 7,260.8 | 14.1 | 16.8 | -70.20 | -176.7 | -599.1 | 452.9 | 425.2 | 27.76 | 16.317 | |
| 7,500.0 | 7,418.8 | 7,450.0 | 7,284.5 | 14.0 | 16.8 | -69.09 | -146.5 | -599.1 | 456.3 | 428.9 | 27.40 | 16.650 | |
| 7,550.0 | 7,454.0 | 7,491.5 | 7,308.2 | 13.9 | 16.8 | -68.00 | -112.5 | -599.1 | 459.5 | 432.4 | 27.04 | 16.991 | |
| 7,600.0 | 7,486.7 | 7,531.0 | 7,328.9 | 13.8 | 16.8 | -67.04 | -78.8 | -599.1 | 462.6 | 435.9 | 26.71 | 17.320 | |
| 7,650.0 | 7,516.7 | 7,570.3 | 7,347.6 | 13.8 | 16.8 | -66.18 | -44.3 | -599.1 | 465.5 | 439.1 | 26.41 | 17.628 | |
| 7,700.0 | 7,543.8 | 7,609.4 | 7,364.3 | 13.8 | 16.8 | -65.41 | -9.0 | -599.1 | 468.2 | 442.0 | 26.20 | 17.872 | |
| 7,750.0 | 7,567.9 | 7,650.0 | 7,379.6 | 13.8 | 16.9 | -64.71 | 28.6 | -599.1 | 470.7 | 444.6 | 26.03 | 18.080 | |
| 7,800.0 | 7,588.9 | 7,686.9 | 7,391.6 | 13.9 | 17.0 | -64.15 | 63.5 | -599.1 | 472.8 | 446.8 | 25.99 | 18.195 | |
| 7,850.0 | 7,606.7 | 7,725.5 | 7,402.3 | 14.1 | 17.1 | -63.67 | 100.6 | -599.1 | 474.7 | 448.6 | 26.05 | 18.225 | |
| 7,900.0 | 7,621.1 | 7,763.9 | 7,410.9 | 14.2 | 17.3 | -63.27 | 138.1 | -599.1 | 476.2 | 450.0 | 26.23 | 18.157 | |
| 7,950.0 | 7,632.2 | 7,800.0 | 7,417.1 | 14.5 | 17.4 | -62.99 | 173.6 | -599.1 | 477.4 | 450.9 | 26.53 | 17.994 | |
| 8,000.0 | 7,639.9 | 7,840.6 | 7,422.0 | 14.8 | 17.6 | -62.77 | 213.9 | -599.1 | 478.2 | 451.2 | 27.00 | 17.713 | |
| 8,050.0 | 7,644.1 | 7,878.9 | 7,424.5 | 15.1 | 17.8 | -62.66 | 252.1 | -599.1 | 478.6 | 451.1 | 27.59 | 17.350 | |
| 8,085.4 | 7,645.0 | 7,906.4 | 7,425.0 | 15.4 | 18.0 | -62.64 | 279.6 | -599.1 | 478.7 | 450.7 | 28.08 | 17.049 | |
| 8,085.9 | 7,645.0 | 7,906.4 | 7,425.0 | 15.4 | 18.0 | -62.64 | 279.6 | -599.1 | 478.7 | 450.7 | 28.08 | 17.046 | |
| 8,100.0 | 7,645.0 | 7,920.4 | 7,425.0 | 15.5 | 18.1 | -62.64 | 293.7 | -599.1 | 478.7 | 450.4 | 28.29 | 16.923 | |
| 8,200.0 | 7,645.0 | 8,020.4 | 7,425.0 | 16.3 | 18.8 | -62.64 | 393.7 | -599.1 | 478.7 | 448.9 | 29.85 | 16.039 | |
| 8,300.0 | 7,645.0 | 8,120.4 | 7,425.0 | 17.3 | 19.7 | -62.64 | 493.7 | -599.1 | 478.8 | 447.1 | 31.64 | 15.134 | |
| 8,400.0 | 7,645.0 | 8,220.4 | 7,425.0 | 18.4 | 20.7 | -62.64 | 593.7 | -599.1 | 478.8 | 445.1 | 33.62 | 14.241 | |
| 8,500.0 | 7,645.0 | 8,320.4 | 7,425.0 | 19.6 | 21.7 | -62.64 | 693.7 | -599.1 | 478.8 | 443.0 | 35.76 | 13.387 | |
| 8,600.0 | 7,645.0 | 8,420.4 | 7,425.0 | 20.9 | 22.9 | -62.64 | 793.7 | -599.1 | 478.8 | 440.7 | 38.04 | 12.585 | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4A-14H - HZ - Plan #3 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|------------------------|------------------------|------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|---------------------|----------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Total | | 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 | Separation Factor | | |
| 8,700.0 | 7,645.0 | 8,520.4 | 7,425.0 | 22.3 | 24.1 | -62.64 | 893.7 | -599.1 | 478.8 | 438.3 | 40.44 | 11.840 | | |
| 8,800.0 | 7,645.0 | 8,620.4 | 7,425.0 | 23.7 | 25.4 | -62.65 | 993.7 | -599.1 | 478.8 | 435.9 | 42.92 | 11.154 | | |
| 8,900.0 | 7,645.0 | 8,720.4 | 7,425.0 | 25.1 | 26.8 | -62.65 | 1,093.7 | -599.1 | 478.8 | 433.3 | 45.49 | 10.525 | | |
| 9,000.0 | 7,645.0 | 8,820.4 | 7,425.0 | 26.6 | 28.2 | -62.65 | 1,193.7 | -599.1 | 478.8 | 430.7 | 48.12 | 9.950 | | |
| 9,100.0 | 7,645.0 | 8,920.4 | 7,425.0 | 28.1 | 29.6 | -62.65 | 1,293.7 | -599.1 | 478.8 | 428.0 | 50.81 | 9.424 | | |
| 9,200.0 | 7,645.0 | 9,020.4 | 7,425.0 | 29.6 | 31.1 | -62.65 | 1,393.7 | -599.1 | 478.8 | 425.3 | 53.54 | 8.943 | | |
| 9,300.0 | 7,645.0 | 9,120.4 | 7,425.0 | 31.2 | 32.6 | -62.65 | 1,493.7 | -599.1 | 478.8 | 422.5 | 56.32 | 8.502 | | |
| 9,400.0 | 7,645.0 | 9,220.4 | 7,425.0 | 32.8 | 34.1 | -62.65 | 1,593.7 | -599.1 | 478.8 | 419.7 | 59.12 | 8.099 | | |
| 9,500.0 | 7,645.0 | 9,320.4 | 7,425.0 | 34.4 | 35.6 | -62.65 | 1,693.7 | -599.1 | 478.8 | 416.9 | 61.96 | 7.728 | | |
| 9,600.0 | 7,645.0 | 9,420.4 | 7,425.0 | 36.0 | 37.2 | -62.65 | 1,793.7 | -599.1 | 478.8 | 414.0 | 64.83 | 7.386 | | |
| 9,700.0 | 7,645.0 | 9,520.4 | 7,425.0 | 37.6 | 38.8 | -62.65 | 1,893.7 | -599.1 | 478.8 | 411.1 | 67.71 | 7.071 | | |
| 9,800.0 | 7,645.0 | 9,620.4 | 7,425.0 | 39.3 | 40.3 | -62.65 | 1,993.7 | -599.1 | 478.8 | 408.2 | 70.62 | 6.780 | | |
| 9,900.0 | 7,645.0 | 9,720.4 | 7,425.0 | 40.9 | 41.9 | -62.65 | 2,093.7 | -599.1 | 478.8 | 405.3 | 73.55 | 6.511 | | |
| 10,000.0 | 7,645.0 | 9,820.4 | 7,425.0 | 42.6 | 43.6 | -62.65 | 2,193.7 | -599.1 | 478.9 | 402.4 | 76.49 | 6.261 | | |
| 10,100.0 | 7,645.0 | 9,920.4 | 7,425.0 | 44.2 | 45.2 | -62.65 | 2,293.7 | -599.1 | 478.9 | 399.4 | 79.44 | 6.028 | | |
| 10,200.0 | 7,645.0 | 10,020.4 | 7,425.0 | 45.9 | 46.8 | -62.65 | 2,393.7 | -599.1 | 478.9 | 396.5 | 82.41 | 5.811 | | |
| 10,300.0 | 7,645.0 | 10,120.4 | 7,425.0 | 47.6 | 48.5 | -62.65 | 2,493.7 | -599.1 | 478.9 | 393.5 | 85.39 | 5.608 | | |
| 10,400.0 | 7,645.0 | 10,220.4 | 7,425.0 | 49.2 | 50.1 | -62.65 | 2,593.7 | -599.1 | 478.9 | 390.5 | 88.37 | 5.419 | | |
| 10,500.0 | 7,645.0 | 10,320.4 | 7,425.0 | 50.9 | 51.8 | -62.65 | 2,693.7 | -599.1 | 478.9 | 387.5 | 91.37 | 5.241 | | |
| 10,600.0 | 7,645.0 | 10,420.4 | 7,425.0 | 52.6 | 53.4 | -62.65 | 2,793.7 | -599.1 | 478.9 | 384.5 | 94.38 | 5.074 | | |
| 10,700.0 | 7,645.0 | 10,520.4 | 7,425.0 | 54.3 | 55.1 | -62.65 | 2,893.7 | -599.1 | 478.9 | 381.5 | 97.39 | 4.917 | | |
| 10,800.0 | 7,645.0 | 10,620.4 | 7,425.0 | 56.0 | 56.8 | -62.65 | 2,993.7 | -599.0 | 478.9 | 378.5 | 100.41 | 4.770 | | |
| 10,900.0 | 7,645.0 | 10,720.4 | 7,425.0 | 57.7 | 58.5 | -62.65 | 3,093.7 | -599.0 | 478.9 | 375.5 | 103.43 | 4.630 | | |
| 11,000.0 | 7,645.0 | 10,820.4 | 7,425.0 | 59.4 | 60.1 | -62.65 | 3,193.7 | -599.0 | 478.9 | 372.5 | 106.46 | 4.499 | | |
| 11,100.0 | 7,645.0 | 10,920.4 | 7,425.0 | 61.1 | 61.8 | -62.65 | 3,293.7 | -599.0 | 478.9 | 369.4 | 109.50 | 4.374 | | |
| 11,200.0 | 7,645.0 | 11,020.4 | 7,425.0 | 62.8 | 63.5 | -62.65 | 3,393.7 | -599.0 | 478.9 | 366.4 | 112.54 | 4.256 | | |
| 11,300.0 | 7,645.0 | 11,120.4 | 7,425.0 | 64.5 | 65.2 | -62.65 | 3,493.7 | -599.0 | 478.9 | 363.4 | 115.58 | 4.144 | | |
| 11,400.0 | 7,645.0 | 11,220.4 | 7,425.0 | 66.3 | 66.9 | -62.66 | 3,593.7 | -599.0 | 478.9 | 360.3 | 118.63 | 4.037 | | |
| 11,500.0 | 7,645.0 | 11,320.4 | 7,425.0 | 68.0 | 68.6 | -62.66 | 3,693.7 | -599.0 | 478.9 | 357.3 | 121.68 | 3.936 | | |
| 11,600.0 | 7,645.0 | 11,420.4 | 7,425.0 | 69.7 | 70.3 | -62.66 | 3,793.7 | -599.0 | 479.0 | 354.2 | 124.74 | 3.840 | | |
| 11,700.0 | 7,645.0 | 11,520.4 | 7,425.0 | 71.4 | 72.0 | -62.66 | 3,893.7 | -599.0 | 479.0 | 351.2 | 127.80 | 3.748 | | |
| 11,800.0 | 7,645.0 | 11,620.4 | 7,425.0 | 73.1 | 73.7 | -62.66 | 3,993.7 | -599.0 | 479.0 | 348.1 | 130.86 | 3.660 | | |
| 11,900.0 | 7,645.0 | 11,720.4 | 7,425.0 | 74.9 | 75.4 | -62.66 | 4,093.7 | -599.0 | 479.0 | 345.0 | 133.92 | 3.576 | | |
| 12,000.0 | 7,645.0 | 11,820.4 | 7,425.0 | 76.6 | 77.1 | -62.66 | 4,193.7 | -599.0 | 479.0 | 342.0 | 136.99 | 3.496 | | |
| 12,100.0 | 7,645.0 | 11,920.4 | 7,425.0 | 78.3 | 78.8 | -62.66 | 4,293.7 | -599.0 | 479.0 | 338.9 | 140.06 | 3.420 | | |
| 12,170.4 | 7,645.0 | 11,990.8 | 7,425.0 | 79.5 | 80.1 | -62.66 | 4,364.0 | -599.0 | 479.0 | 336.8 | 142.22 | 3.368 SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4C-14H - HZ - Plan #3 | | | | | | | | | | | | | 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 | 90.00 | 0.0 | 8.4 | 8.4 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.2 | 0.2 | 90.00 | 0.0 | 8.4 | 8.4 | 8.1 | 0.30 | 27.657 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 90.00 | 0.0 | 8.4 | 8.4 | 7.7 | 0.65 | 12.867 | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 90.00 | 0.0 | 8.4 | 8.4 | 7.4 | 1.00 | 8.384 | CC, ES | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.7 | 0.7 | -121.85 | 0.0 | 8.4 | 9.2 | 7.8 | 1.35 | 6.793 | | |
| 500.0 | 499.8 | 499.8 | 499.8 | 0.9 | 0.9 | -134.39 | -1.5 | 9.2 | 12.8 | 11.1 | 1.71 | 7.490 | | |
| 600.0 | 599.5 | 599.5 | 599.4 | 1.1 | 1.0 | -137.36 | -6.1 | 11.7 | 19.5 | 17.4 | 2.09 | 9.320 | | |
| 700.0 | 698.7 | 699.0 | 698.5 | 1.3 | 1.3 | -136.40 | -13.7 | 15.9 | 28.9 | 26.4 | 2.51 | 11.495 | | |
| 800.0 | 797.7 | 798.3 | 797.0 | 1.6 | 1.5 | -132.76 | -24.2 | 21.7 | 39.9 | 36.9 | 3.00 | 13.306 | | |
| 900.0 | 896.8 | 897.6 | 895.4 | 1.9 | 1.8 | -128.73 | -36.4 | 28.3 | 51.3 | 47.8 | 3.51 | 14.599 | | |
| 1,000.0 | 895.8 | 896.9 | 893.7 | 2.2 | 2.0 | -126.17 | -48.5 | 34.9 | 62.9 | 58.8 | 4.04 | 15.553 | | |
| 1,100.0 | 1,094.8 | 1,096.2 | 1,092.0 | 2.5 | 2.3 | -124.40 | -60.6 | 41.6 | 74.5 | 69.9 | 4.58 | 16.278 | | |
| 1,200.0 | 1,193.8 | 1,195.5 | 1,190.3 | 2.8 | 2.6 | -123.12 | -72.7 | 48.2 | 86.2 | 81.1 | 5.12 | 16.844 | | |
| 1,300.0 | 1,292.9 | 1,294.8 | 1,288.7 | 3.1 | 2.9 | -122.14 | -84.9 | 54.9 | 97.9 | 92.3 | 5.66 | 17.296 | | |
| 1,400.0 | 1,391.9 | 1,394.1 | 1,387.0 | 3.3 | 3.2 | -121.37 | -97.0 | 61.5 | 109.7 | 103.5 | 6.21 | 17.665 | | |
| 1,500.0 | 1,490.9 | 1,493.4 | 1,485.3 | 3.6 | 3.5 | -120.75 | -109.1 | 68.1 | 121.4 | 114.7 | 6.76 | 17.972 | | |
| 1,600.0 | 1,589.9 | 1,592.7 | 1,583.7 | 3.9 | 3.7 | -120.24 | -121.2 | 74.8 | 133.2 | 125.9 | 7.31 | 18.229 | | |
| 1,700.0 | 1,689.0 | 1,692.0 | 1,682.0 | 4.2 | 4.0 | -119.81 | -133.3 | 81.4 | 145.0 | 137.1 | 7.86 | 18.450 | | |
| 1,800.0 | 1,788.0 | 1,791.3 | 1,780.3 | 4.5 | 4.3 | -119.44 | -145.5 | 88.0 | 156.8 | 148.4 | 8.41 | 18.639 | | |
| 1,900.0 | 1,887.0 | 1,890.6 | 1,878.7 | 4.8 | 4.6 | -119.13 | -157.6 | 94.7 | 168.6 | 159.6 | 8.97 | 18.805 | | |
| 2,000.0 | 1,986.1 | 1,989.9 | 1,977.0 | 5.1 | 4.9 | -118.86 | -169.7 | 101.3 | 180.4 | 170.9 | 9.52 | 18.950 | | |
| 2,100.0 | 2,085.1 | 2,089.2 | 2,075.3 | 5.4 | 5.2 | -118.62 | -181.8 | 107.9 | 192.2 | 182.1 | 10.07 | 19.079 | | |
| 2,200.0 | 2,184.1 | 2,188.5 | 2,173.7 | 5.7 | 5.5 | -118.41 | -194.0 | 114.6 | 204.0 | 193.4 | 10.63 | 19.193 | | |
| 2,300.0 | 2,283.1 | 2,287.8 | 2,272.0 | 6.0 | 5.8 | -118.22 | -206.1 | 121.2 | 215.8 | 204.6 | 11.18 | 19.296 | | |
| 2,400.0 | 2,382.2 | 2,387.1 | 2,370.3 | 6.3 | 6.1 | -118.06 | -218.2 | 127.9 | 227.6 | 215.9 | 11.74 | 19.389 | | |
| 2,500.0 | 2,481.2 | 2,486.4 | 2,468.7 | 6.6 | 6.4 | -117.90 | -230.3 | 134.5 | 239.4 | 227.1 | 12.30 | 19.473 | | |
| 2,600.0 | 2,580.2 | 2,585.7 | 2,567.0 | 6.9 | 6.7 | -117.77 | -242.4 | 141.1 | 251.3 | 238.4 | 12.85 | 19.549 | | |
| 2,700.0 | 2,679.2 | 2,685.0 | 2,665.3 | 7.2 | 7.0 | -117.64 | -254.6 | 147.8 | 263.1 | 249.7 | 13.41 | 19.619 | | |
| 2,800.0 | 2,778.3 | 2,784.3 | 2,763.6 | 7.5 | 7.3 | -117.53 | -266.7 | 154.4 | 274.9 | 260.9 | 13.97 | 19.683 | | |
| 2,900.0 | 2,877.3 | 2,883.6 | 2,862.0 | 7.8 | 7.6 | -117.42 | -278.8 | 161.0 | 286.7 | 272.2 | 14.52 | 19.743 | | |
| 3,000.0 | 2,976.3 | 2,982.9 | 2,960.3 | 8.1 | 7.9 | -117.33 | -290.9 | 167.7 | 298.5 | 283.5 | 15.08 | 19.797 | | |
| 3,100.0 | 3,075.3 | 3,082.2 | 3,058.6 | 8.4 | 8.2 | -117.24 | -303.0 | 174.3 | 310.4 | 294.7 | 15.64 | 19.848 | | |
| 3,200.0 | 3,174.4 | 3,181.4 | 3,157.0 | 8.7 | 8.5 | -117.15 | -315.2 | 180.9 | 322.2 | 306.0 | 16.19 | 19.895 | | |
| 3,300.0 | 3,273.4 | 3,280.7 | 3,255.3 | 9.0 | 8.8 | -117.08 | -327.3 | 187.6 | 334.0 | 317.2 | 16.75 | 19.938 | | |
| 3,400.0 | 3,372.4 | 3,380.0 | 3,353.6 | 9.3 | 9.1 | -117.01 | -339.4 | 194.2 | 345.8 | 328.5 | 17.31 | 19.979 | | |
| 3,500.0 | 3,471.5 | 3,479.3 | 3,452.0 | 9.6 | 9.4 | -116.94 | -351.5 | 200.9 | 357.6 | 339.8 | 17.87 | 20.017 | | |
| 3,600.0 | 3,570.5 | 3,578.6 | 3,550.3 | 9.9 | 9.6 | -116.88 | -363.7 | 207.5 | 369.5 | 351.0 | 18.42 | 20.053 | | |
| 3,680.0 | 3,649.7 | 3,658.1 | 3,629.0 | 10.1 | 9.9 | -116.83 | -373.4 | 212.8 | 378.9 | 360.1 | 18.87 | 20.080 | | |
| 3,700.0 | 3,669.5 | 3,677.9 | 3,648.6 | 10.2 | 9.9 | -116.85 | -375.8 | 214.1 | 381.3 | 362.3 | 18.98 | 20.084 | | |
| 3,800.0 | 3,768.8 | 3,777.3 | 3,747.1 | 10.4 | 10.2 | -116.67 | -387.9 | 220.8 | 392.0 | 372.5 | 19.51 | 20.096 | | |
| 3,900.0 | 3,868.5 | 3,876.7 | 3,845.5 | 10.6 | 10.5 | -116.03 | -400.0 | 227.4 | 401.2 | 381.2 | 19.99 | 20.073 | | |
| 4,000.0 | 3,968.4 | 3,976.1 | 3,943.9 | 10.8 | 10.8 | -114.97 | -412.2 | 234.1 | 409.0 | 388.6 | 20.42 | 20.028 | | |
| 4,080.0 | 4,048.4 | 4,056.4 | 4,023.5 | 10.9 | 11.1 | 87.89 | -421.9 | 239.4 | 414.4 | 393.7 | 20.74 | 19.985 | | |
| 4,100.0 | 4,068.4 | 4,077.7 | 4,044.5 | 10.9 | 11.1 | 88.23 | -424.4 | 240.7 | 415.6 | 394.8 | 20.81 | 19.969 | | |
| 4,200.0 | 4,168.4 | 4,184.3 | 4,150.6 | 11.0 | 11.4 | 89.63 | -434.4 | 246.2 | 420.6 | 399.4 | 21.15 | 19.884 | | |
| 4,300.0 | 4,268.4 | 4,291.7 | 4,257.7 | 11.1 | 11.6 | 90.53 | -441.1 | 249.9 | 424.0 | 402.5 | 21.45 | 19.763 | | |
| 4,400.0 | 4,368.4 | 4,399.6 | 4,365.4 | 11.2 | 11.7 | 90.95 | -444.2 | 251.6 | 425.6 | 403.9 | 21.72 | 19.595 | | |
| 4,500.0 | 4,468.4 | 4,502.5 | 4,468.4 | 11.4 | 11.8 | 90.98 | -444.4 | 251.7 | 425.7 | 403.8 | 21.97 | 19.378 | | |
| 4,600.0 | 4,568.4 | 4,602.5 | 4,568.4 | 11.5 | 12.0 | 90.98 | -444.4 | 251.7 | 425.7 | 403.5 | 22.22 | 19.160 | | |
| 4,700.0 | 4,668.4 | 4,702.5 | 4,668.4 | 11.6 | 12.1 | 90.98 | -444.4 | 251.7 | 425.7 | 403.3 | 22.47 | 18.944 | | |
| 4,800.0 | 4,768.4 | 4,802.5 | 4,768.4 | 11.7 | 12.2 | 90.98 | -444.4 | 251.7 | 425.7 | 403.0 | 22.73 | 18.731 | | |
| 4,900.0 | 4,868.4 | 4,902.5 | 4,868.4 | 11.9 | 12.3 | 90.98 | -444.4 | 251.7 | 425.7 | 402.8 | 22.99 | 18.521 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|--------------------|--------|
| Survey Program: 0-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 | | |
| 5,000.0 | 4,968.4 | 5,002.5 | 4,968.4 | 12.0 | 12.4 | 90.98 | -444.4 | 251.7 | 425.7 | 402.5 | 23.25 | 18.314 | |
| 5,100.0 | 5,068.4 | 5,102.5 | 5,068.4 | 12.1 | 12.6 | 90.98 | -444.4 | 251.7 | 425.7 | 402.2 | 23.51 | 18.109 | |
| 5,200.0 | 5,168.4 | 5,202.5 | 5,168.4 | 12.2 | 12.7 | 90.98 | -444.4 | 251.7 | 425.7 | 402.0 | 23.77 | 17.907 | |
| 5,300.0 | 5,268.4 | 5,302.5 | 5,268.4 | 12.4 | 12.8 | 90.98 | -444.4 | 251.7 | 425.7 | 401.7 | 24.04 | 17.709 | |
| 5,400.0 | 5,368.4 | 5,402.5 | 5,368.4 | 12.5 | 12.9 | 90.98 | -444.4 | 251.7 | 425.7 | 401.4 | 24.31 | 17.513 | |
| 5,500.0 | 5,468.4 | 5,502.5 | 5,468.4 | 12.6 | 13.1 | 90.98 | -444.4 | 251.7 | 425.7 | 401.2 | 24.58 | 17.319 | |
| 5,600.0 | 5,568.4 | 5,602.5 | 5,568.4 | 12.8 | 13.2 | 90.98 | -444.4 | 251.7 | 425.7 | 400.9 | 24.85 | 17.129 | |
| 5,700.0 | 5,668.4 | 5,702.5 | 5,668.4 | 12.9 | 13.3 | 90.98 | -444.4 | 251.7 | 425.7 | 400.6 | 25.13 | 16.942 | |
| 5,800.0 | 5,768.4 | 5,802.5 | 5,768.4 | 13.0 | 13.4 | 90.98 | -444.4 | 251.7 | 425.7 | 400.3 | 25.41 | 16.757 | |
| 5,900.0 | 5,868.4 | 5,902.5 | 5,868.4 | 13.2 | 13.6 | 90.98 | -444.4 | 251.7 | 425.7 | 400.1 | 25.69 | 16.576 | |
| 6,000.0 | 5,968.4 | 6,002.5 | 5,968.4 | 13.3 | 13.7 | 90.98 | -444.4 | 251.7 | 425.7 | 399.8 | 25.97 | 16.397 | |
| 6,100.0 | 6,068.4 | 6,102.5 | 6,068.4 | 13.4 | 13.8 | 90.98 | -444.4 | 251.7 | 425.7 | 399.5 | 26.25 | 16.221 | |
| 6,200.0 | 6,168.4 | 6,202.5 | 6,168.4 | 13.6 | 14.0 | 90.98 | -444.4 | 251.7 | 425.7 | 399.2 | 26.53 | 16.047 | |
| 6,300.0 | 6,268.4 | 6,302.5 | 6,268.4 | 13.7 | 14.1 | 90.98 | -444.4 | 251.7 | 425.7 | 398.9 | 26.82 | 15.877 | |
| 6,400.0 | 6,368.4 | 6,402.5 | 6,368.4 | 13.9 | 14.3 | 90.98 | -444.4 | 251.7 | 425.7 | 398.6 | 27.10 | 15.709 | |
| 6,500.0 | 6,468.4 | 6,502.5 | 6,468.4 | 14.0 | 14.4 | 90.98 | -444.4 | 251.7 | 425.7 | 398.4 | 27.39 | 15.544 | |
| 6,600.0 | 6,568.4 | 6,602.5 | 6,568.4 | 14.1 | 14.5 | 90.98 | -444.4 | 251.7 | 425.7 | 398.1 | 27.68 | 15.381 | |
| 6,700.0 | 6,668.4 | 6,702.5 | 6,668.4 | 14.3 | 14.7 | 90.98 | -444.4 | 251.7 | 425.7 | 397.8 | 27.97 | 15.222 | |
| 6,800.0 | 6,768.4 | 6,803.0 | 6,768.8 | 14.4 | 14.8 | 90.64 | -441.9 | 251.7 | 425.7 | 397.5 | 28.22 | 15.083 | |
| 6,842.1 | 6,810.5 | 6,845.0 | 6,810.5 | 14.5 | 14.8 | 90.00 | -437.2 | 251.7 | 425.7 | 397.4 | 28.30 | 15.043 | |
| 6,900.0 | 6,868.4 | 6,901.5 | 6,866.1 | 14.6 | 14.7 | 88.63 | -426.9 | 251.7 | 425.8 | 397.4 | 28.37 | 15.011 | |
| 6,960.4 | 6,928.8 | 6,958.4 | 6,921.1 | 14.7 | 14.7 | 86.65 | -412.3 | 251.7 | 426.5 | 398.1 | 28.40 | 15.017 | |
| 7,000.0 | 6,968.4 | 6,994.7 | 6,955.4 | 14.7 | 14.6 | 85.15 | -400.6 | 251.7 | 427.4 | 399.0 | 28.38 | 15.058 | |
| 7,050.0 | 7,018.2 | 7,039.7 | 6,997.2 | 14.7 | 14.5 | 83.30 | -383.8 | 251.7 | 428.9 | 400.6 | 28.30 | 15.153 | |
| 7,100.0 | 7,067.5 | 7,084.0 | 7,037.1 | 14.7 | 14.5 | 81.49 | -364.7 | 251.7 | 430.8 | 402.6 | 28.18 | 15.290 | |
| 7,150.0 | 7,116.2 | 7,127.7 | 7,075.3 | 14.7 | 14.4 | 79.75 | -343.6 | 251.7 | 433.1 | 405.1 | 28.00 | 15.466 | |
| 7,200.0 | 7,164.0 | 7,170.7 | 7,111.6 | 14.6 | 14.3 | 78.07 | -320.4 | 251.7 | 435.8 | 408.0 | 27.80 | 15.676 | |
| 7,250.0 | 7,210.6 | 7,213.1 | 7,145.9 | 14.5 | 14.2 | 76.46 | -295.5 | 251.7 | 438.7 | 411.1 | 27.56 | 15.916 | |
| 7,300.0 | 7,255.8 | 7,255.1 | 7,178.4 | 14.4 | 14.1 | 74.92 | -269.0 | 251.7 | 441.8 | 414.5 | 27.30 | 16.180 | |
| 7,350.0 | 7,299.5 | 7,300.0 | 7,211.4 | 14.3 | 14.0 | 73.37 | -238.5 | 251.7 | 445.0 | 418.0 | 27.02 | 16.470 | |
| 7,400.0 | 7,341.3 | 7,337.5 | 7,237.4 | 14.2 | 13.9 | 72.10 | -211.5 | 251.7 | 448.4 | 421.6 | 26.76 | 16.755 | |
| 7,450.0 | 7,381.1 | 7,378.2 | 7,264.0 | 14.1 | 13.8 | 70.82 | -180.7 | 251.7 | 451.7 | 425.2 | 26.49 | 17.052 | |
| 7,500.0 | 7,418.8 | 7,418.4 | 7,288.5 | 14.0 | 13.8 | 69.63 | -148.8 | 251.7 | 455.1 | 428.9 | 26.24 | 17.344 | |
| 7,550.0 | 7,454.0 | 7,458.4 | 7,311.0 | 13.9 | 13.8 | 68.53 | -115.9 | 251.7 | 458.4 | 432.4 | 26.01 | 17.623 | |
| 7,600.0 | 7,486.7 | 7,500.0 | 7,332.6 | 13.8 | 13.8 | 67.49 | -80.2 | 251.7 | 461.6 | 435.7 | 25.82 | 17.879 | |
| 7,650.0 | 7,516.7 | 7,537.4 | 7,350.1 | 13.8 | 13.8 | 66.61 | -47.2 | 251.7 | 464.6 | 438.9 | 25.68 | 18.092 | |
| 7,700.0 | 7,543.8 | 7,576.5 | 7,366.5 | 13.8 | 13.9 | 65.79 | -11.7 | 251.7 | 467.4 | 441.8 | 25.61 | 18.253 | |
| 7,750.0 | 7,567.9 | 7,615.5 | 7,381.0 | 13.8 | 14.0 | 65.07 | 24.5 | 251.7 | 470.0 | 444.4 | 25.58 | 18.371 | |
| 7,800.0 | 7,588.9 | 7,650.0 | 7,392.1 | 13.9 | 14.1 | 64.49 | 57.2 | 251.7 | 472.3 | 446.7 | 25.63 | 18.429 | |
| 7,850.0 | 7,606.7 | 7,692.9 | 7,403.7 | 14.1 | 14.2 | 63.91 | 98.5 | 251.7 | 474.3 | 448.5 | 25.78 | 18.398 | |
| 7,900.0 | 7,621.1 | 7,731.4 | 7,412.0 | 14.2 | 14.4 | 63.47 | 136.0 | 251.7 | 476.0 | 450.0 | 26.01 | 18.299 | |
| 7,950.0 | 7,632.2 | 7,769.8 | 7,418.3 | 14.5 | 14.6 | 63.13 | 173.9 | 251.7 | 477.3 | 451.0 | 26.33 | 18.126 | |
| 8,000.0 | 7,639.9 | 7,808.1 | 7,422.5 | 14.8 | 14.8 | 62.88 | 212.0 | 251.7 | 478.3 | 451.6 | 26.75 | 17.883 | |
| 8,050.0 | 7,644.1 | 7,850.0 | 7,424.8 | 15.1 | 15.1 | 62.71 | 253.8 | 251.7 | 479.0 | 451.7 | 27.28 | 17.560 | |
| 8,085.4 | 7,645.0 | 7,875.2 | 7,425.0 | 15.4 | 15.3 | 62.67 | 279.0 | 251.8 | 479.1 | 451.5 | 27.68 | 17.309 | |
| 8,100.0 | 7,645.0 | 7,889.8 | 7,425.0 | 15.5 | 15.4 | 62.67 | 293.6 | 251.8 | 479.1 | 451.3 | 27.89 | 17.180 | |
| 8,200.0 | 7,645.0 | 7,989.8 | 7,425.0 | 16.3 | 16.3 | 62.67 | 393.6 | 251.8 | 479.1 | 449.7 | 29.47 | 16.259 | |
| 8,300.0 | 7,645.0 | 8,089.8 | 7,425.0 | 17.3 | 17.3 | 62.67 | 493.6 | 251.8 | 479.1 | 447.9 | 31.28 | 15.319 | |
| 8,400.0 | 7,645.0 | 8,189.8 | 7,425.0 | 18.4 | 18.4 | 62.67 | 593.6 | 251.8 | 479.1 | 445.9 | 33.28 | 14.397 | |
| 8,500.0 | 7,645.0 | 8,289.8 | 7,425.0 | 19.6 | 19.6 | 62.67 | 693.6 | 251.8 | 479.1 | 443.7 | 35.44 | 13.518 | |
| 8,600.0 | 7,645.0 | 8,389.8 | 7,425.0 | 20.9 | 20.9 | 62.67 | 793.6 | 251.8 | 479.1 | 441.4 | 37.74 | 12.694 | |
| 8,700.0 | 7,645.0 | 8,489.8 | 7,425.0 | 22.3 | 22.2 | 62.67 | 893.6 | 251.8 | 479.1 | 439.0 | 40.15 | 11.932 | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4C-14H - HZ - Plan #3 | | | | | | | | | | | | 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 | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | | Between Centres | Between Ellipses | Total Uncertainty Axis | | Separation Factor |
| (ft) | (ft) | (ft) | (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | | | |
| 8,800.0 | 7,645.0 | 8,589.8 | 7,425.0 | 23.7 | 23.6 | 62.67 | 993.6 | 251.8 | 479.1 | 436.5 | 42.66 | 11.232 | |
| 8,900.0 | 7,645.0 | 8,689.8 | 7,425.0 | 25.1 | 25.1 | 62.67 | 1,093.6 | 251.8 | 479.1 | 433.9 | 45.24 | 10.591 | |
| 9,000.0 | 7,645.0 | 8,789.8 | 7,425.0 | 26.6 | 26.5 | 62.67 | 1,193.6 | 251.8 | 479.1 | 431.2 | 47.88 | 10.006 | |
| 9,100.0 | 7,645.0 | 8,889.8 | 7,425.0 | 28.1 | 28.1 | 62.67 | 1,293.6 | 251.8 | 479.1 | 428.5 | 50.58 | 9.472 | |
| 9,200.0 | 7,645.0 | 8,989.8 | 7,425.0 | 29.6 | 29.6 | 62.67 | 1,393.6 | 251.8 | 479.1 | 425.8 | 53.32 | 8.985 | |
| 9,300.0 | 7,645.0 | 9,089.8 | 7,425.0 | 31.2 | 31.2 | 62.66 | 1,493.6 | 251.8 | 479.1 | 423.0 | 56.11 | 8.539 | |
| 9,400.0 | 7,645.0 | 9,189.8 | 7,425.0 | 32.8 | 32.7 | 62.66 | 1,593.6 | 251.8 | 479.1 | 420.2 | 58.93 | 8.130 | |
| 9,500.0 | 7,645.0 | 9,289.8 | 7,425.0 | 34.4 | 34.3 | 62.66 | 1,693.6 | 251.8 | 479.1 | 417.3 | 61.77 | 7.756 | |
| 9,600.0 | 7,645.0 | 9,389.8 | 7,425.0 | 36.0 | 35.9 | 62.66 | 1,793.6 | 251.8 | 479.1 | 414.4 | 64.65 | 7.411 | |
| 9,700.0 | 7,645.0 | 9,489.8 | 7,425.0 | 37.6 | 37.6 | 62.66 | 1,893.6 | 251.8 | 479.1 | 411.5 | 67.54 | 7.093 | |
| 9,800.0 | 7,645.0 | 9,589.8 | 7,425.0 | 39.3 | 39.2 | 62.66 | 1,993.6 | 251.8 | 479.1 | 408.6 | 70.45 | 6.800 | |
| 9,900.0 | 7,645.0 | 9,689.8 | 7,425.0 | 40.9 | 40.9 | 62.66 | 2,093.6 | 251.8 | 479.1 | 405.7 | 73.39 | 6.528 | |
| 10,000.0 | 7,645.0 | 9,789.8 | 7,425.0 | 42.6 | 42.5 | 62.66 | 2,193.6 | 251.8 | 479.1 | 402.7 | 76.33 | 6.276 | |
| 10,100.0 | 7,645.0 | 9,889.8 | 7,425.0 | 44.2 | 44.2 | 62.66 | 2,293.6 | 251.8 | 479.1 | 399.8 | 79.29 | 6.042 | |
| 10,200.0 | 7,645.0 | 9,989.8 | 7,425.0 | 45.9 | 45.8 | 62.66 | 2,393.6 | 251.8 | 479.1 | 396.8 | 82.26 | 5.824 | |
| 10,300.0 | 7,645.0 | 10,089.8 | 7,425.0 | 47.6 | 47.5 | 62.66 | 2,493.6 | 251.8 | 479.1 | 393.8 | 85.24 | 5.620 | |
| 10,400.0 | 7,645.0 | 10,189.8 | 7,425.0 | 49.2 | 49.2 | 62.66 | 2,593.6 | 251.9 | 479.1 | 390.8 | 88.24 | 5.429 | |
| 10,500.0 | 7,645.0 | 10,289.8 | 7,425.0 | 50.9 | 50.9 | 62.66 | 2,693.6 | 251.9 | 479.1 | 387.8 | 91.24 | 5.251 | |
| 10,600.0 | 7,645.0 | 10,389.8 | 7,425.0 | 52.6 | 52.6 | 62.66 | 2,793.6 | 251.9 | 479.0 | 384.8 | 94.24 | 5.083 | |
| 10,700.0 | 7,645.0 | 10,489.8 | 7,425.0 | 54.3 | 54.3 | 62.66 | 2,893.6 | 251.9 | 479.0 | 381.8 | 97.26 | 4.925 | |
| 10,800.0 | 7,645.0 | 10,589.8 | 7,425.0 | 56.0 | 56.0 | 62.66 | 2,993.6 | 251.9 | 479.0 | 378.8 | 100.28 | 4.777 | |
| 10,900.0 | 7,645.0 | 10,689.8 | 7,425.0 | 57.7 | 57.7 | 62.66 | 3,093.6 | 251.9 | 479.0 | 375.7 | 103.31 | 4.637 | |
| 11,000.0 | 7,645.0 | 10,789.8 | 7,425.0 | 59.4 | 59.4 | 62.66 | 3,193.6 | 251.9 | 479.0 | 372.7 | 106.34 | 4.505 | |
| 11,100.0 | 7,645.0 | 10,889.8 | 7,425.0 | 61.1 | 61.1 | 62.66 | 3,293.6 | 251.9 | 479.0 | 369.6 | 109.38 | 4.379 | |
| 11,200.0 | 7,645.0 | 10,989.8 | 7,425.0 | 62.8 | 62.8 | 62.66 | 3,393.6 | 251.9 | 479.0 | 366.6 | 112.42 | 4.261 | |
| 11,300.0 | 7,645.0 | 11,089.8 | 7,425.0 | 64.5 | 64.5 | 62.66 | 3,493.6 | 251.9 | 479.0 | 363.6 | 115.47 | 4.148 | |
| 11,400.0 | 7,645.0 | 11,189.8 | 7,425.0 | 66.3 | 66.2 | 62.66 | 3,593.6 | 251.9 | 479.0 | 360.5 | 118.52 | 4.042 | |
| 11,500.0 | 7,645.0 | 11,289.8 | 7,425.0 | 68.0 | 67.9 | 62.66 | 3,693.6 | 251.9 | 479.0 | 357.4 | 121.58 | 3.940 | |
| 11,600.0 | 7,645.0 | 11,389.8 | 7,425.0 | 69.7 | 69.7 | 62.66 | 3,793.6 | 251.9 | 479.0 | 354.4 | 124.63 | 3.843 | |
| 11,700.0 | 7,645.0 | 11,489.8 | 7,425.0 | 71.4 | 71.4 | 62.66 | 3,893.6 | 251.9 | 479.0 | 351.3 | 127.69 | 3.751 | |
| 11,800.0 | 7,645.0 | 11,589.8 | 7,425.0 | 73.1 | 73.1 | 62.66 | 3,993.6 | 251.9 | 479.0 | 348.2 | 130.76 | 3.663 | |
| 11,900.0 | 7,645.0 | 11,689.8 | 7,425.0 | 74.9 | 74.8 | 62.66 | 4,093.6 | 251.9 | 479.0 | 345.2 | 133.82 | 3.579 | |
| 12,000.0 | 7,645.0 | 11,789.8 | 7,425.0 | 76.6 | 76.5 | 62.66 | 4,193.6 | 251.9 | 479.0 | 342.1 | 136.89 | 3.499 | |
| 12,100.0 | 7,645.0 | 11,889.8 | 7,425.0 | 78.3 | 78.3 | 62.66 | 4,293.6 | 251.9 | 479.0 | 339.0 | 139.96 | 3.422 | |
| 12,170.4 | 7,645.0 | 11,960.2 | 7,425.0 | 79.5 | 79.5 | 62.66 | 4,364.0 | 251.9 | 479.0 | 336.9 | 142.13 | 3.370 SF | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4D-14H - HZ - Plan #3 | | | | | | | | | | | | | 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 | 90.00 | 0.0 | 1,310.3 | 1,310.3 | | | | | |
| 100.0 | 100.0 | 86.0 | 86.0 | 0.2 | 0.1 | 90.00 | 0.0 | 1,310.3 | 1,310.3 | 1,310.0 | 0.28 | 4,639.213 | | |
| 200.0 | 200.0 | 186.0 | 186.0 | 0.3 | 0.3 | 90.00 | 0.0 | 1,310.3 | 1,310.3 | 1,309.6 | 0.63 | 2,085.328 | | |
| 300.0 | 300.0 | 286.0 | 286.0 | 0.5 | 0.5 | 90.00 | 0.0 | 1,310.3 | 1,310.3 | 1,309.3 | 0.98 | 1,340.568 | | |
| 400.0 | 400.0 | 386.0 | 386.0 | 0.7 | 0.7 | -111.76 | 0.0 | 1,310.3 | 1,310.9 | 1,309.6 | 1.33 | 986.592 | | |
| 500.0 | 499.8 | 485.8 | 485.8 | 0.9 | 0.8 | -111.94 | 0.0 | 1,310.3 | 1,312.8 | 1,311.2 | 1.69 | 776.076 | | |
| 600.0 | 599.5 | 605.6 | 605.6 | 1.1 | 1.0 | -112.29 | -0.5 | 1,309.4 | 1,315.5 | 1,313.4 | 2.11 | 622.700 | | |
| 700.0 | 698.7 | 728.7 | 728.7 | 1.3 | 1.3 | -112.76 | -2.5 | 1,306.5 | 1,317.7 | 1,315.2 | 2.57 | 512.083 | | |
| 800.0 | 797.7 | 852.0 | 851.8 | 1.6 | 1.5 | -113.30 | -6.1 | 1,301.3 | 1,318.9 | 1,315.9 | 3.05 | 432.454 | | |
| 900.0 | 896.8 | 975.5 | 975.0 | 1.9 | 1.7 | -113.78 | -11.1 | 1,294.0 | 1,318.4 | 1,314.9 | 3.54 | 372.641 | | |
| 1,000.0 | 995.8 | 1,099.3 | 1,098.2 | 2.2 | 2.0 | -114.20 | -17.6 | 1,284.4 | 1,316.1 | 1,312.1 | 4.04 | 326.080 | | |
| 1,100.0 | 1,094.8 | 1,223.1 | 1,221.1 | 2.5 | 2.3 | -114.56 | -25.7 | 1,272.6 | 1,312.1 | 1,307.5 | 4.55 | 288.629 | | |
| 1,200.0 | 1,193.8 | 1,346.8 | 1,343.7 | 2.8 | 2.6 | -114.86 | -35.2 | 1,258.7 | 1,306.2 | 1,301.1 | 5.07 | 257.827 | | |
| 1,300.0 | 1,292.9 | 1,470.3 | 1,465.7 | 3.1 | 3.0 | -115.10 | -46.2 | 1,242.5 | 1,298.5 | 1,292.9 | 5.60 | 231.968 | | |
| 1,400.0 | 1,391.9 | 1,575.6 | 1,569.4 | 3.3 | 3.3 | -115.27 | -56.4 | 1,227.5 | 1,289.5 | 1,283.4 | 6.10 | 211.477 | | |
| 1,500.0 | 1,490.9 | 1,675.1 | 1,667.4 | 3.6 | 3.7 | -115.43 | -66.2 | 1,213.2 | 1,280.5 | 1,273.9 | 6.59 | 194.375 | | |
| 1,600.0 | 1,589.9 | 1,774.7 | 1,765.4 | 3.9 | 4.0 | -115.60 | -75.9 | 1,198.9 | 1,271.5 | 1,264.4 | 7.08 | 179.604 | | |
| 1,700.0 | 1,689.0 | 1,874.2 | 1,863.4 | 4.2 | 4.3 | -115.77 | -85.6 | 1,184.7 | 1,262.5 | 1,255.0 | 7.57 | 166.734 | | |
| 1,800.0 | 1,788.0 | 1,973.7 | 1,961.5 | 4.5 | 4.6 | -115.94 | -95.4 | 1,170.4 | 1,253.5 | 1,245.5 | 8.06 | 155.430 | | |
| 1,900.0 | 1,887.0 | 2,073.2 | 2,059.5 | 4.8 | 5.0 | -116.11 | -105.1 | 1,156.1 | 1,244.6 | 1,236.0 | 8.56 | 145.429 | | |
| 2,000.0 | 1,986.1 | 2,172.8 | 2,157.5 | 5.1 | 5.3 | -116.29 | -114.9 | 1,141.8 | 1,235.6 | 1,226.6 | 9.05 | 136.523 | | |
| 2,100.0 | 2,085.1 | 2,272.3 | 2,255.5 | 5.4 | 5.6 | -116.46 | -124.6 | 1,127.6 | 1,226.7 | 1,217.1 | 9.54 | 128.544 | | |
| 2,200.0 | 2,184.1 | 2,371.8 | 2,353.5 | 5.7 | 6.0 | -116.64 | -134.3 | 1,113.3 | 1,217.7 | 1,207.7 | 10.03 | 121.359 | | |
| 2,300.0 | 2,283.1 | 2,471.3 | 2,451.5 | 6.0 | 6.3 | -116.83 | -144.1 | 1,099.0 | 1,208.8 | 1,198.3 | 10.52 | 114.855 | | |
| 2,400.0 | 2,382.2 | 2,570.9 | 2,549.5 | 6.3 | 6.7 | -117.01 | -153.8 | 1,084.7 | 1,199.9 | 1,188.9 | 11.01 | 108.943 | | |
| 2,500.0 | 2,481.2 | 2,670.4 | 2,647.5 | 6.6 | 7.0 | -117.20 | -163.6 | 1,070.5 | 1,191.0 | 1,179.5 | 11.50 | 103.545 | | |
| 2,600.0 | 2,580.2 | 2,769.9 | 2,745.6 | 6.9 | 7.4 | -117.39 | -173.3 | 1,056.2 | 1,182.1 | 1,170.1 | 11.99 | 98.599 | | |
| 2,700.0 | 2,679.2 | 2,869.5 | 2,843.6 | 7.2 | 7.7 | -117.59 | -183.0 | 1,041.9 | 1,173.2 | 1,160.7 | 12.47 | 94.051 | | |
| 2,800.0 | 2,778.3 | 2,969.0 | 2,941.6 | 7.5 | 8.0 | -117.78 | -192.8 | 1,027.6 | 1,164.4 | 1,151.4 | 12.96 | 89.856 | | |
| 2,900.0 | 2,877.3 | 3,068.5 | 3,039.6 | 7.8 | 8.4 | -117.98 | -202.5 | 1,013.4 | 1,155.5 | 1,142.1 | 13.44 | 85.974 | | |
| 3,000.0 | 2,976.3 | 3,168.0 | 3,137.6 | 8.1 | 8.7 | -118.19 | -212.3 | 999.1 | 1,146.7 | 1,132.8 | 13.92 | 82.372 | | |
| 3,100.0 | 3,075.3 | 3,267.6 | 3,235.6 | 8.4 | 9.1 | -118.39 | -222.0 | 984.8 | 1,137.9 | 1,123.5 | 14.40 | 79.022 | | |
| 3,200.0 | 3,174.4 | 3,367.1 | 3,333.6 | 8.7 | 9.4 | -118.60 | -231.7 | 970.5 | 1,129.0 | 1,114.2 | 14.88 | 75.898 | | |
| 3,300.0 | 3,273.4 | 3,466.6 | 3,431.7 | 9.0 | 9.8 | -118.81 | -241.5 | 956.2 | 1,120.3 | 1,104.9 | 15.35 | 72.978 | | |
| 3,400.0 | 3,372.4 | 3,566.1 | 3,529.7 | 9.3 | 10.1 | -119.03 | -251.2 | 942.0 | 1,111.5 | 1,095.7 | 15.82 | 70.244 | | |
| 3,500.0 | 3,471.5 | 3,665.7 | 3,627.7 | 9.6 | 10.5 | -119.25 | -261.0 | 927.7 | 1,102.7 | 1,086.4 | 16.29 | 67.677 | | |
| 3,600.0 | 3,570.5 | 3,765.2 | 3,725.7 | 9.9 | 10.8 | -119.47 | -270.7 | 913.4 | 1,094.0 | 1,077.2 | 16.76 | 65.265 | | |
| 3,680.0 | 3,649.7 | 3,844.8 | 3,804.1 | 10.1 | 11.1 | -119.65 | -278.5 | 902.0 | 1,087.0 | 1,069.9 | 17.14 | 63.437 | | |
| 3,700.0 | 3,669.5 | 3,864.7 | 3,823.7 | 10.2 | 11.2 | -119.67 | -280.4 | 899.1 | 1,085.2 | 1,068.0 | 17.23 | 62.988 | | |
| 3,800.0 | 3,768.8 | 3,964.2 | 3,921.7 | 10.4 | 11.5 | -119.61 | -290.2 | 884.9 | 1,075.3 | 1,057.6 | 17.67 | 60.846 | | |
| 3,900.0 | 3,868.5 | 4,063.5 | 4,019.5 | 10.6 | 11.9 | -119.36 | -299.9 | 870.6 | 1,063.7 | 1,045.6 | 18.10 | 58.762 | | |
| 4,000.0 | 3,968.4 | 4,162.5 | 4,117.0 | 10.8 | 12.2 | -118.91 | -309.6 | 856.4 | 1,050.4 | 1,031.9 | 18.52 | 56.719 | | |
| 4,080.0 | 4,048.4 | 4,241.5 | 4,194.7 | 10.9 | 12.5 | 83.29 | -317.3 | 845.1 | 1,038.5 | 1,019.7 | 18.85 | 55.099 | | |
| 4,100.0 | 4,068.4 | 4,261.2 | 4,214.1 | 10.9 | 12.6 | 83.38 | -319.2 | 842.3 | 1,035.4 | 1,016.5 | 18.93 | 54.703 | | |
| 4,200.0 | 4,168.4 | 4,359.6 | 4,311.1 | 11.0 | 12.9 | 83.83 | -328.9 | 828.1 | 1,020.1 | 1,000.7 | 19.33 | 52.763 | | |
| 4,300.0 | 4,268.4 | 4,458.1 | 4,408.1 | 11.1 | 13.2 | 84.30 | -338.5 | 814.0 | 1,004.7 | 985.0 | 19.74 | 50.892 | | |
| 4,400.0 | 4,368.4 | 4,556.6 | 4,505.1 | 11.2 | 13.6 | 84.78 | -348.2 | 799.9 | 989.5 | 969.3 | 20.16 | 49.087 | | |
| 4,500.0 | 4,468.4 | 4,655.1 | 4,602.1 | 11.4 | 13.9 | 85.27 | -357.8 | 785.8 | 974.3 | 953.7 | 20.58 | 47.344 | | |
| 4,600.0 | 4,568.4 | 4,753.6 | 4,699.1 | 11.5 | 14.3 | 85.78 | -367.4 | 771.6 | 959.1 | 938.1 | 21.01 | 45.662 | | |
| 4,700.0 | 4,668.4 | 4,852.0 | 4,796.0 | 11.6 | 14.6 | 86.31 | -377.1 | 757.5 | 944.1 | 922.7 | 21.44 | 44.037 | | |
| 4,800.0 | 4,768.4 | 4,945.0 | 4,887.6 | 11.7 | 14.9 | 86.82 | -386.1 | 744.3 | 929.3 | 907.4 | 21.86 | 42.517 | | |
| 4,900.0 | 4,868.4 | 5,031.7 | 4,973.2 | 11.9 | 15.2 | 87.27 | -393.9 | 732.9 | 915.6 | 893.4 | 22.25 | 41.157 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|---------|--------------------|--------|
| Survey Program: 0-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 | | |
| 5,000.0 | 4,968.4 | 5,118.9 | 5,059.5 | 12.0 | 15.5 | 87.69 | -401.0 | 722.5 | 903.3 | 880.7 | 22.63 | 39.918 | | |
| 5,100.0 | 5,068.4 | 5,206.4 | 5,146.3 | 12.1 | 15.7 | 88.07 | -407.3 | 713.1 | 892.4 | 869.4 | 23.00 | 38.795 | | |
| 5,200.0 | 5,168.4 | 5,294.3 | 5,233.5 | 12.2 | 15.9 | 88.42 | -413.0 | 704.9 | 882.7 | 859.4 | 23.36 | 37.783 | | |
| 5,300.0 | 5,268.4 | 5,382.4 | 5,321.3 | 12.4 | 16.1 | 88.73 | -417.9 | 697.7 | 874.4 | 850.7 | 23.71 | 36.876 | | |
| 5,400.0 | 5,368.4 | 5,470.8 | 5,409.3 | 12.5 | 16.3 | 89.00 | -422.0 | 691.6 | 867.4 | 843.4 | 24.05 | 36.070 | | |
| 5,500.0 | 5,468.4 | 5,559.4 | 5,497.7 | 12.6 | 16.5 | 89.22 | -425.4 | 686.6 | 861.8 | 837.4 | 24.37 | 35.358 | | |
| 5,600.0 | 5,568.4 | 5,648.2 | 5,586.4 | 12.8 | 16.6 | 89.39 | -428.1 | 682.8 | 857.4 | 832.7 | 24.68 | 34.738 | | |
| 5,700.0 | 5,668.4 | 5,737.1 | 5,675.2 | 12.9 | 16.8 | 89.51 | -429.9 | 680.0 | 854.3 | 829.3 | 24.98 | 34.204 | | |
| 5,800.0 | 5,768.4 | 5,826.0 | 5,764.2 | 13.0 | 16.9 | 89.59 | -431.0 | 678.5 | 852.5 | 827.2 | 25.26 | 33.753 | | |
| 5,900.0 | 5,868.4 | 5,916.3 | 5,854.4 | 13.2 | 17.0 | 89.61 | -431.3 | 678.0 | 852.0 | 826.5 | 25.53 | 33.376 | | |
| 6,000.0 | 5,968.4 | 6,016.3 | 5,954.4 | 13.3 | 17.1 | 89.61 | -431.3 | 678.0 | 852.0 | 826.2 | 25.81 | 33.011 | | |
| 6,100.0 | 6,068.4 | 6,116.3 | 6,054.4 | 13.4 | 17.2 | 89.61 | -431.3 | 678.0 | 852.0 | 825.9 | 26.09 | 32.652 | | |
| 6,200.0 | 6,168.4 | 6,216.3 | 6,154.4 | 13.6 | 17.3 | 89.61 | -431.3 | 678.0 | 852.0 | 825.6 | 26.38 | 32.299 | | |
| 6,300.0 | 6,268.4 | 6,316.3 | 6,254.4 | 13.7 | 17.4 | 89.61 | -431.3 | 678.0 | 852.0 | 825.3 | 26.67 | 31.951 | | |
| 6,400.0 | 6,368.4 | 6,416.3 | 6,354.4 | 13.9 | 17.5 | 89.61 | -431.3 | 678.0 | 852.0 | 825.0 | 26.95 | 31.609 | | |
| 6,500.0 | 6,468.4 | 6,516.3 | 6,454.4 | 14.0 | 17.6 | 89.61 | -431.3 | 678.0 | 852.0 | 824.7 | 27.24 | 31.273 | | |
| 6,600.0 | 6,568.4 | 6,616.3 | 6,554.4 | 14.1 | 17.7 | 89.61 | -431.3 | 678.0 | 852.0 | 824.5 | 27.53 | 30.942 | | |
| 6,700.0 | 6,668.4 | 6,716.3 | 6,654.4 | 14.3 | 17.8 | 89.61 | -431.3 | 678.0 | 852.0 | 824.2 | 27.83 | 30.617 | | |
| 6,800.0 | 6,768.4 | 6,816.3 | 6,754.4 | 14.4 | 18.0 | 89.61 | -431.3 | 678.0 | 852.0 | 823.9 | 28.12 | 30.297 | | |
| 6,900.0 | 6,868.4 | 6,916.3 | 6,854.4 | 14.6 | 18.1 | 89.61 | -431.3 | 678.0 | 852.0 | 823.6 | 28.42 | 29.983 | | |
| 6,940.3 | 6,908.7 | 6,956.5 | 6,894.7 | 14.6 | 18.1 | 89.61 | -431.3 | 678.0 | 852.0 | 823.5 | 28.54 | 29.857 | | |
| 6,960.4 | 6,928.8 | 6,976.7 | 6,914.8 | 14.7 | 18.1 | 89.61 | -431.3 | 678.0 | 852.0 | 823.4 | 28.59 | 29.795 | | |
| 7,000.0 | 6,968.4 | 7,016.0 | 6,954.1 | 14.7 | 18.2 | 89.60 | -430.2 | 678.0 | 852.0 | 823.3 | 28.67 | 29.717 | | |
| 7,050.0 | 7,018.2 | 7,065.6 | 7,003.5 | 14.7 | 18.2 | 89.61 | -425.8 | 678.0 | 852.0 | 823.3 | 28.71 | 29.678 | | |
| 7,100.0 | 7,067.5 | 7,115.2 | 7,052.4 | 14.7 | 18.2 | 89.61 | -418.0 | 678.0 | 852.0 | 823.3 | 28.69 | 29.700 | | |
| 7,150.0 | 7,116.2 | 7,164.8 | 7,100.8 | 14.7 | 18.2 | 89.62 | -406.7 | 678.0 | 852.0 | 823.4 | 28.61 | 29.775 | | |
| 7,200.0 | 7,164.0 | 7,214.4 | 7,148.2 | 14.6 | 18.1 | 89.62 | -392.2 | 678.0 | 852.0 | 823.5 | 28.50 | 29.899 | | |
| 7,250.0 | 7,210.6 | 7,264.0 | 7,194.5 | 14.5 | 18.0 | 89.63 | -374.4 | 678.0 | 852.0 | 823.6 | 28.34 | 30.065 | | |
| 7,300.0 | 7,255.8 | 7,313.7 | 7,239.5 | 14.4 | 18.0 | 89.65 | -353.5 | 678.0 | 852.0 | 823.8 | 28.15 | 30.265 | | |
| 7,350.0 | 7,299.5 | 7,363.3 | 7,282.9 | 14.3 | 17.9 | 89.66 | -329.4 | 678.0 | 852.0 | 824.0 | 27.94 | 30.490 | | |
| 7,400.0 | 7,341.3 | 7,413.0 | 7,324.6 | 14.2 | 17.8 | 89.67 | -302.5 | 678.0 | 852.0 | 824.2 | 27.73 | 30.727 | | |
| 7,450.0 | 7,381.1 | 7,462.7 | 7,364.4 | 14.1 | 17.7 | 89.69 | -272.6 | 678.0 | 852.0 | 824.4 | 27.51 | 30.964 | | |
| 7,500.0 | 7,418.8 | 7,512.4 | 7,401.9 | 14.0 | 17.6 | 89.71 | -240.1 | 678.0 | 851.9 | 824.6 | 27.32 | 31.186 | | |
| 7,550.0 | 7,454.0 | 7,562.1 | 7,437.2 | 13.9 | 17.6 | 89.73 | -205.1 | 678.0 | 851.9 | 824.8 | 27.15 | 31.376 | | |
| 7,600.0 | 7,486.7 | 7,611.8 | 7,469.9 | 13.8 | 17.5 | 89.75 | -167.7 | 678.0 | 851.9 | 824.9 | 27.03 | 31.517 | | |
| 7,650.0 | 7,516.7 | 7,661.6 | 7,500.0 | 13.8 | 17.5 | 89.77 | -128.0 | 678.0 | 851.9 | 824.9 | 26.97 | 31.591 | | |
| 7,700.0 | 7,543.8 | 7,711.4 | 7,527.3 | 13.8 | 17.5 | 89.79 | -86.4 | 678.0 | 851.9 | 824.9 | 26.97 | 31.584 | | |
| 7,750.0 | 7,567.9 | 7,761.2 | 7,551.6 | 13.8 | 17.5 | 89.82 | -42.9 | 678.0 | 851.9 | 824.8 | 27.06 | 31.482 | | |
| 7,800.0 | 7,588.9 | 7,811.0 | 7,572.8 | 13.9 | 17.6 | 89.84 | 2.1 | 678.0 | 851.9 | 824.6 | 27.24 | 31.277 | | |
| 7,850.0 | 7,606.7 | 7,860.9 | 7,590.9 | 14.1 | 17.7 | 89.87 | 48.6 | 677.9 | 851.9 | 824.4 | 27.51 | 30.964 | | |
| 7,900.0 | 7,621.1 | 7,910.7 | 7,605.7 | 14.2 | 17.8 | 89.90 | 96.2 | 677.9 | 851.9 | 824.0 | 27.89 | 30.547 | | |
| 7,950.0 | 7,632.2 | 7,960.6 | 7,617.2 | 14.5 | 18.0 | 89.92 | 144.8 | 677.9 | 851.9 | 823.5 | 28.36 | 30.033 | | |
| 8,000.0 | 7,639.9 | 8,010.6 | 7,625.2 | 14.8 | 18.2 | 89.95 | 194.0 | 677.9 | 851.8 | 822.9 | 28.94 | 29.435 | | |
| 8,050.0 | 7,644.1 | 8,060.5 | 7,629.8 | 15.1 | 18.5 | 89.98 | 243.8 | 677.9 | 851.8 | 822.2 | 29.61 | 28.767 | | |
| 8,085.4 | 7,645.0 | 8,095.9 | 7,631.0 | 15.4 | 18.7 | 90.00 | 279.2 | 677.9 | 851.8 | 821.7 | 30.14 | 28.264 | | |
| 8,100.0 | 7,645.0 | 8,110.5 | 7,631.0 | 15.5 | 18.8 | 90.00 | 293.8 | 677.9 | 851.8 | 821.4 | 30.37 | 28.046 | | |
| 8,200.0 | 7,645.0 | 8,210.5 | 7,631.0 | 16.3 | 19.5 | 90.00 | 393.8 | 677.9 | 851.8 | 819.7 | 32.12 | 26.516 | | |
| 8,300.0 | 7,645.0 | 8,310.5 | 7,631.0 | 17.3 | 20.3 | 90.00 | 493.8 | 677.9 | 851.8 | 817.6 | 34.15 | 24.945 | | |
| 8,400.0 | 7,645.0 | 8,410.5 | 7,631.0 | 18.4 | 21.3 | 90.00 | 593.8 | 677.9 | 851.8 | 815.4 | 36.40 | 23.403 | | |
| 8,500.0 | 7,645.0 | 8,510.5 | 7,631.0 | 19.6 | 22.3 | 90.00 | 693.8 | 677.9 | 851.7 | 812.9 | 38.83 | 21.934 | | |
| 8,600.0 | 7,645.0 | 8,610.5 | 7,631.0 | 20.9 | 23.5 | 90.00 | 793.8 | 677.9 | 851.7 | 810.3 | 41.42 | 20.562 | | |
| 8,700.0 | 7,645.0 | 8,710.5 | 7,631.0 | 22.3 | 24.7 | 90.00 | 893.8 | 677.8 | 851.7 | 807.6 | 44.14 | 19.296 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|--------------|--------------------|--------|
| Survey Program: 0-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 | | | |
| 8,800.0 | 7,645.0 | 8,810.5 | 7,631.0 | 23.7 | 26.0 | 90.00 | 993.8 | 677.8 | 851.7 | 804.7 | 46.96 | 18.135 | | |
| 8,900.0 | 7,645.0 | 8,910.5 | 7,631.0 | 25.1 | 27.3 | 90.00 | 1,093.8 | 677.8 | 851.6 | 801.8 | 49.87 | 17.077 | | |
| 9,000.0 | 7,645.0 | 9,010.5 | 7,631.0 | 26.6 | 28.6 | 90.00 | 1,193.8 | 677.8 | 851.6 | 798.8 | 52.85 | 16.113 | | |
| 9,100.0 | 7,645.0 | 9,110.5 | 7,631.0 | 28.1 | 30.1 | 90.00 | 1,293.8 | 677.8 | 851.6 | 795.7 | 55.90 | 15.235 | | |
| 9,200.0 | 7,645.0 | 9,210.5 | 7,631.0 | 29.6 | 31.5 | 90.00 | 1,393.8 | 677.8 | 851.6 | 792.6 | 58.99 | 14.436 | | |
| 9,300.0 | 7,645.0 | 9,310.5 | 7,631.0 | 31.2 | 33.0 | 90.00 | 1,493.8 | 677.8 | 851.6 | 789.4 | 62.13 | 13.706 | | |
| 9,400.0 | 7,645.0 | 9,410.5 | 7,631.0 | 32.8 | 34.5 | 90.00 | 1,593.8 | 677.8 | 851.5 | 786.2 | 65.31 | 13.039 | | |
| 9,500.0 | 7,645.0 | 9,510.5 | 7,631.0 | 34.4 | 36.0 | 90.00 | 1,693.8 | 677.7 | 851.5 | 783.0 | 68.52 | 12.428 | | |
| 9,600.0 | 7,645.0 | 9,610.5 | 7,631.0 | 36.0 | 37.5 | 90.00 | 1,793.8 | 677.7 | 851.5 | 779.7 | 71.75 | 11.867 | | |
| 9,700.0 | 7,645.0 | 9,710.5 | 7,631.0 | 37.6 | 39.1 | 90.00 | 1,893.8 | 677.7 | 851.5 | 776.5 | 75.01 | 11.351 | | |
| 9,800.0 | 7,645.0 | 9,810.5 | 7,631.0 | 39.3 | 40.7 | 90.00 | 1,993.8 | 677.7 | 851.5 | 773.2 | 78.30 | 10.875 | | |
| 9,900.0 | 7,645.0 | 9,910.5 | 7,631.0 | 40.9 | 42.3 | 90.00 | 2,093.8 | 677.7 | 851.4 | 769.8 | 81.60 | 10.434 | | |
| 10,000.0 | 7,645.0 | 10,010.5 | 7,631.0 | 42.6 | 43.9 | 90.00 | 2,193.8 | 677.7 | 851.4 | 766.5 | 84.92 | 10.027 | | |
| 10,100.0 | 7,645.0 | 10,110.5 | 7,631.0 | 44.2 | 45.5 | 90.00 | 2,293.8 | 677.7 | 851.4 | 763.1 | 88.25 | 9.648 | | |
| 10,200.0 | 7,645.0 | 10,210.5 | 7,631.0 | 45.9 | 47.1 | 90.00 | 2,393.8 | 677.7 | 851.4 | 759.8 | 91.59 | 9.295 | | |
| 10,300.0 | 7,645.0 | 10,310.5 | 7,631.0 | 47.6 | 48.8 | 90.00 | 2,493.8 | 677.6 | 851.4 | 756.4 | 94.95 | 8.966 | | |
| 10,400.0 | 7,645.0 | 10,410.5 | 7,631.0 | 49.2 | 50.4 | 90.00 | 2,593.8 | 677.6 | 851.3 | 753.0 | 98.32 | 8.659 | | |
| 10,500.0 | 7,645.0 | 10,510.5 | 7,631.0 | 50.9 | 52.0 | 90.00 | 2,693.8 | 677.6 | 851.3 | 749.6 | 101.70 | 8.371 | | |
| 10,600.0 | 7,645.0 | 10,610.5 | 7,631.0 | 52.6 | 53.7 | 90.00 | 2,793.8 | 677.6 | 851.3 | 746.2 | 105.08 | 8.101 | | |
| 10,700.0 | 7,645.0 | 10,710.5 | 7,631.0 | 54.3 | 55.4 | 90.00 | 2,893.8 | 677.6 | 851.3 | 742.8 | 108.48 | 7.847 | | |
| 10,800.0 | 7,645.0 | 10,810.5 | 7,631.0 | 56.0 | 57.0 | 90.00 | 2,993.8 | 677.6 | 851.2 | 739.4 | 111.88 | 7.609 | | |
| 10,900.0 | 7,645.0 | 10,910.5 | 7,631.0 | 57.7 | 58.7 | 90.00 | 3,093.8 | 677.6 | 851.2 | 735.9 | 115.29 | 7.384 | | |
| 11,000.0 | 7,645.0 | 11,010.5 | 7,631.0 | 59.4 | 60.4 | 90.00 | 3,193.8 | 677.6 | 851.2 | 732.5 | 118.70 | 7.171 | | |
| 11,100.0 | 7,645.0 | 11,110.5 | 7,631.0 | 61.1 | 62.1 | 90.00 | 3,293.8 | 677.5 | 851.2 | 729.1 | 122.12 | 6.970 | | |
| 11,200.0 | 7,645.0 | 11,210.5 | 7,631.0 | 62.8 | 63.7 | 90.00 | 3,393.8 | 677.5 | 851.2 | 725.6 | 125.54 | 6.780 | | |
| 11,300.0 | 7,645.0 | 11,310.5 | 7,631.0 | 64.5 | 65.4 | 90.00 | 3,493.8 | 677.5 | 851.1 | 722.2 | 128.97 | 6.600 | | |
| 11,400.0 | 7,645.0 | 11,410.5 | 7,631.0 | 66.3 | 67.1 | 90.00 | 3,593.8 | 677.5 | 851.1 | 718.7 | 132.40 | 6.428 | | |
| 11,500.0 | 7,645.0 | 11,510.5 | 7,631.0 | 68.0 | 68.8 | 90.00 | 3,693.8 | 677.5 | 851.1 | 715.3 | 135.84 | 6.266 | | |
| 11,600.0 | 7,645.0 | 11,610.5 | 7,631.0 | 69.7 | 70.5 | 90.00 | 3,793.8 | 677.5 | 851.1 | 711.8 | 139.28 | 6.111 | | |
| 11,700.0 | 7,645.0 | 11,710.5 | 7,631.0 | 71.4 | 72.2 | 90.00 | 3,893.8 | 677.5 | 851.1 | 708.3 | 142.72 | 5.963 | | |
| 11,800.0 | 7,645.0 | 11,810.5 | 7,631.0 | 73.1 | 73.9 | 90.00 | 3,993.8 | 677.5 | 851.0 | 704.9 | 146.17 | 5.822 | | |
| 11,900.0 | 7,645.0 | 11,910.5 | 7,631.0 | 74.9 | 75.6 | 90.00 | 4,093.8 | 677.4 | 851.0 | 701.4 | 149.62 | 5.688 | | |
| 12,000.0 | 7,645.0 | 12,010.5 | 7,631.0 | 76.6 | 77.3 | 90.00 | 4,193.8 | 677.4 | 851.0 | 697.9 | 153.07 | 5.560 | | |
| 12,100.0 | 7,645.0 | 12,110.5 | 7,631.0 | 78.3 | 79.0 | 90.00 | 4,293.8 | 677.4 | 851.0 | 694.4 | 156.52 | 5.437 | | |
| 12,152.4 | 7,645.0 | 12,162.9 | 7,631.0 | 79.2 | 79.9 | 90.00 | 4,346.1 | 677.4 | 851.0 | 692.6 | 158.33 | 5.375 CC | | |
| 12,170.4 | 7,645.0 | 12,177.2 | 7,631.0 | 79.5 | 80.2 | 90.00 | 4,360.4 | 677.4 | 851.0 | 692.1 | 158.89 | 5.356 ES, SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4E-14H - HZ - Plan #3 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|-----------|--------------------|--------|
| Survey Program: 0-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 | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 90.00 | 0.0 | 1,318.6 | 1,318.7 | | | | | |
| 100.0 | 100.0 | 86.0 | 86.0 | 0.2 | 0.1 | 90.00 | 0.0 | 1,318.6 | 1,318.6 | 1,318.4 | 0.28 | 4,668.952 | | |
| 200.0 | 200.0 | 186.0 | 186.0 | 0.3 | 0.3 | 90.00 | 0.0 | 1,318.6 | 1,318.6 | 1,318.0 | 0.63 | 2,098.695 | | |
| 300.0 | 300.0 | 286.0 | 286.0 | 0.5 | 0.5 | 90.00 | 0.0 | 1,318.6 | 1,318.6 | 1,317.7 | 0.98 | 1,349.161 | | |
| 400.0 | 400.0 | 386.0 | 386.0 | 0.7 | 0.7 | -111.76 | 0.0 | 1,318.6 | 1,319.3 | 1,318.0 | 1.33 | 992.913 | | |
| 500.0 | 499.8 | 495.4 | 495.4 | 0.9 | 0.8 | -111.93 | -0.7 | 1,318.3 | 1,320.9 | 1,319.2 | 1.71 | 773.038 | | |
| 600.0 | 599.5 | 606.4 | 606.3 | 1.1 | 1.0 | -112.17 | -3.3 | 1,317.0 | 1,323.1 | 1,320.9 | 2.12 | 624.800 | | |
| 700.0 | 698.7 | 717.4 | 717.2 | 1.3 | 1.2 | -112.46 | -7.9 | 1,314.9 | 1,325.7 | 1,323.1 | 2.57 | 516.605 | | |
| 800.0 | 797.7 | 828.6 | 828.2 | 1.6 | 1.5 | -112.80 | -14.4 | 1,311.8 | 1,328.2 | 1,325.1 | 3.04 | 437.118 | | |
| 900.0 | 896.8 | 940.1 | 939.3 | 1.9 | 1.7 | -113.06 | -22.9 | 1,307.7 | 1,329.8 | 1,326.3 | 3.53 | 376.467 | | |
| 1,000.0 | 995.8 | 1,051.7 | 1,050.3 | 2.2 | 2.0 | -113.23 | -33.4 | 1,302.7 | 1,330.6 | 1,326.5 | 4.05 | 328.670 | | |
| 1,100.0 | 1,094.8 | 1,163.5 | 1,161.3 | 2.5 | 2.2 | -113.32 | -45.8 | 1,296.8 | 1,330.5 | 1,325.9 | 4.59 | 289.974 | | |
| 1,200.0 | 1,193.8 | 1,267.4 | 1,264.1 | 2.8 | 2.5 | -113.34 | -58.8 | 1,290.6 | 1,329.7 | 1,324.6 | 5.12 | 259.504 | | |
| 1,300.0 | 1,292.9 | 1,367.4 | 1,363.2 | 3.1 | 2.8 | -113.35 | -71.3 | 1,284.6 | 1,328.9 | 1,323.2 | 5.66 | 234.904 | | |
| 1,400.0 | 1,391.9 | 1,467.4 | 1,462.2 | 3.3 | 3.1 | -113.37 | -83.9 | 1,278.6 | 1,328.0 | 1,321.8 | 6.20 | 214.368 | | |
| 1,500.0 | 1,490.9 | 1,567.4 | 1,561.2 | 3.6 | 3.4 | -113.39 | -96.4 | 1,272.6 | 1,327.2 | 1,320.5 | 6.74 | 197.004 | | |
| 1,600.0 | 1,589.9 | 1,667.4 | 1,660.2 | 3.9 | 3.7 | -113.41 | -109.0 | 1,266.6 | 1,326.4 | 1,319.1 | 7.28 | 182.152 | | |
| 1,700.0 | 1,689.0 | 1,767.4 | 1,759.2 | 4.2 | 3.9 | -113.42 | -121.6 | 1,260.7 | 1,325.5 | 1,317.7 | 7.83 | 169.319 | | |
| 1,800.0 | 1,788.0 | 1,867.4 | 1,858.3 | 4.5 | 4.2 | -113.44 | -134.1 | 1,254.7 | 1,324.7 | 1,316.3 | 8.38 | 158.128 | | |
| 1,900.0 | 1,887.0 | 1,967.4 | 1,957.3 | 4.8 | 4.5 | -113.46 | -146.7 | 1,248.7 | 1,323.9 | 1,314.9 | 8.93 | 148.289 | | |
| 2,000.0 | 1,986.1 | 2,067.3 | 2,056.3 | 5.1 | 4.8 | -113.47 | -159.3 | 1,242.7 | 1,323.0 | 1,313.6 | 9.48 | 139.576 | | |
| 2,100.0 | 2,085.1 | 2,167.3 | 2,155.3 | 5.4 | 5.1 | -113.49 | -171.8 | 1,236.7 | 1,322.2 | 1,312.2 | 10.03 | 131.808 | | |
| 2,200.0 | 2,184.1 | 2,267.3 | 2,254.4 | 5.7 | 5.4 | -113.51 | -184.4 | 1,230.7 | 1,321.4 | 1,310.8 | 10.58 | 124.841 | | |
| 2,300.0 | 2,283.1 | 2,367.3 | 2,353.4 | 6.0 | 5.7 | -113.52 | -196.9 | 1,224.7 | 1,320.5 | 1,309.4 | 11.14 | 118.559 | | |
| 2,400.0 | 2,382.2 | 2,467.3 | 2,452.4 | 6.3 | 6.0 | -113.54 | -209.5 | 1,218.7 | 1,319.7 | 1,308.0 | 11.69 | 112.867 | | |
| 2,500.0 | 2,481.2 | 2,567.3 | 2,551.4 | 6.6 | 6.3 | -113.56 | -222.1 | 1,212.7 | 1,318.9 | 1,306.6 | 12.25 | 107.686 | | |
| 2,600.0 | 2,580.2 | 2,667.3 | 2,650.4 | 6.9 | 6.6 | -113.58 | -234.6 | 1,206.7 | 1,318.0 | 1,305.2 | 12.80 | 102.951 | | |
| 2,700.0 | 2,679.2 | 2,767.3 | 2,749.5 | 7.2 | 6.9 | -113.59 | -247.2 | 1,200.8 | 1,317.2 | 1,303.8 | 13.36 | 98.608 | | |
| 2,800.0 | 2,778.3 | 2,867.3 | 2,848.5 | 7.5 | 7.2 | -113.61 | -259.7 | 1,194.8 | 1,316.4 | 1,302.5 | 13.91 | 94.609 | | |
| 2,900.0 | 2,877.3 | 2,967.3 | 2,947.5 | 7.8 | 7.5 | -113.63 | -272.3 | 1,188.8 | 1,315.5 | 1,301.1 | 14.47 | 90.916 | | |
| 3,000.0 | 2,976.3 | 3,067.3 | 3,046.5 | 8.1 | 7.8 | -113.65 | -284.9 | 1,182.8 | 1,314.7 | 1,299.7 | 15.03 | 87.496 | | |
| 3,100.0 | 3,075.3 | 3,167.3 | 3,145.6 | 8.4 | 8.1 | -113.66 | -297.4 | 1,176.8 | 1,313.9 | 1,298.3 | 15.58 | 84.318 | | |
| 3,200.0 | 3,174.4 | 3,267.3 | 3,244.6 | 8.7 | 8.4 | -113.68 | -310.0 | 1,170.8 | 1,313.0 | 1,296.9 | 16.14 | 81.359 | | |
| 3,300.0 | 3,273.4 | 3,367.3 | 3,343.6 | 9.0 | 8.7 | -113.70 | -322.6 | 1,164.8 | 1,312.2 | 1,295.5 | 16.70 | 78.597 | | |
| 3,400.0 | 3,372.4 | 3,467.3 | 3,442.6 | 9.3 | 8.9 | -113.72 | -335.1 | 1,158.8 | 1,311.4 | 1,294.1 | 17.25 | 76.013 | | |
| 3,500.0 | 3,471.5 | 3,567.3 | 3,541.6 | 9.6 | 9.2 | -113.73 | -347.7 | 1,152.8 | 1,310.5 | 1,292.7 | 17.81 | 73.590 | | |
| 3,600.0 | 3,570.5 | 3,667.3 | 3,640.7 | 9.9 | 9.5 | -113.75 | -360.2 | 1,146.8 | 1,309.7 | 1,291.4 | 18.37 | 71.313 | | |
| 3,680.0 | 3,649.7 | 3,747.3 | 3,719.9 | 10.1 | 9.8 | -113.76 | -370.3 | 1,142.0 | 1,309.1 | 1,290.2 | 18.81 | 69.589 | | |
| 3,700.0 | 3,669.5 | 3,767.3 | 3,739.7 | 10.2 | 9.8 | -113.76 | -372.8 | 1,140.8 | 1,308.9 | 1,289.9 | 18.92 | 69.174 | | |
| 3,800.0 | 3,768.8 | 3,867.2 | 3,838.7 | 10.4 | 10.1 | -113.65 | -385.4 | 1,134.9 | 1,307.0 | 1,287.6 | 19.44 | 67.240 | | |
| 3,900.0 | 3,868.5 | 3,960.7 | 3,931.3 | 10.6 | 10.4 | -113.40 | -396.8 | 1,129.4 | 1,304.0 | 1,284.1 | 19.90 | 65.540 | | |
| 4,000.0 | 3,968.4 | 4,051.1 | 4,021.0 | 10.8 | 10.6 | -113.07 | -406.7 | 1,124.7 | 1,300.3 | 1,280.0 | 20.30 | 64.068 | | |
| 4,080.0 | 4,048.4 | 4,123.4 | 4,092.9 | 10.9 | 10.8 | 88.96 | -413.6 | 1,121.4 | 1,296.9 | 1,276.3 | 20.58 | 63.007 | | |
| 4,100.0 | 4,068.4 | 4,141.4 | 4,110.8 | 10.9 | 10.9 | 89.03 | -415.2 | 1,120.6 | 1,296.0 | 1,275.3 | 20.65 | 62.752 | | |
| 4,200.0 | 4,168.4 | 4,231.9 | 4,201.0 | 11.0 | 11.1 | 89.35 | -422.6 | 1,117.1 | 1,292.0 | 1,271.0 | 20.99 | 61.545 | | |
| 4,300.0 | 4,268.4 | 4,322.7 | 4,291.5 | 11.1 | 11.2 | 89.62 | -428.6 | 1,114.2 | 1,288.8 | 1,267.4 | 21.31 | 60.464 | | |
| 4,400.0 | 4,368.4 | 4,413.6 | 4,382.3 | 11.2 | 11.4 | 89.83 | -433.3 | 1,112.0 | 1,286.2 | 1,264.6 | 21.62 | 59.500 | | |
| 4,500.0 | 4,468.4 | 4,504.7 | 4,473.3 | 11.4 | 11.6 | 89.98 | -436.8 | 1,110.3 | 1,284.4 | 1,262.5 | 21.90 | 58.644 | | |
| 4,600.0 | 4,568.4 | 4,600.0 | 4,568.5 | 11.5 | 11.7 | 90.08 | -439.0 | 1,109.3 | 1,283.3 | 1,261.1 | 22.17 | 57.876 | | |
| 4,700.0 | 4,668.4 | 4,687.1 | 4,655.6 | 11.6 | 11.8 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,260.5 | 22.41 | 57.237 | | |
| 4,738.8 | 4,707.2 | 4,724.7 | 4,693.2 | 11.7 | 11.8 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,260.3 | 22.51 | 56.989 | | |
| 4,800.0 | 4,768.4 | 4,785.9 | 4,754.4 | 11.7 | 11.9 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,260.2 | 22.67 | 56.595 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|---------|--------------------|--------|
| Survey Program: 0-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 | | | |
| 4,900.0 | 4,868.4 | 4,885.9 | 4,854.4 | 11.9 | 12.0 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,259.9 | 22.93 | 55.958 | | |
| 5,000.0 | 4,968.4 | 4,985.9 | 4,954.4 | 12.0 | 12.2 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,259.7 | 23.19 | 55.329 | | |
| 5,100.0 | 5,068.4 | 5,085.9 | 5,054.4 | 12.1 | 12.3 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,259.4 | 23.45 | 54.709 | | |
| 5,200.0 | 5,168.4 | 5,185.9 | 5,154.4 | 12.2 | 12.4 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,259.1 | 23.71 | 54.097 | | |
| 5,300.0 | 5,268.4 | 5,285.9 | 5,254.4 | 12.4 | 12.5 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,258.9 | 23.98 | 53.494 | | |
| 5,400.0 | 5,368.4 | 5,385.9 | 5,354.4 | 12.5 | 12.7 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,258.6 | 24.25 | 52.900 | | |
| 5,500.0 | 5,468.4 | 5,485.9 | 5,454.4 | 12.6 | 12.8 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,258.3 | 24.52 | 52.315 | | |
| 5,600.0 | 5,568.4 | 5,585.9 | 5,554.4 | 12.8 | 12.9 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,258.1 | 24.80 | 51.738 | | |
| 5,700.0 | 5,668.4 | 5,685.9 | 5,654.4 | 12.9 | 13.1 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,257.8 | 25.07 | 51.171 | | |
| 5,800.0 | 5,768.4 | 5,785.9 | 5,754.4 | 13.0 | 13.2 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,257.5 | 25.35 | 50.612 | | |
| 5,900.0 | 5,868.4 | 5,885.9 | 5,854.4 | 13.2 | 13.3 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,257.2 | 25.63 | 50.061 | | |
| 6,000.0 | 5,968.4 | 5,985.9 | 5,954.4 | 13.3 | 13.5 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,257.0 | 25.91 | 49.519 | | |
| 6,100.0 | 6,068.4 | 6,085.9 | 6,054.4 | 13.4 | 13.6 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,256.7 | 26.19 | 48.986 | | |
| 6,200.0 | 6,168.4 | 6,185.9 | 6,154.4 | 13.6 | 13.7 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,256.4 | 26.47 | 48.461 | | |
| 6,300.0 | 6,268.4 | 6,285.9 | 6,254.4 | 13.7 | 13.9 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,256.1 | 26.76 | 47.944 | | |
| 6,400.0 | 6,368.4 | 6,385.9 | 6,354.4 | 13.9 | 14.0 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,255.8 | 27.04 | 47.436 | | |
| 6,500.0 | 6,468.4 | 6,485.9 | 6,454.4 | 14.0 | 14.1 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,255.5 | 27.33 | 46.936 | | |
| 6,600.0 | 6,568.4 | 6,585.9 | 6,554.4 | 14.1 | 14.3 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,255.2 | 27.62 | 46.444 | | |
| 6,700.0 | 6,668.4 | 6,685.9 | 6,654.4 | 14.3 | 14.4 | 90.12 | -439.8 | 1,108.9 | 1,282.9 | 1,254.9 | 27.91 | 45.960 | | |
| 6,800.0 | 6,768.4 | 6,786.0 | 6,754.4 | 14.4 | 14.5 | 90.01 | -437.3 | 1,108.9 | 1,282.9 | 1,254.7 | 28.16 | 45.563 | | |
| 6,802.7 | 6,771.1 | 6,788.7 | 6,757.1 | 14.4 | 14.5 | 90.00 | -437.1 | 1,108.9 | 1,282.9 | 1,254.7 | 28.16 | 45.555 | | |
| 6,900.0 | 6,868.4 | 6,883.9 | 6,851.1 | 14.6 | 14.5 | 89.35 | -422.5 | 1,108.9 | 1,282.9 | 1,254.7 | 28.24 | 45.433 | | |
| 6,960.4 | 6,928.8 | 6,940.5 | 6,905.8 | 14.7 | 14.4 | 88.70 | -408.0 | 1,108.9 | 1,283.2 | 1,255.0 | 28.23 | 45.460 | | |
| 7,000.0 | 6,968.4 | 6,976.5 | 6,940.0 | 14.7 | 14.4 | 88.20 | -396.5 | 1,108.9 | 1,283.5 | 1,255.4 | 28.18 | 45.547 | | |
| 7,050.0 | 7,018.2 | 7,021.4 | 6,981.6 | 14.7 | 14.3 | 87.58 | -379.9 | 1,108.9 | 1,284.1 | 1,256.0 | 28.08 | 45.728 | | |
| 7,100.0 | 7,067.5 | 7,065.5 | 7,021.5 | 14.7 | 14.2 | 86.98 | -361.0 | 1,108.9 | 1,284.8 | 1,256.8 | 27.95 | 45.974 | | |
| 7,150.0 | 7,116.2 | 7,108.9 | 7,059.5 | 14.7 | 14.1 | 86.39 | -340.0 | 1,108.9 | 1,285.6 | 1,257.8 | 27.78 | 46.277 | | |
| 7,200.0 | 7,164.0 | 7,150.0 | 7,094.2 | 14.6 | 14.0 | 85.84 | -318.1 | 1,108.9 | 1,286.5 | 1,258.9 | 27.60 | 46.614 | | |
| 7,250.0 | 7,210.6 | 7,194.1 | 7,130.1 | 14.5 | 13.9 | 85.26 | -292.4 | 1,108.9 | 1,287.5 | 1,260.1 | 27.39 | 47.000 | | |
| 7,300.0 | 7,255.8 | 7,235.9 | 7,162.5 | 14.4 | 13.8 | 84.73 | -266.0 | 1,108.9 | 1,288.6 | 1,261.4 | 27.19 | 47.391 | | |
| 7,350.0 | 7,299.5 | 7,277.2 | 7,193.0 | 14.3 | 13.8 | 84.22 | -238.2 | 1,108.9 | 1,289.7 | 1,262.7 | 26.99 | 47.783 | | |
| 7,400.0 | 7,341.3 | 7,318.1 | 7,221.5 | 14.2 | 13.7 | 83.74 | -208.9 | 1,108.9 | 1,290.9 | 1,264.1 | 26.80 | 48.160 | | |
| 7,450.0 | 7,381.1 | 7,358.6 | 7,248.1 | 14.1 | 13.6 | 83.28 | -178.3 | 1,108.9 | 1,292.0 | 1,265.4 | 26.64 | 48.504 | | |
| 7,500.0 | 7,418.8 | 7,400.0 | 7,273.5 | 14.0 | 13.6 | 82.84 | -145.6 | 1,108.9 | 1,293.2 | 1,266.7 | 26.50 | 48.801 | | |
| 7,550.0 | 7,454.0 | 7,438.6 | 7,295.4 | 13.9 | 13.6 | 82.45 | -113.8 | 1,108.9 | 1,294.4 | 1,268.0 | 26.41 | 49.013 | | |
| 7,600.0 | 7,486.7 | 7,478.2 | 7,316.0 | 13.8 | 13.6 | 82.08 | -80.1 | 1,108.9 | 1,295.5 | 1,269.1 | 26.36 | 49.139 | | |
| 7,650.0 | 7,516.7 | 7,517.5 | 7,334.6 | 13.8 | 13.6 | 81.74 | -45.4 | 1,108.9 | 1,296.5 | 1,270.2 | 26.38 | 49.157 | | |
| 7,700.0 | 7,543.8 | 7,556.6 | 7,351.2 | 13.8 | 13.7 | 81.43 | -10.0 | 1,108.9 | 1,297.5 | 1,271.1 | 26.44 | 49.082 | | |
| 7,750.0 | 7,567.9 | 7,600.0 | 7,367.4 | 13.8 | 13.8 | 81.13 | 30.2 | 1,108.9 | 1,298.4 | 1,271.8 | 26.58 | 48.843 | | |
| 7,800.0 | 7,588.9 | 7,634.2 | 7,378.4 | 13.9 | 13.9 | 80.92 | 62.7 | 1,108.9 | 1,299.2 | 1,272.4 | 26.78 | 48.508 | | |
| 7,850.0 | 7,606.7 | 7,672.8 | 7,388.9 | 14.1 | 14.0 | 80.72 | 99.8 | 1,108.9 | 1,299.9 | 1,272.8 | 27.07 | 48.026 | | |
| 7,900.0 | 7,621.1 | 7,711.3 | 7,397.4 | 14.2 | 14.2 | 80.55 | 137.3 | 1,108.9 | 1,300.5 | 1,273.1 | 27.42 | 47.424 | | |
| 7,950.0 | 7,632.2 | 7,750.0 | 7,403.9 | 14.5 | 14.4 | 80.42 | 175.4 | 1,108.9 | 1,300.9 | 1,273.1 | 27.85 | 46.708 | | |
| 8,000.0 | 7,639.9 | 7,788.0 | 7,408.2 | 14.8 | 14.7 | 80.34 | 213.2 | 1,108.9 | 1,301.2 | 1,272.9 | 28.36 | 45.883 | | |
| 8,050.0 | 7,644.1 | 7,826.3 | 7,410.6 | 15.1 | 14.9 | 80.28 | 251.4 | 1,108.9 | 1,301.4 | 1,272.5 | 28.94 | 44.975 | | |
| 8,085.4 | 7,645.0 | 7,854.0 | 7,411.0 | 15.4 | 15.1 | 80.27 | 279.1 | 1,108.9 | 1,301.5 | 1,272.1 | 29.38 | 44.292 | | |
| 8,100.0 | 7,645.0 | 7,868.6 | 7,411.0 | 15.5 | 15.2 | 80.27 | 293.7 | 1,108.9 | 1,301.5 | 1,271.9 | 29.62 | 43.943 | | |
| 8,200.0 | 7,645.0 | 7,968.6 | 7,411.0 | 16.3 | 16.1 | 80.27 | 393.7 | 1,108.8 | 1,301.5 | 1,270.1 | 31.38 | 41.479 | | |
| 8,300.0 | 7,645.0 | 8,068.6 | 7,411.0 | 17.3 | 17.1 | 80.27 | 493.7 | 1,108.8 | 1,301.4 | 1,268.1 | 33.39 | 38.977 | | |
| 8,400.0 | 7,645.0 | 8,168.6 | 7,411.0 | 18.4 | 18.2 | 80.27 | 593.7 | 1,108.8 | 1,301.4 | 1,265.8 | 35.63 | 36.530 | | |
| 8,500.0 | 7,645.0 | 8,268.6 | 7,411.0 | 19.6 | 19.5 | 80.27 | 693.7 | 1,108.8 | 1,301.4 | 1,263.4 | 38.05 | 34.206 | | |
| 8,600.0 | 7,645.0 | 8,368.6 | 7,411.0 | 20.9 | 20.7 | 80.27 | 793.7 | 1,108.8 | 1,301.4 | 1,260.8 | 40.62 | 32.041 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|----------|--------------------|--------|
| Survey Program: 0-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 | | | |
| 8,700.0 | 7,645.0 | 8,468.6 | 7,411.0 | 22.3 | 22.1 | 80.27 | 893.7 | 1,108.8 | 1,301.4 | 1,258.1 | 43.31 | 30.048 | | |
| 8,800.0 | 7,645.0 | 8,568.6 | 7,411.0 | 23.7 | 23.5 | 80.27 | 993.7 | 1,108.8 | 1,301.4 | 1,255.3 | 46.11 | 28.225 | | |
| 8,900.0 | 7,645.0 | 8,668.6 | 7,411.0 | 25.1 | 25.0 | 80.27 | 1,093.7 | 1,108.8 | 1,301.4 | 1,252.4 | 48.99 | 26.565 | | |
| 9,000.0 | 7,645.0 | 8,768.6 | 7,411.0 | 26.6 | 26.4 | 80.27 | 1,193.7 | 1,108.8 | 1,301.4 | 1,249.4 | 51.94 | 25.055 | | |
| 9,100.0 | 7,645.0 | 8,868.6 | 7,411.0 | 28.1 | 28.0 | 80.27 | 1,293.7 | 1,108.8 | 1,301.3 | 1,246.4 | 54.95 | 23.682 | | |
| 9,200.0 | 7,645.0 | 8,968.6 | 7,411.0 | 29.6 | 29.5 | 80.27 | 1,393.7 | 1,108.8 | 1,301.3 | 1,243.3 | 58.01 | 22.432 | | |
| 9,300.0 | 7,645.0 | 9,068.6 | 7,411.0 | 31.2 | 31.1 | 80.27 | 1,493.7 | 1,108.8 | 1,301.3 | 1,240.2 | 61.11 | 21.293 | | |
| 9,400.0 | 7,645.0 | 9,168.6 | 7,411.0 | 32.8 | 32.7 | 80.27 | 1,593.7 | 1,108.8 | 1,301.3 | 1,237.0 | 64.25 | 20.252 | | |
| 9,500.0 | 7,645.0 | 9,268.6 | 7,411.0 | 34.4 | 34.3 | 80.27 | 1,693.7 | 1,108.8 | 1,301.3 | 1,233.9 | 67.43 | 19.300 | | |
| 9,600.0 | 7,645.0 | 9,373.6 | 7,411.0 | 36.0 | 36.0 | 80.27 | 1,798.7 | 1,108.7 | 1,301.2 | 1,230.5 | 70.70 | 18.404 | | |
| 9,700.0 | 7,645.0 | 9,502.4 | 7,411.0 | 37.6 | 38.1 | 80.25 | 1,927.5 | 1,106.8 | 1,299.7 | 1,225.3 | 74.39 | 17.473 | | |
| 9,800.0 | 7,645.0 | 9,631.1 | 7,411.0 | 39.3 | 40.2 | 80.22 | 2,056.0 | 1,101.9 | 1,296.0 | 1,217.9 | 78.09 | 16.597 | | |
| 9,900.0 | 7,645.0 | 9,757.6 | 7,411.0 | 40.9 | 42.3 | 80.16 | 2,182.4 | 1,094.4 | 1,290.1 | 1,208.3 | 81.77 | 15.777 | | |
| 10,000.0 | 7,645.0 | 9,857.4 | 7,411.0 | 42.6 | 44.0 | 80.11 | 2,281.9 | 1,087.4 | 1,283.2 | 1,198.2 | 85.03 | 15.091 | | |
| 10,100.0 | 7,645.0 | 9,957.1 | 7,411.0 | 44.2 | 45.6 | 80.05 | 2,381.4 | 1,080.4 | 1,276.3 | 1,188.0 | 88.30 | 14.454 | | |
| 10,200.0 | 7,645.0 | 10,056.9 | 7,411.0 | 45.9 | 47.3 | 80.00 | 2,480.9 | 1,073.5 | 1,269.4 | 1,177.8 | 91.59 | 13.860 | | |
| 10,300.0 | 7,645.0 | 10,156.6 | 7,411.0 | 47.6 | 49.0 | 79.94 | 2,580.4 | 1,066.5 | 1,262.6 | 1,167.7 | 94.88 | 13.307 | | |
| 10,400.0 | 7,645.0 | 10,256.4 | 7,411.0 | 49.2 | 50.7 | 79.89 | 2,679.9 | 1,059.5 | 1,255.7 | 1,157.5 | 98.18 | 12.789 | | |
| 10,500.0 | 7,645.0 | 10,356.2 | 7,411.0 | 50.9 | 52.4 | 79.83 | 2,779.5 | 1,052.6 | 1,248.8 | 1,147.3 | 101.49 | 12.304 | | |
| 10,600.0 | 7,645.0 | 10,455.9 | 7,411.0 | 52.6 | 54.1 | 79.77 | 2,879.0 | 1,045.6 | 1,241.9 | 1,137.1 | 104.81 | 11.850 | | |
| 10,700.0 | 7,645.0 | 10,551.3 | 7,411.0 | 54.3 | 55.7 | 79.72 | 2,974.1 | 1,038.9 | 1,235.0 | 1,127.0 | 108.05 | 11.430 | | |
| 10,800.0 | 7,645.0 | 10,637.3 | 7,411.0 | 56.0 | 57.2 | 79.67 | 3,059.9 | 1,033.6 | 1,228.9 | 1,117.8 | 111.16 | 11.056 | | |
| 10,900.0 | 7,645.0 | 10,719.8 | 7,411.0 | 57.7 | 58.6 | 79.64 | 3,142.4 | 1,029.7 | 1,224.2 | 1,110.0 | 114.21 | 10.719 | | |
| 11,000.0 | 7,645.0 | 10,800.0 | 7,411.0 | 59.4 | 59.9 | 79.62 | 3,222.5 | 1,027.0 | 1,221.0 | 1,103.7 | 117.23 | 10.415 | | |
| 11,100.0 | 7,645.0 | 10,885.1 | 7,411.0 | 61.1 | 61.4 | 79.60 | 3,307.6 | 1,025.4 | 1,219.1 | 1,098.8 | 120.34 | 10.131 | | |
| 11,181.0 | 7,645.0 | 10,952.1 | 7,411.0 | 62.5 | 62.5 | 79.60 | 3,374.6 | 1,025.0 | 1,218.6 | 1,095.8 | 122.83 | 9.921 CC | | |
| 11,200.0 | 7,645.0 | 10,967.8 | 7,411.0 | 62.8 | 62.8 | 79.60 | 3,390.3 | 1,025.0 | 1,218.6 | 1,095.2 | 123.41 | 9.874 | | |
| 11,300.0 | 7,645.0 | 11,050.5 | 7,411.0 | 64.5 | 64.2 | 79.61 | 3,472.9 | 1,025.8 | 1,219.6 | 1,093.1 | 126.50 | 9.641 | | |
| 11,400.0 | 7,645.0 | 11,133.1 | 7,411.0 | 66.3 | 65.6 | 79.62 | 3,555.6 | 1,027.8 | 1,222.0 | 1,092.4 | 129.59 | 9.430 ES | | |
| 11,500.0 | 7,645.0 | 11,215.7 | 7,411.0 | 68.0 | 67.0 | 79.65 | 3,638.1 | 1,031.1 | 1,225.8 | 1,093.2 | 132.69 | 9.239 | | |
| 11,600.0 | 7,645.0 | 11,300.0 | 7,411.0 | 69.7 | 68.5 | 79.69 | 3,722.3 | 1,035.6 | 1,231.1 | 1,095.3 | 135.82 | 9.064 | | |
| 11,700.0 | 7,645.0 | 11,380.5 | 7,411.0 | 71.4 | 69.8 | 79.73 | 3,802.6 | 1,041.0 | 1,237.7 | 1,098.8 | 138.90 | 8.911 | | |
| 11,800.0 | 7,645.0 | 11,462.6 | 7,411.0 | 73.1 | 71.2 | 79.79 | 3,884.4 | 1,047.7 | 1,245.8 | 1,103.8 | 142.01 | 8.773 | | |
| 11,900.0 | 7,645.0 | 11,544.5 | 7,411.0 | 74.9 | 72.6 | 79.85 | 3,966.0 | 1,055.6 | 1,255.2 | 1,110.1 | 145.12 | 8.650 | | |
| 12,000.0 | 7,645.0 | 11,626.2 | 7,411.0 | 76.6 | 74.0 | 79.93 | 4,047.2 | 1,064.6 | 1,266.1 | 1,117.9 | 148.23 | 8.541 | | |
| 12,100.0 | 7,645.0 | 11,718.7 | 7,411.0 | 78.3 | 75.6 | 80.01 | 4,139.0 | 1,075.9 | 1,278.1 | 1,126.6 | 151.54 | 8.434 | | |
| 12,170.4 | 7,645.0 | 11,788.6 | 7,411.0 | 79.5 | 76.8 | 80.08 | 4,208.3 | 1,084.5 | 1,286.6 | 1,132.7 | 153.95 | 8.357 SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|------------------------|------------------------|------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|---------------------|------------------|--------------------|--------|
| Survey Program: 0-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 | 90.00 | 0.0 | 1,329.8 | 1,329.9 | | | | | |
| 100.0 | 100.0 | 86.0 | 86.0 | 0.2 | 0.1 | 90.00 | 0.0 | 1,329.8 | 1,329.8 | 1,329.6 | 0.28 | 4,708.603 | | |
| 200.0 | 200.0 | 186.0 | 186.0 | 0.3 | 0.3 | 90.00 | 0.0 | 1,329.8 | 1,329.8 | 1,329.2 | 0.63 | 2,116.518 | | |
| 300.0 | 300.0 | 286.0 | 286.0 | 0.5 | 0.5 | 90.00 | 0.0 | 1,329.8 | 1,329.8 | 1,328.9 | 0.98 | 1,360.619 CC, ES | | |
| 400.0 | 400.0 | 378.6 | 378.6 | 0.7 | 0.6 | -111.73 | -0.5 | 1,330.1 | 1,330.7 | 1,329.4 | 1.32 | 1,010.941 | | |
| 500.0 | 499.8 | 470.0 | 470.0 | 0.9 | 0.8 | -111.79 | -2.3 | 1,330.9 | 1,333.5 | 1,331.9 | 1.67 | 799.930 | | |
| 600.0 | 599.5 | 561.3 | 561.2 | 1.1 | 1.0 | -111.88 | -5.4 | 1,332.3 | 1,338.3 | 1,336.3 | 2.05 | 654.400 | | |
| 700.0 | 698.7 | 652.4 | 652.2 | 1.3 | 1.1 | -112.01 | -9.9 | 1,334.2 | 1,345.0 | 1,342.6 | 2.46 | 546.192 | | |
| 800.0 | 797.7 | 743.5 | 743.0 | 1.6 | 1.3 | -112.26 | -15.7 | 1,336.8 | 1,353.0 | 1,350.1 | 2.90 | 466.260 | | |
| 900.0 | 896.8 | 834.6 | 833.9 | 1.9 | 1.5 | -112.46 | -22.8 | 1,339.9 | 1,361.7 | 1,358.3 | 3.36 | 405.340 | | |
| 1,000.0 | 995.8 | 925.8 | 924.5 | 2.2 | 1.7 | -112.59 | -31.2 | 1,343.6 | 1,371.0 | 1,367.1 | 3.83 | 357.571 | | |
| 1,100.0 | 1,094.8 | 1,016.9 | 1,015.0 | 2.5 | 2.0 | -112.67 | -40.9 | 1,347.9 | 1,380.9 | 1,376.5 | 4.33 | 319.185 | | |
| 1,200.0 | 1,193.8 | 1,107.9 | 1,105.3 | 2.8 | 2.2 | -112.69 | -52.0 | 1,352.8 | 1,391.4 | 1,386.5 | 4.84 | 287.701 | | |
| 1,300.0 | 1,292.9 | 1,200.0 | 1,196.3 | 3.1 | 2.5 | -112.66 | -64.5 | 1,358.3 | 1,402.5 | 1,397.1 | 5.37 | 261.275 | | |
| 1,400.0 | 1,391.9 | 1,289.6 | 1,284.7 | 3.3 | 2.8 | -112.57 | -78.0 | 1,364.3 | 1,414.2 | 1,408.3 | 5.91 | 239.130 | | |
| 1,500.0 | 1,490.9 | 1,387.9 | 1,381.5 | 3.6 | 3.1 | -112.44 | -93.6 | 1,371.1 | 1,426.3 | 1,419.8 | 6.49 | 219.689 | | |
| 1,600.0 | 1,589.9 | 1,487.1 | 1,479.2 | 3.9 | 3.4 | -112.32 | -109.3 | 1,378.1 | 1,438.3 | 1,431.3 | 7.08 | 203.191 | | |
| 1,700.0 | 1,689.0 | 1,586.3 | 1,576.9 | 4.2 | 3.7 | -112.19 | -125.1 | 1,385.0 | 1,450.4 | 1,442.8 | 7.67 | 189.120 | | |
| 1,800.0 | 1,788.0 | 1,685.5 | 1,674.6 | 4.5 | 4.1 | -112.07 | -140.9 | 1,392.0 | 1,462.5 | 1,454.3 | 8.26 | 176.997 | | |
| 1,900.0 | 1,887.0 | 1,784.7 | 1,772.3 | 4.8 | 4.4 | -111.95 | -156.6 | 1,399.0 | 1,474.7 | 1,465.8 | 8.86 | 166.455 | | |
| 2,000.0 | 1,986.1 | 1,883.9 | 1,870.0 | 5.1 | 4.7 | -111.83 | -172.4 | 1,405.9 | 1,486.8 | 1,477.3 | 9.46 | 157.213 | | |
| 2,100.0 | 2,085.1 | 1,983.2 | 1,967.7 | 5.4 | 5.1 | -111.71 | -188.1 | 1,412.9 | 1,498.9 | 1,488.8 | 10.06 | 149.048 | | |
| 2,200.0 | 2,184.1 | 2,082.4 | 2,065.4 | 5.7 | 5.4 | -111.60 | -203.9 | 1,419.8 | 1,511.0 | 1,500.4 | 10.66 | 141.787 | | |
| 2,300.0 | 2,283.1 | 2,181.6 | 2,163.1 | 6.0 | 5.8 | -111.48 | -219.7 | 1,426.8 | 1,523.2 | 1,511.9 | 11.26 | 135.290 | | |
| 2,400.0 | 2,382.2 | 2,280.8 | 2,260.8 | 6.3 | 6.1 | -111.37 | -235.4 | 1,433.7 | 1,535.3 | 1,523.4 | 11.86 | 129.444 | | |
| 2,500.0 | 2,481.2 | 2,380.0 | 2,358.5 | 6.6 | 6.5 | -111.26 | -251.2 | 1,440.7 | 1,547.4 | 1,535.0 | 12.46 | 124.157 | | |
| 2,600.0 | 2,580.2 | 2,479.2 | 2,456.2 | 6.9 | 6.8 | -111.15 | -267.0 | 1,447.6 | 1,559.6 | 1,546.5 | 13.07 | 119.353 | | |
| 2,700.0 | 2,679.2 | 2,578.4 | 2,554.0 | 7.2 | 7.1 | -111.04 | -282.7 | 1,454.6 | 1,571.7 | 1,558.1 | 13.67 | 114.971 | | |
| 2,800.0 | 2,778.3 | 2,677.7 | 2,651.7 | 7.5 | 7.5 | -110.94 | -298.5 | 1,461.5 | 1,583.9 | 1,569.6 | 14.28 | 110.957 | | |
| 2,900.0 | 2,877.3 | 2,776.9 | 2,749.4 | 7.8 | 7.8 | -110.84 | -314.2 | 1,468.5 | 1,596.1 | 1,581.2 | 14.88 | 107.267 | | |
| 3,000.0 | 2,976.3 | 2,876.1 | 2,847.1 | 8.1 | 8.2 | -110.73 | -330.0 | 1,475.4 | 1,608.2 | 1,592.8 | 15.48 | 103.864 | | |
| 3,100.0 | 3,075.3 | 2,975.3 | 2,944.8 | 8.4 | 8.5 | -110.63 | -345.8 | 1,482.4 | 1,620.4 | 1,604.3 | 16.09 | 100.716 | | |
| 3,200.0 | 3,174.4 | 3,074.5 | 3,042.5 | 8.7 | 8.9 | -110.54 | -361.5 | 1,489.3 | 1,632.6 | 1,615.9 | 16.69 | 97.795 | | |
| 3,300.0 | 3,273.4 | 3,185.1 | 3,151.6 | 9.0 | 9.2 | -110.45 | -378.4 | 1,496.8 | 1,644.5 | 1,627.2 | 17.32 | 94.969 | | |
| 3,400.0 | 3,372.4 | 3,298.1 | 3,263.3 | 9.3 | 9.6 | -110.44 | -393.6 | 1,503.5 | 1,655.6 | 1,637.7 | 17.92 | 92.390 | | |
| 3,500.0 | 3,471.5 | 3,411.2 | 3,375.5 | 9.6 | 9.9 | -110.49 | -406.9 | 1,509.4 | 1,665.9 | 1,647.4 | 18.50 | 90.069 | | |
| 3,600.0 | 3,570.5 | 3,524.4 | 3,488.0 | 9.9 | 10.1 | -110.62 | -418.1 | 1,514.3 | 1,675.3 | 1,656.3 | 19.05 | 87.966 | | |
| 3,680.0 | 3,649.7 | 3,615.0 | 3,578.2 | 10.1 | 10.3 | -110.77 | -425.6 | 1,517.6 | 1,682.3 | 1,662.9 | 19.47 | 86.417 | | |
| 3,700.0 | 3,669.5 | 3,637.7 | 3,600.8 | 10.2 | 10.4 | -110.84 | -427.3 | 1,518.4 | 1,684.0 | 1,664.4 | 19.57 | 86.049 | | |
| 3,800.0 | 3,768.8 | 3,751.0 | 3,713.9 | 10.4 | 10.6 | -111.14 | -434.5 | 1,521.5 | 1,690.9 | 1,670.9 | 20.03 | 84.434 | | |
| 3,900.0 | 3,868.5 | 3,864.6 | 3,827.3 | 10.6 | 10.8 | -111.35 | -439.6 | 1,523.8 | 1,695.9 | 1,675.5 | 20.41 | 83.081 | | |
| 4,000.0 | 3,968.4 | 3,978.2 | 3,940.9 | 10.8 | 10.9 | -111.46 | -442.6 | 1,525.1 | 1,698.7 | 1,678.0 | 20.73 | 81.955 | | |
| 4,080.0 | 4,048.4 | 4,069.2 | 4,031.9 | 10.9 | 11.0 | 90.22 | -443.6 | 1,525.5 | 1,699.5 | 1,678.6 | 20.93 | 81.185 | | |
| 4,100.0 | 4,068.4 | 4,091.7 | 4,054.4 | 10.9 | 11.1 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,678.6 | 20.98 | 80.992 | | |
| 4,200.0 | 4,168.4 | 4,191.7 | 4,154.4 | 11.0 | 11.2 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,678.3 | 21.22 | 80.081 | | |
| 4,300.0 | 4,268.4 | 4,291.7 | 4,254.4 | 11.1 | 11.3 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,678.1 | 21.46 | 79.179 | | |
| 4,400.0 | 4,368.4 | 4,391.7 | 4,354.4 | 11.2 | 11.4 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,677.8 | 21.71 | 78.287 | | |
| 4,500.0 | 4,468.4 | 4,491.7 | 4,454.4 | 11.4 | 11.5 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,677.6 | 21.96 | 77.405 | | |
| 4,600.0 | 4,568.4 | 4,591.7 | 4,554.4 | 11.5 | 11.7 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,677.3 | 22.21 | 76.533 | | |
| 4,700.0 | 4,668.4 | 4,691.7 | 4,654.4 | 11.6 | 11.8 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,677.1 | 22.46 | 75.672 | | |
| 4,800.0 | 4,768.4 | 4,791.7 | 4,754.4 | 11.7 | 11.9 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,676.8 | 22.71 | 74.821 | | |
| 4,900.0 | 4,868.4 | 4,891.7 | 4,854.4 | 11.9 | 12.0 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,676.6 | 22.97 | 73.982 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|---------|--------------------|--------|
| Survey Program: 0-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 | | | |
| 5,000.0 | 4,968.4 | 4,991.7 | 4,954.4 | 12.0 | 12.1 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,676.3 | 23.23 | 73.153 | | |
| 5,100.0 | 5,068.4 | 5,091.7 | 5,054.4 | 12.1 | 12.3 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,676.0 | 23.50 | 72.336 | | |
| 5,200.0 | 5,168.4 | 5,191.7 | 5,154.4 | 12.2 | 12.4 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,675.8 | 23.76 | 71.530 | | |
| 5,300.0 | 5,268.4 | 5,291.7 | 5,254.4 | 12.4 | 12.5 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,675.5 | 24.03 | 70.736 | | |
| 5,400.0 | 5,368.4 | 5,391.7 | 5,354.4 | 12.5 | 12.7 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,675.2 | 24.30 | 69.953 | | |
| 5,500.0 | 5,468.4 | 5,491.7 | 5,454.4 | 12.6 | 12.8 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,675.0 | 24.57 | 69.181 | | |
| 5,600.0 | 5,568.4 | 5,591.7 | 5,554.4 | 12.8 | 12.9 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,674.7 | 24.84 | 68.421 | | |
| 5,700.0 | 5,668.4 | 5,691.7 | 5,654.4 | 12.9 | 13.0 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,674.4 | 25.11 | 67.672 | | |
| 5,800.0 | 5,768.4 | 5,791.7 | 5,754.4 | 13.0 | 13.2 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,674.1 | 25.39 | 66.935 | | |
| 5,900.0 | 5,868.4 | 5,891.7 | 5,854.4 | 13.2 | 13.3 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,673.9 | 25.67 | 66.209 | | |
| 6,000.0 | 5,968.4 | 5,991.7 | 5,954.4 | 13.3 | 13.4 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,673.6 | 25.95 | 65.494 | | |
| 6,100.0 | 6,068.4 | 6,091.7 | 6,054.4 | 13.4 | 13.6 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,673.3 | 26.23 | 64.791 | | |
| 6,200.0 | 6,168.4 | 6,191.7 | 6,154.4 | 13.6 | 13.7 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,673.0 | 26.51 | 64.099 | | |
| 6,300.0 | 6,268.4 | 6,291.7 | 6,254.4 | 13.7 | 13.9 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,672.7 | 26.80 | 63.417 | | |
| 6,400.0 | 6,368.4 | 6,391.7 | 6,354.4 | 13.9 | 14.0 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,672.5 | 27.09 | 62.747 | | |
| 6,500.0 | 6,468.4 | 6,491.7 | 6,454.4 | 14.0 | 14.1 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,672.2 | 27.37 | 62.087 | | |
| 6,600.0 | 6,568.4 | 6,591.7 | 6,554.4 | 14.1 | 14.3 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,671.9 | 27.66 | 61.438 | | |
| 6,700.0 | 6,668.4 | 6,691.7 | 6,654.4 | 14.3 | 14.4 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,671.6 | 27.95 | 60.799 | | |
| 6,800.0 | 6,768.4 | 6,791.7 | 6,754.4 | 14.4 | 14.6 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,671.3 | 28.25 | 60.170 | | |
| 6,900.0 | 6,868.4 | 6,891.7 | 6,854.4 | 14.6 | 14.7 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,671.0 | 28.54 | 59.552 | | |
| 6,960.4 | 6,928.8 | 6,952.1 | 6,914.8 | 14.7 | 14.8 | 90.22 | -443.6 | 1,525.6 | 1,699.5 | 1,670.8 | 28.72 | 59.184 | | |
| 7,000.0 | 6,968.4 | 6,992.1 | 6,954.7 | 14.7 | 14.8 | 90.21 | -442.5 | 1,525.6 | 1,699.5 | 1,670.7 | 28.79 | 59.035 | | |
| 7,050.0 | 7,018.2 | 7,042.6 | 7,005.0 | 14.7 | 14.8 | 90.21 | -437.9 | 1,525.6 | 1,699.5 | 1,670.7 | 28.82 | 58.967 | | |
| 7,100.0 | 7,067.5 | 7,093.0 | 7,054.8 | 14.7 | 14.8 | 90.21 | -429.8 | 1,525.6 | 1,699.5 | 1,670.7 | 28.80 | 59.021 | | |
| 7,150.0 | 7,116.2 | 7,143.4 | 7,103.8 | 14.7 | 14.8 | 90.21 | -418.2 | 1,525.6 | 1,699.5 | 1,670.8 | 28.71 | 59.187 | | |
| 7,200.0 | 7,164.0 | 7,193.9 | 7,152.0 | 14.6 | 14.7 | 90.20 | -403.2 | 1,525.6 | 1,699.5 | 1,670.9 | 28.59 | 59.454 | | |
| 7,250.0 | 7,210.6 | 7,244.3 | 7,198.9 | 14.5 | 14.6 | 90.20 | -384.9 | 1,525.6 | 1,699.5 | 1,671.1 | 28.42 | 59.808 | | |
| 7,300.0 | 7,255.8 | 7,294.7 | 7,244.5 | 14.4 | 14.5 | 90.19 | -363.3 | 1,525.6 | 1,699.5 | 1,671.3 | 28.22 | 60.233 | | |
| 7,350.0 | 7,299.5 | 7,345.1 | 7,288.4 | 14.3 | 14.4 | 90.18 | -338.5 | 1,525.6 | 1,699.5 | 1,671.5 | 27.99 | 60.709 | | |
| 7,400.0 | 7,341.3 | 7,395.5 | 7,330.4 | 14.2 | 14.3 | 90.17 | -310.7 | 1,525.6 | 1,699.5 | 1,671.8 | 27.76 | 61.212 | | |
| 7,450.0 | 7,381.1 | 7,445.9 | 7,370.3 | 14.1 | 14.2 | 90.17 | -280.1 | 1,525.6 | 1,699.5 | 1,672.0 | 27.54 | 61.716 | | |
| 7,500.0 | 7,418.8 | 7,496.2 | 7,408.0 | 14.0 | 14.1 | 90.16 | -246.7 | 1,525.6 | 1,699.5 | 1,672.2 | 27.33 | 62.188 | | |
| 7,550.0 | 7,454.0 | 7,546.5 | 7,443.3 | 13.9 | 14.0 | 90.14 | -210.8 | 1,525.6 | 1,699.5 | 1,672.4 | 27.15 | 62.596 | | |
| 7,600.0 | 7,486.7 | 7,596.8 | 7,475.9 | 13.8 | 13.9 | 90.13 | -172.6 | 1,525.6 | 1,699.5 | 1,672.5 | 27.02 | 62.902 | | |
| 7,650.0 | 7,516.7 | 7,647.1 | 7,505.7 | 13.8 | 13.9 | 90.12 | -132.1 | 1,525.6 | 1,699.5 | 1,672.6 | 26.95 | 63.072 | | |
| 7,700.0 | 7,543.8 | 7,697.3 | 7,532.6 | 13.8 | 13.9 | 90.11 | -89.7 | 1,525.6 | 1,699.5 | 1,672.6 | 26.94 | 63.074 | | |
| 7,750.0 | 7,567.9 | 7,747.5 | 7,556.5 | 13.8 | 13.9 | 90.10 | -45.5 | 1,525.6 | 1,699.5 | 1,672.5 | 27.03 | 62.882 | | |
| 7,800.0 | 7,588.9 | 7,797.7 | 7,577.2 | 13.9 | 14.0 | 90.08 | 0.2 | 1,525.6 | 1,699.5 | 1,672.3 | 27.20 | 62.479 | | |
| 7,850.0 | 7,606.7 | 7,847.9 | 7,594.6 | 14.1 | 14.1 | 90.07 | 47.2 | 1,525.6 | 1,699.5 | 1,672.0 | 27.47 | 61.857 | | |
| 7,900.0 | 7,621.1 | 7,898.0 | 7,608.7 | 14.2 | 14.3 | 90.05 | 95.3 | 1,525.6 | 1,699.5 | 1,671.6 | 27.85 | 61.023 | | |
| 7,950.0 | 7,632.2 | 7,948.1 | 7,619.4 | 14.5 | 14.6 | 90.04 | 144.2 | 1,525.6 | 1,699.5 | 1,671.1 | 28.33 | 59.993 | | |
| 8,000.0 | 7,639.9 | 7,998.2 | 7,626.7 | 14.8 | 14.8 | 90.02 | 193.8 | 1,525.6 | 1,699.5 | 1,670.6 | 28.91 | 58.793 | | |
| 8,050.0 | 7,644.1 | 8,048.2 | 7,630.4 | 15.1 | 15.2 | 90.01 | 243.6 | 1,525.6 | 1,699.5 | 1,669.9 | 29.58 | 57.456 | | |
| 8,085.4 | 7,645.0 | 8,083.6 | 7,631.0 | 15.4 | 15.4 | 90.00 | 279.0 | 1,525.6 | 1,699.5 | 1,669.4 | 30.11 | 56.446 | | |
| 8,100.0 | 7,645.0 | 8,098.2 | 7,631.0 | 15.5 | 15.5 | 90.00 | 293.6 | 1,525.6 | 1,699.5 | 1,669.1 | 30.34 | 56.019 | | |
| 8,200.0 | 7,645.0 | 8,198.2 | 7,631.0 | 16.3 | 16.4 | 90.00 | 393.6 | 1,525.6 | 1,699.5 | 1,667.4 | 32.09 | 52.956 | | |
| 8,300.0 | 7,645.0 | 8,298.2 | 7,631.0 | 17.3 | 17.4 | 90.00 | 493.6 | 1,525.6 | 1,699.4 | 1,665.3 | 34.12 | 49.813 | | |
| 8,400.0 | 7,645.0 | 8,398.2 | 7,631.0 | 18.4 | 18.5 | 90.00 | 593.6 | 1,525.6 | 1,699.4 | 1,663.1 | 36.37 | 46.729 | | |
| 8,500.0 | 7,645.0 | 8,498.2 | 7,631.0 | 19.6 | 19.7 | 90.00 | 693.6 | 1,525.6 | 1,699.4 | 1,660.6 | 38.81 | 43.792 | | |
| 8,600.0 | 7,645.0 | 8,598.2 | 7,631.0 | 20.9 | 21.0 | 90.00 | 793.6 | 1,525.6 | 1,699.4 | 1,658.0 | 41.40 | 41.050 | | |
| 8,700.0 | 7,645.0 | 8,698.2 | 7,631.0 | 22.3 | 22.3 | 90.00 | 893.6 | 1,525.6 | 1,699.4 | 1,655.3 | 44.12 | 38.520 | | |
| 8,800.0 | 7,645.0 | 8,798.2 | 7,631.0 | 23.7 | 23.7 | 90.00 | 993.6 | 1,525.6 | 1,699.4 | 1,652.5 | 46.94 | 36.203 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3 | | | | | | | | | | | | | 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 | | |
| 8,900.0 | 7,645.0 | 8,898.2 | 7,631.0 | 25.1 | 25.2 | 90.00 | 1,093.6 | 1,525.6 | 1,699.4 | 1,649.5 | 49.85 | 34.089 | | |
| 9,000.0 | 7,645.0 | 8,998.2 | 7,631.0 | 26.6 | 26.6 | 90.00 | 1,193.6 | 1,525.6 | 1,699.4 | 1,646.5 | 52.84 | 32.163 | | |
| 9,100.0 | 7,645.0 | 9,098.2 | 7,631.0 | 28.1 | 28.2 | 90.00 | 1,293.6 | 1,525.6 | 1,699.4 | 1,643.5 | 55.88 | 30.411 | | |
| 9,200.0 | 7,645.0 | 9,198.2 | 7,631.0 | 29.6 | 29.7 | 90.00 | 1,393.6 | 1,525.6 | 1,699.4 | 1,640.4 | 58.98 | 28.814 | | |
| 9,300.0 | 7,645.0 | 9,298.2 | 7,631.0 | 31.2 | 31.3 | 90.00 | 1,493.6 | 1,525.6 | 1,699.4 | 1,637.2 | 62.12 | 27.358 | | |
| 9,400.0 | 7,645.0 | 9,398.2 | 7,631.0 | 32.8 | 32.8 | 90.00 | 1,593.6 | 1,525.6 | 1,699.3 | 1,634.1 | 65.29 | 26.026 | | |
| 9,500.0 | 7,645.0 | 9,498.2 | 7,631.0 | 34.4 | 34.4 | 90.00 | 1,693.6 | 1,525.6 | 1,699.3 | 1,630.8 | 68.50 | 24.807 | | |
| 9,600.0 | 7,645.0 | 9,598.2 | 7,631.0 | 36.0 | 36.0 | 90.00 | 1,793.6 | 1,525.6 | 1,699.3 | 1,627.6 | 71.74 | 23.687 | | |
| 9,700.0 | 7,645.0 | 9,698.2 | 7,631.0 | 37.6 | 37.7 | 90.00 | 1,893.6 | 1,525.6 | 1,699.3 | 1,624.3 | 75.00 | 22.657 | | |
| 9,800.0 | 7,645.0 | 9,798.2 | 7,631.0 | 39.3 | 39.3 | 90.00 | 1,993.6 | 1,525.6 | 1,699.3 | 1,621.0 | 78.29 | 21.707 | | |
| 9,900.0 | 7,645.0 | 9,898.2 | 7,631.0 | 40.9 | 40.9 | 90.00 | 2,093.6 | 1,525.6 | 1,699.3 | 1,617.7 | 81.59 | 20.828 | | |
| 10,000.0 | 7,645.0 | 9,998.2 | 7,631.0 | 42.6 | 42.6 | 90.00 | 2,193.6 | 1,525.6 | 1,699.3 | 1,614.4 | 84.91 | 20.014 | | |
| 10,100.0 | 7,645.0 | 10,098.2 | 7,631.0 | 44.2 | 44.3 | 90.00 | 2,293.6 | 1,525.6 | 1,699.3 | 1,611.0 | 88.24 | 19.258 | | |
| 10,200.0 | 7,645.0 | 10,198.2 | 7,631.0 | 45.9 | 45.9 | 90.00 | 2,393.6 | 1,525.6 | 1,699.3 | 1,607.7 | 91.59 | 18.554 | | |
| 10,300.0 | 7,645.0 | 10,298.2 | 7,631.0 | 47.6 | 47.6 | 90.00 | 2,493.6 | 1,525.6 | 1,699.3 | 1,604.3 | 94.94 | 17.898 | | |
| 10,400.0 | 7,645.0 | 10,398.2 | 7,631.0 | 49.2 | 49.3 | 90.00 | 2,593.6 | 1,525.6 | 1,699.3 | 1,601.0 | 98.31 | 17.284 | | |
| 10,500.0 | 7,645.0 | 10,498.2 | 7,631.0 | 50.9 | 51.0 | 90.00 | 2,693.6 | 1,525.6 | 1,699.3 | 1,597.6 | 101.69 | 16.710 | | |
| 10,600.0 | 7,645.0 | 10,598.2 | 7,631.0 | 52.6 | 52.7 | 90.00 | 2,793.6 | 1,525.6 | 1,699.2 | 1,594.2 | 105.08 | 16.172 | | |
| 10,700.0 | 7,645.0 | 10,698.2 | 7,631.0 | 54.3 | 54.3 | 90.00 | 2,893.6 | 1,525.6 | 1,699.2 | 1,590.8 | 108.47 | 15.666 | | |
| 10,800.0 | 7,645.0 | 10,798.2 | 7,631.0 | 56.0 | 56.0 | 90.00 | 2,993.6 | 1,525.6 | 1,699.2 | 1,587.4 | 111.87 | 15.189 | | |
| 10,900.0 | 7,645.0 | 10,898.2 | 7,631.0 | 57.7 | 57.7 | 90.00 | 3,093.6 | 1,525.6 | 1,699.2 | 1,583.9 | 115.28 | 14.740 | | |
| 11,000.0 | 7,645.0 | 10,998.2 | 7,631.0 | 59.4 | 59.4 | 90.00 | 3,193.6 | 1,525.6 | 1,699.2 | 1,580.5 | 118.69 | 14.316 | | |
| 11,100.0 | 7,645.0 | 11,098.2 | 7,631.0 | 61.1 | 61.2 | 90.00 | 3,293.6 | 1,525.6 | 1,699.2 | 1,577.1 | 122.11 | 13.915 | | |
| 11,200.0 | 7,645.0 | 11,198.2 | 7,631.0 | 62.8 | 62.9 | 90.00 | 3,393.6 | 1,525.6 | 1,699.2 | 1,573.7 | 125.53 | 13.536 | | |
| 11,300.0 | 7,645.0 | 11,298.2 | 7,631.0 | 64.5 | 64.6 | 90.00 | 3,493.6 | 1,525.6 | 1,699.2 | 1,570.2 | 128.96 | 13.176 | | |
| 11,400.0 | 7,645.0 | 11,398.2 | 7,631.0 | 66.3 | 66.3 | 90.00 | 3,593.6 | 1,525.6 | 1,699.2 | 1,566.8 | 132.39 | 12.834 | | |
| 11,500.0 | 7,645.0 | 11,498.2 | 7,631.0 | 68.0 | 68.0 | 90.00 | 3,693.6 | 1,525.6 | 1,699.2 | 1,563.3 | 135.83 | 12.509 | | |
| 11,600.0 | 7,645.0 | 11,598.2 | 7,631.0 | 69.7 | 69.7 | 90.00 | 3,793.6 | 1,525.6 | 1,699.2 | 1,559.9 | 139.27 | 12.200 | | |
| 11,700.0 | 7,645.0 | 11,698.2 | 7,631.0 | 71.4 | 71.4 | 90.00 | 3,893.6 | 1,525.6 | 1,699.1 | 1,556.4 | 142.71 | 11.906 | | |
| 11,800.0 | 7,645.0 | 11,798.2 | 7,631.0 | 73.1 | 73.2 | 90.00 | 3,993.6 | 1,525.6 | 1,699.1 | 1,553.0 | 146.16 | 11.625 | | |
| 11,900.0 | 7,645.0 | 11,898.2 | 7,631.0 | 74.9 | 74.9 | 90.00 | 4,093.6 | 1,525.6 | 1,699.1 | 1,549.5 | 149.61 | 11.357 | | |
| 12,000.0 | 7,645.0 | 11,998.2 | 7,631.0 | 76.6 | 76.6 | 90.00 | 4,193.6 | 1,525.6 | 1,699.1 | 1,546.1 | 153.06 | 11.101 | | |
| 12,100.0 | 7,645.0 | 12,098.2 | 7,631.0 | 78.3 | 78.3 | 90.00 | 4,293.6 | 1,525.6 | 1,699.1 | 1,542.6 | 156.52 | 10.856 | | |
| 12,150.1 | 7,645.0 | 12,148.3 | 7,631.0 | 79.2 | 79.2 | 90.00 | 4,343.7 | 1,525.6 | 1,699.1 | 1,540.9 | 158.25 | 10.737 | | |
| 12,170.4 | 7,645.0 | 12,161.4 | 7,631.0 | 79.5 | 79.4 | 90.00 | 4,356.8 | 1,525.6 | 1,699.1 | 1,540.3 | 158.82 | 10.698 SF | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|------------------|--------------------|--------|
| Survey Program: 0-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 | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 90.15 | -3.6 | 1,341.0 | 1,341.1 | | | | | |
| 100.0 | 100.0 | 86.0 | 86.0 | 0.2 | 0.1 | 90.15 | -3.6 | 1,341.0 | 1,341.1 | 1,340.8 | 0.28 | 4,748.272 | | |
| 200.0 | 200.0 | 186.0 | 186.0 | 0.3 | 0.3 | 90.15 | -3.6 | 1,341.0 | 1,341.1 | 1,340.4 | 0.63 | 2,134.350 CC, ES | | |
| 300.0 | 300.0 | 272.3 | 272.3 | 0.5 | 0.5 | 90.17 | -3.9 | 1,341.4 | 1,341.5 | 1,340.5 | 0.95 | 1,406.242 | | |
| 400.0 | 400.0 | 356.4 | 356.4 | 0.7 | 0.6 | -111.51 | -4.9 | 1,342.8 | 1,343.7 | 1,342.5 | 1.28 | 1,051.105 | | |
| 500.0 | 499.8 | 440.3 | 440.2 | 0.9 | 0.8 | -111.52 | -6.6 | 1,345.1 | 1,348.5 | 1,346.8 | 1.62 | 834.314 | | |
| 600.0 | 599.5 | 524.0 | 523.8 | 1.1 | 0.9 | -111.57 | -9.0 | 1,348.4 | 1,355.6 | 1,353.7 | 1.98 | 684.966 | | |
| 700.0 | 698.7 | 600.0 | 599.7 | 1.3 | 1.1 | -111.63 | -11.9 | 1,352.3 | 1,365.3 | 1,363.0 | 2.36 | 577.597 | | |
| 800.0 | 797.7 | 690.5 | 689.9 | 1.6 | 1.3 | -111.95 | -16.0 | 1,358.0 | 1,376.8 | 1,374.0 | 2.79 | 492.881 | | |
| 900.0 | 896.8 | 773.5 | 772.5 | 1.9 | 1.5 | -112.20 | -20.6 | 1,364.2 | 1,389.5 | 1,386.3 | 3.22 | 431.365 | | |
| 1,000.0 | 995.8 | 856.3 | 854.9 | 2.2 | 1.7 | -112.42 | -25.8 | 1,371.3 | 1,403.3 | 1,399.7 | 3.66 | 383.599 | | |
| 1,100.0 | 1,094.8 | 939.0 | 936.9 | 2.5 | 1.9 | -112.61 | -31.8 | 1,379.4 | 1,418.4 | 1,414.3 | 4.10 | 345.601 | | |
| 1,200.0 | 1,193.8 | 1,021.4 | 1,018.6 | 2.8 | 2.1 | -112.76 | -38.4 | 1,388.4 | 1,434.5 | 1,429.9 | 4.56 | 314.744 | | |
| 1,300.0 | 1,292.9 | 1,100.0 | 1,096.3 | 3.1 | 2.3 | -112.87 | -45.4 | 1,397.9 | 1,451.8 | 1,446.8 | 5.01 | 289.728 | | |
| 1,400.0 | 1,391.9 | 1,185.4 | 1,180.6 | 3.3 | 2.6 | -112.96 | -53.6 | 1,409.2 | 1,470.2 | 1,464.7 | 5.49 | 267.779 | | |
| 1,500.0 | 1,490.9 | 1,280.6 | 1,274.3 | 3.6 | 2.9 | -113.04 | -63.4 | 1,422.5 | 1,489.3 | 1,483.3 | 6.00 | 248.362 | | |
| 1,600.0 | 1,589.9 | 1,378.8 | 1,371.0 | 3.9 | 3.3 | -113.12 | -73.5 | 1,436.2 | 1,508.4 | 1,501.9 | 6.51 | 231.600 | | |
| 1,700.0 | 1,689.0 | 1,476.9 | 1,467.6 | 4.2 | 3.6 | -113.20 | -83.6 | 1,450.0 | 1,527.6 | 1,520.5 | 7.03 | 217.215 | | |
| 1,800.0 | 1,788.0 | 1,575.0 | 1,564.3 | 4.5 | 3.9 | -113.27 | -93.7 | 1,463.7 | 1,546.7 | 1,539.1 | 7.55 | 204.749 | | |
| 1,900.0 | 1,887.0 | 1,673.1 | 1,660.9 | 4.8 | 4.3 | -113.34 | -103.8 | 1,477.4 | 1,565.8 | 1,557.8 | 8.08 | 193.850 | | |
| 2,000.0 | 1,986.1 | 1,771.3 | 1,757.5 | 5.1 | 4.6 | -113.41 | -113.9 | 1,491.2 | 1,585.0 | 1,576.4 | 8.60 | 184.245 | | |
| 2,100.0 | 2,085.1 | 1,869.4 | 1,854.2 | 5.4 | 4.9 | -113.48 | -123.9 | 1,504.9 | 1,604.1 | 1,595.0 | 9.13 | 175.721 | | |
| 2,200.0 | 2,184.1 | 1,967.5 | 1,950.8 | 5.7 | 5.3 | -113.55 | -134.0 | 1,518.6 | 1,623.3 | 1,613.6 | 9.66 | 168.108 | | |
| 2,300.0 | 2,283.1 | 2,065.7 | 2,047.5 | 6.0 | 5.6 | -113.61 | -144.1 | 1,532.4 | 1,642.4 | 1,632.3 | 10.18 | 161.268 | | |
| 2,400.0 | 2,382.2 | 2,163.8 | 2,144.1 | 6.3 | 6.0 | -113.68 | -154.2 | 1,546.1 | 1,661.6 | 1,650.9 | 10.71 | 155.092 | | |
| 2,500.0 | 2,481.2 | 2,261.9 | 2,240.7 | 6.6 | 6.3 | -113.74 | -164.3 | 1,559.8 | 1,680.8 | 1,669.5 | 11.24 | 149.487 | | |
| 2,600.0 | 2,580.2 | 2,360.1 | 2,337.4 | 6.9 | 6.6 | -113.80 | -174.4 | 1,573.6 | 1,699.9 | 1,688.1 | 11.77 | 144.379 | | |
| 2,700.0 | 2,679.2 | 2,458.2 | 2,434.0 | 7.2 | 7.0 | -113.86 | -184.5 | 1,587.3 | 1,719.1 | 1,706.8 | 12.31 | 139.705 | | |
| 2,800.0 | 2,778.3 | 2,556.3 | 2,530.7 | 7.5 | 7.3 | -113.92 | -194.6 | 1,601.0 | 1,738.2 | 1,725.4 | 12.84 | 135.413 | | |
| 2,900.0 | 2,877.3 | 2,654.5 | 2,627.3 | 7.8 | 7.7 | -113.98 | -204.6 | 1,614.8 | 1,757.4 | 1,744.0 | 13.37 | 131.458 | | |
| 3,000.0 | 2,976.3 | 2,752.6 | 2,723.9 | 8.1 | 8.0 | -114.03 | -214.7 | 1,628.5 | 1,776.6 | 1,762.7 | 13.90 | 127.801 | | |
| 3,100.0 | 3,075.3 | 2,850.7 | 2,820.6 | 8.4 | 8.4 | -114.09 | -224.8 | 1,642.2 | 1,795.7 | 1,781.3 | 14.43 | 124.411 | | |
| 3,200.0 | 3,174.4 | 2,948.9 | 2,917.2 | 8.7 | 8.7 | -114.14 | -234.9 | 1,656.0 | 1,814.9 | 1,799.9 | 14.97 | 121.260 | | |
| 3,300.0 | 3,273.4 | 3,047.0 | 3,013.9 | 9.0 | 9.0 | -114.19 | -245.0 | 1,669.7 | 1,834.1 | 1,818.6 | 15.50 | 118.323 | | |
| 3,400.0 | 3,372.4 | 3,145.1 | 3,110.5 | 9.3 | 9.4 | -114.25 | -255.1 | 1,683.4 | 1,853.3 | 1,837.2 | 16.03 | 115.580 | | |
| 3,500.0 | 3,471.5 | 3,243.3 | 3,207.1 | 9.6 | 9.7 | -114.30 | -265.2 | 1,697.2 | 1,872.4 | 1,855.9 | 16.57 | 113.011 | | |
| 3,600.0 | 3,570.5 | 3,341.4 | 3,303.8 | 9.9 | 10.1 | -114.34 | -275.3 | 1,710.9 | 1,891.6 | 1,874.5 | 17.10 | 110.601 | | |
| 3,680.0 | 3,649.7 | 3,419.9 | 3,381.1 | 10.1 | 10.3 | -114.38 | -283.3 | 1,721.9 | 1,906.9 | 1,889.4 | 17.53 | 108.778 | | |
| 3,700.0 | 3,669.5 | 3,439.5 | 3,400.4 | 10.2 | 10.4 | -114.46 | -285.3 | 1,724.6 | 1,910.8 | 1,893.1 | 17.64 | 108.308 | | |
| 3,800.0 | 3,768.8 | 3,537.8 | 3,497.3 | 10.4 | 10.8 | -114.78 | -295.5 | 1,738.4 | 1,928.9 | 1,910.8 | 18.15 | 106.253 | | |
| 3,900.0 | 3,868.5 | 3,636.4 | 3,594.3 | 10.6 | 11.1 | -114.97 | -305.6 | 1,752.2 | 1,945.7 | 1,927.1 | 18.62 | 104.494 | | |
| 4,000.0 | 3,968.4 | 3,734.9 | 3,691.3 | 10.8 | 11.5 | -115.05 | -315.7 | 1,766.0 | 1,961.0 | 1,941.9 | 19.04 | 103.001 | | |
| 4,080.0 | 4,048.4 | 3,813.8 | 3,769.0 | 10.9 | 11.7 | 86.68 | -323.8 | 1,777.0 | 1,972.2 | 1,952.9 | 19.34 | 101.963 | | |
| 4,100.0 | 4,068.4 | 3,833.4 | 3,788.4 | 10.9 | 11.8 | 86.74 | -325.8 | 1,779.8 | 1,974.9 | 1,955.5 | 19.41 | 101.721 | | |
| 4,200.0 | 4,168.4 | 3,931.9 | 3,885.4 | 11.0 | 12.1 | 87.06 | -336.0 | 1,793.5 | 1,988.4 | 1,968.6 | 19.78 | 100.542 | | |
| 4,300.0 | 4,268.4 | 4,030.4 | 3,982.3 | 11.1 | 12.5 | 87.37 | -346.1 | 1,807.3 | 2,002.0 | 1,981.8 | 20.14 | 99.412 | | |
| 4,400.0 | 4,368.4 | 4,128.9 | 4,079.3 | 11.2 | 12.8 | 87.68 | -356.2 | 1,821.1 | 2,015.6 | 1,995.1 | 20.50 | 98.327 | | |
| 4,500.0 | 4,468.4 | 4,227.4 | 4,176.3 | 11.4 | 13.2 | 87.98 | -366.3 | 1,834.9 | 2,029.3 | 2,008.4 | 20.86 | 97.286 | | |
| 4,600.0 | 4,568.4 | 4,325.9 | 4,273.3 | 11.5 | 13.5 | 88.28 | -376.5 | 1,848.7 | 2,043.0 | 2,021.8 | 21.22 | 96.285 | | |
| 4,700.0 | 4,668.4 | 4,424.3 | 4,370.3 | 11.6 | 13.9 | 88.58 | -386.6 | 1,862.5 | 2,056.8 | 2,035.2 | 21.58 | 95.323 | | |
| 4,800.0 | 4,768.4 | 4,522.8 | 4,467.3 | 11.7 | 14.2 | 88.87 | -396.7 | 1,876.2 | 2,070.6 | 2,048.7 | 21.93 | 94.398 | | |
| 4,900.0 | 4,868.4 | 4,646.5 | 4,589.2 | 11.9 | 14.6 | 89.22 | -409.0 | 1,893.0 | 2,084.1 | 2,061.8 | 22.34 | 93.287 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|---------|--------------------|--------|
| Survey Program: 0-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 | | | |
| 5,000.0 | 4,968.4 | 4,786.4 | 4,727.6 | 12.0 | 15.1 | 89.56 | -421.2 | 1,909.6 | 2,095.9 | 2,073.1 | 22.76 | 92.077 | | |
| 5,100.0 | 5,068.4 | 4,927.2 | 4,867.3 | 12.1 | 15.4 | 89.84 | -431.4 | 1,923.5 | 2,105.8 | 2,082.6 | 23.16 | 90.905 | | |
| 5,200.0 | 5,168.4 | 5,068.8 | 5,008.2 | 12.2 | 15.7 | 90.07 | -439.6 | 1,934.6 | 2,113.7 | 2,090.1 | 23.55 | 89.754 | | |
| 5,300.0 | 5,268.4 | 5,211.0 | 5,150.0 | 12.4 | 16.0 | 90.23 | -445.8 | 1,943.0 | 2,119.6 | 2,095.7 | 23.92 | 88.617 | | |
| 5,400.0 | 5,368.4 | 5,353.6 | 5,292.5 | 12.5 | 16.2 | 90.34 | -449.9 | 1,948.6 | 2,123.5 | 2,099.2 | 24.27 | 87.495 | | |
| 5,500.0 | 5,468.4 | 5,496.5 | 5,435.3 | 12.6 | 16.4 | 90.40 | -451.8 | 1,951.3 | 2,125.4 | 2,100.8 | 24.61 | 86.370 | | |
| 5,600.0 | 5,568.4 | 5,615.6 | 5,554.4 | 12.8 | 16.5 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,100.7 | 24.91 | 85.343 | | |
| 5,700.0 | 5,668.4 | 5,715.6 | 5,654.4 | 12.9 | 16.6 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,100.4 | 25.18 | 84.413 | | |
| 5,800.0 | 5,768.4 | 5,815.6 | 5,754.4 | 13.0 | 16.7 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,100.2 | 25.46 | 83.496 | | |
| 5,900.0 | 5,868.4 | 5,915.6 | 5,854.4 | 13.2 | 16.9 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,099.9 | 25.74 | 82.593 | | |
| 6,000.0 | 5,968.4 | 6,015.6 | 5,954.4 | 13.3 | 17.0 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,099.6 | 26.02 | 81.704 | | |
| 6,100.0 | 6,068.4 | 6,115.6 | 6,054.4 | 13.4 | 17.1 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,099.3 | 26.30 | 80.830 | | |
| 6,200.0 | 6,168.4 | 6,215.6 | 6,154.4 | 13.6 | 17.2 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,099.0 | 26.58 | 79.968 | | |
| 6,300.0 | 6,268.4 | 6,315.6 | 6,254.4 | 13.7 | 17.3 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,098.8 | 26.87 | 79.121 | | |
| 6,400.0 | 6,368.4 | 6,415.6 | 6,354.4 | 13.9 | 17.4 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,098.5 | 27.15 | 78.287 | | |
| 6,500.0 | 6,468.4 | 6,515.6 | 6,454.4 | 14.0 | 17.5 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,098.2 | 27.44 | 77.466 | | |
| 6,600.0 | 6,568.4 | 6,615.6 | 6,554.4 | 14.1 | 17.6 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,097.9 | 27.73 | 76.658 | | |
| 6,700.0 | 6,668.4 | 6,715.6 | 6,654.4 | 14.3 | 17.7 | 90.40 | -452.1 | 1,951.6 | 2,125.6 | 2,097.6 | 28.02 | 75.864 | | |
| 6,800.0 | 6,768.4 | 6,816.7 | 6,755.5 | 14.4 | 17.8 | 90.33 | -449.5 | 1,951.6 | 2,125.6 | 2,097.3 | 28.27 | 75.186 | | |
| 6,886.9 | 6,855.3 | 6,903.6 | 6,841.3 | 14.5 | 17.8 | 89.99 | -436.9 | 1,951.6 | 2,125.6 | 2,097.2 | 28.41 | 74.821 | | |
| 6,900.0 | 6,868.4 | 6,916.3 | 6,853.8 | 14.6 | 17.8 | 89.92 | -434.2 | 1,951.6 | 2,125.6 | 2,097.1 | 28.42 | 74.788 | | |
| 6,960.4 | 6,928.8 | 6,973.8 | 6,909.2 | 14.7 | 17.7 | 89.52 | -419.2 | 1,951.6 | 2,125.6 | 2,097.2 | 28.47 | 74.660 | | |
| 7,000.0 | 6,968.4 | 7,010.3 | 6,943.8 | 14.7 | 17.7 | 89.21 | -407.4 | 1,951.6 | 2,125.8 | 2,097.3 | 28.47 | 74.665 | | |
| 7,050.0 | 7,018.2 | 7,055.8 | 6,985.9 | 14.7 | 17.6 | 88.83 | -390.2 | 1,951.6 | 2,126.0 | 2,097.6 | 28.42 | 74.799 | | |
| 7,100.0 | 7,067.5 | 7,100.0 | 7,025.7 | 14.7 | 17.6 | 88.46 | -371.0 | 1,951.6 | 2,126.4 | 2,098.1 | 28.33 | 75.052 | | |
| 7,150.0 | 7,116.2 | 7,144.4 | 7,064.4 | 14.7 | 17.5 | 88.09 | -349.3 | 1,951.6 | 2,126.8 | 2,098.6 | 28.20 | 75.419 | | |
| 7,200.0 | 7,164.0 | 7,187.7 | 7,100.8 | 14.6 | 17.4 | 87.74 | -325.8 | 1,951.6 | 2,127.3 | 2,099.3 | 28.04 | 75.872 | | |
| 7,250.0 | 7,210.6 | 7,230.4 | 7,135.3 | 14.5 | 17.3 | 87.39 | -300.6 | 1,951.6 | 2,127.9 | 2,100.0 | 27.85 | 76.395 | | |
| 7,300.0 | 7,255.8 | 7,272.6 | 7,167.8 | 14.4 | 17.2 | 87.06 | -273.7 | 1,951.6 | 2,128.5 | 2,100.8 | 27.65 | 76.968 | | |
| 7,350.0 | 7,299.5 | 7,314.3 | 7,198.2 | 14.3 | 17.1 | 86.74 | -245.3 | 1,951.6 | 2,129.2 | 2,101.7 | 27.45 | 77.568 | | |
| 7,400.0 | 7,341.3 | 7,355.5 | 7,226.7 | 14.2 | 17.1 | 86.43 | -215.5 | 1,951.6 | 2,129.8 | 2,102.6 | 27.25 | 78.169 | | |
| 7,450.0 | 7,381.1 | 7,400.0 | 7,255.5 | 14.1 | 17.0 | 86.12 | -181.5 | 1,951.6 | 2,130.6 | 2,103.5 | 27.05 | 78.758 | | |
| 7,500.0 | 7,418.8 | 7,436.7 | 7,277.6 | 14.0 | 17.0 | 85.87 | -152.2 | 1,951.6 | 2,131.3 | 2,104.4 | 26.90 | 79.232 | | |
| 7,550.0 | 7,454.0 | 7,476.8 | 7,299.9 | 13.9 | 17.0 | 85.61 | -118.9 | 1,951.6 | 2,132.0 | 2,105.2 | 26.77 | 79.628 | | |
| 7,600.0 | 7,486.7 | 7,516.6 | 7,320.3 | 13.8 | 17.0 | 85.36 | -84.8 | 1,951.6 | 2,132.7 | 2,106.0 | 26.69 | 79.893 | | |
| 7,650.0 | 7,516.7 | 7,556.1 | 7,338.5 | 13.8 | 17.0 | 85.14 | -49.7 | 1,951.6 | 2,133.3 | 2,106.7 | 26.67 | 80.003 | | |
| 7,700.0 | 7,543.8 | 7,600.0 | 7,356.6 | 13.8 | 17.1 | 84.92 | -9.7 | 1,951.5 | 2,134.0 | 2,107.2 | 26.72 | 79.874 | | |
| 7,750.0 | 7,567.9 | 7,634.3 | 7,368.9 | 13.8 | 17.1 | 84.75 | 22.4 | 1,951.5 | 2,134.5 | 2,107.7 | 26.83 | 79.545 | | |
| 7,800.0 | 7,588.9 | 7,673.2 | 7,381.1 | 13.9 | 17.2 | 84.59 | 59.3 | 1,951.5 | 2,135.1 | 2,108.0 | 27.03 | 78.989 | | |
| 7,850.0 | 7,606.7 | 7,711.9 | 7,391.1 | 14.1 | 17.3 | 84.45 | 96.6 | 1,951.5 | 2,135.5 | 2,108.2 | 27.31 | 78.203 | | |
| 7,900.0 | 7,621.1 | 7,750.0 | 7,399.1 | 14.2 | 17.5 | 84.33 | 133.9 | 1,951.5 | 2,136.0 | 2,108.3 | 27.67 | 77.202 | | |
| 7,950.0 | 7,632.2 | 7,788.9 | 7,405.1 | 14.5 | 17.6 | 84.23 | 172.3 | 1,951.5 | 2,136.3 | 2,108.2 | 28.13 | 75.955 | | |
| 8,000.0 | 7,639.9 | 7,827.2 | 7,409.0 | 14.8 | 17.8 | 84.16 | 210.4 | 1,951.5 | 2,136.5 | 2,107.9 | 28.66 | 74.540 | | |
| 8,050.0 | 7,644.1 | 7,865.5 | 7,410.8 | 15.1 | 18.0 | 84.11 | 248.7 | 1,951.5 | 2,136.7 | 2,107.4 | 29.27 | 72.989 | | |
| 8,085.4 | 7,645.0 | 7,896.1 | 7,411.0 | 15.4 | 18.2 | 84.09 | 279.3 | 1,951.5 | 2,136.8 | 2,107.0 | 29.78 | 71.748 | | |
| 8,100.0 | 7,645.0 | 7,910.7 | 7,411.0 | 15.5 | 18.3 | 84.09 | 293.9 | 1,951.5 | 2,136.8 | 2,106.8 | 30.02 | 71.178 | | |
| 8,200.0 | 7,645.0 | 8,010.7 | 7,411.0 | 16.3 | 19.1 | 84.09 | 393.9 | 1,951.5 | 2,136.7 | 2,105.0 | 31.78 | 67.238 | | |
| 8,300.0 | 7,645.0 | 8,110.7 | 7,411.0 | 17.3 | 19.9 | 84.09 | 493.9 | 1,951.5 | 2,136.7 | 2,102.9 | 33.81 | 63.202 | | |
| 8,400.0 | 7,645.0 | 8,210.7 | 7,411.0 | 18.4 | 20.9 | 84.09 | 593.9 | 1,951.5 | 2,136.7 | 2,100.6 | 36.06 | 59.253 | | |
| 8,500.0 | 7,645.0 | 8,310.7 | 7,411.0 | 19.6 | 22.0 | 84.09 | 693.9 | 1,951.5 | 2,136.7 | 2,098.2 | 38.50 | 55.500 | | |
| 8,600.0 | 7,645.0 | 8,410.7 | 7,411.0 | 20.9 | 23.1 | 84.09 | 793.9 | 1,951.5 | 2,136.7 | 2,095.6 | 41.09 | 52.001 | | |
| 8,700.0 | 7,645.0 | 8,510.7 | 7,411.0 | 22.3 | 24.3 | 84.09 | 893.9 | 1,951.4 | 2,136.6 | 2,092.8 | 43.80 | 48.777 | | |

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 Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3 | | 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 | | |
| 8,800.0 | 7,645.0 | 8,610.7 | 7,411.0 | 23.7 | 25.6 | 84.09 | 993.9 | 1,951.4 | 2,136.6 | 2,090.0 | 46.62 | 45.828 | | | |
| 8,900.0 | 7,645.0 | 8,710.7 | 7,411.0 | 25.1 | 27.0 | 84.09 | 1,093.9 | 1,951.4 | 2,136.6 | 2,087.1 | 49.53 | 43.141 | | | |
| 9,000.0 | 7,645.0 | 8,810.7 | 7,411.0 | 26.6 | 28.4 | 84.09 | 1,193.9 | 1,951.4 | 2,136.6 | 2,084.1 | 52.50 | 40.695 | | | |
| 9,100.0 | 7,645.0 | 8,910.7 | 7,411.0 | 28.1 | 29.8 | 84.09 | 1,293.9 | 1,951.4 | 2,136.6 | 2,081.0 | 55.54 | 38.471 | | | |
| 9,200.0 | 7,645.0 | 9,010.7 | 7,411.0 | 29.6 | 31.2 | 84.09 | 1,393.9 | 1,951.4 | 2,136.5 | 2,077.9 | 58.62 | 36.445 | | | |
| 9,300.0 | 7,645.0 | 9,110.7 | 7,411.0 | 31.2 | 32.7 | 84.09 | 1,493.9 | 1,951.4 | 2,136.5 | 2,074.8 | 61.75 | 34.599 | | | |
| 9,400.0 | 7,645.0 | 9,210.7 | 7,411.0 | 32.8 | 34.2 | 84.09 | 1,593.9 | 1,951.4 | 2,136.5 | 2,071.6 | 64.92 | 32.911 | | | |
| 9,500.0 | 7,645.0 | 9,310.7 | 7,411.0 | 34.4 | 35.8 | 84.09 | 1,693.9 | 1,951.3 | 2,136.5 | 2,068.4 | 68.12 | 31.366 | | | |
| 9,600.0 | 7,645.0 | 9,410.7 | 7,411.0 | 36.0 | 37.3 | 84.09 | 1,793.9 | 1,951.3 | 2,136.5 | 2,065.1 | 71.34 | 29.948 | | | |
| 9,700.0 | 7,645.0 | 9,510.7 | 7,411.0 | 37.6 | 38.9 | 84.09 | 1,893.9 | 1,951.3 | 2,136.4 | 2,061.9 | 74.59 | 28.643 | | | |
| 9,800.0 | 7,645.0 | 9,610.7 | 7,411.0 | 39.3 | 40.5 | 84.09 | 1,993.9 | 1,951.3 | 2,136.4 | 2,058.6 | 77.86 | 27.440 | | | |
| 9,900.0 | 7,645.0 | 9,710.7 | 7,411.0 | 40.9 | 42.1 | 84.09 | 2,093.9 | 1,951.3 | 2,136.4 | 2,055.3 | 81.15 | 26.328 | | | |
| 10,000.0 | 7,645.0 | 9,810.7 | 7,411.0 | 42.6 | 43.7 | 84.09 | 2,193.9 | 1,951.3 | 2,136.4 | 2,051.9 | 84.45 | 25.298 | | | |
| 10,100.0 | 7,645.0 | 9,910.7 | 7,411.0 | 44.2 | 45.3 | 84.09 | 2,293.9 | 1,951.3 | 2,136.4 | 2,048.6 | 87.77 | 24.341 | | | |
| 10,200.0 | 7,645.0 | 10,010.7 | 7,411.0 | 45.9 | 47.0 | 84.09 | 2,393.9 | 1,951.3 | 2,136.3 | 2,045.2 | 91.10 | 23.451 | | | |
| 10,300.0 | 7,645.0 | 10,110.7 | 7,411.0 | 47.6 | 48.6 | 84.09 | 2,493.9 | 1,951.3 | 2,136.3 | 2,041.9 | 94.44 | 22.620 | | | |
| 10,400.0 | 7,645.0 | 10,210.7 | 7,411.0 | 49.2 | 50.2 | 84.09 | 2,593.9 | 1,951.2 | 2,136.3 | 2,038.5 | 97.80 | 21.845 | | | |
| 10,500.0 | 7,645.0 | 10,310.7 | 7,411.0 | 50.9 | 51.9 | 84.09 | 2,693.9 | 1,951.2 | 2,136.3 | 2,035.1 | 101.16 | 21.118 | | | |
| 10,600.0 | 7,645.0 | 10,410.7 | 7,411.0 | 52.6 | 53.6 | 84.09 | 2,793.9 | 1,951.2 | 2,136.3 | 2,031.7 | 104.53 | 20.437 | | | |
| 10,700.0 | 7,645.0 | 10,510.7 | 7,411.0 | 54.3 | 55.2 | 84.09 | 2,893.9 | 1,951.2 | 2,136.2 | 2,028.3 | 107.91 | 19.797 | | | |
| 10,800.0 | 7,645.0 | 10,610.7 | 7,411.0 | 56.0 | 56.9 | 84.09 | 2,993.9 | 1,951.2 | 2,136.2 | 2,024.9 | 111.29 | 19.195 | | | |
| 10,900.0 | 7,645.0 | 10,710.7 | 7,411.0 | 57.7 | 58.6 | 84.09 | 3,093.9 | 1,951.2 | 2,136.2 | 2,021.5 | 114.68 | 18.627 | | | |
| 11,000.0 | 7,645.0 | 10,810.7 | 7,411.0 | 59.4 | 60.3 | 84.09 | 3,193.9 | 1,951.2 | 2,136.2 | 2,018.1 | 118.08 | 18.091 | | | |
| 11,100.0 | 7,645.0 | 10,910.7 | 7,411.0 | 61.1 | 61.9 | 84.09 | 3,293.9 | 1,951.2 | 2,136.2 | 2,014.7 | 121.48 | 17.584 | | | |
| 11,200.0 | 7,645.0 | 11,010.7 | 7,411.0 | 62.8 | 63.6 | 84.09 | 3,393.9 | 1,951.1 | 2,136.1 | 2,011.3 | 124.89 | 17.104 | | | |
| 11,300.0 | 7,645.0 | 11,110.7 | 7,411.0 | 64.5 | 65.3 | 84.09 | 3,493.9 | 1,951.1 | 2,136.1 | 2,007.8 | 128.30 | 16.649 | | | |
| 11,400.0 | 7,645.0 | 11,210.7 | 7,411.0 | 66.3 | 67.0 | 84.09 | 3,593.9 | 1,951.1 | 2,136.1 | 2,004.4 | 131.72 | 16.218 | | | |
| 11,500.0 | 7,645.0 | 11,310.7 | 7,411.0 | 68.0 | 68.7 | 84.09 | 3,693.9 | 1,951.1 | 2,136.1 | 2,000.9 | 135.14 | 15.807 | | | |
| 11,600.0 | 7,645.0 | 11,410.7 | 7,411.0 | 69.7 | 70.4 | 84.09 | 3,793.9 | 1,951.1 | 2,136.1 | 1,997.5 | 138.56 | 15.416 | | | |
| 11,700.0 | 7,645.0 | 11,510.7 | 7,411.0 | 71.4 | 72.1 | 84.09 | 3,893.9 | 1,951.1 | 2,136.0 | 1,994.1 | 141.98 | 15.044 | | | |
| 11,800.0 | 7,645.0 | 11,610.7 | 7,411.0 | 73.1 | 73.8 | 84.09 | 3,993.9 | 1,951.1 | 2,136.0 | 1,990.6 | 145.41 | 14.689 | | | |
| 11,900.0 | 7,645.0 | 11,710.7 | 7,411.0 | 74.9 | 75.5 | 84.09 | 4,093.9 | 1,951.1 | 2,136.0 | 1,987.2 | 148.85 | 14.350 | | | |
| 12,000.0 | 7,645.0 | 11,810.7 | 7,411.0 | 76.6 | 77.3 | 84.09 | 4,193.9 | 1,951.1 | 2,136.0 | 1,983.7 | 152.28 | 14.027 | | | |
| 12,100.0 | 7,645.0 | 11,910.7 | 7,411.0 | 78.3 | 79.0 | 84.09 | 4,293.9 | 1,951.0 | 2,136.0 | 1,980.2 | 155.72 | 13.717 | | | |
| 12,149.3 | 7,645.0 | 11,960.0 | 7,411.0 | 79.2 | 79.8 | 84.09 | 4,343.2 | 1,951.0 | 2,135.9 | 1,978.5 | 157.41 | 13.569 | | | |
| 12,170.4 | 7,645.0 | 11,970.0 | 7,411.0 | 79.5 | 80.0 | 84.09 | 4,353.2 | 1,951.0 | 2,136.0 | 1,978.0 | 157.95 | 13.523 SF | | | |

Cathedral Energy Services

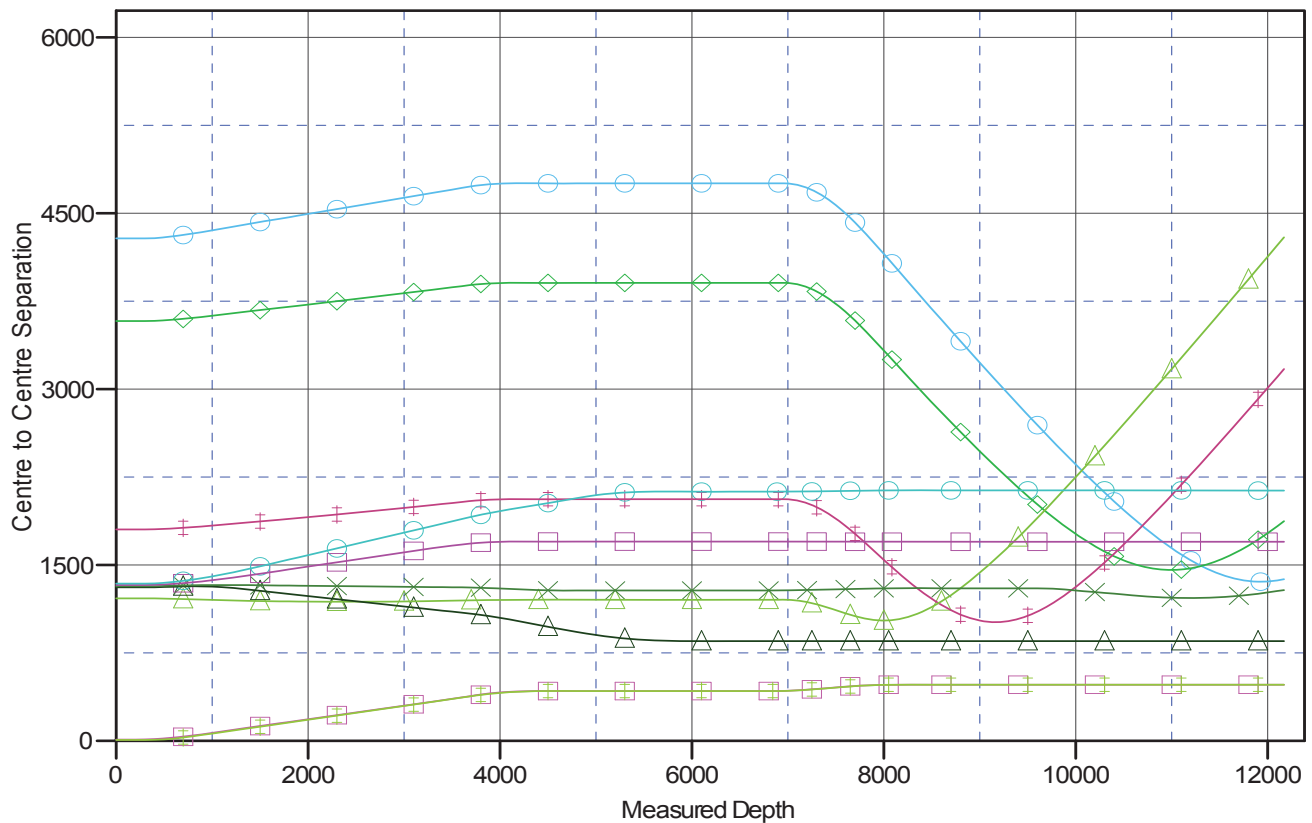
Anticollision Report

| | | | |
|---------------------------|-----------------------------|-------------------------------------|-----------------------------|
| Company: | EnCana Oil & Gas (USA) Inc | Local Co-ordinate Reference: | Well Mathews 4B-14H |
| Project: | DJ Wattenberg | TVD Reference: | Well @ 5131.0ft (Ensign) |
| Reference Site: | SWSE S14 T1N-R66W (Mathews) | MD Reference: | Well @ 5131.0ft (Ensign) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Mathews 4B-14H | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | HZ | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #3 | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to Well @ 5131.0ft (Ensign)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Mathews 4B-14H
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.49°

Ladder Plot



LEGEND

| | | |
|--|-------------------------------|-------------------------------|
| Existing), VT (Existing), Existing V0 | Mathews4A-14H, HZ, Plan #3 V0 | Mathews4F-14H, HZ, Plan #3 V0 |
| V 14-2J (Existing), VT (Existing), Existing V0 | Mathews4C-14H, HZ, Plan #3 V0 | Mathews4G-14H, HZ, Plan #3 V0 |
| V 14-11 (Existing), Existing, Existing V0 | Mathews4D-14H, HZ, Plan #3 V0 | |
| V 14-14 (Existing), VT (Existing), Existing V0 | Mathews4E-14H, HZ, Plan #3 V0 | |