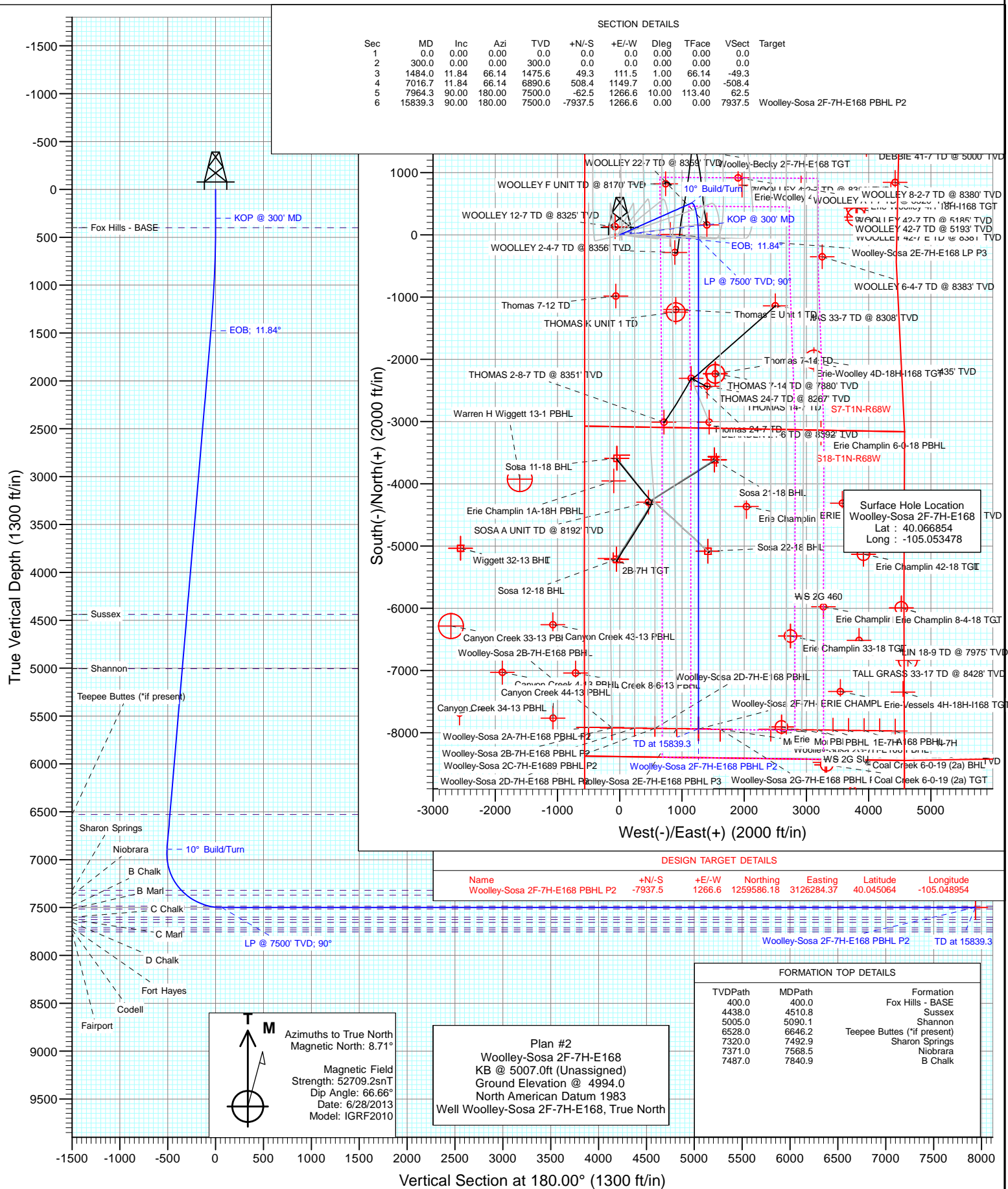




Project: DJ Wattenberg  
Site: S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)  
Well: Woolley-Sosa 2F-7H-E168  
Wellbore: HZ  
Design: Plan #2



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>North Reference:</b>	True
<b>Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

<b>Project</b>	DJ Wattenberg		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)			
Site Position:		Northing:	1,265,219.42 ft	Latitude:	40.060530
From:	Lat/Long	Easting:	3,126,139.27 ft	Longitude:	-105.049370
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Woolley-Sosa 2F-7H-E168					
Well Position	+N/-S	0.0 ft	Northing:	1,267,517.26 ft	Latitude:	40.066854
	+E/-W	0.0 ft	Easting:	3,124,977.83 ft	Longitude:	-105.053478
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,994.0 ft

<b>Wellbore</b>	HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
			(°)	(°)	(nT)
	IGRF2010	6/28/2013	8.71	66.66	52,709

<b>Design</b>	Plan #2				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	180.00	

<b>Plan Sections</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	<b>TFO</b>	<b>Target</b>
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
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	
1,484.0	11.84	66.14	1,475.6	49.3	111.5	1.00	1.00	0.00	66.14	
7,016.7	11.84	66.14	6,890.6	508.4	1,149.7	0.00	0.00	0.00	0.00	
7,964.3	90.00	180.00	7,500.0	-62.5	1,266.6	10.00	8.25	12.02	113.40	
15,839.3	90.00	180.00	7,500.0	-7,937.5	1,266.6	0.00	0.00	0.00	0.00	Woolley-Sosa 2F-7H-

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>North Reference:</b>	True
<b>Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	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' MD
400.0	1.00	66.14	400.0	0.4	0.8	-0.4	1.00	1.00	Fox Hills - BASE
500.0	2.00	66.14	500.0	1.4	3.2	-1.4	1.00	1.00	
600.0	3.00	66.14	599.9	3.2	7.2	-3.2	1.00	1.00	
700.0	4.00	66.14	699.7	5.6	12.8	-5.6	1.00	1.00	
800.0	5.00	66.14	799.4	8.8	19.9	-8.8	1.00	1.00	
900.0	6.00	66.14	898.9	12.7	28.7	-12.7	1.00	1.00	
1,000.0	7.00	66.14	998.3	17.3	39.1	-17.3	1.00	1.00	
1,100.0	8.00	66.14	1,097.4	22.6	51.0	-22.6	1.00	1.00	
1,200.0	9.00	66.14	1,196.3	28.5	64.5	-28.5	1.00	1.00	
1,300.0	10.00	66.14	1,294.9	35.2	79.6	-35.2	1.00	1.00	
1,400.0	11.00	66.14	1,393.3	42.6	96.3	-42.6	1.00	1.00	
1,484.0	11.84	66.14	1,475.6	49.3	111.5	-49.3	1.00	1.00	EOB; 11.84°
1,500.0	11.84	66.14	1,491.3	50.6	114.5	-50.6	0.00	0.00	
1,600.0	11.84	66.14	1,589.1	58.9	133.3	-58.9	0.00	0.00	
1,700.0	11.84	66.14	1,687.0	67.2	152.0	-67.2	0.00	0.00	
1,800.0	11.84	66.14	1,784.9	75.5	170.8	-75.5	0.00	0.00	
1,900.0	11.84	66.14	1,882.7	83.8	189.6	-83.8	0.00	0.00	
2,000.0	11.84	66.14	1,980.6	92.1	208.3	-92.1	0.00	0.00	
2,100.0	11.84	66.14	2,078.5	100.4	227.1	-100.4	0.00	0.00	
2,200.0	11.84	66.14	2,176.4	108.7	245.8	-108.7	0.00	0.00	
2,300.0	11.84	66.14	2,274.2	117.0	264.6	-117.0	0.00	0.00	
2,400.0	11.84	66.14	2,372.1	125.3	283.4	-125.3	0.00	0.00	
2,500.0	11.84	66.14	2,470.0	133.6	302.1	-133.6	0.00	0.00	
2,600.0	11.84	66.14	2,567.8	141.9	320.9	-141.9	0.00	0.00	
2,700.0	11.84	66.14	2,665.7	150.2	339.7	-150.2	0.00	0.00	
2,800.0	11.84	66.14	2,763.6	158.5	358.4	-158.5	0.00	0.00	
2,900.0	11.84	66.14	2,861.5	166.8	377.2	-166.8	0.00	0.00	
3,000.0	11.84	66.14	2,959.3	175.1	396.0	-175.1	0.00	0.00	
3,100.0	11.84	66.14	3,057.2	183.4	414.7	-183.4	0.00	0.00	
3,200.0	11.84	66.14	3,155.1	191.7	433.5	-191.7	0.00	0.00	
3,300.0	11.84	66.14	3,253.0	200.0	452.3	-200.0	0.00	0.00	
3,400.0	11.84	66.14	3,350.8	208.3	471.0	-208.3	0.00	0.00	
3,500.0	11.84	66.14	3,448.7	216.6	489.8	-216.6	0.00	0.00	
3,600.0	11.84	66.14	3,546.6	224.9	508.6	-224.9	0.00	0.00	
3,700.0	11.84	66.14	3,644.4	233.2	527.3	-233.2	0.00	0.00	
3,800.0	11.84	66.14	3,742.3	241.5	546.1	-241.5	0.00	0.00	
3,900.0	11.84	66.14	3,840.2	249.8	564.9	-249.8	0.00	0.00	
4,000.0	11.84	66.14	3,938.1	258.1	583.6	-258.1	0.00	0.00	
4,100.0	11.84	66.14	4,035.9	266.4	602.4	-266.4	0.00	0.00	
4,200.0	11.84	66.14	4,133.8	274.7	621.2	-274.7	0.00	0.00	
4,300.0	11.84	66.14	4,231.7	283.0	639.9	-283.0	0.00	0.00	
4,400.0	11.84	66.14	4,329.5	291.3	658.7	-291.3	0.00	0.00	
4,500.0	11.84	66.14	4,427.4	299.6	677.5	-299.6	0.00	0.00	
4,510.8	11.84	66.14	4,438.0	300.5	679.5	-300.5	0.00	0.00	Sussex
4,600.0	11.84	66.14	4,525.3	307.9	696.2	-307.9	0.00	0.00	
4,700.0	11.84	66.14	4,623.2	316.2	715.0	-316.2	0.00	0.00	
4,800.0	11.84	66.14	4,721.0	324.5	733.8	-324.5	0.00	0.00	
4,900.0	11.84	66.14	4,818.9	332.8	752.5	-332.8	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>North Reference:</b>	True
<b>Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	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
5,000.0	11.84	66.14	4,916.8	341.1	771.3	-341.1	0.00	0.00	
5,090.1	11.84	66.14	5,005.0	348.6	788.2	-348.6	0.00	0.00	Shannon
5,100.0	11.84	66.14	5,014.7	349.4	790.1	-349.4	0.00	0.00	
5,200.0	11.84	66.14	5,112.5	357.7	808.8	-357.7	0.00	0.00	
5,300.0	11.84	66.14	5,210.4	366.0	827.6	-366.0	0.00	0.00	
5,400.0	11.84	66.14	5,308.3	374.3	846.3	-374.3	0.00	0.00	
5,500.0	11.84	66.14	5,406.1	382.6	865.1	-382.6	0.00	0.00	
5,600.0	11.84	66.14	5,504.0	390.9	883.9	-390.9	0.00	0.00	
5,700.0	11.84	66.14	5,601.9	399.2	902.6	-399.2	0.00	0.00	
5,800.0	11.84	66.14	5,699.8	407.5	921.4	-407.5	0.00	0.00	
5,900.0	11.84	66.14	5,797.6	415.8	940.2	-415.8	0.00	0.00	
6,000.0	11.84	66.14	5,895.5	424.1	958.9	-424.1	0.00	0.00	
6,100.0	11.84	66.14	5,993.4	432.4	977.7	-432.4	0.00	0.00	
6,200.0	11.84	66.14	6,091.2	440.7	996.5	-440.7	0.00	0.00	
6,300.0	11.84	66.14	6,189.1	449.0	1,015.2	-449.0	0.00	0.00	
6,400.0	11.84	66.14	6,287.0	457.3	1,034.0	-457.3	0.00	0.00	
6,500.0	11.84	66.14	6,384.9	465.6	1,052.8	-465.6	0.00	0.00	
6,600.0	11.84	66.14	6,482.7	473.9	1,071.5	-473.9	0.00	0.00	
6,646.2	11.84	66.14	6,528.0	477.7	1,080.2	-477.7	0.00	0.00	Teepee Buttes (*if present)
6,700.0	11.84	66.14	6,580.6	482.1	1,090.3	-482.1	0.00	0.00	
6,800.0	11.84	66.14	6,678.5	490.4	1,109.1	-490.4	0.00	0.00	
6,900.0	11.84	66.14	6,776.4	498.7	1,127.8	-498.7	0.00	0.00	
7,000.0	11.84	66.14	6,874.2	507.0	1,146.6	-507.0	0.00	0.00	
7,016.7	11.84	66.14	6,890.6	508.4	1,149.7	-508.4	0.00	0.00	10° Build/Turn
7,050.0	10.95	82.43	6,923.2	510.2	1,156.0	-510.2	10.00	-2.69	
7,100.0	11.42	108.32	6,972.3	509.3	1,165.4	-509.3	10.00	0.94	
7,150.0	13.80	128.66	7,021.1	504.0	1,174.8	-504.0	10.00	4.75	
7,200.0	17.31	142.03	7,069.3	494.4	1,184.0	-494.4	10.00	7.03	
7,250.0	21.41	150.73	7,116.5	480.6	1,193.0	-480.6	10.00	8.20	
7,300.0	25.82	156.65	7,162.3	462.6	1,201.8	-462.6	10.00	8.81	
7,350.0	30.40	160.92	7,206.4	440.7	1,210.3	-440.7	10.00	9.16	
7,400.0	35.08	164.16	7,248.4	414.9	1,218.3	-414.9	10.00	9.37	
7,450.0	39.84	166.71	7,288.1	385.4	1,226.0	-385.4	10.00	9.51	
7,492.9	43.95	168.53	7,320.0	357.5	1,232.1	-357.5	10.00	9.59	Sharon Springs
7,500.0	44.63	168.80	7,325.1	352.6	1,233.0	-352.6	10.00	9.63	
7,550.0	49.47	170.56	7,359.2	316.6	1,239.6	-316.6	10.00	9.66	
7,568.5	51.26	171.15	7,371.0	302.5	1,241.8	-302.5	10.00	9.70	Niobrara
7,600.0	54.32	172.09	7,390.0	277.7	1,245.5	-277.7	10.00	9.72	
7,650.0	59.19	173.43	7,417.4	236.2	1,250.7	-236.2	10.00	9.74	
7,700.0	64.08	174.65	7,441.2	192.5	1,255.3	-192.5	10.00	9.77	
7,750.0	68.97	175.77	7,461.1	146.8	1,259.1	-146.8	10.00	9.79	
7,800.0	73.87	176.82	7,477.0	99.5	1,262.2	-99.5	10.00	9.80	
7,840.9	77.88	177.64	7,487.0	59.9	1,264.1	-59.9	10.00	9.81	B Chalk
7,850.0	78.77	177.82	7,488.8	51.0	1,264.4	-51.0	10.00	9.81	
7,900.0	83.68	178.78	7,496.5	1.6	1,265.9	-1.6	10.00	9.82	
7,950.0	88.59	179.73	7,499.8	-48.2	1,266.5	48.2	10.00	9.82	
7,964.3	90.00	180.00	7,500.0	-62.5	1,266.6	62.5	10.00	9.82	LP @ 7500' TVD; 90°
8,000.0	90.00	180.00	7,500.0	-98.2	1,266.6	98.2	0.00	0.00	
8,100.0	90.00	180.00	7,500.0	-198.2	1,266.6	198.2	0.00	0.00	
8,200.0	90.00	180.00	7,500.0	-298.2	1,266.6	298.2	0.00	0.00	
8,300.0	90.00	180.00	7,500.0	-398.2	1,266.6	398.2	0.00	0.00	
8,400.0	90.00	180.00	7,500.0	-498.2	1,266.6	498.2	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>North Reference:</b>	True
<b>Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	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
8,500.0	90.00	180.00	7,500.0	-598.2	1,266.6	598.2	0.00	0.00	
8,600.0	90.00	180.00	7,500.0	-698.2	1,266.6	698.2	0.00	0.00	
8,700.0	90.00	180.00	7,500.0	-798.2	1,266.6	798.2	0.00	0.00	
8,800.0	90.00	180.00	7,500.0	-898.2	1,266.6	898.2	0.00	0.00	
8,900.0	90.00	180.00	7,500.0	-998.2	1,266.6	998.2	0.00	0.00	
9,000.0	90.00	180.00	7,500.0	-1,098.2	1,266.6	1,098.2	0.00	0.00	
9,100.0	90.00	180.00	7,500.0	-1,198.2	1,266.6	1,198.2	0.00	0.00	
9,200.0	90.00	180.00	7,500.0	-1,298.2	1,266.6	1,298.2	0.00	0.00	
9,300.0	90.00	180.00	7,500.0	-1,398.2	1,266.6	1,398.2	0.00	0.00	
9,400.0	90.00	180.00	7,500.0	-1,498.2	1,266.6	1,498.2	0.00	0.00	
9,500.0	90.00	180.00	7,500.0	-1,598.2	1,266.6	1,598.2	0.00	0.00	
9,600.0	90.00	180.00	7,500.0	-1,698.2	1,266.6	1,698.2	0.00	0.00	
9,700.0	90.00	180.00	7,500.0	-1,798.2	1,266.6	1,798.2	0.00	0.00	
9,800.0	90.00	180.00	7,500.0	-1,898.2	1,266.6	1,898.2	0.00	0.00	
9,900.0	90.00	180.00	7,500.0	-1,998.2	1,266.6	1,998.2	0.00	0.00	
10,000.0	90.00	180.00	7,500.0	-2,098.2	1,266.6	2,098.2	0.00	0.00	
10,100.0	90.00	180.00	7,500.0	-2,198.2	1,266.6	2,198.2	0.00	0.00	
10,200.0	90.00	180.00	7,500.0	-2,298.2	1,266.6	2,298.2	0.00	0.00	
10,300.0	90.00	180.00	7,500.0	-2,398.2	1,266.6	2,398.2	0.00	0.00	
10,400.0	90.00	180.00	7,500.0	-2,498.2	1,266.6	2,498.2	0.00	0.00	
10,500.0	90.00	180.00	7,500.0	-2,598.2	1,266.6	2,598.2	0.00	0.00	
10,600.0	90.00	180.00	7,500.0	-2,698.2	1,266.6	2,698.2	0.00	0.00	
10,700.0	90.00	180.00	7,500.0	-2,798.2	1,266.6	2,798.2	0.00	0.00	
10,800.0	90.00	180.00	7,500.0	-2,898.2	1,266.6	2,898.2	0.00	0.00	
10,900.0	90.00	180.00	7,500.0	-2,998.2	1,266.6	2,998.2	0.00	0.00	
11,000.0	90.00	180.00	7,500.0	-3,098.2	1,266.6	3,098.2	0.00	0.00	
11,100.0	90.00	180.00	7,500.0	-3,198.2	1,266.6	3,198.2	0.00	0.00	
11,200.0	90.00	180.00	7,500.0	-3,298.2	1,266.6	3,298.2	0.00	0.00	
11,300.0	90.00	180.00	7,500.0	-3,398.2	1,266.6	3,398.2	0.00	0.00	
11,400.0	90.00	180.00	7,500.0	-3,498.2	1,266.6	3,498.2	0.00	0.00	
11,500.0	90.00	180.00	7,500.0	-3,598.2	1,266.6	3,598.2	0.00	0.00	
11,600.0	90.00	180.00	7,500.0	-3,698.2	1,266.6	3,698.2	0.00	0.00	
11,700.0	90.00	180.00	7,500.0	-3,798.2	1,266.6	3,798.2	0.00	0.00	
11,800.0	90.00	180.00	7,500.0	-3,898.2	1,266.6	3,898.2	0.00	0.00	
11,900.0	90.00	180.00	7,500.0	-3,998.2	1,266.6	3,998.2	0.00	0.00	
12,000.0	90.00	180.00	7,500.0	-4,098.2	1,266.6	4,098.2	0.00	0.00	
12,100.0	90.00	180.00	7,500.0	-4,198.2	1,266.6	4,198.2	0.00	0.00	
12,200.0	90.00	180.00	7,500.0	-4,298.2	1,266.6	4,298.2	0.00	0.00	
12,300.0	90.00	180.00	7,500.0	-4,398.2	1,266.6	4,398.2	0.00	0.00	
12,400.0	90.00	180.00	7,500.0	-4,498.2	1,266.6	4,498.2	0.00	0.00	
12,500.0	90.00	180.00	7,500.0	-4,598.2	1,266.6	4,598.2	0.00	0.00	
12,600.0	90.00	180.00	7,500.0	-4,698.2	1,266.6	4,698.2	0.00	0.00	
12,700.0	90.00	180.00	7,500.0	-4,798.2	1,266.6	4,798.2	0.00	0.00	
12,800.0	90.00	180.00	7,500.0	-4,898.2	1,266.6	4,898.2	0.00	0.00	
12,900.0	90.00	180.00	7,500.0	-4,998.2	1,266.6	4,998.2	0.00	0.00	
13,000.0	90.00	180.00	7,500.0	-5,098.2	1,266.6	5,098.2	0.00	0.00	
13,100.0	90.00	180.00	7,500.0	-5,198.2	1,266.6	5,198.2	0.00	0.00	
13,200.0	90.00	180.00	7,500.0	-5,298.2	1,266.6	5,298.2	0.00	0.00	
13,300.0	90.00	180.00	7,500.0	-5,398.2	1,266.6	5,398.2	0.00	0.00	
13,400.0	90.00	180.00	7,500.0	-5,498.2	1,266.6	5,498.2	0.00	0.00	
13,500.0	90.00	180.00	7,500.0	-5,598.2	1,266.6	5,598.2	0.00	0.00	
13,600.0	90.00	180.00	7,500.0	-5,698.2	1,266.6	5,698.2	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>North Reference:</b>	True
<b>Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	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
13,700.0	90.00	180.00	7,500.0	-5,798.2	1,266.6	5,798.2	0.00	0.00	
13,800.0	90.00	180.00	7,500.0	-5,898.2	1,266.6	5,898.2	0.00	0.00	
13,900.0	90.00	180.00	7,500.0	-5,998.2	1,266.6	5,998.2	0.00	0.00	
14,000.0	90.00	180.00	7,500.0	-6,098.2	1,266.6	6,098.2	0.00	0.00	
14,100.0	90.00	180.00	7,500.0	-6,198.2	1,266.6	6,198.2	0.00	0.00	
14,200.0	90.00	180.00	7,500.0	-6,298.2	1,266.6	6,298.2	0.00	0.00	
14,300.0	90.00	180.00	7,500.0	-6,398.2	1,266.6	6,398.2	0.00	0.00	
14,400.0	90.00	180.00	7,500.0	-6,498.2	1,266.6	6,498.2	0.00	0.00	
14,500.0	90.00	180.00	7,500.0	-6,598.2	1,266.6	6,598.2	0.00	0.00	
14,600.0	90.00	180.00	7,500.0	-6,698.2	1,266.6	6,698.2	0.00	0.00	
14,700.0	90.00	180.00	7,500.0	-6,798.2	1,266.6	6,798.2	0.00	0.00	
14,800.0	90.00	180.00	7,500.0	-6,898.2	1,266.6	6,898.2	0.00	0.00	
14,900.0	90.00	180.00	7,500.0	-6,998.2	1,266.6	6,998.2	0.00	0.00	
15,000.0	90.00	180.00	7,500.0	-7,098.2	1,266.6	7,098.2	0.00	0.00	
15,100.0	90.00	180.00	7,500.0	-7,198.2	1,266.6	7,198.2	0.00	0.00	
15,200.0	90.00	180.00	7,500.0	-7,298.2	1,266.6	7,298.2	0.00	0.00	
15,300.0	90.00	180.00	7,500.0	-7,398.2	1,266.6	7,398.2	0.00	0.00	
15,400.0	90.00	180.00	7,500.0	-7,498.2	1,266.6	7,498.2	0.00	0.00	
15,500.0	90.00	180.00	7,500.0	-7,598.2	1,266.6	7,598.2	0.00	0.00	
15,600.0	90.00	180.00	7,500.0	-7,698.2	1,266.6	7,698.2	0.00	0.00	
15,700.0	90.00	180.00	7,500.0	-7,798.2	1,266.6	7,798.2	0.00	0.00	
15,800.0	90.00	180.00	7,500.0	-7,898.2	1,266.6	7,898.2	0.00	0.00	
15,839.3	90.00	180.00	7,500.0	-7,937.5	1,266.6	7,937.5	0.00	0.00	TD at 15839.3

### Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Woolley-Sosa 2F-7H-E1 - plan misses target center by 247.0ft at 15839.3ft MD (7500.0 TVD, -7937.5 N, 1266.6 E) - Point	0.00	0.00	7,747.0	-7,939.0	1,267.7	1,259,584.73	3,126,285.49	40.045060	-105.048950
Woolley-Sosa 2F-7H-E1 - plan hits target center - Point	0.00	0.00	7,500.0	-7,937.5	1,266.6	1,259,586.18	3,126,284.37	40.045064	-105.048954

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
400.0	400.0	Fox Hills - BASE			
4,510.8	4,438.0	Sussex			
5,090.1	5,005.0	Shannon			
6,646.2	6,528.0	Teepee Buttes (*if present)			
7,492.9	7,320.0	Sharon Springs			
7,568.5	7,371.0	Niobrara			
7,840.9	7,487.0	B Chalk			

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>North Reference:</b>	True
<b>Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #2		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300' MD
1,484.0	1,475.6	49.3	111.5	EOB; 11.84°
7,016.7	6,890.6	508.4	1,149.7	10° Build/Turn
7,964.3	7,500.0	-62.5	1,266.6	LP @ 7500' TVD; 90°
15,839.3	7,500.0	-7,937.5	1,266.6	TD at 15839.3

# **EnCana Oil & Gas (USA) Inc**

**DJ Wattenberg**

**S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)**

**Woolley-Sosa 2F-7H-E168**

**HZ**

**Plan #2**

## **Anticollision Report**

**10 December, 2014**



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Plan #2		
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 5,280.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	12/9/2014		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	15,839.3	Plan #2 (HZ)	Geolink MWD	Geolink MWD

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)						
BEARDEN 24-6 (EXISTING) - ENCANA WELL - PLAN O	10,911.4	7,558.0	172.3	98.0	2.320	CC, ES, SF
Morgan Hills 1A-7H-A168 - HZ - Plan #2	7,963.8	9,708.3	1,161.4	1,109.5	22.365	CC
Morgan Hills 1A-7H-A168 - HZ - Plan #2	15,839.3	17,583.8	1,162.7	846.8	3.680	ES, SF
Morgan Hills 1B-7H-A168 - HZ - Plan #2	7,964.1	9,891.0	1,431.8	1,380.5	27.876	CC
Morgan Hills 1B-7H-A168 - HZ - Plan #2	15,839.3	17,766.3	1,433.1	1,121.5	4.599	ES, SF
Morgan Hills 1C-7H-A168 - HZ - Plan #2	15,839.3	17,485.9	1,662.8	1,346.7	5.261	CC, ES, SF
Morgan Hills 1D-7H-A168 - HZ - Plan #2	7,964.0	9,809.9	1,926.7	1,875.1	37.349	CC
Morgan Hills 1D-7H-A168 - HZ - Plan #2	15,839.3	17,685.2	1,928.0	1,614.5	6.149	ES, SF
Sosa 11-18 - DD - DD	11,504.2	7,598.2	1,308.4	1,224.4	15.565	CC, ES
Sosa 11-18 - DD - DD	11,900.0	7,599.6	1,367.0	1,276.1	15.043	SF
Sosa 11-18 - DD - Plan #1	11,491.4	7,589.3	1,311.9	1,228.0	15.638	CC
Sosa 11-18 - DD - Plan #1	11,500.0	7,589.3	1,312.0	1,227.9	15.611	ES
Sosa 11-18 - DD - Plan #1	11,800.0	7,589.3	1,347.7	1,258.5	15.109	SF
Sosa 12-18 - DD - DD	13,139.9	7,648.9	1,306.9	1,190.7	11.244	CC, ES
Sosa 12-18 - DD - DD	13,400.0	7,648.0	1,332.5	1,211.8	11.036	SF
Sosa 12-18 - DD - Plan #3	13,112.4	7,633.1	1,317.5	1,202.2	11.422	CC, ES
Sosa 12-18 - DD - Plan #3	13,400.0	7,633.1	1,348.6	1,228.2	11.206	SF
Sosa 21-18 - DD (MWD) - DD	11,512.8	7,670.9	249.4	165.3	2.963	CC, ES, SF
Sosa 21-18 - DD (MWD) - Plan #2	11,516.8	7,652.2	256.0	171.8	3.042	CC, ES, SF
Sosa 22-18 - DD - DD	13,001.4	7,657.3	167.0	55.0	1.491	Level 3, CC, ES, SF
Sosa 22-18 - DD - Plan #2	12,984.9	7,646.1	152.1	40.6	1.364	Level 3, CC, ES, SF
SOSA A UNIT 1 (EXISTING) - EXISTING - EXISTING	12,198.6	7,545.2	816.8	725.4	8.936	CC
SOSA A UNIT 1 (EXISTING) - EXISTING - EXISTING	12,200.0	7,545.2	816.8	725.4	8.934	ES
SOSA A UNIT 1 (EXISTING) - EXISTING - EXISTING	12,300.0	7,545.5	823.1	729.9	8.835	SF
THOMAS 24-7 (EXISTING) - ENCANA WELL - SURVEY	10,336.6	7,523.2	135.7	75.9	2.270	CC, ES, SF
THOMAS 24-7 (Existing) - Existing - NO SURVEYS	10,206.2	7,495.0	117.6	60.2	2.048	CC, ES, SF
THOMAS 2-8-7 (EXISTING) - ENCANA WELL - SURVEY	10,910.7	7,568.7	557.1	483.2	7.543	CC, ES
THOMAS 2-8-7 (EXISTING) - ENCANA WELL - SURVEY	11,000.0	7,568.5	564.2	488.8	7.485	SF
THOMAS 33-7 (EXISTING) - ENCANA WELL - SURVEY	9,041.6	7,782.5	1,232.8	1,182.2	24.364	CC, ES
THOMAS 33-7 (EXISTING) - ENCANA WELL - SURVEY	9,500.0	7,783.4	1,315.3	1,257.6	22.799	SF
Thomas 7-12 (Existing) - Existing - NO SURVEYS	300.0	288.0	984.7	983.7	981.026	CC, ES
Thomas 7-12 (Existing) - Existing - NO SURVEYS	9,700.0	7,488.0	1,558.0	1,509.0	31.773	SF
THOMAS E UNIT 1 (EXISTING) - Existing - NO SURVEY	9,100.6	7,494.0	365.3	325.7	9.222	CC, ES
THOMAS E UNIT 1 (EXISTING) - Existing - NO SURVEY	9,200.0	7,494.0	378.6	337.5	9.206	SF
WOOLLEY 12-7 (EXISTING) - ENCANA WELL - NO SUR	300.0	388.0	150.7	149.5	127.897	CC
WOOLLEY 12-7 (EXISTING) - ENCANA WELL - NO SUR	500.0	588.0	151.1	149.2	80.305	ES
WOOLLEY 12-7 (EXISTING) - ENCANA WELL - NO SUR	1,484.0	1,563.6	202.5	196.7	34.867	SF
WOOLLEY 21-7 (EXISTING) - ENCANA WELL - GYRO	7,044.8	6,929.2	1,068.2	1,032.1	29.593	CC
WOOLLEY 21-7 (EXISTING) - ENCANA WELL - GYRO	7,050.0	6,934.2	1,068.3	1,032.1	29.572	ES
WOOLLEY 21-7 (EXISTING) - ENCANA WELL - GYRO	7,100.0	6,981.3	1,071.0	1,034.7	29.542	SF
WOOLLEY 22-7 (EXISTING) - ENCANA WELL - SURVE	7,753.8	7,738.8	145.8	103.6	3.457	CC, ES, SF
WOOLLEY 2-4-7 (EXISTING) - ENCANA WELL - SURVE	8,192.1	7,926.1	376.5	325.7	7.413	CC, ES
WOOLLEY 2-4-7 (EXISTING) - ENCANA WELL - SURVE	8,200.0	7,926.0	376.5	325.7	7.407	SF
WOOLLEY F UNIT 1 (EXISTING) - ENCANA WELL - GY	5,833.1	5,765.6	463.1	432.2	14.997	CC
WOOLLEY F UNIT 1 (EXISTING) - ENCANA WELL - GY	5,900.0	5,830.9	463.3	432.0	14.811	ES
WOOLLEY F UNIT 1 (EXISTING) - ENCANA WELL - GY	6,400.0	6,320.0	479.2	445.5	14.196	SF
Woolley-Becky 2A-7H-E168 - Hz - Plan #2	564.2	564.3	9.3	7.3	4.715	CC, ES, SF
Woolley-Becky 2B-7H-E168 - Hz - Plan #2	692.1	691.7	17.8	15.4	7.342	CC
Woolley-Becky 2B-7H-E168 - Hz - Plan #2	700.0	699.7	17.8	15.4	7.260	ES, SF
Woolley-Becky 2C-7H-E168 - Hz - Plan #4	958.0	955.9	23.1	19.7	6.709	CC
Woolley-Becky 2C-7H-E168 - Hz - Plan #4	1,000.0	997.7	23.3	19.7	6.401	ES
Woolley-Becky 2C-7H-E168 - Hz - Plan #4	1,100.0	1,097.3	25.6	21.5	6.242	SF
Woolley-Becky 2D-7H-E168 - Hz - Plan #4	944.2	940.6	37.5	34.2	11.224	CC

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth	Offset Measured Depth	Distance		Separation Factor	Warning
	(ft)	(ft)	Between Centres (ft)	Between Ellipses (ft)		
S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)						
Woolley-Becky 2D-7H-E168 - Hz - Plan #4	1,000.0	995.9	37.7	34.2	10.531	ES
Woolley-Becky 2D-7H-E168 - Hz - Plan #4	1,300.0	1,294.7	44.8	39.6	8.646	SF
Woolley-Becky 2E-7H-E168 - Hz - Plan #2	855.8	851.2	54.5	51.5	18.352	CC
Woolley-Becky 2E-7H-E168 - Hz - Plan #2	900.0	894.9	54.6	51.4	17.393	ES
Woolley-Becky 2E-7H-E168 - Hz - Plan #2	1,700.0	1,689.9	77.7	69.9	9.996	SF
Woolley-Becky 2F-7H-E168 - Hz - Plan #3	300.0	300.0	70.0	69.0	69.844	CC
Woolley-Becky 2F-7H-E168 - Hz - Plan #3	600.0	596.4	70.5	68.5	34.475	ES
Woolley-Becky 2F-7H-E168 - Hz - Plan #3	7,536.1	7,494.3	103.0	74.3	3.582	SF
Woolley-Becky 2G-7H-E168 - Hz - Plan #2	233.3	233.3	79.8	79.0	103.712	CC
Woolley-Becky 2G-7H-E168 - Hz - Plan #2	300.0	299.3	80.0	79.0	79.924	ES
Woolley-Becky 2G-7H-E168 - Hz - Plan #2	7,906.7	7,600.3	338.4	311.3	12.465	SF
Woolley-Becky 2H-7H-E168 - Hz - Plan #3	200.0	200.0	89.8	89.2	137.636	CC, ES
Woolley-Becky 2H-7H-E168 - Hz - Plan #3	1,900.0	1,863.4	172.7	164.2	20.313	SF
Woolley-Sosa 2A-7H-E168 - Hz - Plan #2	200.0	200.0	498.2	497.5	763.206	CC
Woolley-Sosa 2A-7H-E168 - Hz - Plan #2	300.0	300.0	498.2	497.2	497.219	ES
Woolley-Sosa 2A-7H-E168 - Hz - Plan #2	15,839.3	15,936.0	1,781.3	1,500.9	6.352	SF
Woolley-Sosa 2B-7H-E168 - HZ - Plan #2	300.0	300.0	40.0	39.0	39.952	CC, ES
Woolley-Sosa 2B-7H-E168 - HZ - Plan #2	15,839.3	15,706.0	1,390.2	1,107.2	4.914	SF
Woolley-Sosa 2C-7H-E168 - HZ - Plan #2	300.0	300.0	30.2	29.2	30.174	CC, ES
Woolley-Sosa 2C-7H-E168 - HZ - Plan #2	15,839.3	15,952.8	1,054.1	778.1	3.819	SF
Woolley-Sosa 2D-7H-E168 - HZ - Plan #2	300.0	300.0	20.2	19.2	20.118	CC, ES
Woolley-Sosa 2D-7H-E168 - HZ - Plan #2	15,839.3	15,805.8	700.0	416.9	2.473	SF
Woolley-Sosa 2E-7H-E168 - HZ - Plan #3	300.0	300.0	10.1	9.1	10.057	CC, ES
Woolley-Sosa 2E-7H-E168 - HZ - Plan #3	15,839.3	16,083.8	424.4	188.6	1.800	SF
Woolley-Sosa 2G-7H-E168 - HZ - Plan #2	200.0	200.0	9.8	9.1	15.007	CC, ES
Woolley-Sosa 2G-7H-E168 - HZ - Plan #2	15,839.3	16,137.5	424.4	189.0	1.803	SF

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - BEARDEN 24-6 (EXISTING) - ENCANA WELL - PL														Offset Site Error:	0.0 ft
Survey Program: O-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		
0.0	0.0	0.0	0.0	0.0	0.0	153.47	-2,303.7	1,149.9	2,574.7						
100.0	100.0	85.0	85.0	0.2	0.1	153.47	-2,303.7	1,149.9	2,574.7	2,574.4	0.28	9,312.522			
200.0	200.0	185.0	185.0	0.3	0.3	153.47	-2,303.7	1,149.9	2,574.7	2,574.1	0.62	4,143.654			
300.0	300.0	285.0	285.0	0.5	0.5	153.47	-2,303.7	1,149.9	2,574.7	2,573.7	0.97	2,653.158			
400.0	400.0	385.0	385.0	0.7	0.6	87.35	-2,303.7	1,149.9	2,574.6	2,573.3	1.32	1,950.244			
500.0	500.0	485.0	485.0	0.9	0.8	87.41	-2,303.7	1,149.9	2,574.5	2,572.8	1.67	1,538.523			
600.0	599.9	584.9	584.9	1.0	1.0	87.51	-2,303.7	1,149.9	2,574.3	2,572.3	2.03	1,265.937			
700.0	699.7	684.7	684.7	1.2	1.2	87.65	-2,303.7	1,149.9	2,574.1	2,571.7	2.40	1,070.661			
800.0	799.4	784.4	784.4	1.4	1.3	87.82	-2,303.7	1,149.9	2,573.8	2,571.0	2.79	922.932			
900.0	898.9	883.9	883.9	1.7	1.5	88.04	-2,303.7	1,149.9	2,573.4	2,570.2	3.19	806.703			
1,000.0	998.3	983.3	983.3	1.9	1.7	88.29	-2,303.7	1,149.9	2,573.0	2,569.4	3.61	712.573			
1,100.0	1,097.4	1,082.4	1,082.4	2.2	1.9	88.58	-2,303.7	1,149.9	2,572.7	2,568.6	4.05	634.667			
1,200.0	1,196.3	1,181.3	1,181.3	2.5	2.0	88.91	-2,303.7	1,149.9	2,572.4	2,567.8	4.52	569.111			
1,300.0	1,294.9	1,279.9	1,279.9	2.8	2.2	89.28	-2,303.7	1,149.9	2,572.1	2,567.1	5.01	513.236			
1,400.0	1,393.3	1,378.3	1,378.3	3.2	2.4	89.68	-2,303.7	1,149.9	2,571.9	2,566.4	5.53	465.127			
1,474.4	1,466.2	1,451.2	1,451.2	3.4	2.5	90.00	-2,303.7	1,149.9	2,571.9	2,566.0	5.93	433.542			
1,484.0	1,475.6	1,460.6	1,460.6	3.5	2.5	90.04	-2,303.7	1,149.9	2,571.9	2,565.9	5.98	429.753			
1,500.0	1,491.3	1,476.3	1,476.3	3.5	2.5	90.11	-2,303.7	1,149.9	2,571.9	2,565.8	6.07	423.597			
1,600.0	1,589.1	1,539.1	1,539.1	3.9	2.7	90.40	-2,303.9	1,150.0	2,572.5	2,566.0	6.56	392.230			
1,700.0	1,687.0	1,600.0	1,600.0	4.3	2.8	90.68	-2,305.3	1,150.5	2,575.1	2,568.0	7.05	365.398			
1,800.0	1,784.9	1,642.1	1,642.0	4.7	2.8	90.87	-2,306.9	1,151.2	2,579.4	2,571.9	7.51	343.619			
1,900.0	1,882.7	1,700.0	1,699.8	5.1	2.9	91.14	-2,310.1	1,152.5	2,585.8	2,577.8	8.00	323.379			
2,000.0	1,980.6	1,744.7	1,744.4	5.4	3.0	91.34	-2,313.3	1,153.8	2,594.0	2,585.6	8.47	306.437			
2,100.0	2,078.5	1,800.0	1,799.5	5.8	3.1	91.59	-2,318.2	1,155.8	2,604.2	2,595.2	8.95	290.851			
2,200.0	2,176.4	1,846.6	1,845.8	6.2	3.2	91.80	-2,323.0	1,157.8	2,616.2	2,606.8	9.43	277.464			
2,300.0	2,274.2	1,900.0	1,898.7	6.6	3.3	92.04	-2,329.5	1,160.4	2,630.1	2,620.2	9.92	265.232			
2,400.0	2,372.1	1,947.6	1,945.8	7.0	3.5	92.25	-2,335.9	1,163.1	2,645.9	2,635.5	10.40	254.524			
2,500.0	2,470.0	2,000.0	1,997.5	7.4	3.6	92.48	-2,343.9	1,166.3	2,663.5	2,652.6	10.88	244.757			
2,600.0	2,567.8	2,047.5	2,044.1	7.8	3.7	92.69	-2,351.9	1,169.6	2,683.0	2,671.6	11.36	236.132			
2,700.0	2,665.7	2,117.5	2,112.8	8.2	3.9	92.98	-2,364.7	1,174.9	2,704.0	2,692.1	11.88	227.599			
2,800.0	2,763.6	2,213.3	2,206.7	8.6	4.2	93.39	-2,382.4	1,182.1	2,725.5	2,713.0	12.44	219.030			
2,900.0	2,861.5	2,309.1	2,300.6	9.0	4.5	93.79	-2,400.1	1,189.3	2,747.1	2,734.1	13.01	211.214			
3,000.0	2,959.3	2,404.9	2,394.4	9.4	4.8	94.18	-2,417.7	1,196.6	2,768.8	2,755.2	13.57	204.058			
3,100.0	3,057.2	2,500.7	2,488.3	9.8	5.1	94.56	-2,435.4	1,203.8	2,790.6	2,776.5	14.13	197.481			
3,200.0	3,155.1	2,596.5	2,582.2	10.2	5.4	94.94	-2,453.1	1,211.0	2,812.6	2,797.9	14.69	191.416			
3,300.0	3,253.0	2,692.3	2,676.1	10.6	5.7	95.32	-2,470.8	1,218.3	2,834.7	2,819.4	15.26	185.808			
3,400.0	3,350.8	2,788.1	2,769.9	11.0	6.1	95.69	-2,488.4	1,225.5	2,856.9	2,841.1	15.82	180.606			
3,500.0	3,448.7	2,883.9	2,863.8	11.4	6.4	96.05	-2,506.1	1,232.7	2,879.2	2,862.8	16.38	175.770			
3,600.0	3,546.6	2,979.7	2,957.7	11.8	6.7	96.41	-2,523.8	1,240.0	2,901.7	2,884.7	16.94	171.262			
3,700.0	3,644.4	3,075.5	3,051.5	12.2	7.1	96.76	-2,541.5	1,247.2	2,924.2	2,906.7	17.51	167.050			
3,800.0	3,742.3	3,171.3	3,145.4	12.6	7.4	97.11	-2,559.1	1,254.4	2,946.9	2,928.8	18.07	163.105			
3,900.0	3,840.2	3,267.1	3,239.3	13.0	7.8	97.45	-2,576.8	1,261.7	2,969.6	2,951.0	18.63	159.405			
4,000.0	3,938.1	3,362.9	3,333.1	13.4	8.1	97.79	-2,594.5	1,268.9	2,992.5	2,973.3	19.19	155.926			
4,100.0	4,035.9	3,458.6	3,427.0	13.8	8.5	98.12	-2,612.2	1,276.1	3,015.4	2,995.7	19.75	152.649			
4,200.0	4,133.8	3,554.4	3,520.9	14.2	8.8	98.45	-2,629.8	1,283.4	3,038.5	3,018.2	20.32	149.558			
4,300.0	4,231.7	3,650.2	3,614.8	14.6	9.2	98.77	-2,647.5	1,290.6	3,061.6	3,040.7	20.88	146.638			
4,400.0	4,329.5	3,746.0	3,708.6	15.0	9.6	99.09	-2,665.2	1,297.9	3,084.9	3,063.4	21.44	143.874			
4,500.0	4,427.4	3,841.8	3,802.5	15.4	9.9	99.40	-2,682.9	1,305.1	3,108.2	3,086.2	22.00	141.254			
4,600.0	4,525.3	3,937.6	3,896.4	15.8	10.3	99.71	-2,700.5	1,312.3	3,131.6	3,109.1	22.57	138.768			
4,700.0	4,623.2	4,033.4	3,990.2	16.2	10.6	100.01	-2,718.2	1,319.6	3,155.1	3,132.0	23.13	136.405			
4,800.0	4,721.0	4,129.2	4,084.1	16.7	11.0	100.31	-2,735.9	1,326.8	3,178.7	3,155.0	23.69	134.158			
4,900.0	4,818.9	4,225.0	4,178.0	17.1	11.4	100.61	-2,753.6	1,334.0	3,202.4	3,178.2	24.26	132.016			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - BEARDEN 24-6 (EXISTING) - ENCANA WELL - PL												Offset Site Error: 0.0 ft			
Survey Program: O-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	4,916.8	4,320.8	4,271.9	17.5	11.7	100.90	-2,771.2	1,341.3	3,226.2	3,201.4	24.82	129.974			
5,100.0	5,014.7	4,416.6	4,365.7	17.9	12.1	101.19	-2,788.9	1,348.5	3,250.0	3,224.6	25.39	128.025			
5,200.0	5,112.5	4,512.4	4,459.6	18.3	12.5	101.47	-2,806.6	1,355.7	3,273.9	3,248.0	25.95	126.162			
5,300.0	5,210.4	4,608.2	4,553.5	18.7	12.8	101.75	-2,824.3	1,363.0	3,297.9	3,271.4	26.51	124.380			
5,400.0	5,308.3	4,704.0	4,647.3	19.1	13.2	102.02	-2,841.9	1,370.2	3,322.0	3,294.9	27.08	122.673			
5,500.0	5,406.1	4,799.8	4,741.2	19.5	13.6	102.29	-2,859.6	1,377.4	3,346.1	3,318.5	27.65	121.038			
5,600.0	5,504.0	4,895.6	4,835.1	19.9	13.9	102.56	-2,877.3	1,384.7	3,370.4	3,342.1	28.21	119.469			
5,700.0	5,601.9	4,991.3	4,928.9	20.3	14.3	102.83	-2,895.0	1,391.9	3,394.6	3,365.9	28.78	117.964			
5,800.0	5,699.8	5,087.1	5,022.8	20.7	14.7	103.09	-2,912.6	1,399.2	3,419.0	3,389.6	29.34	116.517			
5,900.0	5,797.6	5,182.9	5,116.7	21.1	15.0	103.34	-2,930.3	1,406.4	3,443.4	3,413.5	29.91	115.126			
6,000.0	5,895.5	5,283.5	5,218.0	21.5	15.4	103.58	-3,009.7	1,438.9	3,467.1	3,435.5	31.63	109.611			
6,100.0	5,993.4	6,051.3	5,978.4	21.9	17.0	105.90	-3,009.7	1,438.9	3,472.8	3,440.6	32.18	107.916			
6,200.0	6,091.2	6,149.2	6,076.3	22.3	17.1	106.22	-3,009.7	1,438.9	3,478.6	3,445.8	32.73	106.286			
6,300.0	6,189.1	6,247.1	6,174.1	22.7	17.2	106.53	-3,009.7	1,438.9	3,484.5	3,451.2	33.27	104.718			
6,400.0	6,287.0	6,344.9	6,272.0	23.1	17.3	106.85	-3,009.7	1,438.9	3,490.5	3,456.6	33.82	103.208			
6,500.0	6,384.9	6,442.8	6,369.9	23.5	17.4	107.17	-3,009.7	1,438.9	3,496.6	3,462.2	34.36	101.754			
6,600.0	6,482.7	6,540.7	6,467.7	23.9	17.5	107.48	-3,009.7	1,438.9	3,502.8	3,467.9	34.91	100.352			
6,700.0	6,580.6	6,638.6	6,565.6	24.3	17.7	107.79	-3,009.7	1,438.9	3,509.2	3,473.7	35.45	99.001			
6,800.0	6,678.5	6,736.4	6,663.5	24.7	17.8	108.11	-3,009.7	1,438.9	3,515.6	3,479.6	35.98	97.698			
6,900.0	6,776.4	6,834.3	6,761.4	25.1	17.9	108.42	-3,009.7	1,438.9	3,522.2	3,485.6	36.52	96.440			
7,000.0	6,874.2	6,932.2	6,859.2	25.5	18.0	108.73	-3,009.7	1,438.9	3,528.8	3,491.8	37.06	95.226			
7,016.7	6,890.6	6,948.5	6,875.6	25.6	18.0	108.78	-3,009.7	1,438.9	3,529.9	3,492.8	37.15	95.027			
7,050.0	6,923.2	6,981.2	6,908.2	25.7	18.1	92.92	-3,009.7	1,438.9	3,531.2	3,493.8	37.40	94.427			
7,100.0	6,972.3	7,030.3	6,957.3	25.9	18.1	67.64	-3,009.7	1,438.9	3,529.6	3,492.0	37.57	93.934			
7,150.0	7,021.1	7,079.1	7,006.1	26.0	18.2	47.88	-3,009.7	1,438.9	3,523.6	3,486.1	37.52	93.924			
7,200.0	7,069.3	7,127.2	7,054.3	26.1	18.2	35.04	-3,009.7	1,438.9	3,513.3	3,476.1	37.22	94.401			
7,250.0	7,116.5	7,174.4	7,101.5	26.2	18.3	26.86	-3,009.7	1,438.9	3,498.9	3,462.2	36.68	95.385			
7,300.0	7,162.3	7,220.2	7,147.3	26.2	18.3	21.41	-3,009.7	1,438.9	3,480.4	3,444.4	35.92	96.905			
7,350.0	7,206.4	7,264.3	7,191.4	26.3	18.4	17.58	-3,009.7	1,438.9	3,457.9	3,422.9	34.92	99.009			
7,400.0	7,248.4	7,306.4	7,233.4	26.3	18.4	14.75	-3,009.7	1,438.9	3,431.6	3,397.9	33.72	101.762			
7,450.0	7,288.1	7,346.1	7,273.1	26.3	18.5	12.55	-3,009.7	1,438.9	3,401.8	3,369.4	32.32	105.246			
7,500.0	7,325.1	7,383.1	7,310.1	26.3	18.5	10.75	-3,009.7	1,438.9	3,368.5	3,337.8	30.74	109.570			
7,550.0	7,359.2	7,417.1	7,344.2	26.3	18.6	9.20	-3,009.7	1,438.9	3,332.2	3,303.2	29.01	114.866			
7,600.0	7,390.0	7,448.0	7,375.0	26.3	18.6	7.76	-3,009.7	1,438.9	3,293.1	3,265.9	27.15	121.287			
7,650.0	7,417.4	7,475.4	7,402.4	26.3	18.6	6.32	-3,009.7	1,438.9	3,251.3	3,226.1	25.21	128.996			
7,700.0	7,441.2	7,499.1	7,426.2	26.3	18.7	4.72	-3,009.7	1,438.9	3,207.4	3,184.2	23.22	138.107			
7,750.0	7,461.1	7,519.0	7,446.1	26.3	18.7	2.70	-3,009.7	1,438.9	3,161.6	3,140.3	21.29	148.533			
7,800.0	7,477.0	7,535.0	7,462.0	26.3	18.7	-0.27	-3,009.7	1,438.9	3,114.2	3,094.7	19.53	159.440			
7,850.0	7,488.8	7,546.8	7,473.8	26.4	18.7	-5.54	-3,009.7	1,438.9	3,065.6	3,047.3	18.35	167.048			
7,900.0	7,496.5	7,554.4	7,481.5	26.4	18.7	-18.19	-3,009.7	1,438.9	3,016.3	2,996.7	19.53	154.429			
7,950.0	7,499.8	7,557.8	7,484.8	26.5	18.7	-65.33	-3,009.7	1,438.9	2,966.4	2,936.0	30.46	97.379			
7,964.3	7,500.0	7,558.0	7,485.0	26.5	18.7	-90.00	-3,009.7	1,438.9	2,952.1	2,920.2	31.95	92.410			
8,000.0	7,500.0	7,558.0	7,485.0	26.6	18.7	-90.00	-3,009.7	1,438.9	2,916.5	2,884.4	32.09	90.892			
8,100.0	7,500.0	7,558.0	7,485.0	26.8	18.7	-90.00	-3,009.7	1,438.9	2,816.7	2,784.1	32.62	86.345			
8,200.0	7,500.0	7,558.0	7,485.0	27.2	18.7	-90.00	-3,009.7	1,438.9	2,716.9	2,683.6	33.34	81.493			
8,300.0	7,500.0	7,558.0	7,485.0	27.7	18.7	-90.00	-3,009.7	1,438.9	2,617.1	2,582.9	34.22	76.488			
8,400.0	7,500.0	7,558.0	7,485.0	28.3	18.7	-90.00	-3,009.7	1,438.9	2,517.3	2,482.1	35.23	71.459			
8,500.0	7,500.0	7,558.0	7,485.0	29.0	18.7	-90.00	-3,009.7	1,438.9	2,417.6	2,381.2	36.35	66.505			
8,600.0	7,500.0	7,558.0	7,485.0	29.8	18.7	-90.00	-3,009.7	1,438.9	2,317.8	2,280.3	37.57	61.695			
8,700.0	7,500.0	7,558.0	7,485.0	30.6	18.7	-90.00	-3,009.7	1,438.9	2,218.1	2,179.3	38.86	57.075			
8,800.0	7,500.0	7,558.0	7,485.0	31.5	18.7	-90.00	-3,009.7	1,438.9	2,118.4	2,078.2	40.22	52.671			
8,900.0	7,500.0	7,558.0	7,485.0	32.5	18.7	-90.00	-3,009.7	1,438.9	2,018.8	1,977.2	41.63	48.493			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - BEARDEN 24-6 (EXISTING) - ENCANA WELL - PL											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		
9,000.0	7,500.0	7,558.0	7,485.0	33.6	18.7	-90.00	-3,009.7	1,438.9	1,919.2	1,876.1	43.08	44.545		
9,100.0	7,500.0	7,558.0	7,485.0	34.7	18.7	-90.00	-3,009.7	1,438.9	1,819.6	1,775.0	44.57	40.823		
9,200.0	7,500.0	7,558.0	7,485.0	35.9	18.7	-90.00	-3,009.7	1,438.9	1,720.1	1,674.0	46.09	37.317		
9,300.0	7,500.0	7,558.0	7,485.0	37.1	18.7	-90.00	-3,009.7	1,438.9	1,620.6	1,573.0	47.64	34.018		
9,400.0	7,500.0	7,558.0	7,485.0	38.3	18.7	-90.00	-3,009.7	1,438.9	1,521.2	1,472.0	49.21	30.914		
9,500.0	7,500.0	7,558.0	7,485.0	39.6	18.7	-90.00	-3,009.7	1,438.9	1,421.9	1,371.1	50.80	27.993		
9,600.0	7,500.0	7,558.0	7,485.0	41.0	18.7	-90.00	-3,009.7	1,438.9	1,322.7	1,270.3	52.40	25.243		
9,700.0	7,500.0	7,558.0	7,485.0	42.3	18.7	-90.00	-3,009.7	1,438.9	1,223.6	1,169.6	54.02	22.653		
9,800.0	7,500.0	7,558.0	7,485.0	43.7	18.7	-90.00	-3,009.7	1,438.9	1,124.7	1,069.1	55.65	20.212		
9,900.0	7,500.0	7,558.0	7,485.0	45.1	18.7	-90.00	-3,009.7	1,438.9	1,026.0	968.7	57.29	17.910		
10,000.0	7,500.0	7,558.0	7,485.0	46.6	18.7	-90.00	-3,009.7	1,438.9	927.6	868.6	58.94	15.739		
10,100.0	7,500.0	7,558.0	7,485.0	48.0	18.7	-90.00	-3,009.7	1,438.9	829.5	768.9	60.59	13.690		
10,200.0	7,500.0	7,558.0	7,485.0	49.5	18.7	-90.00	-3,009.7	1,438.9	732.0	669.7	62.26	11.757		
10,300.0	7,500.0	7,558.0	7,485.0	51.0	18.7	-90.00	-3,009.7	1,438.9	635.2	571.3	63.93	9.936		
10,400.0	7,500.0	7,558.0	7,485.0	52.5	18.7	-90.00	-3,009.7	1,438.9	539.7	474.1	65.61	8.225		
10,500.0	7,500.0	7,558.0	7,485.0	54.0	18.7	-90.00	-3,009.7	1,438.9	446.0	378.8	67.29	6.628		
10,600.0	7,500.0	7,558.0	7,485.0	55.6	18.7	-90.00	-3,009.7	1,438.9	355.9	286.9	68.98	5.160		
10,700.0	7,500.0	7,558.0	7,485.0	57.1	18.7	-90.00	-3,009.7	1,438.9	272.7	202.1	70.67	3.859		
10,800.0	7,500.0	7,558.0	7,485.0	58.7	18.7	-90.00	-3,009.7	1,438.9	205.2	132.8	72.37	2.835		
10,900.0	7,500.0	7,558.0	7,485.0	60.3	18.7	-90.00	-3,009.7	1,438.9	172.7	98.6	74.07	2.331		
10,911.4	7,500.0	7,558.0	7,485.0	60.5	18.7	-90.00	-3,009.7	1,438.9	172.3	98.0	74.26	2.320 CC, ES, SF		
11,000.0	7,500.0	7,558.0	7,485.0	61.9	18.7	-90.00	-3,009.7	1,438.9	193.7	117.9	75.77	2.557		
11,100.0	7,500.0	7,558.0	7,485.0	63.5	18.7	-90.00	-3,009.7	1,438.9	255.4	177.9	77.48	3.297		
11,200.0	7,500.0	7,558.0	7,485.0	65.1	18.7	-90.00	-3,009.7	1,438.9	336.1	256.9	79.19	4.244		
11,300.0	7,500.0	7,558.0	7,485.0	66.7	18.7	-90.00	-3,009.7	1,438.9	425.1	344.2	80.90	5.254		
11,400.0	7,500.0	7,558.0	7,485.0	68.3	18.7	-90.00	-3,009.7	1,438.9	518.1	435.4	82.61	6.271		
11,500.0	7,500.0	7,558.0	7,485.0	69.9	18.7	-90.00	-3,009.7	1,438.9	613.3	528.9	84.33	7.272		
11,600.0	7,500.0	7,558.0	7,485.0	71.5	18.7	-90.00	-3,009.7	1,438.9	709.8	623.7	86.05	8.249		
11,700.0	7,500.0	7,558.0	7,485.0	73.2	18.7	-90.00	-3,009.7	1,438.9	807.2	719.4	87.77	9.197		
11,800.0	7,500.0	7,558.0	7,485.0	74.8	18.7	-90.00	-3,009.7	1,438.9	905.1	815.6	89.49	10.115		
11,900.0	7,500.0	7,558.0	7,485.0	76.5	18.7	-90.00	-3,009.7	1,438.9	1,003.5	912.3	91.21	11.002		
12,000.0	7,500.0	7,558.0	7,485.0	78.1	18.7	-90.00	-3,009.7	1,438.9	1,102.1	1,009.2	92.93	11.859		
12,100.0	7,500.0	7,558.0	7,485.0	79.8	18.7	-90.00	-3,009.7	1,438.9	1,201.0	1,106.3	94.66	12.688		
12,200.0	7,500.0	7,558.0	7,485.0	81.4	18.7	-90.00	-3,009.7	1,438.9	1,300.0	1,203.6	96.39	13.488		
12,300.0	7,500.0	7,558.0	7,485.0	83.1	18.7	-90.00	-3,009.7	1,438.9	1,399.2	1,301.1	98.11	14.261		
12,400.0	7,500.0	7,558.0	7,485.0	84.8	18.7	-90.00	-3,009.7	1,438.9	1,498.5	1,398.7	99.84	15.009		
12,500.0	7,500.0	7,558.0	7,485.0	86.4	18.7	-90.00	-3,009.7	1,438.9	1,597.9	1,496.3	101.57	15.731		
12,600.0	7,500.0	7,558.0	7,485.0	88.1	18.7	-90.00	-3,009.7	1,438.9	1,697.3	1,594.0	103.30	16.430		
12,700.0	7,500.0	7,558.0	7,485.0	89.8	18.7	-90.00	-3,009.7	1,438.9	1,796.8	1,691.8	105.04	17.107		
12,800.0	7,500.0	7,558.0	7,485.0	91.5	18.7	-90.00	-3,009.7	1,438.9	1,896.4	1,789.6	106.77	17.762		
12,900.0	7,500.0	7,558.0	7,485.0	93.2	18.7	-90.00	-3,009.7	1,438.9	1,996.0	1,887.5	108.50	18.396		
13,000.0	7,500.0	7,558.0	7,485.0	94.8	18.7	-90.00	-3,009.7	1,438.9	2,095.7	1,985.4	110.24	19.010		
13,100.0	7,500.0	7,558.0	7,485.0	96.5	18.7	-90.00	-3,009.7	1,438.9	2,195.3	2,083.4	111.97	19.606		
13,200.0	7,500.0	7,558.0	7,485.0	98.2	18.7	-90.00	-3,009.7	1,438.9	2,295.0	2,181.3	113.71	20.184		
13,300.0	7,500.0	7,558.0	7,485.0	99.9	18.7	-90.00	-3,009.7	1,438.9	2,394.8	2,279.3	115.44	20.744		
13,400.0	7,500.0	7,558.0	7,485.0	101.6	18.7	-90.00	-3,009.7	1,438.9	2,494.5	2,377.3	117.18	21.288		
13,500.0	7,500.0	7,558.0	7,485.0	103.3	18.7	-90.00	-3,009.7	1,438.9	2,594.3	2,475.4	118.92	21.816		
13,600.0	7,500.0	7,558.0	7,485.0	105.0	18.7	-90.00	-3,009.7	1,438.9	2,694.1	2,573.4	120.66	22.328		
13,700.0	7,500.0	7,558.0	7,485.0	106.7	18.7	-90.00	-3,009.7	1,438.9	2,793.9	2,671.5	122.40	22.826		
13,800.0	7,500.0	7,558.0	7,485.0	108.4	18.7	-90.00	-3,009.7	1,438.9	2,893.7	2,769.6	124.14	23.311		
13,900.0	7,500.0	7,558.0	7,485.0	110.1	18.7	-90.00	-3,009.7	1,438.9	2,993.5	2,867.7	125.88	23.782		
14,000.0	7,500.0	7,558.0	7,485.0	111.8	18.7	-90.00	-3,009.7	1,438.9	3,093.4	2,965.8	127.62	24.240		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - BEARDEN 24-6 (EXISTING) - ENCANA WELL - PL														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		
14,100.0	7,500.0	7,558.0	7,485.0	113.5	18.7	-90.00	-3,009.7	1,438.9	3,193.2	3,063.9	129.36	24.685			
14,200.0	7,500.0	7,558.0	7,485.0	115.2	18.7	-90.00	-3,009.7	1,438.9	3,293.1	3,162.0	131.10	25.119			
14,300.0	7,500.0	7,558.0	7,485.0	116.9	18.7	-90.00	-3,009.7	1,438.9	3,392.9	3,260.1	132.84	25.542			
14,400.0	7,500.0	7,558.0	7,485.0	118.6	18.7	-90.00	-3,009.7	1,438.9	3,492.8	3,358.2	134.58	25.953			
14,500.0	7,500.0	7,558.0	7,485.0	120.3	18.7	-90.00	-3,009.7	1,438.9	3,592.7	3,456.4	136.32	26.354			
14,600.0	7,500.0	7,558.0	7,485.0	122.1	18.7	-90.00	-3,009.7	1,438.9	3,692.6	3,554.5	138.07	26.745			
14,700.0	7,500.0	7,558.0	7,485.0	123.8	18.7	-90.00	-3,009.7	1,438.9	3,792.5	3,652.7	139.81	27.126			
14,800.0	7,500.0	7,558.0	7,485.0	125.5	18.7	-90.00	-3,009.7	1,438.9	3,892.4	3,750.8	141.55	27.498			
14,900.0	7,500.0	7,558.0	7,485.0	127.2	18.7	-90.00	-3,009.7	1,438.9	3,992.3	3,849.0	143.30	27.860			
15,000.0	7,500.0	7,558.0	7,485.0	128.9	18.7	-90.00	-3,009.7	1,438.9	4,092.2	3,947.2	145.04	28.214			
15,100.0	7,500.0	7,558.0	7,485.0	130.6	18.7	-90.00	-3,009.7	1,438.9	4,192.1	4,045.3	146.78	28.560			
15,200.0	7,500.0	7,558.0	7,485.0	132.4	18.7	-90.00	-3,009.7	1,438.9	4,292.0	4,143.5	148.53	28.897			
15,300.0	7,500.0	7,558.0	7,485.0	134.1	18.7	-90.00	-3,009.7	1,438.9	4,391.9	4,241.7	150.27	29.227			
15,400.0	7,500.0	7,558.0	7,485.0	135.8	18.7	-90.00	-3,009.7	1,438.9	4,491.9	4,339.9	152.02	29.548			
15,500.0	7,500.0	7,558.0	7,485.0	137.5	18.7	-90.00	-3,009.7	1,438.9	4,591.8	4,438.0	153.76	29.863			
15,600.0	7,500.0	7,558.0	7,485.0	139.2	18.7	-90.00	-3,009.7	1,438.9	4,691.7	4,536.2	155.51	30.170			
15,700.0	7,500.0	7,558.0	7,485.0	141.0	18.7	-90.00	-3,009.7	1,438.9	4,791.7	4,634.4	157.25	30.471			
15,800.0	7,500.0	7,558.0	7,485.0	142.7	18.7	-90.00	-3,009.7	1,438.9	4,891.6	4,732.6	159.00	30.765			
15,839.3	7,500.0	7,558.0	7,485.0	143.4	18.7	-90.00	-3,009.7	1,438.9	4,930.9	4,771.2	159.69	30.879			



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	29.0	29.0	0.0	0.0	65.49	1,870.5	4,102.2	4,508.5					
100.0	100.0	129.0	129.0	0.2	0.2	65.49	1,870.5	4,102.2	4,508.5	4,508.2	0.35	N/A		
200.0	200.0	277.3	277.3	0.3	0.5	65.48	1,870.7	4,101.7	4,508.4	4,507.6	0.79	5,718.677		
300.0	300.0	543.5	543.3	0.5	1.0	65.41	1,872.8	4,092.1	4,505.4	4,504.0	1.46	3,095.605		
400.0	400.0	808.0	806.9	0.7	1.5	-0.91	1,877.7	4,070.8	4,498.0	4,495.9	2.12	2,122.372		
500.0	500.0	1,069.1	1,065.8	0.9	2.3	-1.18	1,885.2	4,038.0	4,485.2	4,482.3	2.85	1,571.827		
600.0	599.9	1,325.3	1,318.1	1.0	3.1	-1.54	1,895.2	3,994.8	4,467.2	4,463.5	3.65	1,222.332		
700.0	699.7	1,575.1	1,561.9	1.2	4.1	-2.00	1,907.2	3,942.1	4,444.1	4,439.6	4.53	980.148		
800.0	799.4	1,721.9	1,704.1	1.4	4.8	-2.32	1,915.4	3,906.6	4,416.8	4,411.7	5.16	855.721		
900.0	898.9	1,816.2	1,795.5	1.7	5.2	-2.55	1,920.7	3,883.4	4,387.7	4,382.1	5.63	779.224		
1,000.0	998.3	1,910.1	1,886.3	1.9	5.7	-2.77	1,926.0	3,860.4	4,357.0	4,350.9	6.10	714.137		
1,100.0	1,097.4	2,003.4	1,976.6	2.2	6.1	-3.01	1,931.2	3,837.5	4,324.7	4,318.1	6.57	658.105		
1,200.0	1,196.3	2,096.1	2,066.3	2.5	6.6	-3.25	1,936.5	3,814.7	4,290.8	4,283.8	7.04	609.363		
1,300.0	1,294.9	2,188.3	2,155.4	2.8	7.0	-3.50	1,941.6	3,792.1	4,255.4	4,247.9	7.51	566.567		
1,400.0	1,393.3	2,279.7	2,244.0	3.2	7.4	-3.76	1,946.8	3,769.6	4,218.3	4,210.4	7.98	528.682		
1,484.0	1,475.6	2,356.1	2,317.9	3.5	7.8	-3.98	1,951.1	3,750.8	4,186.0	4,177.7	8.37	500.036		
1,500.0	1,491.3	2,370.5	2,331.8	3.5	7.9	-4.02	1,951.9	3,747.3	4,179.8	4,171.3	8.45	494.681		
1,600.0	1,589.1	2,461.1	2,419.5	3.9	8.3	-4.26	1,957.0	3,725.0	4,140.7	4,131.8	8.94	463.149		
1,700.0	1,687.0	2,551.7	2,507.1	4.3	8.7	-4.51	1,962.1	3,702.8	4,101.7	4,092.3	9.44	434.735		
1,800.0	1,784.9	2,642.2	2,594.8	4.7	9.2	-4.76	1,967.2	3,680.5	4,062.8	4,052.9	9.93	409.005		
1,900.0	1,882.7	2,732.8	2,682.4	5.1	9.6	-5.02	1,972.3	3,658.3	4,024.0	4,013.5	10.44	385.600		
2,000.0	1,980.6	2,823.4	2,770.1	5.4	10.0	-5.28	1,977.4	3,636.0	3,985.2	3,974.3	10.94	364.221		
2,100.0	2,078.5	2,913.9	2,857.7	5.8	10.5	-5.54	1,982.5	3,613.8	3,946.5	3,935.0	11.45	344.619		
2,200.0	2,176.4	3,004.5	2,945.4	6.2	10.9	-5.82	1,987.6	3,591.5	3,907.9	3,895.9	11.97	326.585		
2,300.0	2,274.2	3,095.1	3,033.0	6.6	11.3	-6.09	1,992.7	3,569.3	3,869.3	3,856.8	12.48	309.939		
2,400.0	2,372.1	3,185.7	3,120.7	7.0	11.8	-6.37	1,997.8	3,547.0	3,830.8	3,817.8	13.01	294.528		
2,500.0	2,470.0	3,276.2	3,208.3	7.4	12.2	-6.66	2,002.9	3,524.8	3,792.5	3,778.9	13.53	280.224		
2,600.0	2,567.8	3,366.8	3,295.9	7.8	12.7	-6.95	2,008.0	3,502.5	3,754.2	3,740.1	14.07	266.911		
2,700.0	2,665.7	3,457.4	3,383.6	8.2	13.1	-7.25	2,013.1	3,480.3	3,716.0	3,701.3	14.60	254.492		
2,800.0	2,763.6	3,547.9	3,471.2	8.6	13.5	-7.56	2,018.2	3,458.0	3,677.8	3,662.7	15.14	242.880		
2,900.0	2,861.5	3,638.5	3,558.9	9.0	14.0	-7.87	2,023.3	3,435.8	3,639.8	3,624.1	15.69	232.002		
3,000.0	2,959.3	3,729.1	3,646.5	9.4	14.4	-8.18	2,028.4	3,413.5	3,601.9	3,585.6	16.24	221.791		
3,100.0	3,057.2	3,819.6	3,734.2	9.8	14.8	-8.51	2,033.5	3,391.3	3,564.1	3,547.3	16.80	212.189		
3,200.0	3,155.1	3,910.2	3,821.8	10.2	15.3	-8.84	2,038.6	3,369.0	3,526.3	3,509.0	17.36	203.143		
3,300.0	3,253.0	4,000.8	3,909.5	10.6	15.7	-9.18	2,043.7	3,346.8	3,488.7	3,470.8	17.93	194.609		
3,400.0	3,350.8	4,091.4	3,997.1	11.0	16.2	-9.52	2,048.8	3,324.5	3,451.2	3,432.7	18.50	186.545		
3,500.0	3,448.7	4,181.9	4,084.8	11.4	16.6	-9.87	2,053.9	3,302.3	3,413.8	3,394.8	19.08	178.914		
3,600.0	3,546.6	4,272.5	4,172.4	11.8	17.0	-10.23	2,059.0	3,280.0	3,376.6	3,356.9	19.67	171.683		
3,700.0	3,644.4	4,363.1	4,260.0	12.2	17.5	-10.60	2,064.1	3,257.8	3,339.4	3,319.2	20.26	164.823		
3,800.0	3,742.3	4,453.6	4,347.7	12.6	17.9	-10.97	2,069.2	3,235.5	3,302.4	3,281.5	20.86	158.308		
3,900.0	3,840.2	4,544.2	4,435.3	13.0	18.3	-11.35	2,074.3	3,213.3	3,265.5	3,244.0	21.47	152.112		
4,000.0	3,938.1	4,634.8	4,523.0	13.4	18.8	-11.74	2,079.4	3,191.0	3,228.7	3,206.7	22.08	146.215		
4,100.0	4,035.9	4,725.3	4,610.6	13.8	19.2	-12.14	2,084.6	3,168.8	3,192.1	3,169.4	22.70	140.596		
4,200.0	4,133.8	4,815.9	4,698.3	14.2	19.7	-12.55	2,089.7	3,146.5	3,155.7	3,132.3	23.33	135.237		
4,300.0	4,231.7	4,906.5	4,785.9	14.6	20.1	-12.96	2,094.8	3,124.3	3,119.3	3,095.4	23.97	130.121		
4,400.0	4,329.5	4,997.1	4,873.6	15.0	20.5	-13.39	2,099.9	3,102.0	3,083.2	3,058.6	24.62	125.235		
4,500.0	4,427.4	5,087.6	4,961.2	15.4	21.0	-13.83	2,105.0	3,079.7	3,047.2	3,021.9	25.27	120.562		
4,600.0	4,525.3	5,178.2	5,048.9	15.8	21.4	-14.27	2,110.1	3,057.5	3,011.3	2,985.4	25.94	116.092		
4,700.0	4,623.2	5,268.8	5,136.5	16.2	21.9	-14.73	2,115.2	3,035.2	2,975.7	2,949.0	26.61	111.812		
4,800.0	4,721.0	5,359.3	5,224.1	16.7	22.3	-15.19	2,120.3	3,013.0	2,940.2	2,912.9	27.30	107.712		
4,900.0	4,818.9	5,449.9	5,311.8	17.1	22.7	-15.67	2,125.4	2,990.7	2,904.9	2,876.9	27.99	103.782		
5,000.0	4,916.8	5,540.5	5,399.4	17.5	23.2	-16.15	2,130.5	2,968.5	2,869.7	2,841.1	28.69	100.012		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2												Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	
5,100.0	5,014.7	5,631.0	5,487.1	17.9	23.6	-16.65	2,135.6	2,946.2	2,834.8	2,805.4	29.41	96.395	
5,200.0	5,112.5	5,721.6	5,574.7	18.3	24.0	-17.16	2,140.7	2,924.0	2,800.1	2,770.0	30.13	92.922	
5,300.0	5,210.4	5,812.2	5,662.4	18.7	24.5	-17.68	2,145.8	2,901.7	2,765.6	2,734.8	30.87	89.587	
5,400.0	5,308.3	9,271.9	7,530.0	19.1	43.0	33.50	374.5	2,427.9	2,703.6	2,655.8	47.78	56.584	
5,500.0	5,406.1	9,263.6	7,530.0	19.5	42.9	33.10	382.8	2,427.9	2,613.6	2,565.9	47.69	54.808	
5,600.0	5,504.0	9,255.3	7,530.0	19.9	42.8	32.70	391.1	2,427.9	2,524.3	2,476.7	47.59	53.046	
5,700.0	5,601.9	9,247.0	7,530.0	20.3	42.7	32.29	399.4	2,427.9	2,435.8	2,388.3	47.48	51.299	
5,800.0	5,699.8	9,238.7	7,530.0	20.7	42.7	31.89	407.7	2,427.9	2,348.2	2,300.8	47.37	49.567	
5,900.0	5,797.6	9,230.4	7,530.0	21.1	42.6	31.48	416.0	2,427.9	2,261.6	2,214.3	47.26	47.854	
6,000.0	5,895.5	9,222.1	7,530.0	21.5	42.5	31.07	424.3	2,427.9	2,176.1	2,129.0	47.14	46.160	
6,100.0	5,993.4	9,213.8	7,530.0	21.9	42.4	30.66	432.6	2,427.9	2,091.9	2,044.9	47.02	44.489	
6,200.0	6,091.2	9,205.5	7,530.0	22.3	42.3	30.26	440.9	2,427.9	2,009.1	1,962.2	46.89	42.843	
6,300.0	6,189.1	9,197.3	7,530.0	22.7	42.2	29.85	449.2	2,427.9	1,927.9	1,881.1	46.76	41.226	
6,400.0	6,287.0	9,189.0	7,530.0	23.1	42.1	29.43	457.5	2,427.9	1,848.5	1,801.8	46.63	39.642	
6,500.0	6,384.9	9,180.7	7,530.0	23.5	42.0	29.02	465.8	2,427.9	1,771.1	1,724.6	46.49	38.096	
6,600.0	6,482.7	9,172.4	7,530.0	23.9	41.9	28.61	474.1	2,427.9	1,696.0	1,649.7	46.35	36.593	
6,700.0	6,580.6	9,164.1	7,530.0	24.3	41.8	28.20	482.4	2,427.9	1,623.7	1,577.5	46.20	35.142	
6,800.0	6,678.5	9,155.8	7,530.0	24.7	41.7	27.79	490.7	2,427.9	1,554.3	1,508.2	46.05	33.751	
6,900.0	6,776.4	9,147.5	7,530.0	25.1	41.7	27.37	499.0	2,427.9	1,488.4	1,442.5	45.90	32.427	
7,000.0	6,874.2	9,139.2	7,530.0	25.5	41.6	26.96	507.3	2,427.9	1,426.4	1,380.6	45.74	31.183	
7,016.7	6,890.6	9,137.8	7,530.0	25.6	41.6	26.89	508.6	2,427.9	1,416.4	1,370.7	45.72	30.984	
7,050.0	6,923.2	9,136.0	7,530.0	25.7	41.5	8.43	510.4	2,427.9	1,397.0	1,352.9	44.12	31.666	
7,100.0	6,972.3	9,136.9	7,530.0	25.9	41.5	-20.36	509.5	2,427.9	1,368.7	1,326.7	42.01	32.583	
7,150.0	7,021.1	9,142.2	7,530.0	26.0	41.6	-43.14	504.2	2,427.9	1,341.9	1,301.5	40.35	33.258	
7,200.0	7,069.3	9,151.8	7,530.0	26.1	41.7	-58.46	494.6	2,427.9	1,316.7	1,277.5	39.16	33.619	
7,250.0	7,116.5	9,165.7	7,530.0	26.2	41.9	-68.62	480.8	2,427.9	1,293.3	1,254.9	38.44	33.643	
7,300.0	7,162.3	9,183.6	7,530.0	26.2	42.0	-75.57	462.8	2,427.9	1,272.0	1,233.9	38.14	33.353	
7,350.0	7,206.4	9,205.6	7,530.0	26.3	42.3	-80.43	440.9	2,427.9	1,252.8	1,214.6	38.19	32.801	
7,400.0	7,248.4	9,231.4	7,530.0	26.3	42.6	-83.87	415.1	2,427.9	1,235.7	1,197.1	38.56	32.043	
7,450.0	7,288.1	9,260.8	7,530.0	26.3	42.9	-86.30	385.6	2,427.9	1,220.7	1,181.5	39.19	31.149	
7,500.0	7,325.1	9,293.7	7,530.0	26.3	43.3	-87.98	352.8	2,427.9	1,207.7	1,167.7	40.03	30.175	
7,550.0	7,359.2	9,329.6	7,530.0	26.3	43.7	-89.09	316.8	2,427.9	1,196.8	1,155.7	41.04	29.162	
7,600.0	7,390.0	9,368.5	7,530.0	26.3	44.1	-89.77	277.9	2,427.9	1,187.6	1,145.5	42.18	28.156	
7,650.0	7,417.4	9,410.0	7,530.0	26.3	44.6	-90.14	236.4	2,427.9	1,180.2	1,136.7	43.42	27.183	
7,700.0	7,441.2	9,453.7	7,530.0	26.3	45.1	-90.30	192.7	2,427.9	1,174.2	1,129.5	44.71	26.259	
7,750.0	7,461.1	9,499.4	7,530.0	26.3	45.7	-90.31	147.0	2,428.0	1,169.5	1,123.5	46.05	25.398	
7,800.0	7,477.0	9,546.7	7,530.0	26.3	46.3	-90.25	99.7	2,428.0	1,166.0	1,118.6	47.41	24.597	
7,850.0	7,488.8	9,595.2	7,530.0	26.4	46.9	-90.17	51.2	2,428.0	1,163.6	1,114.8	48.77	23.858	
7,900.0	7,496.5	9,644.6	7,530.0	26.4	47.5	-90.09	1.8	2,428.0	1,162.1	1,111.9	50.15	23.172	
7,950.0	7,499.8	9,694.5	7,530.0	26.5	48.1	-90.05	-48.0	2,428.0	1,161.4	1,109.9	51.54	22.534	
7,963.8	7,500.0	9,708.3	7,530.0	26.5	48.3	-90.05	-61.9	2,428.0	1,161.4	1,109.5	51.93	22.365 CC	
7,964.3	7,500.0	9,708.8	7,530.0	26.5	48.3	-90.05	-62.4	2,428.0	1,161.4	1,109.5	51.94	22.359	
8,000.0	7,500.0	9,744.5	7,530.0	26.6	48.8	-90.05	-98.0	2,428.0	1,161.4	1,108.7	52.67	22.050	
8,100.0	7,500.0	9,844.5	7,530.0	26.8	50.1	-90.05	-198.0	2,428.0	1,161.4	1,106.6	54.86	21.172	
8,200.0	7,500.0	9,944.5	7,530.0	27.2	51.4	-90.05	-298.0	2,428.0	1,161.4	1,104.2	57.23	20.293	
8,300.0	7,500.0	10,044.5	7,530.0	27.7	52.8	-90.05	-398.0	2,428.0	1,161.5	1,101.7	59.78	19.429	
8,400.0	7,500.0	10,144.5	7,530.0	28.3	54.1	-90.05	-498.0	2,428.1	1,161.5	1,099.0	62.46	18.594	
8,500.0	7,500.0	10,244.5	7,530.0	29.0	55.6	-90.05	-598.0	2,428.1	1,161.5	1,096.2	65.27	17.796	
8,600.0	7,500.0	10,344.5	7,530.0	29.8	57.0	-90.05	-698.0	2,428.1	1,161.5	1,093.3	68.17	17.039	
8,700.0	7,500.0	10,444.5	7,530.0	30.6	58.4	-90.05	-798.0	2,428.1	1,161.5	1,090.4	71.15	16.324	
8,800.0	7,500.0	10,544.5	7,530.0	31.5	59.9	-90.05	-898.0	2,428.1	1,161.5	1,087.3	74.20	15.653	
8,900.0	7,500.0	10,644.5	7,530.0	32.5	61.4	-90.05	-998.0	2,428.1	1,161.6	1,084.3	77.31	15.024	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	
9,000.0	7,500.0	10,744.5	7,530.0	33.6	62.8	-90.05	-1,098.0	2,428.2	1,161.6	1,081.1	80.47	14.436		
9,100.0	7,500.0	10,844.5	7,530.0	34.7	64.4	-90.05	-1,198.0	2,428.2	1,161.6	1,077.9	83.66	13.885		
9,200.0	7,500.0	10,944.5	7,530.0	35.9	65.9	-90.05	-1,298.0	2,428.2	1,161.6	1,074.7	86.89	13.369		
9,300.0	7,500.0	11,044.5	7,530.0	37.1	67.4	-90.05	-1,398.0	2,428.2	1,161.6	1,071.5	90.14	12.886		
9,400.0	7,500.0	11,144.5	7,530.0	38.3	68.9	-90.05	-1,498.0	2,428.2	1,161.6	1,068.2	93.42	12.434		
9,500.0	7,500.0	11,244.5	7,530.0	39.6	70.5	-90.05	-1,598.0	2,428.2	1,161.7	1,064.9	96.73	12.010		
9,600.0	7,500.0	11,344.5	7,530.0	41.0	72.0	-90.05	-1,698.0	2,428.3	1,161.7	1,061.6	100.05	11.611		
9,700.0	7,500.0	11,444.5	7,530.0	42.3	73.6	-90.05	-1,798.0	2,428.3	1,161.7	1,058.3	103.38	11.237		
9,800.0	7,500.0	11,544.5	7,530.0	43.7	75.2	-90.05	-1,898.0	2,428.3	1,161.7	1,055.0	106.73	10.884		
9,900.0	7,500.0	11,644.5	7,530.0	45.1	76.8	-90.05	-1,998.0	2,428.3	1,161.7	1,051.6	110.09	10.552		
10,000.0	7,500.0	11,744.5	7,530.0	46.6	78.4	-90.05	-2,098.0	2,428.3	1,161.7	1,048.3	113.47	10.239		
10,100.0	7,500.0	11,844.5	7,530.0	48.0	80.0	-90.05	-2,198.0	2,428.3	1,161.8	1,044.9	116.85	9.942		
10,200.0	7,500.0	11,944.5	7,530.0	49.5	81.6	-90.05	-2,298.0	2,428.4	1,161.8	1,041.5	120.24	9.662		
10,300.0	7,500.0	12,044.5	7,530.0	51.0	83.2	-90.05	-2,398.0	2,428.4	1,161.8	1,038.2	123.64	9.396		
10,400.0	7,500.0	12,144.5	7,530.0	52.5	84.8	-90.05	-2,498.0	2,428.4	1,161.8	1,034.8	127.05	9.145		
10,500.0	7,500.0	12,244.5	7,530.0	54.0	86.4	-90.05	-2,598.0	2,428.4	1,161.8	1,031.4	130.46	8.905		
10,600.0	7,500.0	12,344.5	7,530.0	55.6	88.0	-90.05	-2,698.0	2,428.4	1,161.8	1,028.0	133.88	8.678		
10,700.0	7,500.0	12,444.5	7,530.0	57.1	89.7	-90.05	-2,798.0	2,428.4	1,161.9	1,024.6	137.31	8.462		
10,800.0	7,500.0	12,544.5	7,530.0	58.7	91.3	-90.05	-2,898.0	2,428.5	1,161.9	1,021.1	140.73	8.256		
10,900.0	7,500.0	12,644.5	7,530.0	60.3	93.0	-90.05	-2,998.0	2,428.5	1,161.9	1,017.7	144.17	8.059		
11,000.0	7,500.0	12,744.5	7,530.0	61.9	94.6	-90.05	-3,098.0	2,428.5	1,161.9	1,014.3	147.61	7.872		
11,100.0	7,500.0	12,844.5	7,530.0	63.5	96.3	-90.05	-3,198.0	2,428.5	1,161.9	1,010.9	151.05	7.692		
11,200.0	7,500.0	12,944.5	7,530.0	65.1	97.9	-90.05	-3,298.0	2,428.5	1,161.9	1,007.5	154.49	7.521		
11,300.0	7,500.0	13,044.5	7,530.0	66.7	99.6	-90.05	-3,398.0	2,428.5	1,162.0	1,004.0	157.94	7.357		
11,400.0	7,500.0	13,144.5	7,530.0	68.3	101.2	-90.05	-3,498.0	2,428.6	1,162.0	1,000.6	161.39	7.200		
11,500.0	7,500.0	13,244.5	7,530.0	69.9	102.9	-90.05	-3,598.0	2,428.6	1,162.0	997.2	164.84	7.049		
11,600.0	7,500.0	13,344.5	7,530.0	71.5	104.5	-90.05	-3,698.0	2,428.6	1,162.0	993.7	168.30	6.904		
11,700.0	7,500.0	13,444.5	7,530.0	73.2	106.2	-90.05	-3,798.0	2,428.6	1,162.0	990.3	171.76	6.766		
11,800.0	7,500.0	13,544.5	7,530.0	74.8	107.9	-90.05	-3,898.0	2,428.6	1,162.0	986.8	175.22	6.632		
11,900.0	7,500.0	13,644.5	7,530.0	76.5	109.6	-90.05	-3,998.0	2,428.6	1,162.1	983.4	178.68	6.504		
12,000.0	7,500.0	13,744.5	7,530.0	78.1	111.2	-90.05	-4,098.0	2,428.7	1,162.1	979.9	182.14	6.380		
12,100.0	7,500.0	13,844.5	7,530.0	79.8	112.9	-90.05	-4,198.0	2,428.7	1,162.1	976.5	185.61	6.261		
12,200.0	7,500.0	13,944.5	7,530.0	81.4	114.6	-90.05	-4,298.0	2,428.7	1,162.1	973.0	189.08	6.146		
12,300.0	7,500.0	14,044.5	7,530.0	83.1	116.3	-90.05	-4,398.0	2,428.7	1,162.1	969.6	192.55	6.035		
12,400.0	7,500.0	14,144.5	7,530.0	84.8	118.0	-90.05	-4,498.0	2,428.7	1,162.1	966.1	196.02	5.929		
12,500.0	7,500.0	14,244.5	7,530.0	86.4	119.7	-90.05	-4,598.0	2,428.7	1,162.2	962.7	199.49	5.826		
12,600.0	7,500.0	14,344.5	7,530.0	88.1	121.3	-90.05	-4,698.0	2,428.8	1,162.2	959.2	202.97	5.726		
12,700.0	7,500.0	14,444.5	7,530.0	89.8	123.0	-90.05	-4,798.0	2,428.8	1,162.2	955.8	206.44	5.630		
12,800.0	7,500.0	14,544.5	7,530.0	91.5	124.7	-90.05	-4,898.0	2,428.8	1,162.2	952.3	209.92	5.537		
12,900.0	7,500.0	14,644.5	7,530.0	93.2	126.4	-90.05	-4,998.0	2,428.8	1,162.2	948.8	213.39	5.446		
13,000.0	7,500.0	14,744.5	7,530.0	94.8	128.1	-90.05	-5,098.0	2,428.8	1,162.2	945.4	216.87	5.359		
13,100.0	7,500.0	14,844.5	7,530.0	96.5	129.8	-90.05	-5,198.0	2,428.8	1,162.3	941.9	220.35	5.275		
13,200.0	7,500.0	14,944.5	7,530.0	98.2	131.5	-90.05	-5,298.0	2,428.9	1,162.3	938.4	223.83	5.193		
13,300.0	7,500.0	15,044.5	7,530.0	99.9	133.2	-90.05	-5,398.0	2,428.9	1,162.3	935.0	227.31	5.113		
13,400.0	7,500.0	15,144.5	7,530.0	101.6	134.9	-90.05	-5,498.0	2,428.9	1,162.3	931.5	230.80	5.036		
13,500.0	7,500.0	15,244.5	7,530.0	103.3	136.6	-90.05	-5,598.0	2,428.9	1,162.3	928.0	234.28	4.961		
13,600.0	7,500.0	15,344.5	7,530.0	105.0	138.3	-90.05	-5,698.0	2,428.9	1,162.3	924.6	237.76	4.889		
13,700.0	7,500.0	15,444.5	7,530.0	106.7	140.0	-90.05	-5,798.0	2,428.9	1,162.4	921.1	241.25	4.818		
13,800.0	7,500.0	15,544.5	7,530.0	108.4	141.7	-90.05	-5,898.0	2,429.0	1,162.4	917.6	244.73	4.750		
13,900.0	7,500.0	15,644.5	7,530.0	110.1	143.4	-90.05	-5,998.0	2,429.0	1,162.4	914.2	248.22	4.683		
14,000.0	7,500.0	15,744.5	7,530.0	111.8	145.2	-90.05	-6,098.0	2,429.0	1,162.4	910.7	251.70	4.618		
14,100.0	7,500.0	15,844.5	7,530.0	113.5	146.9	-90.05	-6,198.0	2,429.0	1,162.4	907.2	255.19	4.555		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1A-7H-A168 - HZ - Plan #2												Offset Site Error:	0.0 ft
Survey Program: 0-Geolink 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	
14,200.0	7,500.0	15,944.5	7,530.0	115.2	148.6	-90.05	-6,298.0	2,429.0	1,162.4	903.8	258.68	4.494	
14,300.0	7,500.0	16,044.5	7,530.0	116.9	150.3	-90.05	-6,398.0	2,429.0	1,162.5	900.3	262.17	4.434	
14,400.0	7,500.0	16,144.5	7,530.0	118.6	152.0	-90.05	-6,498.0	2,429.1	1,162.5	896.8	265.66	4.376	
14,500.0	7,500.0	16,244.5	7,530.0	120.3	153.7	-90.05	-6,598.0	2,429.1	1,162.5	893.3	269.15	4.319	
14,600.0	7,500.0	16,344.5	7,530.0	122.1	155.4	-90.05	-6,698.0	2,429.1	1,162.5	889.9	272.64	4.264	
14,700.0	7,500.0	16,444.5	7,530.0	123.8	157.2	-90.05	-6,798.0	2,429.1	1,162.5	886.4	276.13	4.210	
14,800.0	7,500.0	16,544.5	7,530.0	125.5	158.9	-90.05	-6,898.0	2,429.1	1,162.5	882.9	279.62	4.158	
14,900.0	7,500.0	16,644.5	7,530.0	127.2	160.6	-90.05	-6,998.0	2,429.1	1,162.6	879.4	283.11	4.106	
15,000.0	7,500.0	16,744.5	7,530.0	128.9	162.3	-90.05	-7,098.0	2,429.2	1,162.6	876.0	286.60	4.056	
15,100.0	7,500.0	16,844.5	7,530.0	130.6	164.0	-90.05	-7,198.0	2,429.2	1,162.6	872.5	290.09	4.008	
15,200.0	7,500.0	16,944.5	7,530.0	132.4	165.7	-90.05	-7,298.0	2,429.2	1,162.6	869.0	293.58	3.960	
15,300.0	7,500.0	17,044.5	7,530.0	134.1	167.5	-90.05	-7,398.0	2,429.2	1,162.6	865.5	297.08	3.914	
15,400.0	7,500.0	17,144.5	7,530.0	135.8	169.2	-90.05	-7,498.0	2,429.2	1,162.6	862.1	300.57	3.868	
15,500.0	7,500.0	17,244.5	7,530.0	137.5	170.9	-90.05	-7,598.0	2,429.2	1,162.7	858.6	304.06	3.824	
15,600.0	7,500.0	17,344.5	7,530.0	139.2	172.6	-90.05	-7,698.0	2,429.3	1,162.7	855.1	307.56	3.780	
15,700.0	7,500.0	17,444.5	7,530.0	141.0	174.4	-90.05	-7,798.0	2,429.3	1,162.7	851.6	311.05	3.738	
15,800.0	7,500.0	17,544.5	7,530.0	142.7	176.1	-90.05	-7,898.0	2,429.3	1,162.7	848.2	314.55	3.696	
15,839.3	7,500.0	17,583.8	7,530.0	143.4	176.8	-90.05	-7,937.4	2,429.3	1,162.7	846.8	315.92	3.680 ES, SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	29.0	29.0	0.0	0.0	65.54	1,870.5	4,112.2	4,517.7					
100.0	100.0	129.0	129.0	0.2	0.2	65.54	1,870.5	4,112.2	4,517.7	4,517.3	0.35	N/A		
200.0	200.0	229.0	229.0	0.3	0.4	65.54	1,870.5	4,112.2	4,517.7	4,517.0	0.70	6,422.925		
300.0	300.0	452.0	451.9	0.5	0.8	65.51	1,871.5	4,108.8	4,516.6	4,515.3	1.27	3,548.864		
400.0	400.0	706.7	706.2	0.7	1.3	-0.75	1,875.2	4,094.7	4,511.3	4,509.4	1.91	2,361.632		
500.0	500.0	958.9	957.1	0.9	1.9	-0.96	1,881.9	4,069.9	4,500.9	4,498.3	2.59	1,737.004		
600.0	599.9	1,207.3	1,202.8	1.0	2.6	-1.27	1,891.2	4,035.2	4,485.4	4,482.0	3.33	1,347.967		
700.0	699.7	1,450.4	1,441.6	1.2	3.5	-1.66	1,902.9	3,991.2	4,465.0	4,460.8	4.13	1,080.222		
800.0	799.4	1,553.9	1,542.9	1.4	3.9	-1.86	1,908.5	3,970.2	4,441.2	4,436.6	4.59	967.082		
900.0	898.9	1,649.7	1,636.5	1.7	4.2	-2.05	1,913.7	3,950.8	4,415.7	4,410.7	5.03	877.507		
1,000.0	998.3	1,745.0	1,729.6	1.9	4.6	-2.24	1,918.9	3,931.4	4,388.6	4,383.2	5.47	801.949		
1,100.0	1,097.4	1,839.8	1,822.3	2.2	5.0	-2.44	1,924.1	3,912.2	4,359.9	4,354.0	5.91	737.389		
1,200.0	1,196.3	1,934.0	1,914.5	2.5	5.4	-2.64	1,929.2	3,893.1	4,329.6	4,323.2	6.35	681.598		
1,300.0	1,294.9	2,027.8	2,006.1	2.8	5.7	-2.85	1,934.3	3,874.1	4,297.6	4,290.8	6.79	632.899		
1,400.0	1,393.3	2,120.9	2,097.2	3.2	6.1	-3.07	1,939.3	3,855.1	4,264.1	4,256.8	7.23	590.011		
1,484.0	1,475.6	2,198.7	2,173.3	3.5	6.4	-3.26	1,943.5	3,839.4	4,234.6	4,227.0	7.59	557.726		
1,500.0	1,491.3	2,213.5	2,187.7	3.5	6.5	-3.29	1,944.3	3,836.4	4,228.9	4,221.3	7.67	551.703		
1,600.0	1,589.1	2,305.8	2,277.9	3.9	6.9	-3.49	1,949.4	3,817.6	4,193.3	4,185.2	8.12	516.335		
1,700.0	1,687.0	2,398.1	2,368.2	4.3	7.2	-3.70	1,954.4	3,798.9	4,157.7	4,149.1	8.58	484.586		
1,800.0	1,784.9	2,490.4	2,458.5	4.7	7.6	-3.92	1,959.4	3,780.2	4,122.1	4,113.1	9.04	455.931		
1,900.0	1,882.7	2,582.8	2,548.7	5.1	8.0	-4.13	1,964.4	3,761.4	4,086.6	4,077.1	9.50	429.946		
2,000.0	1,980.6	2,675.1	2,639.0	5.4	8.4	-4.35	1,969.4	3,742.7	4,051.2	4,041.2	9.97	406.275		
2,100.0	2,078.5	2,767.4	2,729.3	5.8	8.7	-4.58	1,974.4	3,723.9	4,015.8	4,005.3	10.44	384.626		
2,200.0	2,176.4	2,859.8	2,819.6	6.2	9.1	-4.80	1,979.4	3,705.2	3,980.4	3,969.5	10.91	364.753		
2,300.0	2,274.2	2,952.1	2,909.8	6.6	9.5	-5.03	1,984.4	3,686.5	3,945.2	3,933.8	11.39	346.447		
2,400.0	2,372.1	3,044.4	3,000.1	7.0	9.9	-5.27	1,989.5	3,667.7	3,909.9	3,898.1	11.87	329.531		
2,500.0	2,470.0	3,136.8	3,090.4	7.4	10.3	-5.51	1,994.5	3,649.0	3,874.8	3,862.4	12.35	313.854		
2,600.0	2,567.8	3,229.1	3,180.6	7.8	10.6	-5.75	1,999.5	3,630.2	3,839.7	3,826.8	12.83	299.286		
2,700.0	2,665.7	3,321.4	3,270.9	8.2	11.0	-6.00	2,004.5	3,611.5	3,804.6	3,791.3	13.32	285.714		
2,800.0	2,763.6	3,413.7	3,361.2	8.6	11.4	-6.25	2,009.5	3,592.8	3,769.7	3,755.9	13.81	273.040		
2,900.0	2,861.5	3,506.1	3,451.4	9.0	11.8	-6.51	2,014.5	3,574.0	3,734.8	3,720.5	14.30	261.179		
3,000.0	2,959.3	3,598.4	3,541.7	9.4	12.2	-6.77	2,019.5	3,555.3	3,699.9	3,685.1	14.80	250.055		
3,100.0	3,057.2	3,690.7	3,632.0	9.8	12.5	-7.04	2,024.5	3,536.6	3,665.2	3,649.9	15.30	239.603		
3,200.0	3,155.1	3,783.1	3,722.3	10.2	12.9	-7.31	2,029.6	3,517.8	3,630.5	3,614.7	15.80	229.765		
3,300.0	3,253.0	3,875.4	3,812.5	10.6	13.3	-7.59	2,034.6	3,499.1	3,595.9	3,579.6	16.31	220.488		
3,400.0	3,350.8	3,967.7	3,902.8	11.0	13.7	-7.87	2,039.6	3,480.3	3,561.3	3,544.5	16.82	211.727		
3,500.0	3,448.7	4,060.1	3,993.1	11.4	14.0	-8.16	2,044.6	3,461.6	3,526.9	3,509.5	17.34	203.439		
3,600.0	3,546.6	4,152.4	4,083.3	11.8	14.4	-8.45	2,049.6	3,442.9	3,492.5	3,474.6	17.86	195.589		
3,700.0	3,644.4	4,244.7	4,173.6	12.2	14.8	-8.75	2,054.6	3,424.1	3,458.2	3,439.8	18.38	188.144		
3,800.0	3,742.3	4,337.1	4,263.9	12.6	15.2	-9.05	2,059.6	3,405.4	3,424.0	3,405.1	18.91	181.072		
3,900.0	3,840.2	4,429.4	4,354.1	13.0	15.6	-9.36	2,064.6	3,386.7	3,389.9	3,370.5	19.44	174.348		
4,000.0	3,938.1	4,521.7	4,444.4	13.4	15.9	-9.68	2,069.6	3,367.9	3,355.9	3,335.9	19.98	167.947		
4,100.0	4,035.9	4,614.0	4,534.7	13.8	16.3	-10.00	2,074.7	3,349.2	3,322.0	3,301.4	20.53	161.848		
4,200.0	4,133.8	4,706.4	4,625.0	14.2	16.7	-10.33	2,079.7	3,330.4	3,288.1	3,267.1	21.07	156.028		
4,300.0	4,231.7	4,798.7	4,715.2	14.6	17.1	-10.67	2,084.7	3,311.7	3,254.4	3,232.8	21.63	150.472		
4,400.0	4,329.5	4,891.0	4,805.5	15.0	17.5	-11.01	2,089.7	3,293.0	3,220.8	3,198.6	22.19	145.161		
4,500.0	4,427.4	4,983.4	4,895.8	15.4	17.8	-11.36	2,094.7	3,274.2	3,187.3	3,164.5	22.75	140.080		
4,600.0	4,525.3	5,075.7	4,986.0	15.8	18.2	-11.71	2,099.7	3,255.5	3,153.9	3,130.6	23.32	135.216		
4,700.0	4,623.2	5,168.0	5,076.3	16.2	18.6	-12.08	2,104.7	3,236.8	3,120.6	3,096.7	23.90	130.555		
4,800.0	4,721.0	5,260.4	5,166.6	16.7	19.0	-12.45	2,109.7	3,218.0	3,087.4	3,063.0	24.49	126.086		
4,900.0	4,818.9	5,352.7	5,256.8	17.1	19.4	-12.83	2,114.8	3,199.3	3,054.4	3,029.3	25.08	121.798		
5,000.0	4,916.8	5,445.0	5,347.1	17.5	19.8	-13.21	2,119.8	3,180.5	3,021.5	2,995.8	25.68	117.680		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: O-Geolink MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,014.7	5,537.3	5,437.4	17.9	20.1	-13.61	2,124.8	3,161.8	2,988.7	2,962.4	26.28	113.724		
5,200.0	5,112.5	5,629.7	5,527.7	18.3	20.5	-14.01	2,129.8	3,143.1	2,956.1	2,929.2	26.89	109.921		
5,300.0	5,210.4	5,722.0	5,617.9	18.7	20.9	-14.42	2,134.8	3,124.3	2,923.5	2,896.0	27.51	106.263		
5,400.0	5,308.3	5,814.3	5,708.2	19.1	21.3	-14.84	2,139.8	3,105.6	2,891.2	2,863.0	28.14	102.742		
5,500.0	5,406.1	5,906.7	5,798.5	19.5	21.7	-15.27	2,144.8	3,086.9	2,859.0	2,830.2	28.78	99.352		
5,600.0	5,504.0	5,999.0	5,888.7	19.9	22.0	-15.71	2,149.8	3,068.1	2,826.9	2,797.5	29.42	96.086		
5,700.0	5,601.9	6,092.5	7,770.0	20.3	39.9	31.96	399.5	2,677.9	2,779.8	2,732.9	46.91	59.253		
5,800.0	5,699.8	6,421.2	7,770.0	20.7	39.8	31.62	407.8	2,677.9	2,693.0	2,646.1	46.86	57.463		
5,900.0	5,797.6	6,413.0	7,770.0	21.1	39.7	31.27	416.0	2,677.9	2,607.0	2,560.2	46.81	55.693		
6,000.0	5,895.5	6,404.7	7,770.0	21.5	39.6	30.92	424.3	2,677.9	2,522.0	2,475.3	46.75	53.945		
6,100.0	5,993.4	6,396.4	7,770.0	21.9	39.5	30.58	432.6	2,677.9	2,438.2	2,391.5	46.69	52.220		
6,200.0	6,091.2	6,388.1	7,770.0	22.3	39.4	30.23	440.9	2,677.9	2,355.6	2,309.0	46.63	50.520		
6,300.0	6,189.1	6,379.8	7,770.0	22.7	39.3	29.88	449.2	2,677.9	2,274.4	2,227.8	46.56	48.849		
6,400.0	6,287.0	6,371.5	7,770.0	23.1	39.2	29.53	457.5	2,677.9	2,194.7	2,148.2	46.49	47.209		
6,500.0	6,384.9	6,363.2	7,770.0	23.5	39.1	29.18	465.8	2,677.9	2,116.6	2,070.2	46.41	45.603		
6,600.0	6,482.7	6,354.9	7,770.0	23.9	39.0	28.83	474.1	2,677.9	2,040.5	1,994.2	46.34	44.036		
6,700.0	6,580.6	6,346.6	7,770.0	24.3	38.9	28.48	482.4	2,677.9	1,966.5	1,920.2	46.26	42.513		
6,800.0	6,678.5	6,338.3	7,770.0	24.7	38.8	28.13	490.7	2,677.9	1,894.8	1,848.6	46.17	41.037		
6,900.0	6,776.4	6,330.0	7,770.0	25.1	38.7	27.78	499.0	2,677.9	1,825.7	1,779.6	46.09	39.616		
7,000.0	6,874.2	6,321.7	7,770.0	25.5	38.6	27.43	507.3	2,677.9	1,759.6	1,713.6	45.99	38.257		
7,016.7	6,890.6	6,320.3	7,770.0	25.6	38.6	27.37	508.7	2,677.9	1,748.9	1,702.9	45.98	38.036		
7,050.0	6,923.2	6,318.5	7,770.0	25.7	38.6	8.58	510.5	2,677.9	1,727.7	1,683.4	44.35	38.953		
7,100.0	6,972.3	6,319.5	7,770.0	25.9	38.6	-20.75	509.5	2,677.9	1,696.6	1,654.5	42.15	40.254		
7,150.0	7,021.1	6,324.7	7,770.0	26.0	38.7	-44.13	504.3	2,677.9	1,666.6	1,626.3	40.34	41.310		
7,200.0	7,069.3	6,334.3	7,770.0	26.1	38.8	-60.10	494.7	2,677.9	1,638.0	1,599.0	39.00	41.999		
7,250.0	7,116.5	6,348.2	7,770.0	26.2	39.0	-70.93	480.8	2,677.9	1,610.9	1,572.7	38.11	42.265		
7,300.0	7,162.3	6,366.1	7,770.0	26.2	39.2	-78.55	462.9	2,677.9	1,585.5	1,547.8	37.64	42.119		
7,350.0	7,206.4	6,388.1	7,770.0	26.3	39.4	-84.11	440.9	2,677.9	1,562.0	1,524.4	37.53	41.617		
7,400.0	7,248.4	6,413.9	7,770.0	26.3	39.7	-88.26	415.1	2,677.9	1,540.5	1,502.7	37.73	40.824		
7,450.0	7,288.1	6,443.3	7,770.0	26.3	40.1	-91.38	385.7	2,677.9	1,521.0	1,482.8	38.20	39.816		
7,500.0	7,325.1	6,476.2	7,770.0	26.3	40.5	-93.74	352.8	2,677.9	1,503.5	1,464.7	38.89	38.664		
7,550.0	7,359.2	6,512.2	7,770.0	26.3	40.9	-95.52	316.8	2,677.9	1,488.2	1,448.4	39.77	37.421		
7,600.0	7,390.0	6,551.0	7,770.0	26.3	41.4	-96.84	278.0	2,677.9	1,474.8	1,434.0	40.82	36.130		
7,650.0	7,417.4	6,592.5	7,770.0	26.3	41.9	-97.81	236.5	2,677.9	1,463.4	1,421.4	42.01	34.835		
7,700.0	7,441.2	6,636.3	7,770.0	26.3	42.5	-98.50	192.7	2,678.0	1,453.9	1,410.6	43.32	33.560		
7,750.0	7,461.1	6,682.0	7,770.0	26.3	43.1	-98.99	147.0	2,678.0	1,446.2	1,401.5	44.73	32.333		
7,800.0	7,477.0	6,729.2	7,770.0	26.3	43.7	-99.31	99.8	2,678.0	1,440.2	1,394.0	46.21	31.166		
7,850.0	7,488.8	6,777.7	7,770.0	26.4	44.3	-99.52	51.3	2,678.0	1,435.9	1,388.1	47.75	30.073		
7,900.0	7,496.5	6,827.1	7,770.0	26.4	45.0	-99.64	1.9	2,678.0	1,433.1	1,383.8	49.32	29.058		
7,950.0	7,499.8	6,877.0	7,770.0	26.5	45.7	-99.69	-48.0	2,678.0	1,431.9	1,381.0	50.91	28.124		
7,964.1	7,500.0	6,891.0	7,770.0	26.5	45.9	-99.69	-62.0	2,678.0	1,431.8	1,380.5	51.36	27.876 CC		
7,964.3	7,500.0	6,891.3	7,770.0	26.5	45.9	-99.69	-62.3	2,678.0	1,431.8	1,380.5	51.37	27.872		
8,000.0	7,500.0	6,927.0	7,770.0	26.6	46.3	-99.69	-98.0	2,678.0	1,431.9	1,379.8	52.09	27.488		
8,100.0	7,500.0	10,027.0	7,770.0	26.8	47.7	-99.69	-198.0	2,678.0	1,431.9	1,377.6	54.25	26.396		
8,200.0	7,500.0	10,127.0	7,770.0	27.2	49.1	-99.69	-298.0	2,678.0	1,431.9	1,375.3	56.59	25.302		
8,300.0	7,500.0	10,227.0	7,770.0	27.7	50.6	-99.69	-398.0	2,678.1	1,431.9	1,372.8	59.10	24.228		
8,400.0	7,500.0	10,327.0	7,770.0	28.3	52.0	-99.69	-498.0	2,678.1	1,431.9	1,370.2	61.75	23.188		
8,500.0	7,500.0	10,427.0	7,770.0	29.0	53.5	-99.69	-598.0	2,678.1	1,431.9	1,367.4	64.52	22.194		
8,600.0	7,500.0	10,527.0	7,770.0	29.8	55.0	-99.69	-698.0	2,678.1	1,431.9	1,364.6	67.38	21.251		
8,700.0	7,500.0	10,627.0	7,770.0	30.6	56.5	-99.69	-798.0	2,678.1	1,432.0	1,361.6	70.33	20.361		
8,800.0	7,500.0	10,727.0	7,770.0	31.5	58.0	-99.69	-898.0	2,678.1	1,432.0	1,358.6	73.34	19.526		
8,900.0	7,500.0	10,827.0	7,770.0	32.5	59.5	-99.69	-998.0	2,678.2	1,432.0	1,355.6	76.40	18.743		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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)				
9,000.0	7,500.0	10,927.0	7,770.0	33.6	61.0	-99.69	-1,098.0	2,678.2	1,432.0	1,352.5	79.52	18.009		
9,100.0	7,500.0	11,027.0	7,770.0	34.7	62.6	-99.69	-1,198.0	2,678.2	1,432.0	1,349.4	82.67	17.323		
9,200.0	7,500.0	11,127.0	7,770.0	35.9	64.1	-99.69	-1,298.0	2,678.2	1,432.0	1,346.2	85.85	16.681		
9,300.0	7,500.0	11,227.0	7,770.0	37.1	65.7	-99.69	-1,398.0	2,678.2	1,432.1	1,343.0	89.06	16.080		
9,400.0	7,500.0	11,327.0	7,770.0	38.3	67.3	-99.69	-1,498.0	2,678.2	1,432.1	1,339.8	92.29	15.517		
9,500.0	7,500.0	11,427.0	7,770.0	39.6	68.9	-99.69	-1,598.0	2,678.3	1,432.1	1,336.5	95.55	14.988		
9,600.0	7,500.0	11,527.0	7,770.0	41.0	70.5	-99.69	-1,698.0	2,678.3	1,432.1	1,333.3	98.82	14.492		
9,700.0	7,500.0	11,627.0	7,770.0	42.3	72.1	-99.69	-1,798.0	2,678.3	1,432.1	1,330.0	102.11	14.025		
9,800.0	7,500.0	11,727.0	7,770.0	43.7	73.7	-99.69	-1,898.0	2,678.3	1,432.1	1,326.7	105.41	13.586		
9,900.0	7,500.0	11,827.0	7,770.0	45.1	75.3	-99.69	-1,998.0	2,678.3	1,432.2	1,323.4	108.73	13.172		
10,000.0	7,500.0	11,927.0	7,770.0	46.6	76.9	-99.69	-2,098.0	2,678.3	1,432.2	1,320.1	112.05	12.781		
10,100.0	7,500.0	12,027.0	7,770.0	48.0	78.6	-99.69	-2,198.0	2,678.4	1,432.2	1,316.8	115.39	12.412		
10,200.0	7,500.0	12,127.0	7,770.0	49.5	80.2	-99.69	-2,298.0	2,678.4	1,432.2	1,313.5	118.73	12.063		
10,300.0	7,500.0	12,227.0	7,770.0	51.0	81.8	-99.69	-2,398.0	2,678.4	1,432.2	1,310.1	122.08	11.732		
10,400.0	7,500.0	12,327.0	7,770.0	52.5	83.5	-99.69	-2,498.0	2,678.4	1,432.2	1,306.8	125.44	11.418		
10,500.0	7,500.0	12,427.0	7,770.0	54.0	85.1	-99.69	-2,598.0	2,678.4	1,432.3	1,303.5	128.81	11.120		
10,600.0	7,500.0	12,527.0	7,770.0	55.6	86.8	-99.69	-2,698.0	2,678.4	1,432.3	1,300.1	132.18	10.836		
10,700.0	7,500.0	12,627.0	7,770.0	57.1	88.5	-99.69	-2,798.0	2,678.5	1,432.3	1,296.7	135.55	10.566		
10,800.0	7,500.0	12,727.0	7,770.0	58.7	90.1	-99.69	-2,898.0	2,678.5	1,432.3	1,293.4	138.93	10.309		
10,900.0	7,500.0	12,827.0	7,770.0	60.3	91.8	-99.69	-2,998.0	2,678.5	1,432.3	1,290.0	142.32	10.064		
11,000.0	7,500.0	12,927.0	7,770.0	61.9	93.4	-99.69	-3,098.0	2,678.5	1,432.3	1,286.6	145.70	9.831		
11,100.0	7,500.0	13,027.0	7,770.0	63.5	95.1	-99.69	-3,198.0	2,678.5	1,432.4	1,283.3	149.10	9.607		
11,200.0	7,500.0	13,127.0	7,770.0	65.1	96.8	-99.69	-3,298.0	2,678.5	1,432.4	1,279.9	152.49	9.393		
11,300.0	7,500.0	13,227.0	7,770.0	66.7	98.5	-99.69	-3,398.0	2,678.6	1,432.4	1,276.5	155.89	9.188		
11,400.0	7,500.0	13,327.0	7,770.0	68.3	100.1	-99.69	-3,498.0	2,678.6	1,432.4	1,273.1	159.29	8.992		
11,500.0	7,500.0	13,427.0	7,770.0	69.9	101.8	-99.69	-3,598.0	2,678.6	1,432.4	1,269.7	162.70	8.804		
11,600.0	7,500.0	13,527.0	7,770.0	71.5	103.5	-99.69	-3,698.0	2,678.6	1,432.4	1,266.3	166.10	8.624		
11,700.0	7,500.0	13,627.0	7,770.0	73.2	105.2	-99.69	-3,798.0	2,678.6	1,432.5	1,262.9	169.51	8.451		
11,800.0	7,500.0	13,727.0	7,770.0	74.8	106.9	-99.69	-3,898.0	2,678.6	1,432.5	1,259.6	172.92	8.284		
11,900.0	7,500.0	13,827.0	7,770.0	76.5	108.6	-99.69	-3,998.0	2,678.7	1,432.5	1,256.2	176.34	8.124		
12,000.0	7,500.0	13,927.0	7,770.0	78.1	110.3	-99.69	-4,098.0	2,678.7	1,432.5	1,252.8	179.75	7.969		
12,100.0	7,500.0	14,027.0	7,770.0	79.8	112.0	-99.69	-4,198.0	2,678.7	1,432.5	1,249.4	183.17	7.821		
12,200.0	7,500.0	14,127.0	7,770.0	81.4	113.7	-99.69	-4,298.0	2,678.7	1,432.5	1,246.0	186.59	7.678		
12,300.0	7,500.0	14,227.0	7,770.0	83.1	115.4	-99.68	-4,398.0	2,678.7	1,432.6	1,242.5	190.01	7.540		
12,400.0	7,500.0	14,327.0	7,770.0	84.8	117.1	-99.68	-4,498.0	2,678.7	1,432.6	1,239.1	193.43	7.406		
12,500.0	7,500.0	14,427.0	7,770.0	86.4	118.8	-99.68	-4,598.0	2,678.7	1,432.6	1,235.7	196.85	7.278		
12,600.0	7,500.0	14,527.0	7,770.0	88.1	120.5	-99.68	-4,698.0	2,678.8	1,432.6	1,232.3	200.27	7.153		
12,700.0	7,500.0	14,627.0	7,770.0	89.8	122.2	-99.68	-4,798.0	2,678.8	1,432.6	1,228.9	203.70	7.033		
12,800.0	7,500.0	14,727.0	7,770.0	91.5	123.9	-99.68	-4,898.0	2,678.8	1,432.6	1,225.5	207.13	6.917		
12,900.0	7,500.0	14,827.0	7,770.0	93.2	125.6	-99.68	-4,998.0	2,678.8	1,432.7	1,222.1	210.55	6.804		
13,000.0	7,500.0	14,927.0	7,770.0	94.8	127.3	-99.68	-5,098.0	2,678.8	1,432.7	1,218.7	213.98	6.695		
13,100.0	7,500.0	15,027.0	7,770.0	96.5	129.0	-99.68	-5,198.0	2,678.8	1,432.7	1,215.3	217.41	6.590		
13,200.0	7,500.0	15,127.0	7,770.0	98.2	130.7	-99.68	-5,298.0	2,678.9	1,432.7	1,211.9	220.84	6.487		
13,300.0	7,500.0	15,227.0	7,770.0	99.9	132.4	-99.68	-5,398.0	2,678.9	1,432.7	1,208.4	224.28	6.388		
13,400.0	7,500.0	15,327.0	7,770.0	101.6	134.1	-99.68	-5,498.0	2,678.9	1,432.7	1,205.0	227.71	6.292		
13,500.0	7,500.0	15,427.0	7,770.0	103.3	135.8	-99.68	-5,598.0	2,678.9	1,432.8	1,201.6	231.14	6.199		
13,600.0	7,500.0	15,527.0	7,770.0	105.0	137.6	-99.68	-5,698.0	2,678.9	1,432.8	1,198.2	234.58	6.108		
13,700.0	7,500.0	15,627.0	7,770.0	106.7	139.3	-99.68	-5,798.0	2,678.9	1,432.8	1,194.8	238.01	6.020		
13,800.0	7,500.0	15,727.0	7,770.0	108.4	141.0	-99.68	-5,898.0	2,679.0	1,432.8	1,191.4	241.45	5.934		
13,900.0	7,500.0	15,827.0	7,770.0	110.1	142.7	-99.68	-5,998.0	2,679.0	1,432.8	1,187.9	244.88	5.851		
14,000.0	7,500.0	15,927.0	7,770.0	111.8	144.4	-99.68	-6,098.0	2,679.0	1,432.8	1,184.5	248.32	5.770		
14,100.0	7,500.0	16,027.0	7,770.0	113.5	146.1	-99.68	-6,198.0	2,679.0	1,432.8	1,181.1	251.76	5.691		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1B-7H-A168 - HZ - Plan #2										Offset Site Error:		0.0 ft	
Survey Program: 0-Geolink 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
14,200.0	7,500.0	16,127.0	7,770.0	115.2	147.9	-99.68	-6,298.0	2,679.0	1,432.9	1,177.7	255.20	5.615	
14,300.0	7,500.0	16,227.0	7,770.0	116.9	149.6	-99.68	-6,398.0	2,679.0	1,432.9	1,174.2	258.64	5.540	
14,400.0	7,500.0	16,327.0	7,770.0	118.6	151.3	-99.68	-6,498.0	2,679.1	1,432.9	1,170.8	262.07	5.468	
14,500.0	7,500.0	16,427.0	7,770.0	120.3	153.0	-99.68	-6,598.0	2,679.1	1,432.9	1,167.4	265.51	5.397	
14,600.0	7,500.0	16,527.0	7,770.0	122.1	154.8	-99.68	-6,698.0	2,679.1	1,432.9	1,164.0	268.96	5.328	
14,700.0	7,500.0	16,627.0	7,770.0	123.8	156.5	-99.68	-6,798.0	2,679.1	1,432.9	1,160.5	272.40	5.261	
14,800.0	7,500.0	16,727.0	7,770.0	125.5	158.2	-99.68	-6,898.0	2,679.1	1,433.0	1,157.1	275.84	5.195	
14,900.0	7,500.0	16,827.0	7,770.0	127.2	159.9	-99.68	-6,998.0	2,679.1	1,433.0	1,153.7	279.28	5.131	
15,000.0	7,500.0	16,927.0	7,770.0	128.9	161.7	-99.68	-7,098.0	2,679.2	1,433.0	1,150.3	282.72	5.069	
15,100.0	7,500.0	17,027.0	7,770.0	130.6	163.4	-99.68	-7,198.0	2,679.2	1,433.0	1,146.8	286.16	5.008	
15,200.0	7,500.0	17,127.0	7,770.0	132.4	165.1	-99.68	-7,298.0	2,679.2	1,433.0	1,143.4	289.61	4.948	
15,300.0	7,500.0	17,227.0	7,770.0	134.1	166.8	-99.68	-7,398.0	2,679.2	1,433.0	1,140.0	293.05	4.890	
15,400.0	7,500.0	17,327.0	7,770.0	135.8	168.6	-99.68	-7,498.0	2,679.2	1,433.1	1,136.6	296.49	4.833	
15,500.0	7,500.0	17,427.0	7,770.0	137.5	170.3	-99.68	-7,598.0	2,679.2	1,433.1	1,133.1	299.94	4.778	
15,600.0	7,500.0	17,527.0	7,770.0	139.2	172.0	-99.68	-7,698.0	2,679.3	1,433.1	1,129.7	303.38	4.724	
15,700.0	7,500.0	17,627.0	7,770.0	141.0	173.7	-99.68	-7,798.0	2,679.3	1,433.1	1,126.3	306.83	4.671	
15,800.0	7,500.0	17,727.0	7,770.0	142.7	175.5	-99.68	-7,898.0	2,679.3	1,433.1	1,122.9	310.27	4.619	
15,839.3	7,500.0	17,766.3	7,770.0	143.4	176.2	-99.68	-7,937.3	2,679.3	1,433.1	1,121.5	311.63	4.599 ES, SF	



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	28.0	28.0	0.0	0.0	65.60	1,870.2	4,122.3	4,526.7					
100.0	100.0	128.0	128.0	0.2	0.2	65.60	1,870.2	4,122.3	4,526.7	4,526.4	0.35	N/A		
200.0	200.0	228.0	228.0	0.3	0.4	65.60	1,870.2	4,122.3	4,526.7	4,526.0	0.70	6,451.763		
300.0	300.0	366.3	366.3	0.5	0.6	65.59	1,870.3	4,122.0	4,526.6	4,525.5	1.12	4,049.178		
400.0	400.0	602.6	602.5	0.7	1.0	-0.62	1,872.7	4,114.7	4,523.4	4,521.6	1.71	2,641.982		
500.0	500.0	837.5	836.7	0.9	1.5	-0.77	1,878.2	4,098.4	4,515.4	4,513.1	2.33	1,936.231		
600.0	599.9	1,069.6	1,067.3	1.0	2.1	-1.00	1,886.7	4,073.4	4,502.8	4,499.8	2.99	1,503.709		
700.0	699.7	1,297.9	1,292.8	1.2	2.8	-1.32	1,897.9	4,040.2	4,485.5	4,481.8	3.71	1,207.968		
800.0	799.4	1,405.3	1,398.6	1.4	3.2	-1.50	1,903.9	4,022.3	4,465.0	4,460.8	4.16	1,073.525		
900.0	898.9	1,502.0	1,493.8	1.7	3.5	-1.67	1,909.4	4,006.1	4,442.8	4,438.2	4.58	969.922		
1,000.0	998.3	1,598.3	1,588.6	1.9	3.8	-1.84	1,914.8	3,990.0	4,418.9	4,413.9	5.00	883.327		
1,100.0	1,097.4	1,694.2	1,683.0	2.2	4.1	-2.01	1,920.2	3,974.0	4,393.3	4,387.9	5.42	809.922		
1,200.0	1,196.3	1,789.6	1,776.9	2.5	4.5	-2.19	1,925.6	3,958.0	4,366.2	4,360.3	5.85	746.932		
1,300.0	1,294.9	1,884.6	1,870.3	2.8	4.8	-2.37	1,930.9	3,942.1	4,337.3	4,331.1	6.27	692.289		
1,400.0	1,393.3	1,979.0	1,963.3	3.2	5.1	-2.56	1,936.2	3,926.4	4,306.9	4,300.2	6.68	644.431		
1,484.0	1,475.6	2,057.9	2,041.0	3.5	5.4	-2.72	1,940.7	3,913.2	4,280.0	4,273.0	7.03	608.568		
1,500.0	1,491.3	2,072.9	2,055.7	3.5	5.4	-2.75	1,941.5	3,910.7	4,274.8	4,267.7	7.10	601.906		
1,600.0	1,589.1	2,166.5	2,147.9	3.9	5.8	-2.93	1,946.8	3,895.0	4,242.2	4,234.7	7.54	562.866		
1,700.0	1,687.0	2,260.2	2,240.1	4.3	6.1	-3.12	1,952.1	3,879.4	4,209.7	4,201.7	7.97	527.962		
1,800.0	1,784.9	2,353.9	2,332.3	4.7	6.4	-3.30	1,957.3	3,863.7	4,177.2	4,168.7	8.41	496.574		
1,900.0	1,882.7	2,447.5	2,424.5	5.1	6.8	-3.49	1,962.6	3,848.0	4,144.7	4,135.8	8.85	468.200		
2,000.0	1,980.6	2,541.2	2,516.7	5.4	7.1	-3.68	1,967.9	3,832.4	4,112.2	4,102.9	9.29	442.430		
2,100.0	2,078.5	2,634.9	2,608.9	5.8	7.4	-3.88	1,973.2	3,816.7	4,079.8	4,070.1	9.74	418.924		
2,200.0	2,176.4	2,728.5	2,701.1	6.2	7.8	-4.07	1,978.4	3,801.1	4,047.5	4,037.3	10.19	397.397		
2,300.0	2,274.2	2,822.2	2,793.3	6.6	8.1	-4.28	1,983.7	3,785.4	4,015.2	4,004.6	10.63	377.611		
2,400.0	2,372.1	2,915.9	2,885.5	7.0	8.4	-4.48	1,989.0	3,769.8	3,982.9	3,971.8	11.08	359.365		
2,500.0	2,470.0	3,009.5	2,977.7	7.4	8.8	-4.69	1,994.3	3,754.1	3,950.7	3,939.2	11.54	342.486		
2,600.0	2,567.8	3,103.2	3,069.9	7.8	9.1	-4.90	1,999.6	3,738.4	3,918.6	3,906.6	11.99	326.827		
2,700.0	2,665.7	3,196.9	3,162.1	8.2	9.4	-5.11	2,004.8	3,722.8	3,886.4	3,874.0	12.45	312.262		
2,800.0	2,763.6	3,290.5	3,254.3	8.6	9.7	-5.33	2,010.1	3,707.1	3,854.4	3,841.5	12.90	298.679		
2,900.0	2,861.5	3,384.2	3,346.5	9.0	10.1	-5.55	2,015.4	3,691.5	3,822.4	3,809.0	13.37	285.985		
3,000.0	2,959.3	3,477.9	3,438.7	9.4	10.4	-5.77	2,020.7	3,675.8	3,790.4	3,776.6	13.83	274.094		
3,100.0	3,057.2	3,571.6	3,530.9	9.8	10.7	-6.00	2,025.9	3,660.2	3,758.5	3,744.2	14.29	262.933		
3,200.0	3,155.1	3,665.2	3,623.1	10.2	11.1	-6.24	2,031.2	3,644.5	3,726.6	3,711.9	14.76	252.437		
3,300.0	3,253.0	3,758.9	3,715.3	10.6	11.4	-6.47	2,036.5	3,628.8	3,694.9	3,679.6	15.23	242.550		
3,400.0	3,350.8	3,852.6	3,807.5	11.0	11.7	-6.71	2,041.8	3,613.2	3,663.1	3,647.4	15.71	233.220		
3,500.0	3,448.7	3,946.2	3,899.7	11.4	12.1	-6.96	2,047.0	3,597.5	3,631.5	3,615.3	16.18	224.401		
3,600.0	3,546.6	4,039.9	3,991.9	11.8	12.4	-7.20	2,052.3	3,581.9	3,599.8	3,583.2	16.66	216.053		
3,700.0	3,644.4	4,133.6	4,084.1	12.2	12.7	-7.46	2,057.6	3,566.2	3,568.3	3,551.1	17.14	208.139		
3,800.0	3,742.3	4,227.2	4,176.3	12.6	13.1	-7.71	2,062.9	3,550.6	3,536.8	3,519.2	17.63	200.628		
3,900.0	3,840.2	4,320.9	4,268.5	13.0	13.4	-7.98	2,068.2	3,534.9	3,505.4	3,487.3	18.12	193.488		
4,000.0	3,938.1	4,414.6	4,360.7	13.4	13.7	-8.24	2,073.4	3,519.2	3,474.1	3,455.4	18.61	186.694		
4,100.0	4,035.9	4,508.2	4,452.9	13.8	14.1	-8.51	2,078.7	3,503.6	3,442.8	3,423.7	19.10	180.222		
4,200.0	4,133.8	4,601.9	4,545.1	14.2	14.4	-8.79	2,084.0	3,487.9	3,411.6	3,392.0	19.60	174.049		
4,300.0	4,231.7	4,695.6	4,637.3	14.6	14.7	-9.07	2,089.3	3,472.3	3,380.4	3,360.3	20.10	168.155		
4,400.0	4,329.5	4,789.2	4,729.5	15.0	15.1	-9.36	2,094.5	3,456.6	3,349.4	3,328.8	20.61	162.523		
4,500.0	4,427.4	4,882.9	4,821.7	15.4	15.4	-9.65	2,099.8	3,441.0	3,318.4	3,297.3	21.12	157.135		
4,600.0	4,525.3	4,976.6	4,913.9	15.8	15.8	-9.94	2,105.1	3,425.3	3,287.5	3,265.9	21.63	151.977		
4,700.0	4,623.2	5,070.2	5,006.1	16.2	16.1	-10.24	2,110.4	3,409.7	3,256.7	3,234.6	22.15	147.034		
4,800.0	4,721.0	5,163.9	5,098.3	16.7	16.4	-10.55	2,115.6	3,394.0	3,226.0	3,203.3	22.67	142.293		
4,900.0	4,818.9	5,257.6	5,190.5	17.1	16.8	-10.86	2,120.9	3,378.3	3,195.4	3,172.2	23.20	137.743		
5,000.0	4,916.8	5,351.3	5,282.7	17.5	17.1	-11.18	2,126.2	3,362.7	3,164.8	3,141.1	23.73	133.373		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2												Offset Site Error: 0.0 ft			
Survey Program: 0-Geolink 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			
5,100.0	5,014.7	5,444.9	5,374.9	17.9	17.4	-11.51	2,131.5	3,347.0	3,134.4	3,110.1	24.27	129.172			
5,200.0	5,112.5	5,538.6	5,467.1	18.3	17.8	-11.84	2,136.7	3,331.4	3,104.0	3,079.2	24.81	125.132			
5,300.0	5,210.4	5,632.3	5,559.3	18.7	18.1	-12.18	2,142.0	3,315.7	3,073.8	3,048.4	25.35	121.243			
5,400.0	5,308.3	5,725.9	5,651.5	19.1	18.4	-12.52	2,147.3	3,300.1	3,043.6	3,017.7	25.90	117.499			
5,500.0	5,406.1	9,167.9	7,530.0	19.5	37.0	30.70	371.9	2,971.5	2,971.5	2,926.0	45.42	65.418			
5,600.0	5,504.0	9,159.5	7,530.0	19.9	36.9	30.42	380.3	2,971.6	2,889.7	2,844.3	45.42	63.621			
5,700.0	5,601.9	9,151.1	7,530.0	20.3	36.8	30.14	388.7	2,971.6	2,809.1	2,763.7	45.42	61.854			
5,800.0	5,699.8	9,142.7	7,530.0	20.7	36.7	29.85	397.1	2,971.6	2,729.8	2,684.4	45.41	60.117			
5,900.0	5,797.6	9,134.3	7,530.0	21.1	36.6	29.57	405.5	2,971.7	2,651.8	2,606.4	45.40	58.414			
6,000.0	5,895.5	9,125.9	7,530.0	21.5	36.5	29.29	413.9	2,971.7	2,575.3	2,529.9	45.38	56.746			
6,100.0	5,993.4	9,117.5	7,530.0	21.9	36.4	29.00	422.2	2,971.8	2,500.5	2,455.1	45.37	55.116			
6,200.0	6,091.2	9,109.1	7,530.0	22.3	36.3	28.72	430.6	2,971.8	2,427.4	2,382.1	45.35	53.528			
6,300.0	6,189.1	9,100.7	7,530.0	22.7	36.2	28.44	439.0	2,971.8	2,356.3	2,311.0	45.33	51.984			
6,400.0	6,287.0	9,092.3	7,530.0	23.1	36.0	28.15	447.4	2,971.9	2,287.3	2,242.0	45.30	50.488			
6,500.0	6,384.9	9,084.0	7,530.0	23.5	35.9	27.87	455.8	2,971.9	2,220.6	2,175.4	45.28	49.044			
6,600.0	6,482.7	9,075.6	7,530.0	23.9	35.8	27.58	464.2	2,972.0	2,156.5	2,111.3	45.25	47.657			
6,700.0	6,580.6	9,067.2	7,530.0	24.3	35.7	27.30	472.6	2,972.0	2,095.2	2,050.0	45.22	46.332			
6,800.0	6,678.5	9,058.8	7,530.0	24.7	35.6	27.01	481.0	2,972.1	2,036.9	1,991.7	45.19	45.076			
6,900.0	6,776.4	9,050.4	7,530.0	25.1	35.5	26.73	489.4	2,972.1	1,981.9	1,936.8	45.15	43.892			
7,000.0	6,874.2	9,042.0	7,530.0	25.5	35.4	26.44	497.8	2,972.1	1,930.5	1,885.4	45.12	42.789			
7,016.7	6,890.6	9,040.6	7,530.0	25.6	35.4	26.39	499.2	2,972.2	1,922.3	1,877.2	45.11	42.613			
7,050.0	6,923.2	9,038.8	7,530.0	25.7	35.4	8.52	501.0	2,972.2	1,906.2	1,862.0	44.15	43.170			
7,100.0	6,972.3	9,039.6	7,530.0	25.9	35.4	-19.50	500.1	2,972.2	1,882.8	1,839.9	42.88	43.908			
7,150.0	7,021.1	9,044.9	7,530.0	26.0	35.4	-41.66	494.9	2,972.1	1,860.6	1,818.8	41.86	44.449			
7,200.0	7,069.3	9,054.4	7,530.0	26.1	35.6	-56.53	485.4	2,972.1	1,839.7	1,798.6	41.12	44.742			
7,250.0	7,116.5	9,068.2	7,530.0	26.2	35.7	-66.39	471.6	2,972.0	1,820.3	1,779.6	40.66	44.766			
7,300.0	7,162.3	9,086.1	7,530.0	26.2	36.0	-73.15	453.6	2,971.9	1,802.4	1,761.9	40.48	44.529			
7,350.0	7,206.4	9,108.1	7,530.0	26.3	36.2	-77.96	431.7	2,971.8	1,786.2	1,745.6	40.54	44.056			
7,400.0	7,248.4	9,133.8	7,530.0	26.3	36.6	-81.46	406.0	2,971.7	1,771.6	1,730.8	40.83	43.385			
7,450.0	7,288.1	9,163.2	7,530.0	26.3	37.0	-84.02	376.6	2,971.5	1,758.7	1,717.3	41.32	42.566			
7,500.0	7,325.1	9,196.0	7,530.0	26.3	37.4	-85.90	343.8	2,971.4	1,747.3	1,705.4	41.96	41.641			
7,550.0	7,359.2	9,232.0	7,530.0	26.3	37.9	-87.26	307.8	2,971.2	1,737.5	1,694.8	42.75	40.645			
7,600.0	7,390.0	9,270.8	7,530.0	26.3	38.4	-88.23	269.0	2,971.0	1,729.1	1,685.5	43.65	39.617			
7,650.0	7,417.4	9,312.3	7,530.0	26.3	39.0	-88.91	227.5	2,970.8	1,722.1	1,677.5	44.64	38.582			
7,700.0	7,441.2	9,356.0	7,530.0	26.3	39.6	-89.36	183.8	2,970.6	1,716.4	1,670.7	45.70	37.558			
7,750.0	7,461.1	9,401.6	7,530.0	26.3	40.2	-89.66	138.1	2,970.3	1,711.7	1,664.9	46.82	36.562			
7,800.0	7,477.0	9,448.9	7,530.0	26.3	40.9	-89.84	90.9	2,970.1	1,708.1	1,660.1	47.98	35.599			
7,850.0	7,488.8	9,497.4	7,530.0	26.4	41.6	-89.95	42.4	2,969.8	1,705.5	1,656.3	49.18	34.678			
7,900.0	7,496.5	9,546.8	7,530.0	26.4	42.3	-90.02	-7.0	2,969.6	1,703.7	1,653.3	50.41	33.796			
7,950.0	7,499.8	9,596.6	7,530.0	26.5	43.0	-90.06	-56.9	2,969.3	1,702.8	1,651.1	51.66	32.959			
7,964.3	7,500.0	9,611.0	7,530.0	26.5	43.2	-90.07	-71.2	2,969.3	1,702.7	1,650.7	52.03	32.727			
8,000.0	7,500.0	9,646.6	7,530.0	26.6	43.7	-90.07	-106.9	2,969.1	1,702.5	1,649.8	52.76	32.271			
8,100.0	7,500.0	9,746.6	7,530.0	26.8	45.2	-90.07	-206.9	2,968.6	1,702.0	1,647.1	54.94	30.977			
8,200.0	7,500.0	9,846.6	7,530.0	27.2	46.7	-90.07	-306.9	2,968.1	1,701.5	1,644.2	57.32	29.683			
8,300.0	7,500.0	9,946.6	7,530.0	27.7	48.2	-90.07	-406.8	2,967.6	1,701.0	1,641.1	59.87	28.412			
8,400.0	7,500.0	10,046.6	7,530.0	28.3	49.7	-90.07	-506.8	2,967.1	1,700.5	1,637.9	62.56	27.184			
8,500.0	7,500.0	10,146.6	7,530.0	29.0	51.3	-90.07	-606.8	2,966.5	1,700.0	1,634.6	65.36	26.009			
8,600.0	7,500.0	10,246.6	7,530.0	29.8	52.8	-90.07	-706.8	2,966.0	1,699.5	1,631.2	68.26	24.895			
8,700.0	7,500.0	10,346.6	7,530.0	30.6	54.4	-90.07	-806.8	2,965.5	1,699.0	1,627.7	71.25	23.845			
8,800.0	7,500.0	10,446.6	7,530.0	31.5	56.0	-90.07	-906.8	2,965.0	1,698.5	1,624.2	74.30	22.859			
8,900.0	7,500.0	10,546.6	7,530.0	32.5	57.6	-90.07	-1,006.8	2,964.5	1,698.0	1,620.6	77.41	21.934			
9,000.0	7,500.0	10,646.6	7,530.0	33.6	59.2	-90.07	-1,106.8	2,964.0	1,697.5	1,616.9	80.57	21.069			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2												Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	
9,100.0	7,500.0	10,746.6	7,530.0	34.7	60.8	-90.07	-1,206.8	2,963.5	1,696.9	1,613.2	83.76	20.259	
9,200.0	7,500.0	10,846.6	7,530.0	35.9	62.4	-90.07	-1,306.8	2,963.0	1,696.4	1,609.5	86.99	19.502	
9,300.0	7,500.0	10,946.6	7,530.0	37.1	64.0	-90.07	-1,406.8	2,962.5	1,695.9	1,605.7	90.25	18.792	
9,400.0	7,500.0	11,046.6	7,530.0	38.3	65.6	-90.07	-1,506.8	2,962.0	1,695.4	1,601.9	93.53	18.127	
9,500.0	7,500.0	11,146.6	7,530.0	39.6	67.3	-90.07	-1,606.8	2,961.5	1,694.9	1,598.1	96.83	17.504	
9,600.0	7,500.0	11,246.6	7,530.0	41.0	68.9	-90.07	-1,706.8	2,961.0	1,694.4	1,594.3	100.15	16.919	
9,700.0	7,500.0	11,346.6	7,530.0	42.3	70.6	-90.07	-1,806.8	2,960.5	1,693.9	1,590.4	103.49	16.368	
9,800.0	7,500.0	11,446.6	7,530.0	43.7	72.2	-90.07	-1,906.8	2,960.0	1,693.4	1,586.6	106.84	15.850	
9,900.0	7,500.0	11,546.6	7,530.0	45.1	73.9	-90.07	-2,006.8	2,959.4	1,692.9	1,582.7	110.20	15.362	
10,000.0	7,500.0	11,646.6	7,530.0	46.6	75.5	-90.07	-2,106.8	2,958.9	1,692.4	1,578.8	113.58	14.901	
10,100.0	7,500.0	11,746.6	7,530.0	48.0	77.2	-90.07	-2,206.8	2,958.4	1,691.9	1,574.9	116.96	14.466	
10,200.0	7,500.0	11,846.6	7,530.0	49.5	78.9	-90.07	-2,306.8	2,957.9	1,691.4	1,571.0	120.35	14.054	
10,300.0	7,500.0	11,946.6	7,530.0	51.0	80.5	-90.07	-2,406.8	2,957.4	1,690.9	1,567.1	123.75	13.663	
10,400.0	7,500.0	12,046.6	7,530.0	52.5	82.2	-90.07	-2,506.8	2,956.9	1,690.4	1,563.2	127.16	13.293	
10,500.0	7,500.0	12,146.6	7,530.0	54.0	83.9	-90.07	-2,606.8	2,956.4	1,689.9	1,559.3	130.57	12.942	
10,600.0	7,500.0	12,246.6	7,530.0	55.6	85.6	-90.07	-2,706.8	2,955.9	1,689.3	1,555.4	133.99	12.608	
10,700.0	7,500.0	12,346.6	7,530.0	57.1	87.2	-90.07	-2,806.8	2,955.4	1,688.8	1,551.4	137.42	12.290	
10,800.0	7,500.0	12,446.6	7,530.0	58.7	88.9	-90.07	-2,906.8	2,954.9	1,688.3	1,547.5	140.85	11.987	
10,900.0	7,500.0	12,546.6	7,530.0	60.3	90.6	-90.07	-3,006.8	2,954.4	1,687.8	1,543.5	144.28	11.698	
11,000.0	7,500.0	12,646.6	7,530.0	61.9	92.3	-90.07	-3,106.8	2,953.9	1,687.3	1,539.6	147.72	11.423	
11,100.0	7,500.0	12,746.6	7,530.0	63.5	94.0	-90.07	-3,206.8	2,953.4	1,686.8	1,535.6	151.16	11.159	
11,200.0	7,500.0	12,846.6	7,530.0	65.1	95.7	-90.07	-3,306.8	2,952.9	1,686.3	1,531.7	154.60	10.907	
11,300.0	7,500.0	12,946.6	7,530.0	66.7	97.4	-90.07	-3,406.8	2,952.4	1,685.8	1,527.7	158.05	10.666	
11,400.0	7,500.0	13,046.6	7,530.0	68.3	99.1	-90.07	-3,506.8	2,951.8	1,685.3	1,523.8	161.50	10.435	
11,500.0	7,500.0	13,146.6	7,530.0	69.9	100.8	-90.07	-3,606.8	2,951.3	1,684.8	1,519.8	164.96	10.213	
11,600.0	7,500.0	13,246.6	7,530.0	71.5	102.5	-90.07	-3,706.8	2,950.8	1,684.3	1,515.9	168.41	10.001	
11,700.0	7,500.0	13,346.6	7,530.0	73.2	104.2	-90.07	-3,806.8	2,950.3	1,683.8	1,511.9	171.87	9.797	
11,800.0	7,500.0	13,446.6	7,530.0	74.8	105.9	-90.07	-3,906.8	2,949.8	1,683.3	1,507.9	175.33	9.600	
11,900.0	7,500.0	13,546.6	7,530.0	76.5	107.6	-90.07	-4,006.8	2,949.3	1,682.8	1,504.0	178.80	9.412	
12,000.0	7,500.0	13,646.6	7,530.0	78.1	109.3	-90.07	-4,106.8	2,948.8	1,682.2	1,500.0	182.26	9.230	
12,100.0	7,500.0	13,746.6	7,530.0	79.8	111.1	-90.07	-4,206.8	2,948.3	1,681.7	1,496.0	185.73	9.055	
12,200.0	7,500.0	13,846.6	7,530.0	81.4	112.8	-90.07	-4,306.7	2,947.8	1,681.2	1,492.0	189.19	8.886	
12,300.0	7,500.0	13,946.6	7,530.0	83.1	114.5	-90.07	-4,406.7	2,947.3	1,680.7	1,488.1	192.66	8.724	
12,400.0	7,500.0	14,046.6	7,530.0	84.8	116.2	-90.07	-4,506.7	2,946.8	1,680.2	1,484.1	196.14	8.567	
12,500.0	7,500.0	14,146.6	7,530.0	86.4	117.9	-90.07	-4,606.7	2,946.3	1,679.7	1,480.1	199.61	8.415	
12,600.0	7,500.0	14,246.6	7,530.0	88.1	119.6	-90.07	-4,706.7	2,945.8	1,679.2	1,476.1	203.08	8.269	
12,700.0	7,500.0	14,346.6	7,530.0	89.8	121.4	-90.07	-4,806.7	2,945.3	1,678.7	1,472.1	206.56	8.127	
12,800.0	7,500.0	14,446.6	7,530.0	91.5	123.1	-90.07	-4,906.7	2,944.7	1,678.2	1,468.2	210.03	7.990	
12,900.0	7,500.0	14,546.6	7,530.0	93.2	124.8	-90.07	-5,006.7	2,944.2	1,677.7	1,464.2	213.51	7.858	
13,000.0	7,500.0	14,646.6	7,530.0	94.8	126.5	-90.07	-5,106.7	2,943.7	1,677.2	1,460.2	216.99	7.729	
13,100.0	7,500.0	14,746.6	7,530.0	96.5	128.2	-90.07	-5,206.7	2,943.2	1,676.7	1,456.2	220.47	7.605	
13,200.0	7,500.0	14,846.6	7,530.0	98.2	130.0	-90.07	-5,306.7	2,942.7	1,676.2	1,452.2	223.95	7.485	
13,300.0	7,500.0	14,946.6	7,530.0	99.9	131.7	-90.07	-5,406.7	2,942.2	1,675.7	1,448.2	227.43	7.368	
13,400.0	7,500.0	15,046.6	7,530.0	101.6	133.4	-90.07	-5,506.7	2,941.7	1,675.1	1,444.2	230.91	7.254	
13,500.0	7,500.0	15,146.6	7,530.0	103.3	135.1	-90.07	-5,606.7	2,941.2	1,674.6	1,440.2	234.40	7.144	
13,600.0	7,500.0	15,246.6	7,530.0	105.0	136.9	-90.07	-5,706.7	2,940.7	1,674.1	1,436.3	237.88	7.038	
13,700.0	7,500.0	15,346.6	7,530.0	106.7	138.6	-90.07	-5,806.7	2,940.2	1,673.6	1,432.3	241.36	6.934	
13,800.0	7,500.0	15,446.6	7,530.0	108.4	140.3	-90.07	-5,906.7	2,939.7	1,673.1	1,428.3	244.85	6.833	
13,900.0	7,500.0	15,546.6	7,530.0	110.1	142.0	-90.07	-6,006.7	2,939.2	1,672.6	1,424.3	248.34	6.735	
14,000.0	7,500.0	15,646.6	7,530.0	111.8	143.8	-90.07	-6,106.7	2,938.7	1,672.1	1,420.3	251.82	6.640	
14,100.0	7,500.0	15,746.6	7,530.0	113.5	145.5	-90.07	-6,206.7	2,938.2	1,671.6	1,416.3	255.31	6.547	
14,200.0	7,500.0	15,846.6	7,530.0	115.2	147.2	-90.07	-6,306.7	2,937.6	1,671.1	1,412.3	258.80	6.457	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1C-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink 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		
14,300.0	7,500.0	15,946.6	7,530.0	116.9	149.0	-90.07	-6,406.7	2,937.1	1,670.6	1,408.3	262.29	6.369		
14,400.0	7,500.0	16,046.6	7,530.0	118.6	150.7	-90.07	-6,506.7	2,936.6	1,670.1	1,404.3	265.77	6.284		
14,500.0	7,500.0	16,146.6	7,530.0	120.3	152.4	-90.07	-6,606.7	2,936.1	1,669.6	1,400.3	269.26	6.200		
14,600.0	7,500.0	16,246.6	7,530.0	122.1	154.2	-90.07	-6,706.7	2,935.6	1,669.1	1,396.3	272.75	6.119		
14,700.0	7,500.0	16,346.6	7,530.0	123.8	155.9	-90.07	-6,806.7	2,935.1	1,668.6	1,392.3	276.24	6.040		
14,800.0	7,500.0	16,446.5	7,530.0	125.5	157.6	-90.07	-6,906.7	2,934.6	1,668.1	1,388.3	279.74	5.963		
14,900.0	7,500.0	16,546.5	7,530.0	127.2	159.4	-90.07	-7,006.7	2,934.1	1,667.5	1,384.3	283.23	5.888		
15,000.0	7,500.0	16,646.5	7,530.0	128.9	161.1	-90.07	-7,106.7	2,933.6	1,667.0	1,380.3	286.72	5.814		
15,100.0	7,500.0	16,746.5	7,530.0	130.6	162.8	-90.07	-7,206.7	2,933.1	1,666.5	1,376.3	290.21	5.742		
15,200.0	7,500.0	16,846.5	7,530.0	132.4	164.6	-90.07	-7,306.7	2,932.6	1,666.0	1,372.3	293.70	5.672		
15,300.0	7,500.0	16,946.5	7,530.0	134.1	166.3	-90.07	-7,406.7	2,932.1	1,665.5	1,368.3	297.20	5.604		
15,400.0	7,500.0	17,046.5	7,530.0	135.8	168.0	-90.07	-7,506.7	2,931.6	1,665.0	1,364.3	300.69	5.537		
15,500.0	7,500.0	17,146.5	7,530.0	137.5	169.8	-90.07	-7,606.7	2,931.1	1,664.5	1,360.3	304.18	5.472		
15,600.0	7,500.0	17,246.5	7,530.0	139.2	171.5	-90.07	-7,706.7	2,930.6	1,664.0	1,356.3	307.68	5.408		
15,700.0	7,500.0	17,346.5	7,530.0	141.0	173.2	-90.07	-7,806.7	2,930.0	1,663.5	1,352.3	311.17	5.346		
15,800.0	7,500.0	17,446.5	7,530.0	142.7	175.0	-90.07	-7,906.7	2,929.5	1,663.0	1,348.3	314.67	5.285		
15,839.3	7,500.0	17,485.9	7,530.0	143.4	175.7	-90.07	-7,946.0	2,929.3	1,662.8	1,346.7	316.04	5.261	CC, ES, SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	
0.0	0.0	28.0	28.0	0.0	0.0	65.65	1,870.2	4,132.1	4,535.6					
100.0	100.0	128.0	128.0	0.2	0.2	65.65	1,870.2	4,132.1	4,535.6	4,535.3	0.35	N/A		
200.0	200.0	228.0	228.0	0.3	0.4	65.65	1,870.2	4,132.1	4,535.6	4,534.9	0.70	6,464.480		
300.0	300.0	328.0	328.0	0.5	0.5	65.65	1,870.2	4,132.1	4,535.6	4,534.6	1.05	4,316.813		
400.0	400.0	522.5	522.5	0.7	0.9	-0.52	1,871.1	4,129.7	4,533.9	4,532.4	1.57	2,895.195		
500.0	500.0	742.8	742.5	0.9	1.3	-0.62	1,875.2	4,119.6	4,527.9	4,525.8	2.14	2,115.344		
600.0	599.9	961.2	960.0	1.0	1.8	-0.80	1,882.3	4,101.9	4,517.5	4,514.8	2.74	1,645.964		
700.0	699.7	1,176.7	1,173.9	1.2	2.3	-1.06	1,892.3	4,076.8	4,502.8	4,499.4	3.39	1,327.299		
800.0	799.4	1,279.3	1,275.4	1.4	2.6	-1.20	1,897.9	4,063.0	4,485.0	4,481.2	3.80	1,179.000		
900.0	898.9	1,376.8	1,371.8	1.7	2.9	-1.34	1,903.1	4,049.9	4,465.6	4,461.4	4.21	1,061.625		
1,000.0	998.3	1,474.0	1,467.9	1.9	3.2	-1.49	1,908.4	4,036.8	4,444.4	4,439.8	4.61	964.237		
1,100.0	1,097.4	1,570.7	1,563.7	2.2	3.5	-1.64	1,913.6	4,023.7	4,421.6	4,416.6	5.01	882.202		
1,200.0	1,196.3	1,667.1	1,659.0	2.5	3.8	-1.79	1,918.8	4,010.7	4,397.1	4,391.7	5.41	812.185		
1,300.0	1,294.9	1,763.0	1,753.9	2.8	4.1	-1.94	1,924.0	3,997.8	4,371.0	4,365.1	5.81	751.733		
1,400.0	1,393.3	1,858.4	1,848.3	3.2	4.3	-2.10	1,929.2	3,984.9	4,343.2	4,336.9	6.21	699.007		
1,484.0	1,475.6	1,938.2	1,927.3	3.5	4.6	-2.24	1,933.5	3,974.1	4,318.5	4,312.0	6.55	659.634		
1,500.0	1,491.3	1,953.4	1,942.2	3.5	4.6	-2.26	1,934.3	3,972.1	4,313.7	4,307.1	6.61	652.344		
1,600.0	1,589.1	2,048.1	2,036.0	3.9	4.9	-2.42	1,939.4	3,959.3	4,283.7	4,276.7	7.03	609.712		
1,700.0	1,687.0	2,142.9	2,129.7	4.3	5.2	-2.57	1,944.5	3,946.5	4,253.8	4,246.3	7.44	571.713		
1,800.0	1,784.9	2,237.6	2,223.5	4.7	5.5	-2.73	1,949.7	3,933.8	4,223.9	4,216.0	7.86	537.636		
1,900.0	1,882.7	2,332.4	2,317.2	5.1	5.8	-2.89	1,954.8	3,921.0	4,194.0	4,185.7	8.27	506.908		
2,000.0	1,980.6	2,427.1	2,411.0	5.4	6.1	-3.06	1,959.9	3,908.2	4,164.1	4,155.4	8.69	479.062		
2,100.0	2,078.5	2,521.9	2,504.7	5.8	6.4	-3.22	1,965.0	3,895.4	4,134.2	4,125.1	9.11	453.713		
2,200.0	2,176.4	2,616.6	2,598.5	6.2	6.6	-3.39	1,970.1	3,882.6	4,104.4	4,094.9	9.53	430.542		
2,300.0	2,274.2	2,711.4	2,692.2	6.6	6.9	-3.56	1,975.3	3,869.9	4,074.7	4,064.7	9.96	409.280		
2,400.0	2,372.1	2,806.1	2,786.0	7.0	7.2	-3.73	1,980.4	3,857.1	4,044.9	4,034.6	10.38	389.703		
2,500.0	2,470.0	2,900.9	2,879.7	7.4	7.5	-3.90	1,985.5	3,844.3	4,015.2	4,004.4	10.80	371.618		
2,600.0	2,567.8	2,995.6	2,973.4	7.8	7.8	-4.08	1,990.6	3,831.5	3,985.6	3,974.3	11.23	354.861		
2,700.0	2,665.7	3,090.4	3,067.2	8.2	8.1	-4.26	1,995.7	3,818.7	3,955.9	3,944.3	11.66	339.293		
2,800.0	2,763.6	3,185.1	3,160.9	8.6	8.4	-4.44	2,000.9	3,806.0	3,926.3	3,914.2	12.09	324.791		
2,900.0	2,861.5	3,279.9	3,254.7	9.0	8.7	-4.63	2,006.0	3,793.2	3,896.8	3,884.2	12.52	311.251		
3,000.0	2,959.3	3,374.6	3,348.4	9.4	9.0	-4.82	2,011.1	3,780.4	3,867.2	3,854.3	12.95	298.579		
3,100.0	3,057.2	3,469.4	3,442.2	9.8	9.3	-5.01	2,016.2	3,767.6	3,837.8	3,824.4	13.39	286.695		
3,200.0	3,155.1	3,564.1	3,535.9	10.2	9.6	-5.20	2,021.3	3,754.8	3,808.3	3,794.5	13.82	275.529		
3,300.0	3,253.0	3,658.9	3,629.7	10.6	9.8	-5.40	2,026.5	3,742.1	3,778.9	3,764.7	14.26	265.017		
3,400.0	3,350.8	3,753.6	3,723.4	11.0	10.1	-5.60	2,031.6	3,729.3	3,749.6	3,734.9	14.70	255.103		
3,500.0	3,448.7	3,848.4	3,817.2	11.4	10.4	-5.80	2,036.7	3,716.5	3,720.3	3,705.1	15.14	245.738		
3,600.0	3,546.6	3,943.1	3,910.9	11.8	10.7	-6.01	2,041.8	3,703.7	3,691.0	3,675.4	15.58	236.878		
3,700.0	3,644.4	4,037.9	4,004.6	12.2	11.0	-6.22	2,046.9	3,690.9	3,661.8	3,645.7	16.03	228.483		
3,800.0	3,742.3	4,132.6	4,098.4	12.6	11.3	-6.43	2,052.1	3,678.2	3,632.6	3,616.1	16.47	220.518		
3,900.0	3,840.2	4,227.4	4,192.1	13.0	11.6	-6.65	2,057.2	3,665.4	3,603.4	3,586.5	16.92	212.951		
4,000.0	3,938.1	4,322.1	4,285.9	13.4	11.9	-6.87	2,062.3	3,652.6	3,574.4	3,557.0	17.37	205.752		
4,100.0	4,035.9	4,416.9	4,379.6	13.8	12.2	-7.09	2,067.4	3,639.8	3,545.3	3,527.5	17.83	198.895		
4,200.0	4,133.8	4,511.6	4,473.4	14.2	12.5	-7.32	2,072.5	3,627.0	3,516.3	3,498.1	18.28	192.358		
4,300.0	4,231.7	4,606.4	4,567.1	14.6	12.8	-7.55	2,077.7	3,614.3	3,487.4	3,468.7	18.74	186.118		
4,400.0	4,329.5	4,701.1	4,660.9	15.0	13.1	-7.78	2,082.8	3,601.5	3,458.5	3,439.3	19.20	180.155		
4,500.0	4,427.4	4,795.9	4,754.6	15.4	13.4	-8.02	2,087.9	3,588.7	3,429.7	3,410.1	19.66	174.452		
4,600.0	4,525.3	4,890.6	4,848.4	15.8	13.6	-8.26	2,093.0	3,575.9	3,401.0	3,380.8	20.13	168.991		
4,700.0	4,623.2	4,985.4	4,942.1	16.2	13.9	-8.51	2,098.2	3,563.1	3,372.2	3,351.7	20.59	163.759		
4,800.0	4,721.0	5,080.1	5,035.8	16.7	14.2	-8.76	2,103.3	3,550.4	3,343.6	3,322.5	21.06	158.741		
4,900.0	4,818.9	5,174.9	5,129.6	17.1	14.5	-9.01	2,108.4	3,537.6	3,315.0	3,293.5	21.54	153.925		
5,000.0	4,916.8	5,269.6	5,223.3	17.5	14.8	-9.27	2,113.5	3,524.8	3,286.5	3,264.5	22.01	149.298		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2												Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
5,100.0	5,014.7	5,364.4	5,317.1	17.9	15.1	-9.53	2,118.6	3,512.0	3,258.0	3,235.5	22.49	144.850	
5,200.0	5,112.5	5,459.1	5,410.8	18.3	15.4	-9.80	2,123.8	3,499.2	3,229.6	3,206.7	22.98	140.571	
5,300.0	5,210.4	5,553.9	5,504.6	18.7	15.7	-10.07	2,128.9	3,486.5	3,201.3	3,177.8	23.46	136.451	
5,400.0	5,308.3	5,648.6	5,598.3	19.1	16.0	-10.35	2,134.0	3,473.7	3,173.0	3,149.1	23.95	132.483	
5,500.0	5,406.1	5,743.4	5,692.1	19.5	16.3	-10.63	2,139.1	3,460.9	3,144.9	3,120.4	24.44	128.657	
5,600.0	5,504.0	5,838.1	5,785.8	19.9	16.6	-10.92	2,144.2	3,448.1	3,116.7	3,091.8	24.94	124.968	
5,700.0	5,601.9	5,932.9	5,879.6	20.3	16.9	-11.21	2,149.4	3,435.3	3,088.7	3,063.3	25.44	121.407	
5,800.0	5,699.8	5,940.1	7,770.0	20.7	34.9	29.68	407.8	3,177.9	3,043.5	2,998.4	45.04	67.578	
5,900.0	5,797.6	9,331.8	7,770.0	21.1	34.8	29.42	416.1	3,177.9	2,964.5	2,919.4	45.05	65.798	
6,000.0	5,895.5	9,323.5	7,770.0	21.5	34.7	29.16	424.4	3,177.9	2,886.8	2,841.7	45.07	64.052	
6,100.0	5,993.4	9,315.2	7,770.0	21.9	34.6	28.91	432.7	3,177.9	2,810.5	2,765.4	45.08	62.341	
6,200.0	6,091.2	9,306.9	7,770.0	22.3	34.4	28.65	441.0	3,177.9	2,735.6	2,690.6	45.09	60.667	
6,300.0	6,189.1	9,298.6	7,770.0	22.7	34.3	28.40	449.3	3,177.9	2,662.5	2,617.4	45.10	59.033	
6,400.0	6,287.0	9,290.3	7,770.0	23.1	34.2	28.14	457.6	3,177.9	2,591.0	2,545.9	45.11	57.440	
6,500.0	6,384.9	9,282.0	7,770.0	23.5	34.1	27.88	465.9	3,177.9	2,521.5	2,476.4	45.11	55.893	
6,600.0	6,482.7	9,273.7	7,770.0	23.9	34.0	27.62	474.2	3,177.9	2,454.1	2,409.0	45.12	54.395	
6,700.0	6,580.6	9,265.4	7,770.0	24.3	33.9	27.37	482.5	3,177.9	2,388.9	2,343.8	45.12	52.950	
6,800.0	6,678.5	9,257.1	7,770.0	24.7	33.8	27.11	490.8	3,177.9	2,326.2	2,281.1	45.12	51.561	
6,900.0	6,776.4	9,248.8	7,770.0	25.1	33.7	26.85	499.1	3,177.9	2,266.1	2,221.0	45.11	50.234	
7,000.0	6,874.2	9,240.5	7,770.0	25.5	33.6	26.59	507.4	3,177.9	2,208.9	2,163.8	45.11	48.972	
7,016.7	6,890.6	9,239.2	7,770.0	25.6	33.5	26.55	508.8	3,177.9	2,199.6	2,154.5	45.10	48.768	
7,050.0	6,923.2	9,237.4	7,770.0	25.7	33.5	8.35	510.6	3,177.9	2,181.4	2,137.3	44.10	49.467	
7,100.0	6,972.3	9,238.3	7,770.0	25.9	33.5	-20.20	509.6	3,177.9	2,154.7	2,112.0	42.73	50.425	
7,150.0	7,021.1	9,243.6	7,770.0	26.0	33.6	-42.90	504.3	3,177.9	2,128.9	2,087.3	41.61	51.169	
7,200.0	7,069.3	9,253.2	7,770.0	26.1	33.7	-58.31	494.8	3,177.9	2,104.3	2,063.6	40.76	51.623	
7,250.0	7,116.5	9,267.0	7,770.0	26.2	33.9	-68.70	480.9	3,177.9	2,081.1	2,040.9	40.22	51.749	
7,300.0	7,162.3	9,285.0	7,770.0	26.2	34.1	-76.00	462.9	3,177.9	2,059.4	2,019.4	39.95	51.551	
7,350.0	7,206.4	9,306.9	7,770.0	26.3	34.4	-81.33	441.0	3,177.9	2,039.3	1,999.3	39.94	51.057	
7,400.0	7,248.4	9,332.7	7,770.0	26.3	34.8	-85.34	415.2	3,177.9	2,020.8	1,980.6	40.17	50.312	
7,450.0	7,288.1	9,362.2	7,770.0	26.3	35.2	-88.39	385.8	3,177.9	2,004.1	1,963.5	40.59	49.373	
7,500.0	7,325.1	9,395.0	7,770.0	26.3	35.7	-90.73	352.9	3,177.9	1,989.1	1,947.9	41.19	48.292	
7,550.0	7,359.2	9,431.0	7,770.0	26.3	36.2	-92.53	316.9	3,178.0	1,975.8	1,933.9	41.94	47.108	
7,600.0	7,390.0	9,469.9	7,770.0	26.3	36.7	-93.91	278.0	3,178.0	1,964.3	1,921.4	42.83	45.867	
7,650.0	7,417.4	9,511.4	7,770.0	26.3	37.3	-94.96	236.6	3,178.0	1,954.4	1,910.5	43.82	44.601	
7,700.0	7,441.2	9,555.1	7,770.0	26.3	37.9	-95.74	192.8	3,178.0	1,946.1	1,901.2	44.91	43.334	
7,750.0	7,461.1	9,600.8	7,770.0	26.3	38.6	-96.31	147.1	3,178.0	1,939.3	1,893.2	46.07	42.093	
7,800.0	7,477.0	9,648.1	7,770.0	26.3	39.3	-96.71	99.9	3,178.0	1,934.1	1,886.8	47.30	40.887	
7,850.0	7,488.8	9,696.6	7,770.0	26.4	40.0	-96.98	51.3	3,178.0	1,930.2	1,881.7	48.57	39.737	
7,900.0	7,496.5	9,746.0	7,770.0	26.4	40.7	-97.14	2.0	3,178.0	1,927.8	1,877.9	49.88	38.646	
7,950.0	7,499.8	9,795.8	7,770.0	26.5	41.5	-97.21	-47.9	3,178.0	1,926.7	1,875.5	51.21	37.623	
7,964.0	7,500.0	9,809.9	7,770.0	26.5	41.7	-97.22	-61.9	3,178.0	1,926.7	1,875.1	51.59	37.349 CC	
7,964.3	7,500.0	9,810.2	7,770.0	26.5	41.7	-97.22	-62.2	3,178.0	1,926.7	1,875.1	51.59	37.343	
8,000.0	7,500.0	9,845.8	7,770.0	26.6	42.2	-97.22	-97.9	3,178.0	1,926.7	1,874.4	52.32	36.827	
8,100.0	7,500.0	9,945.8	7,770.0	26.8	43.7	-97.22	-197.9	3,178.0	1,926.7	1,872.2	54.49	35.361	
8,200.0	7,500.0	10,045.8	7,770.0	27.2	45.3	-97.22	-297.9	3,178.1	1,926.7	1,869.9	56.85	33.893	
8,300.0	7,500.0	10,145.8	7,770.0	27.7	46.8	-97.22	-397.9	3,178.1	1,926.8	1,867.4	59.37	32.451	
8,400.0	7,500.0	10,245.8	7,770.0	28.3	48.4	-97.22	-497.9	3,178.1	1,926.8	1,864.7	62.04	31.056	
8,500.0	7,500.0	10,345.8	7,770.0	29.0	50.0	-97.22	-597.9	3,178.1	1,926.8	1,862.0	64.83	29.722	
8,600.0	7,500.0	10,445.8	7,770.0	29.8	51.5	-97.22	-697.9	3,178.1	1,926.8	1,859.1	67.71	28.457	
8,700.0	7,500.0	10,545.8	7,770.0	30.6	53.1	-97.22	-797.9	3,178.1	1,926.8	1,856.1	70.67	27.264	
8,800.0	7,500.0	10,645.8	7,770.0	31.5	54.8	-97.22	-897.9	3,178.2	1,926.8	1,853.1	73.70	26.143	
8,900.0	7,500.0	10,745.8	7,770.0	32.5	56.4	-97.22	-997.9	3,178.2	1,926.8	1,850.1	76.79	25.093	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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)				
9,000.0	7,500.0	10,845.8	7,770.0	33.6	58.0	-97.21	-1,097.9	3,178.2	1,926.9	1,846.9	79.92	24.110		
9,100.0	7,500.0	10,945.8	7,770.0	34.7	59.6	-97.21	-1,197.9	3,178.2	1,926.9	1,843.8	83.09	23.190		
9,200.0	7,500.0	11,045.8	7,770.0	35.9	61.3	-97.21	-1,297.9	3,178.2	1,926.9	1,840.6	86.29	22.330		
9,300.0	7,500.0	11,145.8	7,770.0	37.1	62.9	-97.21	-1,397.9	3,178.2	1,926.9	1,837.4	89.53	21.524		
9,400.0	7,500.0	11,245.8	7,770.0	38.3	64.6	-97.21	-1,497.9	3,178.3	1,926.9	1,834.2	92.78	20.769		
9,500.0	7,500.0	11,345.8	7,770.0	39.6	66.2	-97.21	-1,597.9	3,178.3	1,926.9	1,830.9	96.06	20.060		
9,600.0	7,500.0	11,445.8	7,770.0	41.0	67.9	-97.21	-1,697.9	3,178.3	1,927.0	1,827.6	99.35	19.395		
9,700.0	7,500.0	11,545.8	7,770.0	42.3	69.5	-97.21	-1,797.9	3,178.3	1,927.0	1,824.3	102.66	18.770		
9,800.0	7,500.0	11,645.8	7,770.0	43.7	71.2	-97.21	-1,897.9	3,178.3	1,927.0	1,821.0	105.99	18.181		
9,900.0	7,500.0	11,745.8	7,770.0	45.1	72.9	-97.21	-1,997.9	3,178.3	1,927.0	1,817.7	109.32	17.627		
10,000.0	7,500.0	11,845.8	7,770.0	46.6	74.6	-97.21	-2,097.9	3,178.4	1,927.0	1,814.4	112.67	17.103		
10,100.0	7,500.0	11,945.8	7,770.0	48.0	76.2	-97.21	-2,197.9	3,178.4	1,927.0	1,811.0	116.03	16.609		
10,200.0	7,500.0	12,045.8	7,770.0	49.5	77.9	-97.21	-2,297.9	3,178.4	1,927.1	1,807.7	119.39	16.141		
10,300.0	7,500.0	12,145.8	7,770.0	51.0	79.6	-97.21	-2,397.9	3,178.4	1,927.1	1,804.3	122.77	15.697		
10,400.0	7,500.0	12,245.8	7,770.0	52.5	81.3	-97.21	-2,497.9	3,178.4	1,927.1	1,801.0	126.15	15.277		
10,500.0	7,500.0	12,345.8	7,770.0	54.0	83.0	-97.21	-2,597.9	3,178.4	1,927.1	1,797.6	129.53	14.878		
10,600.0	7,500.0	12,445.8	7,770.0	55.6	84.7	-97.21	-2,697.9	3,178.5	1,927.1	1,794.2	132.92	14.498		
10,700.0	7,500.0	12,545.8	7,770.0	57.1	86.4	-97.21	-2,797.9	3,178.5	1,927.1	1,790.8	136.32	14.137		
10,800.0	7,500.0	12,645.8	7,770.0	58.7	88.1	-97.21	-2,897.9	3,178.5	1,927.2	1,787.4	139.72	13.793		
10,900.0	7,500.0	12,745.8	7,770.0	60.3	89.8	-97.21	-2,997.9	3,178.5	1,927.2	1,784.1	143.13	13.465		
11,000.0	7,500.0	12,845.8	7,770.0	61.9	91.5	-97.21	-3,097.9	3,178.5	1,927.2	1,780.7	146.54	13.151		
11,100.0	7,500.0	12,945.8	7,770.0	63.5	93.2	-97.21	-3,197.9	3,178.5	1,927.2	1,777.3	149.95	12.852		
11,200.0	7,500.0	13,045.8	7,770.0	65.1	94.9	-97.21	-3,297.9	3,178.6	1,927.2	1,773.9	153.37	12.566		
11,300.0	7,500.0	13,145.8	7,770.0	66.7	96.6	-97.21	-3,397.9	3,178.6	1,927.2	1,770.5	156.79	12.292		
11,400.0	7,500.0	13,245.8	7,770.0	68.3	98.3	-97.21	-3,497.9	3,178.6	1,927.3	1,767.0	160.22	12.029		
11,500.0	7,500.0	13,345.8	7,770.0	69.9	100.0	-97.21	-3,597.9	3,178.6	1,927.3	1,763.6	163.64	11.777		
11,600.0	7,500.0	13,445.8	7,770.0	71.5	101.7	-97.21	-3,697.9	3,178.6	1,927.3	1,760.2	167.07	11.536		
11,700.0	7,500.0	13,545.8	7,770.0	73.2	103.5	-97.21	-3,797.9	3,178.6	1,927.3	1,756.8	170.50	11.304		
11,800.0	7,500.0	13,645.8	7,770.0	74.8	105.2	-97.21	-3,897.9	3,178.7	1,927.3	1,753.4	173.93	11.081		
11,900.0	7,500.0	13,745.8	7,770.0	76.5	106.9	-97.21	-3,997.9	3,178.7	1,927.3	1,750.0	177.37	10.866		
12,000.0	7,500.0	13,845.8	7,770.0	78.1	108.6	-97.21	-4,097.9	3,178.7	1,927.4	1,746.6	180.81	10.660		
12,100.0	7,500.0	13,945.8	7,770.0	79.8	110.3	-97.21	-4,197.9	3,178.7	1,927.4	1,743.1	184.25	10.461		
12,200.0	7,500.0	14,045.8	7,770.0	81.4	112.1	-97.21	-4,297.9	3,178.7	1,927.4	1,739.7	187.69	10.269		
12,300.0	7,500.0	14,145.8	7,770.0	83.1	113.8	-97.21	-4,397.9	3,178.7	1,927.4	1,736.3	191.13	10.084		
12,400.0	7,500.0	14,245.8	7,770.0	84.8	115.5	-97.21	-4,497.9	3,178.8	1,927.4	1,732.9	194.57	9.906		
12,500.0	7,500.0	14,345.8	7,770.0	86.4	117.2	-97.21	-4,597.9	3,178.8	1,927.4	1,729.4	198.02	9.734		
12,600.0	7,500.0	14,445.8	7,770.0	88.1	118.9	-97.21	-4,697.9	3,178.8	1,927.5	1,726.0	201.46	9.567		
12,700.0	7,500.0	14,545.8	7,770.0	89.8	120.7	-97.21	-4,797.9	3,178.8	1,927.5	1,722.6	204.91	9.406		
12,800.0	7,500.0	14,645.8	7,770.0	91.5	122.4	-97.21	-4,897.9	3,178.8	1,927.5	1,719.1	208.36	9.251		
12,900.0	7,500.0	14,745.8	7,770.0	93.2	124.1	-97.21	-4,997.9	3,178.8	1,927.5	1,715.7	211.81	9.100		
13,000.0	7,500.0	14,845.8	7,770.0	94.8	125.9	-97.21	-5,097.9	3,178.9	1,927.5	1,712.3	215.26	8.954		
13,100.0	7,500.0	14,945.8	7,770.0	96.5	127.6	-97.21	-5,197.9	3,178.9	1,927.5	1,708.8	218.71	8.813		
13,200.0	7,500.0	15,045.8	7,770.0	98.2	129.3	-97.21	-5,297.9	3,178.9	1,927.6	1,705.4	222.17	8.676		
13,300.0	7,500.0	15,145.8	7,770.0	99.9	131.0	-97.21	-5,397.9	3,178.9	1,927.6	1,702.0	225.62	8.543		
13,400.0	7,500.0	15,245.8	7,770.0	101.6	132.8	-97.21	-5,497.9	3,178.9	1,927.6	1,698.5	229.07	8.415		
13,500.0	7,500.0	15,345.8	7,770.0	103.3	134.5	-97.21	-5,597.9	3,178.9	1,927.6	1,695.1	232.53	8.290		
13,600.0	7,500.0	15,445.8	7,770.0	105.0	136.2	-97.21	-5,697.9	3,179.0	1,927.6	1,691.6	235.99	8.168		
13,700.0	7,500.0	15,545.8	7,770.0	106.7	138.0	-97.21	-5,797.9	3,179.0	1,927.6	1,688.2	239.44	8.051		
13,800.0	7,500.0	15,645.8	7,770.0	108.4	139.7	-97.21	-5,897.9	3,179.0	1,927.7	1,684.8	242.90	7.936		
13,900.0	7,500.0	15,745.8	7,770.0	110.1	141.4	-97.21	-5,997.9	3,179.0	1,927.7	1,681.3	246.36	7.825		
14,000.0	7,500.0	15,845.8	7,770.0	111.8	143.2	-97.21	-6,097.9	3,179.0	1,927.7	1,677.9	249.82	7.716		
14,100.0	7,500.0	15,945.8	7,770.0	113.5	144.9	-97.21	-6,197.9	3,179.0	1,927.7	1,674.4	253.28	7.611		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Morgan Hills 1D-7H-A168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink 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		
14,200.0	7,500.0	16,045.8	7,770.0	115.2	146.6	-97.21	-6,297.9	3,179.1	1,927.7	1,671.0	256.74	7.509		
14,300.0	7,500.0	16,145.8	7,770.0	116.9	148.4	-97.21	-6,397.9	3,179.1	1,927.7	1,667.5	260.20	7.409		
14,400.0	7,500.0	16,245.8	7,770.0	118.6	150.1	-97.21	-6,497.9	3,179.1	1,927.8	1,664.1	263.66	7.312		
14,500.0	7,500.0	16,345.8	7,770.0	120.3	151.8	-97.21	-6,597.9	3,179.1	1,927.8	1,660.7	267.12	7.217		
14,600.0	7,500.0	16,445.8	7,770.0	122.1	153.6	-97.21	-6,697.9	3,179.1	1,927.8	1,657.2	270.58	7.125		
14,700.0	7,500.0	16,545.8	7,770.0	123.8	155.3	-97.21	-6,797.9	3,179.1	1,927.8	1,653.8	274.05	7.035		
14,800.0	7,500.0	16,645.8	7,770.0	125.5	157.0	-97.21	-6,897.9	3,179.2	1,927.8	1,650.3	277.51	6.947		
14,900.0	7,500.0	16,745.8	7,770.0	127.2	158.8	-97.21	-6,997.9	3,179.2	1,927.8	1,646.9	280.97	6.861		
15,000.0	7,500.0	16,845.8	7,770.0	128.9	160.5	-97.21	-7,097.9	3,179.2	1,927.9	1,643.4	284.44	6.778		
15,100.0	7,500.0	16,945.8	7,770.0	130.6	162.3	-97.21	-7,197.9	3,179.2	1,927.9	1,640.0	287.90	6.696		
15,200.0	7,500.0	17,045.8	7,770.0	132.4	164.0	-97.21	-7,297.9	3,179.2	1,927.9	1,636.5	291.37	6.617		
15,300.0	7,500.0	17,145.8	7,770.0	134.1	165.7	-97.21	-7,397.9	3,179.2	1,927.9	1,633.1	294.83	6.539		
15,400.0	7,500.0	17,245.8	7,770.0	135.8	167.5	-97.21	-7,497.9	3,179.3	1,927.9	1,629.6	298.30	6.463		
15,500.0	7,500.0	17,345.8	7,770.0	137.5	169.2	-97.21	-7,597.9	3,179.3	1,927.9	1,626.2	301.77	6.389		
15,600.0	7,500.0	17,445.8	7,770.0	139.2	171.0	-97.21	-7,697.9	3,179.3	1,928.0	1,622.7	305.23	6.316		
15,700.0	7,500.0	17,545.8	7,770.0	141.0	172.7	-97.21	-7,797.9	3,179.3	1,928.0	1,619.3	308.70	6.245		
15,800.0	7,500.0	17,645.8	7,770.0	142.7	174.4	-97.21	-7,897.9	3,179.3	1,928.0	1,615.8	312.17	6.176		
15,839.3	7,500.0	17,685.2	7,770.0	143.4	175.1	-97.21	-7,937.2	3,179.3	1,928.0	1,614.5	313.53	6.149 ES, SF		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - DD													Offset Site Error: 0.0 ft			
Survey Program: 811-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				
0.0	0.0	27.2	27.2	0.0	0.0	173.42	-4,267.1	492.1	4,295.4							
100.0	100.0	140.4	140.4	0.2	0.2	173.42	-4,266.9	492.0	4,295.2	4,294.8	0.40	N/A				
200.0	200.0	253.6	253.6	0.3	0.4	173.42	-4,266.3	491.8	4,294.7	4,293.9	0.77	5,593.960				
300.0	300.0	366.8	366.8	0.5	0.6	173.43	-4,265.4	491.5	4,293.8	4,292.7	1.14	3,768.899				
400.0	400.0	480.0	480.0	0.7	0.8	107.31	-4,264.1	491.0	4,292.9	4,291.4	1.50	2,862.775				
500.0	500.0	593.1	593.1	0.9	1.0	107.36	-4,262.5	490.4	4,292.3	4,290.4	1.87	2,292.878				
600.0	599.9	706.2	706.1	1.0	1.2	107.43	-4,260.6	489.7	4,291.8	4,289.5	2.25	1,906.893				
700.0	699.7	846.4	846.3	1.2	1.5	107.56	-4,257.7	488.5	4,291.5	4,288.9	2.69	1,596.983				
800.0	799.4	1,372.5	1,369.2	1.4	2.7	108.55	-4,216.9	453.0	4,282.8	4,278.9	3.91	1,094.147				
900.0	898.9	1,598.4	1,591.3	1.7	3.5	109.25	-4,186.1	426.0	4,270.2	4,265.6	4.66	915.953				
1,000.0	998.3	1,640.6	1,632.7	1.9	3.6	109.49	-4,180.3	420.5	4,258.8	4,253.8	5.00	850.979				
1,100.0	1,097.4	1,829.0	1,818.1	2.2	4.3	110.18	-4,154.9	398.0	4,249.4	4,243.6	5.72	742.639				
1,200.0	1,196.3	1,908.0	1,895.6	2.5	4.5	110.55	-4,142.8	388.6	4,238.1	4,231.9	6.21	682.984				
1,300.0	1,294.9	1,986.7	1,972.8	2.8	4.8	110.93	-4,131.3	378.7	4,228.1	4,221.4	6.71	630.024				
1,400.0	1,393.3	2,100.5	2,084.6	3.2	5.2	111.45	-4,114.7	365.0	4,219.0	4,211.7	7.33	575.669				
1,484.0	1,475.6	2,175.5	2,158.1	3.5	5.5	111.82	-4,103.4	356.0	4,211.7	4,203.9	7.82	538.594				
1,500.0	1,491.3	2,188.5	2,170.9	3.5	5.6	111.87	-4,101.5	354.4	4,210.4	4,202.5	7.91	532.226				
1,600.0	1,589.1	2,245.3	2,226.6	3.9	5.8	112.11	-4,093.3	347.2	4,202.7	4,194.3	8.42	499.256				
1,700.0	1,687.0	2,320.1	2,300.2	4.3	6.0	112.42	-4,083.3	338.1	4,196.2	4,187.3	8.97	467.632				
1,800.0	1,784.9	2,496.0	2,473.2	4.7	6.7	113.13	-4,057.9	318.4	4,189.1	4,179.3	9.79	427.781				
1,900.0	1,882.7	2,542.6	2,518.9	5.1	6.8	113.32	-4,051.0	313.1	4,181.7	4,171.4	10.28	406.938				
2,000.0	1,980.6	2,663.5	2,637.8	5.4	7.3	113.81	-4,033.8	299.3	4,175.2	4,164.2	10.97	380.682				
2,100.0	2,078.5	2,752.9	2,725.5	5.8	7.6	114.19	-4,020.3	288.4	4,168.0	4,156.4	11.58	359.983				
2,200.0	2,176.4	2,817.4	2,788.9	6.2	7.8	114.46	-4,011.2	281.0	4,161.9	4,149.7	12.12	343.444				
2,300.0	2,274.2	2,935.2	2,904.7	6.6	8.2	114.94	-3,994.4	267.3	4,155.9	4,143.1	12.81	324.511				
2,400.0	2,372.1	3,037.0	3,004.7	7.0	8.6	115.37	-3,979.7	255.4	4,150.0	4,136.5	13.46	308.413				
2,500.0	2,470.0	3,109.3	3,075.8	7.4	8.9	115.67	-3,969.3	246.9	4,144.4	4,130.3	14.02	295.559				
2,600.0	2,567.8	3,218.6	3,183.2	7.8	9.3	116.13	-3,953.7	234.2	4,139.0	4,124.3	14.69	281.700				
2,700.0	2,665.7	3,290.0	3,253.4	8.2	9.5	116.43	-3,943.4	225.8	4,133.8	4,118.5	15.26	270.906				
2,800.0	2,763.6	3,367.4	3,329.5	8.6	9.8	116.75	-3,932.6	216.9	4,129.3	4,113.5	15.84	260.719				
2,900.0	2,861.5	3,506.2	3,466.0	9.0	10.3	117.34	-3,913.3	200.7	4,125.0	4,108.4	16.60	248.519				
3,000.0	2,959.3	3,587.5	3,545.9	9.4	10.6	117.68	-3,901.7	191.2	4,120.5	4,103.3	17.19	239.685				
3,100.0	3,057.2	3,683.1	3,639.9	9.8	11.0	118.08	-3,888.1	180.3	4,116.4	4,098.5	17.82	230.937				
3,200.0	3,155.1	3,776.6	3,731.8	10.2	11.3	118.47	-3,875.0	169.8	4,112.5	4,094.1	18.45	222.910				
3,300.0	3,253.0	3,896.1	3,849.2	10.6	11.7	118.98	-3,857.8	155.7	4,108.7	4,089.5	19.16	214.456				
3,400.0	3,350.8	4,000.8	3,952.2	11.0	12.1	119.42	-3,842.1	144.0	4,104.4	4,084.6	19.81	207.155				
3,500.0	3,448.7	4,082.2	4,032.2	11.4	12.4	119.76	-3,830.2	135.2	4,100.6	4,080.2	20.40	201.023				
3,600.0	3,546.6	4,169.5	4,118.1	11.8	12.7	120.12	-3,817.5	126.0	4,097.2	4,076.2	21.00	195.074				
3,700.0	3,644.4	4,243.0	4,190.3	12.2	13.0	120.43	-3,807.1	117.5	4,094.4	4,072.9	21.58	189.728				
3,800.0	3,742.3	4,309.0	4,255.2	12.6	13.2	120.71	-3,798.1	109.6	4,092.5	4,070.3	22.13	184.947				
3,900.0	3,840.2	4,407.0	4,351.7	13.0	13.6	121.13	-3,785.4	98.5	4,091.2	4,068.5	22.76	179.741				
4,000.0	3,938.1	4,481.4	4,425.1	13.4	13.8	121.44	-3,775.7	90.4	4,090.1	4,066.8	23.32	175.359				
4,100.0	4,035.9	4,578.0	4,520.4	13.8	14.1	121.84	-3,763.8	80.0	4,089.9	4,066.0	23.95	170.758				
4,200.0	4,133.8	4,671.9	4,612.9	14.2	14.5	122.23	-3,751.6	69.5	4,089.3	4,064.7	24.57	166.421				
4,222.2	4,155.5	4,687.0	4,627.8	14.3	14.5	122.29	-3,749.7	67.9	4,089.3	4,064.6	24.69	165.607				
4,300.0	4,231.7	4,764.4	4,704.2	14.6	14.8	122.61	-3,740.0	59.7	4,089.3	4,064.1	25.18	162.436				
4,400.0	4,329.5	4,846.5	4,785.2	15.0	15.0	122.94	-3,729.8	51.5	4,089.6	4,063.8	25.74	158.858				
4,500.0	4,427.4	4,914.1	4,852.1	15.4	15.2	123.20	-3,722.0	45.3	4,090.6	4,064.4	26.27	155.741				
4,600.0	4,525.3	5,037.0	4,973.7	15.8	15.6	123.67	-3,707.9	34.8	4,091.9	4,065.0	26.92	152.016				
4,700.0	4,623.2	5,100.0	5,036.1	16.2	15.8	123.91	-3,700.7	29.7	4,093.5	4,066.0	27.42	149.304				
4,800.0	4,721.0	5,164.0	5,099.5	16.7	16.0	124.15	-3,694.1	24.3	4,096.1	4,068.2	27.93	146.678				
4,900.0	4,818.9	5,288.5	5,222.7	17.1	16.4	124.63	-3,680.7	13.0	4,098.7	4,070.1	28.59	143.374				

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 811-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	4,916.8	5,358.5	5,292.1	17.5	16.6	124.90	-3,673.2	6.8	4,101.5	4,072.4	29.11	140.911		
5,100.0	5,014.7	5,459.0	5,391.7	17.9	16.9	125.28	-3,662.9	-2.0	4,104.9	4,075.2	29.70	138.229		
5,200.0	5,112.5	5,530.7	5,462.7	18.3	17.1	125.55	-3,655.6	-7.9	4,108.5	4,078.3	30.21	136.000		
5,300.0	5,210.4	5,638.4	5,569.5	18.7	17.4	125.94	-3,645.1	-16.5	4,112.6	4,081.8	30.80	133.512		
5,400.0	5,308.3	5,706.0	5,636.7	19.1	17.6	126.18	-3,638.5	-21.5	4,116.8	4,085.5	31.30	131.543		
5,500.0	5,406.1	5,801.0	5,731.0	19.5	17.8	126.52	-3,629.9	-28.2	4,121.7	4,089.9	31.84	129.448		
5,600.0	5,504.0	5,840.4	5,770.2	19.9	17.9	126.65	-3,626.8	-30.8	4,127.6	4,095.3	32.26	127.949		
5,700.0	5,601.9	5,897.0	5,826.6	20.3	18.0	126.84	-3,622.9	-34.4	4,134.7	4,102.0	32.71	126.396		
5,800.0	5,699.8	5,973.0	5,902.3	20.7	18.2	127.08	-3,618.4	-38.5	4,142.6	4,109.4	33.19	124.831		
5,900.0	5,797.6	6,036.8	5,966.0	21.1	18.3	127.27	-3,615.3	-41.1	4,151.3	4,117.6	33.62	123.464		
6,000.0	5,895.5	6,120.0	6,049.1	21.5	18.4	127.49	-3,612.1	-42.9	4,160.6	4,126.5	34.06	122.138		
6,100.0	5,993.4	6,172.9	6,102.0	21.9	18.5	127.62	-3,610.6	-43.3	4,170.7	4,136.2	34.47	121.012		
6,200.0	6,091.2	6,233.4	6,162.5	22.3	18.6	127.77	-3,609.5	-43.9	4,181.9	4,147.0	34.87	119.912		
6,300.0	6,189.1	6,353.9	6,283.0	22.7	18.7	128.06	-3,607.6	-45.1	4,193.4	4,158.1	35.35	118.619		
6,400.0	6,287.0	6,435.3	6,364.4	23.1	18.8	128.24	-3,606.5	-44.7	4,204.8	4,169.1	35.76	117.572		
6,500.0	6,384.9	6,500.4	6,429.4	23.5	18.9	128.37	-3,606.0	-43.8	4,216.7	4,180.6	36.16	116.604		
6,600.0	6,482.7	6,566.0	6,495.1	23.9	18.9	128.52	-3,606.2	-43.8	4,229.8	4,193.2	36.57	115.661		
6,700.0	6,580.6	6,672.4	6,601.5	24.3	19.0	128.76	-3,606.6	-44.4	4,243.3	4,206.3	37.01	114.638		
6,800.0	6,678.5	6,779.2	6,708.2	24.7	19.2	128.99	-3,606.5	-44.5	4,256.3	4,218.8	37.46	113.633		
6,900.0	6,776.4	6,907.9	6,836.9	25.1	19.3	129.27	-3,605.8	-44.3	4,268.8	4,230.8	37.92	112.574		
7,000.0	6,874.2	7,005.0	6,934.0	25.5	19.4	129.47	-3,605.0	-44.0	4,281.1	4,242.8	38.35	111.642		
7,016.7	6,890.6	7,021.2	6,950.3	25.6	19.4	129.51	-3,604.9	-43.9	4,283.2	4,244.8	38.42	111.489		
7,050.0	6,923.2	7,049.7	6,978.7	25.7	19.5	113.51	-3,604.7	-43.8	4,286.4	4,247.7	38.66	110.875		
7,100.0	6,972.3	7,091.2	7,020.2	25.9	19.5	88.16	-3,604.5	-43.6	4,287.8	4,249.0	38.83	110.436		
7,150.0	7,021.1	7,139.6	7,068.6	26.0	19.6	68.50	-3,604.3	-43.4	4,285.2	4,246.4	38.76	110.544		
7,200.0	7,069.3	7,205.8	7,134.8	26.1	19.6	56.02	-3,603.9	-43.1	4,278.2	4,239.7	38.49	111.156		
7,250.0	7,116.5	7,251.3	7,180.3	26.2	19.7	48.30	-3,603.5	-42.9	4,267.1	4,229.2	37.97	112.368		
7,300.0	7,162.3	7,292.3	7,221.4	26.2	19.7	43.51	-3,603.1	-42.7	4,252.1	4,214.8	37.25	114.144		
7,350.0	7,206.4	7,331.8	7,260.9	26.3	19.8	40.56	-3,602.8	-42.6	4,233.3	4,196.9	36.34	116.475		
7,400.0	7,248.4	7,368.5	7,297.5	26.3	19.8	38.86	-3,602.6	-42.5	4,210.8	4,175.5	35.28	119.357		
7,450.0	7,288.1	7,402.8	7,331.8	26.3	19.9	38.09	-3,602.5	-42.4	4,184.8	4,150.7	34.09	122.750		
7,500.0	7,325.1	7,434.8	7,363.9	26.3	19.9	38.11	-3,602.4	-42.3	4,155.5	4,122.7	32.83	126.566		
7,550.0	7,359.2	7,464.4	7,393.4	26.3	19.9	38.84	-3,602.3	-42.2	4,123.2	4,091.6	31.57	130.624		
7,600.0	7,390.0	7,491.2	7,420.2	26.3	20.0	40.31	-3,602.3	-42.1	4,088.1	4,057.7	30.37	134.597		
7,650.0	7,417.4	7,515.1	7,444.1	26.3	20.0	42.58	-3,602.2	-42.1	4,050.4	4,021.0	29.36	137.951		
7,700.0	7,441.2	7,535.8	7,464.8	26.3	20.0	45.81	-3,602.3	-42.0	4,010.4	3,981.7	28.66	139.922		
7,750.0	7,461.1	7,553.3	7,482.3	26.3	20.0	50.23	-3,602.3	-42.0	3,968.4	3,940.0	28.41	139.668		
7,800.0	7,477.0	7,567.3	7,496.3	26.3	20.0	56.14	-3,602.3	-41.9	3,924.8	3,896.1	28.72	136.677		
7,850.0	7,488.8	7,577.8	7,506.8	26.4	20.1	63.92	-3,602.3	-41.9	3,879.9	3,850.3	29.54	131.338		
7,900.0	7,496.5	7,584.6	7,513.6	26.4	20.1	73.87	-3,602.4	-41.9	3,833.9	3,803.3	30.63	125.175		
7,950.0	7,499.8	7,587.7	7,516.7	26.5	20.1	85.93	-3,602.4	-41.9	3,787.3	3,755.9	31.47	120.337		
7,964.3	7,500.0	7,587.9	7,516.9	26.5	20.1	89.69	-3,602.4	-41.9	3,773.9	3,742.3	31.59	119.460		
8,000.0	7,500.0	7,587.9	7,517.0	26.6	20.1	89.69	-3,602.4	-41.9	3,740.5	3,708.7	31.73	117.871		
8,100.0	7,500.0	7,588.2	7,517.2	26.8	20.1	89.70	-3,602.4	-41.9	3,647.0	3,614.7	32.27	113.020		
8,200.0	7,500.0	7,588.5	7,517.5	27.2	20.1	89.71	-3,602.4	-41.9	3,553.8	3,520.8	32.99	107.735		
8,300.0	7,500.0	7,588.7	7,517.8	27.7	20.1	89.73	-3,602.4	-41.9	3,461.0	3,427.1	33.86	102.203		
8,400.0	7,500.0	7,589.0	7,518.0	28.3	20.1	89.74	-3,602.4	-41.9	3,368.6	3,333.8	34.88	96.587		
8,500.0	7,500.0	7,589.3	7,518.3	29.0	20.1	89.75	-3,602.4	-41.9	3,276.7	3,240.7	36.00	91.016		
8,600.0	7,500.0	7,589.5	7,518.6	29.8	20.1	89.76	-3,602.4	-41.9	3,185.3	3,148.1	37.22	85.581		
8,700.0	7,500.0	7,589.8	7,518.8	30.6	20.1	89.77	-3,602.4	-41.9	3,094.4	3,055.9	38.51	80.344		
8,800.0	7,500.0	7,590.1	7,519.1	31.5	20.1	89.78	-3,602.4	-41.9	3,004.1	2,964.2	39.87	75.342		
8,900.0	7,500.0	7,590.3	7,519.4	32.5	20.1	89.80	-3,602.4	-41.9	2,914.4	2,873.1	41.28	70.595		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - DD													Offset Site Error: 0.0 ft	
Survey Program: 811-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		
9,000.0	7,500.0	7,590.6	7,519.6	33.6	20.1	89.81	-3,602.4	-41.9	2,825.4	2,782.6	42.74	66.111		
9,100.0	7,500.0	7,590.9	7,519.9	34.7	20.1	89.82	-3,602.4	-41.9	2,737.1	2,692.9	44.23	61.888		
9,200.0	7,500.0	7,591.2	7,520.2	35.9	20.1	89.83	-3,602.4	-41.9	2,649.7	2,604.0	45.75	57.920		
9,300.0	7,500.0	7,591.5	7,520.5	37.1	20.1	89.85	-3,602.4	-41.9	2,563.3	2,516.0	47.29	54.197		
9,400.0	7,500.0	7,591.7	7,520.8	38.3	20.1	89.86	-3,602.4	-41.9	2,477.8	2,428.9	48.86	50.708		
9,500.0	7,500.0	7,592.0	7,521.1	39.6	20.1	89.87	-3,602.4	-41.9	2,393.5	2,343.0	50.45	47.441		
9,600.0	7,500.0	7,592.3	7,521.3	41.0	20.1	89.88	-3,602.4	-41.9	2,310.4	2,258.3	52.05	44.383		
9,700.0	7,500.0	7,592.6	7,521.6	42.3	20.1	89.90	-3,602.4	-41.9	2,228.7	2,175.0	53.67	41.523		
9,800.0	7,500.0	7,592.9	7,521.9	43.7	20.1	89.91	-3,602.4	-41.9	2,148.5	2,093.2	55.30	38.850		
9,900.0	7,500.0	7,593.2	7,522.2	45.1	20.1	89.92	-3,602.4	-41.9	2,070.1	2,013.2	56.94	36.354		
10,000.0	7,500.0	7,593.5	7,522.5	46.6	20.1	89.93	-3,602.4	-41.9	1,993.6	1,935.0	58.59	34.024		
10,100.0	7,500.0	7,593.8	7,522.8	48.0	20.1	89.95	-3,602.4	-41.9	1,919.3	1,859.0	60.25	31.854		
10,200.0	7,500.0	7,594.1	7,523.1	49.5	20.1	89.96	-3,602.4	-41.9	1,847.4	1,785.5	61.92	29.836		
10,300.0	7,500.0	7,594.4	7,523.4	51.0	20.1	89.97	-3,602.4	-41.9	1,778.2	1,714.6	63.59	27.963		
10,400.0	7,500.0	7,594.7	7,523.7	52.5	20.1	89.99	-3,602.4	-41.9	1,712.1	1,646.8	65.27	26.231		
10,500.0	7,500.0	7,595.0	7,524.0	54.0	20.1	90.00	-3,602.4	-41.9	1,649.4	1,582.4	66.95	24.634		
10,600.0	7,500.0	7,595.3	7,524.3	55.6	20.1	90.01	-3,602.4	-41.9	1,590.4	1,521.8	68.64	23.170		
10,700.0	7,500.0	7,595.6	7,524.7	57.1	20.1	90.03	-3,602.4	-41.9	1,535.8	1,465.5	70.33	21.836		
10,800.0	7,500.0	7,595.9	7,525.0	58.7	20.1	90.04	-3,602.4	-41.9	1,485.9	1,413.9	72.03	20.628		
10,900.0	7,500.0	7,596.3	7,525.3	60.3	20.1	90.06	-3,602.4	-41.9	1,441.2	1,367.5	73.73	19.547		
11,000.0	7,500.0	7,596.6	7,525.6	61.9	20.1	90.07	-3,602.4	-41.9	1,402.2	1,326.8	75.43	18.588		
11,100.0	7,500.0	7,596.9	7,525.9	63.5	20.1	90.08	-3,602.4	-41.9	1,369.4	1,292.3	77.14	17.752		
11,200.0	7,500.0	7,597.2	7,526.2	65.1	20.1	90.10	-3,602.4	-41.9	1,343.3	1,264.5	78.85	17.036		
11,300.0	7,500.0	7,597.6	7,526.6	66.7	20.1	90.11	-3,602.4	-41.9	1,324.3	1,243.7	80.56	16.438		
11,400.0	7,500.0	7,597.9	7,526.9	68.3	20.1	90.13	-3,602.4	-41.9	1,312.6	1,230.3	82.28	15.953		
11,500.0	7,500.0	7,598.2	7,527.2	69.9	20.1	90.14	-3,602.4	-41.9	1,308.4	1,224.5	83.99	15.578		
11,504.2	7,500.0	7,598.2	7,527.2	70.0	20.1	90.14	-3,602.4	-41.9	1,308.4	1,224.4	84.06	15.565 CC, ES		
11,600.0	7,500.0	7,598.5	7,527.6	71.5	20.1	90.16	-3,602.4	-41.9	1,311.9	1,226.2	85.71	15.307		
11,700.0	7,500.0	7,598.9	7,527.9	73.2	20.1	90.17	-3,602.4	-41.9	1,323.0	1,235.6	87.43	15.132		
11,800.0	7,500.0	7,599.2	7,528.2	74.8	20.1	90.19	-3,602.4	-41.9	1,341.5	1,252.3	89.15	15.047		
11,900.0	7,500.0	7,599.6	7,528.6	76.5	20.1	90.20	-3,602.4	-41.9	1,367.0	1,276.1	90.87	15.043 SF		
12,000.0	7,500.0	7,599.9	7,528.9	78.1	20.1	90.22	-3,602.4	-41.9	1,399.2	1,306.6	92.60	15.111		
12,100.0	7,500.0	7,600.3	7,529.3	79.8	20.1	90.23	-3,602.4	-41.9	1,437.7	1,343.4	94.32	15.242		
12,200.0	7,500.0	7,600.6	7,529.6	81.4	20.1	90.25	-3,602.4	-41.8	1,482.0	1,385.9	96.05	15.429		
12,300.0	7,500.0	7,601.0	7,530.0	83.1	20.1	90.26	-3,602.4	-41.8	1,531.5	1,433.7	97.78	15.662		
12,400.0	7,500.0	7,601.3	7,530.3	84.8	20.1	90.28	-3,602.4	-41.8	1,585.7	1,486.2	99.51	15.935		
12,500.0	7,500.0	7,601.7	7,530.7	86.4	20.1	90.29	-3,602.4	-41.8	1,644.3	1,543.0	101.24	16.242		
12,600.0	7,500.0	7,602.0	7,531.0	88.1	20.1	90.31	-3,602.4	-41.8	1,706.7	1,603.7	102.97	16.575		
12,700.0	7,500.0	7,602.4	7,531.4	89.8	20.1	90.32	-3,602.4	-41.8	1,772.6	1,667.9	104.70	16.930		
12,800.0	7,500.0	7,602.8	7,531.8	91.5	20.1	90.34	-3,602.4	-41.8	1,841.5	1,735.1	106.44	17.302		
12,900.0	7,500.0	7,603.1	7,532.1	93.2	20.1	90.36	-3,602.4	-41.8	1,913.2	1,805.0	108.17	17.687		
13,000.0	7,500.0	7,603.5	7,532.5	94.8	20.1	90.37	-3,602.4	-41.8	1,987.3	1,877.4	109.90	18.082		
13,100.0	7,500.0	7,603.9	7,532.9	96.5	20.1	90.39	-3,602.4	-41.8	2,063.7	1,952.0	111.64	18.485		
13,200.0	7,500.0	7,604.2	7,533.3	98.2	20.1	90.41	-3,602.4	-41.8	2,141.9	2,028.5	113.38	18.892		
13,300.0	7,500.0	7,604.6	7,533.6	99.9	20.1	90.42	-3,602.4	-41.8	2,221.9	2,106.8	115.11	19.302		
13,400.0	7,500.0	7,605.0	7,534.0	101.6	20.1	90.44	-3,602.4	-41.8	2,303.5	2,186.7	116.85	19.713		
13,500.0	7,500.0	7,605.4	7,534.4	103.3	20.1	90.46	-3,602.4	-41.8	2,386.5	2,267.9	118.59	20.124		
13,600.0	7,500.0	7,605.8	7,534.8	105.0	20.1	90.47	-3,602.4	-41.8	2,470.7	2,350.4	120.33	20.534		
13,700.0	7,500.0	7,606.2	7,535.2	106.7	20.1	90.49	-3,602.4	-41.8	2,556.1	2,434.0	122.06	20.941		
13,800.0	7,500.0	7,606.6	7,535.6	108.4	20.1	90.51	-3,602.4	-41.8	2,642.5	2,518.7	123.80	21.344		
13,900.0	7,500.0	7,607.0	7,536.0	110.1	20.1	90.52	-3,602.4	-41.8	2,729.8	2,604.3	125.54	21.744		
14,000.0	7,500.0	7,607.4	7,536.4	111.8	20.1	90.54	-3,602.4	-41.8	2,818.0	2,690.7	127.28	22.139		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - DD													Offset Site Error: 0.0 ft	
Survey Program: 811-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		
14,100.0	7,500.0	7,607.8	7,536.8	113.5	20.1	90.56	-3,602.4	-41.8	2,906.9	2,777.9	129.02	22.530		
14,200.0	7,500.0	7,608.2	7,537.2	115.2	20.1	90.58	-3,602.4	-41.8	2,996.6	2,865.8	130.77	22.916		
14,300.0	7,500.0	7,608.6	7,537.6	116.9	20.1	90.60	-3,602.4	-41.8	3,086.8	2,954.3	132.51	23.296		
14,400.0	7,500.0	7,609.0	7,538.0	118.6	20.1	90.61	-3,602.4	-41.8	3,177.7	3,043.4	134.25	23.670		
14,500.0	7,500.0	7,609.4	7,538.5	120.3	20.1	90.63	-3,602.4	-41.8	3,269.1	3,133.1	135.99	24.039		
14,600.0	7,500.0	7,609.9	7,538.9	122.1	20.1	90.65	-3,602.4	-41.8	3,361.0	3,223.2	137.73	24.402		
14,700.0	7,500.0	7,610.3	7,539.3	123.8	20.1	90.67	-3,602.4	-41.8	3,453.3	3,313.8	139.48	24.759		
14,800.0	7,500.0	7,610.7	7,539.8	125.5	20.1	90.69	-3,602.4	-41.8	3,546.0	3,404.8	141.22	25.110		
14,900.0	7,500.0	7,611.2	7,540.2	127.2	20.1	90.71	-3,602.4	-41.8	3,639.2	3,496.2	142.96	25.455		
15,000.0	7,500.0	7,611.6	7,540.6	128.9	20.1	90.73	-3,602.4	-41.8	3,732.7	3,587.9	144.71	25.795		
15,100.0	7,500.0	7,612.0	7,541.1	130.6	20.1	90.75	-3,602.4	-41.8	3,826.5	3,680.0	146.45	26.128		
15,200.0	7,500.0	7,612.5	7,541.5	132.4	20.1	90.77	-3,602.4	-41.8	3,920.6	3,772.4	148.19	26.456		
15,300.0	7,500.0	7,612.9	7,542.0	134.1	20.1	90.79	-3,602.4	-41.8	4,015.0	3,865.1	149.94	26.778		
15,400.0	7,500.0	7,613.4	7,542.4	135.8	20.1	90.81	-3,602.4	-41.8	4,109.7	3,958.0	151.68	27.094		
15,500.0	7,500.0	7,613.9	7,542.9	137.5	20.1	90.83	-3,602.4	-41.8	4,204.6	4,051.2	153.43	27.404		
15,600.0	7,500.0	7,614.3	7,543.3	139.2	20.1	90.85	-3,602.5	-41.8	4,299.7	4,144.6	155.17	27.709		
15,700.0	7,500.0	7,614.8	7,543.8	141.0	20.1	90.87	-3,602.5	-41.8	4,395.1	4,238.2	156.92	28.009		
15,800.0	7,500.0	7,615.3	7,544.3	142.7	20.1	90.89	-3,602.5	-41.8	4,490.6	4,332.0	158.66	28.303		
15,839.3	7,500.0	7,615.4	7,544.5	143.4	20.1	90.90	-3,602.5	-41.8	4,528.3	4,368.9	159.35	28.417		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD		Offset Well Error: 0.0 ft												
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	24.0	24.0	0.0	0.0	173.42	-4,267.2	492.1	4,295.4					
100.0	100.0	124.0	124.0	0.2	0.2	173.42	-4,267.2	492.1	4,295.4	4,295.1	0.34	N/A		
200.0	200.0	224.0	224.0	0.3	0.4	173.42	-4,267.2	492.1	4,295.4	4,294.7	0.69	6,214.753		
300.0	300.0	324.0	324.0	0.5	0.5	173.42	-4,267.2	492.1	4,295.4	4,294.4	1.04	4,129.301		
400.0	400.0	424.0	424.0	0.7	0.7	107.29	-4,267.2	492.1	4,295.7	4,294.3	1.39	3,090.641		
500.0	500.0	524.0	524.0	0.9	0.9	107.31	-4,267.2	492.1	4,296.5	4,294.7	1.74	2,465.401		
600.0	599.9	623.9	623.9	1.0	1.1	107.35	-4,267.2	492.1	4,297.8	4,295.7	2.10	2,044.793		
700.0	699.7	723.7	723.7	1.2	1.2	107.41	-4,267.2	492.1	4,299.6	4,297.1	2.47	1,740.426		
800.0	799.4	823.4	823.4	1.4	1.4	107.49	-4,267.2	492.1	4,302.0	4,299.1	2.85	1,508.617		
900.0	898.9	922.9	922.9	1.7	1.6	107.59	-4,267.2	492.1	4,304.9	4,301.6	3.25	1,325.369		
1,000.0	998.3	1,022.3	1,022.3	1.9	1.8	107.70	-4,267.2	492.1	4,308.3	4,304.7	3.66	1,176.427		
1,100.0	1,097.4	1,121.4	1,121.4	2.2	1.9	107.82	-4,267.2	492.1	4,312.3	4,308.2	4.10	1,052.791		
1,200.0	1,196.3	1,781.2	1,777.8	2.5	3.3	109.47	-4,223.7	457.6	4,306.6	4,301.0	5.59	771.020		
1,300.0	1,294.9	1,878.0	1,873.5	2.8	3.5	109.85	-4,212.0	448.4	4,299.1	4,293.0	6.09	706.412		
1,400.0	1,393.3	1,974.5	1,968.8	3.2	3.8	110.24	-4,200.4	439.1	4,292.4	4,285.7	6.61	649.097		
1,484.0	1,475.6	2,055.2	2,048.5	3.5	4.0	110.58	-4,190.6	431.4	4,287.3	4,280.2	7.08	605.952		
1,500.0	1,491.3	2,070.5	2,063.7	3.5	4.1	110.64	-4,188.8	429.9	4,286.4	4,279.2	7.16	598.325		
1,600.0	1,589.1	2,166.4	2,158.4	3.9	4.3	110.99	-4,177.2	420.8	4,280.7	4,273.0	7.72	554.197		
1,700.0	1,687.0	2,262.3	2,253.2	4.3	4.6	111.35	-4,165.6	411.6	4,275.3	4,267.0	8.29	515.661		
1,800.0	1,784.9	2,358.3	2,348.0	4.7	4.9	111.71	-4,154.1	402.4	4,270.1	4,261.2	8.86	481.801		
1,900.0	1,882.7	2,454.2	2,442.7	5.1	5.2	112.07	-4,142.5	393.2	4,265.0	4,255.6	9.44	451.870		
2,000.0	1,980.6	2,550.1	2,537.5	5.4	5.4	112.43	-4,130.9	384.0	4,260.1	4,250.1	10.02	425.260		
2,100.0	2,078.5	2,646.0	2,632.2	5.8	5.7	112.79	-4,119.3	374.8	4,255.4	4,244.8	10.60	401.472		
2,200.0	2,176.4	2,741.9	2,727.0	6.2	6.0	113.15	-4,107.8	365.7	4,250.9	4,239.7	11.18	380.100		
2,300.0	2,274.2	2,837.8	2,821.8	6.6	6.3	113.52	-4,096.2	356.5	4,246.6	4,234.8	11.77	360.808		
2,400.0	2,372.1	2,933.7	2,916.5	7.0	6.6	113.88	-4,084.6	347.3	4,242.4	4,230.1	12.36	343.316		
2,500.0	2,470.0	3,029.6	3,011.3	7.4	6.9	114.24	-4,073.0	338.1	4,238.5	4,225.5	12.95	327.393		
2,600.0	2,567.8	3,125.5	3,106.1	7.8	7.2	114.61	-4,061.5	328.9	4,234.7	4,221.2	13.54	312.844		
2,700.0	2,665.7	3,221.4	3,200.8	8.2	7.5	114.97	-4,049.9	319.8	4,231.1	4,217.0	14.13	299.503		
2,800.0	2,763.6	3,317.3	3,295.6	8.6	7.8	115.34	-4,038.3	310.6	4,227.7	4,213.0	14.72	287.232		
2,900.0	2,861.5	3,413.3	3,390.4	9.0	8.1	115.70	-4,026.7	301.4	4,224.5	4,209.2	15.31	275.911		
3,000.0	2,959.3	3,509.2	3,485.1	9.4	8.4	116.07	-4,015.1	292.2	4,221.5	4,205.6	15.90	265.436		
3,100.0	3,057.2	3,605.1	3,579.9	9.8	8.7	116.44	-4,003.6	283.0	4,218.6	4,202.1	16.50	255.720		
3,200.0	3,155.1	3,701.0	3,674.7	10.2	9.0	116.81	-3,992.0	273.8	4,216.0	4,198.9	17.09	246.685		
3,300.0	3,253.0	3,796.9	3,769.4	10.6	9.3	117.17	-3,980.4	264.7	4,213.5	4,195.8	17.68	238.265		
3,400.0	3,350.8	3,892.8	3,864.2	11.0	9.6	117.54	-3,968.8	255.5	4,211.2	4,193.0	18.28	230.402		
3,500.0	3,448.7	3,988.7	3,958.9	11.4	9.9	117.91	-3,957.3	246.3	4,209.1	4,190.3	18.87	223.043		
3,600.0	3,546.6	4,084.6	4,053.7	11.8	10.2	118.28	-3,945.7	237.1	4,207.3	4,187.8	19.47	216.144		
3,700.0	3,644.4	4,180.5	4,148.5	12.2	10.5	118.65	-3,934.1	227.9	4,205.5	4,185.5	20.06	209.664		
3,800.0	3,742.3	4,276.4	4,243.2	12.6	10.8	119.02	-3,922.5	218.8	4,204.0	4,183.4	20.65	203.569		
3,900.0	3,840.2	4,372.3	4,338.0	13.0	11.1	119.39	-3,911.0	209.6	4,202.7	4,181.5	21.24	197.825		
4,000.0	3,938.1	4,468.3	4,432.8	13.4	11.4	119.76	-3,899.4	200.4	4,201.6	4,179.7	21.84	192.405		
4,100.0	4,035.9	4,564.2	4,527.5	13.8	11.7	120.13	-3,887.8	191.2	4,200.6	4,178.2	22.43	187.284		
4,200.0	4,133.8	4,660.1	4,622.3	14.2	12.0	120.50	-3,876.2	182.0	4,199.9	4,176.8	23.02	182.439		
4,300.0	4,231.7	4,756.0	4,717.1	14.6	12.3	120.87	-3,864.7	172.8	4,199.3	4,175.7	23.61	177.848		
4,400.0	4,329.5	4,851.9	4,811.8	15.0	12.6	121.24	-3,853.1	163.7	4,198.9	4,174.7	24.20	173.494		
4,500.0	4,427.4	4,947.8	4,906.6	15.4	12.9	121.61	-3,841.5	154.5	4,198.7	4,173.9	24.79	169.359		
4,546.0	4,472.4	4,991.9	4,950.1	15.6	13.1	121.78	-3,836.2	150.3	4,198.7	4,173.7	25.06	167.528		
4,600.0	4,525.3	5,043.7	5,001.3	15.8	13.2	121.98	-3,829.9	145.3	4,198.7	4,173.4	25.38	165.429		
4,700.0	4,623.2	5,139.6	5,096.1	16.2	13.5	122.35	-3,818.4	136.1	4,198.9	4,173.0	25.97	161.689		
4,800.0	4,721.0	5,235.5	5,190.9	16.7	13.8	122.72	-3,806.8	126.9	4,199.3	4,172.8	26.56	158.127		
4,900.0	4,818.9	5,331.4	5,285.6	17.1	14.2	123.09	-3,795.2	117.8	4,199.9	4,172.8	27.14	154.732		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
5,000.0	4,916.8	5,427.3	5,380.4	17.5	14.5	123.46	-3,783.6	108.6	4,200.7	4,173.0	27.73	151.491				
5,100.0	5,014.7	5,523.3	5,475.2	17.9	14.8	123.83	-3,772.1	99.4	4,201.6	4,173.3	28.31	148.397				
5,200.0	5,112.5	5,619.2	5,569.9	18.3	15.1	124.20	-3,760.5	90.2	4,202.8	4,173.9	28.90	145.440				
5,300.0	5,210.4	5,715.1	5,664.7	18.7	15.4	124.57	-3,748.9	81.0	4,204.1	4,174.7	29.48	142.611				
5,400.0	5,308.3	5,811.0	5,759.5	19.1	15.7	124.94	-3,737.3	71.8	4,205.7	4,175.6	30.06	139.903				
5,500.0	5,406.1	5,906.9	5,854.2	19.5	16.0	125.31	-3,725.8	62.7	4,207.4	4,176.8	30.64	137.310				
5,600.0	5,504.0	6,002.8	5,949.0	19.9	16.3	125.68	-3,714.2	53.5	4,209.3	4,178.1	31.22	134.824				
5,700.0	5,601.9	6,098.7	6,043.8	20.3	16.6	126.05	-3,702.6	44.3	4,211.4	4,179.6	31.80	132.440				
5,800.0	5,699.8	6,194.6	6,138.5	20.7	16.9	126.42	-3,691.0	35.1	4,213.7	4,181.3	32.38	130.152				
5,900.0	5,797.6	6,290.5	6,233.3	21.1	17.2	126.78	-3,679.5	25.9	4,216.2	4,183.2	32.95	127.954				
6,000.0	5,895.5	6,386.4	6,328.0	21.5	17.5	127.15	-3,667.9	16.8	4,218.8	4,185.3	33.52	125.843				
6,100.0	5,993.4	6,482.3	6,422.8	21.9	17.8	127.52	-3,656.3	7.6	4,221.7	4,187.6	34.10	123.814				
6,200.0	6,091.2	6,578.3	6,517.6	22.3	18.1	127.89	-3,644.7	-1.6	4,224.7	4,190.1	34.67	121.862				
6,300.0	6,189.1	6,674.2	6,612.3	22.7	18.4	128.25	-3,633.2	-10.8	4,228.0	4,192.7	35.24	119.983				
6,400.0	6,287.0	6,770.1	6,707.1	23.1	18.7	128.62	-3,621.6	-20.0	4,231.4	4,195.6	35.81	118.175				
6,500.0	6,384.9	6,841.1	6,777.3	23.5	19.0	128.89	-3,613.1	-26.7	4,235.2	4,198.9	36.30	116.658				
6,600.0	6,482.7	6,900.0	6,835.7	23.9	19.1	129.10	-3,606.9	-31.6	4,240.0	4,203.3	36.76	115.334				
6,700.0	6,580.6	6,943.5	6,878.8	24.3	19.2	129.25	-3,603.0	-34.7	4,246.1	4,208.9	37.17	114.222				
6,800.0	6,678.5	7,000.0	6,935.1	24.7	19.4	129.43	-3,598.6	-38.2	4,253.3	4,215.7	37.61	113.096				
6,900.0	6,776.4	7,047.0	6,981.9	25.1	19.4	129.57	-3,595.6	-40.6	4,261.7	4,223.6	38.01	112.124				
7,000.0	6,874.2	7,100.0	7,034.8	25.5	19.5	129.72	-3,592.9	-42.7	4,271.2	4,232.8	38.42	111.177				
7,016.7	6,890.6	7,100.0	7,034.8	25.6	19.5	129.72	-3,592.9	-42.7	4,272.9	4,234.4	38.47	111.062				
7,050.0	6,923.2	7,125.3	7,060.1	25.7	19.6	113.74	-3,591.9	-43.5	4,275.4	4,236.7	38.71	110.437				
7,100.0	6,972.3	7,151.5	7,086.3	25.9	19.6	88.39	-3,591.1	-44.2	4,276.0	4,237.2	38.87	110.013				
7,150.0	7,021.1	7,200.0	7,134.8	26.0	19.7	68.78	-3,590.0	-45.0	4,272.8	4,234.0	38.81	110.085				
7,200.0	7,069.3	7,200.0	7,134.8	26.1	19.7	56.09	-3,590.0	-45.0	4,265.5	4,227.1	38.48	110.859				
7,250.0	7,116.5	7,228.9	7,163.6	26.2	19.7	48.33	-3,589.7	-45.3	4,254.5	4,216.6	37.95	112.113				
7,300.0	7,162.3	7,256.3	7,191.0	26.2	19.7	43.47	-3,589.6	-45.3	4,239.8	4,202.6	37.22	113.925				
7,350.0	7,206.4	7,295.6	7,230.4	26.3	19.8	40.50	-3,589.6	-45.3	4,221.3	4,185.0	36.31	116.257				
7,400.0	7,248.4	7,337.7	7,272.4	26.3	19.8	38.81	-3,589.6	-45.3	4,199.1	4,163.9	35.25	119.116				
7,450.0	7,288.1	7,377.4	7,312.1	26.3	19.9	38.07	-3,589.6	-45.3	4,173.4	4,139.3	34.07	122.478				
7,500.0	7,325.1	7,414.4	7,349.1	26.3	19.9	38.11	-3,589.6	-45.3	4,144.3	4,111.5	32.83	126.253				
7,550.0	7,359.2	7,448.4	7,383.2	26.3	20.0	38.87	-3,589.6	-45.3	4,112.1	4,080.5	31.57	130.259				
7,600.0	7,390.0	7,479.3	7,414.0	26.3	20.0	40.37	-3,589.6	-45.3	4,077.1	4,046.7	30.39	134.166				
7,650.0	7,417.4	7,506.7	7,441.4	26.3	20.0	42.68	-3,589.6	-45.3	4,039.4	4,010.0	29.39	137.434				
7,700.0	7,441.2	7,530.4	7,465.2	26.3	20.0	45.96	-3,589.6	-45.3	3,999.5	3,970.8	28.71	139.303				
7,750.0	7,461.1	7,550.3	7,485.1	26.3	20.1	50.43	-3,589.6	-45.3	3,957.6	3,929.1	28.48	138.940				
7,800.0	7,477.0	7,566.3	7,501.0	26.3	20.1	56.40	-3,589.6	-45.3	3,914.0	3,885.2	28.81	135.867				
7,850.0	7,488.8	7,578.1	7,512.8	26.4	20.1	64.24	-3,589.6	-45.3	3,869.1	3,839.4	29.65	130.513				
7,900.0	7,496.5	7,585.7	7,520.5	26.4	20.1	74.22	-3,589.6	-45.3	3,823.1	3,792.4	30.73	124.419				
7,950.0	7,499.8	7,589.1	7,523.8	26.5	20.1	86.26	-3,589.6	-45.3	3,776.6	3,745.0	31.55	119.706				
7,964.3	7,500.0	7,589.3	7,524.0	26.5	20.1	90.00	-3,589.6	-45.3	3,763.1	3,731.5	31.66	118.864				
8,000.0	7,500.0	7,589.3	7,524.0	26.6	20.1	90.00	-3,589.6	-45.3	3,729.7	3,697.9	31.80	117.283				
8,100.0	7,500.0	7,589.3	7,524.0	26.8	20.1	90.00	-3,589.6	-45.3	3,636.3	3,604.0	32.33	112.457				
8,200.0	7,500.0	7,589.3	7,524.0	27.2	20.1	90.00	-3,589.6	-45.3	3,543.2	3,510.2	33.05	107.200				
8,300.0	7,500.0	7,589.3	7,524.0	27.7	20.1	90.00	-3,589.6	-45.3	3,450.5	3,416.6	33.93	101.697				
8,400.0	7,500.0	7,589.3	7,524.0	28.3	20.1	90.00	-3,589.6	-45.3	3,358.2	3,323.3	34.94	96.112				
8,500.0	7,500.0	7,589.3	7,524.0	29.0	20.1	90.00	-3,589.6	-45.3	3,266.4	3,230.4	36.07	90.570				
8,600.0	7,500.0	7,589.3	7,524.0	29.8	20.1	90.00	-3,589.6	-45.3	3,175.1	3,137.8	37.28	85.163				
8,700.0	7,500.0	7,589.3	7,524.0	30.6	20.1	90.00	-3,589.6	-45.3	3,084.3	3,045.7	38.58	79.953				
8,800.0	7,500.0	7,589.3	7,524.0	31.5	20.1	90.00	-3,589.6	-45.3	2,994.1	2,954.2	39.93	74.976				
8,900.0	7,500.0	7,589.3	7,524.0	32.5	20.1	90.00	-3,589.6	-45.3	2,904.5	2,863.2	41.34	70.254				

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - Plan #1												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
9,000.0	7,500.0	7,589.3	7,524.0	33.6	20.1	90.00	-3,589.6	-45.3	2,815.7	2,772.9	42.80	65.792	
9,100.0	7,500.0	7,589.3	7,524.0	34.7	20.1	90.00	-3,589.6	-45.3	2,727.6	2,683.3	44.29	61.590	
9,200.0	7,500.0	7,589.3	7,524.0	35.9	20.1	90.00	-3,589.6	-45.3	2,640.4	2,594.6	45.81	57.641	
9,300.0	7,500.0	7,589.3	7,524.0	37.1	20.1	90.00	-3,589.6	-45.3	2,554.1	2,506.7	47.35	53.937	
9,400.0	7,500.0	7,589.3	7,524.0	38.3	20.1	90.00	-3,589.6	-45.3	2,468.8	2,419.9	48.92	50.465	
9,500.0	7,500.0	7,589.3	7,524.0	39.6	20.1	90.00	-3,589.6	-45.3	2,384.7	2,334.2	50.51	47.214	
9,600.0	7,500.0	7,589.3	7,524.0	41.0	20.1	90.00	-3,589.6	-45.3	2,301.8	2,249.7	52.11	44.171	
9,700.0	7,500.0	7,589.3	7,524.0	42.3	20.1	90.00	-3,589.6	-45.3	2,220.4	2,166.7	53.73	41.326	
9,800.0	7,500.0	7,589.3	7,524.0	43.7	20.1	90.00	-3,589.6	-45.3	2,140.5	2,085.2	55.36	38.667	
9,900.0	7,500.0	7,589.3	7,524.0	45.1	20.1	90.00	-3,589.6	-45.3	2,062.4	2,005.4	57.00	36.184	
10,000.0	7,500.0	7,589.3	7,524.0	46.6	20.1	90.00	-3,589.6	-45.3	1,986.3	1,927.6	58.65	33.867	
10,100.0	7,500.0	7,589.3	7,524.0	48.0	20.1	90.00	-3,589.6	-45.3	1,912.3	1,852.0	60.31	31.710	
10,200.0	7,500.0	7,589.3	7,524.0	49.5	20.1	90.00	-3,589.6	-45.3	1,840.9	1,778.9	61.97	29.705	
10,300.0	7,500.0	7,589.3	7,524.0	51.0	20.1	90.00	-3,589.6	-45.3	1,772.2	1,708.5	63.64	27.844	
10,400.0	7,500.0	7,589.3	7,524.0	52.5	20.1	90.00	-3,589.6	-45.3	1,706.5	1,641.2	65.32	26.125	
10,500.0	7,500.0	7,589.3	7,524.0	54.0	20.1	90.00	-3,589.6	-45.3	1,644.4	1,577.4	67.01	24.541	
10,600.0	7,500.0	7,589.3	7,524.0	55.6	20.1	90.00	-3,589.6	-45.3	1,586.1	1,517.4	68.69	23.089	
10,700.0	7,500.0	7,589.3	7,524.0	57.1	20.1	90.00	-3,589.6	-45.3	1,532.1	1,461.7	70.39	21.767	
10,800.0	7,500.0	7,589.3	7,524.0	58.7	20.1	90.00	-3,589.6	-45.3	1,483.0	1,410.9	72.08	20.573	
10,900.0	7,500.0	7,589.3	7,524.0	60.3	20.1	90.00	-3,589.6	-45.3	1,439.1	1,365.3	73.78	19.504	
11,000.0	7,500.0	7,589.3	7,524.0	61.9	20.1	90.00	-3,589.6	-45.3	1,400.9	1,325.4	75.49	18.559	
11,100.0	7,500.0	7,589.3	7,524.0	63.5	20.1	90.00	-3,589.6	-45.3	1,369.1	1,291.9	77.19	17.736	
11,200.0	7,500.0	7,589.3	7,524.0	65.1	20.1	90.00	-3,589.6	-45.3	1,343.9	1,265.0	78.90	17.033	
11,300.0	7,500.0	7,589.3	7,524.0	66.7	20.1	90.00	-3,589.6	-45.3	1,325.8	1,245.2	80.61	16.447	
11,400.0	7,500.0	7,589.3	7,524.0	68.3	20.1	90.00	-3,589.6	-45.3	1,315.1	1,232.8	82.33	15.974	
11,491.4	7,500.0	7,589.3	7,524.0	69.8	20.1	90.00	-3,589.6	-45.3	1,311.9	1,228.0	83.89	15.638 CC	
11,500.0	7,500.0	7,589.3	7,524.0	69.9	20.1	90.00	-3,589.6	-45.3	1,312.0	1,227.9	84.04	15.611 ES	
11,600.0	7,500.0	7,589.3	7,524.0	71.5	20.1	90.00	-3,589.6	-45.3	1,316.4	1,230.7	85.76	15.350	
11,700.0	7,500.0	7,589.3	7,524.0	73.2	20.1	90.00	-3,589.6	-45.3	1,328.4	1,240.9	87.48	15.186	
11,800.0	7,500.0	7,589.3	7,524.0	74.8	20.1	90.00	-3,589.6	-45.3	1,347.7	1,258.5	89.20	15.109 SF	
11,900.0	7,500.0	7,589.3	7,524.0	76.5	20.1	90.00	-3,589.6	-45.3	1,374.1	1,283.2	90.92	15.113	
12,000.0	7,500.0	7,589.3	7,524.0	78.1	20.1	90.00	-3,589.6	-45.3	1,407.1	1,314.4	92.65	15.187	
12,100.0	7,500.0	7,589.3	7,524.0	79.8	20.1	90.00	-3,589.6	-45.3	1,446.2	1,351.9	94.37	15.325	
12,200.0	7,500.0	7,589.3	7,524.0	81.4	20.1	90.00	-3,589.6	-45.3	1,491.1	1,395.0	96.10	15.516	
12,300.0	7,500.0	7,589.3	7,524.0	83.1	20.1	90.00	-3,589.6	-45.3	1,541.1	1,443.3	97.83	15.753	
12,400.0	7,500.0	7,589.3	7,524.0	84.8	20.1	90.00	-3,589.6	-45.3	1,595.9	1,496.3	99.56	16.030	
12,500.0	7,500.0	7,589.3	7,524.0	86.4	20.1	90.00	-3,589.6	-45.3	1,654.8	1,553.5	101.29	16.338	
12,600.0	7,500.0	7,589.3	7,524.0	88.1	20.1	90.00	-3,589.6	-45.3	1,717.6	1,614.6	103.02	16.673	
12,700.0	7,500.0	7,589.3	7,524.0	89.8	20.1	90.00	-3,589.6	-45.3	1,783.8	1,679.0	104.75	17.029	
12,800.0	7,500.0	7,589.3	7,524.0	91.5	20.1	90.00	-3,589.6	-45.3	1,853.0	1,746.5	106.48	17.402	
12,900.0	7,500.0	7,589.3	7,524.0	93.2	20.1	90.00	-3,589.6	-45.3	1,924.9	1,816.7	108.22	17.788	
13,000.0	7,500.0	7,589.3	7,524.0	94.8	20.1	90.00	-3,589.6	-45.3	1,999.3	1,889.3	109.95	18.183	
13,100.0	7,500.0	7,589.3	7,524.0	96.5	20.1	90.00	-3,589.6	-45.3	2,075.8	1,964.1	111.69	18.586	
13,200.0	7,500.0	7,589.3	7,524.0	98.2	20.1	90.00	-3,589.6	-45.3	2,154.2	2,040.8	113.42	18.993	
13,300.0	7,500.0	7,589.3	7,524.0	99.9	20.1	90.00	-3,589.6	-45.3	2,234.3	2,119.2	115.16	19.402	
13,400.0	7,500.0	7,589.3	7,524.0	101.6	20.1	90.00	-3,589.6	-45.3	2,316.0	2,199.1	116.90	19.813	
13,500.0	7,500.0	7,589.3	7,524.0	103.3	20.1	90.00	-3,589.6	-45.3	2,399.1	2,280.5	118.63	20.223	
13,600.0	7,500.0	7,589.3	7,524.0	105.0	20.1	90.00	-3,589.6	-45.3	2,483.4	2,363.1	120.37	20.631	
13,700.0	7,500.0	7,589.3	7,524.0	106.7	20.1	90.00	-3,589.6	-45.3	2,568.9	2,446.8	122.11	21.037	
13,800.0	7,500.0	7,589.3	7,524.0	108.4	20.1	90.00	-3,589.6	-45.3	2,655.4	2,531.5	123.85	21.440	
13,900.0	7,500.0	7,589.3	7,524.0	110.1	20.1	90.00	-3,589.6	-45.3	2,742.7	2,617.2	125.59	21.839	
14,000.0	7,500.0	7,589.3	7,524.0	111.8	20.1	90.00	-3,589.6	-45.3	2,831.0	2,703.6	127.33	22.233	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 11-18 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
14,100.0	7,500.0	7,589.3	7,524.0	113.5	20.1	90.00	-3,589.6	-45.3	2,919.9	2,790.9	129.07	22.623		
14,200.0	7,500.0	7,589.3	7,524.0	115.2	20.1	90.00	-3,589.6	-45.3	3,009.6	2,878.8	130.81	23.007		
14,300.0	7,500.0	7,589.3	7,524.0	116.9	20.1	90.00	-3,589.6	-45.3	3,099.9	2,967.4	132.55	23.386		
14,400.0	7,500.0	7,589.3	7,524.0	118.6	20.1	90.00	-3,589.6	-45.3	3,190.8	3,056.5	134.29	23.760		
14,500.0	7,500.0	7,589.3	7,524.0	120.3	20.1	90.00	-3,589.6	-45.3	3,282.2	3,146.2	136.04	24.127		
14,600.0	7,500.0	7,589.3	7,524.0	122.1	20.1	90.00	-3,589.6	-45.3	3,374.1	3,236.3	137.78	24.489		
14,700.0	7,500.0	7,589.3	7,524.0	123.8	20.1	90.00	-3,589.6	-45.3	3,466.5	3,326.9	139.52	24.845		
14,800.0	7,500.0	7,589.3	7,524.0	125.5	20.1	90.00	-3,589.6	-45.3	3,559.2	3,418.0	141.27	25.195		
14,900.0	7,500.0	7,589.3	7,524.0	127.2	20.1	90.00	-3,589.6	-45.3	3,652.4	3,509.4	143.01	25.540		
15,000.0	7,500.0	7,589.3	7,524.0	128.9	20.1	90.00	-3,589.6	-45.3	3,745.9	3,601.1	144.75	25.878		
15,100.0	7,500.0	7,589.3	7,524.0	130.6	20.1	90.00	-3,589.6	-45.3	3,839.7	3,693.2	146.50	26.210		
15,200.0	7,500.0	7,589.3	7,524.0	132.4	20.1	90.00	-3,589.6	-45.3	3,933.8	3,785.6	148.24	26.537		
15,300.0	7,500.0	7,589.3	7,524.0	134.1	20.1	90.00	-3,589.6	-45.3	4,028.2	3,878.3	149.99	26.858		
15,400.0	7,500.0	7,589.3	7,524.0	135.8	20.1	90.00	-3,589.6	-45.3	4,122.9	3,971.2	151.73	27.173		
15,500.0	7,500.0	7,589.3	7,524.0	137.5	20.1	90.00	-3,589.6	-45.3	4,217.8	4,064.4	153.48	27.482		
15,600.0	7,500.0	7,589.3	7,524.0	139.2	20.1	90.00	-3,589.6	-45.3	4,313.0	4,157.8	155.22	27.786		
15,700.0	7,500.0	7,589.3	7,524.0	141.0	20.1	90.00	-3,589.6	-45.3	4,408.4	4,251.4	156.97	28.085		
15,800.0	7,500.0	7,589.3	7,524.0	142.7	20.1	90.00	-3,589.6	-45.3	4,503.9	4,345.2	158.71	28.378		
15,839.3	7,500.0	7,589.3	7,524.0	143.4	20.1	90.00	-3,589.6	-45.3	4,541.6	4,382.2	159.40	28.492		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 12-18 - DD - DD													Offset Site Error: 0.0 ft			
Survey Program: 56-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	17.2	17.2	0.0	0.0	173.01	-4,267.2	522.9	4,299.1							
100.0	100.0	98.7	98.7	0.2	0.1	173.03	-4,267.7	522.0	4,299.5	4,299.2	0.30	N/A				
200.0	200.0	195.9	195.9	0.3	0.3	173.04	-4,268.3	520.7	4,300.0	4,299.4	0.64	6,678.108				
300.0	300.0	267.7	267.7	0.5	0.4	173.06	-4,269.1	520.0	4,301.0	4,300.1	0.94	4,551.857				
400.0	400.0	339.3	339.3	0.7	0.6	106.91	-4,270.3	519.6	4,302.8	4,301.6	1.25	3,453.427				
500.0	500.0	396.1	396.1	0.9	0.7	106.91	-4,271.8	519.0	4,306.1	4,304.6	1.52	2,824.932				
600.0	599.9	450.0	449.9	1.0	0.8	106.90	-4,273.7	518.5	4,310.9	4,309.1	1.80	2,389.341				
700.0	699.7	490.2	490.1	1.2	0.9	106.88	-4,275.7	518.0	4,317.4	4,315.3	2.07	2,085.715				
800.0	799.4	547.0	546.8	1.4	1.0	106.87	-4,279.3	517.4	4,325.7	4,323.3	2.38	1,818.483				
900.0	898.9	606.0	605.6	1.7	1.1	106.87	-4,283.3	516.4	4,335.3	4,332.6	2.71	1,601.064				
1,000.0	998.3	668.0	667.4	1.9	1.2	106.87	-4,288.1	515.2	4,346.1	4,343.1	3.06	1,419.812				
1,100.0	1,097.4	761.8	760.8	2.2	1.4	106.95	-4,296.2	513.0	4,358.3	4,354.8	3.49	1,247.559				
1,200.0	1,196.3	857.9	856.6	2.5	1.6	107.05	-4,304.1	510.7	4,370.7	4,366.8	3.95	1,105.783				
1,300.0	1,294.9	917.0	915.4	2.8	1.8	107.07	-4,309.5	509.1	4,384.5	4,380.1	4.37	1,003.454				
1,400.0	1,393.3	966.8	964.9	3.2	1.9	107.06	-4,314.5	507.7	4,399.7	4,394.9	4.80	917.495				
1,484.0	1,475.6	1,004.0	1,001.9	3.5	2.0	107.04	-4,318.6	506.6	4,413.9	4,408.7	5.16	854.669				
1,500.0	1,491.3	1,004.0	1,001.9	3.5	2.0	107.04	-4,318.6	506.6	4,416.7	4,411.5	5.22	845.800				
1,600.0	1,589.1	1,068.0	1,065.3	3.9	2.2	107.24	-4,326.6	504.5	4,435.2	4,429.5	5.70	777.654				
1,700.0	1,687.0	1,092.0	1,089.1	4.3	2.2	107.32	-4,330.0	503.8	4,454.9	4,448.8	6.12	728.447				
1,800.0	1,784.9	1,133.0	1,129.6	4.7	2.4	107.44	-4,336.1	502.4	4,475.9	4,469.3	6.56	682.048				
1,900.0	1,882.7	1,179.4	1,175.4	5.1	2.5	107.59	-4,343.5	500.7	4,498.1	4,491.1	7.02	640.385				
2,000.0	1,980.6	1,226.0	1,221.2	5.4	2.7	107.75	-4,351.5	498.6	4,521.5	4,514.0	7.49	603.601				
2,100.0	2,078.5	1,280.4	1,274.6	5.8	2.9	107.94	-4,361.4	495.1	4,545.9	4,537.9	7.98	569.677				
2,200.0	2,176.4	1,377.2	1,369.2	6.2	3.2	108.32	-4,379.6	486.0	4,570.9	4,562.3	8.58	532.848				
2,300.0	2,274.2	1,449.3	1,439.5	6.6	3.5	108.62	-4,393.0	477.3	4,596.0	4,586.9	9.13	503.461				
2,400.0	2,372.1	1,516.0	1,504.4	7.0	3.8	108.90	-4,406.3	469.1	4,622.2	4,612.6	9.67	478.090				
2,500.0	2,470.0	1,588.7	1,575.0	7.4	4.1	109.20	-4,421.0	460.4	4,649.1	4,638.9	10.22	454.769				
2,600.0	2,567.8	1,642.0	1,626.9	7.8	4.3	109.41	-4,431.7	454.1	4,676.2	4,665.5	10.73	435.799				
2,700.0	2,665.7	1,696.9	1,680.2	8.2	4.6	109.64	-4,443.1	447.6	4,704.2	4,693.0	11.25	418.286				
2,800.0	2,763.6	1,738.0	1,720.0	8.6	4.8	109.80	-4,452.2	442.6	4,733.5	4,721.8	11.73	403.622				
2,900.0	2,861.5	1,830.6	1,809.3	9.0	5.2	110.18	-4,473.2	430.8	4,763.5	4,751.1	12.34	385.990				
3,000.0	2,959.3	1,993.7	1,967.4	9.4	5.9	110.83	-4,508.5	411.0	4,792.5	4,779.4	13.11	365.606				
3,100.0	3,057.2	2,099.7	2,070.3	9.8	6.4	111.24	-4,530.6	398.2	4,821.2	4,807.5	13.74	350.767				
3,200.0	3,155.1	2,174.1	2,142.4	10.2	6.7	111.53	-4,546.2	388.8	4,850.2	4,835.9	14.30	339.076				
3,300.0	3,253.0	2,307.3	2,271.8	10.6	7.3	112.04	-4,573.7	372.7	4,879.0	4,864.1	14.98	325.604				
3,400.0	3,350.8	2,425.7	2,386.9	11.0	7.8	112.48	-4,597.6	359.2	4,907.6	4,892.0	15.64	313.804				
3,500.0	3,448.7	2,565.2	2,522.4	11.4	8.4	113.03	-4,624.2	339.4	4,935.4	4,919.1	16.36	301.652				
3,600.0	3,546.6	2,666.0	2,620.6	11.8	8.9	113.40	-4,642.6	326.4	4,962.7	4,945.7	16.96	292.620				
3,700.0	3,644.4	2,724.0	2,677.2	12.2	9.1	113.61	-4,653.7	319.6	4,990.7	4,973.3	17.46	285.879				
3,800.0	3,742.3	2,764.8	2,716.9	12.6	9.3	113.76	-4,661.8	314.8	5,019.7	5,001.7	17.93	280.036				
3,900.0	3,840.2	2,819.0	2,769.5	13.0	9.5	113.95	-4,673.0	308.1	5,049.6	5,031.1	18.42	274.115				
4,000.0	3,938.1	2,883.0	2,831.5	13.4	9.8	114.18	-4,686.6	299.8	5,080.2	5,061.3	18.94	268.264				
4,100.0	4,035.9	2,989.2	2,934.3	13.8	10.3	114.56	-4,709.2	286.2	5,111.1	5,091.6	19.54	261.576				
4,200.0	4,133.8	3,115.1	3,056.4	14.2	10.9	115.01	-4,735.2	269.8	5,141.5	5,121.3	20.18	254.723				
4,300.0	4,231.7	3,225.5	3,163.6	14.6	11.4	115.40	-4,757.5	255.6	5,171.7	5,150.9	20.79	248.791				
4,400.0	4,329.5	3,335.4	3,270.5	15.0	11.9	115.77	-4,779.5	241.9	5,201.9	5,180.5	21.38	243.316				
4,500.0	4,427.4	3,423.0	3,355.6	15.4	12.3	116.07	-4,796.8	231.4	5,231.9	5,210.0	21.92	238.682				
4,600.0	4,525.3	3,487.0	3,417.8	15.8	12.6	116.28	-4,809.8	223.5	5,262.6	5,240.1	22.42	234.742				
8,100.0	7,500.0	7,663.2	7,544.4	26.8	23.8	90.89	-5,238.1	-40.2	5,206.6	5,170.4	36.21	143.787				
8,200.0	7,500.0	7,663.0	7,544.1	27.2	23.8	90.88	-5,238.1	-40.2	5,109.8	5,072.9	36.93	138.378				
8,300.0	7,500.0	7,662.7	7,543.9	27.7	23.8	90.87	-5,238.1	-40.2	5,013.2	4,975.4	37.80	132.618				
8,400.0	7,500.0	7,662.5	7,543.6	28.3	23.8	90.86	-5,238.1	-40.2	4,916.7	4,877.9	38.81	126.681				

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 12-18 - DD - DD												Offset Site Error:	0.0 ft
Survey Program: 56-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
8,500.0	7,500.0	7,662.2	7,543.4	29.0	23.8	90.85	-5,238.1	-40.2	4,820.4	4,780.5	39.93	120.707	
8,600.0	7,500.0	7,662.0	7,543.1	29.8	23.8	90.84	-5,238.1	-40.2	4,724.2	4,683.1	41.15	114.804	
8,700.0	7,500.0	7,661.7	7,542.9	30.6	23.8	90.83	-5,238.1	-40.2	4,628.2	4,585.8	42.44	109.045	
8,800.0	7,500.0	7,661.5	7,542.6	31.5	23.8	90.82	-5,238.1	-40.2	4,532.4	4,488.6	43.80	103.480	
8,900.0	7,500.0	7,661.2	7,542.4	32.5	23.8	90.81	-5,238.1	-40.2	4,436.7	4,391.5	45.21	98.140	
9,000.0	7,500.0	7,661.0	7,542.1	33.6	23.8	90.79	-5,238.1	-40.2	4,341.3	4,294.6	46.66	93.040	
9,100.0	7,500.0	7,660.7	7,541.9	34.7	23.8	90.78	-5,238.1	-40.2	4,246.0	4,197.9	48.15	88.185	
9,200.0	7,500.0	7,660.4	7,541.6	35.9	23.8	90.77	-5,238.1	-40.2	4,151.0	4,101.3	49.67	83.574	
9,300.0	7,500.0	7,660.2	7,541.4	37.1	23.8	90.76	-5,238.1	-40.2	4,056.2	4,005.0	51.21	79.201	
9,400.0	7,500.0	7,659.9	7,541.1	38.3	23.8	90.75	-5,238.1	-40.2	3,961.7	3,908.9	52.78	75.058	
9,500.0	7,500.0	7,659.7	7,540.8	39.6	23.8	90.74	-5,238.1	-40.2	3,867.4	3,813.0	54.37	71.134	
9,600.0	7,500.0	7,659.4	7,540.6	41.0	23.8	90.73	-5,238.1	-40.2	3,773.4	3,717.5	55.97	67.419	
9,700.0	7,500.0	7,659.1	7,540.3	42.3	23.8	90.71	-5,238.1	-40.2	3,679.8	3,622.2	57.59	63.900	
9,800.0	7,500.0	7,658.9	7,540.0	43.7	23.8	90.70	-5,238.1	-40.2	3,586.5	3,527.3	59.22	60.566	
9,900.0	7,500.0	7,658.6	7,539.8	45.1	23.8	90.69	-5,238.1	-40.2	3,493.5	3,432.7	60.86	57.407	
10,000.0	7,500.0	7,658.3	7,539.5	46.6	23.8	90.68	-5,238.1	-40.2	3,401.0	3,338.5	62.50	54.412	
10,100.0	7,500.0	7,658.1	7,539.2	48.0	23.8	90.67	-5,238.1	-40.2	3,308.9	3,244.7	64.16	51.571	
10,200.0	7,500.0	7,657.8	7,539.0	49.5	23.8	90.66	-5,238.1	-40.2	3,217.3	3,151.5	65.83	48.874	
10,300.0	7,500.0	7,657.5	7,538.7	51.0	23.8	90.64	-5,238.1	-40.2	3,126.2	3,058.7	67.50	46.314	
10,400.0	7,500.0	7,657.2	7,538.4	52.5	23.8	90.63	-5,238.1	-40.2	3,035.6	2,966.4	69.18	43.882	
10,500.0	7,500.0	7,656.9	7,538.1	54.0	23.8	90.62	-5,238.1	-40.2	2,945.7	2,874.8	70.86	41.570	
10,600.0	7,500.0	7,656.7	7,537.8	55.6	23.8	90.61	-5,238.1	-40.2	2,856.4	2,783.8	72.55	39.373	
10,700.0	7,500.0	7,656.4	7,537.6	57.1	23.8	90.59	-5,238.1	-40.2	2,767.9	2,693.6	74.24	37.283	
10,800.0	7,500.0	7,656.1	7,537.3	58.7	23.8	90.58	-5,238.1	-40.2	2,680.1	2,604.2	75.94	35.295	
10,900.0	7,500.0	7,655.8	7,537.0	60.3	23.8	90.57	-5,238.1	-40.2	2,593.3	2,515.6	77.63	33.403	
11,000.0	7,500.0	7,655.5	7,536.7	61.9	23.8	90.56	-5,238.1	-40.3	2,507.4	2,428.1	79.34	31.604	
11,100.0	7,500.0	7,655.2	7,536.4	63.5	23.8	90.54	-5,238.1	-40.3	2,422.6	2,341.6	81.04	29.893	
11,200.0	7,500.0	7,654.9	7,536.1	65.1	23.8	90.53	-5,238.1	-40.3	2,339.0	2,256.3	82.75	28.266	
11,300.0	7,500.0	7,654.6	7,535.8	66.7	23.8	90.52	-5,238.1	-40.3	2,256.8	2,172.3	84.46	26.719	
11,400.0	7,500.0	7,654.4	7,535.5	68.3	23.8	90.51	-5,238.1	-40.3	2,176.0	2,089.9	86.18	25.251	
11,500.0	7,500.0	7,654.1	7,535.2	69.9	23.8	90.49	-5,238.1	-40.3	2,096.9	2,009.1	87.89	23.858	
11,600.0	7,500.0	7,653.8	7,534.9	71.5	23.8	90.48	-5,238.1	-40.3	2,019.7	1,930.1	89.61	22.539	
11,700.0	7,500.0	7,653.5	7,534.6	73.2	23.8	90.47	-5,238.1	-40.3	1,944.5	1,853.2	91.33	21.292	
11,800.0	7,500.0	7,653.2	7,534.3	74.8	23.8	90.45	-5,238.1	-40.3	1,871.7	1,778.6	93.05	20.115	
11,900.0	7,500.0	7,652.8	7,534.0	76.5	23.8	90.44	-5,238.1	-40.3	1,801.5	1,706.7	94.77	19.008	
12,000.0	7,500.0	7,652.5	7,533.7	78.1	23.8	90.43	-5,238.1	-40.3	1,734.2	1,637.7	96.50	17.971	
12,100.0	7,500.0	7,652.2	7,533.4	79.8	23.8	90.41	-5,238.1	-40.3	1,670.1	1,571.9	98.22	17.004	
12,200.0	7,500.0	7,651.9	7,533.1	81.4	23.8	90.40	-5,238.1	-40.3	1,609.8	1,509.8	99.95	16.106	
12,300.0	7,500.0	7,651.6	7,532.8	83.1	23.8	90.38	-5,238.1	-40.3	1,553.5	1,451.8	101.68	15.279	
12,400.0	7,500.0	7,651.3	7,532.5	84.8	23.8	90.37	-5,238.1	-40.3	1,501.8	1,398.4	103.40	14.524	
12,500.0	7,500.0	7,651.0	7,532.2	86.4	23.8	90.36	-5,238.1	-40.3	1,455.1	1,350.0	105.13	13.841	
12,600.0	7,500.0	7,650.7	7,531.8	88.1	23.8	90.34	-5,238.1	-40.3	1,414.0	1,307.1	106.86	13.232	
12,700.0	7,500.0	7,650.3	7,531.5	89.8	23.8	90.33	-5,238.1	-40.3	1,378.9	1,270.3	108.60	12.698	
12,800.0	7,500.0	7,650.0	7,531.2	91.5	23.8	90.31	-5,238.1	-40.3	1,350.4	1,240.0	110.33	12.239	
12,900.0	7,500.0	7,649.7	7,530.9	93.2	23.8	90.30	-5,238.1	-40.3	1,328.7	1,216.7	112.06	11.857	
13,000.0	7,500.0	7,649.4	7,530.5	94.8	23.8	90.29	-5,238.1	-40.3	1,314.3	1,200.5	113.80	11.550	
13,100.0	7,500.0	7,649.0	7,530.2	96.5	23.8	90.27	-5,238.1	-40.3	1,307.5	1,192.0	115.53	11.317	
13,139.9	7,500.0	7,648.9	7,530.1	97.2	23.8	90.27	-5,238.1	-40.3	1,306.9	1,190.7	116.22	11.244 CC, ES	
13,200.0	7,500.0	7,648.7	7,529.9	98.2	23.8	90.26	-5,238.1	-40.3	1,308.3	1,191.0	117.27	11.156	
13,300.0	7,500.0	7,648.4	7,529.5	99.9	23.8	90.24	-5,238.1	-40.3	1,316.6	1,197.6	119.00	11.064	
13,400.0	7,500.0	7,648.0	7,529.2	101.6	23.8	90.23	-5,238.1	-40.3	1,332.5	1,211.8	120.74	11.036 SF	
13,500.0	7,500.0	7,647.7	7,528.9	103.3	23.8	90.21	-5,238.1	-40.3	1,355.6	1,233.1	122.48	11.068	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 12-18 - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 56-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			
13,600.0	7,500.0	7,647.3	7,528.5	105.0	23.8	90.20	-5,238.1	-40.3	1,385.5	1,261.3	124.22	11.154		
13,700.0	7,500.0	7,647.0	7,528.2	106.7	23.8	90.18	-5,238.1	-40.3	1,421.8	1,295.9	125.95	11.288		
13,800.0	7,500.0	7,646.6	7,527.8	108.4	23.8	90.17	-5,238.1	-40.3	1,464.1	1,336.4	127.69	11.466		
13,900.0	7,500.0	7,646.3	7,527.5	110.1	23.8	90.15	-5,238.1	-40.3	1,511.8	1,382.4	129.43	11.680		
14,000.0	7,500.0	7,645.9	7,527.1	111.8	23.8	90.14	-5,238.1	-40.3	1,564.5	1,433.3	131.17	11.927		
14,100.0	7,500.0	7,645.6	7,526.8	113.5	23.8	90.12	-5,238.1	-40.3	1,621.6	1,488.7	132.91	12.201		
14,200.0	7,500.0	7,645.2	7,526.4	115.2	23.8	90.11	-5,238.1	-40.3	1,682.8	1,548.1	134.65	12.497		
14,300.0	7,500.0	7,644.9	7,526.0	116.9	23.8	90.09	-5,238.1	-40.3	1,747.5	1,611.1	136.40	12.812		
14,400.0	7,500.0	7,644.5	7,525.7	118.6	23.8	90.07	-5,238.1	-40.3	1,815.4	1,677.3	138.14	13.142		
14,500.0	7,500.0	7,644.1	7,525.3	120.3	23.8	90.06	-5,238.1	-40.3	1,886.2	1,746.3	139.88	13.485		
14,600.0	7,500.0	7,643.8	7,525.0	122.1	23.8	90.04	-5,238.1	-40.3	1,959.5	1,817.9	141.62	13.836		
14,700.0	7,500.0	7,643.4	7,524.6	123.8	23.8	90.03	-5,238.1	-40.3	2,035.1	1,891.8	143.36	14.196		
14,800.0	7,500.0	7,643.0	7,524.2	125.5	23.8	90.01	-5,238.1	-40.3	2,112.8	1,967.7	145.11	14.560		
14,900.0	7,500.0	7,642.7	7,523.8	127.2	23.8	89.99	-5,238.2	-40.3	2,192.2	2,045.4	146.85	14.928		
15,000.0	7,500.0	7,642.3	7,523.5	128.9	23.8	89.98	-5,238.2	-40.3	2,273.3	2,124.7	148.59	15.299		
15,100.0	7,500.0	7,641.9	7,523.1	130.6	23.8	89.96	-5,238.2	-40.3	2,355.8	2,205.5	150.34	15.670		
15,200.0	7,500.0	7,641.5	7,522.7	132.4	23.8	89.94	-5,238.2	-40.3	2,439.6	2,287.6	152.08	16.042		
15,300.0	7,500.0	7,641.1	7,522.3	134.1	23.8	89.93	-5,238.2	-40.3	2,524.7	2,370.8	153.83	16.412		
15,400.0	7,500.0	7,640.7	7,521.9	135.8	23.8	89.91	-5,238.2	-40.3	2,610.7	2,455.2	155.57	16.782		
15,500.0	7,500.0	7,640.3	7,521.5	137.5	23.8	89.89	-5,238.2	-40.3	2,697.8	2,540.4	157.31	17.149		
15,600.0	7,500.0	7,639.9	7,521.1	139.2	23.8	89.87	-5,238.2	-40.3	2,785.7	2,626.6	159.06	17.513		
15,700.0	7,500.0	7,639.5	7,520.7	141.0	23.8	89.86	-5,238.2	-40.3	2,874.4	2,713.6	160.80	17.875		
15,800.0	7,500.0	7,639.1	7,520.3	142.7	23.8	89.84	-5,238.2	-40.3	2,963.8	2,801.2	162.55	18.233		
15,839.3	7,500.0	7,639.0	7,520.2	143.4	23.8	89.83	-5,238.2	-40.3	2,999.1	2,835.9	163.24	18.373		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 12-18 - DD - 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	24.0	24.0	0.0	0.0	173.01	-4,267.2	522.9	4,299.1					
100.0	100.0	124.0	124.0	0.2	0.2	173.01	-4,267.2	522.9	4,299.1	4,298.7	0.34	N/A		
156.1	156.1	180.1	180.1	0.2	0.3	173.01	-4,267.2	522.9	4,299.1	4,298.5	0.54	7,990.111		
200.0	200.0	200.0	200.0	0.3	0.3	173.01	-4,267.2	522.9	4,299.1	4,298.5	0.65	6,621.569		
300.0	300.0	271.5	271.5	0.5	0.4	173.01	-4,267.6	522.9	4,299.8	4,298.9	0.95	4,529.747		
400.0	400.0	329.2	329.1	0.7	0.5	106.86	-4,268.6	522.8	4,301.8	4,300.6	1.22	3,513.190		
500.0	500.0	400.0	400.0	0.9	0.7	106.86	-4,270.6	522.6	4,305.3	4,303.8	1.53	2,820.143		
600.0	599.9	444.2	444.1	1.0	0.8	106.84	-4,272.3	522.5	4,310.2	4,308.4	1.79	2,409.540		
700.0	699.7	500.0	499.9	1.2	0.9	106.83	-4,275.0	522.2	4,316.6	4,314.6	2.08	2,074.282		
800.0	799.4	558.7	558.4	1.4	1.0	106.82	-4,278.3	521.9	4,324.6	4,322.2	2.39	1,808.386		
900.0	898.9	627.1	626.7	1.7	1.1	106.83	-4,282.9	521.5	4,333.9	4,331.2	2.73	1,584.823		
1,000.0	998.3	725.8	725.2	1.9	1.3	106.89	-4,289.8	520.9	4,344.1	4,341.0	3.15	1,379.386		
1,100.0	1,097.4	824.3	823.4	2.2	1.5	106.97	-4,296.6	520.3	4,354.8	4,351.2	3.58	1,215.129		
1,200.0	1,196.3	874.6	873.5	2.5	1.6	106.96	-4,300.4	519.7	4,366.6	4,362.7	3.96	1,103.206		
1,300.0	1,294.9	900.0	898.9	2.8	1.7	106.89	-4,302.6	519.2	4,380.2	4,375.9	4.31	1,015.716		
1,400.0	1,393.3	972.6	971.1	3.2	1.9	106.95	-4,309.6	516.7	4,395.2	4,390.4	4.78	919.293		
1,484.0	1,475.6	1,000.0	998.3	3.5	1.9	106.91	-4,312.6	515.5	4,409.2	4,404.1	5.13	859.136		
1,500.0	1,491.3	1,000.0	998.3	3.5	1.9	106.91	-4,312.6	515.5	4,412.0	4,406.9	5.19	850.158		
1,600.0	1,589.1	1,068.1	1,065.8	3.9	2.1	107.14	-4,320.9	511.6	4,430.1	4,424.4	5.69	779.052		
1,700.0	1,687.0	1,100.0	1,097.3	4.3	2.2	107.26	-4,325.1	509.4	4,449.4	4,443.3	6.12	727.388		
1,800.0	1,784.9	1,161.3	1,157.8	4.7	2.4	107.49	-4,334.0	504.4	4,469.8	4,463.2	6.62	675.363		
1,900.0	1,882.7	1,200.0	1,195.8	5.1	2.5	107.64	-4,340.1	500.8	4,491.4	4,484.4	7.07	634.910		
2,000.0	1,980.6	1,253.8	1,248.6	5.4	2.7	107.86	-4,349.1	495.2	4,514.2	4,506.7	7.57	596.305		
2,100.0	2,078.5	1,346.1	1,338.9	5.8	3.1	108.24	-4,365.1	485.0	4,537.7	4,529.5	8.16	556.167		
2,200.0	2,176.4	1,438.4	1,429.2	6.2	3.4	108.61	-4,381.2	474.9	4,561.4	4,552.6	8.75	521.239		
2,300.0	2,274.2	1,530.6	1,519.5	6.6	3.8	108.98	-4,397.2	464.7	4,585.2	4,575.9	9.35	490.621		
2,400.0	2,372.1	1,622.9	1,609.8	7.0	4.1	109.35	-4,413.2	454.6	4,609.3	4,599.4	9.94	463.630		
2,500.0	2,470.0	1,715.2	1,700.1	7.4	4.5	109.71	-4,429.2	444.4	4,633.6	4,623.0	10.54	439.703		
2,600.0	2,567.8	1,807.4	1,790.4	7.8	4.8	110.07	-4,445.3	434.2	4,658.0	4,646.9	11.13	418.378		
2,700.0	2,665.7	1,899.7	1,880.7	8.2	5.2	110.43	-4,461.3	424.1	4,682.7	4,671.0	11.73	399.276		
2,800.0	2,763.6	1,992.0	1,971.0	8.6	5.5	110.79	-4,477.3	413.9	4,707.5	4,695.2	12.32	382.079		
2,900.0	2,861.5	2,084.3	2,061.3	9.0	5.9	111.14	-4,493.3	403.8	4,732.6	4,719.6	12.91	366.533		
3,000.0	2,959.3	2,176.5	2,151.6	9.4	6.2	111.48	-4,509.4	393.6	4,757.8	4,744.3	13.50	352.421		
3,100.0	3,057.2	2,268.8	2,241.9	9.8	6.6	111.83	-4,525.4	383.4	4,783.1	4,769.0	14.09	339.560		
3,200.0	3,155.1	2,361.1	2,332.2	10.2	7.0	112.17	-4,541.4	373.3	4,808.7	4,794.0	14.67	327.798		
3,300.0	3,253.0	2,453.3	2,422.5	10.6	7.3	112.50	-4,557.5	363.1	4,834.4	4,819.2	15.25	317.005		
3,400.0	3,350.8	2,545.6	2,512.8	11.0	7.7	112.84	-4,573.5	353.0	4,860.3	4,844.5	15.83	307.070		
3,500.0	3,448.7	2,637.9	2,603.1	11.4	8.1	113.17	-4,589.5	342.8	4,886.4	4,870.0	16.40	297.899		
3,600.0	3,546.6	2,730.2	2,693.4	11.8	8.4	113.50	-4,605.5	332.6	4,912.6	4,895.6	16.97	289.409		
3,700.0	3,644.4	2,822.4	2,783.7	12.2	8.8	113.82	-4,621.6	322.5	4,939.0	4,921.4	17.54	281.531		
3,800.0	3,742.3	2,914.7	2,874.0	12.6	9.2	114.14	-4,637.6	312.3	4,965.5	4,947.4	18.11	274.203		
3,900.0	3,840.2	3,007.0	2,964.3	13.0	9.5	114.46	-4,653.6	302.1	4,992.2	4,973.6	18.67	267.372		
4,000.0	3,938.1	3,099.2	3,054.6	13.4	9.9	114.77	-4,669.7	292.0	5,019.1	4,999.9	19.23	260.991		
4,100.0	4,035.9	3,191.5	3,144.9	13.8	10.3	115.08	-4,685.7	281.8	5,046.1	5,026.3	19.79	255.019		
4,200.0	4,133.8	3,283.8	3,235.2	14.2	10.6	115.39	-4,701.7	271.7	5,073.3	5,052.9	20.34	249.418		
4,300.0	4,231.7	3,376.1	3,325.5	14.6	11.0	115.70	-4,717.7	261.5	5,100.6	5,079.7	20.89	244.158		
4,400.0	4,329.5	3,468.3	3,415.8	15.0	11.4	116.00	-4,733.8	251.3	5,128.0	5,106.6	21.44	239.209		
4,500.0	4,427.4	3,560.6	3,506.1	15.4	11.7	116.30	-4,749.8	241.2	5,155.6	5,133.6	21.98	234.545		
4,600.0	4,525.3	3,652.9	3,596.4	15.8	12.1	116.60	-4,765.8	231.0	5,183.3	5,160.8	22.52	230.145		
4,700.0	4,623.2	3,745.2	3,686.7	16.2	12.5	116.89	-4,781.9	220.9	5,211.2	5,188.2	23.06	225.986		
4,800.0	4,721.0	3,837.4	3,777.0	16.7	12.8	117.18	-4,797.9	210.7	5,239.2	5,215.6	23.59	222.052		
4,900.0	4,818.9	3,929.7	3,867.3	17.1	13.2	117.47	-4,813.9	200.5	5,267.4	5,243.2	24.13	218.325		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 12-18 - DD - Plan #3												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
8,000.0	7,500.0	7,633.1	7,524.0	26.6	23.5	90.00	-5,210.6	-50.9	5,279.4	5,244.2	35.25	149.759	
8,100.0	7,500.0	7,633.1	7,524.0	26.8	23.5	90.00	-5,210.6	-50.9	5,182.7	5,146.9	35.79	144.821	
8,200.0	7,500.0	7,633.1	7,524.0	27.2	23.5	90.00	-5,210.6	-50.9	5,086.0	5,049.5	36.50	139.326	
8,300.0	7,500.0	7,633.1	7,524.0	27.7	23.5	90.00	-5,210.6	-50.9	4,989.5	4,952.1	37.38	133.476	
8,400.0	7,500.0	7,633.1	7,524.0	28.3	23.5	90.00	-5,210.6	-50.9	4,893.1	4,854.7	38.39	127.449	
8,500.0	7,500.0	7,633.1	7,524.0	29.0	23.5	90.00	-5,210.6	-50.9	4,796.9	4,757.4	39.52	121.388	
8,600.0	7,500.0	7,633.1	7,524.0	29.8	23.5	90.00	-5,210.6	-50.9	4,700.8	4,660.1	40.73	115.402	
8,700.0	7,500.0	7,633.1	7,524.0	30.6	23.5	90.00	-5,210.6	-50.9	4,604.9	4,562.9	42.03	109.566	
8,800.0	7,500.0	7,633.1	7,524.0	31.5	23.5	90.00	-5,210.6	-50.9	4,509.2	4,465.8	43.39	103.932	
8,900.0	7,500.0	7,633.1	7,524.0	32.5	23.5	90.00	-5,210.6	-50.9	4,413.6	4,368.8	44.80	98.528	
9,000.0	7,500.0	7,633.1	7,524.0	33.6	23.5	90.00	-5,210.6	-50.9	4,318.3	4,272.1	46.25	93.371	
9,100.0	7,500.0	7,633.1	7,524.0	34.7	23.5	90.00	-5,210.6	-50.9	4,223.2	4,175.4	47.74	88.465	
9,200.0	7,500.0	7,633.1	7,524.0	35.9	23.5	90.00	-5,210.6	-50.9	4,128.3	4,079.0	49.26	83.808	
9,300.0	7,500.0	7,633.1	7,524.0	37.1	23.5	90.00	-5,210.6	-50.9	4,033.6	3,982.8	50.81	79.394	
9,400.0	7,500.0	7,633.1	7,524.0	38.3	23.5	90.00	-5,210.6	-50.9	3,939.3	3,886.9	52.37	75.215	
9,500.0	7,500.0	7,633.1	7,524.0	39.6	23.5	90.00	-5,210.6	-50.9	3,845.2	3,791.2	53.96	71.259	
9,600.0	7,500.0	7,633.1	7,524.0	41.0	23.5	90.00	-5,210.6	-50.9	3,751.4	3,695.8	55.56	67.515	
9,700.0	7,500.0	7,633.1	7,524.0	42.3	23.5	90.00	-5,210.6	-50.9	3,657.9	3,600.7	57.18	63.971	
9,800.0	7,500.0	7,633.1	7,524.0	43.7	23.5	90.00	-5,210.6	-50.9	3,564.8	3,506.0	58.81	60.615	
9,900.0	7,500.0	7,633.1	7,524.0	45.1	23.5	90.00	-5,210.6	-50.9	3,472.1	3,411.6	60.45	57.436	
10,000.0	7,500.0	7,633.1	7,524.0	46.6	23.5	90.00	-5,210.6	-50.9	3,379.8	3,317.7	62.10	54.424	
10,100.0	7,500.0	7,633.1	7,524.0	48.0	23.5	90.00	-5,210.6	-50.9	3,287.9	3,224.2	63.76	51.568	
10,200.0	7,500.0	7,633.1	7,524.0	49.5	23.5	90.00	-5,210.6	-50.9	3,196.6	3,131.1	65.42	48.859	
10,300.0	7,500.0	7,633.1	7,524.0	51.0	23.5	90.00	-5,210.6	-50.9	3,105.7	3,038.6	67.10	46.287	
10,400.0	7,500.0	7,633.1	7,524.0	52.5	23.5	90.00	-5,210.6	-50.9	3,015.5	2,946.7	68.77	43.845	
10,500.0	7,500.0	7,633.1	7,524.0	54.0	23.5	90.00	-5,210.6	-50.9	2,925.8	2,855.4	70.46	41.526	
10,600.0	7,500.0	7,633.1	7,524.0	55.6	23.5	90.00	-5,210.6	-50.9	2,836.9	2,764.8	72.15	39.322	
10,700.0	7,500.0	7,633.1	7,524.0	57.1	23.5	90.00	-5,210.6	-50.9	2,748.7	2,674.9	73.84	37.226	
10,800.0	7,500.0	7,633.1	7,524.0	58.7	23.5	90.00	-5,210.6	-50.9	2,661.4	2,585.9	75.54	35.234	
10,900.0	7,500.0	7,633.1	7,524.0	60.3	23.5	90.00	-5,210.6	-50.9	2,575.0	2,497.8	77.23	33.340	
11,000.0	7,500.0	7,633.1	7,524.0	61.9	23.5	90.00	-5,210.6	-50.9	2,489.6	2,410.7	78.94	31.539	
11,100.0	7,500.0	7,633.1	7,524.0	63.5	23.5	90.00	-5,210.6	-50.9	2,405.3	2,324.7	80.64	29.827	
11,200.0	7,500.0	7,633.1	7,524.0	65.1	23.5	90.00	-5,210.6	-50.9	2,322.3	2,240.0	82.35	28.200	
11,300.0	7,500.0	7,633.1	7,524.0	66.7	23.5	90.00	-5,210.6	-50.9	2,240.7	2,156.6	84.06	26.655	
11,400.0	7,500.0	7,633.1	7,524.0	68.3	23.5	90.00	-5,210.6	-50.9	2,160.6	2,074.8	85.78	25.188	
11,500.0	7,500.0	7,633.1	7,524.0	69.9	23.5	90.00	-5,210.6	-50.9	2,082.2	1,994.7	87.49	23.799	
11,600.0	7,500.0	7,633.1	7,524.0	71.5	23.5	90.00	-5,210.6	-50.9	2,005.8	1,916.6	89.21	22.484	
11,700.0	7,500.0	7,633.1	7,524.0	73.2	23.5	90.00	-5,210.6	-50.9	1,931.5	1,840.6	90.93	21.242	
11,800.0	7,500.0	7,633.1	7,524.0	74.8	23.5	90.00	-5,210.6	-50.9	1,859.6	1,767.0	92.65	20.071	
11,900.0	7,500.0	7,633.1	7,524.0	76.5	23.5	90.00	-5,210.6	-50.9	1,790.5	1,696.1	94.37	18.972	
12,000.0	7,500.0	7,633.1	7,524.0	78.1	23.5	90.00	-5,210.6	-50.9	1,724.3	1,628.2	96.10	17.943	
12,100.0	7,500.0	7,633.1	7,524.0	79.8	23.5	90.00	-5,210.6	-50.9	1,661.6	1,563.8	97.82	16.985	
12,200.0	7,500.0	7,633.1	7,524.0	81.4	23.5	90.00	-5,210.6	-50.9	1,602.6	1,503.1	99.55	16.098	
12,300.0	7,500.0	7,633.1	7,524.0	83.1	23.5	90.00	-5,210.6	-50.9	1,547.9	1,446.6	101.28	15.283	
12,400.0	7,500.0	7,633.1	7,524.0	84.8	23.5	90.00	-5,210.6	-50.9	1,497.8	1,394.8	103.01	14.541	
12,500.0	7,500.0	7,633.1	7,524.0	86.4	23.5	90.00	-5,210.6	-50.9	1,452.9	1,348.2	104.74	13.872	
12,600.0	7,500.0	7,633.1	7,524.0	88.1	23.5	90.00	-5,210.6	-50.9	1,413.7	1,307.2	106.47	13.278	
12,700.0	7,500.0	7,633.1	7,524.0	89.8	23.5	90.00	-5,210.6	-50.9	1,380.6	1,272.4	108.20	12.759	
12,800.0	7,500.0	7,633.1	7,524.0	91.5	23.5	90.00	-5,210.6	-50.9	1,354.1	1,244.1	109.93	12.317	
12,900.0	7,500.0	7,633.1	7,524.0	93.2	23.5	90.00	-5,210.6	-50.9	1,334.5	1,222.9	111.67	11.951	
13,000.0	7,500.0	7,633.1	7,524.0	94.8	23.5	90.00	-5,210.6	-50.9	1,322.3	1,208.9	113.40	11.660	
13,100.0	7,500.0	7,633.1	7,524.0	96.5	23.5	90.00	-5,210.6	-50.9	1,317.6	1,202.4	115.14	11.444	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 12-18 - DD - 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		
13,112.4	7,500.0	7,633.1	7,524.0	96.7	23.5	90.00	-5,210.6	-50.9	1,317.5	1,202.2	115.35	11.422	CC, ES	
13,200.0	7,500.0	7,633.1	7,524.0	98.2	23.5	90.00	-5,210.6	-50.9	1,320.4	1,203.6	116.87	11.298		
13,300.0	7,500.0	7,633.1	7,524.0	99.9	23.5	90.00	-5,210.6	-50.9	1,330.8	1,212.2	118.61	11.220		
13,400.0	7,500.0	7,633.1	7,524.0	101.6	23.5	90.00	-5,210.6	-50.9	1,348.6	1,228.2	120.35	11.206	SF	
13,500.0	7,500.0	7,633.1	7,524.0	103.3	23.5	90.00	-5,210.6	-50.9	1,373.4	1,251.3	122.08	11.249		
13,600.0	7,500.0	7,633.1	7,524.0	105.0	23.5	90.00	-5,210.6	-50.9	1,404.9	1,281.0	123.82	11.346		
13,700.0	7,500.0	7,633.1	7,524.0	106.7	23.5	90.00	-5,210.6	-50.9	1,442.6	1,317.1	125.56	11.489		
13,800.0	7,500.0	7,633.1	7,524.0	108.4	23.5	90.00	-5,210.6	-50.9	1,486.2	1,358.9	127.30	11.674		
13,900.0	7,500.0	7,633.1	7,524.0	110.1	23.5	90.00	-5,210.6	-50.9	1,535.0	1,405.9	129.04	11.895		
14,000.0	7,500.0	7,633.1	7,524.0	111.8	23.5	90.00	-5,210.6	-50.9	1,588.6	1,457.8	130.78	12.147		
14,100.0	7,500.0	7,633.1	7,524.0	113.5	23.5	90.00	-5,210.6	-50.9	1,646.6	1,514.1	132.52	12.425		
14,200.0	7,500.0	7,633.1	7,524.0	115.2	23.5	90.00	-5,210.6	-50.9	1,708.4	1,574.2	134.26	12.725		
14,300.0	7,500.0	7,633.1	7,524.0	116.9	23.5	90.00	-5,210.6	-50.9	1,773.8	1,637.8	136.00	13.042		
14,400.0	7,500.0	7,633.1	7,524.0	118.6	23.5	90.00	-5,210.6	-50.9	1,842.2	1,704.5	137.75	13.374		
14,500.0	7,500.0	7,633.1	7,524.0	120.3	23.5	90.00	-5,210.6	-50.9	1,913.5	1,774.0	139.49	13.718		
14,600.0	7,500.0	7,633.1	7,524.0	122.1	23.5	90.00	-5,210.6	-50.9	1,987.2	1,845.9	141.23	14.070		
14,700.0	7,500.0	7,633.1	7,524.0	123.8	23.5	90.00	-5,210.6	-50.9	2,063.1	1,920.1	142.97	14.430		
14,800.0	7,500.0	7,633.1	7,524.0	125.5	23.5	90.00	-5,210.6	-50.9	2,141.0	1,996.3	144.72	14.794		
14,900.0	7,500.0	7,633.1	7,524.0	127.2	23.5	90.00	-5,210.6	-50.9	2,220.7	2,074.2	146.46	15.162		
15,000.0	7,500.0	7,633.1	7,524.0	128.9	23.5	90.00	-5,210.6	-50.9	2,301.9	2,153.7	148.20	15.532		
15,100.0	7,500.0	7,633.1	7,524.0	130.6	23.5	90.00	-5,210.6	-50.9	2,384.6	2,234.7	149.95	15.903		
15,200.0	7,500.0	7,633.1	7,524.0	132.4	23.5	90.00	-5,210.6	-50.9	2,468.6	2,316.9	151.69	16.274		
15,300.0	7,500.0	7,633.1	7,524.0	134.1	23.5	90.00	-5,210.6	-50.9	2,553.7	2,400.3	153.44	16.643		
15,400.0	7,500.0	7,633.1	7,524.0	135.8	23.5	90.00	-5,210.6	-50.9	2,639.9	2,484.7	155.18	17.011		
15,500.0	7,500.0	7,633.1	7,524.0	137.5	23.5	90.00	-5,210.6	-50.9	2,727.0	2,570.1	156.93	17.377		
15,600.0	7,500.0	7,633.1	7,524.0	139.2	23.5	90.00	-5,210.6	-50.9	2,815.0	2,656.3	158.67	17.741		
15,700.0	7,500.0	7,633.1	7,524.0	141.0	23.5	90.00	-5,210.6	-50.9	2,903.7	2,743.3	160.42	18.101		
15,800.0	7,500.0	7,633.1	7,524.0	142.7	23.5	90.00	-5,210.6	-50.9	2,993.2	2,831.0	162.16	18.458		
15,839.3	7,500.0	7,633.1	7,524.0	143.4	23.5	90.00	-5,210.6	-50.9	3,028.5	2,865.7	162.85	18.597		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - DD													Offset Site Error:	0.0 ft
Survey Program: 814-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	23.2	23.2	0.0	0.0	173.24	-4,267.2	506.1	4,297.1					
100.0	100.0	123.9	123.9	0.2	0.2	173.24	-4,267.2	506.1	4,297.1	4,296.7	0.36	N/A		
200.0	200.0	224.7	224.7	0.3	0.4	173.24	-4,267.1	506.1	4,297.0	4,296.3	0.71	6,040.239		
300.0	300.0	325.5	325.5	0.5	0.6	173.24	-4,267.1	506.2	4,297.0	4,295.9	1.06	4,059.185		
311.6	311.6	337.1	337.1	0.5	0.6	107.09	-4,267.1	506.2	4,297.0	4,295.9	1.10	3,910.644		
400.0	400.0	426.2	426.2	0.7	0.7	107.10	-4,267.0	506.2	4,297.2	4,295.8	1.41	3,055.659		
500.0	500.0	527.0	527.0	0.9	0.9	107.13	-4,266.9	506.2	4,297.9	4,296.1	1.76	2,445.838		
600.0	599.9	627.6	627.6	1.0	1.1	107.17	-4,266.8	506.3	4,299.0	4,296.9	2.11	2,033.176		
700.0	699.7	728.2	728.2	1.2	1.2	107.23	-4,266.7	506.4	4,300.7	4,298.3	2.48	1,733.315		
800.0	799.4	828.6	828.6	1.4	1.4	107.31	-4,266.5	506.5	4,302.9	4,300.1	2.86	1,503.973		
900.0	898.9	1,162.0	1,161.1	1.7	2.1	107.45	-4,256.9	525.1	4,305.0	4,301.3	3.71	1,160.185		
1,000.0	998.3	1,276.1	1,274.1	1.9	2.3	107.45	-4,248.8	538.7	4,302.6	4,298.4	4.22	1,019.049		
1,100.0	1,097.4	1,546.6	1,539.4	2.2	3.2	107.29	-4,221.7	583.8	4,298.1	4,292.8	5.29	812.384		
1,200.0	1,196.3	1,783.2	1,768.2	2.5	4.2	107.07	-4,189.8	634.7	4,291.9	4,285.4	6.50	660.469		
1,300.0	1,294.9	1,881.0	1,862.3	2.8	4.7	107.04	-4,174.5	656.5	4,283.7	4,276.5	7.22	593.668		
1,400.0	1,393.3	1,941.4	1,920.4	3.2	5.0	107.05	-4,165.4	670.2	4,276.7	4,268.9	7.81	547.722		
1,484.0	1,475.6	2,011.6	1,988.0	3.5	5.3	107.05	-4,155.2	686.1	4,271.7	4,263.3	8.41	508.050		
1,500.0	1,491.3	2,025.9	2,001.8	3.5	5.4	107.04	-4,153.2	689.3	4,270.9	4,262.3	8.53	500.859		
1,600.0	1,589.1	2,152.4	2,123.7	3.9	6.0	106.97	-4,134.6	717.3	4,264.8	4,255.3	9.44	451.773		
1,700.0	1,687.0	2,232.3	2,200.7	4.3	6.4	106.91	-4,122.9	735.6	4,258.9	4,248.7	10.17	418.856		
1,800.0	1,784.9	2,335.9	2,300.5	4.7	6.8	106.85	-4,107.8	758.8	4,253.0	4,242.0	10.99	386.837		
1,900.0	1,882.7	2,406.0	2,368.2	5.1	7.2	106.81	-4,097.9	774.2	4,247.6	4,235.9	11.68	363.707		
2,000.0	1,980.6	2,503.0	2,461.8	5.4	7.6	106.76	-4,084.5	795.5	4,242.6	4,230.1	12.48	339.966		
2,100.0	2,078.5	2,580.4	2,536.7	5.8	8.0	106.72	-4,074.1	812.3	4,237.8	4,224.6	13.20	321.060		
2,200.0	2,176.4	2,707.8	2,659.9	6.2	8.6	106.65	-4,057.4	840.4	4,233.4	4,219.3	14.15	299.158		
2,300.0	2,274.2	2,816.5	2,764.7	6.6	9.2	106.59	-4,042.0	864.4	4,228.0	4,212.9	15.02	281.469		
2,400.0	2,372.1	2,907.8	2,852.8	7.0	9.6	106.54	-4,029.3	884.6	4,222.8	4,207.0	15.82	266.935		
2,500.0	2,470.0	3,035.7	2,976.2	7.4	10.2	106.46	-4,011.3	913.0	4,217.5	4,200.7	16.78	251.293		
2,600.0	2,567.8	3,160.1	3,095.9	7.8	10.9	106.38	-3,992.6	941.1	4,211.1	4,193.4	17.75	237.185		
2,700.0	2,665.7	3,232.0	3,165.2	8.2	11.2	106.33	-3,982.1	957.4	4,205.3	4,186.8	18.47	227.658		
2,800.0	2,763.6	3,307.5	3,238.0	8.6	11.6	106.28	-3,971.5	974.7	4,200.0	4,180.8	19.22	218.558		
2,900.0	2,861.5	3,384.8	3,312.5	9.0	12.0	106.23	-3,960.9	992.2	4,195.1	4,175.2	19.96	210.185		
3,000.0	2,959.3	3,518.5	3,441.7	9.4	12.6	106.16	-3,942.7	1,021.3	4,190.2	4,169.3	20.95	199.980		
3,100.0	3,057.2	3,601.6	3,521.8	9.8	13.1	106.11	-3,931.1	1,040.0	4,185.1	4,163.4	21.73	192.569		
3,200.0	3,155.1	3,705.6	3,621.9	10.2	13.6	106.03	-3,916.6	1,064.3	4,180.1	4,157.5	22.63	184.734		
3,300.0	3,253.0	3,790.3	3,703.6	10.6	14.0	105.97	-3,905.0	1,083.6	4,175.2	4,151.8	23.40	178.416		
3,400.0	3,350.8	3,868.3	3,779.0	11.0	14.4	105.93	-3,894.7	1,100.5	4,170.8	4,146.6	24.14	172.783		
3,500.0	3,448.7	3,951.0	3,859.2	11.4	14.8	105.89	-3,884.3	1,118.2	4,166.9	4,142.0	24.90	167.358		
3,600.0	3,546.6	4,125.6	4,028.0	11.8	15.6	105.80	-3,861.7	1,156.3	4,162.9	4,136.8	26.09	159.581		
3,700.0	3,644.4	4,248.0	4,146.1	12.2	16.2	105.73	-3,843.8	1,183.1	4,157.0	4,130.0	27.04	153.711		
3,800.0	3,742.3	4,342.7	4,237.4	12.6	16.7	105.68	-3,829.7	1,203.8	4,151.0	4,123.1	27.87	148.934		
3,900.0	3,840.2	4,413.2	4,305.5	13.0	17.0	105.64	-3,819.6	1,219.1	4,145.3	4,116.7	28.58	145.030		
4,000.0	3,938.1	4,470.1	4,360.6	13.4	17.3	105.61	-3,811.9	1,231.2	4,140.5	4,111.3	29.23	141.669		
4,100.0	4,035.9	4,551.8	4,439.7	13.8	17.7	105.58	-3,801.8	1,248.4	4,136.7	4,106.7	29.98	137.984		
4,200.0	4,133.8	4,687.1	4,570.8	14.2	18.3	105.52	-3,784.2	1,277.0	4,132.3	4,101.4	30.97	133.425		
4,300.0	4,231.7	4,757.0	4,638.7	14.6	18.7	105.50	-3,775.1	1,291.3	4,127.9	4,096.3	31.66	130.375		
4,400.0	4,329.5	4,847.0	4,726.3	15.0	19.0	105.48	-3,764.0	1,308.7	4,124.0	4,091.6	32.40	127.277		
4,500.0	4,427.4	4,933.1	4,810.3	15.4	19.4	105.49	-3,753.9	1,324.1	4,120.5	4,087.4	33.12	124.415		
4,600.0	4,525.3	5,025.1	4,900.4	15.8	19.8	105.50	-3,743.5	1,340.2	4,117.3	4,083.4	33.85	121.625		
4,700.0	4,623.2	5,113.1	4,986.5	16.2	20.1	105.51	-3,733.7	1,355.1	4,114.3	4,079.7	34.56	119.047		
4,800.0	4,721.0	5,203.3	5,075.0	16.7	20.4	105.54	-3,724.1	1,369.9	4,111.6	4,076.3	35.27	116.564		
4,900.0	4,818.9	5,307.4	5,177.0	17.1	20.9	105.56	-3,712.9	1,387.6	4,108.9	4,072.9	36.04	114.002		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - DD													Offset Site Error:	0.0 ft
Survey Program: 814-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	4,916.8	5,393.0	5,260.9	17.5	21.2	105.59	-3,703.9	1,401.3	4,106.3	4,069.6	36.72	111.822		
5,100.0	5,014.7	5,467.9	5,334.6	17.9	21.4	105.62	-3,696.4	1,412.8	4,104.2	4,066.8	37.36	109.864		
5,200.0	5,112.5	5,538.7	5,404.2	18.3	21.7	105.66	-3,689.9	1,423.5	4,102.8	4,064.8	37.98	108.023		
5,300.0	5,210.4	5,687.8	5,550.8	18.7	22.2	105.72	-3,675.6	1,446.6	4,101.0	4,062.1	38.87	105.500		
5,400.0	5,308.3	5,750.6	5,612.7	19.1	22.5	105.75	-3,669.5	1,455.9	4,099.1	4,059.7	39.46	103.886		
5,500.0	5,406.1	5,822.2	5,683.3	19.5	22.7	105.80	-3,663.4	1,465.8	4,098.2	4,058.2	40.06	102.300		
5,600.0	5,504.0	5,900.0	5,760.1	19.9	23.0	105.86	-3,657.2	1,476.5	4,097.9	4,057.2	40.68	100.723		
5,665.0	5,567.6	5,963.0	5,822.4	20.1	23.2	105.90	-3,652.4	1,485.1	4,097.8	4,056.7	41.12	99.661		
5,700.0	5,601.9	5,985.3	5,844.4	20.3	23.2	105.92	-3,650.8	1,487.9	4,097.9	4,056.6	41.31	99.194		
5,800.0	5,699.8	6,077.0	5,935.3	20.7	23.5	106.02	-3,644.7	1,498.3	4,098.5	4,056.6	41.91	97.782		
5,900.0	5,797.6	6,167.8	6,025.6	21.1	23.7	106.15	-3,638.8	1,506.1	4,099.0	4,056.5	42.48	96.496		
6,000.0	5,895.5	6,234.0	6,091.5	21.5	23.8	106.26	-3,635.1	1,511.0	4,100.1	4,057.2	42.98	95.400		
6,100.0	5,993.4	6,283.0	6,140.3	21.9	23.9	106.35	-3,632.6	1,514.3	4,102.1	4,058.7	43.44	94.422		
6,200.0	6,091.2	6,355.2	6,212.4	22.3	24.0	106.49	-3,629.9	1,518.2	4,105.0	4,061.1	43.91	93.489		
6,300.0	6,189.1	6,459.7	6,316.8	22.7	24.1	106.73	-3,627.2	1,520.9	4,108.7	4,064.4	44.34	92.658		
6,400.0	6,287.0	6,528.1	6,385.2	23.1	24.2	106.92	-3,625.4	1,520.6	4,112.3	4,067.5	44.74	91.913		
6,500.0	6,384.9	6,571.0	6,428.1	23.5	24.2	107.05	-3,625.2	1,520.1	4,117.4	4,072.2	45.13	91.233		
6,600.0	6,482.7	6,643.3	6,500.3	23.9	24.3	107.25	-3,625.4	1,519.4	4,123.6	4,078.1	45.54	90.554		
6,700.0	6,580.6	6,761.2	6,618.3	24.3	24.4	107.57	-3,625.2	1,519.9	4,129.8	4,083.8	45.97	89.835		
6,800.0	6,678.5	6,870.5	6,727.6	24.7	24.5	107.86	-3,624.6	1,520.4	4,135.7	4,089.3	46.40	89.137		
6,900.0	6,776.4	6,979.0	6,836.0	25.1	24.6	108.14	-3,623.8	1,520.7	4,141.4	4,094.6	46.82	88.450		
7,000.0	6,874.2	7,097.3	6,954.4	25.5	24.7	108.46	-3,622.4	1,520.9	4,146.8	4,099.6	47.25	87.772		
7,016.7	6,890.6	7,117.0	6,974.0	25.6	24.7	108.51	-3,622.2	1,520.9	4,147.7	4,100.4	47.32	87.661		
7,050.0	6,923.2	7,156.9	7,014.0	25.7	24.8	92.65	-3,621.6	1,520.8	4,148.4	4,101.1	47.35	87.617		
7,100.0	6,972.3	7,220.1	7,077.2	25.9	24.8	67.39	-3,620.4	1,520.6	4,145.8	4,098.6	47.14	87.953		
7,150.0	7,021.1	7,270.0	7,127.1	26.0	24.9	47.59	-3,619.4	1,520.4	4,138.7	4,092.1	46.61	88.787		
7,200.0	7,069.3	7,317.7	7,174.7	26.1	24.9	34.72	-3,618.5	1,520.3	4,127.5	4,081.7	45.79	90.142		
7,250.0	7,116.5	7,377.7	7,234.7	26.2	25.0	26.53	-3,617.2	1,520.1	4,111.9	4,067.3	44.67	92.048		
7,300.0	7,162.3	7,426.1	7,283.0	26.2	25.0	21.05	-3,616.1	1,519.8	4,092.2	4,049.0	43.27	94.582		
7,350.0	7,206.4	7,467.4	7,324.4	26.3	25.1	17.17	-3,615.1	1,519.4	4,068.7	4,027.1	41.59	97.821		
7,400.0	7,248.4	7,505.8	7,362.7	26.3	25.1	14.28	-3,614.3	1,518.9	4,041.4	4,001.7	39.67	101.862		
7,450.0	7,288.1	7,540.2	7,397.2	26.3	25.1	12.00	-3,613.6	1,518.3	4,010.6	3,973.0	37.54	106.837		
7,500.0	7,325.1	7,576.0	7,432.9	26.3	25.2	10.13	-3,612.9	1,517.7	3,976.6	3,941.3	35.22	112.903		
7,550.0	7,359.2	7,606.0	7,462.9	26.3	25.2	8.47	-3,612.3	1,517.2	3,939.5	3,906.7	32.76	120.255		
7,600.0	7,390.0	7,636.8	7,493.7	26.3	25.2	6.91	-3,611.7	1,516.6	3,899.7	3,869.5	30.21	129.091		
7,650.0	7,417.4	7,664.0	7,520.9	26.3	25.2	5.29	-3,611.2	1,516.1	3,857.4	3,829.7	27.64	139.571		
7,700.0	7,441.2	7,687.5	7,544.4	26.3	25.3	3.42	-3,610.7	1,515.6	3,812.9	3,787.8	25.14	151.661		
7,750.0	7,461.1	7,704.0	7,560.9	26.3	25.3	0.96	-3,610.4	1,515.3	3,766.7	3,743.8	22.86	164.744		
7,800.0	7,477.0	7,719.3	7,576.2	26.3	25.3	-2.79	-3,610.1	1,515.0	3,719.0	3,697.9	21.07	176.546		
7,850.0	7,488.8	7,728.7	7,585.5	26.4	25.3	-9.81	-3,609.9	1,514.8	3,670.2	3,649.8	20.38	180.120		
7,900.0	7,496.5	7,734.4	7,591.3	26.4	25.3	-27.80	-3,609.8	1,514.7	3,620.7	3,597.4	23.29	155.448		
7,950.0	7,499.8	7,736.5	7,593.4	26.5	25.3	-85.82	-3,609.7	1,514.7	3,570.8	3,539.1	31.74	112.493		
7,964.3	7,500.0	7,736.5	7,593.3	26.5	25.3	-105.82	-3,609.7	1,514.7	3,556.6	3,526.3	30.23	117.664		
8,000.0	7,500.0	7,735.9	7,592.8	26.6	25.3	-105.70	-3,609.8	1,514.7	3,521.0	3,490.6	30.39	115.876		
8,100.0	7,500.0	7,734.3	7,591.2	26.8	25.3	-105.36	-3,609.8	1,514.7	3,421.3	3,390.3	30.97	110.487		
8,200.0	7,500.0	7,732.7	7,589.5	27.2	25.3	-105.01	-3,609.8	1,514.8	3,321.5	3,289.8	31.72	104.705		
8,300.0	7,500.0	7,731.0	7,587.9	27.7	25.3	-104.65	-3,609.8	1,514.8	3,221.9	3,189.2	32.64	98.721		
8,400.0	7,500.0	7,729.4	7,586.3	28.3	25.3	-104.29	-3,609.9	1,514.8	3,122.2	3,088.5	33.68	92.700		
8,500.0	7,500.0	7,727.7	7,584.6	29.0	25.3	-103.93	-3,609.9	1,514.9	3,022.5	2,987.7	34.84	86.766		
8,600.0	7,500.0	7,726.1	7,582.9	29.8	25.3	-103.57	-3,609.9	1,514.9	2,922.9	2,886.8	36.08	81.007		
8,700.0	7,500.0	7,724.4	7,581.3	30.6	25.3	-103.20	-3,610.0	1,514.9	2,823.3	2,785.9	37.40	75.480		
8,800.0	7,500.0	7,722.7	7,579.6	31.5	25.3	-102.83	-3,610.0	1,515.0	2,723.7	2,684.9	38.79	70.216		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - DD													Offset Site Error:	0.0 ft
Survey Program:		814-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	7,500.0	7,721.0	7,577.8	32.5	25.3	-102.45	-3,610.0	1,515.0	2,624.2	2,583.9	40.23	65.229		
9,000.0	7,500.0	7,719.2	7,576.1	33.6	25.3	-102.07	-3,610.1	1,515.0	2,524.7	2,482.9	41.71	60.524		
9,100.0	7,500.0	7,717.5	7,574.4	34.7	25.3	-101.68	-3,610.1	1,515.1	2,425.2	2,382.0	43.24	56.093		
9,200.0	7,500.0	7,715.8	7,572.6	35.9	25.3	-101.29	-3,610.1	1,515.1	2,325.8	2,281.0	44.79	51.927		
9,300.0	7,500.0	7,714.0	7,570.9	37.1	25.3	-100.90	-3,610.2	1,515.1	2,226.4	2,180.0	46.37	48.013		
9,400.0	7,500.0	7,712.2	7,569.1	38.3	25.3	-100.50	-3,610.2	1,515.2	2,127.1	2,079.1	47.97	44.337		
9,500.0	7,500.0	7,710.4	7,567.3	39.6	25.3	-100.10	-3,610.2	1,515.2	2,027.8	1,978.2	49.60	40.883		
9,600.0	7,500.0	7,708.6	7,565.5	41.0	25.3	-99.69	-3,610.3	1,515.2	1,928.6	1,877.4	51.24	37.636		
9,700.0	7,500.0	7,704.0	7,560.9	42.3	25.3	-98.66	-3,610.4	1,515.3	1,829.5	1,776.5	52.99	34.525		
9,800.0	7,500.0	7,704.0	7,560.9	43.7	25.3	-98.66	-3,610.4	1,515.3	1,730.5	1,675.9	54.61	31.691		
9,900.0	7,500.0	7,703.0	7,559.9	45.1	25.3	-98.43	-3,610.4	1,515.3	1,631.7	1,575.4	56.26	29.001		
10,000.0	7,500.0	7,701.0	7,557.9	46.6	25.3	-97.98	-3,610.4	1,515.4	1,532.9	1,475.0	57.96	26.447		
10,100.0	7,500.0	7,699.0	7,555.9	48.0	25.3	-97.52	-3,610.5	1,515.4	1,434.4	1,374.7	59.67	24.038		
10,200.0	7,500.0	7,697.0	7,553.9	49.5	25.3	-97.07	-3,610.5	1,515.5	1,336.0	1,274.6	61.39	21.765		
10,300.0	7,500.0	7,695.0	7,551.9	51.0	25.3	-96.61	-3,610.5	1,515.5	1,237.9	1,174.8	63.11	19.617		
10,400.0	7,500.0	7,693.0	7,549.9	52.5	25.3	-96.16	-3,610.6	1,515.5	1,140.2	1,075.4	64.83	17.586		
10,500.0	7,500.0	7,691.0	7,547.9	54.0	25.3	-95.70	-3,610.6	1,515.6	1,042.9	976.3	66.56	15.667		
10,600.0	7,500.0	7,689.0	7,545.9	55.6	25.3	-95.25	-3,610.7	1,515.6	946.1	877.8	68.30	13.852		
10,700.0	7,500.0	7,687.0	7,543.9	57.1	25.3	-94.79	-3,610.7	1,515.7	850.1	780.0	70.04	12.137		
10,800.0	7,500.0	7,685.0	7,541.9	58.7	25.3	-94.34	-3,610.7	1,515.7	755.0	683.3	71.77	10.520		
10,900.0	7,500.0	7,683.0	7,539.9	60.3	25.3	-93.88	-3,610.8	1,515.7	661.5	588.0	73.52	8.998		
11,000.0	7,500.0	7,681.0	7,537.9	61.9	25.3	-93.43	-3,610.8	1,515.8	570.2	494.9	75.26	7.576		
11,100.0	7,500.0	7,679.1	7,536.0	63.5	25.3	-92.97	-3,610.9	1,515.8	482.2	405.2	77.00	6.263		
11,200.0	7,500.0	7,677.1	7,534.0	65.1	25.2	-92.52	-3,610.9	1,515.8	400.0	321.3	78.74	5.080		
11,300.0	7,500.0	7,675.1	7,532.0	66.7	25.2	-92.06	-3,610.9	1,515.9	327.8	247.4	80.48	4.074		
11,400.0	7,500.0	7,673.1	7,530.0	68.3	25.2	-91.61	-3,611.0	1,515.9	273.7	191.5	82.22	3.329		
11,500.0	7,500.0	7,671.2	7,528.1	69.9	25.2	-91.16	-3,611.0	1,516.0	249.8	165.8	83.95	2.975		
11,512.8	7,500.0	7,670.9	7,527.8	70.1	25.2	-91.10	-3,611.0	1,516.0	249.4	165.3	84.18	2.963 CC, ES, SF		
11,600.0	7,500.0	7,669.2	7,526.1	71.5	25.2	-90.71	-3,611.1	1,516.0	264.2	178.5	85.69	3.084		
11,700.0	7,500.0	7,667.2	7,524.1	73.2	25.2	-90.25	-3,611.1	1,516.0	311.8	224.4	87.42	3.567		
11,800.0	7,500.0	7,665.3	7,522.2	74.8	25.2	-89.80	-3,611.1	1,516.1	380.4	291.2	89.15	4.267		
11,900.0	7,500.0	7,663.3	7,520.2	76.5	25.2	-89.35	-3,611.2	1,516.1	460.5	369.7	90.87	5.068		
12,000.0	7,500.0	7,661.3	7,518.2	78.1	25.2	-88.90	-3,611.2	1,516.1	547.3	454.7	92.59	5.910		
12,100.0	7,500.0	7,659.4	7,516.3	79.8	25.2	-88.45	-3,611.2	1,516.2	637.9	543.6	94.31	6.764		
12,200.0	7,500.0	7,657.4	7,514.3	81.4	25.2	-88.01	-3,611.3	1,516.2	730.9	634.9	96.02	7.613		
12,300.0	7,500.0	7,655.5	7,512.4	83.1	25.2	-87.56	-3,611.3	1,516.3	825.6	727.9	97.72	8.449		
12,400.0	7,500.0	7,653.5	7,510.4	84.8	25.2	-87.11	-3,611.4	1,516.3	921.4	822.0	99.42	9.268		
12,500.0	7,500.0	7,651.6	7,508.5	86.4	25.2	-86.67	-3,611.4	1,516.3	1,018.0	916.9	101.12	10.068		
12,600.0	7,500.0	7,649.6	7,506.5	88.1	25.2	-86.23	-3,611.4	1,516.4	1,115.2	1,012.4	102.81	10.848		
12,700.0	7,500.0	7,647.7	7,504.6	89.8	25.2	-85.78	-3,611.5	1,516.4	1,212.9	1,108.4	104.49	11.608		
12,800.0	7,500.0	7,645.7	7,502.6	91.5	25.2	-85.34	-3,611.5	1,516.4	1,310.9	1,204.7	106.17	12.348		
12,900.0	7,500.0	7,643.8	7,500.7	93.2	25.2	-84.90	-3,611.5	1,516.5	1,409.2	1,301.4	107.83	13.068		
13,000.0	7,500.0	7,641.9	7,498.8	94.8	25.2	-84.46	-3,611.6	1,516.5	1,507.7	1,398.2	109.49	13.770		
13,100.0	7,500.0	7,639.9	7,496.8	96.5	25.2	-84.02	-3,611.6	1,516.6	1,606.4	1,495.2	111.15	14.453		
13,200.0	7,500.0	7,638.0	7,494.9	98.2	25.2	-83.59	-3,611.7	1,516.6	1,705.2	1,592.4	112.79	15.118		
13,300.0	7,500.0	7,636.1	7,493.0	99.9	25.2	-83.15	-3,611.7	1,516.6	1,804.2	1,689.8	114.43	15.767		
13,400.0	7,500.0	7,634.2	7,491.1	101.6	25.2	-82.72	-3,611.7	1,516.7	1,903.3	1,787.2	116.06	16.399		
13,500.0	7,500.0	7,632.2	7,489.1	103.3	25.2	-82.29	-3,611.8	1,516.7	2,002.4	1,884.7	117.68	17.016		
13,600.0	7,500.0	7,630.3	7,487.2	105.0	25.2	-81.86	-3,611.8	1,516.7	2,101.7	1,982.4	119.29	17.618		
13,700.0	7,500.0	7,628.4	7,485.3	106.7	25.2	-81.43	-3,611.8	1,516.8	2,201.0	2,080.1	120.89	18.206		
13,800.0	7,500.0	7,626.5	7,483.4	108.4	25.2	-81.00	-3,611.9	1,516.8	2,300.3	2,177.8	122.49	18.780		
13,900.0	7,500.0	7,624.6	7,481.5	110.1	25.2	-80.58	-3,611.9	1,516.8	2,399.7	2,275.7	124.07	19.342		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - DD													Offset Site Error:	0.0 ft
Survey Program: 814-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		
14,000.0	7,500.0	7,622.6	7,479.6	111.8	25.2	-80.15	-3,612.0	1,516.9	2,499.2	2,373.6	125.65	19.891		
14,100.0	7,500.0	7,620.7	7,477.6	113.5	25.2	-79.73	-3,612.0	1,516.9	2,598.7	2,471.5	127.21	20.429		
14,200.0	7,500.0	7,618.8	7,475.7	115.2	25.2	-79.31	-3,612.0	1,516.9	2,698.2	2,569.5	128.76	20.955		
14,300.0	7,500.0	7,616.9	7,473.8	116.9	25.2	-78.89	-3,612.1	1,517.0	2,797.8	2,667.5	130.31	21.471		
14,400.0	7,500.0	7,615.0	7,471.9	118.6	25.2	-78.47	-3,612.1	1,517.0	2,897.4	2,765.6	131.84	21.976		
14,500.0	7,500.0	7,613.1	7,470.0	120.3	25.2	-78.06	-3,612.1	1,517.1	2,997.0	2,863.7	133.37	22.472		
14,600.0	7,500.0	7,611.2	7,468.1	122.1	25.2	-77.64	-3,612.2	1,517.1	3,096.7	2,961.8	134.88	22.959		
14,700.0	7,500.0	7,609.3	7,466.2	123.8	25.2	-77.23	-3,612.2	1,517.1	3,196.3	3,060.0	136.38	23.436		
14,800.0	7,500.0	7,607.4	7,464.4	125.5	25.2	-76.82	-3,612.3	1,517.2	3,296.0	3,158.2	137.88	23.906		
14,900.0	7,500.0	7,605.5	7,462.5	127.2	25.2	-76.42	-3,612.3	1,517.2	3,395.7	3,256.4	139.36	24.367		
15,000.0	7,500.0	7,603.7	7,460.6	128.9	25.2	-76.01	-3,612.3	1,517.2	3,495.5	3,354.6	140.83	24.821		
15,100.0	7,500.0	7,601.8	7,458.7	130.6	25.2	-75.61	-3,612.4	1,517.3	3,595.2	3,452.9	142.29	25.267		
15,200.0	7,500.0	7,599.9	7,456.8	132.4	25.2	-75.21	-3,612.4	1,517.3	3,694.9	3,551.2	143.73	25.707		
15,300.0	7,500.0	7,598.0	7,454.9	134.1	25.2	-74.81	-3,612.4	1,517.3	3,794.7	3,649.5	145.17	26.140		
15,400.0	7,500.0	7,596.1	7,453.0	135.8	25.2	-74.41	-3,612.5	1,517.4	3,894.5	3,747.9	146.60	26.566		
15,500.0	7,500.0	7,594.2	7,451.2	137.5	25.2	-74.02	-3,612.5	1,517.4	3,994.2	3,846.2	148.01	26.986		
15,600.0	7,500.0	7,592.4	7,449.3	139.2	25.2	-73.62	-3,612.5	1,517.4	4,094.0	3,944.6	149.41	27.401		
15,700.0	7,500.0	7,590.5	7,447.4	141.0	25.2	-73.23	-3,612.6	1,517.5	4,193.8	4,043.0	150.80	27.810		
15,800.0	7,500.0	7,588.6	7,445.6	142.7	25.2	-72.84	-3,612.6	1,517.5	4,293.6	4,141.5	152.18	28.214		
15,839.3	7,500.0	7,587.9	7,444.8	143.4	25.2	-72.69	-3,612.6	1,517.5	4,332.9	4,180.2	152.72	28.371		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - Plan #2												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		
0.0	0.0	23.0	23.0	0.0	0.0	173.24	-4,267.2	506.1	4,297.1						
100.0	100.0	123.0	123.0	0.2	0.2	173.24	-4,267.2	506.1	4,297.1	4,296.7	0.34	N/A			
200.0	200.0	223.0	223.0	0.3	0.4	173.24	-4,267.2	506.1	4,297.1	4,296.4	0.69	6,232.857			
300.0	300.0	323.0	323.0	0.5	0.5	173.24	-4,267.2	506.1	4,297.1	4,296.0	1.04	4,137.815			
400.0	400.0	423.0	423.0	0.7	0.7	107.10	-4,267.2	506.1	4,297.3	4,295.9	1.39	3,095.699			
500.0	500.0	523.0	523.0	0.9	0.9	107.13	-4,267.2	506.1	4,298.1	4,296.4	1.74	2,468.790			
600.0	599.9	622.9	622.9	1.0	1.1	107.17	-4,267.2	506.1	4,299.4	4,297.3	2.10	2,047.227			
700.0	699.7	722.7	722.7	1.2	1.2	107.23	-4,267.2	506.1	4,301.2	4,298.7	2.47	1,742.248			
800.0	799.4	822.4	822.4	1.4	1.4	107.31	-4,267.2	506.1	4,303.5	4,300.7	2.85	1,510.015			
900.0	898.9	921.9	921.9	1.7	1.6	107.40	-4,267.2	506.1	4,306.4	4,303.2	3.25	1,326.456			
1,000.0	998.3	1,021.3	1,021.3	1.9	1.8	107.51	-4,267.2	506.1	4,309.8	4,306.2	3.66	1,177.277			
1,100.0	1,097.4	1,120.4	1,120.4	2.2	1.9	107.64	-4,267.2	506.1	4,313.8	4,309.7	4.09	1,053.456			
1,200.0	1,196.3	1,260.3	1,260.3	2.5	2.2	107.85	-4,266.8	506.6	4,318.2	4,313.6	4.62	934.275			
1,300.0	1,294.9	1,573.0	1,572.0	2.8	2.8	108.21	-4,254.1	526.5	4,320.0	4,314.5	5.52	783.071			
1,400.0	1,393.3	1,852.1	1,846.5	3.2	3.5	108.29	-4,227.3	568.3	4,317.4	4,310.8	6.56	658.615			
1,484.0	1,475.6	1,936.0	1,928.4	3.5	3.8	108.31	-4,217.3	583.8	4,314.1	4,307.0	7.11	607.059			
1,500.0	1,491.3	1,952.0	1,943.9	3.5	3.9	108.31	-4,215.4	586.8	4,313.6	4,306.4	7.21	598.001			
1,600.0	1,589.1	2,051.9	2,041.4	3.9	4.2	108.31	-4,203.6	605.3	4,310.0	4,302.1	7.89	546.126			
1,700.0	1,687.0	2,151.9	2,138.9	4.3	4.6	108.30	-4,191.7	623.8	4,306.4	4,297.8	8.59	501.516			
1,800.0	1,784.9	2,251.8	2,236.4	4.7	5.0	108.30	-4,179.8	642.2	4,302.8	4,293.5	9.29	462.951			
1,900.0	1,882.7	2,351.7	2,333.9	5.1	5.3	108.30	-4,168.0	660.7	4,299.2	4,289.2	10.01	429.410			
2,000.0	1,980.6	2,451.7	2,431.4	5.4	5.7	108.30	-4,156.1	679.2	4,295.6	4,284.8	10.74	400.054			
2,100.0	2,078.5	2,551.6	2,528.9	5.8	6.1	108.30	-4,144.2	697.7	4,292.0	4,280.5	11.47	374.198			
2,200.0	2,176.4	2,651.5	2,626.4	6.2	6.5	108.30	-4,132.4	716.2	4,288.4	4,276.2	12.21	351.290			
2,300.0	2,274.2	2,751.5	2,723.9	6.6	6.9	108.29	-4,120.5	734.7	4,284.8	4,271.8	12.95	330.877			
2,400.0	2,372.1	2,851.4	2,821.3	7.0	7.3	108.29	-4,108.6	753.2	4,281.2	4,267.5	13.70	312.591			
2,500.0	2,470.0	2,951.3	2,918.8	7.4	7.7	108.29	-4,096.8	771.7	4,277.6	4,263.2	14.45	296.128			
2,600.0	2,567.8	3,051.3	3,016.3	7.8	8.1	108.29	-4,084.9	790.2	4,274.0	4,258.8	15.20	281.238			
2,700.0	2,665.7	3,151.2	3,113.8	8.2	8.5	108.29	-4,073.0	808.7	4,270.4	4,254.5	15.95	267.712			
2,800.0	2,763.6	3,251.2	3,211.3	8.6	9.0	108.28	-4,061.2	827.2	4,266.8	4,250.1	16.71	255.376			
2,900.0	2,861.5	3,351.1	3,308.8	9.0	9.4	108.28	-4,049.3	845.7	4,263.2	4,245.8	17.47	244.084			
3,000.0	2,959.3	3,451.0	3,406.3	9.4	9.8	108.28	-4,037.4	864.2	4,259.6	4,241.4	18.23	233.712			
3,100.0	3,057.2	3,551.0	3,503.8	9.8	10.2	108.28	-4,025.6	882.7	4,256.0	4,237.0	18.99	224.153			
3,200.0	3,155.1	3,650.9	3,601.3	10.2	10.6	108.28	-4,013.7	901.2	4,252.4	4,232.7	19.75	215.318			
3,300.0	3,253.0	3,750.8	3,698.7	10.6	11.0	108.28	-4,001.8	919.7	4,248.8	4,228.3	20.51	207.129			
3,400.0	3,350.8	3,850.8	3,796.2	11.0	11.4	108.27	-3,990.0	938.2	4,245.2	4,224.0	21.28	199.518			
3,500.0	3,448.7	3,950.7	3,893.7	11.4	11.9	108.27	-3,978.1	956.7	4,241.6	4,219.6	22.04	192.428			
3,600.0	3,546.6	4,050.6	3,991.2	11.8	12.3	108.27	-3,966.2	975.2	4,238.0	4,215.2	22.81	185.807			
3,700.0	3,644.4	4,150.6	4,088.7	12.2	12.7	108.27	-3,954.4	993.7	4,234.4	4,210.9	23.58	179.610			
3,800.0	3,742.3	4,250.5	4,186.2	12.6	13.1	108.27	-3,942.5	1,012.2	4,230.8	4,206.5	24.34	173.800			
3,900.0	3,840.2	4,350.4	4,283.7	13.0	13.5	108.27	-3,930.6	1,030.7	4,227.2	4,202.1	25.11	168.341			
4,000.0	3,938.1	4,450.4	4,381.2	13.4	14.0	108.26	-3,918.8	1,049.2	4,223.7	4,197.8	25.88	163.202			
4,100.0	4,035.9	4,550.3	4,478.7	13.8	14.4	108.26	-3,906.9	1,067.7	4,220.1	4,193.4	26.65	158.357			
4,200.0	4,133.8	4,650.2	4,576.1	14.2	14.8	108.26	-3,895.0	1,086.2	4,216.5	4,189.0	27.42	153.781			
4,300.0	4,231.7	4,750.2	4,673.6	14.6	15.2	108.26	-3,883.2	1,104.7	4,212.9	4,184.7	28.19	149.453			
4,400.0	4,329.5	4,850.1	4,771.1	15.0	15.7	108.26	-3,871.3	1,123.2	4,209.3	4,180.3	28.96	145.353			
4,500.0	4,427.4	4,950.1	4,868.6	15.4	16.1	108.25	-3,859.4	1,141.7	4,205.7	4,175.9	29.73	141.464			
4,600.0	4,525.3	5,050.0	4,966.1	15.8	16.5	108.25	-3,847.5	1,160.2	4,202.1	4,171.6	30.50	137.770			
4,700.0	4,623.2	5,149.9	5,063.6	16.2	16.9	108.25	-3,835.7	1,178.7	4,198.5	4,167.2	31.27	134.257			
4,800.0	4,721.0	5,249.9	5,161.1	16.7	17.3	108.25	-3,823.8	1,197.2	4,194.9	4,162.8	32.04	130.911			
4,900.0	4,818.9	5,349.8	5,258.6	17.1	17.8	108.25	-3,811.9	1,215.7	4,191.3	4,158.5	32.82	127.722			
5,000.0	4,916.8	5,449.7	5,356.1	17.5	18.2	108.25	-3,800.1	1,234.2	4,187.7	4,154.1	33.59	124.679			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,014.7	5,549.7	5,453.5	17.9	18.6	108.24	-3,788.2	1,252.7	4,184.1	4,149.7	34.36	121.772		
5,200.0	5,112.5	5,649.6	5,551.0	18.3	19.0	108.24	-3,776.3	1,271.2	4,180.5	4,145.4	35.13	118.991		
5,300.0	5,210.4	5,749.5	5,648.5	18.7	19.5	108.24	-3,764.5	1,289.7	4,176.9	4,141.0	35.91	116.330		
5,400.0	5,308.3	5,849.5	5,746.0	19.1	19.9	108.24	-3,752.6	1,308.2	4,173.3	4,136.6	36.68	113.780		
5,500.0	5,406.1	5,949.4	5,843.5	19.5	20.3	108.24	-3,740.7	1,326.7	4,169.7	4,132.3	37.45	111.335		
5,600.0	5,504.0	6,049.3	5,941.0	19.9	20.7	108.23	-3,728.9	1,345.2	4,166.1	4,127.9	38.23	108.988		
5,700.0	5,601.9	6,149.3	6,038.5	20.3	21.2	108.23	-3,717.0	1,363.7	4,162.5	4,123.5	39.00	106.734		
5,800.0	5,699.8	6,249.2	6,136.0	20.7	21.6	108.23	-3,705.1	1,382.2	4,158.9	4,119.1	39.77	104.567		
5,900.0	5,797.6	6,349.1	6,233.5	21.1	22.0	108.23	-3,693.3	1,400.7	4,155.3	4,114.8	40.55	102.483		
6,000.0	5,895.5	6,449.1	6,330.9	21.5	22.4	108.23	-3,681.4	1,419.2	4,151.7	4,110.4	41.32	100.476		
6,100.0	5,993.4	6,549.0	6,428.4	21.9	22.9	108.23	-3,669.5	1,437.7	4,148.1	4,106.0	42.09	98.543		
6,200.0	6,091.2	6,649.0	6,525.9	22.3	23.3	108.22	-3,657.7	1,456.2	4,144.5	4,101.7	42.87	96.679		
6,300.0	6,189.1	6,725.2	6,600.4	22.7	23.6	108.22	-3,648.7	1,470.1	4,141.1	4,097.6	43.54	95.116		
6,400.0	6,287.0	6,800.0	6,673.7	23.1	23.9	108.25	-3,640.9	1,482.3	4,138.6	4,094.4	44.17	93.698		
6,500.0	6,384.9	6,846.1	6,719.1	23.5	24.0	108.27	-3,636.5	1,489.1	4,137.0	4,092.3	44.68	92.583		
6,599.9	6,482.6	6,900.0	6,772.4	23.9	24.2	108.31	-3,632.0	1,496.2	4,136.3	4,091.1	45.22	91.480		
6,600.0	6,482.7	6,900.0	6,772.4	23.9	24.2	108.31	-3,632.0	1,496.2	4,136.3	4,091.1	45.22	91.479		
6,700.0	6,580.6	6,966.6	6,838.4	24.3	24.4	108.38	-3,627.1	1,503.8	4,136.7	4,090.9	45.75	90.423		
6,800.0	6,678.5	7,026.6	6,897.9	24.7	24.5	108.46	-3,623.4	1,509.6	4,138.0	4,091.7	46.25	89.472		
6,900.0	6,776.4	7,100.0	6,971.0	25.1	24.6	108.58	-3,619.8	1,515.2	4,140.3	4,093.5	46.75	88.560		
7,000.0	6,874.2	7,145.8	7,016.7	25.5	24.7	108.66	-3,618.0	1,517.9	4,143.5	4,096.3	47.19	87.813		
7,016.7	6,890.6	7,155.7	7,026.6	25.6	24.7	108.68	-3,617.7	1,518.4	4,144.1	4,096.9	47.26	87.688		
7,050.0	6,923.2	7,175.4	7,046.2	25.7	24.8	92.75	-3,617.1	1,519.3	4,144.5	4,097.2	47.30	87.619		
7,100.0	6,972.3	7,200.0	7,070.8	25.9	24.8	67.37	-3,616.5	1,520.3	4,141.7	4,094.6	47.10	87.938		
7,150.0	7,021.1	7,234.1	7,104.9	26.0	24.8	47.52	-3,615.8	1,521.4	4,134.8	4,088.3	46.58	88.770		
7,200.0	7,069.3	7,262.9	7,133.7	26.1	24.9	34.59	-3,615.4	1,522.0	4,123.9	4,078.2	45.75	90.135		
7,250.0	7,116.5	7,300.0	7,170.8	26.2	24.9	26.34	-3,615.1	1,522.5	4,109.0	4,064.4	44.64	92.057		
7,300.0	7,162.3	7,318.4	7,189.2	26.2	24.9	20.78	-3,615.1	1,522.6	4,090.3	4,047.0	43.23	94.626		
7,350.0	7,206.4	7,358.6	7,229.4	26.3	25.0	16.89	-3,615.0	1,522.6	4,067.7	4,026.2	41.56	97.877		
7,400.0	7,248.4	7,400.6	7,271.4	26.3	25.0	13.99	-3,615.0	1,522.6	4,041.4	4,001.7	39.65	101.924		
7,450.0	7,288.1	7,440.3	7,311.1	26.3	25.0	11.71	-3,615.0	1,522.6	4,011.5	3,973.9	37.53	106.901		
7,500.0	7,325.1	7,477.3	7,348.1	26.3	25.1	9.82	-3,615.0	1,522.6	3,978.2	3,943.0	35.21	112.973		
7,550.0	7,359.2	7,511.4	7,382.2	26.3	25.1	8.15	-3,615.0	1,522.6	3,941.8	3,909.1	32.76	120.333		
7,600.0	7,390.0	7,542.2	7,413.0	26.3	25.1	6.57	-3,615.0	1,522.6	3,902.6	3,872.4	30.21	129.188		
7,650.0	7,417.4	7,569.6	7,440.4	26.3	25.1	4.93	-3,615.0	1,522.6	3,860.9	3,833.2	27.64	139.707		
7,700.0	7,441.2	7,593.4	7,464.2	26.3	25.2	3.04	-3,615.0	1,522.6	3,816.9	3,791.8	25.13	151.870		
7,750.0	7,461.1	7,613.3	7,484.1	26.3	25.2	0.62	-3,615.0	1,522.6	3,771.1	3,748.2	22.84	165.085		
7,800.0	7,477.0	7,629.2	7,500.0	26.3	25.2	-2.99	-3,615.0	1,522.6	3,723.7	3,702.7	21.01	177.220		
7,850.0	7,488.8	7,641.1	7,511.8	26.4	25.2	-9.41	-3,615.0	1,522.6	3,675.1	3,655.0	20.19	182.002		
7,900.0	7,496.5	7,648.7	7,519.5	26.4	25.2	-24.30	-3,615.0	1,522.6	3,625.8	3,603.5	22.27	162.844		
7,950.0	7,499.8	7,652.0	7,522.8	26.5	25.2	-69.89	-3,615.0	1,522.6	3,576.0	3,545.1	30.92	115.646		
7,964.3	7,500.0	7,652.2	7,523.0	26.5	25.2	-90.00	-3,615.0	1,522.6	3,561.7	3,530.2	31.50	113.061		
8,000.0	7,500.0	7,652.2	7,523.0	26.6	25.2	-90.00	-3,615.0	1,522.6	3,526.1	3,494.5	31.64	111.430		
8,100.0	7,500.0	7,652.2	7,523.0	26.8	25.2	-90.00	-3,615.0	1,522.6	3,426.4	3,394.2	32.18	106.482		
8,200.0	7,500.0	7,652.2	7,523.0	27.2	25.2	-90.00	-3,615.0	1,522.6	3,326.7	3,293.8	32.90	101.128		
8,300.0	7,500.0	7,652.2	7,523.0	27.7	25.2	-90.00	-3,615.0	1,522.6	3,227.0	3,193.2	33.77	95.551		
8,400.0	7,500.0	7,652.2	7,523.0	28.3	25.2	-90.00	-3,615.0	1,522.6	3,127.3	3,092.5	34.78	89.906		
8,500.0	7,500.0	7,652.2	7,523.0	29.0	25.2	-90.00	-3,615.0	1,522.6	3,027.7	2,991.8	35.91	84.316		
8,600.0	7,500.0	7,652.2	7,523.0	29.8	25.2	-90.00	-3,615.0	1,522.6	2,928.0	2,890.9	37.13	78.868		
8,700.0	7,500.0	7,652.2	7,523.0	30.6	25.2	-90.00	-3,615.0	1,522.6	2,828.4	2,790.0	38.42	73.619		
8,800.0	7,500.0	7,652.2	7,523.0	31.5	25.2	-90.00	-3,615.0	1,522.6	2,728.9	2,689.1	39.78	68.604		
8,900.0	7,500.0	7,652.2	7,523.0	32.5	25.2	-90.00	-3,615.0	1,522.6	2,629.3	2,588.1	41.19	63.839		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - Plan #2													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		
9,000.0	7,500.0	7,652.2	7,523.0	33.6	25.2	-90.00	-3,615.0	1,522.6	2,529.8	2,487.2	42.64	59.329		
9,100.0	7,500.0	7,652.2	7,523.0	34.7	25.2	-90.00	-3,615.0	1,522.6	2,430.3	2,386.2	44.13	55.072		
9,200.0	7,500.0	7,652.2	7,523.0	35.9	25.2	-90.00	-3,615.0	1,522.6	2,330.9	2,285.3	45.65	51.060		
9,300.0	7,500.0	7,652.2	7,523.0	37.1	25.2	-90.00	-3,615.0	1,522.6	2,231.6	2,184.4	47.20	47.282		
9,400.0	7,500.0	7,652.2	7,523.0	38.3	25.2	-90.00	-3,615.0	1,522.6	2,132.3	2,083.5	48.76	43.725		
9,500.0	7,500.0	7,652.2	7,523.0	39.6	25.2	-90.00	-3,615.0	1,522.6	2,033.0	1,982.7	50.35	40.376		
9,600.0	7,500.0	7,652.2	7,523.0	41.0	25.2	-90.00	-3,615.0	1,522.6	1,933.8	1,881.9	51.96	37.221		
9,700.0	7,500.0	7,652.2	7,523.0	42.3	25.2	-90.00	-3,615.0	1,522.6	1,834.8	1,781.2	53.57	34.248		
9,800.0	7,500.0	7,652.2	7,523.0	43.7	25.2	-90.00	-3,615.0	1,522.6	1,735.8	1,680.6	55.20	31.445		
9,900.0	7,500.0	7,652.2	7,523.0	45.1	25.2	-90.00	-3,615.0	1,522.6	1,637.0	1,580.1	56.84	28.798		
10,000.0	7,500.0	7,652.2	7,523.0	46.6	25.2	-90.00	-3,615.0	1,522.6	1,538.3	1,479.8	58.49	26.299		
10,100.0	7,500.0	7,652.2	7,523.0	48.0	25.2	-90.00	-3,615.0	1,522.6	1,439.8	1,379.6	60.15	23.936		
10,200.0	7,500.0	7,652.2	7,523.0	49.5	25.2	-90.00	-3,615.0	1,522.6	1,341.5	1,279.7	61.82	21.701		
10,300.0	7,500.0	7,652.2	7,523.0	51.0	25.2	-90.00	-3,615.0	1,522.6	1,243.5	1,180.0	63.49	19.586		
10,400.0	7,500.0	7,652.2	7,523.0	52.5	25.2	-90.00	-3,615.0	1,522.6	1,145.8	1,080.6	65.17	17.583		
10,500.0	7,500.0	7,652.2	7,523.0	54.0	25.2	-90.00	-3,615.0	1,522.6	1,048.6	981.7	66.85	15.685		
10,600.0	7,500.0	7,652.2	7,523.0	55.6	25.2	-90.00	-3,615.0	1,522.6	951.9	883.4	68.54	13.889		
10,700.0	7,500.0	7,652.2	7,523.0	57.1	25.2	-90.00	-3,615.0	1,522.6	856.0	785.8	70.23	12.189		
10,800.0	7,500.0	7,652.2	7,523.0	58.7	25.2	-90.00	-3,615.0	1,522.6	761.2	689.2	71.93	10.583		
10,900.0	7,500.0	7,652.2	7,523.0	60.3	25.2	-90.00	-3,615.0	1,522.6	667.8	594.2	73.63	9.071		
11,000.0	7,500.0	7,652.2	7,523.0	61.9	25.2	-90.00	-3,615.0	1,522.6	576.8	501.4	75.33	7.657		
11,100.0	7,500.0	7,652.2	7,523.0	63.5	25.2	-90.00	-3,615.0	1,522.6	489.2	412.1	77.04	6.350		
11,200.0	7,500.0	7,652.2	7,523.0	65.1	25.2	-90.00	-3,615.0	1,522.6	407.3	328.6	78.74	5.173		
11,300.0	7,500.0	7,652.2	7,523.0	66.7	25.2	-90.00	-3,615.0	1,522.6	335.5	255.0	80.46	4.170		
11,400.0	7,500.0	7,652.2	7,523.0	68.3	25.2	-90.00	-3,615.0	1,522.6	281.4	199.2	82.17	3.425		
11,500.0	7,500.0	7,652.2	7,523.0	69.9	25.2	-90.00	-3,615.0	1,522.6	256.6	172.7	83.88	3.059		
11,516.8	7,500.0	7,652.2	7,523.0	70.2	25.2	-90.00	-3,615.0	1,522.6	256.0	171.8	84.17	3.042 CC, ES, SF		
11,600.0	7,500.0	7,652.2	7,523.0	71.5	25.2	-90.00	-3,615.0	1,522.6	269.2	183.6	85.60	3.145		
11,700.0	7,500.0	7,652.2	7,523.0	73.2	25.2	-90.00	-3,615.0	1,522.6	314.8	227.5	87.32	3.605		
11,800.0	7,500.0	7,652.2	7,523.0	74.8	25.2	-90.00	-3,615.0	1,522.6	381.7	292.7	89.04	4.287		
11,900.0	7,500.0	7,652.2	7,523.0	76.5	25.2	-90.00	-3,615.0	1,522.6	460.8	370.1	90.77	5.077		
12,000.0	7,500.0	7,652.2	7,523.0	78.1	25.2	-90.00	-3,615.0	1,522.6	546.8	454.3	92.49	5.912		
12,100.0	7,500.0	7,652.2	7,523.0	79.8	25.2	-90.00	-3,615.0	1,522.6	636.9	542.7	94.22	6.760		
12,200.0	7,500.0	7,652.2	7,523.0	81.4	25.2	-90.00	-3,615.0	1,522.6	729.6	633.6	95.94	7.604		
12,300.0	7,500.0	7,652.2	7,523.0	83.1	25.2	-90.00	-3,615.0	1,522.6	824.0	726.3	97.67	8.436		
12,400.0	7,500.0	7,652.2	7,523.0	84.8	25.2	-90.00	-3,615.0	1,522.6	919.5	820.1	99.40	9.251		
12,500.0	7,500.0	7,652.2	7,523.0	86.4	25.2	-90.00	-3,615.0	1,522.6	1,016.0	914.8	101.13	10.046		
12,600.0	7,500.0	7,652.2	7,523.0	88.1	25.2	-90.00	-3,615.0	1,522.6	1,113.0	1,010.2	102.86	10.821		
12,700.0	7,500.0	7,652.2	7,523.0	89.8	25.2	-90.00	-3,615.0	1,522.6	1,210.6	1,106.0	104.59	11.574		
12,800.0	7,500.0	7,652.2	7,523.0	91.5	25.2	-90.00	-3,615.0	1,522.6	1,308.5	1,202.1	106.33	12.306		
12,900.0	7,500.0	7,652.2	7,523.0	93.2	25.2	-90.00	-3,615.0	1,522.6	1,406.7	1,298.6	108.06	13.018		
13,000.0	7,500.0	7,652.2	7,523.0	94.8	25.2	-90.00	-3,615.0	1,522.6	1,505.1	1,395.3	109.79	13.709		
13,100.0	7,500.0	7,652.2	7,523.0	96.5	25.2	-90.00	-3,615.0	1,522.6	1,603.7	1,492.2	111.53	14.380		
13,200.0	7,500.0	7,652.2	7,523.0	98.2	25.2	-90.00	-3,615.0	1,522.6	1,702.5	1,589.3	113.26	15.031		
13,300.0	7,500.0	7,652.2	7,523.0	99.9	25.2	-90.00	-3,615.0	1,522.6	1,801.5	1,686.5	115.00	15.665		
13,400.0	7,500.0	7,652.2	7,523.0	101.6	25.2	-90.00	-3,615.0	1,522.6	1,900.5	1,783.8	116.74	16.280		
13,500.0	7,500.0	7,652.2	7,523.0	103.3	25.2	-90.00	-3,615.0	1,522.6	1,999.6	1,881.2	118.48	16.878		
13,600.0	7,500.0	7,652.2	7,523.0	105.0	25.2	-90.00	-3,615.0	1,522.6	2,098.8	1,978.6	120.21	17.459		
13,700.0	7,500.0	7,652.2	7,523.0	106.7	25.2	-90.00	-3,615.0	1,522.6	2,198.1	2,076.2	121.95	18.024		
13,800.0	7,500.0	7,652.2	7,523.0	108.4	25.2	-90.00	-3,615.0	1,522.6	2,297.5	2,173.8	123.69	18.574		
13,900.0	7,500.0	7,652.2	7,523.0	110.1	25.2	-90.00	-3,615.0	1,522.6	2,396.9	2,271.5	125.43	19.109		
14,000.0	7,500.0	7,652.2	7,523.0	111.8	25.2	-90.00	-3,615.0	1,522.6	2,496.3	2,369.2	127.17	19.630		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 21-18 - DD (MWD) - Plan #2													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		
14,100.0	7,500.0	7,652.2	7,523.0	113.5	25.2	-90.00	-3,615.0	1,522.6	2,595.8	2,466.9	128.91	20.136		
14,200.0	7,500.0	7,652.2	7,523.0	115.2	25.2	-90.00	-3,615.0	1,522.6	2,695.4	2,564.7	130.65	20.630		
14,300.0	7,500.0	7,652.2	7,523.0	116.9	25.2	-90.00	-3,615.0	1,522.6	2,794.9	2,662.5	132.40	21.110		
14,400.0	7,500.0	7,652.2	7,523.0	118.6	25.2	-90.00	-3,615.0	1,522.6	2,894.5	2,760.4	134.14	21.579		
14,500.0	7,500.0	7,652.2	7,523.0	120.3	25.2	-90.00	-3,615.0	1,522.6	2,994.1	2,858.3	135.88	22.035		
14,600.0	7,500.0	7,652.2	7,523.0	122.1	25.2	-90.00	-3,615.0	1,522.6	3,093.8	2,956.2	137.62	22.480		
14,700.0	7,500.0	7,652.2	7,523.0	123.8	25.2	-90.00	-3,615.0	1,522.6	3,193.5	3,054.1	139.37	22.914		
14,800.0	7,500.0	7,652.2	7,523.0	125.5	25.2	-90.00	-3,615.0	1,522.6	3,293.1	3,152.0	141.11	23.338		
14,900.0	7,500.0	7,652.2	7,523.0	127.2	25.2	-90.00	-3,615.0	1,522.6	3,392.8	3,250.0	142.85	23.751		
15,000.0	7,500.0	7,652.2	7,523.0	128.9	25.2	-90.00	-3,615.0	1,522.6	3,492.6	3,348.0	144.60	24.154		
15,100.0	7,500.0	7,652.2	7,523.0	130.6	25.2	-90.00	-3,615.0	1,522.6	3,592.3	3,446.0	146.34	24.548		
15,200.0	7,500.0	7,652.2	7,523.0	132.4	25.2	-90.00	-3,615.0	1,522.6	3,692.1	3,544.0	148.08	24.932		
15,300.0	7,500.0	7,652.2	7,523.0	134.1	25.2	-90.00	-3,615.0	1,522.6	3,791.8	3,642.0	149.83	25.308		
15,400.0	7,500.0	7,652.2	7,523.0	135.8	25.2	-90.00	-3,615.0	1,522.6	3,891.6	3,740.0	151.57	25.675		
15,500.0	7,500.0	7,652.2	7,523.0	137.5	25.2	-90.00	-3,615.0	1,522.6	3,991.4	3,838.1	153.32	26.033		
15,600.0	7,500.0	7,652.2	7,523.0	139.2	25.2	-90.00	-3,615.0	1,522.6	4,091.2	3,936.1	155.06	26.384		
15,700.0	7,500.0	7,652.2	7,523.0	141.0	25.2	-90.00	-3,615.0	1,522.6	4,191.0	4,034.2	156.81	26.727		
15,800.0	7,500.0	7,652.2	7,523.0	142.7	25.2	-90.00	-3,615.0	1,522.6	4,290.8	4,132.3	158.56	27.062		
15,839.3	7,500.0	7,652.2	7,523.0	143.4	25.2	-90.00	-3,615.0	1,522.6	4,330.1	4,170.8	159.24	27.192		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 22-18 - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 41-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	33.7	33.7	0.0	0.0	172.83	-4,267.1	536.9	4,300.8					
100.0	100.0	118.0	118.0	0.2	0.2	172.83	-4,267.0	537.1	4,300.7	4,300.3	0.33	N/A		
200.0	200.0	178.0	178.0	0.3	0.3	172.82	-4,267.5	537.8	4,301.5	4,300.9	0.61	7,040.029		
300.0	300.0	208.1	208.1	0.5	0.3	172.81	-4,268.1	538.4	4,303.5	4,302.6	0.84	5,127.968		
400.0	400.0	270.0	269.9	0.7	0.5	106.62	-4,270.0	540.6	4,307.1	4,306.0	1.13	3,816.023		
500.0	500.0	299.1	298.9	0.9	0.5	106.56	-4,271.3	541.9	4,312.3	4,311.0	1.36	3,162.036		
600.0	599.9	362.0	361.6	1.0	0.7	106.49	-4,274.6	545.7	4,319.5	4,317.8	1.67	2,585.440		
700.0	699.7	362.0	361.6	1.2	0.7	106.40	-4,274.6	545.7	4,328.4	4,326.6	1.87	2,320.540		
800.0	799.4	454.0	453.1	1.4	0.9	106.30	-4,281.6	553.0	4,339.2	4,336.9	2.27	1,915.538		
900.0	898.9	454.0	453.1	1.7	0.9	106.18	-4,281.6	553.0	4,351.5	4,349.0	2.49	1,748.624		
1,000.0	998.3	513.1	511.7	1.9	1.1	106.06	-4,287.4	558.7	4,365.7	4,362.9	2.86	1,524.256		
1,100.0	1,097.4	546.0	544.1	2.2	1.2	105.92	-4,290.9	562.2	4,381.7	4,378.5	3.20	1,369.078		
1,200.0	1,196.3	601.5	598.8	2.5	1.4	105.78	-4,297.6	568.9	4,399.4	4,395.7	3.63	1,212.634		
1,300.0	1,294.9	642.0	638.6	2.8	1.5	105.61	-4,302.8	574.5	4,418.7	4,414.7	4.04	1,093.642		
1,400.0	1,393.3	703.5	698.8	3.2	1.8	105.44	-4,311.4	583.7	4,439.6	4,435.0	4.55	976.665		
1,484.0	1,475.6	824.1	816.7	3.5	2.2	105.35	-4,328.4	602.3	4,457.6	4,452.5	5.17	862.182		
1,500.0	1,491.3	836.9	829.2	3.5	2.3	105.36	-4,330.2	604.2	4,461.0	4,455.8	5.26	847.770		
1,600.0	1,589.1	906.0	897.0	3.9	2.6	105.43	-4,339.8	614.2	4,482.4	4,476.6	5.82	770.580		
1,700.0	1,687.0	958.5	948.2	4.3	2.8	105.47	-4,347.5	622.3	4,504.6	4,498.2	6.34	710.696		
1,800.0	1,784.9	1,004.0	992.6	4.7	3.0	105.50	-4,354.6	629.9	4,527.9	4,521.0	6.85	661.246		
1,900.0	1,882.7	1,068.0	1,054.6	5.1	3.3	105.54	-4,365.4	641.1	4,552.3	4,544.9	7.42	613.347		
2,000.0	1,980.6	1,128.0	1,112.7	5.4	3.6	105.57	-4,375.8	652.1	4,577.4	4,569.4	7.99	572.650		
2,100.0	2,078.5	1,213.7	1,195.5	5.8	4.0	105.61	-4,390.8	668.1	4,602.9	4,594.2	8.65	532.264		
2,200.0	2,176.4	1,396.7	1,372.8	6.2	4.8	105.69	-4,421.8	701.6	4,627.8	4,618.2	9.61	481.397		
2,300.0	2,274.2	1,485.9	1,459.3	6.6	5.2	105.73	-4,436.0	717.9	4,651.6	4,641.3	10.28	452.361		
2,400.0	2,372.1	1,574.6	1,545.3	7.0	5.6	105.78	-4,450.4	733.8	4,675.7	4,664.7	10.95	427.101		
2,500.0	2,470.0	1,644.7	1,613.4	7.4	6.0	105.81	-4,462.0	746.2	4,700.1	4,688.5	11.56	406.740		
2,600.0	2,567.8	1,736.0	1,701.8	7.8	6.4	105.85	-4,477.4	762.9	4,724.8	4,712.5	12.24	385.951		
2,700.0	2,665.7	1,813.4	1,776.7	8.2	6.8	105.88	-4,490.6	777.4	4,749.8	4,736.9	12.88	368.672		
2,800.0	2,763.6	1,954.0	1,912.7	8.6	7.4	105.93	-4,514.0	804.1	4,774.4	4,760.7	13.74	347.420		
2,900.0	2,861.5	2,032.7	1,988.9	9.0	7.8	105.96	-4,527.1	818.9	4,798.9	4,784.5	14.39	333.512		
3,000.0	2,959.3	2,117.0	2,070.6	9.4	8.2	105.99	-4,541.1	834.5	4,823.5	4,808.4	15.05	320.439		
3,100.0	3,057.2	2,191.9	2,143.1	9.8	8.6	106.03	-4,553.8	848.2	4,848.4	4,832.7	15.69	309.108		
3,200.0	3,155.1	2,357.8	2,303.9	10.2	9.3	106.11	-4,581.9	877.7	4,873.3	4,856.7	16.60	293.504		
3,300.0	3,253.0	2,442.0	2,385.6	10.6	9.7	106.14	-4,595.4	893.1	4,897.2	4,879.9	17.28	283.481		
3,400.0	3,350.8	2,497.4	2,439.1	11.0	10.0	106.16	-4,604.6	903.7	4,921.8	4,904.0	17.85	275.697		
3,500.0	3,448.7	2,631.3	2,568.9	11.4	10.6	106.22	-4,627.2	927.9	4,946.6	4,928.0	18.67	264.963		
3,600.0	3,546.6	2,722.6	2,657.6	11.8	11.0	106.27	-4,642.3	943.6	4,971.0	4,951.7	19.34	256.974		
3,700.0	3,644.4	2,850.5	2,781.7	12.2	11.6	106.33	-4,663.4	965.9	4,995.4	4,975.2	20.15	247.910		
3,800.0	3,742.3	2,920.8	2,849.9	12.6	12.0	106.35	-4,674.6	978.9	5,019.3	4,998.5	20.77	241.634		
3,900.0	3,840.2	2,975.0	2,902.4	13.0	12.2	106.37	-4,683.8	988.8	5,044.2	5,022.8	21.34	236.373		
4,000.0	3,938.1	3,026.1	2,951.8	13.4	12.5	106.40	-4,692.9	998.2	5,069.8	5,047.9	21.89	231.562		
4,100.0	4,035.9	3,135.0	3,057.0	13.8	13.0	106.44	-4,712.9	1,017.8	5,096.1	5,073.5	22.63	225.146		
4,200.0	4,133.8	3,203.1	3,122.9	14.2	13.3	106.47	-4,725.3	1,030.1	5,122.1	5,098.9	23.25	220.333		
4,300.0	4,231.7	3,376.2	3,290.2	14.6	14.2	106.54	-4,755.9	1,062.0	5,147.7	5,123.5	24.22	212.567		
4,400.0	4,329.5	3,517.2	3,426.6	15.0	14.9	106.57	-4,778.8	1,089.0	5,171.9	5,146.8	25.09	206.096		
4,500.0	4,427.4	3,593.7	3,500.8	15.4	15.2	106.59	-4,791.3	1,103.7	5,196.2	5,170.5	25.75	201.807		
4,600.0	4,525.3	3,687.3	3,591.2	15.8	15.7	106.62	-4,806.8	1,121.5	5,220.8	5,194.3	26.46	197.344		
4,700.0	4,623.2	3,786.2	3,687.2	16.2	16.1	106.66	-4,823.2	1,139.4	5,245.3	5,218.1	27.17	193.059		
4,800.0	4,721.0	3,889.8	3,787.6	16.7	16.6	106.70	-4,840.4	1,157.8	5,269.8	5,241.9	27.89	188.930		
7,750.0	7,461.1	7,588.0	7,452.2	26.3	25.3	6.37	-5,099.2	1,432.9	5,249.0	5,225.5	23.51	223.299		
7,800.0	7,477.0	7,605.9	7,470.1	26.3	25.4	4.56	-5,099.3	1,433.1	5,201.8	5,180.7	21.02	247.411		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 22-18 - DD - DD												Offset Site Error:	0.0 ft
Survey Program: 41-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)			
7,850.0	7,488.8	7,619.2	7,483.4	26.4	25.4	1.52	-5,099.4	1,433.2	5,153.3	5,134.4	18.83	273.640	
7,900.0	7,496.5	7,627.9	7,492.1	26.4	25.4	-5.73	-5,099.5	1,433.3	5,103.9	5,086.2	17.72	288.110	
7,950.0	7,499.8	7,631.9	7,496.1	26.5	25.4	-43.48	-5,099.5	1,433.3	5,054.1	5,026.7	27.38	184.591	
7,964.3	7,500.0	7,632.2	7,496.4	26.5	25.4	-80.92	-5,099.5	1,433.3	5,039.8	5,006.1	33.70	149.548	
8,000.0	7,500.0	7,632.4	7,496.6	26.6	25.4	-80.98	-5,099.5	1,433.3	5,004.1	4,970.3	33.84	147.870	
8,100.0	7,500.0	7,632.9	7,497.1	26.8	25.4	-81.17	-5,099.5	1,433.3	4,904.2	4,869.8	34.37	142.687	
8,200.0	7,500.0	7,633.5	7,497.6	27.2	25.4	-81.35	-5,099.5	1,433.3	4,804.2	4,769.1	35.08	136.959	
8,300.0	7,500.0	7,634.0	7,498.2	27.7	25.4	-81.53	-5,099.5	1,433.3	4,704.3	4,668.3	35.94	130.884	
8,400.0	7,500.0	7,634.6	7,498.7	28.3	25.4	-81.71	-5,099.5	1,433.3	4,604.3	4,567.4	36.94	124.643	
8,500.0	7,500.0	7,635.1	7,499.3	29.0	25.4	-81.90	-5,099.5	1,433.4	4,504.4	4,466.4	38.05	118.380	
8,600.0	7,500.0	7,635.6	7,499.8	29.8	25.4	-82.08	-5,099.5	1,433.4	4,404.5	4,365.2	39.25	112.204	
8,700.0	7,500.0	7,636.2	7,500.3	30.6	25.4	-82.26	-5,099.5	1,433.4	4,304.6	4,264.0	40.54	106.191	
8,800.0	7,500.0	7,636.7	7,500.9	31.5	25.4	-82.44	-5,099.5	1,433.4	4,204.6	4,162.8	41.88	100.393	
8,900.0	7,500.0	7,637.2	7,501.4	32.5	25.4	-82.62	-5,099.5	1,433.4	4,104.7	4,061.4	43.28	94.837	
9,000.0	7,500.0	7,637.8	7,501.9	33.6	25.4	-82.79	-5,099.5	1,433.4	4,004.8	3,960.1	44.73	89.540	
9,100.0	7,500.0	7,638.3	7,502.4	34.7	25.4	-82.97	-5,099.5	1,433.4	3,904.9	3,858.7	46.21	84.505	
9,200.0	7,500.0	7,638.8	7,503.0	35.9	25.4	-83.15	-5,099.5	1,433.4	3,805.0	3,757.3	47.72	79.730	
9,300.0	7,500.0	7,639.3	7,503.5	37.1	25.4	-83.33	-5,099.5	1,433.4	3,705.1	3,655.8	49.26	75.208	
9,400.0	7,500.0	7,639.8	7,504.0	38.3	25.4	-83.50	-5,099.5	1,433.4	3,605.2	3,554.4	50.83	70.927	
9,500.0	7,500.0	7,640.4	7,504.5	39.6	25.4	-83.68	-5,099.5	1,433.4	3,505.3	3,452.9	52.41	66.877	
9,600.0	7,500.0	7,640.9	7,505.0	41.0	25.4	-83.85	-5,099.5	1,433.4	3,405.4	3,351.4	54.02	63.044	
9,700.0	7,500.0	7,641.4	7,505.6	42.3	25.4	-84.03	-5,099.5	1,433.4	3,305.6	3,249.9	55.63	59.417	
9,800.0	7,500.0	7,641.9	7,506.1	43.7	25.4	-84.20	-5,099.5	1,433.4	3,205.7	3,148.4	57.26	55.981	
9,900.0	7,500.0	7,642.4	7,506.6	45.1	25.4	-84.38	-5,099.5	1,433.4	3,105.8	3,046.9	58.91	52.726	
10,000.0	7,500.0	7,642.9	7,507.1	46.6	25.4	-84.55	-5,099.5	1,433.4	3,006.0	2,945.4	60.56	49.639	
10,100.0	7,500.0	7,643.4	7,507.6	48.0	25.4	-84.72	-5,099.5	1,433.4	2,906.1	2,843.9	62.22	46.709	
10,200.0	7,500.0	7,643.9	7,508.1	49.5	25.4	-84.89	-5,099.5	1,433.4	2,806.3	2,742.4	63.89	43.926	
10,300.0	7,500.0	7,644.4	7,508.6	51.0	25.4	-85.06	-5,099.5	1,433.4	2,706.5	2,640.9	65.56	41.281	
10,400.0	7,500.0	7,644.9	7,509.1	52.5	25.4	-85.23	-5,099.5	1,433.4	2,606.7	2,539.4	67.25	38.764	
10,500.0	7,500.0	7,645.4	7,509.6	54.0	25.4	-85.40	-5,099.5	1,433.4	2,506.9	2,438.0	68.93	36.367	
10,600.0	7,500.0	7,645.9	7,510.1	55.6	25.4	-85.57	-5,099.5	1,433.5	2,407.1	2,336.5	70.63	34.082	
10,700.0	7,500.0	7,646.4	7,510.6	57.1	25.4	-85.74	-5,099.5	1,433.5	2,307.4	2,235.1	72.33	31.903	
10,800.0	7,500.0	7,646.9	7,511.1	58.7	25.4	-85.91	-5,099.5	1,433.5	2,207.7	2,133.6	74.03	29.822	
10,900.0	7,500.0	7,647.4	7,511.6	60.3	25.4	-86.08	-5,099.5	1,433.5	2,108.0	2,032.2	75.73	27.834	
11,000.0	7,500.0	7,647.9	7,512.1	61.9	25.4	-86.24	-5,099.5	1,433.5	2,008.3	1,930.9	77.44	25.933	
11,100.0	7,500.0	7,648.4	7,512.5	63.5	25.4	-86.41	-5,099.6	1,433.5	1,908.7	1,829.5	79.16	24.113	
11,200.0	7,500.0	7,648.9	7,513.0	65.1	25.4	-86.58	-5,099.6	1,433.5	1,809.1	1,728.2	80.87	22.370	
11,300.0	7,500.0	7,649.3	7,513.5	66.7	25.4	-86.74	-5,099.6	1,433.5	1,709.5	1,626.9	82.59	20.699	
11,400.0	7,500.0	7,649.8	7,514.0	68.3	25.4	-86.91	-5,099.6	1,433.5	1,610.0	1,525.7	84.31	19.097	
11,500.0	7,500.0	7,650.3	7,514.5	69.9	25.4	-87.07	-5,099.6	1,433.5	1,510.6	1,424.6	86.03	17.559	
11,600.0	7,500.0	7,650.8	7,514.9	71.5	25.4	-87.23	-5,099.6	1,433.5	1,411.3	1,323.5	87.75	16.082	
11,700.0	7,500.0	7,651.3	7,515.4	73.2	25.4	-87.40	-5,099.6	1,433.5	1,312.0	1,222.5	89.48	14.663	
11,800.0	7,500.0	7,651.7	7,515.9	74.8	25.4	-87.56	-5,099.6	1,433.5	1,212.9	1,121.7	91.21	13.298	
11,900.0	7,500.0	7,652.2	7,516.4	76.5	25.4	-87.72	-5,099.6	1,433.5	1,113.9	1,021.0	92.94	11.986	
12,000.0	7,500.0	7,652.7	7,516.8	78.1	25.4	-87.88	-5,099.6	1,433.5	1,015.2	920.5	94.67	10.724	
12,100.0	7,500.0	7,653.1	7,517.3	79.8	25.4	-88.04	-5,099.6	1,433.5	916.7	820.3	96.40	9.510	
12,200.0	7,500.0	7,653.6	7,517.8	81.4	25.4	-88.20	-5,099.6	1,433.5	818.6	720.4	98.13	8.342	
12,300.0	7,500.0	7,654.1	7,518.2	83.1	25.4	-88.36	-5,099.6	1,433.5	721.0	621.1	99.86	7.220	
12,400.0	7,500.0	7,654.5	7,518.7	84.8	25.4	-88.52	-5,099.6	1,433.5	624.1	522.5	101.59	6.143	
12,500.0	7,500.0	7,655.0	7,519.2	86.4	25.4	-88.68	-5,099.6	1,433.5	528.4	425.1	103.33	5.114	
12,600.0	7,500.0	7,655.5	7,519.6	88.1	25.4	-88.84	-5,099.6	1,433.5	434.7	329.7	105.06	4.138	
12,700.0	7,500.0	7,655.9	7,520.1	89.8	25.4	-89.00	-5,099.6	1,433.5	344.5	237.7	106.80	3.226	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 22-18 - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 41-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		
12,800.0	7,500.0	7,656.4	7,520.5	91.5	25.4	-89.15	-5,099.6	1,433.5	261.6	153.1	108.53	2.410		
12,900.0	7,500.0	7,656.8	7,521.0	93.2	25.4	-89.31	-5,099.6	1,433.6	195.3	85.1	110.26	1.772		
13,000.0	7,500.0	7,657.3	7,521.4	94.8	25.4	-89.46	-5,099.6	1,433.6	167.0	55.0	112.00	1.491	Level 3	
13,001.4	7,500.0	7,657.3	7,521.5	94.9	25.4	-89.47	-5,099.6	1,433.6	167.0	55.0	112.02	1.491	Level 3, CC, ES, SF	
13,100.0	7,500.0	7,657.7	7,521.9	96.5	25.4	-89.62	-5,099.6	1,433.6	193.9	80.2	113.74	1.705		
13,200.0	7,500.0	7,658.2	7,522.4	98.2	25.4	-89.77	-5,099.6	1,433.6	259.5	144.0	115.47	2.247		
13,300.0	7,500.0	7,658.6	7,522.8	99.9	25.4	-89.93	-5,099.6	1,433.6	342.1	224.9	117.21	2.919		
13,400.0	7,500.0	7,659.1	7,523.2	101.6	25.4	-90.08	-5,099.6	1,433.6	432.2	313.2	118.94	3.634		
13,500.0	7,500.0	7,659.5	7,523.7	103.3	25.4	-90.23	-5,099.6	1,433.6	525.8	405.2	120.68	4.357		
13,600.0	7,500.0	7,660.0	7,524.1	105.0	25.4	-90.39	-5,099.6	1,433.6	621.5	499.1	122.41	5.077		
13,700.0	7,500.0	7,660.4	7,524.6	106.7	25.4	-90.54	-5,099.6	1,433.6	718.3	594.2	124.14	5.786		
13,800.0	7,500.0	7,660.8	7,525.0	108.4	25.4	-90.69	-5,099.6	1,433.6	815.9	690.0	125.88	6.482		
13,900.0	7,500.0	7,661.3	7,525.5	110.1	25.4	-90.84	-5,099.6	1,433.6	914.0	786.4	127.61	7.162		
14,000.0	7,500.0	7,661.7	7,525.9	111.8	25.4	-90.99	-5,099.6	1,433.6	1,012.5	883.1	129.35	7.828		
14,100.0	7,500.0	7,662.2	7,526.3	113.5	25.4	-91.14	-5,099.6	1,433.6	1,111.2	980.2	131.08	8.478		
14,200.0	7,500.0	7,662.6	7,526.8	115.2	25.4	-91.29	-5,099.6	1,433.6	1,210.2	1,077.4	132.81	9.112		
14,300.0	7,500.0	7,663.0	7,527.2	116.9	25.4	-91.44	-5,099.6	1,433.6	1,309.3	1,174.8	134.54	9.732		
14,400.0	7,500.0	7,663.5	7,527.6	118.6	25.4	-91.58	-5,099.6	1,433.6	1,408.6	1,272.3	136.27	10.336		
14,500.0	7,500.0	7,663.9	7,528.1	120.3	25.4	-91.73	-5,099.6	1,433.6	1,507.9	1,369.9	138.00	10.927		
14,600.0	7,500.0	7,664.3	7,528.5	122.1	25.4	-91.88	-5,099.6	1,433.6	1,607.3	1,467.6	139.73	11.503		
14,700.0	7,500.0	7,664.7	7,528.9	123.8	25.4	-92.02	-5,099.6	1,433.6	1,706.8	1,565.3	141.46	12.066		
14,800.0	7,500.0	7,665.2	7,529.3	125.5	25.4	-92.17	-5,099.6	1,433.6	1,806.3	1,663.2	143.19	12.615		
14,900.0	7,500.0	7,665.6	7,529.8	127.2	25.4	-92.31	-5,099.6	1,433.6	1,905.9	1,761.0	144.91	13.152		
15,000.0	7,500.0	7,666.0	7,530.2	128.9	25.4	-92.46	-5,099.6	1,433.6	2,005.6	1,858.9	146.64	13.677		
15,100.0	7,500.0	7,666.4	7,530.6	130.6	25.4	-92.60	-5,099.6	1,433.6	2,105.2	1,956.9	148.37	14.190		
15,200.0	7,500.0	7,666.9	7,531.0	132.4	25.4	-92.75	-5,099.6	1,433.6	2,204.9	2,054.9	150.09	14.691		
15,300.0	7,500.0	7,667.3	7,531.4	134.1	25.4	-92.89	-5,099.6	1,433.7	2,304.7	2,152.9	151.81	15.181		
15,400.0	7,500.0	7,667.7	7,531.9	135.8	25.4	-93.03	-5,099.6	1,433.7	2,404.4	2,250.9	153.54	15.660		
15,500.0	7,500.0	7,668.1	7,532.3	137.5	25.4	-93.17	-5,099.6	1,433.7	2,504.2	2,348.9	155.26	16.129		
15,600.0	7,500.0	7,668.5	7,532.7	139.2	25.4	-93.31	-5,099.6	1,433.7	2,604.0	2,447.0	156.98	16.588		
15,700.0	7,500.0	7,668.9	7,533.1	141.0	25.4	-93.45	-5,099.6	1,433.7	2,703.8	2,545.1	158.70	17.037		
15,800.0	7,500.0	7,669.3	7,533.5	142.7	25.4	-93.59	-5,099.6	1,433.7	2,803.6	2,643.2	160.41	17.477		
15,839.3	7,500.0	7,669.5	7,533.7	143.4	25.4	-93.65	-5,099.6	1,433.7	2,842.8	2,681.7	161.09	17.648		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 22-18 - DD - Plan #2													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	23.0	23.0	0.0	0.0	172.83	-4,267.2	536.9	4,300.8							
100.0	100.0	123.0	123.0	0.2	0.2	172.83	-4,267.2	536.9	4,300.8	4,300.5	0.34	N/A				
156.7	156.7	179.7	179.7	0.3	0.3	172.83	-4,267.2	536.9	4,300.8	4,300.3	0.54	7,989.724				
200.0	200.0	200.0	200.0	0.3	0.3	172.83	-4,267.2	536.9	4,300.9	4,300.2	0.65	6,624.236				
300.0	300.0	257.2	257.2	0.5	0.4	172.82	-4,267.6	537.3	4,301.8	4,300.8	0.92	4,654.131				
400.0	400.0	300.0	300.0	0.7	0.5	106.65	-4,268.4	538.2	4,304.2	4,303.0	1.18	3,663.027				
500.0	500.0	350.2	350.1	0.9	0.6	106.61	-4,269.8	539.8	4,308.3	4,306.9	1.45	2,980.532				
600.0	599.9	400.0	399.8	1.0	0.7	106.55	-4,271.9	542.0	4,314.2	4,312.5	1.72	2,506.268				
700.0	699.7	442.8	442.5	1.2	0.8	106.49	-4,274.2	544.5	4,321.8	4,319.8	2.00	2,160.646				
800.0	799.4	500.0	499.5	1.4	0.9	106.41	-4,277.8	548.4	4,331.2	4,328.8	2.32	1,867.268				
900.0	898.9	535.0	534.3	1.7	1.0	106.31	-4,280.5	551.3	4,342.2	4,339.6	2.62	1,658.426				
1,000.0	998.3	600.0	598.7	1.9	1.2	106.21	-4,286.1	557.4	4,355.0	4,352.0	3.00	1,452.310				
1,100.0	1,097.4	600.0	598.7	2.2	1.2	106.07	-4,286.1	557.4	4,369.6	4,366.3	3.26	1,339.876				
1,200.0	1,196.3	672.1	670.0	2.5	1.4	105.96	-4,293.5	565.4	4,385.5	4,381.8	3.72	1,179.932				
1,300.0	1,294.9	700.0	697.5	2.8	1.5	105.80	-4,296.7	568.8	4,403.4	4,399.3	4.09	1,076.256				
1,400.0	1,393.3	762.4	758.8	3.2	1.7	105.65	-4,304.5	577.3	4,422.8	4,418.2	4.59	963.446				
1,484.0	1,475.6	806.3	801.8	3.5	1.9	105.52	-4,310.6	583.8	4,440.4	4,435.4	5.01	887.085				
1,500.0	1,491.3	808.3	803.7	3.5	1.9	105.52	-4,310.9	584.1	4,443.9	4,438.8	5.07	876.702				
1,600.0	1,589.1	905.7	899.0	3.9	2.3	105.60	-4,324.8	599.1	4,465.7	4,460.0	5.70	783.778				
1,700.0	1,687.0	1,003.1	994.2	4.3	2.7	105.68	-4,338.7	614.2	4,487.5	4,481.2	6.34	708.262				
1,800.0	1,784.9	1,100.5	1,089.4	4.7	3.1	105.76	-4,352.6	629.2	4,509.3	4,502.4	6.98	645.919				
1,900.0	1,882.7	1,197.9	1,184.6	5.1	3.4	105.84	-4,366.4	644.2	4,531.2	4,523.5	7.63	593.714				
2,000.0	1,980.6	1,295.3	1,279.9	5.4	3.8	105.91	-4,380.3	659.2	4,553.0	4,544.7	8.29	549.443				
2,100.0	2,078.5	1,392.7	1,375.1	5.8	4.2	105.99	-4,394.2	674.2	4,574.9	4,565.9	8.94	511.472				
2,200.0	2,176.4	1,490.1	1,470.3	6.2	4.6	106.07	-4,408.1	689.3	4,596.7	4,587.1	9.61	478.574				
2,300.0	2,274.2	1,587.5	1,565.5	6.6	5.0	106.14	-4,422.0	704.3	4,618.6	4,608.3	10.27	449.815				
2,400.0	2,372.1	1,684.9	1,660.8	7.0	5.4	106.22	-4,435.9	719.3	4,640.5	4,629.6	10.93	424.473				
2,500.0	2,470.0	1,782.3	1,756.0	7.4	5.8	106.29	-4,449.8	734.3	4,662.4	4,650.8	11.60	401.982				
2,600.0	2,567.8	1,879.7	1,851.2	7.8	6.2	106.37	-4,463.7	749.3	4,684.3	4,672.0	12.27	381.892				
2,700.0	2,665.7	1,977.1	1,946.4	8.2	6.6	106.44	-4,477.6	764.3	4,706.2	4,693.2	12.93	363.843				
2,800.0	2,763.6	2,074.5	2,041.7	8.6	7.0	106.51	-4,491.5	779.4	4,728.1	4,714.5	13.60	347.542				
2,900.0	2,861.5	2,171.9	2,136.9	9.0	7.4	106.58	-4,505.4	794.4	4,750.0	4,735.7	14.27	332.750				
3,000.0	2,959.3	2,269.3	2,232.1	9.4	7.8	106.65	-4,519.3	809.4	4,771.9	4,757.0	14.95	319.267				
3,100.0	3,057.2	2,366.7	2,327.3	9.8	8.2	106.72	-4,533.2	824.4	4,793.8	4,778.2	15.62	306.929				
3,200.0	3,155.1	2,464.1	2,422.6	10.2	8.6	106.79	-4,547.1	839.4	4,815.8	4,799.5	16.29	295.596				
3,300.0	3,253.0	2,561.5	2,517.8	10.6	9.0	106.86	-4,561.0	854.4	4,837.7	4,820.8	16.97	285.153				
3,400.0	3,350.8	2,658.9	2,613.0	11.0	9.4	106.93	-4,574.9	869.5	4,859.7	4,842.0	17.64	275.498				
3,500.0	3,448.7	2,756.3	2,708.2	11.4	9.8	107.00	-4,588.8	884.5	4,881.6	4,863.3	18.31	266.546				
3,600.0	3,546.6	2,853.7	2,803.5	11.8	10.2	107.06	-4,602.7	899.5	4,903.6	4,884.6	18.99	258.224				
3,700.0	3,644.4	2,951.1	2,898.7	12.2	10.6	107.13	-4,616.6	914.5	4,925.6	4,905.9	19.67	250.467				
3,800.0	3,742.3	3,048.5	2,993.9	12.6	11.0	107.20	-4,630.5	929.5	4,947.5	4,927.2	20.34	243.221				
3,900.0	3,840.2	3,145.9	3,089.1	13.0	11.4	107.26	-4,644.4	944.6	4,969.5	4,948.5	21.02	236.436				
4,000.0	3,938.1	3,243.3	3,184.4	13.4	11.8	107.33	-4,658.3	959.6	4,991.5	4,969.8	21.70	230.071				
4,100.0	4,035.9	3,340.7	3,279.6	13.8	12.2	107.39	-4,672.2	974.6	5,013.5	4,991.1	22.37	224.087				
4,200.0	4,133.8	3,438.0	3,374.8	14.2	12.6	107.45	-4,686.0	989.6	5,035.5	5,012.4	23.05	218.452				
4,300.0	4,231.7	3,535.4	3,470.0	14.6	13.0	107.52	-4,699.9	1,004.6	5,057.5	5,033.8	23.73	213.135				
4,400.0	4,329.5	3,632.8	3,565.3	15.0	13.4	107.58	-4,713.8	1,019.6	5,079.5	5,055.1	24.41	208.112				
4,500.0	4,427.4	3,730.2	3,660.5	15.4	13.8	107.64	-4,727.7	1,034.7	5,101.5	5,076.4	25.09	203.358				
4,600.0	4,525.3	3,827.6	3,755.7	15.8	14.2	107.70	-4,741.6	1,049.7	5,123.5	5,097.8	25.77	198.852				
4,700.0	4,623.2	3,925.0	3,850.9	16.2	14.6	107.76	-4,755.5	1,064.7	5,145.6	5,119.1	26.45	194.575				
4,800.0	4,721.0	4,022.4	3,946.2	16.7	15.0	107.82	-4,769.4	1,079.7	5,167.6	5,140.5	27.12	190.512				
4,900.0	4,818.9	4,119.8	4,041.4	17.1	15.4	107.88	-4,783.3	1,094.7	5,189.6	5,161.8	27.80	186.645				

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 22-18 - DD - Plan #2													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	4,916.8	4,217.2	4,136.6	17.5	15.8	107.94	-4,797.2	1,109.8	5,211.7	5,183.2	28.49	182.961		
5,100.0	5,014.7	4,314.6	4,231.8	17.9	16.2	108.00	-4,811.1	1,124.8	5,233.7	5,204.6	29.17	179.447		
5,200.0	5,112.5	4,412.0	4,327.1	18.3	16.6	108.06	-4,825.0	1,139.8	5,255.8	5,225.9	29.85	176.093		
5,300.0	5,210.4	4,509.4	4,422.3	18.7	17.0	108.12	-4,838.9	1,154.8	5,277.8	5,247.3	30.53	172.887		
7,700.0	7,441.2	7,587.2	7,464.2	26.3	25.0	8.13	-5,083.1	1,418.7	5,278.1	5,252.1	26.03	202.736		
7,750.0	7,461.1	7,607.2	7,484.1	26.3	25.0	6.88	-5,083.1	1,418.7	5,232.3	5,208.9	23.49	222.785		
7,800.0	7,477.0	7,623.1	7,500.0	26.3	25.0	5.20	-5,083.1	1,418.7	5,185.0	5,164.0	21.03	246.554		
7,850.0	7,488.8	7,634.9	7,511.8	26.4	25.0	2.36	-5,083.1	1,418.7	5,136.4	5,117.6	18.84	272.618		
7,900.0	7,496.5	7,642.5	7,519.5	26.4	25.0	-4.58	-5,083.1	1,418.7	5,087.0	5,069.4	17.60	289.040		
7,950.0	7,499.8	7,645.9	7,522.8	26.5	25.0	-46.10	-5,083.1	1,418.7	5,037.2	5,009.2	27.96	180.178		
7,964.3	7,500.0	7,646.1	7,523.0	26.5	25.0	-90.00	-5,083.1	1,418.7	5,022.9	4,989.4	33.49	149.982		
8,000.0	7,500.0	7,646.1	7,523.0	26.6	25.0	-90.00	-5,083.1	1,418.7	4,987.2	4,953.6	33.63	148.289		
8,100.0	7,500.0	7,646.1	7,523.0	26.8	25.0	-90.00	-5,083.1	1,418.7	4,887.2	4,853.1	34.17	143.046		
8,200.0	7,500.0	7,646.1	7,523.0	27.2	25.0	-90.00	-5,083.1	1,418.7	4,787.3	4,752.4	34.88	137.239		
8,300.0	7,500.0	7,646.1	7,523.0	27.7	25.0	-90.00	-5,083.1	1,418.7	4,687.3	4,651.6	35.76	131.078		
8,400.0	7,500.0	7,646.1	7,523.0	28.3	25.0	-90.00	-5,083.1	1,418.7	4,587.4	4,550.6	36.77	124.754		
8,500.0	7,500.0	7,646.1	7,523.0	29.0	25.0	-90.00	-5,083.1	1,418.7	4,487.5	4,449.6	37.90	118.416		
8,600.0	7,500.0	7,646.1	7,523.0	29.8	25.0	-90.00	-5,083.1	1,418.7	4,387.5	4,348.4	39.11	112.175		
8,700.0	7,500.0	7,646.1	7,523.0	30.6	25.0	-90.00	-5,083.1	1,418.7	4,287.6	4,247.2	40.41	106.109		
8,800.0	7,500.0	7,646.1	7,523.0	31.5	25.0	-90.00	-5,083.1	1,418.7	4,187.6	4,145.9	41.76	100.268		
8,900.0	7,500.0	7,646.1	7,523.0	32.5	25.0	-90.00	-5,083.1	1,418.7	4,087.7	4,044.5	43.17	94.679		
9,000.0	7,500.0	7,646.1	7,523.0	33.6	25.0	-90.00	-5,083.1	1,418.7	3,987.8	3,943.1	44.63	89.357		
9,100.0	7,500.0	7,646.1	7,523.0	34.7	25.0	-90.00	-5,083.1	1,418.7	3,887.9	3,841.7	46.12	84.303		
9,200.0	7,500.0	7,646.1	7,523.0	35.9	25.0	-90.00	-5,083.1	1,418.7	3,787.9	3,740.3	47.64	79.515		
9,300.0	7,500.0	7,646.1	7,523.0	37.1	25.0	-90.00	-5,083.1	1,418.7	3,688.0	3,638.8	49.18	74.984		
9,400.0	7,500.0	7,646.1	7,523.0	38.3	25.0	-90.00	-5,083.1	1,418.7	3,588.1	3,537.3	50.75	70.699		
9,500.0	7,500.0	7,646.1	7,523.0	39.6	25.0	-90.00	-5,083.1	1,418.7	3,488.2	3,435.9	52.34	66.646		
9,600.0	7,500.0	7,646.1	7,523.0	41.0	25.0	-90.00	-5,083.1	1,418.7	3,388.3	3,334.3	53.94	62.813		
9,700.0	7,500.0	7,646.1	7,523.0	42.3	25.0	-90.00	-5,083.1	1,418.7	3,288.4	3,232.8	55.56	59.187		
9,800.0	7,500.0	7,646.1	7,523.0	43.7	25.0	-90.00	-5,083.1	1,418.7	3,188.5	3,131.3	57.19	55.753		
9,900.0	7,500.0	7,646.1	7,523.0	45.1	25.0	-90.00	-5,083.1	1,418.7	3,088.6	3,029.8	58.83	52.501		
10,000.0	7,500.0	7,646.1	7,523.0	46.6	25.0	-90.00	-5,083.1	1,418.7	2,988.7	2,928.3	60.48	49.417		
10,100.0	7,500.0	7,646.1	7,523.0	48.0	25.0	-90.00	-5,083.1	1,418.7	2,888.9	2,826.7	62.14	46.492		
10,200.0	7,500.0	7,646.1	7,523.0	49.5	25.0	-90.00	-5,083.1	1,418.7	2,789.0	2,725.2	63.80	43.713		
10,300.0	7,500.0	7,646.1	7,523.0	51.0	25.0	-90.00	-5,083.1	1,418.7	2,689.2	2,623.7	65.48	41.072		
10,400.0	7,500.0	7,646.1	7,523.0	52.5	25.0	-90.00	-5,083.1	1,418.7	2,589.3	2,522.2	67.15	38.559		
10,500.0	7,500.0	7,646.1	7,523.0	54.0	25.0	-90.00	-5,083.1	1,418.7	2,489.5	2,420.7	68.84	36.166		
10,600.0	7,500.0	7,646.1	7,523.0	55.6	25.0	-90.00	-5,083.1	1,418.7	2,389.7	2,319.2	70.52	33.885		
10,700.0	7,500.0	7,646.1	7,523.0	57.1	25.0	-90.00	-5,083.1	1,418.7	2,289.9	2,217.7	72.22	31.709		
10,800.0	7,500.0	7,646.1	7,523.0	58.7	25.0	-90.00	-5,083.1	1,418.7	2,190.2	2,116.3	73.91	29.631		
10,900.0	7,500.0	7,646.1	7,523.0	60.3	25.0	-90.00	-5,083.1	1,418.7	2,090.4	2,014.8	75.61	27.646		
11,000.0	7,500.0	7,646.1	7,523.0	61.9	25.0	-90.00	-5,083.1	1,418.7	1,990.7	1,913.4	77.32	25.747		
11,100.0	7,500.0	7,646.1	7,523.0	63.5	25.0	-90.00	-5,083.1	1,418.7	1,891.0	1,812.0	79.02	23.930		
11,200.0	7,500.0	7,646.1	7,523.0	65.1	25.0	-90.00	-5,083.1	1,418.7	1,791.3	1,710.6	80.73	22.189		
11,300.0	7,500.0	7,646.1	7,523.0	66.7	25.0	-90.00	-5,083.1	1,418.7	1,691.7	1,609.3	82.44	20.520		
11,400.0	7,500.0	7,646.1	7,523.0	68.3	25.0	-90.00	-5,083.1	1,418.7	1,592.2	1,508.0	84.16	18.919		
11,500.0	7,500.0	7,646.1	7,523.0	69.9	25.0	-90.00	-5,083.1	1,418.7	1,492.6	1,406.8	85.87	17.382		
11,600.0	7,500.0	7,646.1	7,523.0	71.5	25.0	-90.00	-5,083.1	1,418.7	1,393.2	1,305.6	87.59	15.906		
11,700.0	7,500.0	7,646.1	7,523.0	73.2	25.0	-90.00	-5,083.1	1,418.7	1,293.8	1,204.5	89.31	14.487		
11,800.0	7,500.0	7,646.1	7,523.0	74.8	25.0	-90.00	-5,083.1	1,418.7	1,194.6	1,103.6	91.03	13.123		
11,900.0	7,500.0	7,646.1	7,523.0	76.5	25.0	-90.00	-5,083.1	1,418.7	1,095.5	1,002.7	92.75	11.811		
12,000.0	7,500.0	7,646.1	7,523.0	78.1	25.0	-90.00	-5,083.1	1,418.7	996.6	902.1	94.48	10.548		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Sosa 22-18 - DD - Plan #2											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		
12,100.0	7,500.0	7,646.1	7,523.0	79.8	25.0	-90.00	-5,083.1	1,418.7	897.9	801.7	96.20	9.333		
12,200.0	7,500.0	7,646.1	7,523.0	81.4	25.0	-90.00	-5,083.1	1,418.7	799.5	701.6	97.93	8.164		
12,300.0	7,500.0	7,646.1	7,523.0	83.1	25.0	-90.00	-5,083.1	1,418.7	701.6	601.9	99.66	7.040		
12,400.0	7,500.0	7,646.1	7,523.0	84.8	25.0	-90.00	-5,083.1	1,418.7	604.3	503.0	101.39	5.961		
12,500.0	7,500.0	7,646.1	7,523.0	86.4	25.0	-90.00	-5,083.1	1,418.7	508.2	405.1	103.12	4.928		
12,600.0	7,500.0	7,646.1	7,523.0	88.1	25.0	-90.00	-5,083.1	1,418.7	413.9	309.0	104.85	3.947		
12,700.0	7,500.0	7,646.1	7,523.0	89.8	25.0	-90.00	-5,083.1	1,418.7	323.0	216.4	106.58	3.030		
12,800.0	7,500.0	7,646.1	7,523.0	91.5	25.0	-90.00	-5,083.1	1,418.7	239.4	131.1	108.31	2.211		
12,900.0	7,500.0	7,646.1	7,523.0	93.2	25.0	-90.00	-5,083.1	1,418.7	174.2	64.2	110.05	1.583		
12,984.9	7,500.0	7,646.1	7,523.0	94.6	25.0	-90.00	-5,083.1	1,418.7	152.1	40.6	111.52	1.364 Level 3, CC, ES, SF		
13,000.0	7,500.0	7,646.1	7,523.0	94.8	25.0	-90.00	-5,083.1	1,418.7	152.9	41.1	111.78	1.368 Level 3		
13,100.0	7,500.0	7,646.1	7,523.0	96.5	25.0	-90.00	-5,083.1	1,418.7	190.8	77.3	113.52	1.681		
13,200.0	7,500.0	7,646.1	7,523.0	98.2	25.0	-90.00	-5,083.1	1,418.7	263.5	148.2	115.25	2.286		
13,300.0	7,500.0	7,646.1	7,523.0	99.9	25.0	-90.00	-5,083.1	1,418.7	349.9	232.9	116.99	2.991		
13,400.0	7,500.0	7,646.1	7,523.0	101.6	25.0	-90.00	-5,083.1	1,418.7	442.1	323.4	118.73	3.724		
13,500.0	7,500.0	7,646.1	7,523.0	103.3	25.0	-90.00	-5,083.1	1,418.7	537.1	416.7	120.46	4.459		
13,600.0	7,500.0	7,646.1	7,523.0	105.0	25.0	-90.00	-5,083.1	1,418.7	633.7	511.5	122.20	5.185		
13,700.0	7,500.0	7,646.1	7,523.0	106.7	25.0	-90.00	-5,083.1	1,418.7	731.1	607.2	123.94	5.899		
13,800.0	7,500.0	7,646.1	7,523.0	108.4	25.0	-90.00	-5,083.1	1,418.7	829.2	703.5	125.68	6.598		
13,900.0	7,500.0	7,646.1	7,523.0	110.1	25.0	-90.00	-5,083.1	1,418.7	927.7	800.3	127.42	7.281		
14,000.0	7,500.0	7,646.1	7,523.0	111.8	25.0	-90.00	-5,083.1	1,418.7	1,026.5	897.3	129.16	7.947		
14,100.0	7,500.0	7,646.1	7,523.0	113.5	25.0	-90.00	-5,083.1	1,418.7	1,125.5	994.6	130.90	8.598		
14,200.0	7,500.0	7,646.1	7,523.0	115.2	25.0	-90.00	-5,083.1	1,418.7	1,224.6	1,092.0	132.64	9.232		
14,300.0	7,500.0	7,646.1	7,523.0	116.9	25.0	-90.00	-5,083.1	1,418.7	1,323.9	1,189.5	134.38	9.852		
14,400.0	7,500.0	7,646.1	7,523.0	118.6	25.0	-90.00	-5,083.1	1,418.7	1,423.3	1,287.2	136.13	10.456		
14,500.0	7,500.0	7,646.1	7,523.0	120.3	25.0	-90.00	-5,083.1	1,418.7	1,522.7	1,384.9	137.87	11.045		
14,600.0	7,500.0	7,646.1	7,523.0	122.1	25.0	-90.00	-5,083.1	1,418.7	1,622.3	1,482.7	139.61	11.620		
14,700.0	7,500.0	7,646.1	7,523.0	123.8	25.0	-90.00	-5,083.1	1,418.7	1,721.9	1,580.5	141.35	12.181		
14,800.0	7,500.0	7,646.1	7,523.0	125.5	25.0	-90.00	-5,083.1	1,418.7	1,821.5	1,678.4	143.10	12.729		
14,900.0	7,500.0	7,646.1	7,523.0	127.2	25.0	-90.00	-5,083.1	1,418.7	1,921.2	1,776.3	144.84	13.264		
15,000.0	7,500.0	7,646.1	7,523.0	128.9	25.0	-90.00	-5,083.1	1,418.7	2,020.9	1,874.3	146.58	13.786		
15,100.0	7,500.0	7,646.1	7,523.0	130.6	25.0	-90.00	-5,083.1	1,418.7	2,120.6	1,972.3	148.33	14.297		
15,200.0	7,500.0	7,646.1	7,523.0	132.4	25.0	-90.00	-5,083.1	1,418.7	2,220.3	2,070.3	150.07	14.795		
15,300.0	7,500.0	7,646.1	7,523.0	134.1	25.0	-90.00	-5,083.1	1,418.7	2,320.1	2,168.3	151.82	15.282		
15,400.0	7,500.0	7,646.1	7,523.0	135.8	25.0	-90.00	-5,083.1	1,418.7	2,419.9	2,266.4	153.56	15.759		
15,500.0	7,500.0	7,646.1	7,523.0	137.5	25.0	-90.00	-5,083.1	1,418.7	2,519.7	2,364.4	155.31	16.224		
15,600.0	7,500.0	7,646.1	7,523.0	139.2	25.0	-90.00	-5,083.1	1,418.7	2,619.5	2,462.5	157.05	16.680		
15,700.0	7,500.0	7,646.1	7,523.0	141.0	25.0	-90.00	-5,083.1	1,418.7	2,719.4	2,560.6	158.80	17.125		
15,800.0	7,500.0	7,646.1	7,523.0	142.7	25.0	-90.00	-5,083.1	1,418.7	2,819.2	2,658.7	160.54	17.561		
15,839.3	7,500.0	7,646.1	7,523.0	143.4	25.0	-90.00	-5,083.1	1,418.7	2,858.5	2,697.3	161.23	17.729		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - SOSA A UNIT 1 (EXISTING) - EXISTING - EXISTIN													Offset Site Error: 0.0 ft	
Survey Program: 100-Geolink 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	
0.0	0.0	0.0	0.0	0.0	0.0	173.03	-4,325.4	528.5	4,357.6					
100.0	100.0	83.2	83.2	0.2	0.1	173.03	-4,325.6	528.7	4,357.8	4,357.6	0.30	N/A		
200.0	200.0	163.7	163.7	0.3	0.3	173.03	-4,326.2	529.0	4,358.6	4,358.0	0.61	7,113.958		
300.0	300.0	270.5	270.5	0.5	0.5	173.03	-4,327.2	529.0	4,359.6	4,358.6	0.97	4,474.049		
400.0	400.0	368.8	368.8	0.7	0.6	106.89	-4,328.0	528.6	4,360.6	4,359.2	1.32	3,304.009		
500.0	500.0	475.3	475.2	0.9	0.8	106.92	-4,328.9	528.6	4,362.2	4,360.5	1.68	2,590.499		
600.0	599.9	599.3	599.3	1.0	1.0	106.98	-4,329.5	527.9	4,363.8	4,361.8	2.09	2,092.611		
700.0	699.7	690.6	690.6	1.2	1.2	107.03	-4,329.7	527.5	4,365.9	4,363.4	2.44	1,789.857		
800.0	799.4	799.7	799.6	1.4	1.4	107.13	-4,330.1	526.6	4,368.4	4,365.6	2.84	1,539.470		
900.0	898.9	897.1	897.1	1.7	1.6	107.23	-4,330.4	525.6	4,371.4	4,368.2	3.23	1,352.949		
1,000.0	998.3	987.4	987.4	1.9	1.7	107.34	-4,330.7	524.6	4,375.0	4,371.4	3.63	1,205.065		
1,100.0	1,097.4	1,102.2	1,102.1	2.2	1.9	107.51	-4,331.1	522.8	4,379.2	4,375.1	4.09	1,069.805		
1,200.0	1,196.3	1,202.7	1,202.6	2.5	2.1	107.67	-4,331.3	521.2	4,383.7	4,379.1	4.55	962.754		
1,300.0	1,294.9	1,297.7	1,297.6	2.8	2.3	107.84	-4,331.5	519.3	4,388.8	4,383.8	5.03	872.876		
1,400.0	1,393.3	1,410.0	1,409.9	3.2	2.5	108.08	-4,331.6	516.5	4,394.4	4,388.8	5.56	790.683		
1,484.0	1,475.6	1,482.9	1,482.8	3.5	2.6	108.23	-4,331.7	515.0	4,399.5	4,393.5	5.98	735.416		
1,500.0	1,491.3	1,500.0	1,499.9	3.5	2.6	108.28	-4,331.7	514.7	4,400.6	4,394.5	6.07	725.069		
1,600.0	1,589.1	1,618.1	1,617.9	3.9	2.8	108.60	-4,331.5	512.5	4,406.8	4,400.2	6.64	664.038		
1,700.0	1,687.0	1,700.0	1,699.8	4.3	3.0	108.83	-4,331.3	510.8	4,413.2	4,406.0	7.14	617.746		
1,800.0	1,784.9	1,825.6	1,825.4	4.7	3.2	109.19	-4,330.9	507.7	4,419.4	4,411.7	7.73	571.585		
1,900.0	1,882.7	1,914.5	1,914.2	5.1	3.4	109.44	-4,330.4	505.3	4,425.6	4,417.3	8.26	535.969		
2,000.0	1,980.6	2,000.0	1,999.7	5.4	3.5	109.69	-4,330.2	503.0	4,432.2	4,423.4	8.78	504.918		
2,100.0	2,078.5	2,100.0	2,099.7	5.8	3.7	109.97	-4,330.0	500.4	4,438.8	4,429.5	9.32	476.036		
2,200.0	2,176.4	2,181.2	2,180.9	6.2	3.8	110.20	-4,329.8	498.3	4,445.7	4,435.9	9.84	451.844		
2,300.0	2,274.2	2,299.7	2,299.3	6.6	4.1	110.53	-4,329.9	494.9	4,452.9	4,442.5	10.42	427.354		
2,400.0	2,372.1	2,391.9	2,391.4	7.0	4.2	110.80	-4,329.7	491.8	4,459.9	4,448.9	10.95	407.117		
2,500.0	2,470.0	2,528.9	2,528.4	7.4	4.5	111.20	-4,328.7	487.1	4,466.5	4,454.9	11.57	386.124		
2,600.0	2,567.8	2,618.2	2,617.6	7.8	4.6	111.45	-4,327.8	484.1	4,472.9	4,460.8	12.10	369.782		
2,700.0	2,665.7	2,700.0	2,699.4	8.2	4.8	111.68	-4,327.2	482.0	4,479.8	4,467.2	12.61	355.270		
2,800.0	2,763.6	2,790.5	2,789.9	8.6	4.9	111.93	-4,326.8	480.1	4,487.0	4,473.9	13.14	341.540		
2,900.0	2,861.5	2,898.0	2,897.4	9.0	5.1	112.21	-4,326.3	478.1	4,494.3	4,480.6	13.69	328.265		
3,000.0	2,959.3	3,000.0	2,999.3	9.4	5.3	112.48	-4,325.5	476.6	4,501.5	4,487.3	14.24	316.227		
3,100.0	3,057.2	3,087.8	3,087.1	9.8	5.5	112.71	-4,324.9	475.0	4,508.8	4,494.1	14.76	305.565		
3,200.0	3,155.1	3,184.4	3,183.7	10.2	5.6	112.96	-4,324.5	473.3	4,516.4	4,501.1	15.29	295.397		
3,300.0	3,253.0	3,263.4	3,262.7	10.6	5.8	113.17	-4,324.2	472.1	4,524.2	4,508.4	15.79	286.484		
3,400.0	3,350.8	3,355.0	3,354.3	11.0	5.9	113.40	-4,324.2	471.0	4,532.5	4,516.2	16.31	277.830		
3,500.0	3,448.7	3,449.7	3,448.9	11.4	6.1	113.63	-4,324.3	470.3	4,540.9	4,524.1	16.84	269.649		
3,600.0	3,546.6	3,540.9	3,540.2	11.8	6.3	113.86	-4,324.4	469.5	4,549.5	4,532.2	17.36	262.072		
3,700.0	3,644.4	3,644.9	3,644.2	12.2	6.4	114.12	-4,324.7	468.6	4,558.2	4,540.3	17.90	254.671		
3,800.0	3,742.3	3,746.6	3,745.9	12.6	6.6	114.37	-4,324.7	467.9	4,566.8	4,548.4	18.43	247.766		
3,900.0	3,840.2	3,841.3	3,840.6	13.0	6.8	114.60	-4,324.7	467.4	4,575.6	4,556.6	18.95	241.400		
4,000.0	3,938.1	3,936.2	3,935.4	13.4	7.0	114.83	-4,324.8	466.2	4,584.4	4,564.9	19.48	235.376		
4,100.0	4,035.9	4,031.5	4,030.8	13.8	7.1	115.07	-4,325.0	464.7	4,593.5	4,573.5	20.00	229.675		
4,200.0	4,133.8	4,141.7	4,140.9	14.2	7.3	115.36	-4,325.1	462.5	4,602.5	4,581.9	20.55	224.019		
4,300.0	4,231.7	4,250.4	4,249.6	14.6	7.5	115.63	-4,324.7	460.3	4,611.2	4,590.2	21.09	218.671		
4,400.0	4,329.5	4,345.6	4,344.8	15.0	7.7	115.89	-4,324.4	457.7	4,620.0	4,598.4	21.61	213.810		
4,500.0	4,427.4	4,437.9	4,437.0	15.4	7.9	116.13	-4,324.1	455.3	4,629.0	4,606.9	22.12	209.253		
4,600.0	4,525.3	4,528.6	4,527.7	15.8	8.0	116.36	-4,324.0	453.5	4,638.2	4,615.6	22.63	204.951		
4,700.0	4,623.2	4,632.6	4,631.7	16.2	8.2	116.62	-4,324.0	451.5	4,647.7	4,624.5	23.16	200.679		
4,800.0	4,721.0	4,744.6	4,743.7	16.7	8.4	116.90	-4,323.4	449.5	4,656.6	4,632.9	23.70	196.485		
4,900.0	4,818.9	4,831.3	4,830.4	17.1	8.6	117.11	-4,323.2	447.7	4,665.9	4,641.7	24.20	192.808		
5,000.0	4,916.8	4,958.6	4,957.6	17.5	8.8	117.43	-4,322.4	445.1	4,675.0	4,650.3	24.76	188.823		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - SOSA A UNIT 1 (EXISTING) - EXISTING - EXISTIN												Offset Site Error:	0.0 ft
Survey Program: 100-Geolink 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
5,100.0	5,014.7	5,062.8	5,061.9	17.9	9.0	117.68	-4,321.4	443.9	4,683.8	4,658.5	25.28	185.265	
5,200.0	5,112.5	5,176.3	5,175.3	18.3	9.2	117.95	-4,320.2	442.5	4,692.5	4,666.7	25.82	181.766	
5,300.0	5,210.4	5,295.6	5,294.5	18.7	9.4	118.23	-4,318.3	441.3	4,700.8	4,674.5	26.36	178.348	
5,400.0	5,308.3	5,383.0	5,382.0	19.1	9.5	118.43	-4,316.9	440.6	4,709.1	4,682.3	26.85	175.382	
5,500.0	5,406.1	5,467.6	5,466.5	19.5	9.7	118.63	-4,315.7	439.9	4,717.8	4,690.4	27.34	172.564	
5,600.0	5,504.0	5,579.1	5,578.0	19.9	9.9	118.89	-4,314.2	438.8	4,726.6	4,698.7	27.86	169.625	
5,700.0	5,601.9	5,664.0	5,662.9	20.3	10.0	119.08	-4,313.0	438.3	4,735.3	4,706.9	28.35	167.026	
5,800.0	5,699.8	5,760.8	5,759.7	20.7	10.2	119.30	-4,311.9	437.8	4,744.4	4,715.5	28.85	164.434	
5,900.0	5,797.6	5,883.9	5,882.9	21.1	10.4	119.57	-4,310.1	437.2	4,753.2	4,723.8	29.39	161.725	
6,000.0	5,895.5	5,961.7	5,960.6	21.5	10.5	119.75	-4,308.8	437.0	4,762.0	4,732.1	29.86	159.463	
6,100.0	5,993.4	6,034.0	6,032.9	21.9	10.7	119.90	-4,308.1	436.9	4,771.3	4,741.0	30.33	157.336	
6,200.0	6,091.2	6,100.0	6,098.9	22.3	10.8	120.05	-4,307.7	436.6	4,781.3	4,750.5	30.78	155.340	
6,300.0	6,189.1	6,174.4	6,173.3	22.7	10.9	120.22	-4,307.7	436.0	4,791.9	4,760.6	31.24	153.364	
6,400.0	6,287.0	6,270.3	6,269.2	23.1	11.1	120.43	-4,308.1	435.0	4,803.0	4,771.2	31.74	151.330	
6,500.0	6,384.9	6,421.3	6,420.2	23.5	11.3	120.76	-4,307.9	434.2	4,813.5	4,781.2	32.31	148.990	
6,600.0	6,482.7	6,517.6	6,516.5	23.9	11.5	120.97	-4,307.2	433.5	4,823.5	4,790.7	32.80	147.062	
6,700.0	6,580.6	6,612.1	6,610.9	24.3	11.7	121.18	-4,306.6	432.8	4,833.8	4,800.5	33.29	145.213	
6,800.0	6,678.5	6,729.6	6,728.4	24.7	11.9	121.43	-4,305.7	432.0	4,843.9	4,810.1	33.81	143.286	
6,900.0	6,776.4	6,849.1	6,847.9	25.1	12.1	121.70	-4,304.1	431.1	4,853.6	4,819.2	34.33	141.399	
7,000.0	6,874.2	6,948.8	6,947.6	25.5	12.3	121.91	-4,302.6	430.5	4,863.1	4,828.3	34.82	139.682	
7,016.7	6,890.6	6,964.5	6,963.3	25.6	12.3	121.94	-4,302.3	430.5	4,864.7	4,829.8	34.90	139.405	
7,050.0	6,923.2	6,995.8	6,994.7	25.7	12.3	126.00	-4,301.9	430.4	4,867.0	4,831.9	35.07	138.773	
7,100.0	6,972.3	7,039.5	7,038.3	25.9	12.4	80.69	-4,301.3	430.5	4,866.8	4,831.7	35.14	138.484	
7,150.0	7,021.1	7,082.5	7,081.4	26.0	12.5	61.00	-4,300.8	430.7	4,862.4	4,827.5	34.99	138.965	
7,200.0	7,069.3	7,136.6	7,135.4	26.1	12.6	48.38	-4,300.3	431.1	4,853.8	4,819.2	34.63	140.164	
7,250.0	7,116.5	7,197.5	7,196.3	26.2	12.7	40.55	-4,299.6	432.2	4,840.9	4,806.9	34.06	142.115	
7,300.0	7,162.3	7,288.8	7,287.5	26.2	12.8	35.67	-4,298.3	435.5	4,823.7	4,790.3	33.33	144.743	
7,350.0	7,206.4	7,326.8	7,325.5	26.3	12.9	32.43	-4,297.6	437.7	4,802.2	4,769.9	32.34	148.502	
7,400.0	7,248.4	7,356.1	7,354.8	26.3	12.9	30.35	-4,297.3	439.4	4,777.1	4,746.0	31.17	153.247	
7,450.0	7,288.1	7,383.9	7,382.5	26.3	13.0	29.12	-4,297.0	441.2	4,748.6	4,718.7	29.87	158.998	
7,500.0	7,325.1	7,400.0	7,398.5	26.3	13.0	28.53	-4,296.9	442.3	4,716.7	4,688.3	28.44	165.851	
7,550.0	7,359.2	7,432.0	7,430.4	26.3	13.1	28.63	-4,296.7	444.4	4,681.8	4,654.9	26.97	173.595	
7,600.0	7,390.0	7,452.5	7,450.9	26.3	13.1	29.31	-4,296.7	445.7	4,644.1	4,618.6	25.49	182.211	
7,650.0	7,417.4	7,470.8	7,469.2	26.3	13.1	30.69	-4,296.7	446.8	4,603.9	4,579.8	24.09	191.121	
7,700.0	7,441.2	7,500.0	7,498.3	26.3	13.2	33.10	-4,296.7	448.4	4,561.4	4,538.5	22.92	198.999	
7,750.0	7,461.1	7,500.0	7,498.3	26.3	13.2	36.44	-4,296.7	448.4	4,517.0	4,494.9	22.09	204.464	
7,800.0	7,477.0	7,513.2	7,511.5	26.3	13.2	41.85	-4,296.7	449.1	4,470.9	4,449.0	21.94	203.736	
7,850.0	7,488.8	7,522.8	7,521.1	26.4	13.2	50.31	-4,296.8	449.6	4,423.6	4,400.8	22.77	194.283	
7,900.0	7,496.5	7,529.1	7,527.4	26.4	13.2	63.86	-4,296.8	449.9	4,375.3	4,350.6	24.71	177.098	
7,950.0	7,499.8	7,531.9	7,530.2	26.5	13.2	84.62	-4,296.8	450.0	4,326.4	4,299.6	26.81	161.357	
7,964.3	7,500.0	7,532.1	7,530.4	26.5	13.2	91.78	-4,296.8	450.0	4,312.3	4,285.3	27.09	159.214	
8,000.0	7,500.0	7,532.2	7,530.5	26.6	13.2	91.79	-4,296.8	450.0	4,277.3	4,250.1	27.23	157.099	
8,100.0	7,500.0	7,532.5	7,530.8	26.8	13.2	91.81	-4,296.8	450.1	4,179.2	4,151.4	27.76	150.548	
8,200.0	7,500.0	7,532.8	7,531.0	27.2	13.2	91.83	-4,296.8	450.1	4,081.2	4,052.7	28.48	143.320	
8,300.0	7,500.0	7,533.0	7,531.3	27.7	13.2	91.85	-4,296.8	450.1	3,983.3	3,953.9	29.35	135.711	
8,400.0	7,500.0	7,533.3	7,531.6	28.3	13.2	91.87	-4,296.8	450.1	3,885.4	3,855.1	30.36	127.977	
8,500.0	7,500.0	7,533.6	7,531.9	29.0	13.2	91.89	-4,296.8	450.1	3,787.7	3,756.2	31.48	120.312	
8,600.0	7,500.0	7,533.9	7,532.2	29.8	13.2	91.91	-4,296.8	450.1	3,690.1	3,657.4	32.70	112.857	
8,700.0	7,500.0	7,534.2	7,532.5	30.6	13.2	91.93	-4,296.8	450.1	3,592.7	3,558.7	33.99	105.701	
8,800.0	7,500.0	7,534.5	7,532.8	31.5	13.2	91.95	-4,296.8	450.2	3,495.4	3,460.0	35.34	98.895	
8,900.0	7,500.0	7,534.8	7,533.0	32.5	13.2	91.97	-4,296.8	450.2	3,398.2	3,361.5	36.75	92.464	
9,000.0	7,500.0	7,535.1	7,533.3	33.6	13.2	91.99	-4,296.8	450.2	3,301.3	3,263.0	38.20	86.413	

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - SOSA A UNIT 1 (EXISTING) - EXISTING - EXISTIN											Offset Site Error: 0.0 ft		
Survey Program: 100-Geolink 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	
9,100.0	7,500.0	7,535.3	7,533.6	34.7	13.2	92.01	-4,296.8	450.2	3,204.5	3,164.8	39.69	80.735	
9,200.0	7,500.0	7,535.6	7,533.9	35.9	13.2	92.03	-4,296.8	450.2	3,107.9	3,066.7	41.21	75.417	
9,300.0	7,500.0	7,535.9	7,534.2	37.1	13.2	92.05	-4,296.8	450.2	3,011.5	2,968.7	42.75	70.439	
9,400.0	7,500.0	7,536.2	7,534.5	38.3	13.2	92.07	-4,296.8	450.2	2,915.4	2,871.1	44.32	65.781	
9,500.0	7,500.0	7,536.5	7,534.8	39.6	13.2	92.09	-4,296.8	450.3	2,819.5	2,773.6	45.90	61.421	
9,600.0	7,500.0	7,536.8	7,535.1	41.0	13.2	92.11	-4,296.8	450.3	2,724.0	2,676.5	47.51	57.339	
9,700.0	7,500.0	7,537.1	7,535.4	42.3	13.2	92.13	-4,296.8	450.3	2,628.7	2,579.6	49.12	53.515	
9,800.0	7,500.0	7,537.4	7,535.7	43.7	13.2	92.15	-4,296.8	450.3	2,533.9	2,483.1	50.75	49.929	
9,900.0	7,500.0	7,537.7	7,536.0	45.1	13.2	92.18	-4,296.8	450.3	2,439.4	2,387.0	52.39	46.565	
10,000.0	7,500.0	7,538.0	7,536.3	46.6	13.2	92.20	-4,296.8	450.3	2,345.4	2,291.4	54.04	43.405	
10,100.0	7,500.0	7,538.4	7,536.6	48.0	13.2	92.22	-4,296.8	450.3	2,252.0	2,196.3	55.69	40.436	
10,200.0	7,500.0	7,538.7	7,536.9	49.5	13.2	92.24	-4,296.8	450.4	2,159.1	2,101.7	57.36	37.644	
10,300.0	7,500.0	7,539.0	7,537.2	51.0	13.2	92.26	-4,296.8	450.4	2,066.9	2,007.8	59.03	35.016	
10,400.0	7,500.0	7,539.3	7,537.6	52.5	13.2	92.28	-4,296.8	450.4	1,975.4	1,914.7	60.70	32.543	
10,500.0	7,500.0	7,539.6	7,537.9	54.0	13.2	92.31	-4,296.8	450.4	1,884.8	1,822.4	62.38	30.213	
10,600.0	7,500.0	7,539.9	7,538.2	55.6	13.2	92.33	-4,296.8	450.4	1,795.2	1,731.1	64.07	28.020	
10,700.0	7,500.0	7,540.2	7,538.5	57.1	13.2	92.35	-4,296.8	450.4	1,706.8	1,641.0	65.76	25.955	
10,800.0	7,500.0	7,540.6	7,538.8	58.7	13.2	92.37	-4,296.8	450.4	1,619.7	1,552.2	67.45	24.012	
10,900.0	7,500.0	7,540.9	7,539.1	60.3	13.2	92.40	-4,296.8	450.5	1,534.1	1,465.0	69.15	22.185	
11,000.0	7,500.0	7,541.2	7,539.5	61.9	13.2	92.42	-4,296.8	450.5	1,450.5	1,379.6	70.85	20.472	
11,100.0	7,500.0	7,541.5	7,539.8	63.5	13.2	92.44	-4,296.8	450.5	1,369.0	1,296.4	72.56	18.868	
11,200.0	7,500.0	7,541.8	7,540.1	65.1	13.2	92.46	-4,296.8	450.5	1,290.1	1,215.9	74.26	17.373	
11,300.0	7,500.0	7,542.2	7,540.4	66.7	13.2	92.49	-4,296.8	450.5	1,214.4	1,138.4	75.97	15.985	
11,400.0	7,500.0	7,542.5	7,540.8	68.3	13.2	92.51	-4,296.8	450.5	1,142.4	1,064.7	77.68	14.706	
11,500.0	7,500.0	7,542.8	7,541.1	69.9	13.2	92.53	-4,296.8	450.6	1,074.8	995.4	79.40	13.538	
11,600.0	7,500.0	7,543.2	7,541.4	71.5	13.2	92.56	-4,296.8	450.6	1,012.7	931.6	81.11	12.485	
11,700.0	7,500.0	7,543.5	7,541.8	73.2	13.2	92.58	-4,296.8	450.6	957.0	874.2	82.83	11.554	
11,800.0	7,500.0	7,543.8	7,542.1	74.8	13.2	92.60	-4,296.8	450.6	908.9	824.4	84.55	10.750	
11,900.0	7,500.0	7,544.2	7,542.4	76.5	13.2	92.63	-4,296.8	450.6	869.7	783.4	86.27	10.082	
12,000.0	7,500.0	7,544.5	7,542.8	78.1	13.2	92.65	-4,296.8	450.6	840.6	752.6	87.99	9.554	
12,100.0	7,500.0	7,544.9	7,543.1	79.8	13.2	92.68	-4,296.8	450.7	822.8	733.0	89.71	9.171	
12,198.6	7,500.0	7,545.2	7,543.5	81.4	13.2	92.70	-4,296.8	450.7	816.8	725.4	91.41	8.936 CC	
12,200.0	7,500.0	7,545.2	7,543.5	81.4	13.2	92.70	-4,296.8	450.7	816.8	725.4	91.43	8.934 ES	
12,300.0	7,500.0	7,545.5	7,543.8	83.1	13.2	92.72	-4,296.9	450.7	823.1	729.9	93.16	8.835 SF	
12,400.0	7,500.0	7,545.9	7,544.2	84.8	13.2	92.75	-4,296.9	450.7	841.3	746.4	94.88	8.866	
12,500.0	7,500.0	7,546.2	7,544.5	86.4	13.2	92.77	-4,296.9	450.7	870.6	774.0	96.61	9.012	
12,600.0	7,500.0	7,546.6	7,544.9	88.1	13.2	92.80	-4,296.9	450.7	910.1	811.8	98.34	9.255	
12,700.0	7,500.0	7,546.9	7,545.2	89.8	13.2	92.82	-4,296.9	450.7	958.4	858.4	100.07	9.578	
12,800.0	7,500.0	7,547.3	7,545.6	91.5	13.2	92.85	-4,296.9	450.8	1,014.3	912.5	101.80	9.964	
12,900.0	7,500.0	7,547.7	7,545.9	93.2	13.2	92.87	-4,296.9	450.8	1,076.6	973.1	103.53	10.400	
13,000.0	7,500.0	7,548.0	7,546.3	94.8	13.2	92.90	-4,296.9	450.8	1,144.3	1,039.0	105.26	10.871	
13,100.0	7,500.0	7,548.4	7,546.6	96.5	13.2	92.92	-4,296.9	450.8	1,216.4	1,109.4	106.99	11.370	
13,200.0	7,500.0	7,548.7	7,547.0	98.2	13.3	92.95	-4,296.9	450.8	1,292.3	1,183.5	108.72	11.886	
13,300.0	7,500.0	7,549.1	7,547.4	99.9	13.3	92.97	-4,296.9	450.9	1,371.2	1,260.8	110.45	12.415	
13,400.0	7,500.0	7,549.5	7,547.7	101.6	13.3	93.00	-4,296.9	450.9	1,452.7	1,340.6	112.18	12.950	
13,500.0	7,500.0	7,549.8	7,548.1	103.3	13.3	93.02	-4,296.9	450.9	1,536.5	1,422.6	113.92	13.488	
13,600.0	7,500.0	7,550.2	7,548.5	105.0	13.3	93.05	-4,296.9	450.9	1,622.0	1,506.4	115.65	14.025	
13,700.0	7,500.0	7,550.6	7,548.8	106.7	13.3	93.08	-4,296.9	450.9	1,709.2	1,591.8	117.39	14.560	
13,800.0	7,500.0	7,551.0	7,549.2	108.4	13.3	93.10	-4,296.9	450.9	1,797.7	1,678.5	119.12	15.091	
13,900.0	7,500.0	7,551.3	7,549.6	110.1	13.3	93.13	-4,296.9	451.0	1,887.3	1,766.4	120.86	15.616	
14,000.0	7,500.0	7,551.7	7,550.0	111.8	13.3	93.16	-4,296.9	451.0	1,977.9	1,855.3	122.59	16.134	
14,100.0	7,500.0	7,552.1	7,550.4	113.5	13.3	93.18	-4,296.9	451.0	2,069.4	1,945.1	124.33	16.645	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - SOSA A UNIT 1 (EXISTING) - EXISTING - EXISTIN										Offset Site Error:		0.0 ft	
Survey Program: 100-Geolink 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	
14,200.0	7,500.0	7,552.5	7,550.7	115.2	13.3	93.21	-4,296.9	451.0	2,161.6	2,035.6	126.06	17.147	
14,300.0	7,500.0	7,552.9	7,551.1	116.9	13.3	93.24	-4,296.9	451.0	2,254.5	2,126.7	127.80	17.641	
14,400.0	7,500.0	7,553.3	7,551.5	118.6	13.3	93.26	-4,296.9	451.0	2,348.0	2,218.5	129.54	18.126	
14,500.0	7,500.0	7,553.6	7,551.9	120.3	13.3	93.29	-4,296.9	451.1	2,442.0	2,310.7	131.27	18.603	
14,600.0	7,500.0	7,554.0	7,552.3	122.1	13.3	93.32	-4,296.9	451.1	2,536.5	2,403.5	133.01	19.070	
14,700.0	7,500.0	7,554.4	7,552.7	123.8	13.3	93.35	-4,296.9	451.1	2,631.3	2,496.6	134.75	19.528	
14,800.0	7,500.0	7,554.8	7,553.1	125.5	13.3	93.37	-4,296.9	451.1	2,726.6	2,590.1	136.48	19.977	
14,900.0	7,500.0	7,555.2	7,553.5	127.2	13.3	93.40	-4,296.9	451.1	2,822.1	2,683.9	138.22	20.418	
15,000.0	7,500.0	7,555.6	7,553.9	128.9	13.3	93.43	-4,296.9	451.2	2,918.0	2,778.1	139.96	20.849	
15,100.0	7,500.0	7,556.0	7,554.3	130.6	13.3	93.46	-4,296.9	451.2	3,014.1	2,872.4	141.70	21.272	
15,200.0	7,500.0	7,556.4	7,554.7	132.4	13.3	93.49	-4,296.9	451.2	3,110.5	2,967.1	143.43	21.686	
15,300.0	7,500.0	7,556.9	7,555.1	134.1	13.3	93.52	-4,296.9	451.2	3,207.1	3,061.9	145.17	22.092	
15,400.0	7,500.0	7,557.3	7,555.5	135.8	13.3	93.55	-4,296.9	451.2	3,303.9	3,157.0	146.91	22.489	
15,500.0	7,500.0	7,557.7	7,555.9	137.5	13.3	93.57	-4,296.9	451.2	3,400.9	3,252.3	148.65	22.879	
15,600.0	7,500.0	7,558.1	7,556.3	139.2	13.3	93.60	-4,296.9	451.3	3,498.1	3,347.7	150.39	23.261	
15,700.0	7,500.0	7,558.5	7,556.8	141.0	13.3	93.63	-4,296.9	451.3	3,595.4	3,443.2	152.12	23.634	
15,800.0	7,500.0	7,558.9	7,557.2	142.7	13.3	93.66	-4,296.9	451.3	3,692.8	3,539.0	153.86	24.001	
15,839.3	7,500.0	7,559.1	7,557.4	143.4	13.3	93.67	-4,296.9	451.3	3,731.2	3,576.6	154.55	24.143	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (EXISTING) - ENCANA WELL - SUR											Offset Site Error: 0.0 ft		
Survey Program: 1024-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	11.3	11.3	0.0	0.0	153.47	-2,303.7	1,149.9	2,574.7				
100.0	100.0	114.1	114.1	0.2	0.2	153.47	-2,303.6	1,149.9	2,574.6	2,574.3	0.35	7,369.476	
200.0	200.0	216.9	216.9	0.3	0.4	153.47	-2,303.4	1,149.9	2,574.5	2,573.8	0.70	3,668.221	
300.0	300.0	319.7	319.7	0.5	0.6	153.47	-2,303.1	1,149.9	2,574.2	2,573.1	1.05	2,441.621	
400.0	400.0	422.5	422.5	0.7	0.7	87.34	-2,302.6	1,149.9	2,573.7	2,572.3	1.40	1,834.160	
500.0	500.0	525.3	525.3	0.9	0.9	87.40	-2,302.0	1,149.9	2,573.1	2,571.4	1.76	1,462.986	
600.0	599.9	628.0	628.0	1.0	1.1	87.50	-2,301.3	1,149.9	2,572.3	2,570.2	2.12	1,212.579	
700.0	699.7	730.6	730.6	1.2	1.3	87.65	-2,300.5	1,149.9	2,571.3	2,568.8	2.49	1,030.843	
800.0	799.4	833.2	833.1	1.4	1.4	87.83	-2,299.5	1,149.9	2,570.2	2,567.3	2.88	892.030	
900.0	898.9	935.5	935.5	1.7	1.6	88.05	-2,298.4	1,149.9	2,568.9	2,565.6	3.29	781.999	
1,000.0	998.3	1,033.6	1,033.6	1.9	1.8	88.30	-2,297.3	1,150.0	2,567.5	2,563.8	3.70	693.629	
1,100.0	1,097.4	1,104.4	1,104.4	2.2	1.9	88.50	-2,296.8	1,150.2	2,566.7	2,562.6	4.10	626.787	
1,115.6	1,112.8	1,115.1	1,115.1	2.2	1.9	88.53	-2,296.8	1,150.3	2,566.7	2,562.5	4.16	617.104	
1,200.0	1,196.3	1,183.0	1,183.0	2.5	2.0	88.74	-2,297.1	1,151.2	2,567.1	2,562.6	4.53	567.128	
1,300.0	1,294.9	1,243.2	1,243.1	2.8	2.2	88.93	-2,297.9	1,152.3	2,568.7	2,563.7	4.95	518.786	
1,400.0	1,393.3	1,321.3	1,321.2	3.2	2.3	89.21	-2,299.7	1,154.0	2,571.3	2,565.9	5.43	473.154	
1,484.0	1,475.6	1,392.7	1,392.6	3.5	2.4	89.48	-2,301.6	1,155.7	2,574.1	2,568.2	5.87	438.428	
1,500.0	1,491.3	1,406.1	1,406.0	3.5	2.4	89.54	-2,302.0	1,156.0	2,574.7	2,568.7	5.95	432.391	
1,600.0	1,589.1	1,488.7	1,488.5	3.9	2.6	89.88	-2,304.5	1,158.6	2,578.7	2,572.2	6.48	398.066	
1,700.0	1,687.0	1,564.0	1,563.7	4.3	2.7	90.18	-2,306.9	1,161.8	2,583.5	2,576.5	6.99	369.353	
1,800.0	1,784.9	1,641.8	1,641.3	4.7	2.9	90.47	-2,309.7	1,166.3	2,589.2	2,581.7	7.52	344.182	
1,900.0	1,882.7	1,724.8	1,724.0	5.1	3.0	90.76	-2,312.8	1,172.4	2,595.9	2,587.8	8.06	321.895	
2,000.0	1,980.6	1,820.1	1,819.0	5.4	3.2	91.07	-2,316.7	1,179.6	2,603.0	2,594.4	8.63	301.547	
2,100.0	2,078.5	1,916.9	1,915.4	5.8	3.4	91.40	-2,320.7	1,187.0	2,610.2	2,601.0	9.21	283.517	
2,200.0	2,176.4	2,023.0	2,021.1	6.2	3.6	91.74	-2,324.9	1,195.1	2,617.5	2,607.7	9.80	267.088	
2,300.0	2,274.2	2,103.0	2,100.8	6.6	3.8	92.01	-2,328.3	1,201.1	2,625.0	2,614.6	10.35	253.682	
2,400.0	2,372.1	2,187.0	2,184.4	7.0	4.0	92.28	-2,332.3	1,207.8	2,633.3	2,622.4	10.90	241.494	
2,500.0	2,470.0	2,273.1	2,270.1	7.4	4.2	92.56	-2,336.8	1,214.9	2,642.0	2,630.6	11.47	230.393	
2,600.0	2,567.8	2,377.6	2,374.1	7.8	4.4	92.89	-2,342.5	1,223.9	2,651.3	2,639.2	12.07	219.751	
2,700.0	2,665.7	2,519.1	2,515.1	8.2	4.7	93.37	-2,349.3	1,233.8	2,659.5	2,646.8	12.73	208.910	
2,800.0	2,763.6	2,622.5	2,618.1	8.6	4.9	93.71	-2,353.1	1,241.0	2,666.8	2,653.4	13.33	200.071	
2,900.0	2,861.5	2,703.4	2,698.7	9.0	5.1	93.97	-2,356.2	1,247.0	2,674.4	2,660.5	13.88	192.625	
3,000.0	2,959.3	2,800.0	2,794.9	9.4	5.3	94.28	-2,360.6	1,254.1	2,682.7	2,668.3	14.47	185.405	
3,100.0	3,057.2	2,916.5	2,911.1	9.8	5.5	94.66	-2,365.5	1,262.2	2,690.7	2,675.6	15.09	178.281	
3,200.0	3,155.1	3,017.7	3,012.0	10.2	5.8	94.99	-2,369.3	1,269.1	2,698.3	2,682.6	15.69	171.996	
3,300.0	3,253.0	3,106.9	3,100.9	10.6	6.0	95.28	-2,372.8	1,275.3	2,706.1	2,689.9	16.26	166.438	
3,400.0	3,350.8	3,198.6	3,192.3	11.0	6.2	95.57	-2,376.6	1,281.9	2,714.4	2,697.6	16.84	161.196	
3,500.0	3,448.7	3,318.5	3,311.8	11.4	6.4	95.95	-2,381.2	1,290.6	2,722.5	2,705.0	17.47	155.816	
3,600.0	3,546.6	3,404.0	3,397.0	11.8	6.6	96.20	-2,384.3	1,297.1	2,730.5	2,712.4	18.05	151.315	
3,700.0	3,644.4	3,499.0	3,491.6	12.2	6.8	96.49	-2,388.0	1,304.5	2,738.9	2,720.2	18.63	147.008	
3,800.0	3,742.3	3,591.4	3,583.7	12.6	7.0	96.77	-2,391.9	1,311.2	2,747.5	2,728.3	19.21	143.021	
3,900.0	3,840.2	3,703.6	3,695.5	13.0	7.3	97.10	-2,396.3	1,320.0	2,756.1	2,736.2	19.84	138.925	
4,000.0	3,938.1	3,804.2	3,795.7	13.4	7.5	97.39	-2,399.7	1,328.1	2,764.4	2,743.9	20.44	135.236	
4,100.0	4,035.9	3,886.9	3,878.1	13.8	7.7	97.63	-2,402.9	1,334.5	2,773.0	2,752.0	21.00	132.024	
4,200.0	4,133.8	3,980.5	3,971.3	14.2	7.9	97.90	-2,406.9	1,341.9	2,782.2	2,760.6	21.59	128.838	
4,300.0	4,231.7	4,080.9	4,071.3	14.6	8.1	98.18	-2,411.1	1,350.3	2,791.4	2,769.2	22.20	125.749	
4,400.0	4,329.5	4,166.0	4,156.0	15.0	8.3	98.41	-2,414.7	1,357.4	2,800.8	2,778.0	22.77	123.002	
4,500.0	4,427.4	4,261.0	4,250.5	15.4	8.6	98.67	-2,419.1	1,365.5	2,810.7	2,787.3	23.37	120.290	
4,600.0	4,525.3	4,369.6	4,358.7	15.8	8.8	98.97	-2,424.2	1,374.5	2,820.6	2,796.6	23.98	117.613	
4,700.0	4,623.2	4,492.6	4,481.1	16.2	9.1	99.32	-2,429.2	1,384.0	2,829.9	2,805.3	24.63	114.897	
4,800.0	4,721.0	4,612.7	4,600.8	16.7	9.4	99.65	-2,433.3	1,393.2	2,838.5	2,813.2	25.27	112.335	
4,900.0	4,818.9	4,722.7	4,710.5	17.1	9.6	99.98	-2,436.4	1,400.4	2,846.5	2,820.6	25.88	109.992	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (EXISTING) - ENCANA WELL - SUR													Offset Site Error:	0.0 ft
Survey Program: 1024-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	
5,000.0	4,916.8	4,834.8	4,822.5	17.5	9.8	100.33	-2,439.6	1,406.5	2,854.3	2,827.8	26.48	107.796		
5,100.0	5,014.7	4,990.0	4,977.5	17.9	10.1	100.91	-2,443.3	1,409.9	2,861.1	2,834.0	27.12	105.506		
5,200.0	5,112.5	5,118.3	5,105.8	18.3	10.3	101.43	-2,444.4	1,410.1	2,865.9	2,838.2	27.70	103.444		
5,300.0	5,210.4	5,222.3	5,209.8	18.7	10.4	101.85	-2,445.0	1,410.0	2,870.7	2,842.5	28.25	101.607		
5,400.0	5,308.3	5,344.3	5,331.8	19.1	10.6	102.35	-2,445.1	1,409.4	2,875.1	2,846.3	28.82	99.746		
5,500.0	5,406.1	5,435.0	5,422.5	19.5	10.8	102.73	-2,445.0	1,408.8	2,879.4	2,850.0	29.35	98.110		
5,600.0	5,504.0	5,538.1	5,525.6	19.9	10.9	103.15	-2,444.8	1,408.0	2,883.8	2,853.9	29.89	96.488		
5,700.0	5,601.9	5,638.2	5,625.8	20.3	11.1	103.56	-2,444.6	1,407.2	2,888.2	2,857.7	30.42	94.939		
5,800.0	5,699.8	5,732.3	5,719.9	20.7	11.2	103.95	-2,444.3	1,406.5	2,892.8	2,861.8	30.95	93.479		
5,900.0	5,797.6	5,838.4	5,825.9	21.1	11.4	104.38	-2,444.0	1,405.7	2,897.5	2,866.0	31.48	92.027		
6,000.0	5,895.5	5,944.2	5,931.7	21.5	11.5	104.81	-2,443.3	1,404.7	2,901.9	2,869.9	32.02	90.629		
6,100.0	5,993.4	6,043.0	6,030.5	21.9	11.7	105.22	-2,442.6	1,403.6	2,906.5	2,873.9	32.54	89.313		
6,200.0	6,091.2	6,135.2	6,122.7	22.3	11.8	105.59	-2,442.0	1,402.6	2,911.2	2,878.1	33.06	88.056		
6,300.0	6,189.1	6,232.3	6,219.8	22.7	11.9	105.97	-2,441.3	1,402.7	2,916.2	2,882.6	33.59	86.827		
6,400.0	6,287.0	6,334.8	6,322.3	23.1	12.1	106.37	-2,440.6	1,402.7	2,921.3	2,887.2	34.12	85.624		
6,500.0	6,384.9	6,429.7	6,417.2	23.5	12.3	106.73	-2,439.8	1,402.6	2,926.4	2,891.8	34.64	84.489		
6,600.0	6,482.7	6,526.2	6,513.7	23.9	12.4	107.10	-2,439.1	1,402.6	2,931.8	2,896.6	35.16	83.396		
6,700.0	6,580.6	6,619.5	6,607.0	24.3	12.6	107.46	-2,438.6	1,402.4	2,937.4	2,901.7	35.67	82.357		
6,800.0	6,678.5	6,709.0	6,696.5	24.7	12.7	107.81	-2,438.2	1,402.2	2,943.3	2,907.2	36.17	81.370		
6,900.0	6,776.4	6,803.0	6,790.5	25.1	12.8	108.17	-2,438.1	1,402.0	2,949.6	2,913.0	36.68	80.414		
7,000.0	6,874.2	6,898.5	6,886.0	25.5	13.0	108.53	-2,438.1	1,401.8	2,956.2	2,919.0	37.19	79.488		
7,016.7	6,890.6	6,914.4	6,901.9	25.6	13.0	108.59	-2,438.1	1,401.7	2,957.3	2,920.0	37.28	79.336		
7,050.0	6,923.2	6,946.5	6,934.0	25.7	13.1	92.75	-2,438.1	1,401.7	2,958.5	2,921.1	37.45	79.008		
7,100.0	6,972.3	6,994.9	6,982.4	25.9	13.2	67.50	-2,438.1	1,401.7	2,956.8	2,919.3	37.51	78.835		
7,150.0	7,021.1	7,044.4	7,031.9	26.0	13.2	47.76	-2,438.1	1,401.6	2,950.9	2,913.5	37.33	79.041		
7,200.0	7,069.3	7,095.1	7,082.6	26.1	13.3	34.97	-2,438.1	1,401.6	2,940.6	2,903.7	36.93	79.629		
7,250.0	7,116.5	7,150.7	7,138.2	26.2	13.4	26.84	-2,438.0	1,401.7	2,926.0	2,889.7	36.30	80.604		
7,300.0	7,162.3	7,209.1	7,196.6	26.2	13.5	21.45	-2,437.6	1,401.8	2,907.2	2,871.8	35.46	81.995		
7,350.0	7,206.4	7,261.6	7,249.1	26.3	13.6	17.67	-2,437.1	1,401.9	2,884.3	2,849.9	34.39	83.867		
7,400.0	7,248.4	7,308.0	7,295.5	26.3	13.7	14.88	-2,436.6	1,402.0	2,857.5	2,824.4	33.12	86.274		
7,450.0	7,288.1	7,341.9	7,329.4	26.3	13.7	12.68	-2,436.1	1,402.1	2,827.2	2,795.6	31.66	89.310		
7,500.0	7,325.1	7,371.6	7,359.1	26.3	13.8	10.88	-2,435.9	1,402.1	2,793.7	2,763.6	30.03	93.034		
7,550.0	7,359.2	7,401.2	7,388.7	26.3	13.8	9.34	-2,435.6	1,402.2	2,757.1	2,728.8	28.27	97.525		
7,600.0	7,390.0	7,432.0	7,419.5	26.3	13.9	7.94	-2,435.4	1,402.2	2,717.7	2,691.3	26.42	102.873		
7,650.0	7,417.4	7,459.4	7,446.9	26.3	13.9	6.54	-2,435.2	1,402.2	2,675.8	2,651.3	24.51	109.182		
7,700.0	7,441.2	7,483.0	7,470.5	26.3	13.9	4.97	-2,435.1	1,402.3	2,631.7	2,609.1	22.60	116.469		
7,750.0	7,461.1	7,501.6	7,489.1	26.3	14.0	2.99	-2,434.9	1,402.3	2,585.8	2,565.0	20.76	124.552		
7,800.0	7,477.0	7,516.2	7,503.6	26.3	14.0	0.05	-2,434.9	1,402.3	2,538.3	2,519.2	19.13	132.663		
7,850.0	7,488.8	7,526.9	7,514.4	26.4	14.0	-5.24	-2,434.8	1,402.3	2,489.7	2,471.6	18.02	138.188		
7,900.0	7,496.5	7,533.8	7,521.2	26.4	14.0	-18.39	-2,434.7	1,402.3	2,440.2	2,421.5	18.70	130.486		
7,950.0	7,499.8	7,536.6	7,524.1	26.5	14.0	-70.00	-2,434.7	1,402.3	2,390.4	2,363.7	26.69	89.578		
7,964.3	7,500.0	7,536.7	7,524.2	26.5	14.0	-95.55	-2,434.7	1,402.3	2,376.1	2,349.1	26.95	88.159		
8,000.0	7,500.0	7,536.5	7,524.0	26.6	14.0	-95.47	-2,434.7	1,402.3	2,340.5	2,313.4	27.10	86.367		
8,100.0	7,500.0	7,536.0	7,523.5	26.8	14.0	-95.25	-2,434.7	1,402.3	2,240.7	2,213.0	27.65	81.042		
8,200.0	7,500.0	7,535.5	7,522.9	27.2	14.0	-95.02	-2,434.7	1,402.3	2,140.9	2,112.5	28.38	75.434		
8,300.0	7,500.0	7,534.9	7,522.4	27.7	14.0	-94.79	-2,434.7	1,402.3	2,041.1	2,011.8	29.27	69.728		
8,400.0	7,500.0	7,534.4	7,521.8	28.3	14.0	-94.56	-2,434.7	1,402.3	1,941.3	1,911.0	30.30	64.075		
8,500.0	7,500.0	7,533.8	7,521.3	29.0	14.0	-94.33	-2,434.7	1,402.3	1,841.6	1,810.1	31.43	58.584		
8,600.0	7,500.0	7,533.2	7,520.7	29.8	14.0	-94.10	-2,434.7	1,402.3	1,741.8	1,709.2	32.66	53.325		
8,700.0	7,500.0	7,532.7	7,520.2	30.6	14.0	-93.86	-2,434.8	1,402.3	1,642.2	1,608.2	33.97	48.341		
8,800.0	7,500.0	7,532.1	7,519.6	31.5	14.0	-93.63	-2,434.8	1,402.3	1,542.5	1,507.2	35.34	43.649		
8,900.0	7,500.0	7,531.6	7,519.0	32.5	14.0	-93.39	-2,434.8	1,402.3	1,443.0	1,406.2	36.76	39.253		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (EXISTING) - ENCANA WELL - SUR												Offset Site Error:	0.0 ft
Survey Program: 1024-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
9,000.0	7,500.0	7,531.0	7,518.5	33.6	14.0	-93.15	-2,434.8	1,402.3	1,343.4	1,305.2	38.22	35.146	
9,100.0	7,500.0	7,530.4	7,517.9	34.7	14.0	-92.91	-2,434.8	1,402.3	1,244.0	1,204.3	39.72	31.315	
9,200.0	7,500.0	7,529.9	7,517.3	35.9	14.0	-92.67	-2,434.8	1,402.3	1,144.6	1,103.4	41.25	27.746	
9,300.0	7,500.0	7,529.3	7,516.8	37.1	14.0	-92.43	-2,434.8	1,402.3	1,045.4	1,002.6	42.81	24.420	
9,400.0	7,500.0	7,528.7	7,516.2	38.3	14.0	-92.19	-2,434.8	1,402.3	946.3	902.0	44.39	21.320	
9,500.0	7,500.0	7,528.1	7,515.6	39.6	14.0	-91.94	-2,434.8	1,402.3	847.5	801.5	45.98	18.431	
9,600.0	7,500.0	7,527.6	7,515.0	41.0	14.0	-91.70	-2,434.8	1,402.3	749.0	701.4	47.59	15.736	
9,700.0	7,500.0	7,527.0	7,514.5	42.3	14.0	-91.45	-2,434.8	1,402.3	650.9	601.7	49.22	13.224	
9,800.0	7,500.0	7,526.4	7,513.9	43.7	14.0	-91.21	-2,434.8	1,402.3	553.5	502.6	50.86	10.883	
9,900.0	7,500.0	7,525.8	7,513.3	45.1	14.0	-90.96	-2,434.8	1,402.3	457.2	404.7	52.50	8.708	
10,000.0	7,500.0	7,525.2	7,512.7	46.6	14.0	-90.71	-2,434.8	1,402.3	362.9	308.8	54.16	6.701	
10,100.0	7,500.0	7,524.6	7,512.1	48.0	14.0	-90.45	-2,434.8	1,402.3	272.7	216.9	55.82	4.886	
10,200.0	7,500.0	7,524.0	7,511.5	49.5	14.0	-90.20	-2,434.8	1,402.3	192.5	135.1	57.49	3.349	
10,300.0	7,500.0	7,523.4	7,510.9	51.0	14.0	-89.95	-2,434.8	1,402.3	140.6	81.4	59.17	2.376	
10,336.6	7,500.0	7,523.2	7,510.7	51.6	14.0	-89.86	-2,434.8	1,402.3	135.7	75.9	59.78	2.270	CC, ES, SF
10,400.0	7,500.0	7,522.8	7,510.3	52.5	14.0	-89.69	-2,434.8	1,402.3	149.8	89.0	60.85	2.462	
10,500.0	7,500.0	7,522.2	7,509.7	54.0	14.0	-89.44	-2,434.8	1,402.3	212.4	149.9	62.53	3.397	
10,600.0	7,500.0	7,521.6	7,509.1	55.6	14.0	-89.18	-2,434.8	1,402.3	296.3	232.1	64.22	4.614	
10,700.0	7,500.0	7,521.0	7,508.5	57.1	14.0	-88.92	-2,434.8	1,402.3	387.9	322.0	65.91	5.886	
10,800.0	7,500.0	7,520.4	7,507.8	58.7	14.0	-88.66	-2,434.8	1,402.3	482.9	415.3	67.60	7.143	
10,900.0	7,500.0	7,519.7	7,507.2	60.3	14.0	-88.40	-2,434.8	1,402.3	579.5	510.2	69.29	8.363	
11,000.0	7,500.0	7,519.1	7,506.6	61.9	14.0	-88.14	-2,434.8	1,402.3	677.1	606.2	70.99	9.539	
11,100.0	7,500.0	7,518.5	7,506.0	63.5	14.0	-87.87	-2,434.8	1,402.3	775.4	702.7	72.69	10.668	
11,200.0	7,500.0	7,517.9	7,505.3	65.1	14.0	-87.61	-2,434.8	1,402.3	874.0	799.6	74.38	11.750	
11,300.0	7,500.0	7,517.2	7,504.7	66.7	14.0	-87.34	-2,434.8	1,402.3	972.9	896.8	76.08	12.788	
11,400.0	7,500.0	7,516.6	7,504.1	68.3	14.0	-87.08	-2,434.8	1,402.3	1,072.0	994.2	77.78	13.783	
11,500.0	7,500.0	7,516.0	7,503.4	69.9	14.0	-86.81	-2,434.9	1,402.3	1,171.3	1,091.8	79.48	14.738	
11,600.0	7,500.0	7,515.3	7,502.8	71.5	14.0	-86.54	-2,434.9	1,402.3	1,270.7	1,189.5	81.17	15.654	
11,700.0	7,500.0	7,514.7	7,502.2	73.2	14.0	-86.27	-2,434.9	1,402.3	1,370.1	1,287.3	82.87	16.534	
11,800.0	7,500.0	7,514.0	7,501.5	74.8	14.0	-85.99	-2,434.9	1,402.3	1,469.7	1,385.1	84.56	17.380	
11,900.0	7,500.0	7,513.4	7,500.9	76.5	14.0	-85.72	-2,434.9	1,402.3	1,569.3	1,483.0	86.26	18.193	
12,000.0	7,500.0	7,512.7	7,500.2	78.1	14.0	-85.45	-2,434.9	1,402.3	1,668.9	1,581.0	87.95	18.976	
12,100.0	7,500.0	7,512.1	7,499.5	79.8	14.0	-85.17	-2,434.9	1,402.3	1,768.6	1,679.0	89.64	19.731	
12,200.0	7,500.0	7,511.4	7,498.9	81.4	14.0	-84.89	-2,434.9	1,402.3	1,868.3	1,777.0	91.32	20.458	
12,300.0	7,500.0	7,510.7	7,498.2	83.1	14.0	-84.62	-2,434.9	1,402.3	1,968.1	1,875.1	93.01	21.160	
12,400.0	7,500.0	7,510.1	7,497.6	84.8	14.0	-84.34	-2,434.9	1,402.3	2,067.8	1,973.1	94.69	21.838	
12,500.0	7,500.0	7,509.4	7,496.9	86.4	14.0	-84.06	-2,434.9	1,402.3	2,167.6	2,071.3	96.37	22.493	
12,600.0	7,500.0	7,508.7	7,496.2	88.1	14.0	-83.78	-2,434.9	1,402.3	2,267.4	2,169.4	98.05	23.126	
12,700.0	7,500.0	7,508.1	7,495.5	89.8	14.0	-83.49	-2,434.9	1,402.3	2,367.3	2,267.5	99.72	23.739	
12,800.0	7,500.0	7,507.4	7,494.9	91.5	14.0	-83.21	-2,434.9	1,402.3	2,467.1	2,365.7	101.39	24.333	
12,900.0	7,500.0	7,506.7	7,494.2	93.2	14.0	-82.93	-2,434.9	1,402.3	2,567.0	2,463.9	103.06	24.909	
13,000.0	7,500.0	7,506.0	7,493.5	94.8	14.0	-82.64	-2,434.9	1,402.3	2,666.8	2,562.1	104.72	25.467	
13,100.0	7,500.0	7,505.3	7,492.8	96.5	14.0	-82.35	-2,434.9	1,402.3	2,766.7	2,660.3	106.37	26.009	
13,200.0	7,500.0	7,504.6	7,492.1	98.2	14.0	-82.06	-2,434.9	1,402.3	2,866.6	2,758.5	108.03	26.535	
13,300.0	7,500.0	7,503.9	7,491.4	99.9	14.0	-81.78	-2,434.9	1,402.3	2,966.5	2,856.8	109.68	27.047	
13,400.0	7,500.0	7,503.2	7,490.7	101.6	14.0	-81.48	-2,434.9	1,402.3	3,066.4	2,955.0	111.32	27.545	
13,500.0	7,500.0	7,502.5	7,490.0	103.3	14.0	-81.19	-2,434.9	1,402.3	3,166.3	3,053.3	112.96	28.030	
13,600.0	7,500.0	7,501.8	7,489.3	105.0	14.0	-80.90	-2,434.9	1,402.3	3,266.2	3,151.6	114.59	28.502	
13,700.0	7,500.0	7,501.1	7,488.6	106.7	14.0	-80.61	-2,434.9	1,402.3	3,366.1	3,249.9	116.22	28.962	
13,800.0	7,500.0	7,500.4	7,487.9	108.4	14.0	-80.31	-2,435.0	1,402.3	3,466.0	3,348.2	117.85	29.411	
13,900.0	7,500.0	7,499.6	7,487.1	110.1	14.0	-80.02	-2,435.0	1,402.3	3,565.9	3,446.5	119.46	29.849	
14,000.0	7,500.0	7,498.9	7,486.4	111.8	14.0	-79.72	-2,435.0	1,402.3	3,665.9	3,544.8	121.08	30.278	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (EXISTING) - ENCANA WELL - SUR											Offset Site Error:		0.0 ft
Survey Program:		1024-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
14,100.0	7,500.0	7,498.2	7,485.7	113.5	14.0	-79.42	-2,435.0	1,402.3	3,765.8	3,643.1	122.68	30.696			
14,200.0	7,500.0	7,497.5	7,484.9	115.2	14.0	-79.12	-2,435.0	1,402.3	3,865.7	3,741.4	124.28	31.105			
14,300.0	7,500.0	7,496.7	7,484.2	116.9	14.0	-78.83	-2,435.0	1,402.3	3,965.7	3,839.8	125.87	31.506			
14,400.0	7,500.0	7,496.0	7,483.5	118.6	14.0	-78.52	-2,435.0	1,402.3	4,065.6	3,938.1	127.46	31.898			
14,500.0	7,500.0	7,495.2	7,482.7	120.3	14.0	-78.22	-2,435.0	1,402.3	4,165.5	4,036.5	129.04	32.282			
14,600.0	7,500.0	7,494.5	7,482.0	122.1	14.0	-77.92	-2,435.0	1,402.3	4,265.5	4,134.9	130.61	32.659			
14,700.0	7,500.0	7,493.7	7,481.2	123.8	14.0	-77.62	-2,435.0	1,402.3	4,365.4	4,233.3	132.17	33.028			
14,800.0	7,500.0	7,493.0	7,480.5	125.5	14.0	-77.31	-2,435.0	1,402.3	4,465.4	4,331.7	133.73	33.391			
14,900.0	7,500.0	7,492.2	7,479.7	127.2	14.0	-77.01	-2,435.0	1,402.3	4,565.3	4,430.1	135.28	33.748			
15,000.0	7,500.0	7,491.5	7,478.9	128.9	14.0	-76.70	-2,435.0	1,402.3	4,665.3	4,528.5	136.82	34.098			
15,100.0	7,500.0	7,490.7	7,478.2	130.6	13.9	-76.39	-2,435.0	1,402.3	4,765.3	4,626.9	138.35	34.443			
15,200.0	7,500.0	7,489.9	7,477.4	132.4	13.9	-76.09	-2,435.0	1,402.3	4,865.2	4,725.3	139.88	34.782			
15,300.0	7,500.0	7,489.1	7,476.6	134.1	13.9	-75.78	-2,435.0	1,402.3	4,965.2	4,823.8	141.39	35.116			
15,400.0	7,500.0	7,488.4	7,475.8	135.8	13.9	-75.47	-2,435.0	1,402.3	5,065.1	4,922.2	142.90	35.445			
15,500.0	7,500.0	7,487.6	7,475.1	137.5	13.9	-75.16	-2,435.0	1,402.3	5,165.1	5,020.7	144.40	35.769			
15,600.0	7,500.0	7,487.0	7,474.5	139.2	13.9	-74.93	-2,435.0	1,402.3	5,265.1	5,119.1	145.94	36.076			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (Existing) - Existing - NO SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 8365-Geolink 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	153.50	-2,304.4	1,149.0	2,575.0					
100.0	100.0	95.0	95.0	0.2	0.2	153.50	-2,304.4	1,149.0	2,575.0	2,574.6	0.32	8,101.250		
200.0	200.0	195.0	195.0	0.3	0.3	153.50	-2,304.4	1,149.0	2,575.0	2,574.3	0.67	3,861.030		
300.0	300.0	295.0	295.0	0.5	0.5	153.50	-2,304.4	1,149.0	2,575.0	2,573.9	1.02	2,534.477		
400.0	400.0	395.0	395.0	0.7	0.7	87.37	-2,304.4	1,149.0	2,574.9	2,573.6	1.37	1,885.405		
500.0	500.0	495.0	495.0	0.9	0.9	87.43	-2,304.4	1,149.0	2,574.8	2,573.1	1.72	1,497.920		
600.0	599.9	594.9	594.9	1.0	1.0	87.53	-2,304.4	1,149.0	2,574.6	2,572.5	2.08	1,238.342		
700.0	699.7	694.7	694.7	1.2	1.2	87.67	-2,304.4	1,149.0	2,574.4	2,571.9	2.45	1,050.874		
800.0	799.4	794.4	794.4	1.4	1.4	87.85	-2,304.4	1,149.0	2,574.1	2,571.2	2.83	908.205		
900.0	898.9	893.9	893.9	1.7	1.6	88.06	-2,304.4	1,149.0	2,573.7	2,570.5	3.24	795.441		
1,000.0	998.3	993.3	993.3	1.9	1.7	88.32	-2,304.4	1,149.0	2,573.3	2,569.7	3.66	703.781		
1,100.0	1,097.4	1,092.4	1,092.4	2.2	1.9	88.61	-2,304.4	1,149.0	2,573.0	2,568.9	4.10	627.691		
1,200.0	1,196.3	1,191.3	1,191.3	2.5	2.1	88.94	-2,304.4	1,149.0	2,572.7	2,568.1	4.57	563.503		
1,300.0	1,294.9	1,289.9	1,289.9	2.8	2.3	89.30	-2,304.4	1,149.0	2,572.4	2,567.4	5.06	508.678		
1,400.0	1,393.3	1,388.3	1,388.3	3.2	2.4	89.70	-2,304.4	1,149.0	2,572.3	2,566.7	5.58	461.387		
1,469.1	1,461.0	1,456.0	1,456.0	3.4	2.5	90.00	-2,304.4	1,149.0	2,572.2	2,566.3	5.95	432.353		
1,484.0	1,475.6	1,470.6	1,470.6	3.5	2.6	90.07	-2,304.4	1,149.0	2,572.2	2,566.2	6.03	426.564		
1,500.0	1,491.3	1,486.3	1,486.3	3.5	2.6	90.14	-2,304.4	1,149.0	2,572.2	2,566.1	6.12	420.500		
1,600.0	1,589.1	1,584.1	1,584.1	3.9	2.8	90.58	-2,304.4	1,149.0	2,572.4	2,565.7	6.67	385.931		
1,700.0	1,687.0	1,682.0	1,682.0	4.3	2.9	91.03	-2,304.4	1,149.0	2,572.7	2,565.4	7.22	356.410		
1,800.0	1,784.9	1,779.9	1,779.9	4.7	3.1	91.48	-2,304.4	1,149.0	2,573.1	2,565.3	7.77	330.965		
1,900.0	1,882.7	1,877.7	1,877.7	5.1	3.3	91.93	-2,304.4	1,149.0	2,573.7	2,565.4	8.33	308.846		
2,000.0	1,980.6	1,975.6	1,975.6	5.4	3.4	92.37	-2,304.4	1,149.0	2,574.5	2,565.6	8.89	289.464		
2,100.0	2,078.5	2,073.5	2,073.5	5.8	3.6	92.82	-2,304.4	1,149.0	2,575.5	2,566.0	9.46	272.360		
2,200.0	2,176.4	2,171.4	2,171.4	6.2	3.8	93.27	-2,304.4	1,149.0	2,576.6	2,566.6	10.02	257.166		
2,300.0	2,274.2	2,269.2	2,269.2	6.6	4.0	93.71	-2,304.4	1,149.0	2,577.9	2,567.3	10.58	243.590		
2,400.0	2,372.1	2,367.1	2,367.1	7.0	4.1	94.16	-2,304.4	1,149.0	2,579.3	2,568.2	11.15	231.393		
2,500.0	2,470.0	2,465.0	2,465.0	7.4	4.3	94.60	-2,304.4	1,149.0	2,580.9	2,569.2	11.71	220.382		
2,600.0	2,567.8	2,562.8	2,562.8	7.8	4.5	95.05	-2,304.4	1,149.0	2,582.7	2,570.4	12.28	210.397		
2,700.0	2,665.7	2,660.7	2,660.7	8.2	4.6	95.49	-2,304.4	1,149.0	2,584.6	2,571.7	12.84	201.304		
2,800.0	2,763.6	2,758.6	2,758.6	8.6	4.8	95.93	-2,304.4	1,149.0	2,586.7	2,573.3	13.40	192.994		
2,900.0	2,861.5	2,856.5	2,856.5	9.0	5.0	96.37	-2,304.4	1,149.0	2,588.9	2,575.0	13.97	185.371		
3,000.0	2,959.3	2,954.3	2,954.3	9.4	5.2	96.82	-2,304.4	1,149.0	2,591.3	2,576.8	14.53	178.357		
3,100.0	3,057.2	3,052.2	3,052.2	9.8	5.3	97.26	-2,304.4	1,149.0	2,593.9	2,578.8	15.09	171.884		
3,200.0	3,155.1	3,150.1	3,150.1	10.2	5.5	97.70	-2,304.4	1,149.0	2,596.6	2,581.0	15.65	165.894		
3,300.0	3,253.0	3,248.0	3,248.0	10.6	5.7	98.13	-2,304.4	1,149.0	2,599.5	2,583.3	16.21	160.337		
3,400.0	3,350.8	3,345.8	3,345.8	11.0	5.8	98.57	-2,304.4	1,149.0	2,602.5	2,585.8	16.77	155.168		
3,500.0	3,448.7	3,443.7	3,443.7	11.4	6.0	99.01	-2,304.4	1,149.0	2,605.8	2,588.4	17.33	150.352		
3,600.0	3,546.6	3,541.6	3,541.6	11.8	6.2	99.44	-2,304.4	1,149.0	2,609.1	2,591.2	17.89	145.853		
3,700.0	3,644.4	3,639.4	3,639.4	12.2	6.4	99.88	-2,304.4	1,149.0	2,612.6	2,594.2	18.45	141.644		
3,800.0	3,742.3	3,737.3	3,737.3	12.6	6.5	100.31	-2,304.4	1,149.0	2,616.3	2,597.3	19.00	137.697		
3,900.0	3,840.2	3,835.2	3,835.2	13.0	6.7	100.75	-2,304.4	1,149.0	2,620.1	2,600.6	19.55	133.992		
4,000.0	3,938.1	3,933.1	3,933.1	13.4	6.9	101.18	-2,304.4	1,149.0	2,624.1	2,604.0	20.11	130.506		
4,100.0	4,035.9	4,030.9	4,030.9	13.8	7.0	101.61	-2,304.4	1,149.0	2,628.2	2,607.6	20.66	127.223		
4,200.0	4,133.8	4,128.8	4,128.8	14.2	7.2	102.04	-2,304.4	1,149.0	2,632.5	2,611.3	21.21	124.126		
4,300.0	4,231.7	4,226.7	4,226.7	14.6	7.4	102.46	-2,304.4	1,149.0	2,637.0	2,615.2	21.76	121.201		
4,400.0	4,329.5	4,324.5	4,324.5	15.0	7.5	102.89	-2,304.4	1,149.0	2,641.6	2,619.3	22.30	118.434		
4,500.0	4,427.4	4,422.4	4,422.4	15.4	7.7	103.31	-2,304.4	1,149.0	2,646.3	2,623.5	22.85	115.815		
4,600.0	4,525.3	4,520.3	4,520.3	15.8	7.9	103.74	-2,304.4	1,149.0	2,651.2	2,627.8	23.39	113.331		
4,700.0	4,623.2	4,618.2	4,618.2	16.2	8.1	104.16	-2,304.4	1,149.0	2,656.3	2,632.3	23.94	110.974		
4,800.0	4,721.0	4,716.0	4,716.0	16.7	8.2	104.58	-2,304.4	1,149.0	2,661.5	2,637.0	24.48	108.736		
4,900.0	4,818.9	4,813.9	4,813.9	17.1	8.4	104.99	-2,304.4	1,149.0	2,666.8	2,641.8	25.02	106.607		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (Existing) - Existing - NO SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 8365-Geolink 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	4,916.8	4,911.8	4,911.8	17.5	8.6	105.41	-2,304.4	1,149.0	2,672.3	2,646.7	25.55	104.580	
5,100.0	5,014.7	5,009.7	5,009.7	17.9	8.7	105.83	-2,304.4	1,149.0	2,677.9	2,651.8	26.09	102.650	
5,200.0	5,112.5	5,107.5	5,107.5	18.3	8.9	106.24	-2,304.4	1,149.0	2,683.7	2,657.1	26.62	100.810	
5,300.0	5,210.4	5,205.4	5,205.4	18.7	9.1	106.65	-2,304.4	1,149.0	2,689.6	2,662.5	27.15	99.054	
5,400.0	5,308.3	5,303.3	5,303.3	19.1	9.3	107.06	-2,304.4	1,149.0	2,695.7	2,668.0	27.68	97.377	
5,500.0	5,406.1	5,401.1	5,401.1	19.5	9.4	107.47	-2,304.4	1,149.0	2,701.9	2,673.7	28.21	95.774	
5,600.0	5,504.0	5,499.0	5,499.0	19.9	9.6	107.87	-2,304.4	1,149.0	2,708.3	2,679.5	28.74	94.242	
5,700.0	5,601.9	5,596.9	5,596.9	20.3	9.8	108.28	-2,304.4	1,149.0	2,714.8	2,685.5	29.26	92.776	
5,800.0	5,699.8	5,694.8	5,694.8	20.7	9.9	108.68	-2,304.4	1,149.0	2,721.4	2,691.6	29.78	91.372	
5,900.0	5,797.6	5,792.6	5,792.6	21.1	10.1	109.08	-2,304.4	1,149.0	2,728.2	2,697.9	30.30	90.027	
6,000.0	5,895.5	5,890.5	5,890.5	21.5	10.3	109.48	-2,304.4	1,149.0	2,735.1	2,704.2	30.82	88.737	
6,100.0	5,993.4	5,988.4	5,988.4	21.9	10.5	109.88	-2,304.4	1,149.0	2,742.1	2,710.8	31.34	87.501	
6,200.0	6,091.2	6,086.2	6,086.2	22.3	10.6	110.27	-2,304.4	1,149.0	2,749.3	2,717.4	31.85	86.314	
6,300.0	6,189.1	6,184.1	6,184.1	22.7	10.8	110.66	-2,304.4	1,149.0	2,756.6	2,724.2	32.36	85.174	
6,400.0	6,287.0	6,282.0	6,282.0	23.1	11.0	111.05	-2,304.4	1,149.0	2,764.0	2,731.2	32.87	84.079	
6,500.0	6,384.9	6,379.9	6,379.9	23.5	11.1	111.44	-2,304.4	1,149.0	2,771.6	2,738.2	33.38	83.027	
6,600.0	6,482.7	6,477.7	6,477.7	23.9	11.3	111.83	-2,304.4	1,149.0	2,779.3	2,745.4	33.89	82.015	
6,700.0	6,580.6	6,575.6	6,575.6	24.3	11.5	112.21	-2,304.4	1,149.0	2,787.2	2,752.8	34.39	81.042	
6,800.0	6,678.5	6,673.5	6,673.5	24.7	11.6	112.60	-2,304.4	1,149.0	2,795.1	2,760.2	34.89	80.105	
6,900.0	6,776.4	6,771.4	6,771.4	25.1	11.8	112.98	-2,304.4	1,149.0	2,803.2	2,767.8	35.39	79.203	
7,000.0	6,874.2	6,869.2	6,869.2	25.5	12.0	113.35	-2,304.4	1,149.0	2,811.4	2,775.5	35.89	78.335	
7,016.7	6,890.6	6,885.6	6,885.6	25.6	12.0	113.42	-2,304.4	1,149.0	2,812.8	2,776.8	35.97	78.193	
7,050.0	6,923.2	6,918.2	6,918.2	25.7	12.1	97.57	-2,304.4	1,149.0	2,814.6	2,778.5	36.13	77.906	
7,100.0	6,972.3	6,967.3	6,967.3	25.9	12.2	72.35	-2,304.4	1,149.0	2,813.7	2,777.6	36.17	77.783	
7,150.0	7,021.1	7,016.1	7,016.1	26.0	12.2	52.68	-2,304.4	1,149.0	2,808.5	2,772.5	35.99	78.027	
7,200.0	7,069.3	7,064.3	7,064.3	26.1	12.3	39.98	-2,304.4	1,149.0	2,799.0	2,763.4	35.59	78.646	
7,250.0	7,116.5	7,111.5	7,111.5	26.2	12.4	31.99	-2,304.4	1,149.0	2,785.3	2,750.4	34.97	79.655	
7,300.0	7,162.3	7,157.3	7,157.3	26.2	12.5	26.79	-2,304.4	1,149.0	2,767.5	2,733.4	34.13	81.079	
7,350.0	7,206.4	7,201.4	7,201.4	26.3	12.6	23.28	-2,304.4	1,149.0	2,745.7	2,712.6	33.10	82.954	
7,400.0	7,248.4	7,243.4	7,243.4	26.3	12.6	20.84	-2,304.4	1,149.0	2,720.1	2,688.3	31.88	85.324	
7,450.0	7,288.1	7,283.1	7,283.1	26.3	12.7	19.14	-2,304.4	1,149.0	2,690.9	2,660.4	30.50	88.241	
7,500.0	7,325.1	7,320.1	7,320.1	26.3	12.8	17.99	-2,304.4	1,149.0	2,658.3	2,629.3	28.97	91.765	
7,550.0	7,359.2	7,354.2	7,354.2	26.3	12.8	17.26	-2,304.4	1,149.0	2,622.6	2,595.2	27.33	95.953	
7,600.0	7,390.0	7,385.0	7,385.0	26.3	12.9	16.91	-2,304.4	1,149.0	2,583.9	2,558.3	25.62	100.845	
7,650.0	7,417.4	7,412.4	7,412.4	26.3	12.9	16.92	-2,304.4	1,149.0	2,542.7	2,518.8	23.89	106.424	
7,700.0	7,441.2	7,436.2	7,436.2	26.3	13.0	17.37	-2,304.4	1,149.0	2,499.2	2,476.9	22.21	112.537	
7,750.0	7,461.1	7,456.1	7,456.1	26.3	13.0	18.38	-2,304.4	1,149.0	2,453.7	2,433.0	20.66	118.737	
7,800.0	7,477.0	7,472.0	7,472.0	26.3	13.0	20.32	-2,304.4	1,149.0	2,406.6	2,387.2	19.41	123.961	
7,850.0	7,488.8	7,483.8	7,483.8	26.4	13.1	24.14	-2,304.4	1,149.0	2,358.2	2,339.5	18.74	125.848	
7,900.0	7,496.5	7,491.5	7,491.5	26.4	13.1	33.20	-2,304.4	1,149.0	2,309.0	2,289.5	19.45	118.731	
7,950.0	7,499.8	7,494.8	7,494.8	26.5	13.1	66.63	-2,304.4	1,149.0	2,259.2	2,234.2	25.01	90.317	
7,964.3	7,500.0	7,495.0	7,495.0	26.5	13.1	90.00	-2,304.4	1,149.0	2,244.9	2,217.9	26.98	83.214	
8,000.0	7,500.0	7,495.0	7,495.0	26.6	13.1	90.00	-2,304.4	1,149.0	2,209.3	2,182.2	27.12	81.465	
8,100.0	7,500.0	7,495.0	7,495.0	26.8	13.1	90.00	-2,304.4	1,149.0	2,109.4	2,081.8	27.65	76.282	
8,200.0	7,500.0	7,495.0	7,495.0	27.2	13.1	90.00	-2,304.4	1,149.0	2,009.6	1,981.2	28.37	70.833	
8,300.0	7,500.0	7,495.0	7,495.0	27.7	13.1	90.00	-2,304.4	1,149.0	1,909.8	1,880.5	29.25	65.297	
8,400.0	7,500.0	7,495.0	7,495.0	28.3	13.1	90.00	-2,304.4	1,149.0	1,810.0	1,779.7	30.26	59.816	
8,500.0	7,500.0	7,495.0	7,495.0	29.0	13.1	90.00	-2,304.4	1,149.0	1,710.2	1,678.8	31.38	54.494	
8,600.0	7,500.0	7,495.0	7,495.0	29.8	13.1	90.00	-2,304.4	1,149.0	1,610.5	1,577.9	32.60	49.399	
8,700.0	7,500.0	7,495.0	7,495.0	30.6	13.1	90.00	-2,304.4	1,149.0	1,510.7	1,476.9	33.90	44.571	
8,800.0	7,500.0	7,495.0	7,495.0	31.5	13.1	90.00	-2,304.4	1,149.0	1,411.1	1,375.8	35.25	40.028	
8,900.0	7,500.0	7,495.0	7,495.0	32.5	13.1	90.00	-2,304.4	1,149.0	1,311.4	1,274.8	36.66	35.771	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (Existing) - Existing - NO SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 8365-Geolink 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
9,000.0	7,500.0	7,495.0	7,495.0	33.6	13.1	90.00	-2,304.4	1,149.0	1,211.9	1,173.8	38.12	31.795	
9,100.0	7,500.0	7,495.0	7,495.0	34.7	13.1	90.00	-2,304.4	1,149.0	1,112.4	1,072.8	39.61	28.087	
9,200.0	7,500.0	7,495.0	7,495.0	35.9	13.1	90.00	-2,304.4	1,149.0	1,013.0	971.9	41.13	24.632	
9,300.0	7,500.0	7,495.0	7,495.0	37.1	13.1	90.00	-2,304.4	1,149.0	913.8	871.1	42.67	21.414	
9,400.0	7,500.0	7,495.0	7,495.0	38.3	13.1	90.00	-2,304.4	1,149.0	814.7	770.5	44.24	18.415	
9,500.0	7,500.0	7,495.0	7,495.0	39.6	13.1	90.00	-2,304.4	1,149.0	715.9	670.1	45.83	15.621	
9,600.0	7,500.0	7,495.0	7,495.0	41.0	13.1	90.00	-2,304.4	1,149.0	617.5	570.0	47.43	13.018	
9,700.0	7,500.0	7,495.0	7,495.0	42.3	13.1	90.00	-2,304.4	1,149.0	519.6	470.6	49.05	10.595	
9,800.0	7,500.0	7,495.0	7,495.0	43.7	13.1	90.00	-2,304.4	1,149.0	422.8	372.2	50.68	8.344	
9,900.0	7,500.0	7,495.0	7,495.0	45.1	13.1	90.00	-2,304.4	1,149.0	328.0	275.6	52.32	6.269	
10,000.0	7,500.0	7,495.0	7,495.0	46.6	13.1	90.00	-2,304.4	1,149.0	237.3	183.4	53.97	4.398	
10,100.0	7,500.0	7,495.0	7,495.0	48.0	13.1	90.00	-2,304.4	1,149.0	158.4	102.8	55.63	2.848	
10,200.0	7,500.0	7,495.0	7,495.0	49.5	13.1	90.00	-2,304.4	1,149.0	117.7	60.4	57.29	2.055	
10,206.2	7,500.0	7,495.0	7,495.0	49.6	13.1	90.00	-2,304.4	1,149.0	117.6	60.2	57.39	2.048	CC, ES, SF
10,300.0	7,500.0	7,495.0	7,495.0	51.0	13.1	90.00	-2,304.4	1,149.0	150.4	91.5	58.96	2.551	
10,400.0	7,500.0	7,495.0	7,495.0	52.5	13.1	90.00	-2,304.4	1,149.0	226.7	166.1	60.64	3.738	
10,500.0	7,500.0	7,495.0	7,495.0	54.0	13.1	90.00	-2,304.4	1,149.0	316.5	254.2	62.32	5.078	
10,600.0	7,500.0	7,495.0	7,495.0	55.6	13.1	90.00	-2,304.4	1,149.0	411.0	347.0	64.01	6.421	
10,700.0	7,500.0	7,495.0	7,495.0	57.1	13.1	90.00	-2,304.4	1,149.0	507.6	441.9	65.71	7.726	
10,800.0	7,500.0	7,495.0	7,495.0	58.7	13.1	90.00	-2,304.4	1,149.0	605.4	538.0	67.40	8.981	
10,900.0	7,500.0	7,495.0	7,495.0	60.3	13.1	90.00	-2,304.4	1,149.0	703.7	634.6	69.10	10.184	
11,000.0	7,500.0	7,495.0	7,495.0	61.9	13.1	90.00	-2,304.4	1,149.0	802.5	731.7	70.80	11.334	
11,100.0	7,500.0	7,495.0	7,495.0	63.5	13.1	90.00	-2,304.4	1,149.0	901.5	829.0	72.51	12.433	
11,200.0	7,500.0	7,495.0	7,495.0	65.1	13.1	90.00	-2,304.4	1,149.0	1,000.8	926.5	74.22	13.484	
11,300.0	7,500.0	7,495.0	7,495.0	66.7	13.1	90.00	-2,304.4	1,149.0	1,100.1	1,024.2	75.93	14.489	
11,400.0	7,500.0	7,495.0	7,495.0	68.3	13.1	90.00	-2,304.4	1,149.0	1,199.6	1,122.0	77.64	15.450	
11,500.0	7,500.0	7,495.0	7,495.0	69.9	13.1	90.00	-2,304.4	1,149.0	1,299.2	1,219.8	79.36	16.370	
11,600.0	7,500.0	7,495.0	7,495.0	71.5	13.1	90.00	-2,304.4	1,149.0	1,398.8	1,317.7	81.08	17.252	
11,700.0	7,500.0	7,495.0	7,495.0	73.2	13.1	90.00	-2,304.4	1,149.0	1,498.5	1,415.7	82.80	18.098	
11,800.0	7,500.0	7,495.0	7,495.0	74.8	13.1	90.00	-2,304.4	1,149.0	1,598.2	1,513.6	84.52	18.909	
11,900.0	7,500.0	7,495.0	7,495.0	76.5	13.1	90.00	-2,304.4	1,149.0	1,697.9	1,611.7	86.24	19.688	
12,000.0	7,500.0	7,495.0	7,495.0	78.1	13.1	90.00	-2,304.4	1,149.0	1,797.7	1,709.7	87.97	20.436	
12,100.0	7,500.0	7,495.0	7,495.0	79.8	13.1	90.00	-2,304.4	1,149.0	1,897.5	1,807.8	89.69	21.156	
12,200.0	7,500.0	7,495.0	7,495.0	81.4	13.1	90.00	-2,304.4	1,149.0	1,997.3	1,905.9	91.42	21.848	
12,300.0	7,500.0	7,495.0	7,495.0	83.1	13.1	90.00	-2,304.4	1,149.0	2,097.1	2,004.0	93.15	22.515	
12,400.0	7,500.0	7,495.0	7,495.0	84.8	13.1	90.00	-2,304.4	1,149.0	2,197.0	2,102.1	94.87	23.157	
12,500.0	7,500.0	7,495.0	7,495.0	86.4	13.1	90.00	-2,304.4	1,149.0	2,296.8	2,200.2	96.60	23.776	
12,600.0	7,500.0	7,495.0	7,495.0	88.1	13.1	90.00	-2,304.4	1,149.0	2,396.7	2,298.4	98.34	24.373	
12,700.0	7,500.0	7,495.0	7,495.0	89.8	13.1	90.00	-2,304.4	1,149.0	2,496.6	2,396.5	100.07	24.949	
12,800.0	7,500.0	7,495.0	7,495.0	91.5	13.1	90.00	-2,304.4	1,149.0	2,596.5	2,494.7	101.80	25.506	
12,900.0	7,500.0	7,495.0	7,495.0	93.2	13.1	90.00	-2,304.4	1,149.0	2,696.4	2,592.9	103.53	26.043	
13,000.0	7,500.0	7,495.0	7,495.0	94.8	13.1	90.00	-2,304.4	1,149.0	2,796.3	2,691.0	105.27	26.563	
13,100.0	7,500.0	7,495.0	7,495.0	96.5	13.1	90.00	-2,304.4	1,149.0	2,896.2	2,789.2	107.00	27.066	
13,200.0	7,500.0	7,495.0	7,495.0	98.2	13.1	90.00	-2,304.4	1,149.0	2,996.1	2,887.4	108.74	27.553	
13,300.0	7,500.0	7,495.0	7,495.0	99.9	13.1	90.00	-2,304.4	1,149.0	3,096.1	2,985.6	110.48	28.025	
13,400.0	7,500.0	7,495.0	7,495.0	101.6	13.1	90.00	-2,304.4	1,149.0	3,196.0	3,083.8	112.21	28.481	
13,500.0	7,500.0	7,495.0	7,495.0	103.3	13.1	90.00	-2,304.4	1,149.0	3,295.9	3,182.0	113.95	28.924	
13,600.0	7,500.0	7,495.0	7,495.0	105.0	13.1	90.00	-2,304.4	1,149.0	3,395.9	3,280.2	115.69	29.353	
13,700.0	7,500.0	7,495.0	7,495.0	106.7	13.1	90.00	-2,304.4	1,149.0	3,495.8	3,378.4	117.43	29.770	
13,800.0	7,500.0	7,495.0	7,495.0	108.4	13.1	90.00	-2,304.4	1,149.0	3,595.8	3,476.6	119.17	30.174	
13,900.0	7,500.0	7,495.0	7,495.0	110.1	13.1	90.00	-2,304.4	1,149.0	3,695.7	3,574.8	120.91	30.566	
14,000.0	7,500.0	7,495.0	7,495.0	111.8	13.1	90.00	-2,304.4	1,149.0	3,795.7	3,673.0	122.65	30.948	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 24-7 (Existing) - Existing - NO SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 8365-Geolink 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
14,100.0	7,500.0	7,495.0	7,495.0	113.5	13.1	90.00	-2,304.4	1,149.0	3,895.6	3,771.2	124.39	31.318	
14,200.0	7,500.0	7,495.0	7,495.0	115.2	13.1	90.00	-2,304.4	1,149.0	3,995.6	3,869.4	126.13	31.678	
14,300.0	7,500.0	7,495.0	7,495.0	116.9	13.1	90.00	-2,304.4	1,149.0	4,095.5	3,967.7	127.87	32.028	
14,400.0	7,500.0	7,495.0	7,495.0	118.6	13.1	90.00	-2,304.4	1,149.0	4,195.5	4,065.9	129.61	32.369	
14,500.0	7,500.0	7,495.0	7,495.0	120.3	13.1	90.00	-2,304.4	1,149.0	4,295.4	4,164.1	131.36	32.701	
14,600.0	7,500.0	7,495.0	7,495.0	122.1	13.1	90.00	-2,304.4	1,149.0	4,395.4	4,262.3	133.10	33.024	
14,700.0	7,500.0	7,495.0	7,495.0	123.8	13.1	90.00	-2,304.4	1,149.0	4,495.4	4,360.5	134.84	33.338	
14,800.0	7,500.0	7,495.0	7,495.0	125.5	13.1	90.00	-2,304.4	1,149.0	4,595.3	4,458.8	136.58	33.645	
14,900.0	7,500.0	7,495.0	7,495.0	127.2	13.1	90.00	-2,304.4	1,149.0	4,695.3	4,557.0	138.33	33.943	
15,000.0	7,500.0	7,495.0	7,495.0	128.9	13.1	90.00	-2,304.4	1,149.0	4,795.3	4,655.2	140.07	34.235	
15,100.0	7,500.0	7,495.0	7,495.0	130.6	13.1	90.00	-2,304.4	1,149.0	4,895.2	4,753.4	141.82	34.518	
15,200.0	7,500.0	7,495.0	7,495.0	132.4	13.1	90.00	-2,304.4	1,149.0	4,995.2	4,851.7	143.56	34.795	
15,300.0	7,500.0	7,495.0	7,495.0	134.1	13.1	90.00	-2,304.4	1,149.0	5,095.2	4,949.9	145.30	35.066	
15,400.0	7,500.0	7,495.0	7,495.0	135.8	13.1	90.00	-2,304.4	1,149.0	5,195.2	5,048.1	147.05	35.329	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 2-8-7 (EXISTING) - ENCANA WELL - SUR													Offset Site Error: 0.0 ft		
Survey Program: 838-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	11.7	11.7	0.0	0.0	153.76	-2,332.8	1,149.9	2,600.8						
100.0	100.0	118.1	118.1	0.2	0.2	153.76	-2,332.7	1,149.7	2,600.6	2,600.3	0.36	7,309.205			
200.0	200.0	224.6	224.6	0.3	0.4	153.77	-2,332.5	1,149.2	2,600.2	2,599.5	0.71	3,641.480			
300.0	300.0	331.0	331.0	0.5	0.6	153.78	-2,332.1	1,148.4	2,599.6	2,598.5	1.07	2,424.294			
400.0	400.0	437.4	437.4	0.7	0.8	87.68	-2,331.6	1,147.4	2,598.7	2,597.2	1.43	1,812.032			
500.0	500.0	543.8	543.7	0.9	1.0	87.78	-2,330.9	1,146.0	2,597.4	2,595.6	1.80	1,445.273			
600.0	599.9	650.0	649.9	1.0	1.1	87.92	-2,330.1	1,144.3	2,595.9	2,593.7	2.17	1,197.815			
700.0	699.7	756.1	756.0	1.2	1.3	88.11	-2,329.1	1,142.4	2,594.0	2,591.5	2.55	1,018.222			
800.0	799.4	853.7	853.6	1.4	1.5	88.33	-2,328.1	1,140.4	2,592.0	2,589.0	2.93	885.237			
900.0	898.9	908.4	908.3	1.7	1.6	88.47	-2,327.8	1,139.7	2,590.9	2,587.6	3.25	796.973			
925.4	924.2	927.9	927.8	1.7	1.6	88.51	-2,327.9	1,139.7	2,590.8	2,587.5	3.35	773.955			
1,000.0	998.3	984.2	984.1	1.9	1.7	88.67	-2,328.5	1,139.3	2,591.1	2,587.5	3.63	713.295			
1,100.0	1,097.4	1,060.0	1,059.9	2.2	1.9	88.92	-2,330.5	1,138.0	2,592.5	2,588.4	4.04	641.729			
1,200.0	1,196.3	1,111.0	1,110.7	2.5	2.0	89.11	-2,332.8	1,136.7	2,595.2	2,590.8	4.43	585.490			
1,300.0	1,294.9	1,176.1	1,175.8	2.8	2.1	89.38	-2,337.0	1,134.7	2,599.5	2,594.6	4.87	533.315			
1,400.0	1,393.3	1,253.8	1,253.2	3.2	2.2	89.75	-2,342.9	1,131.6	2,604.8	2,599.5	5.37	484.631			
1,484.0	1,475.6	1,351.9	1,350.8	3.5	2.4	90.28	-2,350.2	1,127.5	2,609.3	2,603.4	5.88	443.607			
1,500.0	1,491.3	1,364.3	1,363.3	3.5	2.4	90.35	-2,351.2	1,126.9	2,610.2	2,604.2	5.97	437.426			
1,600.0	1,589.1	1,455.0	1,453.5	3.9	2.6	90.90	-2,358.4	1,122.6	2,616.1	2,609.6	6.53	400.670			
1,700.0	1,687.0	1,545.6	1,543.8	4.3	2.8	91.45	-2,365.7	1,118.5	2,622.3	2,615.3	7.10	369.516			
1,800.0	1,784.9	1,623.2	1,621.0	4.7	3.0	91.92	-2,372.3	1,114.8	2,629.3	2,621.7	7.65	343.891			
1,900.0	1,882.7	1,696.2	1,693.5	5.1	3.2	92.38	-2,379.3	1,110.9	2,637.4	2,629.2	8.19	321.985			
2,000.0	1,980.6	1,769.9	1,766.7	5.4	3.3	92.85	-2,387.1	1,106.8	2,646.6	2,637.8	8.74	302.713			
2,100.0	2,078.5	1,857.0	1,853.1	5.8	3.6	93.42	-2,397.0	1,101.1	2,656.5	2,647.2	9.33	284.581			
2,200.0	2,176.4	1,923.5	1,918.8	6.2	3.8	93.87	-2,405.2	1,096.3	2,667.4	2,657.6	9.88	269.857			
2,300.0	2,274.2	1,996.4	1,990.9	6.6	4.0	94.37	-2,415.2	1,090.8	2,679.8	2,669.3	10.46	256.302			
2,400.0	2,372.1	2,071.7	2,065.1	7.0	4.2	94.89	-2,426.0	1,084.5	2,693.0	2,682.0	11.04	243.983			
2,500.0	2,470.0	2,143.0	2,135.3	7.4	4.4	95.40	-2,437.2	1,078.2	2,707.6	2,696.0	11.61	233.115			
2,600.0	2,567.8	2,248.2	2,238.7	7.8	4.7	96.14	-2,453.7	1,069.1	2,722.7	2,710.4	12.27	221.914			
2,700.0	2,665.7	2,351.8	2,340.7	8.2	5.1	96.85	-2,469.5	1,060.4	2,737.7	2,724.8	12.92	211.925			
2,800.0	2,763.6	2,453.2	2,440.7	8.6	5.4	97.55	-2,484.5	1,051.5	2,752.7	2,739.1	13.56	202.945			
2,900.0	2,861.5	2,547.6	2,533.6	9.0	5.7	98.20	-2,498.6	1,042.5	2,768.0	2,753.8	14.20	194.961			
3,000.0	2,959.3	2,637.5	2,622.0	9.4	6.0	98.83	-2,512.1	1,033.4	2,783.7	2,768.9	14.82	187.881			
3,100.0	3,057.2	2,720.9	2,704.0	9.8	6.3	99.39	-2,524.7	1,025.5	2,800.0	2,784.6	15.41	181.704			
3,200.0	3,155.1	2,810.3	2,792.0	10.2	6.6	99.98	-2,538.5	1,017.8	2,817.0	2,801.0	16.01	175.948			
3,300.0	3,253.0	2,915.8	2,895.9	10.6	6.9	100.66	-2,554.3	1,008.9	2,834.0	2,817.3	16.64	170.284			
3,400.0	3,350.8	3,011.9	2,990.7	11.0	7.3	101.27	-2,568.7	1,000.8	2,851.3	2,834.0	17.25	165.281			
3,500.0	3,448.7	3,107.2	3,084.5	11.4	7.6	101.88	-2,582.6	992.4	2,868.6	2,850.8	17.85	160.669			
3,600.0	3,546.6	3,204.8	3,180.6	11.8	7.9	102.49	-2,597.2	984.0	2,886.5	2,868.1	18.46	156.394			
3,700.0	3,644.4	3,314.5	3,288.9	12.2	8.3	103.16	-2,612.7	974.6	2,904.0	2,885.0	19.07	152.247			
3,800.0	3,742.3	3,396.9	3,370.2	12.6	8.5	103.65	-2,624.3	968.0	2,921.9	2,902.3	19.64	148.809			
3,900.0	3,840.2	3,472.6	3,444.7	13.0	8.8	104.11	-2,635.5	961.4	2,940.6	2,920.4	20.19	145.680			
4,000.0	3,938.1	3,548.5	3,519.4	13.4	9.1	104.58	-2,647.2	954.2	2,960.2	2,939.5	20.74	142.754			
4,100.0	4,035.9	3,672.6	3,641.5	13.8	9.5	105.33	-2,666.0	942.8	2,979.8	2,958.5	21.37	139.434			
4,200.0	4,133.8	3,781.5	3,748.9	14.2	9.9	105.97	-2,681.7	933.2	2,999.0	2,977.1	21.96	136.552			
4,300.0	4,231.7	3,885.4	3,851.5	14.6	10.2	106.55	-2,696.1	924.9	3,018.2	2,995.6	22.54	133.889			
4,400.0	4,329.5	3,975.3	3,940.1	15.0	10.5	107.07	-2,708.5	916.8	3,037.4	3,014.3	23.10	131.516			
4,500.0	4,427.4	4,055.2	4,018.9	15.4	10.8	107.52	-2,719.8	909.6	3,057.2	3,033.6	23.63	129.370			
4,600.0	4,525.3	4,130.8	4,093.2	15.8	11.0	107.96	-2,730.9	901.9	3,077.8	3,053.7	24.16	127.389			
4,700.0	4,623.2	4,210.4	4,171.5	16.2	11.3	108.41	-2,743.1	894.1	3,099.3	3,074.6	24.69	125.540			
4,800.0	4,721.0	4,329.9	4,289.1	16.7	11.7	109.08	-2,761.3	883.0	3,121.0	3,095.7	25.28	123.467			
4,900.0	4,818.9	4,465.0	4,422.4	17.1	12.2	109.81	-2,779.3	870.8	3,140.9	3,115.0	25.88	121.360			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 2-8-7 (EXISTING) - ENCANA WELL - SUR												Offset Site Error: 0.0 ft			
Survey Program: 838-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	4,916.8	4,534.7	4,491.2	17.5	12.4	110.18	-2,788.7	864.4	3,161.5	3,135.1	26.38	119.853			
5,100.0	5,014.7	4,647.1	4,602.1	17.9	12.8	110.77	-2,804.2	854.3	3,182.5	3,155.6	26.93	118.162			
5,200.0	5,112.5	4,707.5	4,661.7	18.3	13.0	111.09	-2,812.6	848.9	3,204.0	3,176.6	27.41	116.894			
5,300.0	5,210.4	4,783.0	4,735.9	18.7	13.3	111.48	-2,824.0	841.7	3,226.8	3,198.9	27.91	115.616			
5,400.0	5,308.3	4,934.0	4,884.7	19.1	13.8	112.26	-2,845.4	827.6	3,248.9	3,220.4	28.51	113.965			
5,500.0	5,406.1	5,027.4	4,977.0	19.5	14.1	112.73	-2,857.8	819.1	3,270.4	3,241.4	29.02	112.694			
5,600.0	5,504.0	5,121.5	5,069.8	19.9	14.4	113.20	-2,870.3	810.4	3,292.2	3,262.7	29.53	111.505			
5,700.0	5,601.9	5,210.7	5,157.8	20.3	14.7	113.62	-2,882.1	803.0	3,314.2	3,284.2	30.01	110.427			
5,800.0	5,699.8	5,329.0	5,274.8	20.7	15.0	114.16	-2,897.9	794.2	3,336.5	3,305.9	30.53	109.276			
5,900.0	5,797.6	5,442.6	5,387.1	21.1	15.4	114.68	-2,912.0	785.0	3,357.9	3,326.8	31.05	108.141			
6,000.0	5,895.5	5,512.1	5,455.8	21.5	15.6	115.00	-2,920.6	779.0	3,379.7	3,348.2	31.51	107.263			
6,100.0	5,993.4	5,588.5	5,531.3	21.9	15.9	115.35	-2,930.7	772.5	3,402.4	3,370.4	31.98	106.405			
6,200.0	6,091.2	5,692.9	5,634.4	22.3	16.2	115.83	-2,944.6	763.2	3,425.4	3,392.9	32.47	105.495			
6,300.0	6,189.1	5,857.2	5,796.9	22.7	16.7	116.55	-2,964.6	749.8	3,447.5	3,414.5	33.02	104.398			
6,400.0	6,287.0	5,933.0	5,872.0	23.1	16.9	116.87	-2,973.2	743.8	3,468.9	3,435.5	33.47	103.631			
6,500.0	6,384.9	6,043.7	5,981.5	23.5	17.3	117.33	-2,986.0	735.4	3,490.8	3,456.8	33.95	102.816			
6,600.0	6,482.7	6,510.5	6,446.8	23.9	18.1	118.98	-3,015.0	717.8	3,507.1	3,472.4	34.69	101.094			
6,700.0	6,580.6	6,668.6	6,604.8	24.3	18.3	119.45	-3,015.6	717.1	3,517.7	3,482.5	35.17	100.029			
6,800.0	6,678.5	6,775.3	6,711.6	24.7	18.4	119.77	-3,015.0	716.9	3,527.4	3,491.8	35.61	99.064			
6,900.0	6,776.4	6,886.5	6,822.8	25.1	18.5	120.10	-3,014.1	716.6	3,537.1	3,501.0	36.05	98.112			
7,000.0	6,874.2	6,987.6	6,923.9	25.5	18.6	120.40	-3,013.0	716.3	3,546.4	3,510.0	36.49	97.194			
7,016.7	6,890.6	7,003.6	6,939.9	25.6	18.7	120.44	-3,012.8	716.2	3,548.0	3,511.5	36.56	97.045			
7,050.0	6,923.2	7,034.7	6,971.0	25.7	18.7	104.54	-3,012.4	716.1	3,550.2	3,513.5	36.71	96.718			
7,100.0	6,972.3	7,081.3	7,017.5	25.9	18.7	79.28	-3,011.9	715.8	3,550.0	3,513.3	36.72	96.667			
7,150.0	7,021.1	7,127.5	7,063.8	26.0	18.8	59.63	-3,011.5	715.5	3,545.5	3,509.0	36.50	97.142			
7,200.0	7,069.3	7,168.2	7,104.4	26.1	18.8	47.00	-3,011.1	715.2	3,536.8	3,500.8	36.03	98.158			
7,250.0	7,116.5	7,206.8	7,143.1	26.2	18.9	39.12	-3,010.8	714.8	3,524.1	3,488.7	35.34	99.729			
7,300.0	7,162.3	7,250.0	7,186.3	26.2	18.9	34.13	-3,010.6	714.4	3,507.3	3,472.9	34.43	101.868			
7,350.0	7,206.4	7,301.3	7,237.5	26.3	19.0	30.96	-3,010.3	713.6	3,486.5	3,453.2	33.33	104.599			
7,400.0	7,248.4	7,343.4	7,279.6	26.3	19.1	28.93	-3,009.9	712.8	3,461.9	3,429.9	32.06	107.998			
7,450.0	7,288.1	7,376.9	7,313.1	26.3	19.1	27.71	-3,009.6	712.3	3,433.7	3,403.1	30.63	112.093			
7,500.0	7,325.1	7,408.2	7,344.4	26.3	19.1	27.16	-3,009.4	711.8	3,402.2	3,373.1	29.11	116.862			
7,550.0	7,359.2	7,439.0	7,375.2	26.3	19.2	27.23	-3,009.3	711.3	3,367.6	3,340.1	27.56	122.210			
7,600.0	7,390.0	7,468.7	7,405.0	26.3	19.2	27.93	-3,009.2	710.8	3,330.1	3,304.1	26.04	127.874			
7,650.0	7,417.4	7,495.2	7,431.4	26.3	19.2	29.31	-3,009.1	710.5	3,290.0	3,265.3	24.68	133.288			
7,700.0	7,441.2	7,519.0	7,455.2	26.3	19.3	31.58	-3,009.0	710.1	3,247.6	3,224.0	23.64	137.359			
7,750.0	7,461.1	7,537.5	7,473.7	26.3	19.3	35.03	-3,009.0	709.9	3,203.2	3,180.1	23.14	138.405			
7,800.0	7,477.0	7,553.0	7,489.2	26.3	19.3	40.33	-3,009.0	709.7	3,157.2	3,133.7	23.51	134.292			
7,850.0	7,488.8	7,564.5	7,500.7	26.4	19.3	48.66	-3,008.9	709.6	3,109.8	3,084.7	25.12	123.819			
7,900.0	7,496.5	7,571.9	7,508.1	26.4	19.3	62.04	-3,008.9	709.5	3,061.5	3,033.4	28.10	108.941			
7,950.0	7,499.8	7,575.1	7,511.3	26.5	19.3	82.80	-3,008.9	709.5	3,012.6	2,981.5	31.18	96.632			
7,964.3	7,500.0	7,575.2	7,511.4	26.5	19.3	90.04	-3,008.9	709.5	2,998.6	2,967.0	31.57	94.993			
8,000.0	7,500.0	7,575.2	7,511.4	26.6	19.3	90.04	-3,008.9	709.5	2,963.5	2,931.8	31.71	93.464			
8,100.0	7,500.0	7,575.0	7,511.2	26.8	19.3	90.01	-3,008.9	709.5	2,865.4	2,833.1	32.24	88.874			
8,200.0	7,500.0	7,574.7	7,510.9	27.2	19.3	89.99	-3,008.9	709.5	2,767.3	2,734.4	32.96	83.966			
8,300.0	7,500.0	7,574.5	7,510.7	27.7	19.3	89.97	-3,008.9	709.5	2,669.5	2,635.6	33.83	78.899			
8,400.0	7,500.0	7,574.3	7,510.5	28.3	19.3	89.95	-3,008.9	709.5	2,571.7	2,536.9	34.84	73.805			
8,500.0	7,500.0	7,574.1	7,510.3	29.0	19.3	89.93	-3,008.9	709.5	2,474.2	2,438.2	35.97	68.788			
8,600.0	7,500.0	7,573.9	7,510.1	29.8	19.3	89.90	-3,008.9	709.5	2,376.9	2,339.7	37.19	63.920			
8,700.0	7,500.0	7,573.7	7,509.9	30.6	19.3	89.88	-3,008.9	709.5	2,279.8	2,241.3	38.48	59.248			
8,800.0	7,500.0	7,573.4	7,509.6	31.5	19.3	89.86	-3,008.9	709.5	2,183.0	2,143.1	39.84	54.799			
8,900.0	7,500.0	7,573.2	7,509.4	32.5	19.3	89.84	-3,008.9	709.5	2,086.4	2,045.2	41.25	50.586			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 2-8-7 (EXISTING) - ENCANA WELL - SUR												Offset Site Error:	0.0 ft
Survey Program: 838-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
9,000.0	7,500.0	7,573.0	7,509.2	33.6	19.3	89.81	-3,008.9	709.5	1,990.2	1,947.5	42.70	46.612	
9,100.0	7,500.0	7,572.8	7,509.0	34.7	19.3	89.79	-3,008.9	709.5	1,894.4	1,850.3	44.19	42.873	
9,200.0	7,500.0	7,572.6	7,508.8	35.9	19.3	89.77	-3,008.9	709.5	1,799.1	1,753.4	45.71	39.361	
9,300.0	7,500.0	7,572.3	7,508.5	37.1	19.3	89.75	-3,008.9	709.5	1,704.3	1,657.1	47.25	36.067	
9,400.0	7,500.0	7,572.1	7,508.3	38.3	19.3	89.72	-3,008.9	709.5	1,610.1	1,561.3	48.82	32.980	
9,500.0	7,500.0	7,571.9	7,508.1	39.6	19.3	89.70	-3,008.9	709.5	1,516.7	1,466.3	50.41	30.088	
9,600.0	7,500.0	7,571.7	7,507.9	41.0	19.3	89.68	-3,008.9	709.5	1,424.2	1,372.2	52.01	27.382	
9,700.0	7,500.0	7,571.4	7,507.6	42.3	19.3	89.65	-3,008.9	709.5	1,332.7	1,279.1	53.63	24.851	
9,800.0	7,500.0	7,571.2	7,507.4	43.7	19.3	89.63	-3,008.9	709.5	1,242.6	1,187.3	55.26	22.487	
9,900.0	7,500.0	7,571.0	7,507.2	45.1	19.3	89.61	-3,008.9	709.5	1,154.1	1,097.2	56.90	20.283	
10,000.0	7,500.0	7,570.8	7,507.0	46.6	19.3	89.58	-3,008.9	709.5	1,067.6	1,009.0	58.55	18.234	
10,100.0	7,500.0	7,570.5	7,506.7	48.0	19.3	89.56	-3,008.9	709.5	983.6	923.4	60.20	16.338	
10,200.0	7,500.0	7,570.3	7,506.5	49.5	19.3	89.54	-3,008.9	709.5	903.0	841.1	61.87	14.595	
10,300.0	7,500.0	7,570.1	7,506.3	51.0	19.3	89.51	-3,008.9	709.5	826.6	763.1	63.54	13.009	
10,400.0	7,500.0	7,569.9	7,506.1	52.5	19.3	89.49	-3,008.9	709.5	755.7	690.5	65.22	11.588	
10,500.0	7,500.0	7,569.6	7,505.8	54.0	19.3	89.47	-3,008.9	709.5	692.1	625.2	66.90	10.345	
10,600.0	7,500.0	7,569.4	7,505.6	55.6	19.3	89.44	-3,008.9	709.5	637.9	569.3	68.59	9.300	
10,700.0	7,500.0	7,569.2	7,505.4	57.1	19.3	89.42	-3,008.9	709.5	595.6	525.3	70.28	8.474	
10,800.0	7,500.0	7,568.9	7,505.1	58.7	19.3	89.40	-3,008.9	709.5	568.0	496.0	71.98	7.891	
10,900.0	7,500.0	7,568.7	7,504.9	60.3	19.3	89.37	-3,008.9	709.5	557.2	483.5	73.68	7.563	
10,910.7	7,500.0	7,568.7	7,504.9	60.5	19.3	89.37	-3,008.9	709.5	557.1	483.2	73.86	7.543 CC, ES	
11,000.0	7,500.0	7,568.5	7,504.7	61.9	19.3	89.35	-3,008.9	709.5	564.2	488.8	75.38	7.485 SF	
11,100.0	7,500.0	7,568.2	7,504.4	63.5	19.3	89.32	-3,008.9	709.5	588.4	511.3	77.08	7.633	
11,200.0	7,500.0	7,568.0	7,504.2	65.1	19.3	89.30	-3,008.9	709.5	627.7	548.9	78.79	7.967	
11,300.0	7,500.0	7,567.8	7,504.0	66.7	19.3	89.28	-3,008.9	709.5	679.6	599.1	80.50	8.442	
11,400.0	7,500.0	7,567.5	7,503.7	68.3	19.3	89.25	-3,008.9	709.5	741.5	659.2	82.22	9.019	
11,500.0	7,500.0	7,567.3	7,503.5	69.9	19.3	89.23	-3,008.9	709.5	810.9	727.0	83.93	9.662	
11,600.0	7,500.0	7,567.1	7,503.3	71.5	19.3	89.20	-3,008.9	709.5	886.3	800.6	85.65	10.348	
11,700.0	7,500.0	7,566.8	7,503.0	73.2	19.3	89.18	-3,008.9	709.5	966.1	878.7	87.37	11.058	
11,800.0	7,500.0	7,566.6	7,502.8	74.8	19.3	89.15	-3,008.9	709.6	1,049.4	960.3	89.09	11.779	
11,900.0	7,500.0	7,566.3	7,502.5	76.5	19.3	89.13	-3,008.9	709.6	1,135.4	1,044.6	90.81	12.503	
12,000.0	7,500.0	7,566.1	7,502.3	78.1	19.3	89.10	-3,008.9	709.6	1,223.5	1,131.0	92.53	13.222	
12,100.0	7,500.0	7,565.9	7,502.1	79.8	19.3	89.08	-3,008.9	709.6	1,313.3	1,219.1	94.26	13.933	
12,200.0	7,500.0	7,565.6	7,501.8	81.4	19.3	89.06	-3,008.9	709.6	1,404.5	1,308.5	95.98	14.633	
12,300.0	7,500.0	7,565.4	7,501.6	83.1	19.3	89.03	-3,008.9	709.6	1,496.8	1,399.1	97.71	15.319	
12,400.0	7,500.0	7,565.1	7,501.3	84.8	19.3	89.01	-3,008.9	709.6	1,590.1	1,490.7	99.44	15.991	
12,500.0	7,500.0	7,564.9	7,501.1	86.4	19.3	88.98	-3,008.9	709.6	1,684.1	1,582.9	101.17	16.647	
12,600.0	7,500.0	7,564.6	7,500.9	88.1	19.3	88.96	-3,008.9	709.6	1,778.8	1,675.9	102.90	17.287	
12,700.0	7,500.0	7,564.4	7,500.6	89.8	19.3	88.93	-3,008.9	709.6	1,874.0	1,769.4	104.63	17.912	
12,800.0	7,500.0	7,564.2	7,500.4	91.5	19.3	88.90	-3,008.9	709.6	1,969.7	1,863.4	106.36	18.520	
12,900.0	7,500.0	7,563.9	7,500.1	93.2	19.3	88.88	-3,008.9	709.6	2,065.8	1,957.7	108.09	19.112	
13,000.0	7,500.0	7,563.7	7,499.9	94.8	19.3	88.85	-3,008.9	709.6	2,162.3	2,052.5	109.82	19.689	
13,100.0	7,500.0	7,563.4	7,499.6	96.5	19.3	88.83	-3,008.9	709.6	2,259.1	2,147.5	111.56	20.250	
13,200.0	7,500.0	7,563.2	7,499.4	98.2	19.3	88.80	-3,008.9	709.6	2,356.1	2,242.8	113.29	20.797	
13,300.0	7,500.0	7,562.9	7,499.1	99.9	19.3	88.78	-3,008.9	709.6	2,453.4	2,338.4	115.03	21.329	
13,400.0	7,500.0	7,562.7	7,498.9	101.6	19.3	88.75	-3,008.9	709.6	2,550.9	2,434.1	116.76	21.847	
13,500.0	7,500.0	7,562.4	7,498.6	103.3	19.3	88.73	-3,008.9	709.6	2,648.6	2,530.1	118.50	22.351	
13,600.0	7,500.0	7,562.2	7,498.4	105.0	19.3	88.70	-3,008.9	709.6	2,746.4	2,626.2	120.23	22.842	
13,700.0	7,500.0	7,561.9	7,498.1	106.7	19.3	88.67	-3,008.9	709.6	2,844.4	2,722.4	121.97	23.320	
13,800.0	7,500.0	7,561.7	7,497.9	108.4	19.3	88.65	-3,008.9	709.6	2,942.5	2,818.8	123.71	23.786	
13,900.0	7,500.0	7,561.4	7,497.6	110.1	19.3	88.62	-3,008.9	709.6	3,040.8	2,915.3	125.45	24.240	
14,000.0	7,500.0	7,561.1	7,497.4	111.8	19.3	88.60	-3,008.9	709.6	3,139.1	3,011.9	127.18	24.682	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 2-8-7 (EXISTING) - ENCANA WELL - SUR													Offset Site Error: 0.0 ft	
Survey Program: 838-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		
14,100.0	7,500.0	7,560.9	7,497.1	113.5	19.3	88.57	-3,008.9	709.6	3,237.6	3,108.7	128.92	25.113		
14,200.0	7,500.0	7,560.6	7,496.8	115.2	19.3	88.54	-3,008.9	709.6	3,336.1	3,205.5	130.66	25.533		
14,300.0	7,500.0	7,560.4	7,496.6	116.9	19.3	88.52	-3,008.9	709.6	3,434.8	3,302.4	132.40	25.942		
14,400.0	7,500.0	7,560.1	7,496.3	118.6	19.3	88.49	-3,008.9	709.6	3,533.5	3,399.4	134.14	26.342		
14,500.0	7,500.0	7,559.9	7,496.1	120.3	19.3	88.46	-3,008.9	709.6	3,632.3	3,496.4	135.88	26.731		
14,600.0	7,500.0	7,559.6	7,495.8	122.1	19.3	88.44	-3,008.9	709.6	3,731.1	3,593.5	137.62	27.112		
14,700.0	7,500.0	7,559.3	7,495.5	123.8	19.3	88.41	-3,008.9	709.6	3,830.0	3,690.7	139.36	27.483		
14,800.0	7,500.0	7,559.1	7,495.3	125.5	19.3	88.38	-3,008.9	709.6	3,929.0	3,787.9	141.10	27.845		
14,900.0	7,500.0	7,558.8	7,495.0	127.2	19.3	88.36	-3,008.9	709.6	4,028.0	3,885.2	142.84	28.199		
15,000.0	7,500.0	7,558.6	7,494.8	128.9	19.3	88.33	-3,008.9	709.6	4,127.1	3,982.5	144.58	28.544		
15,100.0	7,500.0	7,558.3	7,494.5	130.6	19.3	88.30	-3,008.9	709.6	4,226.2	4,079.9	146.32	28.882		
15,200.0	7,500.0	7,558.0	7,494.2	132.4	19.3	88.27	-3,008.9	709.6	4,325.3	4,177.3	148.07	29.212		
15,300.0	7,500.0	7,557.8	7,494.0	134.1	19.3	88.25	-3,008.9	709.7	4,424.5	4,274.7	149.81	29.535		
15,400.0	7,500.0	7,557.5	7,493.7	135.8	19.3	88.22	-3,008.9	709.7	4,523.7	4,372.2	151.55	29.850		
15,500.0	7,500.0	7,557.2	7,493.4	137.5	19.3	88.19	-3,008.9	709.7	4,623.0	4,469.7	153.29	30.158		
15,600.0	7,500.0	7,557.0	7,493.2	139.2	19.3	88.16	-3,008.9	709.7	4,722.3	4,567.2	155.03	30.460		
15,700.0	7,500.0	7,556.7	7,492.9	141.0	19.3	88.14	-3,008.9	709.7	4,821.6	4,664.8	156.78	30.755		
15,800.0	7,500.0	7,556.4	7,492.6	142.7	19.3	88.11	-3,008.9	709.7	4,920.9	4,762.4	158.52	31.043		
15,839.3	7,500.0	7,556.3	7,492.5	143.4	19.3	88.10	-3,008.9	709.7	4,960.0	4,800.8	159.20	31.155		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 33-7 (EXISTING) - ENCANA WELL - SUR												Offset Site Error: 0.0 ft			
Survey Program: 59-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	153.62	-2,318.2	1,149.9	2,587.8						
100.0	100.0	74.4	74.4	0.2	0.1	153.61	-2,318.5	1,150.4	2,588.5	2,588.2	0.26	N/A			
200.0	200.0	176.5	176.4	0.3	0.3	153.56	-2,318.9	1,153.2	2,590.1	2,589.5	0.61	4,256.267			
300.0	300.0	333.6	333.3	0.5	0.6	153.34	-2,314.9	1,162.3	2,590.4	2,589.3	1.06	2,443.335			
400.0	400.0	465.6	464.5	0.7	0.9	86.93	-2,306.6	1,173.8	2,588.7	2,587.0	1.61	1,609.399			
500.0	500.0	582.3	579.6	0.9	1.3	86.62	-2,295.8	1,188.7	2,586.0	2,583.9	2.15	1,204.294			
600.0	599.9	708.4	703.1	1.0	1.8	86.20	-2,280.5	1,209.5	2,582.5	2,579.7	2.81	917.488			
700.0	699.7	821.1	812.3	1.2	2.3	85.79	-2,263.8	1,231.6	2,578.1	2,574.6	3.51	735.020			
800.0	799.4	925.1	913.1	1.4	2.8	85.45	-2,248.3	1,251.9	2,573.5	2,569.4	4.19	614.293			
900.0	898.9	1,129.8	1,109.1	1.7	3.9	84.65	-2,208.8	1,295.8	2,565.3	2,559.8	5.51	465.974			
1,000.0	998.3	1,238.0	1,211.3	1.9	4.5	84.23	-2,184.4	1,321.7	2,556.1	2,549.7	6.39	399.977			
1,100.0	1,097.4	1,321.4	1,290.0	2.2	5.0	83.96	-2,165.7	1,341.6	2,547.0	2,539.9	7.14	356.888			
1,200.0	1,196.3	1,396.3	1,361.3	2.5	5.4	83.77	-2,150.0	1,358.8	2,538.7	2,530.9	7.86	323.116			
1,300.0	1,294.9	1,470.1	1,431.2	2.8	5.9	83.58	-2,134.7	1,376.9	2,531.3	2,522.7	8.62	293.669			
1,400.0	1,393.3	1,590.8	1,545.3	3.2	6.6	83.26	-2,109.6	1,407.0	2,523.9	2,514.2	9.69	260.477			
1,484.0	1,475.6	1,690.7	1,639.5	3.5	7.2	83.02	-2,087.7	1,432.0	2,516.8	2,506.2	10.60	237.347			
1,500.0	1,491.3	1,708.6	1,656.4	3.5	7.3	82.97	-2,083.7	1,436.4	2,515.4	2,504.6	10.77	233.536			
1,600.0	1,589.1	1,800.6	1,743.3	3.9	7.9	82.71	-2,063.7	1,459.0	2,506.8	2,495.1	11.70	214.286			
1,700.0	1,687.0	1,907.2	1,844.1	4.3	8.5	82.41	-2,040.5	1,484.8	2,498.1	2,485.4	12.72	196.413			
1,800.0	1,784.9	2,000.3	1,932.2	4.7	9.1	82.15	-2,020.2	1,507.3	2,489.4	2,475.7	13.65	182.372			
1,900.0	1,882.7	2,084.5	2,012.1	5.1	9.6	81.94	-2,002.7	1,527.0	2,481.2	2,466.7	14.52	170.872			
2,000.0	1,980.6	2,184.0	2,106.6	5.4	10.2	81.69	-1,982.2	1,550.5	2,473.4	2,457.9	15.50	159.532			
2,100.0	2,078.5	2,282.2	2,199.5	5.8	10.8	81.41	-1,961.4	1,574.6	2,465.6	2,449.1	16.48	149.572			
2,200.0	2,176.4	2,377.3	2,289.5	6.2	11.3	81.14	-1,941.4	1,597.9	2,458.0	2,440.6	17.45	140.897			
2,300.0	2,274.2	2,483.7	2,390.3	6.6	12.0	80.85	-1,919.3	1,623.6	2,450.5	2,432.0	18.46	132.752			
2,400.0	2,372.1	2,573.0	2,475.2	7.0	12.5	80.62	-1,901.0	1,644.5	2,442.8	2,423.4	19.37	126.091			
2,500.0	2,470.0	2,697.4	2,593.3	7.4	13.2	80.28	-1,875.4	1,674.1	2,435.4	2,414.9	20.49	118.852			
2,600.0	2,567.8	2,773.5	2,665.5	7.8	13.7	80.08	-1,859.4	1,692.1	2,427.6	2,406.2	21.34	113.745			
2,700.0	2,665.7	2,896.0	2,781.3	8.2	14.4	79.71	-1,833.2	1,722.3	2,420.1	2,397.6	22.49	107.624			
2,800.0	2,763.6	2,975.6	2,856.5	8.6	14.9	79.47	-1,815.9	1,741.7	2,412.2	2,388.9	23.35	103.289			
2,900.0	2,861.5	3,089.3	2,964.1	9.0	15.6	79.14	-1,791.9	1,769.3	2,404.8	2,380.3	24.43	98.419			
3,000.0	2,959.3	3,195.7	3,064.5	9.4	16.3	78.80	-1,768.2	1,795.4	2,396.7	2,371.2	25.49	94.030			
3,100.0	3,057.2	3,276.4	3,140.6	9.8	16.8	78.54	-1,750.3	1,815.7	2,389.0	2,362.6	26.38	90.549			
3,200.0	3,155.1	3,371.0	3,230.0	10.2	17.3	78.25	-1,730.1	1,838.9	2,381.7	2,354.4	27.34	87.130			
3,300.0	3,253.0	3,467.0	3,321.2	10.6	17.9	77.98	-1,710.5	1,861.6	2,374.8	2,346.5	28.28	83.975			
3,400.0	3,350.8	3,584.0	3,432.4	11.0	18.6	77.66	-1,686.3	1,889.1	2,367.6	2,338.2	29.36	80.642			
3,500.0	3,448.7	3,676.1	3,519.8	11.4	19.1	77.40	-1,667.2	1,910.5	2,360.3	2,330.0	30.28	77.938			
3,600.0	3,546.6	3,773.5	3,612.3	11.8	19.7	77.12	-1,646.8	1,933.4	2,353.0	2,321.8	31.25	75.286			
3,700.0	3,644.4	3,853.4	3,687.9	12.2	20.2	76.88	-1,630.1	1,953.0	2,346.4	2,314.3	32.13	73.027			
3,800.0	3,742.3	3,972.9	3,800.7	12.6	20.9	76.48	-1,604.4	1,983.1	2,339.7	2,306.5	33.26	70.351			
3,900.0	3,840.2	4,075.0	3,897.0	13.0	21.6	76.14	-1,581.9	2,008.4	2,332.6	2,298.3	34.27	68.059			
4,000.0	3,938.1	4,167.3	3,984.2	13.4	22.1	75.83	-1,561.8	2,031.4	2,325.8	2,290.5	35.22	66.030			
4,100.0	4,035.9	4,266.1	4,077.7	13.8	22.7	75.52	-1,540.8	2,055.4	2,319.1	2,282.9	36.20	64.070			
4,200.0	4,133.8	4,368.7	4,174.9	14.2	23.3	75.21	-1,519.4	2,079.8	2,312.4	2,275.3	37.18	62.192			
4,300.0	4,231.7	4,465.7	4,267.2	14.6	23.9	74.93	-1,499.6	2,102.3	2,305.8	2,267.7	38.12	60.483			
4,400.0	4,329.5	4,573.0	4,369.5	15.0	24.5	74.64	-1,477.9	2,126.7	2,299.2	2,260.0	39.11	58.787			
4,500.0	4,427.4	4,666.9	4,458.9	15.4	25.1	74.38	-1,458.7	2,148.1	2,292.3	2,252.3	40.04	57.244			
4,600.0	4,525.3	4,759.9	4,547.1	15.8	25.6	74.09	-1,439.4	2,170.2	2,285.9	2,245.0	40.96	55.812			
4,700.0	4,623.2	4,870.7	4,652.3	16.2	26.3	73.76	-1,416.3	2,196.1	2,279.4	2,237.4	42.00	54.267			
4,800.0	4,721.0	4,958.5	4,735.6	16.7	26.8	73.49	-1,398.1	2,217.0	2,273.1	2,230.2	42.89	53.000			
4,900.0	4,818.9	5,071.4	4,842.9	17.1	27.4	73.15	-1,374.7	2,243.2	2,266.7	2,222.8	43.91	51.625			
5,000.0	4,916.8	5,185.0	4,951.2	17.5	28.1	72.83	-1,351.3	2,268.5	2,259.7	2,214.8	44.93	50.299			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 33-7 (EXISTING) - ENCANA WELL - SUR												Offset Site Error: 0.0 ft			
Survey Program: 59-MWD														Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
5,100.0	5,014.7	5,275.5	5,037.2	17.9	28.6	72.56	-1,332.1	2,288.9	2,252.6	2,206.7	45.82	49.164			
5,200.0	5,112.5	5,384.7	5,141.3	18.3	29.2	72.25	-1,309.6	2,313.1	2,245.6	2,198.9	46.79	47.995			
5,300.0	5,210.4	5,472.9	5,226.0	18.7	29.7	72.06	-1,292.8	2,331.1	2,238.7	2,191.1	47.61	47.017			
5,400.0	5,308.3	5,541.0	5,291.5	19.1	30.0	71.92	-1,280.4	2,345.0	2,232.6	2,184.2	48.35	46.179			
5,500.0	5,406.1	5,608.0	5,355.8	19.5	30.4	71.77	-1,268.9	2,359.7	2,228.2	2,179.1	49.07	45.409			
5,600.0	5,504.0	5,756.8	5,499.0	19.9	31.2	71.48	-1,243.9	2,391.2	2,223.6	2,173.5	50.19	44.304			
5,700.0	5,601.9	5,853.0	5,592.0	20.3	31.6	71.32	-1,227.7	2,409.9	2,217.9	2,166.9	51.00	43.484			
5,800.0	5,699.8	5,963.0	5,699.0	20.7	32.1	71.20	-1,210.8	2,429.2	2,211.8	2,160.0	51.85	42.659			
5,900.0	5,797.6	6,082.6	5,816.0	21.1	32.5	71.16	-1,193.9	2,447.6	2,205.3	2,152.6	52.70	41.844			
6,000.0	5,895.5	6,182.9	5,914.5	21.5	32.9	71.18	-1,180.6	2,460.8	2,197.8	2,144.4	53.44	41.128			
6,100.0	5,993.4	6,282.3	6,012.8	21.9	33.2	71.30	-1,170.2	2,471.4	2,190.8	2,136.6	54.12	40.478			
6,200.0	6,091.2	6,384.0	6,113.6	22.3	33.4	71.49	-1,161.3	2,480.2	2,183.6	2,128.8	54.78	39.861			
6,300.0	6,189.1	6,483.1	6,212.2	22.7	33.6	71.74	-1,154.1	2,487.2	2,176.4	2,121.0	55.39	39.292			
6,400.0	6,287.0	6,578.2	6,307.1	23.1	33.8	72.05	-1,149.0	2,491.9	2,169.3	2,113.4	55.95	38.771			
6,500.0	6,384.9	6,674.5	6,403.3	23.5	33.9	72.41	-1,145.4	2,495.4	2,162.5	2,106.0	56.51	38.268			
6,600.0	6,482.7	6,762.1	6,490.8	23.9	34.0	72.78	-1,143.1	2,497.7	2,156.0	2,099.0	57.02	37.812			
6,700.0	6,580.6	6,858.5	6,587.2	24.3	34.1	73.24	-1,142.1	2,499.2	2,150.2	2,092.6	57.54	37.370			
6,800.0	6,678.5	6,971.9	6,700.6	24.7	34.1	73.82	-1,141.3	2,499.3	2,143.7	2,085.6	58.05	36.930			
6,900.0	6,776.4	7,060.5	6,789.2	25.1	34.2	74.29	-1,141.1	2,499.1	2,137.6	2,079.1	58.53	36.520			
7,000.0	6,874.2	7,155.0	6,883.7	25.5	34.3	74.79	-1,141.1	2,499.1	2,132.0	2,073.0	59.02	36.122			
7,016.7	6,890.6	7,171.5	6,900.2	25.6	34.3	74.88	-1,141.0	2,499.1	2,131.1	2,072.0	59.11	36.056			
7,050.0	6,923.2	7,204.5	6,933.2	25.7	34.3	58.91	-1,141.0	2,499.1	2,128.6	2,069.5	59.09	36.025			
7,100.0	6,972.3	7,261.1	6,989.8	25.9	34.3	33.28	-1,141.0	2,499.1	2,121.8	2,063.1	58.78	36.098			
7,150.0	7,021.1	7,315.9	7,044.6	26.0	34.4	12.88	-1,140.7	2,499.0	2,111.6	2,053.4	58.14	36.317			
7,200.0	7,069.3	7,361.2	7,089.9	26.1	34.4	-0.89	-1,140.4	2,498.9	2,098.0	2,040.8	57.19	36.687			
7,250.0	7,116.5	7,405.6	7,134.3	26.2	34.4	-10.30	-1,140.1	2,499.0	2,081.4	2,025.4	55.93	37.211			
7,300.0	7,162.3	7,448.1	7,176.8	26.2	34.5	-17.30	-1,139.8	2,499.1	2,061.7	2,007.3	54.41	37.894			
7,350.0	7,206.4	7,489.1	7,217.8	26.3	34.5	-23.02	-1,139.7	2,499.2	2,039.3	1,986.7	52.65	38.734			
7,400.0	7,248.4	7,528.4	7,257.1	26.3	34.5	-28.14	-1,139.6	2,499.3	2,014.2	1,963.5	50.70	39.727			
7,450.0	7,288.1	7,568.6	7,297.3	26.3	34.5	-33.07	-1,139.5	2,499.4	1,986.8	1,938.1	48.63	40.857			
7,500.0	7,325.1	7,606.2	7,334.9	26.3	34.6	-38.06	-1,139.5	2,499.5	1,957.1	1,910.6	46.51	42.081			
7,550.0	7,359.2	7,639.7	7,368.4	26.3	34.6	-43.22	-1,139.5	2,499.5	1,925.5	1,881.1	44.44	43.325			
7,600.0	7,390.0	7,669.1	7,397.8	26.3	34.6	-48.65	-1,139.5	2,499.5	1,892.4	1,849.8	42.55	44.471			
7,650.0	7,417.4	7,695.3	7,424.0	26.3	34.6	-54.38	-1,139.6	2,499.5	1,858.0	1,817.1	40.96	45.365			
7,700.0	7,441.2	7,718.2	7,446.9	26.3	34.6	-60.35	-1,139.7	2,499.5	1,822.8	1,783.1	39.75	45.858			
7,750.0	7,461.1	7,739.2	7,467.9	26.3	34.7	-66.52	-1,139.7	2,499.4	1,787.1	1,748.1	38.97	45.863			
7,800.0	7,477.0	7,756.0	7,484.7	26.3	34.7	-72.62	-1,139.8	2,499.4	1,751.2	1,712.6	38.56	45.410			
7,850.0	7,488.8	7,768.5	7,497.2	26.4	34.7	-78.47	-1,139.8	2,499.4	1,715.6	1,677.1	38.45	44.615			
7,900.0	7,496.5	7,776.5	7,505.2	26.4	34.7	-83.88	-1,139.8	2,499.4	1,680.6	1,642.1	38.54	43.608			
7,950.0	7,499.8	7,780.2	7,508.8	26.5	34.7	-88.70	-1,139.8	2,499.4	1,646.7	1,607.9	38.76	42.484			
7,964.3	7,500.0	7,780.4	7,509.1	26.5	34.7	-89.96	-1,139.8	2,499.4	1,637.2	1,598.4	38.84	42.148			
8,000.0	7,500.0	7,780.4	7,509.1	26.6	34.7	-89.96	-1,139.8	2,499.4	1,614.0	1,575.0	38.99	41.399			
8,100.0	7,500.0	7,780.6	7,509.3	26.8	34.7	-89.97	-1,139.8	2,499.4	1,551.3	1,511.8	39.52	39.254			
8,200.0	7,500.0	7,780.8	7,509.5	27.2	34.7	-89.98	-1,139.8	2,499.4	1,492.7	1,452.5	40.24	37.098			
8,300.0	7,500.0	7,781.0	7,509.7	27.7	34.7	-89.99	-1,139.8	2,499.4	1,438.7	1,397.6	41.11	34.994			
8,400.0	7,500.0	7,781.2	7,509.9	28.3	34.7	-90.00	-1,139.8	2,499.4	1,389.8	1,347.7	42.12	32.992			
8,500.0	7,500.0	7,781.4	7,510.1	29.0	34.7	-90.01	-1,139.8	2,499.4	1,346.6	1,303.3	43.25	31.135			
8,600.0	7,500.0	7,781.6	7,510.3	29.8	34.7	-90.02	-1,139.8	2,499.4	1,309.5	1,265.1	44.47	29.450			
8,700.0	7,500.0	7,781.8	7,510.5	30.6	34.7	-90.02	-1,139.8	2,499.4	1,279.3	1,233.5	45.76	27.956			
8,800.0	7,500.0	7,782.0	7,510.7	31.5	34.7	-90.03	-1,139.8	2,499.4	1,256.3	1,209.2	47.12	26.663			
8,900.0	7,500.0	7,782.2	7,510.9	32.5	34.7	-90.04	-1,139.8	2,499.4	1,240.9	1,192.4	48.53	25.572			
9,000.0	7,500.0	7,782.4	7,511.1	33.6	34.7	-90.05	-1,139.8	2,499.4	1,233.5	1,183.6	49.98	24.680			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS 33-7 (EXISTING) - ENCANA WELL - SUR												Offset Site Error: 0.0 ft			
Survey Program: 59-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			
9,041.6	7,500.0	7,782.5	7,511.2	34.0	34.7	-90.06	-1,139.8	2,499.4	1,232.8	1,182.2	50.60	24.364	CC, ES		
9,100.0	7,500.0	7,782.6	7,511.3	34.7	34.7	-90.06	-1,139.8	2,499.4	1,234.2	1,182.7	51.47	23.979			
9,200.0	7,500.0	7,782.8	7,511.5	35.9	34.7	-90.07	-1,139.8	2,499.4	1,243.0	1,190.0	52.99	23.456			
9,300.0	7,500.0	7,783.0	7,511.7	37.1	34.7	-90.08	-1,139.8	2,499.4	1,259.6	1,205.1	54.54	23.097			
9,400.0	7,500.0	7,783.2	7,511.9	38.3	34.7	-90.09	-1,139.8	2,499.4	1,283.9	1,227.8	56.10	22.883			
9,500.0	7,500.0	7,783.4	7,512.1	39.6	34.7	-90.10	-1,139.8	2,499.4	1,315.3	1,257.6	57.69	22.799			
9,600.0	7,500.0	7,783.6	7,512.3	41.0	34.7	-90.10	-1,139.8	2,499.4	1,353.4	1,294.1	59.29	22.825			
9,700.0	7,500.0	7,783.8	7,512.5	42.3	34.7	-90.11	-1,139.8	2,499.4	1,397.6	1,336.7	60.91	22.945			
9,800.0	7,500.0	7,783.9	7,512.6	43.7	34.7	-90.12	-1,139.8	2,499.4	1,447.4	1,384.9	62.54	23.143			
9,900.0	7,500.0	7,784.1	7,512.8	45.1	34.7	-90.13	-1,139.8	2,499.4	1,502.2	1,438.0	64.18	23.406			
10,000.0	7,500.0	7,784.3	7,513.0	46.6	34.7	-90.14	-1,139.8	2,499.4	1,561.5	1,495.7	65.83	23.720			
10,100.0	7,500.0	7,784.5	7,513.2	48.0	34.7	-90.15	-1,139.8	2,499.4	1,624.8	1,557.3	67.49	24.075			
10,200.0	7,500.0	7,784.7	7,513.4	49.5	34.7	-90.16	-1,139.8	2,499.4	1,691.7	1,622.5	69.16	24.462			
10,300.0	7,500.0	7,784.9	7,513.6	51.0	34.7	-90.17	-1,139.8	2,499.4	1,761.6	1,690.8	70.83	24.872			
10,400.0	7,500.0	7,785.1	7,513.7	52.5	34.7	-90.17	-1,139.8	2,499.4	1,834.4	1,761.9	72.51	25.300			
10,500.0	7,500.0	7,785.2	7,513.9	54.0	34.7	-90.18	-1,139.8	2,499.4	1,909.6	1,835.5	74.19	25.740			
10,600.0	7,500.0	7,785.4	7,514.1	55.6	34.7	-90.19	-1,139.9	2,499.4	1,987.1	1,911.2	75.88	26.188			
10,700.0	7,500.0	7,785.6	7,514.3	57.1	34.7	-90.20	-1,139.9	2,499.4	2,066.4	1,988.8	77.57	26.640			
10,800.0	7,500.0	7,785.8	7,514.5	58.7	34.7	-90.21	-1,139.9	2,499.4	2,147.5	2,068.2	79.27	27.092			
10,900.0	7,500.0	7,785.9	7,514.6	60.3	34.7	-90.22	-1,139.9	2,499.4	2,230.1	2,149.2	80.97	27.544			
11,000.0	7,500.0	7,786.1	7,514.8	61.9	34.7	-90.22	-1,139.9	2,499.4	2,314.1	2,231.4	82.67	27.992			
11,100.0	7,500.0	7,786.3	7,515.0	63.5	34.7	-90.23	-1,139.9	2,499.4	2,399.3	2,315.0	84.38	28.436			
11,200.0	7,500.0	7,786.5	7,515.2	65.1	34.7	-90.24	-1,139.9	2,499.4	2,485.7	2,399.6	86.08	28.875			
11,300.0	7,500.0	7,786.6	7,515.3	66.7	34.7	-90.25	-1,139.9	2,499.4	2,573.0	2,485.2	87.80	29.306			
11,400.0	7,500.0	7,786.8	7,515.5	68.3	34.7	-90.26	-1,139.9	2,499.4	2,661.2	2,571.7	89.51	29.731			
11,500.0	7,500.0	7,787.0	7,515.7	69.9	34.7	-90.26	-1,139.9	2,499.4	2,750.2	2,659.0	91.22	30.147			
11,600.0	7,500.0	7,787.2	7,515.9	71.5	34.7	-90.27	-1,139.9	2,499.4	2,839.9	2,747.0	92.94	30.556			
11,700.0	7,500.0	7,787.3	7,516.0	73.2	34.7	-90.28	-1,139.9	2,499.4	2,930.3	2,835.7	94.66	30.956			
11,800.0	7,500.0	7,787.5	7,516.2	74.8	34.7	-90.29	-1,139.9	2,499.4	3,021.3	2,925.0	96.38	31.347			
11,900.0	7,500.0	7,787.7	7,516.4	76.5	34.7	-90.30	-1,139.9	2,499.4	3,112.9	3,014.8	98.11	31.730			
12,000.0	7,500.0	7,787.8	7,516.5	78.1	34.7	-90.30	-1,139.9	2,499.4	3,205.0	3,105.1	99.83	32.105			
12,100.0	7,500.0	7,788.0	7,516.7	79.8	34.7	-90.31	-1,139.9	2,499.4	3,297.5	3,195.9	101.55	32.470			
12,200.0	7,500.0	7,788.2	7,516.9	81.4	34.7	-90.32	-1,139.9	2,499.4	3,390.5	3,287.2	103.28	32.827			
12,300.0	7,500.0	7,788.3	7,517.0	83.1	34.7	-90.33	-1,139.9	2,499.4	3,483.8	3,378.8	105.01	33.176			
12,400.0	7,500.0	7,788.5	7,517.2	84.8	34.7	-90.33	-1,139.9	2,499.4	3,577.5	3,470.8	106.74	33.517			
12,500.0	7,500.0	7,788.7	7,517.4	86.4	34.7	-90.34	-1,139.9	2,499.4	3,671.5	3,563.1	108.47	33.849			
12,600.0	7,500.0	7,788.8	7,517.5	88.1	34.7	-90.35	-1,139.9	2,499.4	3,765.9	3,655.7	110.20	34.173			
12,700.0	7,500.0	7,789.0	7,517.7	89.8	34.7	-90.36	-1,139.9	2,499.4	3,860.5	3,748.6	111.93	34.490			
12,800.0	7,500.0	7,789.2	7,517.9	91.5	34.7	-90.36	-1,139.9	2,499.4	3,955.4	3,841.7	113.66	34.799			
12,900.0	7,500.0	7,789.3	7,518.0	93.2	34.7	-90.37	-1,139.9	2,499.4	4,050.5	3,935.1	115.40	35.101			
13,000.0	7,500.0	7,789.5	7,518.2	94.8	34.7	-90.38	-1,139.9	2,499.4	4,145.9	4,028.8	117.13	35.395			
13,100.0	7,500.0	7,789.7	7,518.3	96.5	34.7	-90.39	-1,139.9	2,499.4	4,241.5	4,122.6	118.87	35.683			
13,200.0	7,500.0	7,789.8	7,518.5	98.2	34.7	-90.39	-1,139.9	2,499.4	4,337.3	4,216.7	120.60	35.963			
13,300.0	7,500.0	7,790.0	7,518.7	99.9	34.7	-90.40	-1,139.9	2,499.4	4,433.2	4,310.9	122.34	36.237			
13,400.0	7,500.0	7,790.1	7,518.8	101.6	34.7	-90.41	-1,139.9	2,499.4	4,529.4	4,405.3	124.08	36.505			
13,500.0	7,500.0	7,790.3	7,519.0	103.3	34.7	-90.42	-1,139.9	2,499.4	4,625.7	4,499.9	125.81	36.766			
13,600.0	7,500.0	7,790.4	7,519.1	105.0	34.7	-90.42	-1,139.9	2,499.4	4,722.1	4,594.6	127.55	37.021			
13,700.0	7,500.0	7,790.6	7,519.3	106.7	34.7	-90.43	-1,139.9	2,499.4	4,818.7	4,689.5	129.29	37.271			
13,800.0	7,500.0	7,790.8	7,519.4	108.4	34.7	-90.44	-1,139.9	2,499.4	4,915.5	4,784.5	131.03	37.514			
13,900.0	7,500.0	7,790.9	7,519.6	110.1	34.7	-90.45	-1,139.9	2,499.4	5,012.3	4,879.6	132.77	37.752			
14,000.0	7,500.0	7,791.1	7,519.8	111.8	34.7	-90.45	-1,139.9	2,499.4	5,109.3	4,974.8	134.51	37.985			
14,100.0	7,500.0	7,791.2	7,519.9	113.5	34.7	-90.46	-1,139.9	2,499.4	5,206.4	5,070.2	136.25	38.212			

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

## Cathedral Energy Services

### Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Thomas 7-12 (Existing) - Existing - NO SURVEYS												Offset Site Error: 0.0 ft		
Survey Program: 7894-Geolink 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	-176.45	-982.8	-61.0	984.8					
100.0	100.0	88.0	88.0	0.2	0.2	-176.45	-982.8	-61.0	984.7	984.4	0.31	3,221.903		
200.0	200.0	188.0	188.0	0.3	0.3	-176.45	-982.8	-61.0	984.7	984.1	0.65	1,504.080		
300.0	300.0	288.0	288.0	0.5	0.5	-176.45	-982.8	-61.0	984.7	983.7	1.00	981.026	CC, ES	
400.0	400.0	388.0	388.0	0.7	0.7	117.45	-982.8	-61.0	985.1	983.8	1.35	727.921		
500.0	500.0	488.0	488.0	0.9	0.9	117.57	-982.8	-61.0	986.3	984.6	1.71	578.305		
600.0	599.9	587.9	587.9	1.0	1.0	117.78	-982.8	-61.0	988.4	986.3	2.06	479.066		
700.0	699.7	687.7	687.7	1.2	1.2	118.07	-982.8	-61.0	991.2	988.8	2.43	408.143		
800.0	799.4	787.4	787.4	1.4	1.4	118.43	-982.8	-61.0	994.9	992.1	2.80	354.764		
900.0	898.9	886.9	886.9	1.7	1.5	118.87	-982.8	-61.0	999.5	996.4	3.19	313.057		
1,000.0	998.3	986.3	986.3	1.9	1.7	119.39	-982.8	-61.0	1,005.1	1,001.5	3.60	279.552		
1,100.0	1,097.4	1,085.4	1,085.4	2.2	1.9	119.97	-982.8	-61.0	1,011.6	1,007.6	4.01	252.069		
1,200.0	1,196.3	1,184.3	1,184.3	2.5	2.1	120.62	-982.8	-61.0	1,019.1	1,014.7	4.45	229.164		
1,300.0	1,294.9	1,282.9	1,282.9	2.8	2.2	121.33	-982.8	-61.0	1,027.7	1,022.8	4.90	209.842		
1,400.0	1,393.3	1,381.3	1,381.3	3.2	2.4	122.10	-982.8	-61.0	1,037.4	1,032.0	5.36	193.389		
1,484.0	1,475.6	1,463.6	1,463.6	3.5	2.6	122.78	-982.8	-61.0	1,046.4	1,040.7	5.77	181.424		
1,500.0	1,491.3	1,479.3	1,479.3	3.5	2.6	122.93	-982.8	-61.0	1,048.2	1,042.4	5.84	179.346		
1,600.0	1,589.1	1,577.1	1,577.1	3.9	2.8	123.85	-982.8	-61.0	1,059.7	1,053.4	6.33	167.504		
1,700.0	1,687.0	1,675.0	1,675.0	4.3	2.9	124.75	-982.8	-61.0	1,071.4	1,064.6	6.81	157.403		
1,800.0	1,784.9	1,772.9	1,772.9	4.7	3.1	125.62	-982.8	-61.0	1,083.4	1,076.1	7.29	148.714		
1,900.0	1,882.7	1,870.7	1,870.7	5.1	3.3	126.48	-982.8	-61.0	1,095.7	1,087.9	7.76	141.179		
2,000.0	1,980.6	1,968.6	1,968.6	5.4	3.4	127.33	-982.8	-61.0	1,108.2	1,099.9	8.23	134.598		
2,100.0	2,078.5	2,066.5	2,066.5	5.8	3.6	128.15	-982.8	-61.0	1,120.9	1,112.2	8.70	128.812		
2,200.0	2,176.4	2,164.4	2,164.4	6.2	3.8	128.95	-982.8	-61.0	1,133.9	1,124.7	9.17	123.694		
2,300.0	2,274.2	2,262.2	2,262.2	6.6	3.9	129.74	-982.8	-61.0	1,147.0	1,137.4	9.63	119.142		
2,400.0	2,372.1	2,360.1	2,360.1	7.0	4.1	130.51	-982.8	-61.0	1,160.4	1,150.3	10.08	115.074		
2,500.0	2,470.0	2,458.0	2,458.0	7.4	4.3	131.26	-982.8	-61.0	1,174.0	1,163.5	10.54	111.421		
2,600.0	2,567.8	2,555.8	2,555.8	7.8	4.5	132.00	-982.8	-61.0	1,187.8	1,176.8	10.99	108.127		
2,700.0	2,665.7	2,653.7	2,653.7	8.2	4.6	132.72	-982.8	-61.0	1,201.8	1,190.4	11.43	105.147		
2,800.0	2,763.6	2,751.6	2,751.6	8.6	4.8	133.42	-982.8	-61.0	1,216.0	1,204.1	11.87	102.440		
2,900.0	2,861.5	2,849.5	2,849.5	9.0	5.0	134.11	-982.8	-61.0	1,230.3	1,218.0	12.31	99.973		
3,000.0	2,959.3	2,947.3	2,947.3	9.4	5.1	134.78	-982.8	-61.0	1,244.8	1,232.1	12.74	97.719		
3,100.0	3,057.2	3,045.2	3,045.2	9.8	5.3	135.43	-982.8	-61.0	1,259.5	1,246.4	13.17	95.654		
3,200.0	3,155.1	3,143.1	3,143.1	10.2	5.5	136.07	-982.8	-61.0	1,274.4	1,260.8	13.59	93.756		
3,300.0	3,253.0	3,241.0	3,241.0	10.6	5.7	136.70	-982.8	-61.0	1,289.4	1,275.4	14.01	92.008		
3,400.0	3,350.8	3,338.8	3,338.8	11.0	5.8	137.31	-982.8	-61.0	1,304.5	1,290.1	14.43	90.395		
3,500.0	3,448.7	3,436.7	3,436.7	11.4	6.0	137.91	-982.8	-61.0	1,319.8	1,305.0	14.85	88.903		
3,600.0	3,546.6	3,534.6	3,534.6	11.8	6.2	138.49	-982.8	-61.0	1,335.3	1,320.0	15.26	87.521		
3,700.0	3,644.4	3,632.4	3,632.4	12.2	6.3	139.07	-982.8	-61.0	1,350.9	1,335.2	15.66	86.237		
3,800.0	3,742.3	3,730.3	3,730.3	12.6	6.5	139.62	-982.8	-61.0	1,366.6	1,350.5	16.07	85.043		
3,900.0	3,840.2	3,828.2	3,828.2	13.0	6.7	140.17	-982.8	-61.0	1,382.4	1,365.9	16.47	83.931		
4,000.0	3,938.1	3,926.1	3,926.1	13.4	6.9	140.70	-982.8	-61.0	1,398.4	1,381.5	16.87	82.894		
4,100.0	4,035.9	4,023.9	4,023.9	13.8	7.0	141.23	-982.8	-61.0	1,414.4	1,397.2	17.27	81.924		
4,200.0	4,133.8	4,121.8	4,121.8	14.2	7.2	141.74	-982.8	-61.0	1,430.6	1,413.0	17.66	81.017		
4,300.0	4,231.7	4,219.7	4,219.7	14.6	7.4	142.24	-982.8	-61.0	1,446.9	1,428.9	18.05	80.167		
4,400.0	4,329.5	4,317.5	4,317.5	15.0	7.5	142.72	-982.8	-61.0	1,463.3	1,444.9	18.44	79.370		
4,500.0	4,427.4	4,415.4	4,415.4	15.4	7.7	143.20	-982.8	-61.0	1,479.8	1,461.0	18.82	78.621		
4,600.0	4,525.3	4,513.3	4,513.3	15.8	7.9	143.67	-982.8	-61.0	1,496.4	1,477.2	19.21	77.918		
4,700.0	4,623.2	4,611.2	4,611.2	16.2	8.0	144.13	-982.8	-61.0	1,513.1	1,493.5	19.59	77.255		
4,800.0	4,721.0	4,709.0	4,709.0	16.7	8.2	144.57	-982.8	-61.0	1,529.9	1,510.0	19.97	76.631		
4,900.0	4,818.9	4,806.9	4,806.9	17.1	8.4	145.01	-982.8	-61.0	1,546.8	1,526.5	20.34	76.042		
5,000.0	4,916.8	4,904.8	4,904.8	17.5	8.6	145.44	-982.8	-61.0	1,563.8	1,543.1	20.72	75.486		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Thomas 7-12 (Existing) - Existing - NO SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 7894-Geolink 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
5,100.0	5,014.7	5,002.7	5,002.7	17.9	8.7	145.86	-982.8	-61.0	1,580.8	1,559.7	21.09	74.960	
5,200.0	5,112.5	5,100.5	5,100.5	18.3	8.9	146.27	-982.8	-61.0	1,598.0	1,576.5	21.46	74.463	
5,300.0	5,210.4	5,198.4	5,198.4	18.7	9.1	146.67	-982.8	-61.0	1,615.2	1,593.4	21.83	73.992	
5,400.0	5,308.3	5,296.3	5,296.3	19.1	9.2	147.06	-982.8	-61.0	1,632.5	1,610.3	22.20	73.547	
5,500.0	5,406.1	5,394.1	5,394.1	19.5	9.4	147.45	-982.8	-61.0	1,649.8	1,627.3	22.56	73.124	
5,600.0	5,504.0	5,492.0	5,492.0	19.9	9.6	147.83	-982.8	-61.0	1,667.3	1,644.4	22.93	72.723	
5,700.0	5,601.9	5,589.9	5,589.9	20.3	9.8	148.19	-982.8	-61.0	1,684.8	1,661.5	23.29	72.342	
5,800.0	5,699.8	5,687.8	5,687.8	20.7	9.9	148.56	-982.8	-61.0	1,702.4	1,678.7	23.65	71.980	
5,900.0	5,797.6	5,785.6	5,785.6	21.1	10.1	148.91	-982.8	-61.0	1,720.0	1,696.0	24.01	71.635	
6,000.0	5,895.5	5,883.5	5,883.5	21.5	10.3	149.26	-982.8	-61.0	1,737.7	1,713.3	24.37	71.307	
6,100.0	5,993.4	5,981.4	5,981.4	21.9	10.4	149.60	-982.8	-61.0	1,755.5	1,730.7	24.73	70.995	
6,200.0	6,091.2	6,079.2	6,079.2	22.3	10.6	149.93	-982.8	-61.0	1,773.3	1,748.2	25.08	70.698	
6,300.0	6,189.1	6,177.1	6,177.1	22.7	10.8	150.26	-982.8	-61.0	1,791.2	1,765.7	25.44	70.414	
6,400.0	6,287.0	6,275.0	6,275.0	23.1	11.0	150.58	-982.8	-61.0	1,809.1	1,783.3	25.79	70.143	
6,500.0	6,384.9	6,372.9	6,372.9	23.5	11.1	150.90	-982.8	-61.0	1,827.1	1,801.0	26.14	69.885	
6,600.0	6,482.7	6,470.7	6,470.7	23.9	11.3	151.20	-982.8	-61.0	1,845.1	1,818.6	26.50	69.638	
6,700.0	6,580.6	6,568.6	6,568.6	24.3	11.5	151.51	-982.8	-61.0	1,863.2	1,836.4	26.85	69.402	
6,800.0	6,678.5	6,666.5	6,666.5	24.7	11.6	151.80	-982.8	-61.0	1,881.4	1,854.2	27.20	69.176	
6,900.0	6,776.4	6,764.4	6,764.4	25.1	11.8	152.09	-982.8	-61.0	1,899.6	1,872.0	27.55	68.960	
7,000.0	6,874.2	6,862.2	6,862.2	25.5	12.0	152.38	-982.8	-61.0	1,917.8	1,889.9	27.89	68.753	
7,016.7	6,890.6	6,878.6	6,878.6	25.6	12.0	152.43	-982.8	-61.0	1,920.9	1,892.9	27.95	68.719	
7,050.0	6,923.2	6,911.2	6,911.2	25.7	12.1	136.22	-982.8	-61.0	1,926.2	1,898.0	28.20	68.315	
7,100.0	6,972.3	6,960.3	6,960.3	25.9	12.1	110.72	-982.8	-61.0	1,931.5	1,903.0	28.42	67.970	
7,150.0	7,021.1	7,009.1	7,009.1	26.0	12.2	91.04	-982.8	-61.0	1,933.3	1,904.9	28.46	67.933	
7,200.0	7,069.3	7,057.3	7,057.3	26.1	12.3	78.61	-982.8	-61.0	1,931.9	1,903.6	28.34	68.178	
7,250.0	7,116.5	7,104.5	7,104.5	26.2	12.4	71.16	-982.8	-61.0	1,927.2	1,899.2	28.07	68.669	
7,300.0	7,162.3	7,150.3	7,150.3	26.2	12.5	66.76	-982.8	-61.0	1,919.4	1,891.7	27.68	69.354	
7,350.0	7,206.4	7,194.4	7,194.4	26.3	12.6	64.31	-982.8	-61.0	1,908.5	1,881.3	27.20	70.164	
7,400.0	7,248.4	7,236.4	7,236.4	26.3	12.6	63.20	-982.8	-61.0	1,894.8	1,868.1	26.69	70.998	
7,450.0	7,288.1	7,276.1	7,276.1	26.3	12.7	63.09	-982.8	-61.0	1,878.4	1,852.2	26.19	71.730	
7,500.0	7,325.1	7,313.1	7,313.1	26.3	12.8	63.77	-982.8	-61.0	1,859.6	1,833.8	25.75	72.211	
7,550.0	7,359.2	7,347.2	7,347.2	26.3	12.8	65.10	-982.8	-61.0	1,838.5	1,813.1	25.43	72.291	
7,600.0	7,390.0	7,378.0	7,378.0	26.3	12.9	66.99	-982.8	-61.0	1,815.5	1,790.2	25.26	71.862	
7,650.0	7,417.4	7,405.4	7,405.4	26.3	12.9	69.36	-982.8	-61.0	1,790.8	1,765.5	25.26	70.892	
7,700.0	7,441.2	7,429.2	7,429.2	26.3	13.0	72.13	-982.8	-61.0	1,764.7	1,739.3	25.41	69.448	
7,750.0	7,461.1	7,449.1	7,449.1	26.3	13.0	75.22	-982.8	-61.0	1,737.5	1,711.8	25.67	67.677	
7,800.0	7,477.0	7,465.0	7,465.0	26.3	13.0	78.55	-982.8	-61.0	1,709.5	1,683.5	26.00	65.755	
7,850.0	7,488.8	7,476.8	7,476.8	26.4	13.0	82.02	-982.8	-61.0	1,681.0	1,654.6	26.33	63.839	
7,900.0	7,496.5	7,484.5	7,484.5	26.4	13.1	85.54	-982.8	-61.0	1,652.2	1,625.6	26.64	62.028	
7,950.0	7,499.8	7,487.8	7,487.8	26.5	13.1	89.02	-982.8	-61.0	1,623.5	1,596.6	26.90	60.359	
7,964.3	7,500.0	7,488.0	7,488.0	26.5	13.1	90.00	-982.8	-61.0	1,615.4	1,588.4	26.97	59.905	
8,000.0	7,500.0	7,488.0	7,488.0	26.6	13.1	90.00	-982.8	-61.0	1,595.3	1,568.2	27.11	58.852	
8,100.0	7,500.0	7,488.0	7,488.0	26.8	13.1	90.00	-982.8	-61.0	1,542.1	1,514.5	27.64	55.790	
8,200.0	7,500.0	7,488.0	7,488.0	27.2	13.1	90.00	-982.8	-61.0	1,493.7	1,465.4	28.36	52.672	
8,300.0	7,500.0	7,488.0	7,488.0	27.7	13.1	90.00	-982.8	-61.0	1,450.6	1,421.4	29.24	49.618	
8,400.0	7,500.0	7,488.0	7,488.0	28.3	13.1	90.00	-982.8	-61.0	1,413.3	1,383.0	30.25	46.724	
8,500.0	7,500.0	7,488.0	7,488.0	29.0	13.1	90.00	-982.8	-61.0	1,382.2	1,350.8	31.37	44.059	
8,600.0	7,500.0	7,488.0	7,488.0	29.8	13.1	90.00	-982.8	-61.0	1,357.8	1,325.2	32.59	41.663	
8,700.0	7,500.0	7,488.0	7,488.0	30.6	13.1	90.00	-982.8	-61.0	1,340.4	1,306.5	33.88	39.559	
8,800.0	7,500.0	7,488.0	7,488.0	31.5	13.1	90.00	-982.8	-61.0	1,330.3	1,295.0	35.24	37.749	
8,884.6	7,500.0	7,488.0	7,488.0	32.4	13.1	90.00	-982.8	-61.0	1,327.6	1,291.2	36.43	36.439	
8,900.0	7,500.0	7,488.0	7,488.0	32.5	13.1	90.00	-982.8	-61.0	1,327.7	1,291.0	36.65	36.226	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Thomas 7-12 (Existing) - Existing - NO SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 7894-Geolink 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)				
9,000.0	7,500.0	7,488.0	7,488.0	33.6	13.1	90.00	-982.8	-61.0	1,332.6	1,294.5	38.10	34.973		
9,100.0	7,500.0	7,488.0	7,488.0	34.7	13.1	90.00	-982.8	-61.0	1,345.0	1,305.4	39.59	33.969		
9,200.0	7,500.0	7,488.0	7,488.0	35.9	13.1	90.00	-982.8	-61.0	1,364.5	1,323.4	41.11	33.190		
9,300.0	7,500.0	7,488.0	7,488.0	37.1	13.1	90.00	-982.8	-61.0	1,391.1	1,348.4	42.66	32.609		
9,400.0	7,500.0	7,488.0	7,488.0	38.3	13.1	90.00	-982.8	-61.0	1,424.1	1,379.9	44.23	32.200		
9,500.0	7,500.0	7,488.0	7,488.0	39.6	13.1	90.00	-982.8	-61.0	1,463.3	1,417.5	45.81	31.939		
9,600.0	7,500.0	7,488.0	7,488.0	41.0	13.1	90.00	-982.8	-61.0	1,508.1	1,460.7	47.42	31.804		
9,700.0	7,500.0	7,488.0	7,488.0	42.3	13.1	90.00	-982.8	-61.0	1,558.0	1,509.0	49.04	31.773 SF		
9,800.0	7,500.0	7,488.0	7,488.0	43.7	13.1	90.00	-982.8	-61.0	1,612.6	1,561.9	50.67	31.829		
9,900.0	7,500.0	7,488.0	7,488.0	45.1	13.1	90.00	-982.8	-61.0	1,671.4	1,619.1	52.31	31.954		
10,000.0	7,500.0	7,488.0	7,488.0	46.6	13.1	90.00	-982.8	-61.0	1,734.0	1,680.0	53.96	32.137		
10,100.0	7,500.0	7,488.0	7,488.0	48.0	13.1	90.00	-982.8	-61.0	1,799.9	1,744.3	55.61	32.365		
10,200.0	7,500.0	7,488.0	7,488.0	49.5	13.1	90.00	-982.8	-61.0	1,868.9	1,811.6	57.28	32.628		
10,300.0	7,500.0	7,488.0	7,488.0	51.0	13.1	90.00	-982.8	-61.0	1,940.6	1,881.6	58.95	32.919		
10,400.0	7,500.0	7,488.0	7,488.0	52.5	13.1	90.00	-982.8	-61.0	2,014.7	1,954.1	60.63	33.230		
10,500.0	7,500.0	7,488.0	7,488.0	54.0	13.1	90.00	-982.8	-61.0	2,090.9	2,028.6	62.31	33.556		
10,600.0	7,500.0	7,488.0	7,488.0	55.6	13.1	90.00	-982.8	-61.0	2,169.1	2,105.1	64.00	33.892		
10,700.0	7,500.0	7,488.0	7,488.0	57.1	13.1	90.00	-982.8	-61.0	2,249.0	2,183.4	65.69	34.236		
10,800.0	7,500.0	7,488.0	7,488.0	58.7	13.1	90.00	-982.8	-61.0	2,330.5	2,263.1	67.39	34.583		
10,900.0	7,500.0	7,488.0	7,488.0	60.3	13.1	90.00	-982.8	-61.0	2,413.4	2,344.3	69.09	34.931		
11,000.0	7,500.0	7,488.0	7,488.0	61.9	13.1	90.00	-982.8	-61.0	2,497.5	2,426.7	70.79	35.279		
11,100.0	7,500.0	7,488.0	7,488.0	63.5	13.1	90.00	-982.8	-61.0	2,582.7	2,510.2	72.50	35.625		
11,200.0	7,500.0	7,488.0	7,488.0	65.1	13.1	90.00	-982.8	-61.0	2,669.0	2,594.8	74.21	35.967		
11,300.0	7,500.0	7,488.0	7,488.0	66.7	13.1	90.00	-982.8	-61.0	2,756.2	2,680.3	75.92	36.305		
11,400.0	7,500.0	7,488.0	7,488.0	68.3	13.1	90.00	-982.8	-61.0	2,844.3	2,766.6	77.63	36.638		
11,500.0	7,500.0	7,488.0	7,488.0	69.9	13.1	90.00	-982.8	-61.0	2,933.1	2,853.7	79.35	36.965		
11,600.0	7,500.0	7,488.0	7,488.0	71.5	13.1	90.00	-982.8	-61.0	3,022.6	2,941.5	81.07	37.286		
11,700.0	7,500.0	7,488.0	7,488.0	73.2	13.1	90.00	-982.8	-61.0	3,112.7	3,029.9	82.79	37.600		
11,800.0	7,500.0	7,488.0	7,488.0	74.8	13.1	90.00	-982.8	-61.0	3,203.5	3,118.9	84.51	37.908		
11,900.0	7,500.0	7,488.0	7,488.0	76.5	13.1	90.00	-982.8	-61.0	3,294.7	3,208.5	86.23	38.209		
12,000.0	7,500.0	7,488.0	7,488.0	78.1	13.1	90.00	-982.8	-61.0	3,386.5	3,298.5	87.95	38.503		
12,100.0	7,500.0	7,488.0	7,488.0	79.8	13.1	90.00	-982.8	-61.0	3,478.7	3,389.0	89.68	38.791		
12,200.0	7,500.0	7,488.0	7,488.0	81.4	13.1	90.00	-982.8	-61.0	3,571.3	3,479.9	91.41	39.071		
12,300.0	7,500.0	7,488.0	7,488.0	83.1	13.1	90.00	-982.8	-61.0	3,664.4	3,571.2	93.13	39.345		
12,400.0	7,500.0	7,488.0	7,488.0	84.8	13.1	90.00	-982.8	-61.0	3,757.7	3,662.9	94.86	39.612		
12,500.0	7,500.0	7,488.0	7,488.0	86.4	13.1	90.00	-982.8	-61.0	3,851.4	3,754.9	96.59	39.873		
12,600.0	7,500.0	7,488.0	7,488.0	88.1	13.1	90.00	-982.8	-61.0	3,945.5	3,847.1	98.32	40.127		
12,700.0	7,500.0	7,488.0	7,488.0	89.8	13.1	90.00	-982.8	-61.0	4,039.8	3,939.7	100.06	40.375		
12,800.0	7,500.0	7,488.0	7,488.0	91.5	13.1	90.00	-982.8	-61.0	4,134.4	4,032.6	101.79	40.617		
12,900.0	7,500.0	7,488.0	7,488.0	93.2	13.1	90.00	-982.8	-61.0	4,229.2	4,125.7	103.52	40.853		
13,000.0	7,500.0	7,488.0	7,488.0	94.8	13.1	90.00	-982.8	-61.0	4,324.2	4,219.0	105.26	41.083		
13,100.0	7,500.0	7,488.0	7,488.0	96.5	13.1	90.00	-982.8	-61.0	4,419.5	4,312.5	106.99	41.307		
13,200.0	7,500.0	7,488.0	7,488.0	98.2	13.1	90.00	-982.8	-61.0	4,515.0	4,406.3	108.73	41.526		
13,300.0	7,500.0	7,488.0	7,488.0	99.9	13.1	90.00	-982.8	-61.0	4,610.7	4,500.2	110.46	41.739		
13,400.0	7,500.0	7,488.0	7,488.0	101.6	13.1	90.00	-982.8	-61.0	4,706.5	4,594.3	112.20	41.947		
13,500.0	7,500.0	7,488.0	7,488.0	103.3	13.1	90.00	-982.8	-61.0	4,802.5	4,688.6	113.94	42.150		
13,600.0	7,500.0	7,488.0	7,488.0	105.0	13.1	90.00	-982.8	-61.0	4,898.7	4,783.1	115.68	42.348		
13,700.0	7,500.0	7,488.0	7,488.0	106.7	13.1	90.00	-982.8	-61.0	4,995.1	4,877.6	117.42	42.541		
13,800.0	7,500.0	7,488.0	7,488.0	108.4	13.1	90.00	-982.8	-61.0	5,091.5	4,972.4	119.16	42.730		
13,900.0	7,500.0	7,488.0	7,488.0	110.1	13.1	90.00	-982.8	-61.0	5,188.1	5,067.2	120.90	42.914		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS E UNIT 1 (EXISTING) - Existing - NO SUR														Offset Site Error:	0.0 ft
Survey Program: 8332-Geolink 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		
0.0	0.0	0.0	0.0	0.0	0.0	143.06	-1,198.8	901.3	1,499.8						
100.0	100.0	94.0	94.0	0.2	0.2	143.06	-1,198.8	901.3	1,499.8	1,499.5	0.32	4,744.706			
200.0	200.0	194.0	194.0	0.3	0.3	143.06	-1,198.8	901.3	1,499.8	1,499.1	0.67	2,254.796			
300.0	300.0	294.0	294.0	0.5	0.5	143.06	-1,198.8	901.3	1,499.8	1,498.8	1.01	1,478.771			
400.0	400.0	394.0	394.0	0.7	0.7	76.95	-1,198.8	901.3	1,499.6	1,498.3	1.36	1,099.482			
500.0	500.0	494.0	494.0	0.9	0.9	77.06	-1,198.8	901.3	1,499.0	1,497.3	1.72	873.095			
600.0	599.9	593.9	593.9	1.0	1.0	77.23	-1,198.8	901.3	1,498.1	1,496.0	2.08	721.429			
700.0	699.7	693.7	693.7	1.2	1.2	77.47	-1,198.8	901.3	1,496.7	1,494.3	2.45	611.867			
800.0	799.4	793.4	793.4	1.4	1.4	77.78	-1,198.8	901.3	1,495.0	1,492.2	2.83	528.444			
900.0	898.9	892.9	892.9	1.7	1.6	78.16	-1,198.8	901.3	1,493.0	1,489.8	3.23	462.454			
1,000.0	998.3	992.3	992.3	1.9	1.7	78.60	-1,198.8	901.3	1,490.7	1,487.1	3.65	408.754			
1,100.0	1,097.4	1,091.4	1,091.4	2.2	1.9	79.12	-1,198.8	901.3	1,488.2	1,484.1	4.09	364.114			
1,200.0	1,196.3	1,190.3	1,190.3	2.5	2.1	79.70	-1,198.8	901.3	1,485.4	1,480.9	4.55	326.398			
1,300.0	1,294.9	1,288.9	1,288.9	2.8	2.2	80.35	-1,198.8	901.3	1,482.5	1,477.5	5.04	294.133			
1,400.0	1,393.3	1,387.3	1,387.3	3.2	2.4	81.06	-1,198.8	901.3	1,479.5	1,474.0	5.56	266.260			
1,484.0	1,475.6	1,469.6	1,469.6	3.5	2.6	81.71	-1,198.8	901.3	1,477.0	1,471.0	6.01	245.710			
1,500.0	1,491.3	1,485.3	1,485.3	3.5	2.6	81.83	-1,198.8	901.3	1,476.5	1,470.4	6.10	242.128			
1,600.0	1,589.1	1,583.1	1,583.1	3.9	2.8	82.61	-1,198.8	901.3	1,473.7	1,467.0	6.65	221.711			
1,700.0	1,687.0	1,681.0	1,681.0	4.3	2.9	83.38	-1,198.8	901.3	1,471.1	1,463.9	7.20	204.289			
1,800.0	1,784.9	1,778.9	1,778.9	4.7	3.1	84.16	-1,198.8	901.3	1,468.9	1,461.1	7.76	189.291			
1,900.0	1,882.7	1,876.7	1,876.7	5.1	3.3	84.94	-1,198.8	901.3	1,466.9	1,458.5	8.32	176.272			
2,000.0	1,980.6	1,974.6	1,974.6	5.4	3.4	85.72	-1,198.8	901.3	1,465.2	1,456.3	8.89	164.886			
2,100.0	2,078.5	2,072.5	2,072.5	5.8	3.6	86.51	-1,198.8	901.3	1,463.7	1,454.3	9.45	154.860			
2,200.0	2,176.4	2,170.4	2,170.4	6.2	3.8	87.29	-1,198.8	901.3	1,462.6	1,452.6	10.02	145.977			
2,300.0	2,274.2	2,268.2	2,268.2	6.6	4.0	88.08	-1,198.8	901.3	1,461.8	1,451.2	10.59	138.062			
2,400.0	2,372.1	2,366.1	2,366.1	7.0	4.1	88.87	-1,198.8	901.3	1,461.2	1,450.0	11.16	130.974			
2,500.0	2,470.0	2,464.0	2,464.0	7.4	4.3	89.65	-1,198.8	901.3	1,460.9	1,449.2	11.73	124.597			
2,544.1	2,513.1	2,507.1	2,507.1	7.6	4.4	90.00	-1,198.8	901.3	1,460.9	1,448.9	11.98	121.986			
2,600.0	2,567.8	2,561.8	2,561.8	7.8	4.5	90.44	-1,198.8	901.3	1,460.9	1,448.7	12.29	118.835			
2,700.0	2,665.7	2,659.7	2,659.7	8.2	4.6	91.23	-1,198.8	901.3	1,461.3	1,448.4	12.86	113.609			
2,800.0	2,763.6	2,757.6	2,757.6	8.6	4.8	92.01	-1,198.8	901.3	1,461.8	1,448.4	13.43	108.853			
2,900.0	2,861.5	2,855.5	2,855.5	9.0	5.0	92.80	-1,198.8	901.3	1,462.7	1,448.7	14.00	104.511			
3,000.0	2,959.3	2,953.3	2,953.3	9.4	5.2	93.59	-1,198.8	901.3	1,463.9	1,449.3	14.56	100.534			
3,100.0	3,057.2	3,051.2	3,051.2	9.8	5.3	94.37	-1,198.8	901.3	1,465.4	1,450.2	15.12	96.883			
3,200.0	3,155.1	3,149.1	3,149.1	10.2	5.5	95.15	-1,198.8	901.3	1,467.1	1,451.4	15.69	93.523			
3,300.0	3,253.0	3,247.0	3,247.0	10.6	5.7	95.93	-1,198.8	901.3	1,469.1	1,452.9	16.25	90.423			
3,400.0	3,350.8	3,344.8	3,344.8	11.0	5.8	96.71	-1,198.8	901.3	1,471.4	1,454.6	16.81	87.558			
3,500.0	3,448.7	3,442.7	3,442.7	11.4	6.0	97.49	-1,198.8	901.3	1,474.0	1,456.7	17.36	84.904			
3,600.0	3,546.6	3,540.6	3,540.6	11.8	6.2	98.26	-1,198.8	901.3	1,476.9	1,459.0	17.91	82.441			
3,700.0	3,644.4	3,638.4	3,638.4	12.2	6.4	99.03	-1,198.8	901.3	1,480.0	1,461.6	18.47	80.152			
3,800.0	3,742.3	3,736.3	3,736.3	12.6	6.5	99.80	-1,198.8	901.3	1,483.5	1,464.4	19.01	78.022			
3,900.0	3,840.2	3,834.2	3,834.2	13.0	6.7	100.56	-1,198.8	901.3	1,487.2	1,467.6	19.56	76.037			
4,000.0	3,938.1	3,932.1	3,932.1	13.4	6.9	101.32	-1,198.8	901.3	1,491.1	1,471.0	20.10	74.183			
4,100.0	4,035.9	4,029.9	4,029.9	13.8	7.0	102.07	-1,198.8	901.3	1,495.4	1,474.7	20.64	72.452			
4,200.0	4,133.8	4,127.8	4,127.8	14.2	7.2	102.82	-1,198.8	901.3	1,499.9	1,478.7	21.18	70.832			
4,300.0	4,231.7	4,225.7	4,225.7	14.6	7.4	103.57	-1,198.8	901.3	1,504.7	1,483.0	21.71	69.315			
4,400.0	4,329.5	4,323.5	4,323.5	15.0	7.5	104.31	-1,198.8	901.3	1,509.7	1,487.5	22.24	67.893			
4,500.0	4,427.4	4,421.4	4,421.4	15.4	7.7	105.05	-1,198.8	901.3	1,515.0	1,492.3	22.76	66.559			
4,600.0	4,525.3	4,519.3	4,519.3	15.8	7.9	105.78	-1,198.8	901.3	1,520.6	1,497.3	23.28	65.307			
4,700.0	4,623.2	4,617.2	4,617.2	16.2	8.1	106.51	-1,198.8	901.3	1,526.4	1,502.6	23.80	64.130			
4,800.0	4,721.0	4,715.0	4,715.0	16.7	8.2	107.23	-1,198.8	901.3	1,532.5	1,508.2	24.32	63.024			
4,900.0	4,818.9	4,812.9	4,812.9	17.1	8.4	107.94	-1,198.8	901.3	1,538.8	1,514.0	24.83	61.983			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS E UNIT 1 (EXISTING) - Existing - NO SUR													Offset Site Error:	0.0 ft
Survey Program: 8332-Geolink 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	4,916.8	4,910.8	4,910.8	17.5	8.6	108.65	-1,198.8	901.3	1,545.4	1,520.0	25.33	61.004		
5,100.0	5,014.7	5,008.7	5,008.7	17.9	8.7	109.36	-1,198.8	901.3	1,552.2	1,526.4	25.83	60.081		
5,200.0	5,112.5	5,106.5	5,106.5	18.3	8.9	110.06	-1,198.8	901.3	1,559.2	1,532.9	26.33	59.211		
5,300.0	5,210.4	5,204.4	5,204.4	18.7	9.1	110.75	-1,198.8	901.3	1,566.5	1,539.7	26.83	58.392		
5,400.0	5,308.3	5,302.3	5,302.3	19.1	9.3	111.43	-1,198.8	901.3	1,574.1	1,546.7	27.32	57.619		
5,500.0	5,406.1	5,400.1	5,400.1	19.5	9.4	112.11	-1,198.8	901.3	1,581.8	1,554.0	27.80	56.890		
5,600.0	5,504.0	5,498.0	5,498.0	19.9	9.6	112.79	-1,198.8	901.3	1,589.8	1,561.5	28.29	56.202		
5,700.0	5,601.9	5,595.9	5,595.9	20.3	9.8	113.45	-1,198.8	901.3	1,598.0	1,569.2	28.77	55.553		
5,800.0	5,699.8	5,693.8	5,693.8	20.7	9.9	114.11	-1,198.8	901.3	1,606.4	1,577.2	29.24	54.940		
5,900.0	5,797.6	5,791.6	5,791.6	21.1	10.1	114.76	-1,198.8	901.3	1,615.1	1,585.3	29.71	54.361		
6,000.0	5,895.5	5,889.5	5,889.5	21.5	10.3	115.41	-1,198.8	901.3	1,623.9	1,593.7	30.18	53.815		
6,100.0	5,993.4	5,987.4	5,987.4	21.9	10.4	116.05	-1,198.8	901.3	1,633.0	1,602.3	30.64	53.299		
6,200.0	6,091.2	6,085.2	6,085.2	22.3	10.6	116.68	-1,198.8	901.3	1,642.2	1,611.1	31.10	52.811		
6,300.0	6,189.1	6,183.1	6,183.1	22.7	10.8	117.31	-1,198.8	901.3	1,651.7	1,620.2	31.55	52.351		
6,400.0	6,287.0	6,281.0	6,281.0	23.1	11.0	117.93	-1,198.8	901.3	1,661.4	1,629.4	32.00	51.917		
6,500.0	6,384.9	6,378.9	6,378.9	23.5	11.1	118.54	-1,198.8	901.3	1,671.3	1,638.8	32.45	51.506		
6,600.0	6,482.7	6,476.7	6,476.7	23.9	11.3	119.14	-1,198.8	901.3	1,681.3	1,648.4	32.89	51.119		
6,700.0	6,580.6	6,574.6	6,574.6	24.3	11.5	119.74	-1,198.8	901.3	1,691.6	1,658.2	33.33	50.753		
6,800.0	6,678.5	6,672.5	6,672.5	24.7	11.6	120.33	-1,198.8	901.3	1,702.0	1,668.2	33.76	50.408		
6,900.0	6,776.4	6,770.4	6,770.4	25.1	11.8	120.91	-1,198.8	901.3	1,712.6	1,678.4	34.20	50.082		
7,000.0	6,874.2	6,868.2	6,868.2	25.5	12.0	121.49	-1,198.8	901.3	1,723.4	1,688.8	34.62	49.775		
7,016.7	6,890.6	6,884.6	6,884.6	25.6	12.0	121.58	-1,198.8	901.3	1,725.2	1,690.5	34.70	49.726		
7,050.0	6,923.2	6,917.2	6,917.2	25.7	12.1	105.77	-1,198.8	901.3	1,727.9	1,693.1	34.85	49.581		
7,100.0	6,972.3	6,966.3	6,966.3	25.9	12.2	80.66	-1,198.8	901.3	1,728.4	1,693.5	34.90	49.528		
7,150.0	7,021.1	7,015.1	7,015.1	26.0	12.2	61.18	-1,198.8	901.3	1,724.7	1,689.9	34.72	49.672		
7,200.0	7,069.3	7,063.3	7,063.3	26.1	12.3	48.77	-1,198.8	901.3	1,716.7	1,682.4	34.32	50.015		
7,250.0	7,116.5	7,110.5	7,110.5	26.2	12.4	41.15	-1,198.8	901.3	1,704.6	1,670.9	33.71	50.563		
7,300.0	7,162.3	7,156.3	7,156.3	26.2	12.5	36.43	-1,198.8	901.3	1,688.4	1,655.5	32.90	51.323		
7,350.0	7,206.4	7,200.4	7,200.4	26.3	12.6	33.53	-1,198.8	901.3	1,668.3	1,636.4	31.90	52.303		
7,400.0	7,248.4	7,242.4	7,242.4	26.3	12.6	31.86	-1,198.8	901.3	1,644.5	1,613.8	30.73	53.509		
7,450.0	7,288.1	7,282.1	7,282.1	26.3	12.7	31.12	-1,198.8	901.3	1,617.2	1,587.7	29.44	54.937		
7,500.0	7,325.1	7,319.1	7,319.1	26.3	12.8	31.15	-1,198.8	901.3	1,586.5	1,558.5	28.05	56.562		
7,550.0	7,359.2	7,353.2	7,353.2	26.3	12.8	31.90	-1,198.8	901.3	1,552.7	1,526.1	26.63	58.316		
7,600.0	7,390.0	7,384.0	7,384.0	26.3	12.9	33.40	-1,198.8	901.3	1,516.1	1,490.9	25.25	60.050		
7,650.0	7,417.4	7,411.4	7,411.4	26.3	12.9	35.77	-1,198.8	901.3	1,477.0	1,453.0	24.03	61.475		
7,700.0	7,441.2	7,435.2	7,435.2	26.3	13.0	39.20	-1,198.8	901.3	1,435.7	1,412.5	23.11	62.111		
7,750.0	7,461.1	7,455.1	7,455.1	26.3	13.0	44.01	-1,198.8	901.3	1,392.4	1,369.7	22.71	61.320		
7,800.0	7,477.0	7,471.0	7,471.0	26.3	13.0	50.64	-1,198.8	901.3	1,347.6	1,324.6	23.00	58.603		
7,850.0	7,488.8	7,482.8	7,482.8	26.4	13.1	59.64	-1,198.8	901.3	1,301.5	1,277.5	24.03	54.153		
7,900.0	7,496.5	7,490.5	7,490.5	26.4	13.1	71.41	-1,198.8	901.3	1,254.6	1,229.1	25.54	49.132		
7,950.0	7,499.8	7,493.8	7,493.8	26.5	13.1	85.65	-1,198.8	901.3	1,207.2	1,180.4	26.78	45.079		
7,964.3	7,500.0	7,494.0	7,494.0	26.5	13.1	90.00	-1,198.8	901.3	1,193.6	1,166.6	26.98	44.245		
8,000.0	7,500.0	7,494.0	7,494.0	26.6	13.1	90.00	-1,198.8	901.3	1,159.6	1,132.5	27.12	42.763		
8,100.0	7,500.0	7,494.0	7,494.0	26.8	13.1	90.00	-1,198.8	901.3	1,065.2	1,037.6	27.65	38.522		
8,200.0	7,500.0	7,494.0	7,494.0	27.2	13.1	90.00	-1,198.8	901.3	971.9	943.5	28.37	34.258		
8,300.0	7,500.0	7,494.0	7,494.0	27.7	13.1	90.00	-1,198.8	901.3	880.0	850.8	29.25	30.090		
8,400.0	7,500.0	7,494.0	7,494.0	28.3	13.1	90.00	-1,198.8	901.3	790.1	759.9	30.26	26.113		
8,500.0	7,500.0	7,494.0	7,494.0	29.0	13.1	90.00	-1,198.8	901.3	703.0	671.6	31.38	22.401		
8,600.0	7,500.0	7,494.0	7,494.0	29.8	13.1	90.00	-1,198.8	901.3	619.7	587.1	32.60	19.010		
8,700.0	7,500.0	7,494.0	7,494.0	30.6	13.1	90.00	-1,198.8	901.3	542.2	508.3	33.89	15.996		
8,800.0	7,500.0	7,494.0	7,494.0	31.5	13.1	90.00	-1,198.8	901.3	473.1	437.8	35.25	13.421		
8,900.0	7,500.0	7,494.0	7,494.0	32.5	13.1	90.00	-1,198.8	901.3	416.8	380.1	36.66	11.369		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS E UNIT 1 (EXISTING) - Existing - NO SUR												Offset Site Error: 0.0 ft	
Survey Program: 8332-Geolink 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	
9,000.0	7,500.0	7,494.0	7,494.0	33.6	13.1	90.00	-1,198.8	901.3	378.9	340.8	38.11	9.942	
9,100.0	7,500.0	7,494.0	7,494.0	34.7	13.1	90.00	-1,198.8	901.3	365.3	325.7	39.60	9.225	
9,100.6	7,500.0	7,494.0	7,494.0	34.7	13.1	90.00	-1,198.8	901.3	365.3	325.7	39.61	9.222 CC, ES	
9,200.0	7,500.0	7,494.0	7,494.0	35.9	13.1	90.00	-1,198.8	901.3	378.6	337.5	41.12	9.206 SF	
9,300.0	7,500.0	7,494.0	7,494.0	37.1	13.1	90.00	-1,198.8	901.3	416.2	373.5	42.67	9.754	
9,400.0	7,500.0	7,494.0	7,494.0	38.3	13.1	90.00	-1,198.8	901.3	472.3	428.1	44.24	10.677	
9,500.0	7,500.0	7,494.0	7,494.0	39.6	13.1	90.00	-1,198.8	901.3	541.3	495.5	45.83	11.812	
9,600.0	7,500.0	7,494.0	7,494.0	41.0	13.1	90.00	-1,198.8	901.3	618.8	571.3	47.43	13.046	
9,700.0	7,500.0	7,494.0	7,494.0	42.3	13.1	90.00	-1,198.8	901.3	702.0	652.9	49.05	14.312	
9,800.0	7,500.0	7,494.0	7,494.0	43.7	13.1	90.00	-1,198.8	901.3	789.1	738.4	50.68	15.571	
9,900.0	7,500.0	7,494.0	7,494.0	45.1	13.1	90.00	-1,198.8	901.3	878.9	826.6	52.32	16.800	
10,000.0	7,500.0	7,494.0	7,494.0	46.6	13.1	90.00	-1,198.8	901.3	970.8	916.8	53.97	17.988	
10,100.0	7,500.0	7,494.0	7,494.0	48.0	13.1	90.00	-1,198.8	901.3	1,064.1	1,008.5	55.62	19.130	
10,200.0	7,500.0	7,494.0	7,494.0	49.5	13.1	90.00	-1,198.8	901.3	1,158.5	1,101.2	57.29	20.222	
10,300.0	7,500.0	7,494.0	7,494.0	51.0	13.1	90.00	-1,198.8	901.3	1,253.8	1,194.8	58.96	21.265	
10,400.0	7,500.0	7,494.0	7,494.0	52.5	13.1	90.00	-1,198.8	901.3	1,349.8	1,289.1	60.64	22.259	
10,500.0	7,500.0	7,494.0	7,494.0	54.0	13.1	90.00	-1,198.8	901.3	1,446.3	1,384.0	62.32	23.206	
10,600.0	7,500.0	7,494.0	7,494.0	55.6	13.1	90.00	-1,198.8	901.3	1,543.3	1,479.3	64.01	24.109	
10,700.0	7,500.0	7,494.0	7,494.0	57.1	13.1	90.00	-1,198.8	901.3	1,640.6	1,574.9	65.70	24.970	
10,800.0	7,500.0	7,494.0	7,494.0	58.7	13.1	90.00	-1,198.8	901.3	1,738.2	1,670.8	67.40	25.790	
10,900.0	7,500.0	7,494.0	7,494.0	60.3	13.1	90.00	-1,198.8	901.3	1,836.1	1,767.0	69.10	26.572	
11,000.0	7,500.0	7,494.0	7,494.0	61.9	13.1	90.00	-1,198.8	901.3	1,934.2	1,863.4	70.80	27.318	
11,100.0	7,500.0	7,494.0	7,494.0	63.5	13.1	90.00	-1,198.8	901.3	2,032.5	1,960.0	72.51	28.031	
11,200.0	7,500.0	7,494.0	7,494.0	65.1	13.1	90.00	-1,198.8	901.3	2,130.9	2,056.7	74.22	28.712	
11,300.0	7,500.0	7,494.0	7,494.0	66.7	13.1	90.00	-1,198.8	901.3	2,229.5	2,153.6	75.93	29.363	
11,400.0	7,500.0	7,494.0	7,494.0	68.3	13.1	90.00	-1,198.8	901.3	2,328.2	2,250.6	77.64	29.987	
11,500.0	7,500.0	7,494.0	7,494.0	69.9	13.1	90.00	-1,198.8	901.3	2,427.1	2,347.7	79.36	30.583	
11,600.0	7,500.0	7,494.0	7,494.0	71.5	13.1	90.00	-1,198.8	901.3	2,526.0	2,444.9	81.08	31.155	
11,700.0	7,500.0	7,494.0	7,494.0	73.2	13.1	90.00	-1,198.8	901.3	2,624.9	2,542.2	82.80	31.704	
11,800.0	7,500.0	7,494.0	7,494.0	74.8	13.1	90.00	-1,198.8	901.3	2,724.0	2,639.5	84.52	32.230	
11,900.0	7,500.0	7,494.0	7,494.0	76.5	13.1	90.00	-1,198.8	901.3	2,823.1	2,736.9	86.24	32.736	
12,000.0	7,500.0	7,494.0	7,494.0	78.1	13.1	90.00	-1,198.8	901.3	2,922.3	2,834.4	87.96	33.222	
12,100.0	7,500.0	7,494.0	7,494.0	79.8	13.1	90.00	-1,198.8	901.3	3,021.6	2,931.9	89.69	33.689	
12,200.0	7,500.0	7,494.0	7,494.0	81.4	13.1	90.00	-1,198.8	901.3	3,120.9	3,029.4	91.42	34.139	
12,300.0	7,500.0	7,494.0	7,494.0	83.1	13.1	90.00	-1,198.8	901.3	3,220.2	3,127.0	93.14	34.572	
12,400.0	7,500.0	7,494.0	7,494.0	84.8	13.1	90.00	-1,198.8	901.3	3,319.6	3,224.7	94.87	34.990	
12,500.0	7,500.0	7,494.0	7,494.0	86.4	13.1	90.00	-1,198.8	901.3	3,419.0	3,322.4	96.60	35.392	
12,600.0	7,500.0	7,494.0	7,494.0	88.1	13.1	90.00	-1,198.8	901.3	3,518.4	3,420.1	98.33	35.780	
12,700.0	7,500.0	7,494.0	7,494.0	89.8	13.1	90.00	-1,198.8	901.3	3,617.9	3,517.8	100.07	36.155	
12,800.0	7,500.0	7,494.0	7,494.0	91.5	13.1	90.00	-1,198.8	901.3	3,717.4	3,615.6	101.80	36.517	
12,900.0	7,500.0	7,494.0	7,494.0	93.2	13.1	90.00	-1,198.8	901.3	3,816.9	3,713.4	103.53	36.867	
13,000.0	7,500.0	7,494.0	7,494.0	94.8	13.1	90.00	-1,198.8	901.3	3,916.5	3,811.2	105.27	37.205	
13,100.0	7,500.0	7,494.0	7,494.0	96.5	13.1	90.00	-1,198.8	901.3	4,016.1	3,909.0	107.00	37.532	
13,200.0	7,500.0	7,494.0	7,494.0	98.2	13.1	90.00	-1,198.8	901.3	4,115.6	4,006.9	108.74	37.849	
13,300.0	7,500.0	7,494.0	7,494.0	99.9	13.1	90.00	-1,198.8	901.3	4,215.3	4,104.8	110.47	38.156	
13,400.0	7,500.0	7,494.0	7,494.0	101.6	13.1	90.00	-1,198.8	901.3	4,314.9	4,202.7	112.21	38.453	
13,500.0	7,500.0	7,494.0	7,494.0	103.3	13.1	90.00	-1,198.8	901.3	4,414.5	4,300.6	113.95	38.741	
13,600.0	7,500.0	7,494.0	7,494.0	105.0	13.1	90.00	-1,198.8	901.3	4,514.2	4,398.5	115.69	39.021	
13,700.0	7,500.0	7,494.0	7,494.0	106.7	13.1	90.00	-1,198.8	901.3	4,613.9	4,496.5	117.43	39.292	
13,800.0	7,500.0	7,494.0	7,494.0	108.4	13.1	90.00	-1,198.8	901.3	4,713.6	4,594.4	119.17	39.555	
13,900.0	7,500.0	7,494.0	7,494.0	110.1	13.1	90.00	-1,198.8	901.3	4,813.3	4,692.4	120.91	39.810	
14,000.0	7,500.0	7,494.0	7,494.0	111.8	13.1	90.00	-1,198.8	901.3	4,913.0	4,790.4	122.65	40.058	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - THOMAS E UNIT 1 (EXISTING) - Existing - NO SUR				Offset Site Error:		0.0 ft	
Survey Program:				8332-Geolink 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								
14,100.0	7,500.0	7,494.0	7,494.0	113.5	13.1	90.00	-1,198.8	901.3	5,012.7	4,888.3	124.39	40.300								
14,200.0	7,500.0	7,494.0	7,494.0	115.2	13.1	90.00	-1,198.8	901.3	5,112.5	4,986.3	126.13	40.534								
14,300.0	7,500.0	7,494.0	7,494.0	116.9	13.1	90.00	-1,198.8	901.3	5,212.2	5,084.3	127.87	40.762								

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 12-7 (EXISTING) - ENCANA WELL - NO													Offset Site Error:	0.0 ft
Survey Program: 8325-Geolink 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	88.0	88.0	0.0	0.2	-29.24	131.5	-73.6	150.7					
100.0	100.0	188.0	188.0	0.2	0.3	-29.24	131.5	-73.6	150.7	150.2	0.48	313.852		
200.0	200.0	288.0	288.0	0.3	0.5	-29.24	131.5	-73.6	150.7	149.9	0.83	181.736		
300.0	300.0	388.0	388.0	0.5	0.7	-29.24	131.5	-73.6	150.7	149.5	1.18	127.897 CC		
400.0	400.0	488.0	488.0	0.7	0.9	-95.71	131.5	-73.6	150.8	149.3	1.53	98.679		
500.0	500.0	588.0	588.0	0.9	1.0	-96.70	131.5	-73.6	151.1	149.2	1.88	80.305 ES		
600.0	599.9	687.9	687.9	1.0	1.2	-98.33	131.5	-73.6	151.6	149.4	2.24	67.664		
700.0	699.7	787.7	787.7	1.2	1.4	-100.58	131.5	-73.6	152.6	150.0	2.61	58.467		
800.0	799.4	887.4	887.4	1.4	1.5	-103.42	131.5	-73.6	154.3	151.3	2.99	51.556		
900.0	898.9	986.9	986.9	1.7	1.7	-106.79	131.5	-73.6	156.8	153.4	3.39	46.290		
1,000.0	998.3	1,086.3	1,086.3	1.9	1.9	-110.61	131.5	-73.6	160.4	156.6	3.79	42.291		
1,100.0	1,097.4	1,185.4	1,185.4	2.2	2.1	-114.77	131.5	-73.6	165.5	161.3	4.21	39.318		
1,200.0	1,196.3	1,284.3	1,284.3	2.5	2.2	-119.14	131.5	-73.6	172.3	167.7	4.63	37.205		
1,300.0	1,294.9	1,382.9	1,382.9	2.8	2.4	-123.59	131.5	-73.6	181.0	175.9	5.05	35.825		
1,400.0	1,393.3	1,481.3	1,481.3	3.2	2.6	-128.00	131.5	-73.6	191.7	186.3	5.47	35.073		
1,484.0	1,475.6	1,563.6	1,563.6	3.5	2.7	-131.59	131.5	-73.6	202.5	196.7	5.81	34.867 SF		
1,500.0	1,491.3	1,579.3	1,579.3	3.5	2.8	-132.27	131.5	-73.6	204.7	198.9	5.87	34.867		
1,600.0	1,589.1	1,677.1	1,677.1	3.9	2.9	-136.20	131.5	-73.6	219.2	213.0	6.26	35.014		
1,700.0	1,687.0	1,775.0	1,775.0	4.3	3.1	-139.64	131.5	-73.6	234.6	228.0	6.64	35.352		
1,800.0	1,784.9	1,872.9	1,872.9	4.7	3.3	-142.65	131.5	-73.6	250.7	243.7	7.00	35.815		
1,900.0	1,882.7	1,970.7	1,970.7	5.1	3.4	-145.30	131.5	-73.6	267.4	260.1	7.36	36.356		
2,000.0	1,980.6	2,068.6	2,068.6	5.4	3.6	-147.64	131.5	-73.6	284.7	277.0	7.71	36.944		
2,100.0	2,078.5	2,166.5	2,166.5	5.8	3.8	-149.71	131.5	-73.6	302.3	294.2	8.05	37.555		
2,200.0	2,176.4	2,264.4	2,264.4	6.2	4.0	-151.55	131.5	-73.6	320.3	311.9	8.39	38.174		
2,300.0	2,274.2	2,362.2	2,362.2	6.6	4.1	-153.20	131.5	-73.6	338.5	329.8	8.73	38.790		
2,400.0	2,372.1	2,460.1	2,460.1	7.0	4.3	-154.68	131.5	-73.6	357.0	348.0	9.06	39.396		
2,500.0	2,470.0	2,558.0	2,558.0	7.4	4.5	-156.01	131.5	-73.6	375.8	366.4	9.40	39.987		
2,600.0	2,567.8	2,655.8	2,655.8	7.8	4.6	-157.22	131.5	-73.6	394.7	384.9	9.73	40.560		
2,700.0	2,665.7	2,753.7	2,753.7	8.2	4.8	-158.32	131.5	-73.6	413.7	403.6	10.06	41.114		
2,800.0	2,763.6	2,851.6	2,851.6	8.6	5.0	-159.32	131.5	-73.6	432.9	422.5	10.39	41.646		
2,900.0	2,861.5	2,949.5	2,949.5	9.0	5.1	-160.23	131.5	-73.6	452.2	441.5	10.73	42.157		
3,000.0	2,959.3	3,047.3	3,047.3	9.4	5.3	-161.07	131.5	-73.6	471.6	460.5	11.06	42.647		
3,100.0	3,057.2	3,145.2	3,145.2	9.8	5.5	-161.85	131.5	-73.6	491.1	479.7	11.39	43.116		
3,200.0	3,155.1	3,243.1	3,243.1	10.2	5.7	-162.57	131.5	-73.6	510.7	499.0	11.72	43.565		
3,300.0	3,253.0	3,341.0	3,341.0	10.6	5.8	-163.23	131.5	-73.6	530.3	518.3	12.05	43.995		
3,400.0	3,350.8	3,438.8	3,438.8	11.0	6.0	-163.84	131.5	-73.6	550.0	537.6	12.39	44.406		
3,500.0	3,448.7	3,536.7	3,536.7	11.4	6.2	-164.42	131.5	-73.6	569.8	557.1	12.72	44.799		
3,600.0	3,546.6	3,634.6	3,634.6	11.8	6.3	-164.95	131.5	-73.6	589.6	576.6	13.05	45.175		
3,700.0	3,644.4	3,732.4	3,732.4	12.2	6.5	-165.45	131.5	-73.6	609.5	596.1	13.39	45.534		
3,800.0	3,742.3	3,830.3	3,830.3	12.6	6.7	-165.92	131.5	-73.6	629.4	615.7	13.72	45.879		
3,900.0	3,840.2	3,928.2	3,928.2	13.0	6.9	-166.36	131.5	-73.6	649.3	635.3	14.05	46.208		
4,000.0	3,938.1	4,026.1	4,026.1	13.4	7.0	-166.77	131.5	-73.6	669.3	654.9	14.39	46.524		
4,100.0	4,035.9	4,123.9	4,123.9	13.8	7.2	-167.16	131.5	-73.6	689.3	674.6	14.72	46.827		
4,200.0	4,133.8	4,221.8	4,221.8	14.2	7.4	-167.53	131.5	-73.6	709.4	694.3	15.06	47.117		
4,300.0	4,231.7	4,319.7	4,319.7	14.6	7.5	-167.88	131.5	-73.6	729.4	714.0	15.39	47.395		
4,400.0	4,329.5	4,417.5	4,417.5	15.0	7.7	-168.21	131.5	-73.6	749.5	733.8	15.73	47.663		
4,500.0	4,427.4	4,515.4	4,515.4	15.4	7.9	-168.52	131.5	-73.6	769.6	753.6	16.06	47.919		
4,600.0	4,525.3	4,613.3	4,613.3	15.8	8.1	-168.82	131.5	-73.6	789.8	773.4	16.40	48.166		
4,700.0	4,623.2	4,711.2	4,711.2	16.2	8.2	-169.10	131.5	-73.6	809.9	793.2	16.73	48.403		
4,800.0	4,721.0	4,809.0	4,809.0	16.7	8.4	-169.37	131.5	-73.6	830.1	813.0	17.07	48.632		
4,900.0	4,818.9	4,906.9	4,906.9	17.1	8.6	-169.62	131.5	-73.6	850.3	832.9	17.41	48.851		
5,000.0	4,916.8	5,004.8	5,004.8	17.5	8.7	-169.86	131.5	-73.6	870.5	852.8	17.74	49.063		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 12-7 (EXISTING) - ENCANA WELL - NO												Offset Site Error:	0.0 ft
Survey Program: 8325-Geolink 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
5,100.0	5,014.7	5,102.7	5,102.7	17.9	8.9	-170.10	131.5	-73.6	890.7	872.6	18.08	49.267	
5,200.0	5,112.5	5,200.5	5,200.5	18.3	9.1	-170.32	131.5	-73.6	910.9	892.5	18.42	49.463	
5,300.0	5,210.4	5,298.4	5,298.4	18.7	9.2	-170.53	131.5	-73.6	931.2	912.4	18.75	49.653	
5,400.0	5,308.3	5,396.3	5,396.3	19.1	9.4	-170.73	131.5	-73.6	951.4	932.4	19.09	49.836	
5,500.0	5,406.1	5,494.1	5,494.1	19.5	9.6	-170.93	131.5	-73.6	971.7	952.3	19.43	50.013	
5,600.0	5,504.0	5,592.0	5,592.0	19.9	9.8	-171.11	131.5	-73.6	992.0	972.2	19.77	50.184	
5,700.0	5,601.9	5,689.9	5,689.9	20.3	9.9	-171.29	131.5	-73.6	1,012.3	992.2	20.11	50.349	
5,800.0	5,699.8	5,787.8	5,787.8	20.7	10.1	-171.47	131.5	-73.6	1,032.6	1,012.1	20.44	50.508	
5,900.0	5,797.6	5,885.6	5,885.6	21.1	10.3	-171.63	131.5	-73.6	1,052.9	1,032.1	20.78	50.663	
6,000.0	5,895.5	5,983.5	5,983.5	21.5	10.4	-171.79	131.5	-73.6	1,073.2	1,052.1	21.12	50.812	
6,100.0	5,993.4	6,081.4	6,081.4	21.9	10.6	-171.94	131.5	-73.6	1,093.5	1,072.1	21.46	50.957	
6,200.0	6,091.2	6,179.2	6,179.2	22.3	10.8	-172.09	131.5	-73.6	1,113.8	1,092.0	21.80	51.098	
6,300.0	6,189.1	6,277.1	6,277.1	22.7	11.0	-172.24	131.5	-73.6	1,134.2	1,112.0	22.14	51.234	
6,400.0	6,287.0	6,375.0	6,375.0	23.1	11.1	-172.37	131.5	-73.6	1,154.5	1,132.0	22.48	51.366	
6,500.0	6,384.9	6,472.9	6,472.9	23.5	11.3	-172.51	131.5	-73.6	1,174.9	1,152.1	22.82	51.494	
6,600.0	6,482.7	6,570.7	6,570.7	23.9	11.5	-172.63	131.5	-73.6	1,195.2	1,172.1	23.16	51.618	
6,700.0	6,580.6	6,668.6	6,668.6	24.3	11.6	-172.76	131.5	-73.6	1,215.6	1,192.1	23.49	51.738	
6,800.0	6,678.5	6,766.5	6,766.5	24.7	11.8	-172.88	131.5	-73.6	1,235.9	1,212.1	23.83	51.855	
6,900.0	6,776.4	6,864.4	6,864.4	25.1	12.0	-172.99	131.5	-73.6	1,256.3	1,232.1	24.17	51.969	
7,000.0	6,874.2	6,962.2	6,962.2	25.5	12.2	-173.11	131.5	-73.6	1,276.7	1,252.2	24.51	52.080	
7,016.7	6,890.6	6,978.6	6,978.6	25.6	12.2	-173.12	131.5	-73.6	1,280.1	1,255.5	24.57	52.098	
7,050.0	6,923.2	7,011.2	7,011.2	25.7	12.2	170.27	131.5	-73.6	1,286.6	1,261.9	24.66	52.170	
7,100.0	6,972.3	7,060.3	7,060.3	25.9	12.3	144.18	131.5	-73.6	1,295.3	1,270.5	24.81	52.203	
7,150.0	7,021.1	7,109.1	7,109.1	26.0	12.4	123.94	131.5	-73.6	1,302.8	1,277.8	24.98	52.160	
7,200.0	7,069.3	7,157.3	7,157.3	26.1	12.5	110.97	131.5	-73.6	1,308.9	1,283.8	25.14	52.061	
7,250.0	7,116.5	7,204.5	7,204.5	26.2	12.6	102.94	131.5	-73.6	1,313.9	1,288.6	25.31	51.918	
7,300.0	7,162.3	7,250.3	7,250.3	26.2	12.7	97.93	131.5	-73.6	1,317.7	1,292.2	25.47	51.738	
7,350.0	7,206.4	7,294.4	7,294.4	26.3	12.7	94.78	131.5	-73.6	1,320.6	1,295.0	25.63	51.527	
7,400.0	7,248.4	7,336.4	7,336.4	26.3	12.8	92.84	131.5	-73.6	1,322.7	1,296.9	25.79	51.293	
7,450.0	7,288.1	7,376.1	7,376.1	26.3	12.9	91.71	131.5	-73.6	1,324.1	1,298.2	25.94	51.046	
7,500.0	7,325.1	7,413.1	7,413.1	26.3	12.9	91.13	131.5	-73.6	1,325.2	1,299.1	26.09	50.800	
7,550.0	7,359.2	7,447.2	7,447.2	26.3	13.0	90.92	131.5	-73.6	1,326.2	1,299.9	26.22	50.570	
7,600.0	7,390.0	7,478.0	7,478.0	26.3	13.1	90.93	131.5	-73.6	1,327.2	1,300.8	26.35	50.370	
7,650.0	7,417.4	7,505.4	7,505.4	26.3	13.1	91.05	131.5	-73.6	1,328.5	1,302.0	26.46	50.207	
7,700.0	7,441.2	7,529.2	7,529.2	26.3	13.1	91.19	131.5	-73.6	1,330.3	1,303.7	26.56	50.083	
7,750.0	7,461.1	7,549.1	7,549.1	26.3	13.2	91.28	131.5	-73.6	1,332.8	1,306.2	26.66	49.995	
7,800.0	7,477.0	7,565.0	7,565.0	26.3	13.2	91.27	131.5	-73.6	1,336.2	1,309.4	26.76	49.936	
7,850.0	7,488.8	7,576.8	7,576.8	26.4	13.2	91.10	131.5	-73.6	1,340.5	1,313.6	26.86	49.899	
7,900.0	7,496.5	7,584.5	7,584.5	26.4	13.2	90.75	131.5	-73.6	1,345.8	1,318.8	26.98	49.882	
7,950.0	7,499.8	7,587.8	7,587.8	26.5	13.2	90.20	131.5	-73.6	1,352.2	1,325.0	27.10	49.888	
7,964.3	7,500.0	7,588.0	7,588.0	26.5	13.2	90.00	131.5	-73.6	1,354.2	1,327.0	27.14	49.895	
8,000.0	7,500.0	7,588.0	7,588.0	26.6	13.2	90.00	131.5	-73.6	1,359.7	1,332.5	27.28	49.840	
8,100.0	7,500.0	7,588.0	7,588.0	26.8	13.2	90.00	131.5	-73.6	1,380.2	1,352.3	27.82	49.618	
8,200.0	7,500.0	7,588.0	7,588.0	27.2	13.2	90.00	131.5	-73.6	1,407.4	1,378.9	28.53	49.325	
8,300.0	7,500.0	7,588.0	7,588.0	27.7	13.2	90.00	131.5	-73.6	1,441.1	1,411.7	29.41	48.999	
8,400.0	7,500.0	7,588.0	7,588.0	28.3	13.2	90.00	131.5	-73.6	1,480.8	1,450.3	30.42	48.674	
8,500.0	7,500.0	7,588.0	7,588.0	29.0	13.2	90.00	131.5	-73.6	1,526.0	1,494.4	31.55	48.373	
8,600.0	7,500.0	7,588.0	7,588.0	29.8	13.2	90.00	131.5	-73.6	1,576.2	1,543.5	32.76	48.110	
8,700.0	7,500.0	7,588.0	7,588.0	30.6	13.2	90.00	131.5	-73.6	1,631.1	1,597.0	34.06	47.893	
8,800.0	7,500.0	7,588.0	7,588.0	31.5	13.2	90.00	131.5	-73.6	1,690.1	1,654.7	35.41	47.723	
8,900.0	7,500.0	7,588.0	7,588.0	32.5	13.2	90.00	131.5	-73.6	1,752.8	1,716.0	36.82	47.599	
9,000.0	7,500.0	7,588.0	7,588.0	33.6	13.2	90.00	131.5	-73.6	1,818.9	1,780.6	38.28	47.518	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 12-7 (EXISTING) - ENCANA WELL - NO													Offset Site Error: 0.0 ft	
Survey Program: 8325-Geolink 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		
9,100.0	7,500.0	7,588.0	7,588.0	34.7	13.2	90.00	131.5	-73.6	1,887.9	1,848.2	39.77	47.474		
9,200.0	7,500.0	7,588.0	7,588.0	35.9	13.2	90.00	131.5	-73.6	1,959.6	1,918.4	41.29	47.463		
9,300.0	7,500.0	7,588.0	7,588.0	37.1	13.2	90.00	131.5	-73.6	2,033.8	1,990.9	42.83	47.480		
9,400.0	7,500.0	7,588.0	7,588.0	38.3	13.2	90.00	131.5	-73.6	2,110.0	2,065.6	44.40	47.520		
9,500.0	7,500.0	7,588.0	7,588.0	39.6	13.2	90.00	131.5	-73.6	2,188.2	2,142.2	45.99	47.580		
9,600.0	7,500.0	7,588.0	7,588.0	41.0	13.2	90.00	131.5	-73.6	2,268.0	2,220.4	47.59	47.655		
9,700.0	7,500.0	7,588.0	7,588.0	42.3	13.2	90.00	131.5	-73.6	2,349.5	2,300.2	49.21	47.743		
9,800.0	7,500.0	7,588.0	7,588.0	43.7	13.2	90.00	131.5	-73.6	2,432.3	2,381.4	50.84	47.842		
9,900.0	7,500.0	7,588.0	7,588.0	45.1	13.2	90.00	131.5	-73.6	2,516.3	2,463.8	52.48	47.948		
10,000.0	7,500.0	7,588.0	7,588.0	46.6	13.2	90.00	131.5	-73.6	2,601.5	2,547.4	54.13	48.060		
10,100.0	7,500.0	7,588.0	7,588.0	48.0	13.2	90.00	131.5	-73.6	2,687.7	2,631.9	55.79	48.177		
10,200.0	7,500.0	7,588.0	7,588.0	49.5	13.2	90.00	131.5	-73.6	2,774.8	2,717.4	57.45	48.297		
10,300.0	7,500.0	7,588.0	7,588.0	51.0	13.2	90.00	131.5	-73.6	2,862.8	2,803.7	59.13	48.419		
10,400.0	7,500.0	7,588.0	7,588.0	52.5	13.2	90.00	131.5	-73.6	2,951.5	2,890.7	60.80	48.542		
10,500.0	7,500.0	7,588.0	7,588.0	54.0	13.2	90.00	131.5	-73.6	3,041.0	2,978.5	62.49	48.666		
10,600.0	7,500.0	7,588.0	7,588.0	55.6	13.2	90.00	131.5	-73.6	3,131.0	3,066.9	64.18	48.789		
10,700.0	7,500.0	7,588.0	7,588.0	57.1	13.2	90.00	131.5	-73.6	3,221.7	3,155.8	65.87	48.912		
10,800.0	7,500.0	7,588.0	7,588.0	58.7	13.2	90.00	131.5	-73.6	3,312.9	3,245.3	67.56	49.034		
10,900.0	7,500.0	7,588.0	7,588.0	60.3	13.2	90.00	131.5	-73.6	3,404.6	3,335.3	69.26	49.154		
11,000.0	7,500.0	7,588.0	7,588.0	61.9	13.2	90.00	131.5	-73.6	3,496.7	3,425.8	70.97	49.273		
11,100.0	7,500.0	7,588.0	7,588.0	63.5	13.2	90.00	131.5	-73.6	3,589.3	3,516.6	72.67	49.390		
11,200.0	7,500.0	7,588.0	7,588.0	65.1	13.2	90.00	131.5	-73.6	3,682.3	3,607.9	74.38	49.505		
11,300.0	7,500.0	7,588.0	7,588.0	66.7	13.2	90.00	131.5	-73.6	3,775.6	3,699.5	76.09	49.618		
11,400.0	7,500.0	7,588.0	7,588.0	68.3	13.2	90.00	131.5	-73.6	3,869.2	3,791.4	77.81	49.729		
11,500.0	7,500.0	7,588.0	7,588.0	69.9	13.2	90.00	131.5	-73.6	3,963.2	3,883.7	79.52	49.837		
11,600.0	7,500.0	7,588.0	7,588.0	71.5	13.2	90.00	131.5	-73.6	4,057.4	3,976.2	81.24	49.944		
11,700.0	7,500.0	7,588.0	7,588.0	73.2	13.2	90.00	131.5	-73.6	4,152.0	4,069.0	82.96	50.048		
11,800.0	7,500.0	7,588.0	7,588.0	74.8	13.2	90.00	131.5	-73.6	4,246.7	4,162.1	84.68	50.150		
11,900.0	7,500.0	7,588.0	7,588.0	76.5	13.2	90.00	131.5	-73.6	4,341.7	4,255.3	86.40	50.250		
12,000.0	7,500.0	7,588.0	7,588.0	78.1	13.2	90.00	131.5	-73.6	4,437.0	4,348.8	88.13	50.347		
12,100.0	7,500.0	7,588.0	7,588.0	79.8	13.2	90.00	131.5	-73.6	4,532.4	4,442.5	89.85	50.442		
12,200.0	7,500.0	7,588.0	7,588.0	81.4	13.2	90.00	131.5	-73.6	4,628.0	4,536.4	91.58	50.535		
12,300.0	7,500.0	7,588.0	7,588.0	83.1	13.2	90.00	131.5	-73.6	4,723.8	4,630.5	93.31	50.626		
12,400.0	7,500.0	7,588.0	7,588.0	84.8	13.2	90.00	131.5	-73.6	4,819.8	4,724.8	95.04	50.715		
12,500.0	7,500.0	7,588.0	7,588.0	86.4	13.2	90.00	131.5	-73.6	4,915.9	4,819.2	96.77	50.802		
12,600.0	7,500.0	7,588.0	7,588.0	88.1	13.2	90.00	131.5	-73.6	5,012.2	4,913.7	98.50	50.886		
12,700.0	7,500.0	7,588.0	7,588.0	89.8	13.2	90.00	131.5	-73.6	5,108.6	5,008.4	100.23	50.969		
12,800.0	7,500.0	7,588.0	7,588.0	91.5	13.2	90.00	131.5	-73.6	5,205.2	5,103.2	101.96	51.050		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 21-7 (EXISTING) - ENCANA WELL - GY													Offset Site Error:	0.0 ft
Survey Program: 100-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	44.4	44.4	0.0	0.1	38.33	1,576.6	1,246.3	2,009.7					
100.0	100.0	141.9	141.9	0.2	0.2	38.36	1,576.3	1,247.4	2,010.1	2,009.7	0.40		5,018.222	
200.0	200.0	247.3	247.2	0.3	0.4	38.41	1,575.3	1,248.9	2,010.3	2,009.6	0.76		2,647.268	
300.0	300.0	349.3	349.3	0.5	0.6	38.44	1,574.7	1,249.7	2,010.4	2,009.2	1.11		1,807.902	
400.0	400.0	454.4	454.4	0.7	0.8	-27.71	1,574.4	1,250.0	2,009.5	2,008.0	1.47		1,364.847	
500.0	500.0	556.7	556.6	0.9	1.0	-27.76	1,574.1	1,249.7	2,006.8	2,004.9	1.82		1,099.687	
600.0	599.9	666.5	666.5	1.0	1.2	-27.86	1,573.8	1,249.1	2,002.4	2,000.2	2.19		913.478	
700.0	699.7	778.0	777.9	1.2	1.4	-27.98	1,572.9	1,248.1	1,995.8	1,993.2	2.56		778.268	
800.0	799.4	881.4	881.3	1.4	1.5	-28.12	1,571.4	1,247.4	1,987.3	1,984.3	2.93		679.130	
900.0	898.9	984.0	983.9	1.7	1.7	-28.29	1,569.6	1,246.8	1,977.1	1,973.8	3.29		600.976	
1,000.0	998.3	1,085.2	1,085.1	1.9	1.9	-28.50	1,567.9	1,245.8	1,965.2	1,961.6	3.66		537.593	
1,100.0	1,097.4	1,191.5	1,191.4	2.2	2.1	-28.77	1,566.4	1,244.1	1,951.7	1,947.6	4.04		483.649	
1,200.0	1,196.3	1,289.5	1,289.3	2.5	2.3	-29.08	1,565.2	1,242.0	1,936.4	1,932.0	4.41		439.327	
1,300.0	1,294.9	1,388.9	1,388.7	2.8	2.4	-29.45	1,564.2	1,239.6	1,919.7	1,914.9	4.79		400.670	
1,400.0	1,393.3	1,483.1	1,482.9	3.2	2.6	-29.85	1,563.6	1,236.8	1,901.6	1,896.4	5.18		367.372	
1,484.0	1,475.6	1,561.2	1,561.0	3.5	2.7	-30.23	1,563.3	1,234.5	1,885.4	1,879.9	5.51		342.386	
1,500.0	1,491.3	1,576.0	1,575.8	3.5	2.8	-30.28	1,563.2	1,234.1	1,882.3	1,876.7	5.57		337.877	
1,600.0	1,589.1	1,676.4	1,676.1	3.9	2.9	-30.66	1,562.8	1,231.6	1,862.6	1,856.6	5.99		310.946	
1,700.0	1,687.0	1,768.3	1,768.0	4.3	3.1	-31.03	1,562.5	1,228.9	1,842.9	1,836.5	6.40		287.961	
1,800.0	1,784.9	1,863.2	1,862.9	4.7	3.3	-31.43	1,562.6	1,226.1	1,823.7	1,816.9	6.82		267.382	
1,900.0	1,882.7	1,954.1	1,953.7	5.1	3.4	-31.79	1,562.5	1,224.0	1,804.7	1,797.4	7.24		249.338	
2,000.0	1,980.6	2,042.2	2,041.8	5.4	3.6	-32.15	1,562.6	1,222.3	1,786.2	1,778.6	7.65		233.367	
2,100.0	2,078.5	2,136.4	2,135.9	5.8	3.8	-32.54	1,563.1	1,220.8	1,768.3	1,760.2	8.09		218.682	
2,200.0	2,176.4	2,235.8	2,235.3	6.2	3.9	-32.94	1,563.2	1,219.5	1,750.4	1,741.9	8.53		205.177	
2,300.0	2,274.2	2,333.3	2,332.8	6.6	4.1	-33.33	1,563.2	1,218.7	1,732.6	1,723.6	8.98		193.028	
2,400.0	2,372.1	2,429.1	2,428.6	7.0	4.3	-33.72	1,563.1	1,217.8	1,714.8	1,705.3	9.42		181.997	
2,500.0	2,470.0	2,515.7	2,515.2	7.4	4.4	-34.10	1,563.7	1,216.7	1,697.5	1,687.7	9.86		172.234	
2,600.0	2,567.8	2,602.7	2,602.3	7.8	4.6	-34.51	1,565.0	1,215.5	1,681.0	1,670.7	10.30		163.253	
2,700.0	2,665.7	2,707.2	2,706.7	8.2	4.8	-35.02	1,567.0	1,213.7	1,664.7	1,653.9	10.78		154.433	
2,800.0	2,763.6	2,812.5	2,812.0	8.6	5.0	-35.55	1,568.7	1,211.4	1,648.1	1,636.8	11.27		146.237	
2,900.0	2,861.5	2,908.4	2,907.8	9.0	5.1	-36.04	1,569.8	1,209.6	1,631.4	1,619.6	11.74		138.922	
3,000.0	2,959.3	3,000.0	2,999.4	9.4	5.3	-36.49	1,570.9	1,208.4	1,615.1	1,602.9	12.21		132.270	
3,100.0	3,057.2	3,092.9	3,092.3	9.8	5.4	-36.95	1,572.1	1,207.6	1,599.2	1,586.5	12.68		126.079	
3,200.0	3,155.1	3,196.5	3,195.9	10.2	5.6	-37.46	1,573.4	1,206.9	1,583.4	1,570.3	13.18		120.100	
3,300.0	3,253.0	3,312.4	3,311.8	10.6	5.8	-38.04	1,573.8	1,206.0	1,567.0	1,553.3	13.71		114.255	
3,400.0	3,350.8	3,415.9	3,415.2	11.0	6.0	-38.56	1,573.5	1,204.8	1,550.0	1,535.8	14.22		108.970	
3,500.0	3,448.7	3,524.8	3,524.2	11.4	6.2	-39.12	1,572.5	1,203.4	1,532.5	1,517.7	14.75		103.897	
3,600.0	3,546.6	3,630.9	3,630.2	11.8	6.4	-39.67	1,571.0	1,201.9	1,514.6	1,499.3	15.27		99.162	
3,700.0	3,644.4	3,734.5	3,733.8	12.2	6.6	-40.20	1,568.5	1,200.7	1,496.0	1,480.2	15.79		94.717	
3,800.0	3,742.3	3,823.8	3,823.1	12.6	6.7	-40.64	1,566.4	1,200.2	1,477.9	1,461.6	16.28		90.754	
3,900.0	3,840.2	3,928.6	3,927.9	13.0	6.9	-41.18	1,563.9	1,199.6	1,459.9	1,443.1	16.82		86.811	
4,000.0	3,938.1	4,032.8	4,032.0	13.4	7.1	-41.76	1,561.3	1,197.9	1,441.4	1,424.1	17.36		83.043	
4,100.0	4,035.9	4,131.0	4,130.2	13.8	7.3	-42.30	1,558.3	1,197.0	1,422.9	1,405.1	17.89		79.559	
4,200.0	4,133.8	4,228.8	4,227.9	14.2	7.4	-42.85	1,555.4	1,195.8	1,404.4	1,386.0	18.42		76.244	
4,300.0	4,231.7	4,319.0	4,318.1	14.6	7.6	-43.39	1,553.0	1,194.5	1,386.3	1,367.4	18.94		73.178	
4,400.0	4,329.5	4,400.0	4,399.0	15.0	7.7	-43.89	1,551.5	1,193.3	1,369.1	1,349.6	19.45		70.382	
4,500.0	4,427.4	4,492.1	4,491.1	15.4	7.9	-44.48	1,550.5	1,192.3	1,352.8	1,332.8	19.99		67.659	
4,600.0	4,525.3	4,586.4	4,585.4	15.8	8.1	-45.10	1,549.9	1,191.3	1,337.1	1,316.6	20.55		65.074	
4,700.0	4,623.2	4,688.5	4,687.5	16.2	8.3	-45.78	1,549.3	1,190.3	1,321.6	1,300.5	21.13		62.551	
4,800.0	4,721.0	4,783.4	4,782.4	16.7	8.4	-46.43	1,548.6	1,189.3	1,306.2	1,284.5	21.70		60.200	
4,900.0	4,818.9	4,881.2	4,880.2	17.1	8.6	-47.12	1,548.0	1,188.2	1,291.0	1,268.7	22.28		57.945	
5,000.0	4,916.8	4,977.6	4,976.6	17.5	8.8	-47.82	1,547.5	1,186.9	1,276.1	1,253.2	22.87		55.801	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 21-7 (EXISTING) - ENCANA WELL - GY												Offset Site Error:	0.0 ft
Survey Program: 100-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
5,100.0	5,014.7	5,068.0	5,067.0	17.9	8.9	-48.51	1,547.4	1,185.6	1,261.6	1,238.2	23.45	53.807	
5,200.0	5,112.5	5,163.7	5,162.7	18.3	9.1	-49.24	1,547.6	1,184.5	1,247.9	1,223.8	24.05	51.895	
5,300.0	5,210.4	5,260.6	5,259.6	18.7	9.3	-49.99	1,547.8	1,183.6	1,234.3	1,209.7	24.65	50.067	
5,400.0	5,308.3	5,351.4	5,350.3	19.1	9.4	-50.72	1,548.3	1,182.5	1,221.3	1,196.0	25.25	48.363	
5,500.0	5,406.1	5,446.4	5,445.3	19.5	9.6	-51.51	1,549.5	1,181.3	1,209.1	1,183.2	25.87	46.735	
5,600.0	5,504.0	5,544.8	5,543.7	19.9	9.8	-52.34	1,550.5	1,180.1	1,196.9	1,170.4	26.51	45.157	
5,700.0	5,601.9	5,641.9	5,640.8	20.3	9.9	-53.19	1,551.8	1,178.7	1,185.3	1,158.1	27.15	43.664	
5,800.0	5,699.8	5,740.6	5,739.5	20.7	10.1	-54.06	1,552.8	1,177.3	1,173.6	1,145.8	27.80	42.224	
5,900.0	5,797.6	5,834.4	5,833.3	21.1	10.3	-54.91	1,554.1	1,176.0	1,162.6	1,134.1	28.44	40.884	
6,000.0	5,895.5	5,929.8	5,928.7	21.5	10.4	-55.79	1,555.5	1,174.7	1,152.0	1,122.9	29.09	39.604	
6,100.0	5,993.4	6,023.4	6,022.2	21.9	10.6	-56.66	1,557.3	1,173.5	1,142.0	1,112.3	29.74	38.404	
6,200.0	6,091.2	6,122.7	6,121.5	22.3	10.8	-57.58	1,559.1	1,172.7	1,132.4	1,102.0	30.41	37.244	
6,300.0	6,189.1	6,220.6	6,219.4	22.7	10.9	-58.50	1,560.9	1,172.1	1,123.1	1,092.0	31.07	36.144	
6,400.0	6,287.0	6,320.1	6,318.8	23.1	11.1	-59.45	1,562.6	1,171.2	1,113.9	1,082.2	31.75	35.081	
6,500.0	6,384.9	6,415.2	6,413.9	23.5	11.3	-60.38	1,564.3	1,170.4	1,105.2	1,072.8	32.42	34.089	
6,600.0	6,482.7	6,515.3	6,514.1	23.9	11.5	-61.39	1,566.1	1,169.2	1,096.8	1,063.7	33.11	33.121	
6,700.0	6,580.6	6,611.7	6,610.4	24.3	11.6	-62.37	1,567.8	1,168.0	1,088.6	1,054.8	33.80	32.210	
6,800.0	6,678.5	6,700.0	6,698.7	24.7	11.8	-63.29	1,569.9	1,167.0	1,081.4	1,046.9	34.46	31.384	
6,900.0	6,776.4	6,790.9	6,789.5	25.1	11.9	-64.22	1,572.7	1,166.2	1,075.2	1,040.1	35.12	30.614	
7,000.0	6,874.2	6,886.7	6,885.3	25.5	12.1	-65.18	1,576.0	1,166.1	1,069.8	1,034.0	35.80	29.885	
7,016.7	6,890.6	6,902.8	6,901.4	25.6	12.1	-65.34	1,576.6	1,166.2	1,068.9	1,033.0	35.91	29.767	
7,044.8	6,918.1	6,929.2	6,927.8	25.7	12.2	-78.91	1,577.5	1,166.4	1,068.2	1,032.1	36.10	29.593 CC	
7,050.0	6,923.2	6,934.2	6,932.7	25.7	12.2	-81.62	1,577.7	1,166.4	1,068.3	1,032.1	36.12	29.572 ES	
7,100.0	6,972.3	6,981.3	6,979.8	25.9	12.3	-107.48	1,579.5	1,166.9	1,071.0	1,034.7	36.25	29.542 SF	
7,150.0	7,021.1	7,026.6	7,025.1	26.0	12.3	-127.77	1,581.3	1,167.5	1,078.2	1,042.1	36.14	29.832	
7,200.0	7,069.3	7,070.2	7,068.6	26.1	12.4	-141.08	1,583.2	1,168.2	1,090.0	1,054.2	35.80	30.448	
7,250.0	7,116.5	7,111.9	7,110.3	26.2	12.5	-149.68	1,585.2	1,169.0	1,106.3	1,071.0	35.22	31.406	
7,300.0	7,162.3	7,150.4	7,148.7	26.2	12.6	-155.50	1,587.3	1,169.8	1,126.8	1,092.4	34.42	32.734	
7,350.0	7,206.4	7,187.1	7,185.3	26.3	12.6	-159.66	1,589.4	1,170.7	1,151.6	1,118.2	33.41	34.466	
7,400.0	7,248.4	7,223.1	7,221.3	26.3	12.7	-162.81	1,591.7	1,171.6	1,180.2	1,148.0	32.20	36.648	
7,450.0	7,288.1	7,257.6	7,255.6	26.3	12.7	-165.28	1,594.0	1,172.7	1,212.5	1,181.7	30.82	39.344	
7,500.0	7,325.1	7,289.3	7,287.2	26.3	12.8	-167.32	1,596.3	1,173.9	1,248.1	1,218.8	29.27	42.635	
7,550.0	7,359.2	7,325.5	7,323.3	26.3	12.8	-169.13	1,598.8	1,175.3	1,286.6	1,259.0	27.61	46.601	
7,600.0	7,390.0	7,362.3	7,360.0	26.3	12.9	-170.81	1,601.2	1,176.8	1,327.6	1,301.8	25.85	51.357	
7,650.0	7,417.4	7,395.1	7,392.7	26.3	13.0	-172.47	1,603.1	1,178.1	1,370.8	1,346.8	24.03	57.041	
7,700.0	7,441.2	7,423.3	7,420.8	26.3	13.0	-174.25	1,604.6	1,179.2	1,415.9	1,393.7	22.21	63.758	
7,750.0	7,461.1	7,446.7	7,444.3	26.3	13.1	-176.43	1,605.8	1,180.2	1,462.6	1,442.1	20.45	71.512	
7,800.0	7,477.0	7,465.2	7,462.7	26.3	13.1	-179.60	1,606.6	1,181.0	1,510.6	1,491.7	18.89	79.961	
7,850.0	7,488.8	7,478.4	7,475.9	26.4	13.1	174.44	1,607.2	1,181.6	1,559.6	1,541.8	17.84	87.421	
7,900.0	7,496.5	7,486.1	7,483.6	26.4	13.1	156.60	1,607.5	1,181.9	1,609.3	1,590.0	19.24	83.658	
7,950.0	7,499.8	7,488.0	7,485.4	26.5	13.1	73.53	1,607.6	1,182.0	1,659.2	1,633.3	25.87	64.137	
7,964.3	7,500.0	7,487.4	7,484.9	26.5	13.1	52.85	1,607.6	1,181.9	1,673.5	1,650.6	22.89	73.121	
8,000.0	7,500.0	7,485.4	7,482.9	26.6	13.1	52.02	1,607.5	1,181.9	1,709.1	1,686.2	22.87	74.728	
8,100.0	7,500.0	7,479.5	7,477.0	26.8	13.1	49.72	1,607.3	1,181.6	1,808.9	1,786.0	22.92	78.929	
8,200.0	7,500.0	7,473.4	7,470.8	27.2	13.1	47.48	1,607.0	1,181.3	1,908.7	1,885.6	23.07	82.726	
8,300.0	7,500.0	7,466.9	7,464.4	27.7	13.1	45.31	1,606.7	1,181.1	2,008.5	1,985.2	23.30	86.197	
8,400.0	7,500.0	7,460.1	7,457.6	28.3	13.1	43.19	1,606.4	1,180.8	2,108.4	2,084.8	23.58	89.425	
8,500.0	7,500.0	7,452.9	7,450.5	29.0	13.1	41.15	1,606.1	1,180.5	2,208.2	2,184.3	23.88	92.489	
8,600.0	7,500.0	7,445.4	7,442.9	29.8	13.1	39.17	1,605.7	1,180.2	2,308.0	2,283.8	24.18	95.454	
8,700.0	7,500.0	7,437.4	7,435.0	30.6	13.0	37.26	1,605.3	1,179.8	2,407.8	2,383.4	24.48	98.374	
8,800.0	7,500.0	7,429.0	7,426.6	31.5	13.0	35.43	1,604.9	1,179.5	2,507.7	2,482.9	24.76	101.291	
8,900.0	7,500.0	7,420.1	7,417.6	32.5	13.0	33.66	1,604.5	1,179.1	2,607.5	2,582.5	25.02	104.234	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 21-7 (EXISTING) - ENCANA WELL - GY													Offset Site Error:	0.0 ft
Survey Program: 100-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		
9,000.0	7,500.0	7,410.6	7,408.2	33.6	13.0	31.96	1,604.0	1,178.7	2,707.3	2,682.0	25.25	107.227		
9,100.0	7,500.0	7,400.5	7,398.2	34.7	13.0	30.33	1,603.4	1,178.3	2,807.1	2,781.6	25.45	110.286		
9,200.0	7,500.0	7,389.4	7,387.1	35.9	13.0	28.72	1,602.8	1,177.9	2,906.9	2,881.3	25.61	113.503		
9,300.0	7,500.0	7,377.5	7,375.2	37.1	12.9	27.17	1,602.1	1,177.4	3,006.7	2,981.0	25.74	116.818		
9,400.0	7,500.0	7,364.8	7,362.5	38.3	12.9	25.68	1,601.3	1,176.9	3,106.5	3,080.6	25.84	120.233		
9,500.0	7,500.0	7,351.0	7,348.7	39.6	12.9	24.26	1,600.5	1,176.3	3,206.2	3,180.3	25.91	123.749		
9,600.0	7,500.0	7,336.0	7,333.8	41.0	12.9	22.89	1,599.5	1,175.7	3,306.0	3,280.0	25.96	127.368		
9,700.0	7,500.0	7,319.9	7,317.7	42.3	12.8	21.58	1,598.4	1,175.1	3,405.7	3,379.8	25.98	131.087		
9,800.0	7,500.0	7,302.2	7,300.2	43.7	12.8	20.33	1,597.2	1,174.4	3,505.5	3,479.5	25.98	134.904		
9,900.0	7,500.0	7,300.0	7,297.9	45.1	12.8	20.18	1,597.0	1,174.3	3,605.2	3,578.7	26.49	136.117		
10,000.0	7,500.0	7,300.0	7,297.9	46.6	12.8	20.18	1,597.0	1,174.3	3,704.9	3,677.9	27.06	136.910		
10,100.0	7,500.0	7,284.2	7,282.2	48.0	12.8	19.20	1,595.9	1,173.7	3,804.6	3,777.5	27.11	140.355		
10,200.0	7,500.0	7,278.9	7,276.9	49.5	12.8	18.89	1,595.5	1,173.5	3,904.3	3,876.9	27.49	142.031		
10,300.0	7,500.0	7,273.6	7,271.6	51.0	12.8	18.59	1,595.1	1,173.3	4,004.1	3,976.2	27.87	143.681		
10,400.0	7,500.0	7,268.4	7,266.4	52.5	12.8	18.30	1,594.8	1,173.1	4,103.8	4,075.6	28.24	145.307		
10,500.0	7,500.0	7,263.3	7,261.3	54.0	12.7	18.03	1,594.4	1,172.9	4,203.6	4,174.9	28.61	146.909		
10,600.0	7,500.0	7,258.2	7,256.2	55.6	12.7	17.77	1,594.1	1,172.7	4,303.3	4,274.3	28.98	148.489		
10,700.0	7,500.0	7,253.2	7,251.2	57.1	12.7	17.52	1,593.7	1,172.6	4,403.0	4,373.7	29.34	150.047		
10,800.0	7,500.0	7,248.2	7,246.3	58.7	12.7	17.28	1,593.4	1,172.4	4,502.8	4,473.1	29.70	151.585		
10,900.0	7,500.0	7,243.4	7,241.4	60.3	12.7	17.05	1,593.1	1,172.3	4,602.5	4,572.5	30.06	153.103		
11,000.0	7,500.0	7,238.5	7,236.6	61.9	12.7	16.83	1,592.7	1,172.1	4,702.3	4,671.9	30.42	154.601		
11,100.0	7,500.0	7,233.8	7,231.9	63.5	12.7	16.61	1,592.4	1,172.0	4,802.1	4,771.3	30.77	156.081		
11,200.0	7,500.0	7,229.1	7,227.2	65.1	12.7	16.41	1,592.1	1,171.8	4,901.8	4,870.7	31.11	157.542		
11,300.0	7,500.0	7,224.4	7,222.6	66.7	12.7	16.21	1,591.8	1,171.7	5,001.6	4,970.1	31.46	158.986		
11,400.0	7,500.0	7,219.8	7,218.0	68.3	12.7	16.02	1,591.5	1,171.6	5,101.4	5,069.6	31.80	160.412		
11,500.0	7,500.0	7,200.0	7,198.2	69.9	12.6	15.24	1,590.2	1,171.0	5,201.2	5,169.5	31.64	164.379		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 22-7 (EXISTING) - ENCANA WELL - SU													Offset Site Error:	0.0 ft
Survey Program: 71-Geolink 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	52.2	52.2	0.0	0.1	36.74	1,594.4	1,190.0	1,989.6					
100.0	100.0	151.2	151.2	0.2	0.3	36.74	1,594.4	1,190.0	1,989.6	1,989.2	0.42	4,786.545		
200.0	200.0	246.3	246.3	0.3	0.4	36.73	1,594.8	1,189.8	1,989.7	1,989.0	0.76	2,630.989		
300.0	300.0	382.7	382.7	0.5	0.7	36.69	1,595.1	1,188.6	1,989.5	1,988.3	1.17	1,701.008		
400.0	400.0	526.7	526.5	0.7	0.9	-29.37	1,589.3	1,189.3	1,985.6	1,984.0	1.60	1,241.006		
500.0	500.0	811.0	807.6	0.9	1.7	-28.56	1,549.2	1,200.6	1,973.5	1,971.1	2.45	804.875		
600.0	599.9	902.0	896.6	1.0	2.0	-28.26	1,531.2	1,205.2	1,957.0	1,954.1	2.90	674.589		
700.0	699.7	1,121.7	1,110.6	1.2	3.0	-27.40	1,482.2	1,214.7	1,937.4	1,933.6	3.80	509.692		
800.0	799.4	1,290.8	1,272.2	1.4	3.8	-26.61	1,433.0	1,220.3	1,909.5	1,904.9	4.65	410.858		
900.0	898.9	1,393.6	1,369.7	1.7	4.4	-26.13	1,400.5	1,224.1	1,878.9	1,873.6	5.27	356.595		
1,000.0	998.3	1,492.9	1,463.5	1.9	5.0	-25.64	1,368.2	1,228.5	1,846.8	1,840.9	5.90	312.894		
1,100.0	1,097.4	1,575.3	1,541.2	2.2	5.5	-25.25	1,341.2	1,232.4	1,813.3	1,806.8	6.46	280.595		
1,200.0	1,196.3	1,653.9	1,615.5	2.5	5.9	-24.90	1,315.9	1,236.4	1,779.2	1,772.2	7.02	253.612		
1,300.0	1,294.9	1,749.6	1,706.0	2.8	6.5	-24.42	1,285.1	1,242.1	1,744.2	1,736.6	7.67	227.467		
1,400.0	1,393.3	1,834.6	1,786.1	3.2	7.0	-23.98	1,257.1	1,247.4	1,707.7	1,699.5	8.28	206.224		
1,484.0	1,475.6	1,936.8	1,882.5	3.5	7.6	-23.41	1,223.8	1,253.4	1,676.1	1,667.2	8.93	187.668		
1,500.0	1,491.3	1,949.0	1,894.0	3.5	7.7	-23.33	1,219.8	1,253.9	1,669.8	1,660.8	9.02	185.044		
1,600.0	1,589.1	2,028.5	1,969.2	3.9	8.1	-22.81	1,194.3	1,257.1	1,630.8	1,621.2	9.62	169.478		
1,700.0	1,687.0	2,091.5	2,029.0	4.3	8.5	-22.38	1,174.6	1,260.3	1,593.3	1,583.1	10.15	157.040		
1,800.0	1,784.9	2,182.9	2,115.9	4.7	9.0	-21.73	1,146.8	1,265.9	1,557.2	1,546.4	10.82	143.948		
1,900.0	1,882.7	2,290.2	2,217.4	5.1	9.7	-20.88	1,112.8	1,272.4	1,520.3	1,508.7	11.60	131.077		
2,000.0	1,980.6	2,383.3	2,305.2	5.4	10.2	-20.09	1,082.4	1,278.1	1,483.1	1,470.8	12.31	120.502		
2,100.0	2,078.5	2,476.4	2,393.4	5.8	10.8	-19.29	1,052.8	1,283.1	1,446.1	1,433.1	13.00	111.248		
2,200.0	2,176.4	2,567.8	2,480.0	6.2	11.3	-18.50	1,024.0	1,287.4	1,409.3	1,395.6	13.69	102.978		
2,300.0	2,274.2	2,660.4	2,567.9	6.6	11.8	-17.67	995.1	1,291.5	1,372.6	1,358.2	14.37	95.506		
2,400.0	2,372.1	2,760.8	2,663.1	7.0	12.4	-16.71	963.6	1,296.1	1,336.2	1,321.1	15.12	88.377		
2,500.0	2,470.0	2,901.1	2,795.1	7.4	13.3	-15.22	916.2	1,300.1	1,297.3	1,281.2	16.11	80.504		
2,600.0	2,567.8	2,983.6	2,872.2	7.8	13.8	-14.24	886.9	1,302.1	1,257.6	1,240.8	16.81	74.804		
2,700.0	2,665.7	3,069.4	2,952.4	8.2	14.4	-13.14	856.5	1,304.8	1,218.8	1,201.2	17.53	69.532		
2,800.0	2,763.6	3,148.6	3,026.6	8.6	14.9	-12.08	828.9	1,307.3	1,180.8	1,162.6	18.22	64.814		
2,900.0	2,861.5	3,245.3	3,117.0	9.0	15.5	-10.69	795.0	1,311.0	1,143.7	1,124.7	19.03	60.110		
3,000.0	2,959.3	3,346.0	3,211.3	9.4	16.1	-9.19	759.7	1,313.3	1,106.0	1,086.1	19.85	55.712		
3,100.0	3,057.2	3,423.9	3,284.4	9.8	16.6	-7.99	732.8	1,314.7	1,068.9	1,048.4	20.54	52.036		
3,200.0	3,155.1	3,488.4	3,345.2	10.2	17.0	-6.95	711.4	1,316.8	1,034.1	1,013.0	21.13	48.931		
3,300.0	3,253.0	3,562.4	3,415.5	10.6	17.4	-5.76	688.4	1,320.3	1,002.2	980.4	21.79	45.998		
3,400.0	3,350.8	3,642.1	3,491.3	11.0	17.8	-4.43	664.3	1,324.7	971.9	949.4	22.48	43.225		
3,500.0	3,448.7	3,720.9	3,566.3	11.4	18.3	-3.04	641.0	1,330.2	943.7	920.5	23.17	40.728		
3,600.0	3,546.6	3,818.8	3,660.5	11.8	18.7	-1.41	614.6	1,336.2	916.9	893.0	23.92	38.329		
3,700.0	3,644.4	3,948.5	3,786.0	12.2	19.3	0.60	582.5	1,339.3	888.4	863.6	24.82	35.793		
3,800.0	3,742.3	4,045.0	3,878.8	12.6	19.9	2.36	555.6	1,339.7	857.7	832.1	25.62	33.473		
3,900.0	3,840.2	4,116.0	3,946.5	13.0	20.3	3.86	534.5	1,341.4	828.9	802.6	26.31	31.510		
4,000.0	3,938.1	4,203.2	4,029.5	13.4	20.8	5.90	507.9	1,345.9	803.1	776.0	27.16	29.570		
4,100.0	4,035.9	4,307.7	4,127.8	13.8	21.4	8.71	473.0	1,351.4	778.0	749.7	28.24	27.551		
4,200.0	4,133.8	4,403.4	4,217.3	14.2	22.0	11.55	439.4	1,355.3	753.1	723.8	29.29	25.715		
4,300.0	4,231.7	4,484.8	4,293.4	14.6	22.6	14.11	410.7	1,359.0	730.4	700.1	30.23	24.161		
4,400.0	4,329.5	4,568.0	4,371.7	15.0	23.1	16.73	382.9	1,363.2	710.5	679.3	31.15	22.805		
4,500.0	4,427.4	4,656.7	4,456.1	15.4	23.5	19.43	356.1	1,367.9	693.2	661.1	32.07	21.612		
4,600.0	4,525.3	4,749.8	4,545.2	15.8	24.0	22.25	329.5	1,373.1	678.0	645.0	33.01	20.536		
4,700.0	4,623.2	4,854.2	4,645.4	16.2	24.6	25.43	300.8	1,377.9	663.8	629.8	34.00	19.523		
4,800.0	4,721.0	4,954.2	4,741.8	16.7	25.0	28.53	274.3	1,380.8	649.7	614.8	34.92	18.607		
4,900.0	4,818.9	5,044.7	4,829.5	17.1	25.4	31.29	252.1	1,383.5	637.5	601.8	35.70	17.856		
5,000.0	4,916.8	5,144.0	4,926.4	17.5	25.8	34.13	230.8	1,387.1	627.0	590.5	36.45	17.203		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 22-7 (EXISTING) - ENCANA WELL - SU												Offset Site Error:	0.0 ft
Survey Program: 71-Geolink 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
5,100.0	5,014.7	5,248.2	5,028.9	17.9	26.2	36.89	212.2	1,390.0	616.6	579.4	37.12	16.610	
5,200.0	5,112.5	5,349.4	5,129.0	18.3	26.5	39.42	196.9	1,392.3	606.3	568.5	37.72	16.075	
5,300.0	5,210.4	5,454.8	5,233.4	18.7	26.8	41.97	183.1	1,394.1	596.0	557.7	38.26	15.578	
5,400.0	5,308.3	5,561.6	5,339.6	19.1	27.0	44.42	172.0	1,395.0	585.1	546.4	38.73	15.106	
5,500.0	5,406.1	5,664.3	5,442.0	19.5	27.2	46.63	164.1	1,395.2	573.5	534.4	39.14	14.652	
5,600.0	5,504.0	5,764.5	5,542.0	19.9	27.3	48.60	159.1	1,396.0	562.3	522.8	39.49	14.240	
5,700.0	5,601.9	5,865.3	5,662.8	20.3	27.4	50.68	157.7	1,396.2	549.5	509.7	39.81	13.805	
5,800.0	5,699.8	5,975.6	5,753.2	20.7	27.4	52.29	157.6	1,395.2	535.6	495.5	40.11	13.355	
5,900.0	5,797.6	6,067.9	5,845.4	21.1	27.5	53.95	157.3	1,395.4	523.5	483.1	40.39	12.961	
6,000.0	5,895.5	6,167.9	5,945.5	21.5	27.6	55.79	157.2	1,396.1	512.2	471.5	40.65	12.598	
6,100.0	5,993.4	6,266.3	6,043.8	21.9	27.6	57.62	157.8	1,396.7	501.0	460.1	40.90	12.248	
6,200.0	6,091.2	6,362.2	6,139.7	22.3	27.7	59.47	158.2	1,397.7	490.6	449.5	41.14	11.927	
6,300.0	6,189.1	6,460.4	6,237.9	22.7	27.7	61.43	158.6	1,398.9	481.1	439.8	41.35	11.635	
6,400.0	6,287.0	6,560.1	6,337.6	23.1	27.8	63.52	159.0	1,399.8	472.0	430.4	41.54	11.362	
6,500.0	6,384.9	6,657.9	6,435.4	23.5	27.9	65.67	159.3	1,400.4	463.3	421.6	41.71	11.109	
6,600.0	6,482.7	6,755.3	6,532.8	23.9	28.0	67.90	159.4	1,401.0	455.4	413.6	41.85	10.884	
6,700.0	6,580.6	6,852.5	6,630.0	24.3	28.0	70.20	159.5	1,401.7	448.5	406.5	41.96	10.688	
6,800.0	6,678.5	6,949.8	6,727.3	24.7	28.1	72.57	159.4	1,402.6	442.5	400.4	42.05	10.523	
6,900.0	6,776.4	7,047.4	6,824.9	25.1	28.2	75.01	159.2	1,403.5	437.4	395.3	42.11	10.388	
7,000.0	6,874.2	7,143.6	6,921.1	25.5	28.3	77.46	158.8	1,404.5	433.3	391.2	42.15	10.280	
7,016.7	6,890.6	7,159.5	6,937.0	25.6	28.3	77.87	158.7	1,404.6	432.8	390.6	42.16	10.266	
7,050.0	6,923.2	7,191.1	6,968.6	25.7	28.3	62.55	158.5	1,405.0	431.1	389.0	42.03	10.255	
7,100.0	6,972.3	7,238.6	7,016.1	25.9	28.4	37.73	157.9	1,405.7	425.8	384.0	41.77	10.193	
7,150.0	7,021.1	7,286.8	7,064.3	26.0	28.4	17.99	157.2	1,406.5	417.2	375.8	41.42	10.071	
7,200.0	7,069.3	7,337.1	7,114.5	26.1	28.5	4.71	156.5	1,407.2	405.0	364.0	40.99	9.880	
7,250.0	7,116.5	7,386.2	7,163.6	26.2	28.5	-4.48	156.0	1,407.6	389.1	348.7	40.49	9.610	
7,300.0	7,162.3	7,433.8	7,211.2	26.2	28.6	-11.61	155.6	1,407.9	369.8	329.8	39.96	9.254	
7,350.0	7,206.4	7,479.5	7,256.9	26.3	28.6	-17.94	155.3	1,408.0	347.2	307.7	39.46	8.797	
7,400.0	7,248.4	7,523.0	7,300.4	26.3	28.6	-24.28	155.1	1,407.8	321.5	282.5	39.09	8.227	
7,450.0	7,288.1	7,563.9	7,341.3	26.3	28.7	-31.28	154.9	1,407.5	293.4	254.5	38.95	7.533	
7,500.0	7,325.1	7,601.9	7,379.4	26.3	28.7	-39.46	154.8	1,406.9	263.4	224.2	39.17	6.724	
7,550.0	7,359.2	7,636.4	7,413.8	26.3	28.7	-49.08	154.7	1,406.3	232.4	192.6	39.78	5.843	
7,600.0	7,390.0	7,667.0	7,444.4	26.3	28.7	-59.94	154.6	1,405.8	202.1	161.5	40.67	4.970	
7,650.0	7,417.4	7,694.1	7,471.5	26.3	28.8	-71.31	154.6	1,405.4	174.9	133.3	41.55	4.209	
7,700.0	7,441.2	7,717.7	7,495.1	26.3	28.8	-81.83	154.5	1,405.0	154.5	112.4	42.10	3.669	
7,750.0	7,461.1	7,737.5	7,514.9	26.3	28.8	-90.22	154.5	1,404.8	145.9	103.7	42.18	3.458	
7,753.8	7,462.4	7,738.8	7,516.2	26.3	28.8	-90.75	154.5	1,404.8	145.8	103.6	42.18	3.457 CC, ES, SF	
7,800.0	7,477.0	7,753.3	7,530.7	26.3	28.8	-95.77	154.4	1,404.6	152.6	110.7	41.99	3.635	
7,850.0	7,488.8	7,765.1	7,542.5	26.4	28.8	-98.19	154.4	1,404.5	174.1	132.2	41.84	4.161	
7,900.0	7,496.5	7,772.7	7,550.1	26.4	28.8	-97.29	154.4	1,404.4	206.2	164.2	41.96	4.914	
7,950.0	7,499.8	7,776.1	7,553.5	26.5	28.8	-92.75	154.4	1,404.3	245.0	202.7	42.35	5.786	
7,964.3	7,500.0	7,776.3	7,553.7	26.5	28.8	-90.72	154.4	1,404.3	257.0	214.5	42.46	6.052	
8,000.0	7,500.0	7,776.4	7,553.8	26.6	28.8	-90.75	154.4	1,404.3	287.7	245.1	42.60	6.754	
8,100.0	7,500.0	7,776.5	7,554.0	26.8	28.8	-90.82	154.4	1,404.3	378.6	335.4	43.14	8.776	
8,200.0	7,500.0	7,776.7	7,554.1	27.2	28.8	-90.89	154.4	1,404.3	473.1	429.3	43.85	10.789	
8,300.0	7,500.0	7,776.9	7,554.3	27.7	28.8	-90.96	154.4	1,404.3	569.5	524.8	44.73	12.734	
8,400.0	7,500.0	7,777.1	7,554.5	28.3	28.8	-91.03	154.4	1,404.3	667.0	621.3	45.74	14.583	
8,500.0	7,500.0	7,777.2	7,554.7	29.0	28.8	-91.10	154.4	1,404.3	765.1	718.3	46.86	16.328	
8,600.0	7,500.0	7,777.4	7,554.8	29.8	28.8	-91.18	154.4	1,404.3	863.7	815.6	48.08	17.965	
8,700.0	7,500.0	7,777.6	7,555.0	30.6	28.8	-91.25	154.4	1,404.3	962.5	913.2	49.37	19.497	
8,800.0	7,500.0	7,777.7	7,555.2	31.5	28.8	-91.32	154.4	1,404.3	1,061.6	1,010.9	50.72	20.928	
8,900.0	7,500.0	7,777.9	7,555.3	32.5	28.8	-91.39	154.4	1,404.3	1,160.8	1,108.7	52.13	22.266	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 22-7 (EXISTING) - ENCANA WELL - SU												Offset Site Error:	0.0 ft
Survey Program: 71-Geolink 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)			
9,000.0	7,500.0	7,778.1	7,555.5	33.6	28.8	-91.46	154.4	1,404.3	1,260.2	1,206.6	53.58	23.517	
9,100.0	7,500.0	7,778.3	7,555.7	34.7	28.8	-91.53	154.4	1,404.3	1,359.6	1,304.5	55.07	24.688	
9,200.0	7,500.0	7,778.4	7,555.9	35.9	28.8	-91.60	154.4	1,404.3	1,459.1	1,402.5	56.59	25.784	
9,300.0	7,500.0	7,778.6	7,556.0	37.1	28.8	-91.67	154.4	1,404.3	1,558.7	1,500.6	58.13	26.812	
9,400.0	7,500.0	7,778.8	7,556.2	38.3	28.8	-91.74	154.4	1,404.3	1,658.3	1,598.6	59.70	27.778	
9,500.0	7,500.0	7,778.9	7,556.4	39.6	28.8	-91.81	154.4	1,404.3	1,758.0	1,696.7	61.28	28.686	
9,600.0	7,500.0	7,779.1	7,556.5	41.0	28.8	-91.88	154.4	1,404.3	1,857.7	1,794.8	62.89	29.542	
9,700.0	7,500.0	7,779.3	7,556.7	42.3	28.8	-91.95	154.4	1,404.3	1,957.5	1,893.0	64.50	30.349	
9,800.0	7,500.0	7,779.4	7,556.9	43.7	28.8	-92.02	154.4	1,404.3	2,057.2	1,991.1	66.13	31.111	
9,900.0	7,500.0	7,779.6	7,557.0	45.1	28.8	-92.09	154.4	1,404.3	2,157.0	2,089.3	67.76	31.832	
10,000.0	7,500.0	7,779.8	7,557.2	46.6	28.8	-92.16	154.4	1,404.3	2,256.8	2,187.4	69.41	32.515	
10,100.0	7,500.0	7,780.0	7,557.4	48.0	28.8	-92.23	154.4	1,404.3	2,356.6	2,285.6	71.06	33.163	
10,200.0	7,500.0	7,780.1	7,557.5	49.5	28.8	-92.30	154.4	1,404.3	2,456.5	2,383.8	72.72	33.778	
10,300.0	7,500.0	7,780.3	7,557.7	51.0	28.8	-92.37	154.4	1,404.3	2,556.3	2,481.9	74.39	34.364	
10,400.0	7,500.0	7,780.5	7,557.9	52.5	28.8	-92.44	154.4	1,404.3	2,656.2	2,580.1	76.06	34.920	
10,500.0	7,500.0	7,780.6	7,558.0	54.0	28.8	-92.51	154.4	1,404.3	2,756.1	2,678.3	77.74	35.451	
10,600.0	7,500.0	7,780.8	7,558.2	55.6	28.8	-92.58	154.4	1,404.3	2,855.9	2,776.5	79.42	35.958	
10,700.0	7,500.0	7,781.0	7,558.4	57.1	28.8	-92.65	154.4	1,404.3	2,955.8	2,874.7	81.11	36.442	
10,800.0	7,500.0	7,781.1	7,558.6	58.7	28.8	-92.72	154.4	1,404.3	3,055.7	2,972.9	82.80	36.904	
10,900.0	7,500.0	7,781.3	7,558.7	60.3	28.8	-92.79	154.4	1,404.3	3,155.6	3,071.1	84.49	37.347	
11,000.0	7,500.0	7,781.5	7,558.9	61.9	28.8	-92.86	154.4	1,404.3	3,255.5	3,169.3	86.19	37.771	
11,100.0	7,500.0	7,781.6	7,559.1	63.5	28.8	-92.93	154.4	1,404.3	3,355.4	3,267.6	87.89	38.178	
11,200.0	7,500.0	7,781.8	7,559.2	65.1	28.8	-93.00	154.4	1,404.3	3,455.4	3,365.8	89.59	38.568	
11,300.0	7,500.0	7,782.0	7,559.4	66.7	28.8	-93.07	154.4	1,404.3	3,555.3	3,464.0	91.30	38.943	
11,400.0	7,500.0	7,782.1	7,559.6	68.3	28.8	-93.14	154.4	1,404.3	3,655.2	3,562.2	93.00	39.303	
11,500.0	7,500.0	7,782.3	7,559.7	69.9	28.8	-93.21	154.4	1,404.3	3,755.1	3,660.4	94.71	39.650	
11,600.0	7,500.0	7,782.5	7,559.9	71.5	28.8	-93.28	154.4	1,404.3	3,855.1	3,758.7	96.42	39.983	
11,700.0	7,500.0	7,782.6	7,560.1	73.2	28.8	-93.35	154.4	1,404.3	3,955.0	3,856.9	98.13	40.305	
11,800.0	7,500.0	7,782.8	7,560.2	74.8	28.8	-93.42	154.4	1,404.3	4,055.0	3,955.1	99.84	40.615	
11,900.0	7,500.0	7,783.0	7,560.4	76.5	28.8	-93.49	154.4	1,404.3	4,154.9	4,053.3	101.55	40.914	
12,000.0	7,500.0	7,783.1	7,560.6	78.1	28.8	-93.55	154.4	1,404.3	4,254.8	4,151.6	103.27	41.203	
12,100.0	7,500.0	7,783.3	7,560.7	79.8	28.8	-93.62	154.4	1,404.3	4,354.8	4,249.8	104.98	41.482	
12,200.0	7,500.0	7,783.5	7,560.9	81.4	28.8	-93.69	154.4	1,404.3	4,454.7	4,348.0	106.70	41.752	
12,300.0	7,500.0	7,783.6	7,561.0	83.1	28.8	-93.76	154.4	1,404.3	4,554.7	4,446.3	108.41	42.013	
12,400.0	7,500.0	7,783.8	7,561.2	84.8	28.8	-93.83	154.4	1,404.3	4,654.7	4,544.5	110.13	42.265	
12,500.0	7,500.0	7,784.0	7,561.4	86.4	28.8	-93.90	154.4	1,404.3	4,754.6	4,642.8	111.85	42.510	
12,600.0	7,500.0	7,784.1	7,561.5	88.1	28.8	-93.97	154.4	1,404.3	4,854.6	4,741.0	113.57	42.747	
12,700.0	7,500.0	7,784.3	7,561.7	89.8	28.8	-94.03	154.4	1,404.3	4,954.5	4,839.2	115.28	42.977	
12,800.0	7,500.0	7,784.5	7,561.9	91.5	28.8	-94.10	154.4	1,404.3	5,054.5	4,937.5	117.00	43.199	
12,900.0	7,500.0	7,784.6	7,562.0	93.2	28.8	-94.17	154.4	1,404.3	5,154.5	5,035.7	118.72	43.416	
13,000.0	7,500.0	7,784.8	7,562.2	94.8	28.8	-94.24	154.4	1,404.3	5,254.4	5,134.0	120.44	43.626	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 2-4-7 (EXISTING) - ENCANA WELL - SU													Offset Site Error:	0.0 ft
Survey Program: 41-Geolink 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	
0.0	0.0	105.4	105.4	0.0	0.2	36.88	1,584.2	1,188.8	1,981.3					
100.0	100.0	305.7	305.4	0.2	0.6	36.94	1,574.6	1,184.1	1,976.1	1,975.4	0.73	2,707.948		
200.0	200.0	502.8	501.2	0.3	1.1	37.17	1,553.8	1,178.2	1,965.9	1,964.5	1.34	1,465.354		
300.0	300.0	616.5	613.8	0.5	1.5	37.40	1,537.6	1,175.6	1,953.1	1,951.4	1.78	1,099.188		
400.0	400.0	755.1	750.2	0.7	1.9	-28.46	1,513.7	1,173.1	1,937.4	1,935.2	2.13	909.710		
500.0	500.0	868.2	861.2	0.9	2.4	-28.22	1,492.0	1,171.6	1,919.0	1,916.5	2.58	744.044		
600.0	599.9	940.3	932.1	1.0	2.6	-28.12	1,478.6	1,171.2	1,900.1	1,897.2	2.93	648.101		
700.0	699.7	1,082.4	1,071.5	1.2	3.2	-27.84	1,451.4	1,170.2	1,879.4	1,876.0	3.47	541.024		
800.0	799.4	1,305.9	1,288.4	1.4	4.2	-27.29	1,398.0	1,164.9	1,852.5	1,848.2	4.29	432.114		
900.0	898.9	1,441.8	1,418.5	1.7	4.9	-26.96	1,359.0	1,159.7	1,819.4	1,814.5	4.89	372.136		
1,000.0	998.3	1,564.0	1,534.6	1.9	5.6	-26.64	1,321.2	1,155.0	1,783.3	1,777.8	5.48	325.443		
1,100.0	1,097.4	1,686.8	1,650.5	2.2	6.3	-26.30	1,281.0	1,150.0	1,744.3	1,738.2	6.10	286.119		
1,200.0	1,196.3	1,877.6	1,827.6	2.5	7.7	-25.50	1,210.5	1,140.7	1,700.3	1,693.2	7.05	241.250		
1,300.0	1,294.9	1,972.7	1,914.4	2.8	8.3	-25.12	1,172.0	1,136.1	1,652.4	1,644.8	7.66	215.858		
1,400.0	1,393.3	2,077.8	2,009.9	3.2	9.1	-24.65	1,128.3	1,130.7	1,602.4	1,594.0	8.32	192.610		
1,484.0	1,475.6	2,162.2	2,086.0	3.5	9.8	-24.24	1,092.3	1,126.5	1,558.8	1,549.9	8.89	175.376		
1,500.0	1,491.3	2,180.2	2,102.2	3.5	9.9	-24.10	1,084.4	1,125.7	1,550.3	1,541.3	9.02	171.882		
1,600.0	1,589.1	2,308.8	2,216.4	3.9	11.0	-22.92	1,025.7	1,119.5	1,496.1	1,486.1	9.96	150.158		
1,700.0	1,687.0	2,386.0	2,284.7	4.3	11.6	-22.17	989.9	1,114.9	1,440.9	1,430.3	10.62	135.647		
1,800.0	1,784.9	2,461.0	2,351.3	4.7	12.2	-21.42	955.7	1,110.2	1,386.3	1,375.0	11.28	122.903		
1,900.0	1,882.7	2,527.1	2,410.2	5.1	12.7	-20.71	925.9	1,106.3	1,332.5	1,320.6	11.89	112.039		
2,000.0	1,980.6	2,603.7	2,478.8	5.4	13.3	-19.86	892.3	1,102.1	1,280.0	1,267.4	12.57	101.831		
2,100.0	2,078.5	2,690.2	2,556.7	5.8	14.0	-18.89	855.0	1,096.4	1,227.5	1,214.2	13.32	92.189		
2,200.0	2,176.4	2,763.3	2,622.4	6.2	14.6	-17.97	823.1	1,092.1	1,175.5	1,161.4	14.01	83.902		
2,300.0	2,274.2	2,829.2	2,681.8	6.6	15.1	-17.06	794.9	1,089.2	1,125.1	1,110.4	14.67	76.677		
2,400.0	2,372.1	2,950.3	2,790.5	7.0	16.0	-15.26	742.0	1,081.8	1,073.3	1,057.6	15.75	68.159		
2,500.0	2,470.0	3,034.6	2,866.0	7.4	16.7	-13.88	705.0	1,075.9	1,021.5	1,004.9	16.58	61.604		
2,600.0	2,567.8	3,119.0	2,941.7	7.8	17.4	-12.43	668.4	1,068.9	969.7	952.2	17.43	55.631		
2,700.0	2,665.7	3,202.8	3,017.1	8.2	18.0	-10.87	632.5	1,062.0	918.7	900.4	18.31	50.173		
2,800.0	2,763.6	3,288.9	3,094.1	8.6	18.7	-9.03	594.8	1,054.6	867.5	848.2	19.28	45.003		
2,900.0	2,861.5	3,363.2	3,160.6	9.0	19.3	-7.23	562.0	1,049.2	817.8	797.7	20.19	40.501		
3,000.0	2,959.3	3,455.8	3,243.3	9.4	20.1	-4.73	521.1	1,041.7	768.5	747.1	21.35	35.988		
3,100.0	3,057.2	3,528.2	3,308.0	9.8	20.6	-2.52	488.9	1,036.4	720.6	698.2	22.37	32.208		
3,200.0	3,155.1	3,608.0	3,379.3	10.2	21.3	0.23	453.4	1,031.3	674.9	651.3	23.56	28.641		
3,300.0	3,253.0	3,698.8	3,460.5	10.6	22.0	3.71	413.2	1,024.9	630.5	605.6	24.97	25.248		
3,400.0	3,350.8	3,784.2	3,537.0	11.0	22.7	7.30	376.1	1,017.8	587.4	561.0	26.38	22.265		
3,500.0	3,448.7	3,866.9	3,611.8	11.4	23.3	11.04	341.6	1,010.1	546.5	518.7	27.80	19.660		
3,600.0	3,546.6	3,947.2	3,684.9	11.8	23.9	14.99	309.3	1,002.5	508.5	479.2	29.25	17.383		
3,700.0	3,644.4	4,024.4	3,755.3	12.2	24.5	19.24	278.1	996.0	474.5	443.8	30.75	15.431		
3,800.0	3,742.3	4,107.6	3,830.9	12.6	25.1	24.39	244.1	990.1	445.5	413.0	32.43	13.738		
3,900.0	3,840.2	4,182.5	3,898.7	13.0	25.7	29.52	212.7	985.1	422.0	388.0	33.97	12.423		
4,000.0	3,938.1	4,260.8	3,969.5	13.4	26.3	35.29	179.2	982.0	406.6	371.1	35.48	11.461		
4,100.0	4,035.9	4,345.7	4,046.2	13.8	26.9	41.78	143.1	978.7	398.2	361.3	36.86	10.801		
4,167.2	4,101.7	4,402.0	4,097.3	14.1	27.3	46.10	119.5	976.6	396.5	358.9	37.61	10.542		
4,200.0	4,133.8	4,428.2	4,120.9	14.2	27.5	48.15	108.3	975.6	396.9	359.0	37.93	10.466		
4,300.0	4,231.7	4,507.4	4,191.5	14.6	28.2	54.55	72.3	972.1	404.0	365.4	38.66	10.452		
4,400.0	4,329.5	4,590.0	4,264.2	15.0	28.9	61.20	33.4	967.4	419.0	380.0	39.00	10.745		
4,500.0	4,427.4	4,675.3	4,339.4	15.4	29.6	67.64	-6.5	962.3	440.9	402.0	38.92	11.328		
4,600.0	4,525.3	4,771.3	4,425.6	15.8	30.3	73.95	-48.5	957.8	467.4	429.0	38.44	12.159		
4,700.0	4,623.2	4,876.7	4,522.3	16.2	31.0	79.79	-89.9	953.7	495.2	457.5	37.68	13.144		
4,800.0	4,721.0	4,986.8	4,625.3	16.7	31.7	85.02	-128.6	949.1	522.9	486.2	36.76	14.224		
4,900.0	4,818.9	5,086.2	4,719.4	17.1	32.3	89.20	-160.3	944.0	550.3	514.3	35.94	15.312		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 2-4-7 (EXISTING) - ENCANA WELL - SU												Offset Site Error:	0.0 ft
Survey Program: 41-Geolink 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
5,000.0	4,916.8	5,203.7	4,832.0	17.5	32.9	93.44	-193.7	939.1	577.0	542.0	34.93	16.516	
5,100.0	5,014.7	5,326.7	4,951.4	17.9	33.4	97.20	-222.6	934.5	601.1	567.1	33.98	17.692	
5,200.0	5,112.5	5,443.5	5,066.1	18.3	33.8	100.24	-244.0	931.3	621.8	588.6	33.23	18.714	
5,300.0	5,210.4	5,555.8	5,177.0	18.7	34.1	102.90	-261.6	928.3	641.3	608.7	32.61	19.667	
5,400.0	5,308.3	5,680.5	5,300.9	19.1	34.4	105.61	-275.5	924.8	657.1	625.1	31.98	20.549	
5,500.0	5,406.1	5,802.7	5,422.7	19.5	34.6	108.07	-284.7	921.3	670.6	639.1	31.46	21.313	
5,600.0	5,504.0	5,916.7	5,536.6	19.9	34.7	110.15	-289.5	919.3	681.6	650.4	31.14	21.891	
5,700.0	5,601.9	6,031.9	5,651.7	20.3	34.8	112.17	-291.4	917.3	690.7	659.9	30.88	22.366	
5,800.0	5,699.8	6,132.8	5,752.7	20.7	34.8	113.90	-291.3	915.4	698.8	668.1	30.78	22.706	
5,900.0	5,797.6	6,229.3	5,849.2	21.1	34.9	115.51	-291.3	913.7	707.5	676.8	30.76	23.005	
6,000.0	5,895.5	6,325.9	5,945.7	21.5	35.0	117.08	-291.3	912.1	716.9	686.2	30.79	23.281	
6,100.0	5,993.4	6,423.5	6,043.3	21.9	35.0	118.62	-291.5	910.4	727.0	696.1	30.89	23.533	
6,200.0	6,091.2	6,522.5	6,142.2	22.3	35.1	120.12	-291.6	908.9	737.5	706.4	31.05	23.753	
6,300.0	6,189.1	6,624.3	6,244.1	22.7	35.1	121.60	-291.3	907.8	748.0	716.8	31.26	23.927	
6,400.0	6,287.0	6,722.4	6,342.1	23.1	35.2	122.95	-290.7	907.2	758.7	727.1	31.54	24.053	
6,500.0	6,384.9	6,817.7	6,437.5	23.5	35.2	124.23	-290.4	906.6	769.9	738.1	31.86	24.166	
6,600.0	6,482.7	6,914.1	6,533.8	23.9	35.3	125.49	-290.3	906.0	781.9	749.6	32.21	24.271	
6,700.0	6,580.6	7,010.6	6,630.4	24.3	35.4	126.71	-290.3	905.2	794.3	761.7	32.60	24.369	
6,800.0	6,678.5	7,106.9	6,726.6	24.7	35.4	127.91	-290.4	904.2	807.3	774.3	33.00	24.464	
6,900.0	6,776.4	7,203.2	6,822.9	25.1	35.5	129.09	-290.7	903.0	820.8	787.4	33.42	24.560	
7,000.0	6,874.2	7,300.5	6,920.2	25.5	35.6	130.25	-291.0	901.6	834.8	800.9	33.86	24.655	
7,016.7	6,890.6	7,316.7	6,936.4	25.6	35.6	130.44	-291.0	901.3	837.2	803.2	33.93	24.671	
7,050.0	6,923.2	7,349.1	6,968.9	25.7	35.6	114.75	-291.1	900.9	841.0	806.7	34.33	24.498	
7,100.0	6,972.3	7,398.3	7,018.0	25.9	35.6	89.93	-291.2	900.1	843.4	808.6	34.81	24.231	
7,150.0	7,021.1	7,447.3	7,067.0	26.0	35.7	70.87	-291.4	899.3	841.8	806.6	35.15	23.944	
7,200.0	7,069.3	7,495.6	7,115.3	26.1	35.7	59.01	-291.4	898.4	836.1	800.7	35.40	23.620	
7,250.0	7,116.5	7,542.9	7,162.6	26.2	35.7	52.10	-291.5	897.5	826.7	791.1	35.57	23.238	
7,300.0	7,162.3	7,588.9	7,208.6	26.2	35.8	48.25	-291.5	896.6	813.5	777.8	35.72	22.773	
7,350.0	7,206.4	7,633.1	7,252.8	26.3	35.8	46.40	-291.4	895.8	796.8	760.9	35.89	22.199	
7,400.0	7,248.4	7,675.3	7,295.0	26.3	35.8	45.98	-291.4	895.0	776.8	740.6	36.15	21.489	
7,450.0	7,288.1	7,715.2	7,334.8	26.3	35.8	46.71	-291.4	894.2	753.7	717.2	36.56	20.618	
7,500.0	7,325.1	7,752.7	7,372.4	26.3	35.9	48.46	-291.3	893.5	727.9	690.7	37.20	19.569	
7,550.0	7,359.2	7,787.2	7,406.9	26.3	35.9	51.13	-291.2	892.8	699.7	661.6	38.14	18.344	
7,600.0	7,390.0	7,818.3	7,438.0	26.3	35.9	54.67	-291.0	892.2	669.5	630.1	39.45	16.974	
7,650.0	7,417.4	7,845.9	7,465.5	26.3	35.9	59.00	-290.9	891.7	637.8	596.7	41.10	15.519	
7,700.0	7,441.2	7,869.6	7,489.2	26.3	35.9	63.97	-290.7	891.2	605.0	562.0	43.00	14.071	
7,750.0	7,461.1	7,889.5	7,509.1	26.3	35.9	69.36	-290.6	890.8	571.8	526.9	44.94	12.724	
7,800.0	7,477.0	7,905.6	7,525.2	26.3	35.9	74.88	-290.5	890.5	538.7	492.1	46.67	11.543	
7,850.0	7,488.8	7,917.4	7,537.0	26.4	36.0	80.12	-290.4	890.3	506.5	458.5	47.99	10.554	
7,900.0	7,496.5	7,924.8	7,544.5	26.4	36.0	84.73	-290.3	890.2	475.8	427.0	48.85	9.740	
7,950.0	7,499.8	7,927.9	7,547.5	26.5	36.0	88.45	-290.3	890.1	447.5	398.2	49.36	9.068	
7,964.3	7,500.0	7,928.0	7,547.6	26.5	36.0	89.33	-290.3	890.1	440.0	390.5	49.45	8.897	
8,000.0	7,500.0	7,927.7	7,547.3	26.6	36.0	89.28	-290.3	890.1	422.6	373.0	49.59	8.522	
8,100.0	7,500.0	7,926.9	7,546.5	26.8	36.0	89.16	-290.3	890.2	387.6	337.4	50.12	7.732	
8,192.1	7,500.0	7,926.1	7,545.7	27.2	36.0	89.05	-290.3	890.2	376.5	325.7	50.78	7.413 CC, ES	
8,200.0	7,500.0	7,926.0	7,545.7	27.2	36.0	89.04	-290.3	890.2	376.5	325.7	50.84	7.407 SF	
8,300.0	7,500.0	7,925.2	7,544.9	27.7	36.0	88.91	-290.3	890.2	391.6	339.9	51.71	7.573	
8,400.0	7,500.0	7,924.4	7,544.0	28.3	36.0	88.79	-290.3	890.2	430.1	377.3	52.72	8.158	
8,500.0	7,500.0	7,923.6	7,543.2	29.0	36.0	88.67	-290.3	890.2	486.3	432.5	53.84	9.033	
8,600.0	7,500.0	7,922.8	7,542.4	29.8	36.0	88.54	-290.3	890.2	555.1	500.0	55.05	10.083	
8,700.0	7,500.0	7,922.0	7,541.6	30.6	36.0	88.42	-290.3	890.2	632.2	575.9	56.34	11.221	
8,800.0	7,500.0	7,921.2	7,540.8	31.5	36.0	88.30	-290.3	890.3	715.0	657.3	57.70	12.393	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY 2-4-7 (EXISTING) - ENCANA WELL - SU										Offset Site Error:		0.0 ft
Survey Program:		41-Geolink 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	7,500.0	7,920.4	7,540.0	32.5	36.0	88.18	-290.3	890.3	801.8	742.7	59.10	13.566		
9,000.0	7,500.0	7,919.6	7,539.3	33.6	36.0	88.06	-290.3	890.3	891.3	830.8	60.55	14.720		
9,100.0	7,500.0	7,918.8	7,538.5	34.7	36.0	87.94	-290.4	890.3	982.9	920.8	62.04	15.843		
9,200.0	7,500.0	7,918.1	7,537.7	35.9	36.0	87.82	-290.4	890.3	1,075.9	1,012.4	63.55	16.930		
9,300.0	7,500.0	7,917.3	7,536.9	37.1	36.0	87.70	-290.4	890.3	1,170.1	1,105.0	65.09	17.977		
9,400.0	7,500.0	7,916.5	7,536.1	38.3	36.0	87.58	-290.4	890.3	1,265.2	1,198.5	66.65	18.982		
9,500.0	7,500.0	7,915.7	7,535.3	39.6	36.0	87.46	-290.4	890.3	1,361.0	1,292.8	68.23	19.947		
9,600.0	7,500.0	7,914.9	7,534.6	41.0	36.0	87.35	-290.4	890.4	1,457.3	1,387.5	69.83	20.871		
9,700.0	7,500.0	7,914.2	7,533.8	42.3	36.0	87.23	-290.4	890.4	1,554.2	1,482.7	71.44	21.756		
9,800.0	7,500.0	7,913.4	7,533.0	43.7	36.0	87.11	-290.4	890.4	1,651.4	1,578.3	73.06	22.604		
9,900.0	7,500.0	7,912.6	7,532.3	45.1	36.0	87.00	-290.4	890.4	1,748.9	1,674.2	74.69	23.416		
10,000.0	7,500.0	7,911.9	7,531.5	46.6	36.0	86.88	-290.4	890.4	1,846.6	1,770.3	76.33	24.194		
10,100.0	7,500.0	7,911.1	7,530.7	48.0	36.0	86.76	-290.4	890.4	1,944.7	1,866.7	77.98	24.939		
10,200.0	7,500.0	7,910.4	7,530.0	49.5	36.0	86.65	-290.4	890.4	2,042.9	1,963.2	79.63	25.654		
10,300.0	7,500.0	7,909.6	7,529.2	51.0	36.0	86.53	-290.4	890.5	2,141.2	2,059.9	81.29	26.340		
10,400.0	7,500.0	7,908.8	7,528.5	52.5	36.0	86.42	-290.4	890.5	2,239.7	2,156.8	82.96	26.999		
10,500.0	7,500.0	7,908.1	7,527.7	54.0	36.0	86.31	-290.4	890.5	2,338.4	2,253.7	84.63	27.632		
10,600.0	7,500.0	7,907.3	7,527.0	55.6	36.0	86.19	-290.4	890.5	2,437.1	2,350.8	86.30	28.240		
10,700.0	7,500.0	7,906.6	7,526.2	57.1	35.9	86.08	-290.4	890.5	2,535.9	2,448.0	87.98	28.825		
10,800.0	7,500.0	7,905.9	7,525.5	58.7	35.9	85.97	-290.5	890.5	2,634.9	2,545.2	89.66	29.388		
10,900.0	7,500.0	7,905.1	7,524.7	60.3	35.9	85.85	-290.5	890.5	2,733.9	2,642.5	91.34	29.930		
11,000.0	7,500.0	7,904.4	7,524.0	61.9	35.9	85.74	-290.5	890.6	2,833.0	2,739.9	93.03	30.453		
11,100.0	7,500.0	7,903.6	7,523.3	63.5	35.9	85.63	-290.5	890.6	2,932.1	2,837.4	94.72	30.957		
11,200.0	7,500.0	7,902.9	7,522.5	65.1	35.9	85.52	-290.5	890.6	3,031.3	2,934.9	96.41	31.443		
11,300.0	7,500.0	7,902.2	7,521.8	66.7	35.9	85.41	-290.5	890.6	3,130.5	3,032.5	98.10	31.912		
11,400.0	7,500.0	7,901.5	7,521.1	68.3	35.9	85.30	-290.5	890.6	3,229.8	3,130.1	99.79	32.366		
11,500.0	7,500.0	7,900.7	7,520.4	69.9	35.9	85.19	-290.5	890.6	3,329.2	3,227.7	101.49	32.804		
11,600.0	7,500.0	7,900.0	7,519.6	71.5	35.9	85.08	-290.5	890.6	3,428.6	3,325.4	103.18	33.228		
11,700.0	7,500.0	7,899.3	7,518.9	73.2	35.9	84.97	-290.5	890.6	3,528.0	3,423.1	104.88	33.639		
11,800.0	7,500.0	7,898.6	7,518.2	74.8	35.9	84.86	-290.5	890.7	3,627.4	3,520.8	106.58	34.036		
11,900.0	7,500.0	7,897.9	7,517.5	76.5	35.9	84.75	-290.5	890.7	3,726.9	3,618.6	108.27	34.421		
12,000.0	7,500.0	7,897.1	7,516.8	78.1	35.9	84.64	-290.5	890.7	3,826.4	3,716.4	109.97	34.794		
12,100.0	7,500.0	7,896.4	7,516.1	79.8	35.9	84.54	-290.5	890.7	3,925.9	3,814.2	111.67	35.156		
12,200.0	7,500.0	7,895.7	7,515.3	81.4	35.9	84.43	-290.5	890.7	4,025.4	3,912.1	113.37	35.507		
12,300.0	7,500.0	7,895.0	7,514.6	83.1	35.9	84.32	-290.5	890.7	4,125.0	4,009.9	115.07	35.847		
12,400.0	7,500.0	7,894.3	7,513.9	84.8	35.9	84.22	-290.5	890.7	4,224.6	4,107.8	116.77	36.178		
12,500.0	7,500.0	7,893.6	7,513.2	86.4	35.9	84.11	-290.5	890.8	4,324.2	4,205.7	118.47	36.500		
12,600.0	7,500.0	7,892.9	7,512.5	88.1	35.9	84.01	-290.6	890.8	4,423.8	4,303.7	120.17	36.813		
12,700.0	7,500.0	7,892.2	7,511.8	89.8	35.9	83.90	-290.6	890.8	4,523.5	4,401.6	121.87	37.117		
12,800.0	7,500.0	7,891.5	7,511.1	91.5	35.9	83.80	-290.6	890.8	4,623.1	4,499.6	123.57	37.413		
12,900.0	7,500.0	7,890.8	7,510.5	93.2	35.9	83.69	-290.6	890.8	4,722.8	4,597.5	125.27	37.701		
13,000.0	7,500.0	7,886.0	7,505.6	94.8	35.9	82.96	-290.6	890.9	4,822.5	4,695.7	126.81	38.028		
13,100.0	7,500.0	7,886.0	7,505.6	96.5	35.9	82.96	-290.6	890.9	4,922.2	4,793.7	128.54	38.294		
13,200.0	7,500.0	7,886.0	7,505.6	98.2	35.9	82.96	-290.6	890.9	5,021.9	4,891.7	130.26	38.553		
13,300.0	7,500.0	7,886.0	7,505.6	99.9	35.9	82.96	-290.6	890.9	5,121.6	4,989.6	131.98	38.805		
13,400.0	7,500.0	7,886.0	7,505.6	101.6	35.9	82.96	-290.6	890.9	5,221.4	5,087.7	133.71	39.051		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY F UNIT 1 (EXISTING) - ENCANA WELL														Offset Site Error:	0.0 ft
Survey Program: 100-Geolink 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		
0.0	0.0	33.1	33.1	0.0	0.1	45.72	801.4	821.8	1,147.9						
100.0	100.0	122.0	122.0	0.2	0.2	45.75	801.6	822.8	1,148.9	1,148.5	0.37	3,125.639			
200.0	200.0	220.1	220.1	0.3	0.4	45.80	801.9	824.7	1,150.5	1,149.7	0.72	1,605.719			
300.0	300.0	332.8	332.7	0.5	0.6	45.84	802.1	826.1	1,151.4	1,150.3	1.09	1,059.152			
400.0	400.0	436.3	436.2	0.7	0.8	-20.32	802.2	826.2	1,150.8	1,149.3	1.44	800.176			
500.0	500.0	535.9	535.8	0.9	0.9	-20.39	802.6	826.2	1,148.6	1,146.8	1.79	643.044			
600.0	599.9	639.5	639.5	1.0	1.1	-20.49	802.7	826.0	1,144.5	1,142.3	2.14	534.257			
700.0	699.7	744.2	744.2	1.2	1.3	-20.63	802.7	825.7	1,138.5	1,136.0	2.50	455.279			
800.0	799.4	848.0	847.9	1.4	1.5	-20.84	802.5	824.5	1,130.2	1,127.4	2.86	395.343			
900.0	898.9	947.5	947.4	1.7	1.7	-21.11	802.7	823.2	1,120.4	1,117.2	3.21	348.855			
1,000.0	998.3	1,048.7	1,048.6	1.9	1.8	-21.40	802.4	821.9	1,108.8	1,105.2	3.57	310.566			
1,100.0	1,097.4	1,149.1	1,149.0	2.2	2.0	-21.73	802.0	820.7	1,095.5	1,091.6	3.93	278.691			
1,200.0	1,196.3	1,249.8	1,249.7	2.5	2.2	-22.14	801.7	819.0	1,080.4	1,076.1	4.30	251.452			
1,300.0	1,294.9	1,345.0	1,344.9	2.8	2.3	-22.59	801.6	817.3	1,063.8	1,059.1	4.66	228.344			
1,400.0	1,393.3	1,438.6	1,438.5	3.2	2.5	-23.09	801.9	815.8	1,046.1	1,041.1	5.03	208.176			
1,484.0	1,475.6	1,520.7	1,520.6	3.5	2.7	-23.59	802.3	814.6	1,030.3	1,024.9	5.35	192.717			
1,500.0	1,491.3	1,536.9	1,536.8	3.5	2.7	-23.68	802.4	814.3	1,027.1	1,021.7	5.41	189.873			
1,600.0	1,589.1	1,634.4	1,634.3	3.9	2.9	-24.23	802.8	812.7	1,007.5	1,001.7	5.80	173.570			
1,700.0	1,687.0	1,727.2	1,727.1	4.3	3.0	-24.77	803.5	811.4	988.4	982.2	6.20	159.496			
1,800.0	1,784.9	1,824.4	1,824.3	4.7	3.2	-25.37	804.3	810.2	969.5	962.9	6.60	146.825			
1,900.0	1,882.7	1,921.7	1,921.5	5.1	3.4	-26.00	805.4	808.8	950.8	943.8	7.02	135.504			
2,000.0	1,980.6	2,015.2	2,015.0	5.4	3.5	-26.64	806.7	807.4	932.5	925.0	7.43	125.501			
2,100.0	2,078.5	2,106.4	2,106.1	5.8	3.7	-27.28	808.3	806.5	914.9	907.0	7.85	116.616			
2,200.0	2,176.4	2,200.0	2,199.8	6.2	3.9	-27.96	810.4	806.0	897.9	889.7	8.27	108.552			
2,300.0	2,274.2	2,297.2	2,296.9	6.6	4.0	-28.69	812.7	805.7	881.4	872.7	8.71	101.167			
2,400.0	2,372.1	2,399.5	2,399.2	7.0	4.2	-29.46	814.8	805.4	864.9	855.7	9.17	94.311			
2,500.0	2,470.0	2,501.6	2,501.3	7.4	4.4	-30.24	816.3	805.2	848.0	838.4	9.63	88.019			
2,600.0	2,567.8	2,600.7	2,600.4	7.8	4.6	-31.02	817.3	805.0	831.0	820.9	10.10	82.280			
2,700.0	2,665.7	2,701.1	2,700.8	8.2	4.7	-31.83	818.2	804.6	813.9	803.3	10.58	76.953			
2,800.0	2,763.6	2,797.6	2,797.3	8.6	4.9	-32.65	819.0	804.2	796.9	785.8	11.05	72.095			
2,900.0	2,861.5	2,897.9	2,897.6	9.0	5.1	-33.54	819.8	803.8	780.0	768.4	11.55	67.537			
3,000.0	2,959.3	2,996.2	2,995.8	9.4	5.3	-34.48	820.7	802.8	763.1	751.0	12.05	63.304			
3,100.0	3,057.2	3,094.7	3,094.3	9.8	5.4	-35.49	821.6	801.6	746.3	733.7	12.57	59.362			
3,200.0	3,155.1	3,194.5	3,194.2	10.2	5.6	-36.56	822.3	800.3	729.6	716.4	13.11	55.668			
3,300.0	3,253.0	3,291.3	3,291.0	10.6	5.8	-37.66	823.1	798.8	713.0	699.3	13.65	52.247			
3,400.0	3,350.8	3,385.9	3,385.5	11.0	5.9	-38.80	824.2	797.3	696.9	682.8	14.19	49.099			
3,500.0	3,448.7	3,481.4	3,481.0	11.4	6.1	-39.97	825.5	796.2	681.6	666.9	14.76	46.191			
3,600.0	3,546.6	3,574.4	3,574.0	11.8	6.3	-41.13	826.9	795.7	667.1	651.7	15.32	43.539			
3,700.0	3,644.4	3,667.1	3,666.6	12.2	6.4	-42.33	829.0	795.6	653.6	637.7	15.90	41.117			
3,800.0	3,742.3	3,766.5	3,766.0	12.6	6.6	-43.66	831.7	795.6	640.9	624.4	16.51	38.829			
3,900.0	3,840.2	3,870.8	3,870.3	13.0	6.8	-45.15	833.9	795.0	627.9	610.8	17.15	36.613			
4,000.0	3,938.1	3,972.6	3,972.1	13.4	7.0	-46.64	835.1	794.4	614.4	596.6	17.80	34.520			
4,100.0	4,035.9	4,076.8	4,076.2	13.8	7.2	-48.27	835.8	793.2	600.5	582.1	18.47	32.507			
4,200.0	4,133.8	4,173.7	4,173.2	14.2	7.3	-49.92	836.0	791.2	586.5	567.3	19.15	30.628			
4,300.0	4,231.7	4,272.3	4,271.7	14.6	7.5	-51.68	836.3	789.2	573.1	553.3	19.84	28.881			
4,400.0	4,329.5	4,369.9	4,369.3	15.0	7.7	-53.45	836.3	787.7	560.1	539.6	20.54	27.262			
4,500.0	4,427.4	4,465.8	4,465.2	15.4	7.8	-55.27	836.5	786.2	547.8	526.5	21.26	25.772			
4,600.0	4,525.3	4,558.6	4,558.0	15.8	8.0	-57.22	837.3	783.8	536.7	514.7	21.98	24.418			
4,700.0	4,623.2	4,656.2	4,655.5	16.2	8.2	-59.33	838.9	781.5	527.0	504.3	22.73	23.187			
4,800.0	4,721.0	4,756.5	4,755.8	16.7	8.4	-61.53	839.9	779.5	517.5	494.0	23.49	22.029			
4,900.0	4,818.9	4,857.2	4,856.5	17.1	8.5	-63.81	840.5	777.5	508.3	484.1	24.26	20.956			
5,000.0	4,916.8	4,957.5	4,956.8	17.5	8.7	-66.06	840.3	776.4	499.2	474.2	25.02	19.956			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY F UNIT 1 (EXISTING) - ENCANA WELL											Offset Site Error: 0.0 ft		
Survey Program: 100-Geolink 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	
5,100.0	5,014.7	5,053.4	5,052.6	17.9	8.9	-68.31	839.9	775.1	490.8	465.0	25.76	19.052	
5,200.0	5,112.5	5,148.5	5,147.7	18.3	9.1	-70.63	840.2	773.7	483.8	457.3	26.50	18.257	
5,300.0	5,210.4	5,245.9	5,245.1	18.7	9.2	-73.12	840.7	771.8	478.0	450.8	27.24	17.545	
5,400.0	5,308.3	5,343.4	5,342.6	19.1	9.4	-75.67	841.1	769.8	473.1	445.1	27.98	16.909	
5,500.0	5,406.1	5,441.3	5,440.5	19.5	9.6	-78.17	841.7	768.7	469.2	440.5	28.68	16.358	
5,600.0	5,504.0	5,539.7	5,538.9	19.9	9.7	-80.72	842.1	767.6	466.0	436.6	29.37	15.865	
5,700.0	5,601.9	5,636.1	5,635.3	20.3	9.9	-83.25	842.6	766.4	463.9	433.9	30.03	15.447	
5,800.0	5,699.8	5,733.1	5,732.3	20.7	10.1	-85.88	843.2	764.6	463.1	432.4	30.67	15.099	
5,833.1	5,732.1	5,765.6	5,764.8	20.8	10.1	-86.77	843.4	764.0	463.1	432.2	30.88	14.997 CC	
5,900.0	5,797.6	5,830.9	5,830.0	21.1	10.3	-88.58	843.6	762.5	463.3	432.0	31.28	14.811 ES	
6,000.0	5,895.5	5,928.0	5,927.2	21.5	10.4	-91.24	844.1	760.5	464.6	432.7	31.85	14.587	
6,100.0	5,993.4	6,026.4	6,025.5	21.9	10.6	-93.90	844.6	758.6	466.9	434.5	32.39	14.416	
6,200.0	6,091.2	6,124.8	6,123.8	22.3	10.8	-96.60	844.6	756.3	470.0	437.1	32.89	14.292	
6,300.0	6,189.1	6,222.2	6,221.2	22.7	11.0	-99.26	844.5	753.8	474.1	440.8	33.34	14.220	
6,400.0	6,287.0	6,320.0	6,319.0	23.1	11.1	-101.86	844.4	751.6	479.2	445.5	33.76	14.196 SF	
6,500.0	6,384.9	6,417.2	6,416.2	23.5	11.3	-104.34	844.4	749.7	485.2	451.1	34.14	14.212	
6,600.0	6,482.7	6,510.8	6,509.8	23.9	11.5	-106.63	845.2	747.8	492.8	458.3	34.50	14.284	
6,700.0	6,580.6	6,613.7	6,612.6	24.3	11.6	-109.02	846.1	746.3	500.8	466.0	34.83	14.380	
6,800.0	6,678.5	6,709.5	6,708.5	24.7	11.8	-111.17	846.7	745.0	509.5	474.3	35.13	14.502	
6,900.0	6,776.4	6,810.4	6,809.3	25.1	12.0	-113.38	847.1	743.7	518.6	483.2	35.40	14.648	
7,000.0	6,874.2	6,904.4	6,903.4	25.5	12.2	-115.41	847.3	742.2	528.6	492.9	35.66	14.823	
7,016.7	6,890.6	6,920.2	6,919.2	25.6	12.2	-115.75	847.3	741.9	530.4	494.7	35.70	14.857	
7,050.0	6,923.2	6,951.7	6,950.6	25.7	12.2	-132.64	847.4	741.2	534.7	499.0	35.65	14.997	
7,100.0	6,972.3	7,000.0	6,998.9	25.9	12.3	-159.36	847.6	740.0	543.6	508.2	35.44	15.340	
7,150.0	7,021.1	7,051.7	7,050.6	26.0	12.4	179.59	847.8	738.9	555.2	520.1	35.08	15.826	
7,200.0	7,069.3	7,103.6	7,102.4	26.1	12.5	165.70	847.7	738.1	568.9	534.3	34.60	16.444	
7,250.0	7,116.5	7,147.9	7,146.8	26.2	12.6	156.55	847.6	737.4	585.1	551.2	33.97	17.225	
7,300.0	7,162.3	7,191.0	7,189.9	26.2	12.7	150.18	847.4	736.4	604.0	570.8	33.22	18.180	
7,350.0	7,206.4	7,234.0	7,232.8	26.3	12.7	145.47	847.2	735.2	625.4	593.0	32.37	19.317	
7,400.0	7,248.4	7,275.5	7,274.4	26.3	12.8	141.74	846.9	733.9	649.2	617.8	31.44	20.648	
7,450.0	7,288.1	7,317.2	7,316.0	26.3	12.9	138.63	846.4	732.4	675.4	644.9	30.46	22.174	
7,500.0	7,325.1	7,360.5	7,359.3	26.3	13.0	135.96	845.3	730.7	703.6	674.1	29.46	23.881	
7,550.0	7,359.2	7,403.4	7,402.1	26.3	13.0	133.49	843.4	728.9	733.8	705.3	28.49	25.759	
7,600.0	7,390.0	7,484.3	7,482.7	26.3	13.2	133.18	837.5	727.2	764.8	737.2	27.64	27.673	
7,650.0	7,417.4	7,521.8	7,520.0	26.3	13.2	130.84	833.8	727.6	796.8	770.0	26.78	29.751	
7,700.0	7,441.2	7,545.3	7,543.4	26.3	13.3	127.54	831.8	728.1	831.1	805.0	26.13	31.803	
7,750.0	7,461.1	7,564.9	7,563.0	26.3	13.3	123.62	830.3	728.6	867.5	841.8	25.79	33.643	
7,800.0	7,477.0	7,580.7	7,578.7	26.3	13.3	118.93	829.2	729.1	905.9	880.1	25.79	35.122	
7,850.0	7,488.8	7,600.0	7,598.0	26.4	13.4	114.02	828.1	729.8	945.9	919.8	26.07	36.278	
7,900.0	7,496.5	7,600.0	7,598.0	26.4	13.4	106.68	828.1	729.8	987.2	960.5	26.64	37.051	
7,950.0	7,499.8	7,600.0	7,598.0	26.5	13.4	98.73	828.1	729.8	1,029.4	1,002.3	27.12	37.955	
7,964.3	7,500.0	7,600.0	7,598.0	26.5	13.4	96.38	828.1	729.8	1,041.6	1,014.4	27.21	38.284	
8,000.0	7,500.0	7,600.0	7,598.0	26.6	13.4	96.38	828.1	729.8	1,072.3	1,044.9	27.35	39.209	
8,100.0	7,500.0	7,600.0	7,598.0	26.8	13.4	96.38	828.1	729.8	1,159.8	1,131.9	27.87	41.607	
8,200.0	7,500.0	7,600.0	7,598.0	27.2	13.4	96.38	828.1	729.8	1,249.1	1,220.6	28.58	43.704	
8,300.0	7,500.0	7,600.0	7,598.0	27.7	13.4	96.38	828.1	729.8	1,340.0	1,310.6	29.45	45.508	
8,400.0	7,500.0	7,620.0	7,617.9	28.3	13.4	98.48	827.1	730.5	1,431.9	1,401.5	30.42	47.069	
8,500.0	7,500.0	7,622.9	7,620.9	29.0	13.4	98.79	827.0	730.6	1,524.9	1,493.4	31.52	48.386	
8,600.0	7,500.0	7,625.7	7,623.7	29.8	13.4	99.08	826.9	730.7	1,618.7	1,586.1	32.70	49.505	
8,700.0	7,500.0	7,628.4	7,626.4	30.6	13.4	99.36	826.7	730.8	1,713.3	1,679.3	33.96	50.456	
8,800.0	7,500.0	7,631.0	7,628.9	31.5	13.4	99.64	826.6	730.9	1,808.4	1,773.1	35.27	51.268	
8,900.0	7,500.0	7,633.5	7,631.4	32.5	13.4	99.90	826.5	731.0	1,904.0	1,867.4	36.64	51.965	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - WOOLLEY F UNIT 1 (EXISTING) - ENCANA WELL											Offset Site Error:		0.0 ft		
Survey Program: 100-Geolink 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			
9,000.0	7,500.0	7,635.9	7,633.8	33.6	13.4	100.15	826.4	731.1	2,000.1	1,962.0	38.05	52.566			
9,100.0	7,500.0	7,638.2	7,636.1	34.7	13.4	100.39	826.3	731.1	2,096.5	2,057.0	39.49	53.088			
9,200.0	7,500.0	7,640.4	7,638.4	35.9	13.4	100.62	826.2	731.2	2,193.2	2,152.2	40.96	53.544			
9,300.0	7,500.0	7,642.6	7,640.5	37.1	13.4	100.84	826.2	731.3	2,290.2	2,247.7	42.45	53.945			
9,400.0	7,500.0	7,644.7	7,642.6	38.3	13.4	101.06	826.1	731.3	2,387.4	2,343.5	43.97	54.300			
9,500.0	7,500.0	7,646.7	7,644.6	39.6	13.4	101.26	826.0	731.4	2,484.9	2,439.4	45.50	54.615			
9,600.0	7,500.0	7,648.6	7,646.5	41.0	13.4	101.47	825.9	731.4	2,582.5	2,535.5	47.04	54.898			
9,700.0	7,500.0	7,650.5	7,648.4	42.3	13.4	101.66	825.9	731.5	2,680.4	2,631.8	48.60	55.152			
9,800.0	7,500.0	7,652.3	7,650.2	43.7	13.5	101.85	825.8	731.5	2,778.3	2,728.2	50.17	55.382			
9,900.0	7,500.0	7,654.1	7,652.0	45.1	13.5	102.03	825.7	731.6	2,876.4	2,824.7	51.74	55.591			
10,000.0	7,500.0	7,655.8	7,653.7	46.6	13.5	102.20	825.7	731.6	2,974.7	2,921.4	53.33	55.781			
10,100.0	7,500.0	7,657.4	7,655.3	48.0	13.5	102.37	825.6	731.7	3,073.0	3,018.1	54.92	55.956			
10,200.0	7,500.0	7,659.0	7,656.9	49.5	13.5	102.54	825.6	731.7	3,171.5	3,115.0	56.51	56.118			
10,300.0	7,500.0	7,660.6	7,658.5	51.0	13.5	102.69	825.5	731.7	3,270.0	3,211.9	58.12	56.267			
10,400.0	7,500.0	7,662.1	7,660.0	52.5	13.5	102.85	825.5	731.8	3,368.6	3,308.9	59.72	56.405			
10,500.0	7,500.0	7,663.5	7,661.4	54.0	13.5	103.00	825.4	731.8	3,467.3	3,406.0	61.33	56.534			
10,600.0	7,500.0	7,664.9	7,662.9	55.6	13.5	103.14	825.4	731.8	3,566.1	3,503.2	62.95	56.654			
10,700.0	7,500.0	7,666.3	7,664.2	57.1	13.5	103.28	825.3	731.9	3,665.0	3,600.4	64.56	56.767			
10,800.0	7,500.0	7,667.7	7,665.6	58.7	13.5	103.42	825.3	731.9	3,763.9	3,697.7	66.18	56.873			
10,900.0	7,500.0	7,669.0	7,666.9	60.3	13.5	103.55	825.2	731.9	3,862.8	3,795.0	67.80	56.973			
11,000.0	7,500.0	7,670.2	7,668.1	61.9	13.5	103.68	825.2	732.0	3,961.8	3,892.4	69.42	57.067			
11,100.0	7,500.0	7,700.0	7,697.9	63.5	13.5	106.67	824.4	732.6	4,061.1	3,990.8	70.28	57.788			
11,200.0	7,500.0	7,700.0	7,697.9	65.1	13.5	106.67	824.4	732.6	4,160.2	4,088.3	71.91	57.853			
11,300.0	7,500.0	7,700.0	7,697.9	66.7	13.5	106.67	824.4	732.6	4,259.3	4,185.8	73.55	57.913			
11,400.0	7,500.0	7,700.0	7,697.9	68.3	13.5	106.67	824.4	732.6	4,358.5	4,283.3	75.19	57.969			
11,500.0	7,500.0	7,700.0	7,697.9	69.9	13.5	106.67	824.4	732.6	4,457.7	4,380.8	76.83	58.022			
11,600.0	7,500.0	7,700.0	7,697.9	71.5	13.5	106.67	824.4	732.6	4,556.9	4,478.4	78.47	58.072			
11,700.0	7,500.0	7,700.0	7,697.9	73.2	13.5	106.67	824.4	732.6	4,656.2	4,576.0	80.12	58.118			
11,800.0	7,500.0	7,700.0	7,697.9	74.8	13.5	106.67	824.4	732.6	4,755.5	4,673.7	81.76	58.162			
11,900.0	7,500.0	7,700.0	7,697.9	76.5	13.5	106.67	824.4	732.6	4,854.8	4,771.4	83.41	58.203			
12,000.0	7,500.0	7,700.0	7,697.9	78.1	13.5	106.67	824.4	732.6	4,954.1	4,869.1	85.06	58.242			
12,100.0	7,500.0	7,700.0	7,697.9	79.8	13.5	106.67	824.4	732.6	5,053.5	4,966.8	86.71	58.279			
12,200.0	7,500.0	7,700.0	7,697.9	81.4	13.5	106.67	824.4	732.6	5,152.9	5,064.5	88.37	58.314			
12,300.0	7,500.0	7,700.0	7,697.9	83.1	13.5	106.67	824.4	732.6	5,252.3	5,162.3	90.02	58.347			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2A-7H-E168 - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	19.9	19.9					
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	19.9	19.9	19.6	0.30	65.434		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	19.9	19.9	19.2	0.65	30.442		
300.0	300.0	300.3	300.3	0.5	0.5	91.32	-0.4	19.1	19.1	18.1	1.00	19.068		
400.0	400.0	400.5	400.4	0.7	0.7	31.36	-1.8	16.8	16.2	14.8	1.35	11.949		
500.0	500.0	500.4	500.3	0.9	0.9	52.39	-3.9	13.1	11.2	9.5	1.72	6.533		
564.2	564.1	564.3	564.0	1.0	1.0	86.44	-5.8	9.8	9.3	7.3	1.97	4.715 CC, ES, SF		
600.0	599.9	599.9	599.5	1.0	1.1	110.30	-7.0	7.8	10.2	8.1	2.10	4.848		
700.0	699.7	699.3	698.7	1.2	1.3	149.56	-9.6	1.8	18.8	16.4	2.42	7.778		
800.0	799.4	798.4	797.6	1.4	1.5	164.52	-11.0	-4.3	31.3	28.6	2.75	11.399		
900.0	898.9	897.1	896.2	1.7	1.7	171.14	-12.3	-10.4	46.5	43.4	3.09	15.046		
1,000.0	998.3	995.6	994.4	1.9	1.9	174.65	-13.6	-16.4	63.6	60.2	3.43	18.560		
1,100.0	1,097.4	1,093.7	1,092.4	2.2	2.1	176.73	-14.9	-22.4	82.6	78.8	3.76	21.936		
1,200.0	1,196.3	1,191.5	1,190.0	2.5	2.3	178.07	-16.3	-28.4	103.3	99.2	4.10	25.198		
1,300.0	1,294.9	1,288.9	1,287.2	2.8	2.5	178.98	-17.6	-34.3	125.8	121.4	4.44	28.369		
1,400.0	1,393.3	1,385.9	1,384.0	3.2	2.7	179.61	-18.9	-40.3	150.0	145.3	4.77	31.468		
1,484.0	1,475.6	1,467.1	1,465.1	3.5	2.8	-179.99	-20.0	-45.2	171.7	166.7	5.05	34.029		
1,500.0	1,491.3	1,482.5	1,480.4	3.5	2.9	-179.93	-20.2	-46.2	175.9	170.8	5.10	34.495		
1,600.0	1,589.1	1,578.9	1,576.7	3.9	3.1	-179.58	-21.5	-52.1	202.4	197.0	5.44	37.204		
1,700.0	1,687.0	1,675.4	1,672.9	4.3	3.3	-179.32	-22.8	-58.0	228.9	223.1	5.78	39.594		
1,800.0	1,784.9	1,771.8	1,769.1	4.7	3.5	-179.11	-24.1	-63.9	255.4	249.3	6.12	41.718		
1,900.0	1,882.7	1,868.2	1,865.4	5.1	3.6	-178.94	-25.4	-69.8	281.9	275.5	6.46	43.618		
2,000.0	1,980.6	1,964.6	1,961.6	5.4	3.8	-178.80	-26.7	-75.7	308.5	301.6	6.81	45.327		
2,100.0	2,078.5	2,061.0	2,057.8	5.8	4.0	-178.69	-28.0	-81.6	335.0	327.8	7.15	46.874		
2,200.0	2,176.4	2,157.5	2,154.0	6.2	4.2	-178.59	-29.3	-87.5	361.5	354.0	7.49	48.279		
2,300.0	2,274.2	2,253.9	2,250.3	6.6	4.4	-178.50	-30.6	-93.4	388.0	380.2	7.83	49.562		
2,400.0	2,372.1	2,350.3	2,346.5	7.0	4.6	-178.42	-31.9	-99.3	414.5	406.3	8.17	50.738		
2,500.0	2,470.0	2,446.7	2,442.7	7.4	4.8	-178.36	-33.2	-105.2	441.0	432.5	8.51	51.819		
2,600.0	2,567.8	2,543.1	2,539.0	7.8	5.0	-178.30	-34.5	-111.1	467.5	458.7	8.85	52.818		
2,700.0	2,665.7	2,639.6	2,635.2	8.2	5.2	-178.24	-35.8	-117.0	494.1	484.9	9.19	53.742		
2,800.0	2,763.6	2,736.0	2,731.4	8.6	5.4	-178.20	-37.1	-122.9	520.6	511.0	9.53	54.599		
2,900.0	2,861.5	2,832.4	2,827.7	9.0	5.6	-178.15	-38.4	-128.8	547.1	537.2	9.88	55.398		
3,000.0	2,959.3	2,928.8	2,923.9	9.4	5.8	-178.11	-39.7	-134.7	573.6	563.4	10.22	56.143		
3,100.0	3,057.2	3,025.2	3,020.1	9.8	6.0	-178.08	-41.0	-140.6	600.1	589.6	10.56	56.840		
3,200.0	3,155.1	3,121.7	3,116.3	10.2	6.2	-178.05	-42.3	-146.5	626.7	615.8	10.90	57.493		
3,300.0	3,253.0	3,218.1	3,212.6	10.6	6.4	-178.02	-43.6	-152.4	653.2	641.9	11.24	58.107		
3,400.0	3,350.8	3,314.5	3,308.8	11.0	6.6	-177.99	-44.9	-158.3	679.7	668.1	11.58	58.685		
3,500.0	3,448.7	3,410.9	3,405.0	11.4	6.8	-177.96	-46.2	-164.2	706.2	694.3	11.92	59.229		
3,600.0	3,546.6	3,507.3	3,501.3	11.8	7.0	-177.94	-47.5	-170.1	732.7	720.5	12.26	59.743		
3,700.0	3,644.4	3,603.7	3,597.5	12.2	7.2	-177.92	-48.8	-176.0	759.2	746.6	12.61	60.229		
3,800.0	3,742.3	3,700.2	3,693.7	12.6	7.4	-177.90	-50.1	-181.9	785.8	772.8	12.95	60.690		
3,900.0	3,840.2	3,796.6	3,789.9	13.0	7.6	-177.88	-51.4	-187.8	812.3	799.0	13.29	61.127		
4,000.0	3,938.1	3,893.0	3,886.2	13.4	7.8	-177.86	-52.7	-193.7	838.8	825.2	13.63	61.542		
4,100.0	4,035.9	3,989.4	3,982.4	13.8	8.0	-177.84	-54.0	-199.7	865.3	851.3	13.97	61.937		
4,200.0	4,133.8	4,085.8	4,078.6	14.2	8.2	-177.83	-55.3	-205.6	891.8	877.5	14.31	62.313		
4,300.0	4,231.7	4,182.3	4,174.9	14.6	8.4	-177.81	-56.6	-211.5	918.4	903.7	14.65	62.671		
4,400.0	4,329.5	4,278.7	4,271.1	15.0	8.6	-177.80	-57.9	-217.4	944.9	929.9	14.99	63.013		
4,500.0	4,427.4	4,375.1	4,367.3	15.4	8.8	-177.79	-59.2	-223.3	971.4	956.1	15.34	63.340		
4,600.0	4,525.3	4,471.5	4,463.6	15.8	9.0	-177.77	-60.5	-229.2	997.9	982.2	15.68	63.653		
4,700.0	4,623.2	4,567.9	4,559.8	16.2	9.2	-177.76	-61.8	-235.1	1,024.4	1,008.4	16.02	63.952		
4,800.0	4,721.0	4,664.4	4,656.0	16.7	9.4	-177.75	-63.1	-241.0	1,051.0	1,034.6	16.36	64.239		
4,900.0	4,818.9	4,760.8	4,752.2	17.1	9.6	-177.74	-64.4	-246.9	1,077.5	1,060.8	16.70	64.514		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2A-7H-E168 - Hz - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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
5,000.0	4,916.8	4,857.2	4,848.5	17.5	9.8	-177.73	-65.7	-252.8	1,104.0	1,087.0	17.04	64.778	
5,100.0	5,014.7	4,953.6	4,944.7	17.9	10.0	-177.72	-67.0	-258.7	1,130.5	1,113.1	17.38	65.032	
5,200.0	5,112.5	5,050.0	5,040.9	18.3	10.2	-177.71	-68.3	-264.6	1,157.0	1,139.3	17.73	65.275	
5,300.0	5,210.4	5,146.5	5,137.2	18.7	10.4	-177.70	-69.6	-270.5	1,183.6	1,165.5	18.07	65.510	
5,400.0	5,308.3	5,242.9	5,233.4	19.1	10.6	-177.69	-70.9	-276.4	1,210.1	1,191.7	18.41	65.736	
5,500.0	5,406.1	5,339.3	5,329.6	19.5	10.8	-177.69	-72.2	-282.3	1,236.6	1,217.8	18.75	65.954	
5,600.0	5,504.0	5,435.7	5,425.9	19.9	11.0	-177.68	-73.5	-288.2	1,263.1	1,244.0	19.09	66.164	
5,700.0	5,601.9	5,532.1	5,522.1	20.3	11.2	-177.67	-74.8	-294.1	1,289.6	1,270.2	19.43	66.366	
5,800.0	5,699.8	5,628.6	5,618.3	20.7	11.4	-177.66	-76.1	-300.0	1,316.2	1,296.4	19.77	66.562	
5,900.0	5,797.6	5,725.0	5,714.5	21.1	11.6	-177.66	-77.4	-305.9	1,342.7	1,322.6	20.11	66.751	
6,000.0	5,895.5	5,821.4	5,810.8	21.5	11.8	-177.65	-78.7	-311.8	1,369.2	1,348.7	20.46	66.934	
6,100.0	5,993.4	5,917.8	5,907.0	21.9	12.0	-177.64	-80.0	-317.7	1,395.7	1,374.9	20.80	67.110	
6,200.0	6,091.2	6,014.2	6,003.2	22.3	12.2	-177.64	-81.3	-323.6	1,422.2	1,401.1	21.14	67.281	
6,300.0	6,189.1	6,110.6	6,099.5	22.7	12.4	-177.63	-82.6	-329.5	1,448.8	1,427.3	21.48	67.447	
6,400.0	6,287.0	6,207.1	6,195.7	23.1	12.6	-177.63	-83.9	-335.4	1,475.3	1,453.5	21.82	67.607	
6,500.0	6,384.9	6,303.5	6,291.9	23.5	12.8	-177.62	-85.2	-341.3	1,501.8	1,479.6	22.16	67.762	
6,600.0	6,482.7	6,399.9	6,388.1	23.9	13.0	-177.61	-86.5	-347.2	1,528.3	1,505.8	22.50	67.913	
6,700.0	6,580.6	6,496.3	6,484.4	24.3	13.2	-177.61	-87.8	-353.1	1,554.8	1,532.0	22.85	68.059	
6,800.0	6,678.5	6,592.7	6,580.6	24.7	13.4	-177.60	-89.1	-359.0	1,581.4	1,558.2	23.19	68.201	
6,900.0	6,776.4	6,689.2	6,676.8	25.1	13.6	-177.60	-90.4	-364.9	1,607.9	1,584.3	23.53	68.339	
7,000.0	6,874.2	6,785.6	6,773.1	25.5	13.8	-177.59	-91.7	-370.8	1,634.4	1,610.5	23.87	68.473	
7,016.7	6,890.6	6,801.7	6,789.2	25.6	13.8	-177.59	-91.9	-371.8	1,638.8	1,614.9	23.93	68.495	
7,050.0	6,923.2	6,833.9	6,821.3	25.7	13.9	165.65	-92.3	-373.8	1,647.3	1,623.2	24.07	68.429	
7,100.0	6,972.3	6,882.3	6,869.6	25.9	14.0	139.32	-93.0	-376.7	1,658.8	1,634.5	24.30	68.268	
7,150.0	7,021.1	6,930.5	6,917.7	26.0	14.1	118.83	-93.6	-379.7	1,668.6	1,644.1	24.51	68.074	
7,200.0	7,069.3	6,978.1	6,965.3	26.1	14.2	105.60	-94.3	-382.6	1,676.8	1,652.1	24.70	67.880	
7,250.0	7,116.5	7,024.9	7,011.9	26.2	14.3	97.32	-94.9	-385.5	1,683.4	1,658.5	24.87	67.697	
7,300.0	7,162.3	7,070.3	7,057.2	26.2	14.4	92.05	-95.5	-388.2	1,688.5	1,663.5	25.01	67.520	
7,350.0	7,206.4	7,114.1	7,100.9	26.3	14.5	88.66	-96.1	-390.9	1,692.1	1,666.9	25.13	67.334	
7,400.0	7,248.4	7,155.9	7,142.7	26.3	14.5	86.50	-96.7	-393.5	1,694.4	1,669.1	25.24	67.123	
7,450.0	7,288.1	7,309.1	7,294.5	26.3	14.8	88.03	-82.8	-402.8	1,694.7	1,669.1	25.63	66.111	
7,500.0	7,325.1	7,429.4	7,408.0	26.3	15.0	90.28	-44.1	-409.8	1,692.1	1,666.0	26.07	64.915	
7,550.0	7,359.2	7,477.6	7,450.8	26.3	15.1	90.97	-22.1	-412.4	1,688.8	1,662.5	26.29	64.230	
7,600.0	7,390.0	7,495.4	7,466.1	26.3	15.1	90.92	-13.0	-413.3	1,685.8	1,659.4	26.38	63.909	
7,650.0	7,417.4	7,498.4	7,468.6	26.3	15.1	90.52	-11.5	-413.5	1,683.3	1,656.9	26.42	63.717	
7,700.0	7,441.2	7,493.1	7,464.1	26.3	15.1	89.95	-14.2	-413.2	1,681.4	1,655.0	26.45	63.581	
7,750.0	7,461.1	7,482.8	7,455.3	26.3	15.1	89.29	-19.5	-412.7	1,680.0	1,653.6	26.47	63.462	
7,800.0	7,477.0	7,469.3	7,443.5	26.3	15.1	88.59	-26.1	-411.9	1,679.2	1,652.7	26.51	63.346	
7,850.0	7,488.8	7,453.5	7,429.6	26.4	15.0	87.88	-33.5	-411.1	1,678.7	1,652.2	26.55	63.222	
7,890.5	7,495.3	7,439.6	7,417.2	26.4	15.0	87.31	-39.8	-410.3	1,678.6	1,652.0	26.61	63.085	
7,900.0	7,496.5	7,436.2	7,414.1	26.4	15.0	87.18	-41.2	-410.1	1,678.6	1,652.0	26.62	63.060	
7,950.0	7,499.8	7,417.7	7,397.3	26.5	15.0	86.51	-48.9	-409.1	1,678.8	1,652.1	26.70	62.872	
7,964.3	7,500.0	7,412.2	7,392.3	26.5	15.0	86.32	-51.1	-408.8	1,678.9	1,652.2	26.73	62.814	
8,000.0	7,500.0	7,400.0	7,381.0	26.6	15.0	85.94	-55.8	-408.1	1,679.4	1,652.6	26.84	62.574	
8,100.0	7,500.0	7,369.4	7,352.4	26.8	14.9	84.96	-66.4	-406.4	1,684.6	1,657.3	27.30	61.709	
8,200.0	7,500.0	7,350.0	7,334.0	27.2	14.9	84.33	-72.3	-405.2	1,695.1	1,667.2	27.97	60.612	
8,300.0	7,500.0	7,328.5	7,313.3	27.7	14.8	83.62	-78.2	-404.0	1,711.1	1,682.3	28.79	59.443	
8,400.0	7,500.0	7,314.0	7,299.3	28.3	14.8	83.14	-81.7	-403.1	1,732.5	1,702.8	29.76	58.224	
8,500.0	7,500.0	7,300.0	7,285.6	29.0	14.8	82.68	-84.7	-402.3	1,759.2	1,728.3	30.84	57.048	
8,600.0	7,500.0	7,300.0	7,285.6	29.8	14.8	82.68	-84.7	-402.3	1,790.9	1,758.9	32.05	55.876	
8,700.0	7,500.0	7,283.5	7,269.5	30.6	14.8	82.13	-87.9	-401.3	1,827.4	1,794.1	33.29	54.901	
8,800.0	7,500.0	7,276.2	7,262.3	31.5	14.8	81.89	-89.1	-400.8	1,868.5	1,833.9	34.61	53.987	

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2A-7H-E168 - Hz - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	7,500.0	7,269.9	7,256.1	32.5	14.7	81.68	-90.1	-400.4	1,913.9	1,877.9	35.99	53.181		
9,000.0	7,500.0	7,250.0	7,236.4	33.6	14.7	81.01	-92.9	-399.2	1,963.5	1,926.1	37.35	52.565		
9,100.0	7,500.0	7,250.0	7,236.4	34.7	14.7	81.01	-92.9	-399.2	2,016.5	1,977.7	38.83	51.931		
9,200.0	7,500.0	7,250.0	7,236.4	35.9	14.7	81.01	-92.9	-399.2	2,073.0	2,032.7	40.34	51.392		
9,300.0	7,500.0	7,250.0	7,236.4	37.1	14.7	81.01	-92.9	-399.2	2,132.7	2,090.8	41.87	50.937		
9,400.0	7,500.0	7,250.0	7,236.4	38.3	14.7	81.01	-92.9	-399.2	2,195.3	2,151.9	43.42	50.557		
9,500.0	7,500.0	7,250.0	7,236.4	39.6	14.7	81.01	-92.9	-399.2	2,260.7	2,215.7	44.99	50.243		
9,600.0	7,500.0	7,250.0	7,236.4	41.0	14.7	81.01	-92.9	-399.2	2,328.4	2,281.9	46.58	49.986		
9,700.0	7,500.0	7,250.0	7,236.4	42.3	14.7	81.01	-92.9	-399.2	2,398.5	2,350.3	48.18	49.779		
9,800.0	7,500.0	7,250.0	7,236.4	43.7	14.7	81.01	-92.9	-399.2	2,470.6	2,420.8	49.80	49.615		
9,900.0	7,500.0	7,250.0	7,236.4	45.1	14.7	81.01	-92.9	-399.2	2,544.6	2,493.2	51.42	49.487		
10,000.0	7,500.0	7,250.0	7,236.4	46.6	14.7	81.01	-92.9	-399.2	2,620.3	2,567.2	53.05	49.392		
10,100.0	7,500.0	7,250.0	7,236.4	48.0	14.7	81.01	-92.9	-399.2	2,697.6	2,642.9	54.69	49.324		
10,200.0	7,500.0	7,228.7	7,215.3	49.5	14.7	80.29	-95.0	-397.9	2,775.9	2,719.7	56.21	49.385		
10,300.0	7,500.0	7,227.1	7,213.6	51.0	14.7	80.24	-95.1	-397.8	2,856.0	2,798.1	57.85	49.368		
10,400.0	7,500.0	7,225.5	7,212.1	52.5	14.7	80.19	-95.3	-397.8	2,937.2	2,877.7	59.50	49.368		
10,500.0	7,500.0	7,224.1	7,210.7	54.0	14.7	80.14	-95.4	-397.7	3,019.6	2,958.4	61.15	49.382		
10,600.0	7,500.0	7,222.8	7,209.4	55.6	14.7	80.09	-95.5	-397.6	3,102.9	3,040.1	62.80	49.408		
10,700.0	7,500.0	7,221.5	7,208.1	57.1	14.7	80.05	-95.6	-397.5	3,187.3	3,122.8	64.46	49.444		
10,800.0	7,500.0	7,200.0	7,186.7	58.7	14.6	79.33	-96.7	-396.2	3,272.9	3,206.9	65.97	49.609		
10,900.0	7,500.0	7,200.0	7,186.7	60.3	14.6	79.33	-96.7	-396.2	3,358.9	3,291.2	67.65	49.654		
11,000.0	7,500.0	7,200.0	7,186.7	61.9	14.6	79.33	-96.7	-396.2	3,445.6	3,376.3	69.32	49.705		
11,100.0	7,500.0	7,200.0	7,186.7	63.5	14.6	79.33	-96.7	-396.2	3,533.1	3,462.1	71.00	49.762		
11,200.0	7,500.0	7,200.0	7,186.7	65.1	14.6	79.33	-96.7	-396.2	3,621.2	3,548.5	72.68	49.823		
11,300.0	7,500.0	7,200.0	7,186.7	66.7	14.6	79.33	-96.7	-396.2	3,709.9	3,635.5	74.36	49.889		
11,400.0	7,500.0	7,200.0	7,186.7	68.3	14.6	79.33	-96.7	-396.2	3,799.2	3,723.1	76.05	49.957		
11,500.0	7,500.0	7,200.0	7,186.7	69.9	14.6	79.33	-96.7	-396.2	3,889.0	3,811.2	77.74	50.027		
11,600.0	7,500.0	7,200.0	7,186.7	71.5	14.6	79.33	-96.7	-396.2	3,979.2	3,899.8	79.43	50.100		
11,700.0	7,500.0	7,200.0	7,186.7	73.2	14.6	79.33	-96.7	-396.2	4,070.0	3,988.8	81.12	50.174		
11,800.0	7,500.0	7,200.0	7,186.7	74.8	14.6	79.33	-96.7	-396.2	4,161.1	4,078.3	82.81	50.249		
11,900.0	7,500.0	7,200.0	7,186.7	76.5	14.6	79.33	-96.7	-396.2	4,252.7	4,168.2	84.50	50.325		
12,000.0	7,500.0	7,200.0	7,186.7	78.1	14.6	79.33	-96.7	-396.2	4,344.6	4,258.4	86.20	50.402		
12,100.0	7,500.0	7,200.0	7,186.7	79.8	14.6	79.33	-96.7	-396.2	4,436.9	4,349.0	87.90	50.479		
12,200.0	7,500.0	7,200.0	7,186.7	81.4	14.6	79.33	-96.7	-396.2	4,529.5	4,439.9	89.59	50.555		
12,300.0	7,500.0	7,200.0	7,186.7	83.1	14.6	79.33	-96.7	-396.2	4,622.4	4,531.1	91.29	50.632		
12,400.0	7,500.0	7,200.0	7,186.7	84.8	14.6	79.33	-96.7	-396.2	4,715.6	4,622.6	92.99	50.709		
12,500.0	7,500.0	7,200.0	7,186.7	86.4	14.6	79.33	-96.7	-396.2	4,809.1	4,714.4	94.69	50.785		
12,600.0	7,500.0	7,200.0	7,186.7	88.1	14.6	79.33	-96.7	-396.2	4,902.8	4,806.4	96.40	50.860		
12,700.0	7,500.0	7,200.0	7,186.7	89.8	14.6	79.33	-96.7	-396.2	4,996.8	4,898.7	98.10	50.935		
12,800.0	7,500.0	7,200.0	7,186.7	91.5	14.6	79.33	-96.7	-396.2	5,091.0	4,991.2	99.80	51.010		
12,900.0	7,500.0	7,200.0	7,186.7	93.2	14.6	79.33	-96.7	-396.2	5,185.4	5,083.9	101.51	51.083		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2B-7H-E168 - Hz - Plan #2											Offset Site Error: 0.0 ft		
Survey Program: 0-Geolink 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	29.9	29.9				
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	29.9	29.9	29.6	0.30	98.612	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	29.9	29.9	29.3	0.65	45.878	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	29.9	29.9	28.9	1.00	29.893	
400.0	400.0	400.3	400.3	0.7	0.7	25.92	-0.7	29.4	28.6	27.3	1.35	21.159	
500.0	500.0	500.4	500.4	0.9	0.9	33.38	-2.7	27.7	24.8	23.1	1.71	14.569	
600.0	599.9	600.2	600.1	1.0	1.0	51.37	-6.0	24.9	20.0	17.9	2.07	9.623	
692.1	691.7	691.7	691.5	1.2	1.2	79.20	-9.2	22.4	17.8	15.4	2.43	7.342 CC	
700.0	699.7	699.7	699.4	1.2	1.2	81.78	-9.5	22.2	17.8	15.4	2.46	7.260 ES, SF	
800.0	799.4	799.3	799.0	1.4	1.4	111.02	-11.9	20.9	20.7	17.9	2.82	7.337	
900.0	898.9	898.9	898.6	1.7	1.6	130.48	-13.2	20.9	27.1	23.9	3.17	8.547	
1,000.0	998.3	998.2	998.0	1.9	1.7	143.18	-14.3	21.1	36.3	32.8	3.51	10.360	
1,100.0	1,097.4	1,097.3	1,097.1	2.2	1.9	151.51	-15.5	21.4	48.2	44.3	3.85	12.525	
1,200.0	1,196.3	1,196.2	1,195.9	2.5	2.1	157.12	-16.6	21.7	62.2	58.0	4.18	14.867	
1,300.0	1,294.9	1,294.8	1,294.5	2.8	2.3	161.06	-17.7	21.9	78.3	73.7	4.52	17.305	
1,400.0	1,393.3	1,393.1	1,392.8	3.2	2.4	163.93	-18.8	22.2	96.2	91.3	4.86	19.798	
1,484.0	1,475.6	1,475.4	1,475.1	3.5	2.6	165.79	-19.7	22.4	112.7	107.6	5.14	21.921	
1,500.0	1,491.3	1,491.0	1,490.7	3.5	2.6	166.10	-19.9	22.4	116.0	110.8	5.20	22.317	
1,600.0	1,589.1	1,588.8	1,588.5	3.9	2.8	167.73	-21.0	22.7	136.4	130.9	5.54	24.625	
1,700.0	1,687.0	1,686.7	1,686.3	4.3	3.0	168.93	-22.1	23.0	157.0	151.1	5.88	26.674	
1,800.0	1,784.9	1,784.5	1,784.1	4.7	3.1	169.86	-23.2	23.2	177.5	171.3	6.23	28.503	
1,900.0	1,882.7	1,882.3	1,882.0	5.1	3.3	170.59	-24.3	23.5	198.2	191.6	6.57	30.144	
2,000.0	1,980.6	1,980.1	1,979.8	5.4	3.5	171.18	-25.4	23.7	218.8	211.9	6.92	31.625	
2,100.0	2,078.5	2,078.0	2,077.6	5.8	3.6	171.67	-26.5	24.0	239.5	232.2	7.26	32.966	
2,200.0	2,176.4	2,175.8	2,175.4	6.2	3.8	172.08	-27.6	24.2	260.2	252.6	7.61	34.188	
2,300.0	2,274.2	2,273.6	2,273.2	6.6	4.0	172.44	-28.7	24.5	280.9	272.9	7.96	35.304	
2,400.0	2,372.1	2,371.4	2,371.0	7.0	4.2	172.74	-29.8	24.8	301.6	293.3	8.30	36.328	
2,500.0	2,470.0	2,469.2	2,468.9	7.4	4.3	173.01	-30.9	25.0	322.3	313.6	8.65	37.271	
2,600.0	2,567.8	2,567.1	2,566.7	7.8	4.5	173.24	-32.0	25.3	343.0	334.0	8.99	38.142	
2,700.0	2,665.7	2,664.9	2,664.5	8.2	4.7	173.44	-33.1	25.5	363.7	354.4	9.34	38.949	
2,800.0	2,763.6	2,762.7	2,762.3	8.6	4.8	173.63	-34.2	25.8	384.4	374.8	9.68	39.699	
2,900.0	2,861.5	2,860.5	2,860.1	9.0	5.0	173.79	-35.3	26.1	405.2	395.1	10.03	40.397	
3,000.0	2,959.3	2,958.3	2,957.9	9.4	5.2	173.94	-36.4	26.3	425.9	415.5	10.38	41.049	
3,100.0	3,057.2	3,056.2	3,055.7	9.8	5.4	174.08	-37.5	26.6	446.6	435.9	10.72	41.659	
3,200.0	3,155.1	3,154.0	3,153.6	10.2	5.5	174.20	-38.6	26.8	467.4	456.3	11.07	42.231	
3,300.0	3,253.0	3,251.8	3,251.4	10.6	5.7	174.32	-39.7	27.1	488.1	476.7	11.41	42.768	
3,400.0	3,350.8	3,349.6	3,349.2	11.0	5.9	174.42	-40.8	27.4	508.8	497.1	11.76	43.274	
3,500.0	3,448.7	3,447.5	3,447.0	11.4	6.0	174.51	-41.9	27.6	529.6	517.5	12.10	43.751	
3,600.0	3,546.6	3,545.3	3,544.8	11.8	6.2	174.60	-43.0	27.9	550.3	537.9	12.45	44.202	
3,700.0	3,644.4	3,643.1	3,642.6	12.2	6.4	174.68	-44.1	28.1	571.1	558.3	12.80	44.629	
3,800.0	3,742.3	3,740.9	3,740.5	12.6	6.6	174.76	-45.2	28.4	591.8	578.7	13.14	45.033	
3,900.0	3,840.2	3,838.7	3,838.3	13.0	6.7	174.83	-46.3	28.6	612.6	599.1	13.49	45.416	
4,000.0	3,938.1	3,936.6	3,936.1	13.4	6.9	174.90	-47.5	28.9	633.3	619.5	13.83	45.780	
4,100.0	4,035.9	4,034.4	4,033.9	13.8	7.1	174.96	-48.6	29.2	654.1	639.9	14.18	46.127	
4,200.0	4,133.8	4,132.2	4,131.7	14.2	7.2	175.02	-49.7	29.4	674.8	660.3	14.53	46.457	
4,300.0	4,231.7	4,230.0	4,229.5	14.6	7.4	175.07	-50.8	29.7	695.5	680.7	14.87	46.772	
4,400.0	4,329.5	4,327.9	4,327.3	15.0	7.6	175.13	-51.9	29.9	716.3	701.1	15.22	47.072	
4,500.0	4,427.4	4,425.7	4,425.2	15.4	7.8	175.17	-53.0	30.2	737.0	721.5	15.56	47.360	
4,600.0	4,525.3	4,523.5	4,523.0	15.8	7.9	175.22	-54.1	30.5	757.8	741.9	15.91	47.634	
4,700.0	4,623.2	4,621.3	4,620.8	16.2	8.1	175.26	-55.2	30.7	778.5	762.3	16.25	47.898	
4,800.0	4,721.0	4,719.1	4,718.6	16.7	8.3	175.31	-56.3	31.0	799.3	782.7	16.60	48.150	
4,900.0	4,818.9	4,817.0	4,816.4	17.1	8.4	175.34	-57.4	31.2	820.0	803.1	16.95	48.391	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2B-7H-E168 - Hz - Plan #2											Offset Site Error: 0.0 ft		
Survey Program: O-Geolink 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	4,916.8	4,914.8	4,914.2	17.5	8.6	175.38	-58.5	31.5	840.8	823.5	17.29	48.624	
5,100.0	5,014.7	5,012.6	5,012.1	17.9	8.8	175.42	-59.6	31.8	861.5	843.9	17.64	48.847	
5,200.0	5,112.5	5,110.4	5,109.9	18.3	9.0	175.45	-60.7	32.0	882.3	864.3	17.98	49.061	
5,300.0	5,210.4	5,208.3	5,207.7	18.7	9.1	175.48	-61.8	32.3	903.1	884.7	18.33	49.268	
5,400.0	5,308.3	5,306.1	5,305.5	19.1	9.3	175.51	-62.9	32.5	923.8	905.1	18.68	49.467	
5,500.0	5,406.1	5,403.9	5,403.3	19.5	9.5	175.54	-64.0	32.8	944.6	925.5	19.02	49.658	
5,600.0	5,504.0	5,501.7	5,501.1	19.9	9.6	175.57	-65.1	33.0	965.3	945.9	19.37	49.843	
5,700.0	5,601.9	5,599.5	5,598.9	20.3	9.8	175.60	-66.2	33.3	986.1	966.3	19.71	50.021	
5,800.0	5,699.8	5,697.4	5,696.8	20.7	10.0	175.63	-67.3	33.6	1,006.8	986.8	20.06	50.193	
5,900.0	5,797.6	5,795.2	5,794.6	21.1	10.2	175.65	-68.4	33.8	1,027.6	1,007.2	20.40	50.360	
6,000.0	5,895.5	5,893.0	5,892.4	21.5	10.3	175.67	-69.5	34.1	1,048.3	1,027.6	20.75	50.520	
6,100.0	5,993.4	5,990.8	5,990.2	21.9	10.5	175.70	-70.6	34.3	1,069.1	1,048.0	21.10	50.676	
6,200.0	6,091.2	6,088.6	6,088.0	22.3	10.7	175.72	-71.7	34.6	1,089.8	1,068.4	21.44	50.826	
6,300.0	6,189.1	6,186.5	6,185.8	22.7	10.9	175.74	-72.8	34.9	1,110.6	1,088.8	21.79	50.972	
6,400.0	6,287.0	6,284.3	6,283.6	23.1	11.0	175.76	-73.9	35.1	1,131.3	1,109.2	22.13	51.113	
6,500.0	6,384.9	6,382.1	6,381.5	23.5	11.2	175.78	-75.0	35.4	1,152.1	1,129.6	22.48	51.250	
6,600.0	6,482.7	6,479.9	6,479.3	23.9	11.4	175.80	-76.1	35.6	1,172.8	1,150.0	22.83	51.383	
6,700.0	6,580.6	6,577.8	6,577.1	24.3	11.5	175.82	-77.2	35.9	1,193.6	1,170.4	23.17	51.512	
6,800.0	6,678.5	6,675.6	6,674.9	24.7	11.7	175.84	-78.3	36.2	1,214.4	1,190.8	23.52	51.637	
6,900.0	6,776.4	6,773.4	6,772.7	25.1	11.9	175.85	-79.4	36.4	1,235.1	1,211.2	23.86	51.758	
7,000.0	6,874.2	6,871.2	6,870.5	25.5	12.1	175.87	-80.5	36.7	1,255.9	1,231.7	24.21	51.876	
7,016.7	6,890.6	6,887.6	6,886.9	25.6	12.1	175.87	-80.7	36.7	1,259.3	1,235.1	24.27	51.895	
7,050.0	6,923.2	6,920.2	6,919.5	25.7	12.1	159.36	-81.1	36.8	1,265.8	1,241.3	24.46	51.751	
7,100.0	6,972.3	7,800.1	7,499.3	25.9	16.0	160.79	464.2	28.7	1,253.7	1,222.9	30.84	40.648	
7,150.0	7,021.1	7,781.9	7,498.2	26.0	15.8	141.23	446.0	29.0	1,242.4	1,211.7	30.72	40.440	
7,200.0	7,069.3	7,758.9	7,495.9	26.1	15.6	128.22	423.1	29.4	1,232.9	1,202.5	30.43	40.514	
7,250.0	7,116.5	7,734.7	7,492.5	26.2	15.4	119.67	399.1	29.8	1,225.2	1,195.1	30.07	40.746	
7,300.0	7,162.3	7,710.0	7,487.9	26.2	15.1	113.69	374.9	30.2	1,219.2	1,189.5	29.66	41.107	
7,350.0	7,206.4	7,685.1	7,482.3	26.3	14.9	109.22	350.6	30.6	1,214.8	1,185.6	29.23	41.562	
7,400.0	7,248.4	7,660.1	7,475.7	26.3	14.7	105.63	326.6	31.0	1,212.1	1,183.3	28.80	42.088	
7,450.0	7,288.1	7,635.1	7,467.9	26.3	14.5	102.60	302.7	31.4	1,210.8	1,182.4	28.39	42.651	
7,471.1	7,304.0	7,624.5	7,464.3	26.3	14.4	101.45	292.8	31.6	1,210.7	1,182.4	28.23	42.890	
7,500.0	7,325.1	7,610.0	7,459.1	26.3	14.3	99.94	279.3	31.8	1,210.9	1,182.9	28.01	43.228	
7,550.0	7,359.2	7,584.9	7,449.3	26.3	14.1	97.52	256.2	32.2	1,212.2	1,184.5	27.68	43.788	
7,600.0	7,390.0	7,559.8	7,438.5	26.3	13.9	95.27	233.6	32.6	1,214.7	1,187.3	27.41	44.321	
7,650.0	7,417.4	7,534.8	7,426.7	26.3	13.7	93.15	211.4	32.9	1,218.1	1,190.9	27.18	44.809	
7,700.0	7,441.2	7,509.7	7,414.0	26.3	13.6	91.14	189.9	33.3	1,222.3	1,195.3	27.01	45.260	
7,750.0	7,461.1	7,484.7	7,400.3	26.3	13.5	89.23	168.9	33.6	1,227.2	1,200.3	26.87	45.669	
7,800.0	7,477.0	7,459.7	7,385.8	26.3	13.3	87.42	148.6	33.9	1,232.6	1,205.8	26.76	46.053	
7,850.0	7,488.8	7,434.7	7,370.4	26.4	13.2	85.72	128.9	34.2	1,238.3	1,211.7	26.68	46.415	
7,900.0	7,496.5	7,409.8	7,354.2	26.4	13.1	84.12	110.0	34.5	1,244.3	1,217.7	26.61	46.766	
7,950.0	7,499.8	7,384.9	7,337.2	26.5	13.0	82.64	91.8	34.8	1,250.3	1,223.7	26.54	47.101	
7,964.3	7,500.0	7,377.8	7,332.2	26.5	13.0	82.24	86.7	34.9	1,252.0	1,225.5	26.53	47.193	
8,000.0	7,500.0	7,360.6	7,319.9	26.6	12.9	81.68	74.7	35.1	1,256.6	1,230.0	26.58	47.284	
8,100.0	7,500.0	7,317.6	7,287.5	26.8	12.8	80.21	46.5	35.5	1,273.0	1,246.2	26.88	47.360	
8,200.0	7,500.0	7,281.4	7,258.7	27.2	12.7	78.91	24.6	35.8	1,295.1	1,267.7	27.40	47.258	
8,300.0	7,500.0	7,250.0	7,232.6	27.7	12.6	77.74	7.1	36.0	1,322.9	1,294.8	28.11	47.067	
8,400.0	7,500.0	7,224.3	7,210.6	28.3	12.6	76.76	-6.1	36.2	1,356.4	1,327.4	28.97	46.822	
8,500.0	7,500.0	7,200.0	7,189.2	29.0	12.5	75.82	-17.6	36.4	1,395.4	1,365.5	29.94	46.614	
8,600.0	7,500.0	7,182.0	7,173.1	29.8	12.5	75.12	-25.6	36.5	1,439.6	1,408.6	31.02	46.407	
8,700.0	7,500.0	7,150.0	7,143.8	30.6	12.5	73.85	-38.6	36.6	1,488.9	1,456.8	32.08	46.416	
8,800.0	7,500.0	7,150.0	7,143.8	31.5	12.5	73.85	-38.6	36.6	1,542.3	1,508.9	33.39	46.187	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2B-7H-E168 - Hz - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	7,500.0	7,150.0	7,143.8	32.5	12.5	73.85	-38.6	36.6	1,600.2	1,565.5	34.76	46.039		
9,000.0	7,500.0	7,124.4	7,119.9	33.6	12.4	72.83	-47.7	36.7	1,661.5	1,625.6	35.97	46.188		
9,100.0	7,500.0	7,100.0	7,096.7	34.7	12.4	71.84	-55.4	36.8	1,726.6	1,689.4	37.21	46.404		
9,200.0	7,500.0	7,100.0	7,096.7	35.9	12.4	71.84	-55.4	36.8	1,794.3	1,755.7	38.66	46.412		
9,300.0	7,500.0	7,100.0	7,096.7	37.1	12.4	71.84	-55.4	36.8	1,865.0	1,824.8	40.14	46.464		
9,400.0	7,500.0	7,100.0	7,096.7	38.3	12.4	71.84	-55.4	36.8	1,938.2	1,896.6	41.63	46.553		
9,500.0	7,500.0	7,080.3	7,077.8	39.6	12.4	71.05	-60.9	36.8	2,013.4	1,970.4	42.96	46.869		
9,600.0	7,500.0	7,073.7	7,071.4	41.0	12.4	70.79	-62.6	36.9	2,090.7	2,046.3	44.41	47.074		
9,700.0	7,500.0	7,050.0	7,048.4	42.3	12.3	69.83	-68.1	36.9	2,170.1	2,124.4	45.69	47.499		
9,800.0	7,500.0	7,050.0	7,048.4	43.7	12.3	69.83	-68.1	36.9	2,250.6	2,203.4	47.22	47.660		
9,900.0	7,500.0	7,050.0	7,048.4	45.1	12.3	69.83	-68.1	36.9	2,332.7	2,283.9	48.77	47.833		
10,000.0	7,500.0	7,050.0	7,048.4	46.6	12.3	69.83	-68.1	36.9	2,416.1	2,365.7	50.32	48.013		
10,100.0	7,500.0	7,050.0	7,048.4	48.0	12.3	69.83	-68.1	36.9	2,500.7	2,448.8	51.88	48.200		
10,200.0	7,500.0	7,050.0	7,048.4	49.5	12.3	69.83	-68.1	36.9	2,586.4	2,532.9	53.45	48.390		
10,300.0	7,500.0	7,050.0	7,048.4	51.0	12.3	69.83	-68.1	36.9	2,673.1	2,618.1	55.02	48.581		
10,400.0	7,500.0	7,050.0	7,048.4	52.5	12.3	69.83	-68.1	36.9	2,760.7	2,704.1	56.60	48.774		
10,500.0	7,500.0	7,050.0	7,048.4	54.0	12.3	69.83	-68.1	36.9	2,849.1	2,790.9	58.19	48.966		
10,600.0	7,500.0	7,050.0	7,048.4	55.6	12.3	69.83	-68.1	36.9	2,938.3	2,878.5	59.77	49.157		
10,700.0	7,500.0	7,026.4	7,025.2	57.1	12.3	68.89	-72.7	36.9	3,027.6	2,966.6	61.00	49.630		
10,800.0	7,500.0	7,023.6	7,022.4	58.7	12.3	68.77	-73.1	36.9	3,117.9	3,055.4	62.54	49.852		
10,900.0	7,500.0	7,000.0	6,999.1	60.3	12.3	67.84	-76.6	36.9	3,209.2	3,145.5	63.74	50.352		
11,000.0	7,500.0	7,000.0	6,999.1	61.9	12.3	67.84	-76.6	36.9	3,300.5	3,235.2	65.32	50.532		
11,100.0	7,500.0	7,000.0	6,999.1	63.5	12.3	67.84	-76.6	36.9	3,392.3	3,325.4	66.90	50.708		
11,200.0	7,500.0	7,000.0	6,999.1	65.1	12.3	67.84	-76.6	36.9	3,484.5	3,416.0	68.48	50.881		
11,300.0	7,500.0	7,000.0	6,999.1	66.7	12.3	67.84	-76.6	36.9	3,577.2	3,507.1	70.07	51.050		
11,400.0	7,500.0	7,000.0	6,999.1	68.3	12.3	67.84	-76.6	36.9	3,670.2	3,598.6	71.66	51.216		
11,500.0	7,500.0	7,000.0	6,999.1	69.9	12.3	67.84	-76.6	36.9	3,763.6	3,690.4	73.25	51.378		
11,600.0	7,500.0	7,000.0	6,999.1	71.5	12.3	67.84	-76.6	36.9	3,857.4	3,782.5	74.85	51.537		
11,700.0	7,500.0	7,000.0	6,999.1	73.2	12.3	67.84	-76.6	36.9	3,951.4	3,875.0	76.44	51.691		
11,800.0	7,500.0	7,000.0	6,999.1	74.8	12.3	67.84	-76.6	36.9	4,045.7	3,967.7	78.04	51.843		
11,900.0	7,500.0	7,000.0	6,999.1	76.5	12.3	67.84	-76.6	36.9	4,140.3	4,060.7	79.64	51.990		
12,000.0	7,500.0	7,000.0	6,999.1	78.1	12.3	67.84	-76.6	36.9	4,235.2	4,153.9	81.24	52.134		
12,100.0	7,500.0	7,000.0	6,999.1	79.8	12.3	67.84	-76.6	36.9	4,330.2	4,247.4	82.84	52.274		
12,200.0	7,500.0	7,000.0	6,999.1	81.4	12.3	67.84	-76.6	36.9	4,425.5	4,341.1	84.44	52.411		
12,300.0	7,500.0	7,000.0	6,999.1	83.1	12.3	67.84	-76.6	36.9	4,521.0	4,435.0	86.04	52.545		
12,400.0	7,500.0	7,000.0	6,999.1	84.8	12.3	67.84	-76.6	36.9	4,616.7	4,529.1	87.64	52.675		
12,500.0	7,500.0	7,000.0	6,999.1	86.4	12.3	67.84	-76.6	36.9	4,712.6	4,623.3	89.25	52.802		
12,600.0	7,500.0	7,000.0	6,999.1	88.1	12.3	67.84	-76.6	36.9	4,808.6	4,717.7	90.85	52.926		
12,700.0	7,500.0	7,000.0	6,999.1	89.8	12.3	67.84	-76.6	36.9	4,904.8	4,812.3	92.46	53.047		
12,800.0	7,500.0	7,000.0	6,999.1	91.5	12.3	67.84	-76.6	36.9	5,001.1	4,907.1	94.07	53.165		
12,900.0	7,500.0	7,000.0	6,999.1	93.2	12.3	67.84	-76.6	36.9	5,097.6	5,001.9	95.68	53.280		
13,000.0	7,500.0	7,000.0	6,999.1	94.8	12.3	67.84	-76.6	36.9	5,194.2	5,096.9	97.28	53.392		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2C-7H-E168 - Hz - Plan #4												Offset Site Error: 0.0 ft		
Survey Program: O-Geolink 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	40.0	40.0					
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	40.0	40.0	39.7	0.30	131.789		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	40.0	40.0	39.4	0.65	61.314		
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	40.0	40.0	39.0	1.00	39.950		
400.0	400.0	400.0	400.0	0.7	0.7	24.37	0.0	40.0	39.2	37.9	1.35	29.037		
500.0	500.0	500.0	500.0	0.9	0.8	26.06	0.0	40.0	36.9	35.2	1.70	21.676		
600.0	599.9	599.9	599.9	1.0	1.0	29.41	0.0	40.0	33.0	30.9	2.05	16.083		
700.0	699.7	699.2	699.2	1.2	1.2	35.43	-0.1	40.9	28.7	26.3	2.41	11.918		
800.0	799.4	798.6	798.5	1.4	1.4	45.27	-0.4	43.4	25.3	22.5	2.78	9.084		
900.0	898.9	898.0	897.8	1.7	1.6	59.34	-0.9	47.7	23.4	20.2	3.19	7.338		
958.0	956.6	955.9	955.7	1.8	1.7	69.33	-1.3	50.7	23.1	19.7	3.45	6.709 CC		
1,000.0	998.3	997.7	997.4	1.9	1.7	77.40	-1.5	52.9	23.3	19.7	3.64	6.401 ES		
1,100.0	1,097.4	1,097.3	1,096.9	2.2	1.9	97.78	-2.1	58.0	25.6	21.5	4.11	6.242 SF		
1,200.0	1,196.3	1,196.7	1,196.2	2.5	2.1	116.09	-2.7	63.1	31.3	26.8	4.52	6.918		
1,300.0	1,294.9	1,296.0	1,295.3	2.8	2.3	129.93	-3.3	68.2	40.2	35.3	4.88	8.232		
1,400.0	1,393.3	1,395.0	1,394.2	3.2	2.5	139.70	-3.9	73.3	51.9	46.6	5.21	9.945		
1,484.0	1,475.6	1,478.0	1,477.1	3.5	2.7	145.65	-4.4	77.6	63.5	58.0	5.49	11.574		
1,500.0	1,491.3	1,493.7	1,492.8	3.5	2.7	146.61	-4.5	78.4	65.9	60.4	5.54	11.893		
1,600.0	1,589.1	1,592.4	1,591.3	3.9	2.9	151.32	-5.1	83.5	81.1	75.2	5.88	13.802		
1,700.0	1,687.0	1,691.0	1,689.8	4.3	3.1	154.52	-5.7	88.6	96.7	90.5	6.22	15.544		
1,800.0	1,784.9	1,789.7	1,788.4	4.7	3.3	156.84	-6.3	93.7	112.5	105.9	6.57	17.122		
1,900.0	1,882.7	1,888.3	1,886.9	5.1	3.4	158.58	-6.9	98.8	128.4	121.5	6.92	18.550		
2,000.0	1,980.6	1,987.0	1,985.4	5.4	3.6	159.94	-7.5	103.9	144.4	137.1	7.28	19.845		
2,100.0	2,078.5	2,085.7	2,083.9	5.8	3.8	161.03	-8.1	109.0	160.5	152.9	7.63	21.023		
2,200.0	2,176.4	2,184.3	2,182.4	6.2	4.0	161.92	-8.7	114.1	176.6	168.6	7.99	22.098		
2,300.0	2,274.2	2,283.0	2,281.0	6.6	4.2	162.66	-9.3	119.1	192.8	184.4	8.35	23.081		
2,400.0	2,372.1	2,381.6	2,379.5	7.0	4.4	163.28	-9.9	124.2	209.0	200.3	8.71	23.985		
2,500.0	2,470.0	2,480.3	2,478.0	7.4	4.6	163.82	-10.5	129.3	225.2	216.1	9.07	24.817		
2,600.0	2,567.8	2,578.9	2,576.5	7.8	4.8	164.28	-11.1	134.4	241.4	232.0	9.44	25.585		
2,700.0	2,665.7	2,677.6	2,675.1	8.2	5.0	164.69	-11.7	139.5	257.6	247.8	9.80	26.298		
2,800.0	2,763.6	2,776.3	2,773.6	8.6	5.2	165.05	-12.3	144.6	273.9	263.7	10.16	26.959		
2,900.0	2,861.5	2,874.9	2,872.1	9.0	5.4	165.36	-12.9	149.7	290.2	279.6	10.52	27.576		
3,000.0	2,959.3	2,973.6	2,970.6	9.4	5.6	165.65	-13.5	154.8	306.4	295.5	10.88	28.151		
3,100.0	3,057.2	3,072.2	3,069.2	9.8	5.8	165.90	-14.1	159.8	322.7	311.4	11.25	28.689		
3,200.0	3,155.1	3,170.9	3,167.7	10.2	6.0	166.13	-14.7	164.9	339.0	327.4	11.61	29.194		
3,300.0	3,253.0	3,269.6	3,266.2	10.6	6.1	166.34	-15.3	170.0	355.2	343.3	11.97	29.668		
3,400.0	3,350.8	3,368.2	3,364.7	11.0	6.3	166.53	-15.9	175.1	371.5	359.2	12.34	30.114		
3,500.0	3,448.7	3,466.9	3,463.3	11.4	6.5	166.71	-16.5	180.2	387.8	375.1	12.70	30.535		
3,600.0	3,546.6	3,565.5	3,561.8	11.8	6.7	166.87	-17.1	185.3	404.1	391.1	13.06	30.932		
3,700.0	3,644.4	3,664.2	3,660.3	12.2	6.9	167.02	-17.7	190.4	420.4	407.0	13.43	31.308		
3,800.0	3,742.3	3,762.8	3,758.8	12.6	7.1	167.15	-18.3	195.5	436.7	422.9	13.79	31.664		
3,900.0	3,840.2	3,861.5	3,857.4	13.0	7.3	167.28	-18.9	200.5	453.0	438.9	14.16	32.001		
4,000.0	3,938.1	3,960.2	3,955.9	13.4	7.5	167.40	-19.5	205.6	469.3	454.8	14.52	32.322		
4,100.0	4,035.9	4,058.8	4,054.4	13.8	7.7	167.51	-20.1	210.7	485.6	470.7	14.88	32.627		
4,200.0	4,133.8	4,157.5	4,152.9	14.2	7.9	167.61	-20.7	215.8	501.9	486.7	15.25	32.917		
4,300.0	4,231.7	4,256.1	4,251.5	14.6	8.1	167.71	-21.3	220.9	518.2	502.6	15.61	33.194		
4,400.0	4,329.5	4,354.8	4,350.0	15.0	8.3	167.80	-21.9	226.0	534.5	518.6	15.98	33.459		
4,500.0	4,427.4	4,453.4	4,448.5	15.4	8.5	167.89	-22.5	231.1	550.9	534.5	16.34	33.711		
4,600.0	4,525.3	4,552.1	4,547.0	15.8	8.7	167.97	-23.1	236.2	567.2	550.5	16.70	33.953		
4,700.0	4,623.2	4,650.8	4,645.6	16.2	8.9	168.04	-23.7	241.2	583.5	566.4	17.07	34.184		
4,800.0	4,721.0	4,749.4	4,744.1	16.7	9.0	168.12	-24.3	246.3	599.8	582.4	17.43	34.405		
4,900.0	4,818.9	4,848.1	4,842.6	17.1	9.2	168.18	-24.9	251.4	616.1	598.3	17.80	34.618		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2C-7H-E168 - Hz - Plan #4											Offset Site Error: 0.0 ft			
Survey Program: 0-Geolink 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 +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,916.8	4,946.7	4,941.1	17.5	9.4	168.25	-25.5	256.5	632.4	614.3	18.16	34.821		
5,100.0	5,014.7	5,045.4	5,039.7	17.9	9.6	168.31	-26.1	261.6	648.7	630.2	18.53	35.017		
5,200.0	5,112.5	5,144.0	5,138.2	18.3	9.8	168.37	-26.7	266.7	665.1	646.2	18.89	35.206		
5,300.0	5,210.4	5,242.7	5,236.7	18.7	10.0	168.42	-27.3	271.8	681.4	662.1	19.26	35.387		
5,400.0	5,308.3	5,341.4	5,335.2	19.1	10.2	168.48	-27.9	276.9	697.7	678.1	19.62	35.561		
5,500.0	5,406.1	5,440.0	5,433.8	19.5	10.4	168.53	-28.5	282.0	714.0	694.0	19.98	35.729		
5,600.0	5,504.0	5,538.7	5,532.3	19.9	10.6	168.58	-29.1	287.0	730.3	710.0	20.35	35.891		
5,700.0	5,601.9	5,637.3	5,630.8	20.3	10.8	168.62	-29.7	292.1	746.7	725.9	20.71	36.048		
5,800.0	5,699.8	5,736.0	5,729.3	20.7	11.0	168.67	-30.3	297.2	763.0	741.9	21.08	36.198		
5,900.0	5,797.6	5,834.6	5,827.9	21.1	11.2	168.71	-30.9	302.3	779.3	757.9	21.44	36.344		
6,000.0	5,895.5	5,933.3	5,926.4	21.5	11.4	168.75	-31.5	307.4	795.6	773.8	21.81	36.485		
6,100.0	5,993.4	6,032.0	6,024.9	21.9	11.6	168.79	-32.1	312.5	811.9	789.8	22.17	36.621		
6,200.0	6,091.2	6,130.6	6,123.4	22.3	11.8	168.83	-32.7	317.6	828.3	805.7	22.54	36.753		
6,300.0	6,189.1	6,229.3	6,222.0	22.7	12.0	168.86	-33.3	322.7	844.6	821.7	22.90	36.881		
6,400.0	6,287.0	6,327.9	6,320.5	23.1	12.1	168.90	-33.9	327.7	860.9	837.6	23.26	37.005		
6,500.0	6,384.9	6,426.6	6,419.0	23.5	12.3	168.93	-34.5	332.8	877.2	853.6	23.63	37.124		
6,600.0	6,482.7	6,525.3	6,517.5	23.9	12.5	168.96	-35.1	337.9	893.5	869.6	23.99	37.241		
6,700.0	6,580.6	6,623.9	6,616.1	24.3	12.7	168.99	-35.7	343.0	909.9	885.5	24.36	37.353		
6,800.0	6,678.5	6,722.6	6,714.6	24.7	12.9	169.02	-36.3	348.1	926.2	901.5	24.72	37.463		
6,900.0	6,776.4	6,821.2	6,813.1	25.1	13.1	169.05	-36.9	353.2	942.5	917.4	25.09	37.569		
7,000.0	6,874.2	6,919.9	6,911.6	25.5	13.3	169.08	-37.5	358.3	958.8	933.4	25.45	37.672		
7,016.7	6,890.6	6,936.4	6,928.1	25.6	13.3	169.09	-37.6	359.1	961.6	936.1	25.51	37.689		
7,050.0	6,923.2	6,969.3	6,961.0	25.7	13.4	152.76	-37.8	360.8	966.5	940.7	25.74	37.552		
7,100.0	6,972.3	7,018.8	7,010.4	25.9	13.5	127.17	-38.1	363.4	971.8	945.8	25.98	37.405		
7,150.0	7,021.1	7,068.0	7,059.6	26.0	13.6	107.53	-38.4	365.9	974.6	948.5	26.11	37.333		
7,200.0	7,069.3	7,116.7	7,108.2	26.1	13.7	95.26	-38.7	368.4	975.1	949.0	26.13	37.319		
7,250.0	7,116.5	7,164.4	7,155.8	26.2	13.8	88.04	-39.0	370.9	973.4	947.3	26.07	37.332		
7,300.0	7,162.3	7,213.2	7,204.6	26.2	14.3	91.24	9.4	382.5	965.4	939.7	25.73	37.520		
7,350.0	7,206.4	7,258.9	7,251.4	26.3	14.6	95.88	78.1	387.3	950.5	924.4	26.13	36.374		
7,400.0	7,248.4	7,300.5	7,297.4	26.3	14.8	98.18	114.6	388.9	934.7	908.0	26.71	34.989		
7,450.0	7,288.1	7,340.2	7,337.7	26.3	14.9	99.11	130.4	389.5	920.0	892.9	27.08	33.978		
7,500.0	7,325.1	7,377.1	7,374.6	26.3	14.9	99.27	134.6	389.6	907.1	879.9	27.22	33.324		
7,550.0	7,359.2	7,411.2	7,408.7	26.3	14.9	98.95	132.2	389.5	896.3	869.1	27.22	32.924		
7,600.0	7,390.0	7,442.0	7,439.5	26.3	14.8	98.28	125.9	389.3	887.8	860.7	27.15	32.698		
7,650.0	7,417.4	7,469.2	7,466.9	26.3	14.8	97.36	117.1	389.0	881.6	854.5	27.05	32.589		
7,700.0	7,441.2	7,493.0	7,489.9	26.3	14.7	96.22	106.9	388.6	877.6	850.6	26.96	32.552		
7,750.0	7,461.1	7,512.9	7,509.0	26.3	14.7	94.90	95.8	388.1	875.7	848.8	26.90	32.557		
7,770.9	7,468.2	7,519.9	7,515.0	26.3	14.7	94.31	91.0	387.9	875.5	848.6	26.89	32.562		
7,800.0	7,477.0	7,528.9	7,522.1	26.3	14.6	93.44	84.3	387.6	875.9	849.0	26.87	32.602		
7,850.0	7,488.8	7,539.7	7,536.8	26.4	14.6	91.85	72.6	387.0	877.9	851.0	26.86	32.678		
7,900.0	7,496.5	7,547.4	7,543.9	26.4	14.5	90.18	61.1	386.4	881.5	854.7	26.88	32.791		
7,950.0	7,499.8	7,550.0	7,547.1	26.5	14.5	88.49	50.2	385.7	886.7	859.8	26.91	32.953		
7,964.3	7,500.0	7,493.2	7,468.3	26.5	14.4	87.94	46.6	385.5	888.4	861.5	26.91	33.013		
8,000.0	7,500.0	7,478.9	7,456.1	26.6	14.4	87.15	39.2	385.0	893.3	866.3	26.98	33.107		
8,100.0	7,500.0	7,450.0	7,430.8	26.8	14.3	85.52	25.3	383.9	913.1	885.8	27.37	33.365		
8,200.0	7,500.0	7,416.5	7,400.6	27.2	14.3	83.58	10.7	382.6	941.6	913.7	27.91	33.744		
8,300.0	7,500.0	7,400.0	7,385.5	27.7	14.2	82.62	4.2	382.0	978.6	949.9	28.69	34.114		
8,400.0	7,500.0	7,374.5	7,361.7	28.3	14.2	81.13	-5.0	380.9	1,023.2	993.6	29.54	34.639		
8,500.0	7,500.0	7,350.0	7,338.5	29.0	14.1	79.68	-12.8	379.8	1,074.8	1,044.3	30.49	35.250		
8,600.0	7,500.0	7,350.0	7,338.5	29.8	14.1	79.68	-12.8	379.8	1,132.3	1,100.6	31.70	35.723		
8,700.0	7,500.0	7,332.7	7,322.0	30.6	14.1	78.66	-17.7	379.1	1,195.2	1,162.4	32.85	36.385		
8,800.0	7,500.0	7,322.4	7,312.0	31.5	14.1	78.05	-20.4	378.6	1,262.7	1,228.6	34.10	37.024		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2C-7H-E168 - Hz - Plan #4											Offset Site Error: 0.0 ft		
Survey Program: 0-Geolink 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	7,500.0	7,300.0	7,290.3	32.5	14.0	76.73	-25.7	377.6	1,334.2	1,298.9	35.29	37.803	
9,000.0	7,500.0	7,300.0	7,290.3	33.6	14.0	76.73	-25.7	377.6	1,408.8	1,372.1	36.72	38.368	
9,100.0	7,500.0	7,300.0	7,290.3	34.7	14.0	76.73	-25.7	377.6	1,486.3	1,448.2	38.18	38.935	
9,200.0	7,500.0	7,300.0	7,290.3	35.9	14.0	76.73	-25.7	377.6	1,566.4	1,526.8	39.66	39.494	
9,300.0	7,500.0	7,300.0	7,290.3	37.1	14.0	76.73	-25.7	377.6	1,648.7	1,607.5	41.17	40.043	
9,400.0	7,500.0	7,280.6	7,271.3	38.3	14.0	75.59	-29.5	376.7	1,732.5	1,690.0	42.49	40.772	
9,500.0	7,500.0	7,275.8	7,266.6	39.6	14.0	75.31	-30.3	376.4	1,818.0	1,774.0	43.98	41.339	
9,600.0	7,500.0	7,271.5	7,262.3	41.0	14.0	75.05	-31.1	376.2	1,904.9	1,859.4	45.48	41.884	
9,700.0	7,500.0	7,250.0	7,241.1	42.3	14.0	73.80	-34.3	375.2	1,993.3	1,946.5	46.76	42.625	
9,800.0	7,500.0	7,250.0	7,241.1	43.7	14.0	73.80	-34.3	375.2	2,082.3	2,034.0	48.33	43.082	
9,900.0	7,500.0	7,250.0	7,241.1	45.1	14.0	73.80	-34.3	375.2	2,172.3	2,122.4	49.91	43.521	
10,000.0	7,500.0	7,250.0	7,241.1	46.6	14.0	73.80	-34.3	375.2	2,263.1	2,211.6	51.50	43.942	
10,100.0	7,500.0	7,250.0	7,241.1	48.0	14.0	73.80	-34.3	375.2	2,354.6	2,301.6	53.10	44.345	
10,200.0	7,500.0	7,250.0	7,241.1	49.5	14.0	73.80	-34.3	375.2	2,446.9	2,392.2	54.70	44.731	
10,300.0	7,500.0	7,250.0	7,241.1	51.0	14.0	73.80	-34.3	375.2	2,539.7	2,483.4	56.31	45.101	
10,400.0	7,500.0	7,250.0	7,241.1	52.5	14.0	73.80	-34.3	375.2	2,633.0	2,575.1	57.93	45.455	
10,500.0	7,500.0	7,250.0	7,241.1	54.0	14.0	73.80	-34.3	375.2	2,726.8	2,667.3	59.55	45.794	
10,600.0	7,500.0	7,250.0	7,241.1	55.6	14.0	73.80	-34.3	375.2	2,821.1	2,759.9	61.17	46.119	
10,700.0	7,500.0	7,250.0	7,241.1	57.1	14.0	73.80	-34.3	375.2	2,915.7	2,852.9	62.80	46.430	
10,800.0	7,500.0	7,250.0	7,241.1	58.7	14.0	73.80	-34.3	375.2	3,010.6	2,946.2	64.43	46.728	
10,900.0	7,500.0	7,250.0	7,241.1	60.3	14.0	73.80	-34.3	375.2	3,105.9	3,039.9	66.06	47.014	
11,000.0	7,500.0	7,250.0	7,241.1	61.9	14.0	73.80	-34.3	375.2	3,201.5	3,133.8	67.70	47.288	
11,100.0	7,500.0	7,250.0	7,241.1	63.5	14.0	73.80	-34.3	375.2	3,297.3	3,228.0	69.34	47.551	
11,200.0	7,500.0	7,250.0	7,241.1	65.1	14.0	73.80	-34.3	375.2	3,393.4	3,322.4	70.99	47.804	
11,300.0	7,500.0	7,250.0	7,241.1	66.7	14.0	73.80	-34.3	375.2	3,489.7	3,417.1	72.63	48.046	
11,400.0	7,500.0	7,250.0	7,241.1	68.3	14.0	73.80	-34.3	375.2	3,586.2	3,511.9	74.28	48.280	
11,500.0	7,500.0	7,228.0	7,219.3	69.9	13.9	72.54	-36.7	374.1	3,682.4	3,607.0	75.43	48.817	
11,600.0	7,500.0	7,226.8	7,218.1	71.5	13.9	72.47	-36.8	374.0	3,779.2	3,702.1	77.04	49.052	
11,700.0	7,500.0	7,225.6	7,216.9	73.2	13.9	72.40	-36.9	374.0	3,876.2	3,797.5	78.66	49.279	
11,800.0	7,500.0	7,224.5	7,215.8	74.8	13.9	72.34	-37.0	373.9	3,973.3	3,893.0	80.27	49.497	
11,900.0	7,500.0	7,223.5	7,214.7	76.5	13.9	72.28	-37.1	373.9	4,070.5	3,988.6	81.89	49.707	
12,000.0	7,500.0	7,222.4	7,213.7	78.1	13.9	72.22	-37.1	373.8	4,167.9	4,084.4	83.51	49.910	
12,100.0	7,500.0	7,200.0	7,191.4	79.8	13.9	70.95	-38.5	372.7	4,265.8	4,181.3	84.54	50.458	
12,200.0	7,500.0	7,200.0	7,191.4	81.4	13.9	70.95	-38.5	372.7	4,363.4	4,277.2	86.18	50.633	
12,300.0	7,500.0	7,200.0	7,191.4	83.1	13.9	70.95	-38.5	372.7	4,461.1	4,373.3	87.81	50.803	
12,400.0	7,500.0	7,200.0	7,191.4	84.8	13.9	70.95	-38.5	372.7	4,558.9	4,469.4	89.45	50.966	
12,500.0	7,500.0	7,200.0	7,191.4	86.4	13.9	70.95	-38.5	372.7	4,656.7	4,565.6	91.09	51.125	
12,600.0	7,500.0	7,200.0	7,191.4	88.1	13.9	70.95	-38.5	372.7	4,754.7	4,662.0	92.72	51.278	
12,700.0	7,500.0	7,200.0	7,191.4	89.8	13.9	70.95	-38.5	372.7	4,852.7	4,758.4	94.36	51.426	
12,800.0	7,500.0	7,200.0	7,191.4	91.5	13.9	70.95	-38.5	372.7	4,950.8	4,854.8	96.00	51.570	
12,900.0	7,500.0	7,200.0	7,191.4	93.2	13.9	70.95	-38.5	372.7	5,049.0	4,951.4	97.64	51.709	
13,000.0	7,500.0	7,200.0	7,191.4	94.8	13.9	70.95	-38.5	372.7	5,147.3	5,048.0	99.28	51.844	
13,100.0	7,500.0	7,200.0	7,191.4	96.5	13.9	70.95	-38.5	372.7	5,245.6	5,144.7	100.93	51.975	



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2D-7H-E168 - Hz - Plan #4														Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	49.8	49.8						
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	49.8	49.8	49.5	0.30	164.045			
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	49.8	49.8	49.2	0.65	76.321			
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	49.8	49.8	48.8	1.00	49.728			
400.0	400.0	400.0	400.0	0.7	0.7	24.27	0.0	49.8	49.0	47.7	1.35	36.289			
500.0	500.0	500.0	500.0	0.9	0.8	25.60	0.0	49.8	46.6	44.9	1.70	27.435			
600.0	599.9	599.1	599.1	1.0	1.0	28.17	-0.1	50.7	43.6	41.6	2.05	21.278			
700.0	699.7	698.3	698.3	1.2	1.2	32.32	-0.4	53.2	40.9	38.5	2.40	17.026			
800.0	799.4	797.5	797.4	1.4	1.4	38.25	-0.9	57.5	38.8	36.1	2.77	14.022			
900.0	898.9	896.7	896.4	1.7	1.6	45.98	-1.5	63.5	37.6	34.5	3.16	11.922			
944.2	942.8	940.6	940.1	1.8	1.7	49.88	-1.9	66.6	37.5	34.2	3.34	11.224 CC			
1,000.0	998.3	995.9	995.3	1.9	1.8	55.11	-2.4	71.1	37.7	34.2	3.58	10.531 ES			
1,100.0	1,097.4	1,095.5	1,094.5	2.2	2.0	65.21	-3.4	80.1	39.1	35.1	4.06	9.628			
1,200.0	1,196.3	1,195.2	1,193.7	2.5	2.2	76.59	-4.4	89.2	41.3	36.7	4.60	8.964			
1,300.0	1,294.9	1,294.7	1,292.8	2.8	2.4	88.70	-5.4	98.3	44.8	39.6	5.18	8.646 SF			
1,400.0	1,393.3	1,394.0	1,391.7	3.2	2.6	100.59	-6.4	107.4	50.3	44.5	5.75	8.748			
1,484.0	1,475.6	1,477.4	1,474.7	3.5	2.8	109.78	-7.3	115.0	56.7	50.5	6.19	9.161			
1,500.0	1,491.3	1,493.2	1,490.5	3.5	2.9	111.40	-7.5	116.4	58.1	51.9	6.27	9.272			
1,600.0	1,589.1	1,592.3	1,589.1	3.9	3.1	119.94	-8.5	125.4	67.9	61.1	6.73	10.077			
1,700.0	1,687.0	1,691.4	1,687.8	4.3	3.3	126.25	-9.5	134.5	78.7	71.5	7.17	10.979			
1,800.0	1,784.9	1,790.4	1,786.5	4.7	3.6	131.00	-10.5	143.5	90.3	82.7	7.59	11.894			
1,900.0	1,882.7	1,889.5	1,885.2	5.1	3.8	134.66	-11.5	152.5	102.3	94.3	8.00	12.781			
2,000.0	1,980.6	1,988.6	1,983.8	5.4	4.0	137.54	-12.5	161.6	114.7	106.2	8.42	13.623			
2,100.0	2,078.5	2,087.7	2,082.5	5.8	4.2	139.85	-13.5	170.6	127.2	118.4	8.83	14.412			
2,200.0	2,176.4	2,186.8	2,181.2	6.2	4.5	141.75	-14.6	179.6	140.0	130.8	9.24	15.149			
2,300.0	2,274.2	2,285.9	2,279.8	6.6	4.7	143.33	-15.6	188.7	152.9	143.2	9.66	15.833			
2,400.0	2,372.1	2,385.0	2,378.5	7.0	4.9	144.66	-16.6	197.7	165.9	155.8	10.07	16.470			
2,500.0	2,470.0	2,484.0	2,477.2	7.4	5.2	145.80	-17.6	206.8	178.9	168.4	10.49	17.062			
2,600.0	2,567.8	2,583.1	2,575.8	7.8	5.4	146.78	-18.6	215.8	192.0	181.1	10.90	17.613			
2,700.0	2,665.7	2,682.2	2,674.5	8.2	5.6	147.64	-19.6	224.8	205.2	193.9	11.32	18.127			
2,800.0	2,763.6	2,781.3	2,773.2	8.6	5.9	148.40	-20.6	233.9	218.4	206.7	11.74	18.606			
2,900.0	2,861.5	2,880.4	2,871.8	9.0	6.1	149.07	-21.6	242.9	231.6	219.5	12.16	19.054			
3,000.0	2,959.3	2,979.5	2,970.5	9.4	6.3	149.66	-22.7	251.9	244.9	232.3	12.58	19.474			
3,100.0	3,057.2	3,078.6	3,069.2	9.8	6.6	150.20	-23.7	261.0	258.2	245.2	13.00	19.867			
3,200.0	3,155.1	3,177.6	3,167.8	10.2	6.8	150.68	-24.7	270.0	271.5	258.1	13.42	20.237			
3,300.0	3,253.0	3,276.7	3,266.5	10.6	7.0	151.12	-25.7	279.0	284.8	271.0	13.84	20.585			
3,400.0	3,350.8	3,375.8	3,365.2	11.0	7.3	151.52	-26.7	288.1	298.2	283.9	14.26	20.912			
3,500.0	3,448.7	3,474.9	3,463.8	11.4	7.5	151.88	-27.7	297.1	311.5	296.8	14.68	21.222			
3,600.0	3,546.6	3,574.0	3,562.5	11.8	7.7	152.22	-28.7	306.1	324.9	309.8	15.10	21.514			
3,700.0	3,644.4	3,673.1	3,661.2	12.2	8.0	152.52	-29.7	315.2	338.3	322.7	15.52	21.791			
3,800.0	3,742.3	3,772.2	3,759.8	12.6	8.2	152.81	-30.8	324.2	351.6	335.7	15.94	22.054			
3,900.0	3,840.2	3,871.2	3,858.5	13.0	8.4	153.07	-31.8	333.3	365.0	348.7	16.37	22.303			
4,000.0	3,938.1	3,970.3	3,957.2	13.4	8.7	153.32	-32.8	342.3	378.4	361.6	16.79	22.540			
4,100.0	4,035.9	4,069.4	4,055.8	13.8	8.9	153.54	-33.8	351.3	391.8	374.6	17.21	22.765			
4,200.0	4,133.8	4,168.5	4,154.5	14.2	9.1	153.76	-34.8	360.4	405.3	387.6	17.64	22.980			
4,300.0	4,231.7	4,267.6	4,253.2	14.6	9.4	153.96	-35.8	369.4	418.7	400.6	18.06	23.184			
4,400.0	4,329.5	4,366.7	4,351.8	15.0	9.6	154.14	-36.8	378.4	432.1	413.6	18.48	23.380			
4,500.0	4,427.4	4,465.8	4,450.5	15.4	9.8	154.32	-37.8	387.5	445.5	426.6	18.90	23.566			
4,600.0	4,525.3	4,564.8	4,549.2	15.8	10.1	154.49	-38.9	396.5	458.9	439.6	19.33	23.745			
4,700.0	4,623.2	4,663.9	4,647.8	16.2	10.3	154.64	-39.9	405.5	472.4	452.6	19.75	23.916			
4,800.0	4,721.0	4,763.0	4,746.5	16.7	10.5	154.79	-40.9	414.6	485.8	465.6	20.18	24.080			
4,900.0	4,818.9	4,862.1	4,845.2	17.1	10.8	154.93	-41.9	423.6	499.3	478.7	20.60	24.237			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2D-7H-E168 - Hz - Plan #4											Offset Site Error: 0.0 ft		
Survey Program: 0-Geolink 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	4,916.8	4,961.2	4,943.9	17.5	11.0	155.06	-42.9	432.6	512.7	491.7	21.02	24.388	
5,100.0	5,014.7	5,060.3	5,042.5	17.9	11.2	155.19	-43.9	441.7	526.1	504.7	21.45	24.532	
5,200.0	5,112.5	5,159.4	5,141.2	18.3	11.5	155.31	-44.9	450.7	539.6	517.7	21.87	24.672	
5,300.0	5,210.4	5,258.4	5,239.9	18.7	11.7	155.42	-45.9	459.7	553.0	530.7	22.29	24.806	
5,400.0	5,308.3	5,357.5	5,338.5	19.1	11.9	155.53	-47.0	468.8	566.5	543.8	22.72	24.935	
5,500.0	5,406.1	5,456.6	5,437.2	19.5	12.2	155.63	-48.0	477.8	579.9	556.8	23.14	25.059	
5,600.0	5,504.0	5,555.7	5,535.9	19.9	12.4	155.73	-49.0	486.9	593.4	569.8	23.57	25.179	
5,700.0	5,601.9	5,654.8	5,634.5	20.3	12.7	155.82	-50.0	495.9	606.8	582.9	23.99	25.295	
5,800.0	5,699.8	5,753.9	5,733.2	20.7	12.9	155.91	-51.0	504.9	620.3	595.9	24.42	25.406	
5,900.0	5,797.6	5,853.0	5,831.9	21.1	13.1	156.00	-52.0	514.0	633.8	608.9	24.84	25.514	
6,000.0	5,895.5	5,952.1	5,930.5	21.5	13.4	156.08	-53.0	523.0	647.2	622.0	25.26	25.618	
6,100.0	5,993.4	6,051.1	6,029.2	21.9	13.6	156.16	-54.0	532.0	660.7	635.0	25.69	25.719	
6,200.0	6,091.2	6,150.2	6,127.9	22.3	13.8	156.24	-55.1	541.1	674.1	648.0	26.11	25.816	
6,300.0	6,189.1	6,249.3	6,226.5	22.7	14.1	156.31	-56.1	550.1	687.6	661.1	26.54	25.911	
6,400.0	6,287.0	6,348.4	6,325.2	23.1	14.3	156.38	-57.1	559.1	701.1	674.1	26.96	26.002	
6,500.0	6,384.9	6,447.5	6,423.9	23.5	14.5	156.45	-58.1	568.2	714.5	687.1	27.39	26.091	
6,600.0	6,482.7	6,546.6	6,522.5	23.9	14.8	156.51	-59.1	577.2	728.0	700.2	27.81	26.177	
6,700.0	6,580.6	6,645.7	6,621.2	24.3	15.0	156.58	-60.1	586.2	741.5	713.2	28.24	26.260	
6,800.0	6,678.5	6,744.7	6,719.9	24.7	15.2	156.64	-61.1	595.3	754.9	726.3	28.66	26.341	
6,900.0	6,776.4	6,843.8	6,818.5	25.1	15.5	156.69	-62.1	604.3	768.4	739.3	29.09	26.419	
7,000.0	6,874.2	6,942.9	6,917.2	25.5	15.7	156.75	-63.2	613.4	781.9	752.4	29.51	26.495	
7,016.7	6,890.6	7,859.5	7,500.0	25.6	19.9	-160.25	513.4	672.8	773.9	743.3	30.52	25.356	
7,050.0	6,923.2	7,861.4	7,500.0	25.7	19.9	-173.24	515.3	672.8	752.4	720.9	31.52	23.871	
7,100.0	6,972.3	7,860.5	7,500.0	25.9	19.9	165.12	514.5	672.8	721.9	689.1	32.75	22.041	
7,150.0	7,021.1	7,855.3	7,500.0	26.0	19.9	148.14	509.3	672.8	693.8	660.2	33.57	20.664	
7,200.0	7,069.3	7,827.1	7,499.3	26.1	19.6	135.47	481.1	672.4	668.4	635.2	33.20	20.132	
7,250.0	7,116.5	7,799.9	7,497.3	26.2	19.3	127.18	453.9	672.0	646.0	613.3	32.69	19.760	
7,300.0	7,162.3	7,773.4	7,494.2	26.2	19.1	121.33	427.6	671.4	626.7	594.6	32.07	19.541	
7,350.0	7,206.4	7,747.3	7,489.9	26.3	18.9	116.80	401.9	670.7	610.8	579.4	31.35	19.479	
7,400.0	7,248.4	7,721.4	7,484.5	26.3	18.7	112.97	376.6	670.0	598.3	567.7	30.59	19.555	
7,450.0	7,288.1	7,695.7	7,478.0	26.3	18.5	109.51	351.7	669.1	589.3	559.5	29.82	19.759	
7,500.0	7,325.1	7,670.1	7,470.5	26.3	18.3	106.21	327.3	668.2	583.8	554.7	29.10	20.060	
7,550.0	7,359.2	7,644.6	7,461.9	26.3	18.1	102.97	303.3	667.1	581.7	553.3	28.46	20.440	
7,557.3	7,363.9	7,640.9	7,460.6	26.3	18.1	102.50	299.9	667.0	581.7	553.3	28.38	20.499	
7,600.0	7,390.0	7,619.2	7,452.3	26.3	17.9	99.72	279.8	666.0	582.8	554.9	27.93	20.866	
7,650.0	7,417.4	7,593.8	7,441.7	26.3	17.8	96.45	256.8	664.8	586.8	559.3	27.51	21.328	
7,700.0	7,441.2	7,568.5	7,430.0	26.3	17.6	93.16	234.3	663.5	593.4	566.2	27.21	21.812	
7,750.0	7,461.1	7,543.2	7,417.5	26.3	17.5	89.86	212.4	662.1	602.2	575.2	26.97	22.330	
7,800.0	7,477.0	7,517.9	7,404.0	26.3	17.4	86.59	191.1	660.6	612.8	586.1	26.78	22.887	
7,850.0	7,488.8	7,492.7	7,389.6	26.4	17.2	83.38	170.5	659.1	624.9	598.4	26.59	23.505	
7,900.0	7,496.5	7,467.5	7,374.3	26.4	17.1	80.28	150.5	657.5	638.2	611.8	26.39	24.179	
7,950.0	7,499.8	7,450.0	7,363.2	26.5	17.0	77.78	137.0	656.3	652.2	625.9	26.25	24.846	
7,964.3	7,500.0	7,435.1	7,353.4	26.5	17.0	76.51	125.8	655.3	656.2	630.1	26.11	25.132	
8,000.0	7,500.0	7,417.6	7,341.5	26.6	16.9	75.49	113.0	654.1	667.0	640.9	26.07	25.580	
8,100.0	7,500.0	7,373.6	7,310.1	26.8	16.7	72.86	82.5	650.9	702.8	676.7	26.14	26.882	
8,200.0	7,500.0	7,336.1	7,281.4	27.2	16.6	70.54	58.4	648.0	746.7	720.3	26.44	28.244	
8,300.0	7,500.0	7,300.0	7,252.5	27.7	16.5	68.28	37.1	645.1	798.1	771.2	26.87	29.701	
8,400.0	7,500.0	7,276.3	7,232.7	28.3	16.5	66.79	24.1	643.2	856.1	828.5	27.55	31.074	
8,500.0	7,500.0	7,250.0	7,210.2	29.0	16.4	65.15	10.7	641.0	919.8	891.6	28.27	32.539	
8,600.0	7,500.0	7,231.3	7,193.9	29.8	16.3	63.99	1.8	639.4	988.4	959.3	29.14	33.916	
8,700.0	7,500.0	7,200.0	7,165.9	30.6	16.3	62.06	-12.0	636.7	1,061.4	1,031.5	29.88	35.525	
8,800.0	7,500.0	7,200.0	7,165.9	31.5	16.3	62.06	-12.0	636.7	1,137.5	1,106.4	31.09	36.584	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2D-7H-E168 - Hz - Plan #4										Offset Site Error:		0.0 ft	
Survey Program: 0-Geolink 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	7,500.0	7,182.4	7,149.8	32.5	16.2	60.99	-19.0	635.1	1,216.6	1,184.6	32.08	37.930	
9,000.0	7,500.0	7,169.6	7,138.0	33.6	16.2	60.22	-23.8	634.0	1,298.3	1,265.1	33.15	39.170	
9,100.0	7,500.0	7,150.0	7,119.7	34.7	16.2	59.06	-30.6	632.3	1,382.1	1,348.0	34.11	40.524	
9,200.0	7,500.0	7,150.0	7,119.7	35.9	16.2	59.06	-30.6	632.3	1,467.6	1,432.1	35.42	41.434	
9,300.0	7,500.0	7,150.0	7,119.7	37.1	16.2	59.06	-30.6	632.3	1,554.8	1,518.0	36.75	42.303	
9,400.0	7,500.0	7,129.7	7,100.6	38.3	16.1	57.87	-37.0	630.4	1,642.9	1,605.2	37.70	43.579	
9,500.0	7,500.0	7,121.9	7,093.1	39.6	16.1	57.43	-39.3	629.7	1,732.4	1,693.5	38.89	44.550	
9,600.0	7,500.0	7,100.0	7,072.1	41.0	16.0	56.19	-45.2	627.7	1,823.1	1,783.3	39.77	45.846	
9,700.0	7,500.0	7,100.0	7,072.1	42.3	16.0	56.19	-45.2	627.7	1,914.2	1,873.1	41.12	46.558	
9,800.0	7,500.0	7,100.0	7,072.1	43.7	16.0	56.19	-45.2	627.7	2,006.2	1,963.7	42.47	47.234	
9,900.0	7,500.0	7,100.0	7,072.1	45.1	16.0	56.19	-45.2	627.7	2,098.9	2,055.1	43.84	47.875	
10,000.0	7,500.0	7,100.0	7,072.1	46.6	16.0	56.19	-45.2	627.7	2,192.3	2,147.1	45.22	48.483	
10,100.0	7,500.0	7,100.0	7,072.1	48.0	16.0	56.19	-45.2	627.7	2,286.2	2,239.6	46.60	49.060	
10,200.0	7,500.0	7,100.0	7,072.1	49.5	16.0	56.19	-45.2	627.7	2,380.6	2,332.6	47.99	49.608	
10,300.0	7,500.0	7,077.7	7,050.5	51.0	16.0	54.96	-50.3	625.7	2,475.0	2,426.2	48.75	50.763	
10,400.0	7,500.0	7,073.8	7,046.7	52.5	16.0	54.74	-51.1	625.3	2,570.0	2,520.0	50.02	51.381	
10,500.0	7,500.0	7,050.0	7,023.4	54.0	15.9	53.47	-55.5	623.2	2,665.8	2,615.1	50.69	52.593	
10,600.0	7,500.0	7,050.0	7,023.4	55.6	15.9	53.47	-55.5	623.2	2,761.3	2,709.3	52.05	53.054	
10,700.0	7,500.0	7,050.0	7,023.4	57.1	15.9	53.47	-55.5	623.2	2,857.2	2,803.8	53.41	53.493	
10,800.0	7,500.0	7,050.0	7,023.4	58.7	15.9	53.47	-55.5	623.2	2,953.3	2,898.5	54.78	53.913	
10,900.0	7,500.0	7,050.0	7,023.4	60.3	15.9	53.47	-55.5	623.2	3,049.7	2,993.5	56.15	54.314	
11,000.0	7,500.0	7,050.0	7,023.4	61.9	15.9	53.47	-55.5	623.2	3,146.3	3,088.8	57.52	54.697	
11,100.0	7,500.0	7,050.0	7,023.4	63.5	15.9	53.47	-55.5	623.2	3,243.1	3,184.2	58.90	55.063	
11,200.0	7,500.0	7,050.0	7,023.4	65.1	15.9	53.47	-55.5	623.2	3,340.1	3,279.8	60.27	55.414	
11,300.0	7,500.0	7,050.0	7,023.4	66.7	15.9	53.47	-55.5	623.2	3,437.3	3,375.6	61.65	55.751	
11,400.0	7,500.0	7,050.0	7,023.4	68.3	15.9	53.47	-55.5	623.2	3,534.6	3,471.6	63.04	56.073	
11,500.0	7,500.0	7,050.0	7,023.4	69.9	15.9	53.47	-55.5	623.2	3,632.1	3,567.6	64.42	56.382	
11,600.0	7,500.0	7,050.0	7,023.4	71.5	15.9	53.47	-55.5	623.2	3,729.7	3,663.9	65.80	56.679	
11,700.0	7,500.0	7,050.0	7,023.4	73.2	15.9	53.47	-55.5	623.2	3,827.4	3,760.2	67.19	56.965	
11,800.0	7,500.0	7,050.0	7,023.4	74.8	15.9	53.47	-55.5	623.2	3,925.2	3,856.7	68.58	57.239	
11,900.0	7,500.0	7,050.0	7,023.4	76.5	15.9	53.47	-55.5	623.2	4,023.2	3,953.2	69.96	57.503	
12,000.0	7,500.0	7,050.0	7,023.4	78.1	15.9	53.47	-55.5	623.2	4,121.2	4,049.9	71.35	57.757	
12,100.0	7,500.0	7,050.0	7,023.4	79.8	15.9	53.47	-55.5	623.2	4,219.4	4,146.6	72.75	58.002	
12,200.0	7,500.0	7,050.0	7,023.4	81.4	15.9	53.47	-55.5	623.2	4,317.6	4,243.5	74.14	58.238	
12,300.0	7,500.0	7,050.0	7,023.4	83.1	15.9	53.47	-55.5	623.2	4,415.9	4,340.4	75.53	58.466	
12,400.0	7,500.0	7,027.2	7,001.0	84.8	15.9	52.29	-58.8	621.1	4,513.8	4,437.9	75.84	59.514	
12,500.0	7,500.0	7,025.8	6,999.6	86.4	15.9	52.22	-59.0	620.9	4,612.2	4,535.0	77.15	59.781	
12,600.0	7,500.0	7,024.5	6,998.3	88.1	15.9	52.15	-59.1	620.8	4,710.6	4,632.2	78.46	60.040	
12,700.0	7,500.0	7,023.2	6,997.0	89.8	15.9	52.09	-59.3	620.7	4,809.1	4,729.4	79.77	60.290	
12,800.0	7,500.0	7,000.0	6,974.0	91.5	15.8	50.93	-61.5	618.6	4,908.2	4,828.2	79.96	61.379	
12,900.0	7,500.0	7,000.0	6,974.0	93.2	15.8	50.93	-61.5	618.6	5,006.7	4,925.4	81.32	61.571	
13,000.0	7,500.0	7,000.0	6,974.0	94.8	15.8	50.93	-61.5	618.6	5,105.4	5,022.7	82.67	61.758	
13,100.0	7,500.0	7,000.0	6,974.0	96.5	15.8	50.93	-61.5	618.6	5,204.0	5,120.0	84.02	61.938	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2E-7H-E168 - Hz - Plan #2												Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	59.9	59.9				
100.0	100.0	100.0	100.0	0.2	0.2	90.00	0.0	59.9	59.9	59.6	0.30	197.223	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	59.9	59.9	59.2	0.65	91.756	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	59.9	59.9	58.9	1.00	59.785	
400.0	400.0	400.0	400.0	0.7	0.7	24.20	0.0	59.9	59.1	57.7	1.35	43.747	
500.0	500.0	499.0	499.0	0.9	0.8	25.32	-0.1	60.7	57.6	55.9	1.70	33.900	
600.0	599.9	598.0	597.9	1.0	1.0	27.32	-0.2	63.3	56.3	54.2	2.05	27.473	
700.0	699.7	696.9	696.8	1.2	1.2	30.25	-0.5	67.6	55.2	52.8	2.40	23.003	
800.0	799.4	795.9	795.6	1.4	1.4	34.10	-1.0	73.5	54.6	51.8	2.76	19.773	
855.8	855.0	851.2	850.7	1.6	1.5	36.63	-1.2	77.6	54.5	51.5	2.97	18.352 CC	
900.0	898.9	894.9	894.3	1.7	1.6	38.81	-1.5	81.2	54.6	51.4	3.14	17.393 ES	
1,000.0	998.3	993.8	992.8	1.9	1.8	44.25	-2.2	90.6	55.3	51.8	3.54	15.624	
1,100.0	1,097.4	1,092.9	1,091.2	2.2	2.1	50.18	-2.9	101.6	57.0	53.0	3.98	14.306	
1,200.0	1,196.3	1,192.6	1,190.3	2.5	2.3	56.87	-3.8	113.3	58.8	54.4	4.49	13.111	
1,300.0	1,294.9	1,292.3	1,289.2	2.8	2.6	64.53	-4.6	125.1	60.7	55.6	5.06	11.979	
1,400.0	1,393.3	1,391.8	1,388.1	3.2	2.8	73.12	-5.4	136.8	63.0	57.3	5.72	11.017	
1,484.0	1,475.6	1,475.4	1,471.0	3.5	3.0	80.87	-6.1	146.6	65.7	59.4	6.31	10.418	
1,500.0	1,491.3	1,491.2	1,486.8	3.5	3.1	82.37	-6.2	148.4	66.4	59.9	6.42	10.333	
1,600.0	1,589.1	1,590.5	1,585.4	3.9	3.3	91.05	-7.0	160.1	71.3	64.2	7.12	10.021	
1,700.0	1,687.0	1,689.9	1,684.0	4.3	3.6	98.47	-7.9	171.8	77.7	69.9	7.77	9.996 SF	
1,800.0	1,784.9	1,789.2	1,782.7	4.7	3.8	104.69	-8.7	183.5	85.2	76.8	8.39	10.155	
1,900.0	1,882.7	1,888.5	1,881.3	5.1	4.1	109.86	-9.5	195.1	93.5	84.5	8.97	10.425	
2,000.0	1,980.6	1,987.9	1,979.9	5.4	4.4	114.17	-10.3	206.8	102.4	92.9	9.52	10.759	
2,100.0	2,078.5	2,087.2	2,078.6	5.8	4.6	117.76	-11.1	218.5	111.9	101.8	10.06	11.125	
2,200.0	2,176.4	2,186.5	2,177.2	6.2	4.9	120.79	-11.9	230.2	121.7	111.1	10.58	11.505	
2,300.0	2,274.2	2,285.8	2,275.8	6.6	5.2	123.37	-12.8	241.8	131.8	120.7	11.09	11.886	
2,400.0	2,372.1	2,385.2	2,374.5	7.0	5.4	125.57	-13.6	253.5	142.1	130.5	11.59	12.261	
2,500.0	2,470.0	2,484.5	2,473.1	7.4	5.7	127.48	-14.4	265.2	152.6	140.5	12.09	12.624	
2,600.0	2,567.8	2,583.8	2,571.8	7.8	6.0	129.14	-15.2	276.9	163.2	150.7	12.58	12.974	
2,700.0	2,665.7	2,683.2	2,670.4	8.2	6.2	130.59	-16.0	288.5	174.0	160.9	13.07	13.309	
2,800.0	2,763.6	2,782.5	2,769.0	8.6	6.5	131.87	-16.9	300.2	184.9	171.3	13.56	13.629	
2,900.0	2,861.5	2,881.8	2,867.7	9.0	6.8	133.02	-17.7	311.9	195.8	181.8	14.05	13.934	
3,000.0	2,959.3	2,981.1	2,966.3	9.4	7.0	134.04	-18.5	323.5	206.8	192.3	14.54	14.223	
3,100.0	3,057.2	3,080.5	3,064.9	9.8	7.3	134.95	-19.3	335.2	217.9	202.9	15.03	14.499	
3,200.0	3,155.1	3,179.8	3,163.6	10.2	7.6	135.78	-20.1	346.9	229.0	213.5	15.51	14.761	
3,300.0	3,253.0	3,279.1	3,262.2	10.6	7.8	136.54	-21.0	358.6	240.2	224.2	16.00	15.010	
3,400.0	3,350.8	3,378.4	3,360.8	11.0	8.1	137.22	-21.8	370.2	251.4	234.9	16.49	15.247	
3,500.0	3,448.7	3,477.8	3,459.5	11.4	8.4	137.85	-22.6	381.9	262.6	245.6	16.97	15.472	
3,600.0	3,546.6	3,577.1	3,558.1	11.8	8.6	138.42	-23.4	393.6	273.9	256.4	17.46	15.687	
3,700.0	3,644.4	3,676.4	3,656.8	12.2	8.9	138.95	-24.2	405.3	285.2	267.2	17.94	15.891	
3,800.0	3,742.3	3,775.8	3,755.4	12.6	9.2	139.44	-25.1	416.9	296.5	278.0	18.43	16.086	
3,900.0	3,840.2	3,875.1	3,854.0	13.0	9.4	139.89	-25.9	428.6	307.8	288.9	18.92	16.272	
4,000.0	3,938.1	3,974.4	3,952.7	13.4	9.7	140.31	-26.7	440.3	319.2	299.8	19.40	16.449	
4,100.0	4,035.9	4,073.7	4,051.3	13.8	10.0	140.71	-27.5	452.0	330.5	310.6	19.89	16.619	
4,200.0	4,133.8	4,173.1	4,149.9	14.2	10.2	141.07	-28.3	463.6	341.9	321.5	20.37	16.781	
4,300.0	4,231.7	4,272.4	4,248.6	14.6	10.5	141.42	-29.1	475.3	353.3	332.4	20.86	16.936	
4,400.0	4,329.5	4,371.7	4,347.2	15.0	10.8	141.74	-30.0	487.0	364.7	343.3	21.35	17.085	
4,500.0	4,427.4	4,471.1	4,445.8	15.4	11.0	142.04	-30.8	498.7	376.1	354.3	21.83	17.227	
4,600.0	4,525.3	4,570.4	4,544.5	15.8	11.3	142.32	-31.6	510.3	387.5	365.2	22.32	17.364	
4,700.0	4,623.2	4,669.7	4,643.1	16.2	11.6	142.59	-32.4	522.0	399.0	376.1	22.80	17.495	
4,800.0	4,721.0	4,769.0	4,741.7	16.7	11.8	142.84	-33.2	533.7	410.4	387.1	23.29	17.621	
4,900.0	4,818.9	4,868.4	4,840.4	17.1	12.1	143.08	-34.1	545.4	421.8	398.1	23.78	17.742	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2E-7H-E168 - Hz - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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
5,000.0	4,916.8	4,967.7	4,939.0	17.5	12.4	143.31	-34.9	557.0	433.3	409.0	24.26	17.858	
5,100.0	5,014.7	5,067.0	5,037.7	17.9	12.6	143.52	-35.7	568.7	444.7	420.0	24.75	17.970	
5,200.0	5,112.5	5,166.3	5,136.3	18.3	12.9	143.73	-36.5	580.4	456.2	431.0	25.24	18.078	
5,300.0	5,210.4	5,265.7	5,234.9	18.7	13.2	143.92	-37.3	592.1	467.7	442.0	25.72	18.182	
5,400.0	5,308.3	5,365.0	5,333.6	19.1	13.5	144.11	-38.2	603.7	479.2	453.0	26.21	18.282	
5,500.0	5,406.1	5,464.3	5,432.2	19.5	13.7	144.28	-39.0	615.4	490.6	463.9	26.70	18.379	
5,600.0	5,504.0	5,563.7	5,530.8	19.9	14.0	144.45	-39.8	627.1	502.1	474.9	27.18	18.473	
5,700.0	5,601.9	5,663.0	5,629.5	20.3	14.3	144.61	-40.6	638.8	513.6	485.9	27.67	18.563	
5,800.0	5,699.8	5,762.3	5,728.1	20.7	14.5	144.76	-41.4	650.4	525.1	497.0	28.16	18.650	
5,900.0	5,797.6	5,861.6	5,826.7	21.1	14.8	144.91	-42.3	662.1	536.6	508.0	28.64	18.735	
6,000.0	5,895.5	5,961.0	5,925.4	21.5	15.1	145.05	-43.1	673.8	548.1	519.0	29.13	18.816	
6,100.0	5,993.4	6,060.3	6,024.0	21.9	15.3	145.19	-43.9	685.5	559.6	530.0	29.62	18.895	
6,200.0	6,091.2	6,159.6	6,122.6	22.3	15.6	145.32	-44.7	697.1	571.1	541.0	30.10	18.972	
6,300.0	6,189.1	6,259.0	6,221.3	22.7	15.9	145.44	-45.5	708.8	582.6	552.0	30.59	19.046	
6,400.0	6,287.0	6,358.3	6,319.9	23.1	16.1	145.56	-46.4	720.5	594.1	563.1	31.08	19.118	
6,500.0	6,384.9	6,457.6	6,418.6	23.5	16.4	145.67	-47.2	732.2	605.6	574.1	31.56	19.188	
6,600.0	6,482.7	6,556.9	6,517.2	23.9	16.7	145.78	-48.0	743.8	617.2	585.1	32.05	19.255	
6,700.0	6,580.6	6,656.3	6,615.8	24.3	16.9	145.89	-48.8	755.5	628.7	596.1	32.54	19.321	
6,800.0	6,678.5	6,755.6	6,714.5	24.7	17.2	145.99	-49.6	767.2	640.2	607.2	33.03	19.385	
6,900.0	6,776.4	6,854.9	6,813.1	25.1	17.5	146.09	-50.4	778.9	651.7	618.2	33.51	19.447	
7,000.0	6,874.2	6,954.2	6,911.7	25.5	17.7	146.19	-51.3	790.5	663.3	629.3	34.00	19.507	
7,016.7	6,890.6	6,970.9	6,928.2	25.6	17.8	146.21	-51.4	792.5	665.2	631.1	34.08	19.517	
7,050.0	6,923.2	7,004.0	6,961.1	25.7	17.9	130.14	-51.7	796.4	668.2	633.9	34.33	19.464	
7,100.0	6,972.3	7,053.8	7,010.6	25.9	18.0	104.93	-52.1	802.2	669.7	635.3	34.45	19.439	
7,150.0	7,021.1	7,103.5	7,059.9	26.0	18.2	85.66	-52.5	808.1	667.6	633.3	34.27	19.480	
7,200.0	7,069.3	7,152.5	7,108.6	26.1	18.3	73.78	-52.9	813.8	661.9	628.1	33.80	19.585	
7,250.0	7,116.5	7,200.5	7,156.3	26.2	18.4	67.01	-53.3	819.5	652.8	619.8	33.05	19.750	
7,300.0	7,162.3	7,247.7	7,199.1	26.2	19.2	78.27	30.0	855.4	632.1	603.7	28.41	22.251	
7,350.0	7,206.4	7,291.9	7,247.9	26.3	19.7	91.80	112.4	867.1	598.7	572.4	26.27	22.786	
7,400.0	7,248.4	7,334.3	7,289.8	26.3	19.8	99.16	143.3	870.2	564.2	537.3	26.96	20.930	
7,450.0	7,288.1	7,373.7	7,328.1	26.3	19.9	103.05	152.0	871.0	531.3	503.6	27.70	19.176	
7,500.0	7,325.1	7,410.3	7,365.6	26.3	19.9	105.01	150.2	870.8	500.8	472.8	28.05	17.857	
7,550.0	7,359.2	7,444.8	7,399.4	26.3	19.8	105.72	142.9	870.2	473.6	445.6	28.05	16.883	
7,600.0	7,390.0	7,475.0	7,430.0	26.3	19.8	105.53	132.7	869.2	450.3	422.4	27.87	16.159	
7,650.0	7,417.4	7,502.6	7,457.1	26.3	19.7	104.60	120.7	868.0	431.3	403.7	27.60	15.626	
7,700.0	7,441.2	7,526.8	7,481.6	26.3	19.6	103.04	107.8	866.6	417.1	389.7	27.34	15.252	
7,750.0	7,461.1	7,546.9	7,501.8	26.3	19.6	100.94	94.5	865.0	407.9	380.7	27.16	15.017	
7,800.0	7,477.0	7,562.8	7,517.8	26.3	19.5	98.34	81.1	863.3	403.7	376.7	27.06	14.922	
7,816.6	7,481.4	7,567.2	7,522.2	26.3	19.5	97.38	76.7	862.7	403.5	376.4	27.04	14.919	
7,850.0	7,488.8	7,574.6	7,529.6	26.4	19.4	95.31	67.8	861.5	404.5	377.5	27.02	14.974	
7,900.0	7,496.5	7,582.3	7,537.3	26.4	19.4	91.93	54.8	859.6	409.8	382.8	26.99	15.182	
7,950.0	7,499.8	7,585.0	7,540.0	26.5	19.3	88.21	41.9	857.5	419.1	392.2	26.93	15.565	
7,964.3	7,500.0	7,587.7	7,542.7	26.5	19.3	87.21	38.8	857.0	422.4	395.5	26.91	15.700	
8,000.0	7,500.0	7,590.0	7,545.0	26.6	19.2	85.44	30.6	855.5	432.0	405.1	26.91	16.057	
8,100.0	7,500.0	7,590.0	7,545.0	26.8	19.2	81.16	12.5	851.9	469.6	442.6	27.04	17.366	
8,200.0	7,500.0	7,590.0	7,545.0	27.2	19.1	77.74	-0.5	848.9	520.9	493.5	27.38	19.025	
8,300.0	7,500.0	7,590.0	7,545.0	27.7	19.0	74.98	-10.2	846.4	582.9	555.0	27.89	20.899	
8,400.0	7,500.0	7,590.0	7,545.0	28.3	19.0	72.73	-17.5	844.3	653.2	624.6	28.56	22.868	
8,500.0	7,500.0	7,590.0	7,545.0	29.0	18.9	70.68	-23.7	842.3	729.5	700.2	29.32	24.878	
8,600.0	7,500.0	7,590.0	7,545.0	29.8	18.9	70.68	-23.7	842.3	810.6	780.1	30.49	26.587	
8,700.0	7,500.0	7,590.0	7,545.0	30.6	18.9	68.01	-31.1	839.5	894.7	863.5	31.23	28.650	
8,800.0	7,500.0	7,590.0	7,545.0	31.5	18.8	65.43	-37.5	836.8	981.9	950.0	31.96	30.725	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2E-7H-E168 - Hz - Plan #2													Offset Site Error: 0.0 ft			
Survey Program: 0-Geolink 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	7,500.0	7,350.0	7,303.5	32.5	18.8	65.43	-37.5	836.8	1,070.7	1,037.4	33.25	32.197				
9,000.0	7,500.0	7,350.0	7,303.5	33.6	18.8	65.43	-37.5	836.8	1,161.2	1,126.7	34.59	33.574				
9,100.0	7,500.0	7,350.0	7,303.5	34.7	18.8	65.43	-37.5	836.8	1,253.2	1,217.3	35.95	34.858				
9,200.0	7,500.0	7,332.5	7,286.5	35.9	18.8	63.69	-41.3	834.8	1,346.0	1,309.1	36.88	36.497				
9,300.0	7,500.0	7,326.5	7,280.7	37.1	18.7	63.11	-42.5	834.1	1,439.8	1,401.7	38.11	37.783				
9,400.0	7,500.0	7,321.1	7,275.5	38.3	18.7	62.60	-43.6	833.5	1,534.3	1,494.9	39.36	38.985				
9,500.0	7,500.0	7,300.0	7,254.8	39.6	18.7	60.62	-47.1	831.1	1,629.7	1,589.6	40.12	40.618				
9,600.0	7,500.0	7,300.0	7,254.8	41.0	18.7	60.62	-47.1	831.1	1,725.1	1,683.6	41.53	41.544				
9,700.0	7,500.0	7,300.0	7,254.8	42.3	18.7	60.62	-47.1	831.1	1,821.1	1,778.1	42.94	42.409				
9,800.0	7,500.0	7,300.0	7,254.8	43.7	18.7	60.62	-47.1	831.1	1,917.4	1,873.1	44.37	43.218				
9,900.0	7,500.0	7,300.0	7,254.8	45.1	18.7	60.62	-47.1	831.1	2,014.2	1,968.4	45.80	43.976				
10,000.0	7,500.0	7,300.0	7,254.8	46.6	18.7	60.62	-47.1	831.1	2,111.2	2,063.9	47.24	44.687				
10,100.0	7,500.0	7,300.0	7,254.8	48.0	18.7	60.62	-47.1	831.1	2,208.5	2,159.8	48.69	45.354				
10,200.0	7,500.0	7,300.0	7,254.8	49.5	18.7	60.62	-47.1	831.1	2,306.0	2,255.8	50.15	45.982				
10,300.0	7,500.0	7,300.0	7,254.8	51.0	18.7	60.62	-47.1	831.1	2,403.7	2,352.1	51.61	46.573				
10,400.0	7,500.0	7,300.0	7,254.8	52.5	18.7	60.62	-47.1	831.1	2,501.6	2,448.5	53.08	47.131				
10,500.0	7,500.0	7,300.0	7,254.8	54.0	18.7	60.62	-47.1	831.1	2,599.7	2,545.1	54.55	47.657				
10,600.0	7,500.0	7,300.0	7,254.8	55.6	18.7	60.62	-47.1	831.1	2,697.9	2,641.8	56.02	48.155				
10,700.0	7,500.0	7,300.0	7,254.8	57.1	18.7	60.62	-47.1	831.1	2,796.2	2,738.7	57.50	48.627				
10,800.0	7,500.0	7,278.1	7,233.2	58.7	18.6	58.65	-49.9	828.5	2,894.1	2,836.2	57.93	49.957				
10,900.0	7,500.0	7,276.3	7,231.4	60.3	18.6	58.50	-50.1	828.3	2,992.6	2,933.3	59.30	50.465				
11,000.0	7,500.0	7,274.6	7,229.8	61.9	18.6	58.35	-50.3	828.1	3,091.2	3,030.5	60.67	50.950				
11,100.0	7,500.0	7,273.0	7,228.2	63.5	18.6	58.21	-50.4	828.0	3,189.8	3,127.8	62.04	51.412				
11,200.0	7,500.0	7,271.5	7,226.7	65.1	18.6	58.08	-50.6	827.8	3,288.5	3,225.1	63.42	51.854				
11,300.0	7,500.0	7,250.0	7,205.4	66.7	18.5	56.27	-52.3	825.3	3,387.7	3,324.0	63.70	53.181				
11,400.0	7,500.0	7,250.0	7,205.4	68.3	18.5	56.27	-52.3	825.3	3,486.5	3,421.4	65.13	53.531				
11,500.0	7,500.0	7,250.0	7,205.4	69.9	18.5	56.27	-52.3	825.3	3,585.4	3,518.8	66.56	53.865				
11,600.0	7,500.0	7,250.0	7,205.4	71.5	18.5	56.27	-52.3	825.3	3,684.3	3,616.3	67.99	54.186				
11,700.0	7,500.0	7,250.0	7,205.4	73.2	18.5	56.27	-52.3	825.3	3,783.3	3,713.9	69.43	54.492				
11,800.0	7,500.0	7,250.0	7,205.4	74.8	18.5	56.27	-52.3	825.3	3,882.3	3,811.5	70.86	54.786				
11,900.0	7,500.0	7,250.0	7,205.4	76.5	18.5	56.27	-52.3	825.3	3,981.4	3,909.1	72.30	55.068				
12,000.0	7,500.0	7,250.0	7,205.4	78.1	18.5	56.27	-52.3	825.3	4,080.6	4,006.8	73.74	55.338				
12,100.0	7,500.0	7,250.0	7,205.4	79.8	18.5	56.27	-52.3	825.3	4,179.7	4,104.5	75.18	55.598				
12,200.0	7,500.0	7,250.0	7,205.4	81.4	18.5	56.27	-52.3	825.3	4,278.9	4,202.3	76.62	55.848				
12,300.0	7,500.0	7,250.0	7,205.4	83.1	18.5	56.27	-52.3	825.3	4,378.2	4,300.1	78.06	56.088				
12,400.0	7,500.0	7,250.0	7,205.4	84.8	18.5	56.27	-52.3	825.3	4,477.5	4,398.0	79.50	56.320				
12,500.0	7,500.0	7,250.0	7,205.4	86.4	18.5	56.27	-52.3	825.3	4,576.8	4,495.8	80.94	56.543				
12,600.0	7,500.0	7,250.0	7,205.4	88.1	18.5	56.27	-52.3	825.3	4,676.1	4,593.7	82.39	56.758				
12,700.0	7,500.0	7,250.0	7,205.4	89.8	18.5	56.27	-52.3	825.3	4,775.5	4,691.6	83.83	56.965				
12,800.0	7,500.0	7,250.0	7,205.4	91.5	18.5	56.27	-52.3	825.3	4,874.9	4,789.6	85.28	57.165				
12,900.0	7,500.0	7,250.0	7,205.4	93.2	18.5	56.27	-52.3	825.3	4,974.3	4,887.6	86.72	57.359				
13,000.0	7,500.0	7,250.0	7,205.4	94.8	18.5	56.27	-52.3	825.3	5,073.7	4,985.6	88.17	57.545				
13,100.0	7,500.0	7,250.0	7,205.4	96.5	18.5	56.27	-52.3	825.3	5,173.2	5,083.6	89.62	57.726				
13,200.0	7,500.0	7,250.0	7,205.4	98.2	18.5	56.27	-52.3	825.3	5,272.7	5,181.6	91.06	57.901				

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2F-7H-E168 - Hz - Plan #3													Offset Site Error: 0.0 ft			
Survey Program: 0-Geolink 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				
0.0	0.0	0.0	0.0	0.0	0.0	90.30	-0.4	70.0	70.0							
100.0	100.0	100.0	100.0	0.2	0.2	90.30	-0.4	70.0	70.0	69.7	0.30	230.404				
200.0	200.0	200.0	200.0	0.3	0.3	90.30	-0.4	70.0	70.0	69.3	0.65	107.193				
300.0	300.0	300.0	300.0	0.5	0.5	90.30	-0.4	70.0	70.0	69.0	1.00	69.844 CC				
400.0	400.0	398.8	398.8	0.7	0.7	24.34	-0.2	70.8	70.0	68.7	1.35	51.918				
500.0	500.0	497.6	497.6	0.9	0.9	24.91	0.1	73.3	70.2	68.5	1.70	41.386				
600.0	599.9	596.4	596.3	1.0	1.0	25.85	0.7	77.6	70.5	68.5	2.05	34.475 ES				
700.0	699.7	695.2	694.9	1.2	1.2	27.14	1.5	83.5	71.0	68.6	2.40	29.606				
800.0	799.4	794.0	793.4	1.4	1.4	28.78	2.6	91.0	71.6	68.9	2.76	25.998				
900.0	898.9	892.7	891.7	1.7	1.7	30.74	3.8	100.3	72.5	69.4	3.12	23.220				
1,000.0	998.3	991.5	989.8	1.9	1.9	32.99	5.3	111.3	73.7	70.2	3.51	21.012				
1,100.0	1,097.4	1,090.2	1,087.7	2.2	2.2	35.50	7.1	123.9	75.1	71.2	3.91	19.206				
1,200.0	1,196.3	1,188.9	1,185.3	2.5	2.5	38.21	9.1	138.1	76.9	72.6	4.35	17.692				
1,300.0	1,294.9	1,287.5	1,282.7	2.8	2.8	41.08	11.3	154.1	79.2	74.3	4.83	16.392				
1,400.0	1,393.3	1,386.2	1,379.7	3.2	3.1	44.06	13.7	171.7	81.9	76.5	5.36	15.258				
1,484.0	1,475.6	1,469.7	1,461.6	3.5	3.4	46.71	15.9	187.6	84.3	78.4	5.86	14.375				
1,500.0	1,491.3	1,485.6	1,477.3	3.5	3.5	47.25	16.3	190.7	84.7	78.8	5.96	14.203				
1,600.0	1,589.1	1,585.5	1,575.2	3.9	3.8	50.52	19.0	209.9	87.5	80.9	6.62	13.220				
1,700.0	1,687.0	1,685.3	1,673.1	4.3	4.2	53.58	21.6	229.1	90.6	83.3	7.31	12.385				
1,800.0	1,784.9	1,785.1	1,771.1	4.7	4.6	56.43	24.3	248.3	93.9	85.9	8.04	11.678				
1,900.0	1,882.7	1,885.0	1,869.0	5.1	4.9	59.08	26.9	267.4	97.4	88.6	8.79	11.080				
2,000.0	1,980.6	1,984.8	1,967.0	5.4	5.3	61.55	29.6	286.6	101.1	91.6	9.56	10.575				
2,100.0	2,078.5	2,084.7	2,064.9	5.8	5.7	63.83	32.2	305.8	105.0	94.7	10.35	10.146				
2,200.0	2,176.4	2,184.5	2,162.8	6.2	6.1	65.95	34.9	325.0	109.1	97.9	11.15	9.782				
2,300.0	2,274.2	2,284.3	2,260.8	6.6	6.4	67.91	37.6	344.2	113.3	101.3	11.96	9.471				
2,400.0	2,372.1	2,384.2	2,358.7	7.0	6.8	69.74	40.2	363.4	117.6	104.8	12.77	9.205				
2,500.0	2,470.0	2,484.0	2,456.7	7.4	7.2	71.43	42.9	382.6	122.0	108.4	13.59	8.976				
2,600.0	2,567.8	2,583.9	2,554.6	7.8	7.6	73.00	45.5	401.8	126.5	112.1	14.41	8.779				
2,700.0	2,665.7	2,683.7	2,652.6	8.2	8.0	74.46	48.2	421.0	131.1	115.9	15.24	8.608				
2,800.0	2,763.6	2,783.5	2,750.5	8.6	8.3	75.83	50.8	440.2	135.8	119.8	16.06	8.459				
2,900.0	2,861.5	2,883.4	2,848.4	9.0	8.7	77.10	53.5	459.4	140.6	123.7	16.88	8.329				
3,000.0	2,959.3	2,983.2	2,946.4	9.4	9.1	78.29	56.1	478.6	145.4	127.7	17.70	8.215				
3,100.0	3,057.2	3,083.1	3,044.3	9.8	9.5	79.40	58.8	497.8	150.3	131.8	18.52	8.114				
3,200.0	3,155.1	3,182.9	3,142.3	10.2	9.9	80.44	61.4	516.9	155.2	135.9	19.34	8.025				
3,300.0	3,253.0	3,282.7	3,240.2	10.6	10.2	81.42	64.1	536.1	160.2	140.1	20.16	7.947				
3,400.0	3,350.8	3,382.6	3,338.1	11.0	10.6	82.33	66.7	555.3	165.2	144.3	20.98	7.877				
3,500.0	3,448.7	3,482.4	3,436.1	11.4	11.0	83.20	69.4	574.5	170.3	148.5	21.79	7.815				
3,600.0	3,546.6	3,582.2	3,534.0	11.8	11.4	84.01	72.0	593.7	175.4	152.8	22.61	7.759				
3,700.0	3,644.4	3,682.1	3,632.0	12.2	11.8	84.78	74.7	612.9	180.6	157.1	23.42	7.710				
3,800.0	3,742.3	3,781.9	3,729.9	12.6	12.2	85.50	77.4	632.1	185.7	161.5	24.23	7.665				
3,900.0	3,840.2	3,881.8	3,827.8	13.0	12.5	86.18	80.0	651.3	190.9	165.9	25.04	7.625				
4,000.0	3,938.1	3,981.6	3,925.8	13.4	12.9	86.83	82.7	670.5	196.1	170.3	25.85	7.589				
4,100.0	4,035.9	4,081.4	4,023.7	13.8	13.3	87.45	85.3	689.7	201.4	174.7	26.65	7.556				
4,200.0	4,133.8	4,181.3	4,121.7	14.2	13.7	88.03	88.0	708.9	206.7	179.2	27.46	7.526				
4,300.0	4,231.7	4,281.1	4,219.6	14.6	14.1	88.59	90.6	728.1	211.9	183.7	28.26	7.500				
4,400.0	4,329.5	4,381.0	4,317.6	15.0	14.5	89.11	93.3	747.3	217.2	188.2	29.06	7.475				
4,500.0	4,427.4	4,480.8	4,415.5	15.4	14.9	89.62	95.9	766.4	222.6	192.7	29.86	7.453				
4,600.0	4,525.3	4,580.6	4,513.4	15.8	15.2	90.10	98.6	785.6	227.9	197.2	30.66	7.433				
4,700.0	4,623.2	4,680.5	4,611.4	16.2	15.6	90.55	101.2	804.8	233.3	201.8	31.46	7.414				
4,800.0	4,721.0	4,780.3	4,709.3	16.7	16.0	90.99	103.9	824.0	238.6	206.4	32.26	7.397				
4,900.0	4,818.9	4,880.2	4,807.3	17.1	16.4	91.41	106.5	843.2	244.0	211.0	33.06	7.382				
5,000.0	4,916.8	4,980.0	4,905.2	17.5	16.8	91.81	109.2	862.4	249.4	215.6	33.85	7.368				

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2F-7H-E168 - Hz - Plan #3												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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
5,100.0	5,014.7	5,079.8	5,003.1	17.9	17.2	92.19	111.8	881.6	254.8	220.2	34.65	7.355	
5,200.0	5,112.5	5,179.7	5,101.1	18.3	17.5	92.55	114.5	900.8	260.2	224.8	35.44	7.343	
5,300.0	5,210.4	5,279.5	5,199.0	18.7	17.9	92.91	117.2	920.0	265.7	229.4	36.23	7.332	
5,400.0	5,308.3	5,379.4	5,297.0	19.1	18.3	93.24	119.8	939.2	271.1	234.1	37.02	7.322	
5,500.0	5,406.1	5,479.2	5,394.9	19.5	18.7	93.57	122.5	958.4	276.5	238.7	37.82	7.313	
5,600.0	5,504.0	5,579.0	5,492.9	19.9	19.1	93.88	125.1	977.6	282.0	243.4	38.61	7.305	
5,700.0	5,601.9	5,678.9	5,590.8	20.3	19.5	94.18	127.8	996.8	287.5	248.1	39.40	7.297	
5,800.0	5,699.8	5,778.7	5,688.7	20.7	19.9	94.47	130.4	1,015.9	292.9	252.8	40.19	7.290	
5,900.0	5,797.6	5,878.6	5,786.7	21.1	20.2	94.75	133.1	1,035.1	298.4	257.4	40.97	7.283	
6,000.0	5,895.5	5,978.4	5,884.6	21.5	20.6	95.01	135.7	1,054.3	303.9	262.1	41.76	7.277	
6,100.0	5,993.4	6,078.2	5,982.6	21.9	21.0	95.27	138.4	1,073.5	309.4	266.8	42.55	7.271	
6,200.0	6,091.2	6,178.1	6,080.5	22.3	21.4	95.52	141.0	1,092.7	314.9	271.5	43.34	7.266	
6,300.0	6,189.1	6,277.9	6,178.4	22.7	21.8	95.76	143.7	1,111.9	320.4	276.3	44.12	7.261	
6,400.0	6,287.0	6,377.8	6,276.4	23.1	22.2	95.99	146.3	1,131.1	325.9	281.0	44.91	7.257	
6,500.0	6,384.9	6,477.6	6,374.3	23.5	22.6	96.22	149.0	1,150.3	331.4	285.7	45.69	7.253	
6,600.0	6,482.7	6,577.4	6,472.3	23.9	22.9	96.44	151.6	1,169.5	336.9	290.4	46.48	7.249	
6,700.0	6,580.6	6,677.3	6,570.2	24.3	23.3	96.65	154.3	1,188.7	342.5	295.2	47.26	7.246	
6,800.0	6,678.5	6,777.1	6,668.2	24.7	23.7	96.85	157.0	1,207.9	348.0	299.9	48.05	7.242	
6,900.0	6,776.4	6,877.0	6,766.1	25.1	24.1	97.05	159.6	1,227.1	353.5	304.7	48.83	7.239	
7,000.0	6,874.2	6,976.8	6,864.0	25.5	24.5	97.24	162.3	1,246.3	359.0	309.4	49.61	7.237	
7,016.7	6,890.6	6,993.5	6,880.4	25.6	24.5	97.27	162.7	1,249.5	360.0	310.2	49.75	7.236	
7,050.0	6,923.2	7,026.8	6,913.0	25.7	24.7	81.34	163.6	1,255.9	360.9	310.9	50.00	7.218	
7,100.0	6,972.3	7,089.6	6,974.6	25.9	24.9	55.67	165.7	1,267.9	358.6	308.5	50.14	7.152	
7,150.0	7,021.1	7,206.5	7,087.6	26.0	25.4	33.72	185.0	1,290.2	345.8	295.6	50.18	6.890	
7,200.0	7,069.3	7,302.3	7,175.7	26.1	25.9	16.23	217.9	1,307.7	321.1	271.4	49.68	6.463	
7,250.0	7,116.5	7,373.5	7,237.0	26.2	26.2	0.30	251.9	1,320.0	288.0	239.8	48.24	5.971	
7,300.0	7,162.3	7,423.3	7,277.2	26.2	26.5	-16.67	280.1	1,328.2	249.9	204.7	45.19	5.531	
7,350.0	7,206.4	7,456.5	7,302.6	26.3	26.6	-35.23	300.9	1,333.3	209.6	169.4	40.18	5.216	
7,400.0	7,248.4	7,477.3	7,317.9	26.3	26.8	-52.84	314.6	1,336.4	169.7	135.1	34.60	4.906	
7,450.0	7,288.1	7,489.0	7,326.3	26.3	26.8	-65.95	322.6	1,338.1	134.1	103.3	30.75	4.360	
7,500.0	7,325.1	7,494.0	7,329.8	26.3	26.9	-73.14	326.0	1,338.8	109.2	80.1	29.07	3.755	
7,536.1	7,350.0	7,494.3	7,330.0	26.3	26.9	-74.85	326.3	1,338.9	103.0	74.3	28.76	3.582 SF	
7,550.0	7,359.2	7,493.8	7,329.7	26.3	26.9	-74.80	325.9	1,338.8	104.0	75.2	28.77	3.613	
7,600.0	7,390.0	7,489.8	7,326.8	26.3	26.8	-71.64	323.1	1,338.2	121.1	91.9	29.21	4.145	
7,650.0	7,417.4	7,482.7	7,321.8	26.3	26.8	-64.48	318.3	1,337.2	152.8	123.0	29.78	5.132	
7,700.0	7,441.2	7,473.2	7,314.9	26.3	26.7	-54.61	311.9	1,335.8	191.5	161.8	29.66	6.456	
7,750.0	7,461.1	7,461.9	7,306.6	26.3	26.7	-43.89	304.4	1,334.1	233.1	204.8	28.25	8.249	
7,800.0	7,477.0	7,450.0	7,297.7	26.3	26.6	-34.31	296.7	1,332.3	275.6	249.8	25.77	10.695	
7,850.0	7,488.8	7,434.7	7,286.1	26.4	26.5	-25.88	287.1	1,329.9	318.0	295.2	22.80	13.948	
7,900.0	7,496.5	7,419.5	7,274.2	26.4	26.4	-19.49	277.8	1,327.5	359.8	339.6	20.21	17.801	
7,950.0	7,499.8	7,400.0	7,258.7	26.5	26.3	-14.27	266.5	1,324.4	400.6	382.2	18.47	21.695	
7,964.3	7,500.0	7,400.0	7,258.7	26.5	26.3	-13.48	266.5	1,324.4	412.1	393.8	18.28	22.539	
8,000.0	7,500.0	7,387.0	7,248.2	26.6	26.3	-12.47	259.2	1,322.3	440.8	422.6	18.19	24.232	
8,100.0	7,500.0	7,350.0	7,217.2	26.8	26.1	-9.93	239.8	1,316.1	523.7	505.7	18.00	29.097	
8,200.0	7,500.0	7,333.2	7,202.8	27.2	26.0	-8.91	231.7	1,313.2	609.4	591.3	18.10	33.662	
8,300.0	7,500.0	7,300.0	7,173.7	27.7	25.8	-7.12	217.0	1,307.3	697.6	679.5	18.08	38.592	
8,400.0	7,500.0	7,300.0	7,173.7	28.3	25.8	-7.12	217.0	1,307.3	787.2	768.8	18.35	42.889	
8,500.0	7,500.0	7,277.3	7,153.2	29.0	25.7	-6.04	207.9	1,303.3	878.3	859.8	18.45	47.609	
8,600.0	7,500.0	7,250.0	7,128.3	29.8	25.6	-4.87	198.1	1,298.3	970.8	952.3	18.53	52.402	
8,700.0	7,500.0	7,250.0	7,128.3	30.6	25.6	-4.87	198.1	1,298.3	1,063.8	1,045.1	18.79	56.607	
8,800.0	7,500.0	7,250.0	7,128.3	31.5	25.6	-4.87	198.1	1,298.3	1,158.0	1,139.0	19.06	60.758	
8,900.0	7,500.0	7,229.2	7,108.9	32.5	25.5	-4.08	191.4	1,294.4	1,252.6	1,233.4	19.19	65.282	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2F-7H-E168 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink 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		
9,000.0	7,500.0	7,220.1	7,100.5	33.6	25.5	-3.75	188.7	1,292.8	1,347.8	1,328.4	19.39	69.508		
9,100.0	7,500.0	7,200.0	7,081.4	34.7	25.4	-3.06	183.3	1,289.0	1,443.7	1,424.2	19.53	73.915		
9,200.0	7,500.0	7,200.0	7,081.4	35.9	25.4	-3.06	183.3	1,289.0	1,539.6	1,519.9	19.78	77.824		
9,300.0	7,500.0	7,200.0	7,081.4	37.1	25.4	-3.06	183.3	1,289.0	1,636.1	1,616.1	20.03	81.665		
9,400.0	7,500.0	7,200.0	7,081.4	38.3	25.4	-3.06	183.3	1,289.0	1,733.0	1,712.7	20.28	85.436		
9,500.0	7,500.0	7,200.0	7,081.4	39.6	25.4	-3.06	183.3	1,289.0	1,830.1	1,809.6	20.53	89.137		
9,600.0	7,500.0	7,180.5	7,062.9	41.0	25.3	-2.45	178.6	1,285.3	1,927.2	1,906.5	20.67	93.243		
9,700.0	7,500.0	7,175.6	7,058.2	42.3	25.3	-2.31	177.6	1,284.4	2,024.7	2,003.8	20.89	96.942		
9,800.0	7,500.0	7,171.1	7,053.9	43.7	25.3	-2.18	176.6	1,283.5	2,122.4	2,101.3	21.10	100.571		
9,900.0	7,500.0	7,150.0	7,033.5	45.1	25.2	-1.59	172.7	1,279.5	2,220.5	2,199.3	21.24	104.538		
10,000.0	7,500.0	7,150.0	7,033.5	46.6	25.2	-1.59	172.7	1,279.5	2,318.4	2,296.9	21.48	107.945		
10,100.0	7,500.0	7,150.0	7,033.5	48.0	25.2	-1.59	172.7	1,279.5	2,416.4	2,394.7	21.71	111.292		
10,200.0	7,500.0	7,150.0	7,033.5	49.5	25.2	-1.59	172.7	1,279.5	2,514.6	2,492.7	21.95	114.579		
10,300.0	7,500.0	7,150.0	7,033.5	51.0	25.2	-1.59	172.7	1,279.5	2,612.9	2,590.8	22.18	117.809		
10,400.0	7,500.0	7,150.0	7,033.5	52.5	25.2	-1.59	172.7	1,279.5	2,711.4	2,689.0	22.41	120.982		
10,500.0	7,500.0	7,150.0	7,033.5	54.0	25.2	-1.59	172.7	1,279.5	2,809.9	2,787.3	22.64	124.099		
10,600.0	7,500.0	7,150.0	7,033.5	55.6	25.2	-1.59	172.7	1,279.5	2,908.6	2,885.7	22.87	127.163		
10,700.0	7,500.0	7,150.0	7,033.5	57.1	25.2	-1.59	172.7	1,279.5	3,007.3	2,984.2	23.10	130.173		
10,800.0	7,500.0	7,150.0	7,033.5	58.7	25.2	-1.59	172.7	1,279.5	3,106.2	3,082.8	23.33	133.133		
10,900.0	7,500.0	7,150.0	7,033.5	60.3	25.2	-1.59	172.7	1,279.5	3,205.1	3,181.5	23.56	136.042		
11,000.0	7,500.0	7,150.0	7,033.5	61.9	25.2	-1.59	172.7	1,279.5	3,304.0	3,280.3	23.79	138.902		
11,100.0	7,500.0	7,150.0	7,033.5	63.5	25.2	-1.59	172.7	1,279.5	3,403.1	3,379.1	24.01	141.715		
11,200.0	7,500.0	7,150.0	7,033.5	65.1	25.2	-1.59	172.7	1,279.5	3,502.2	3,477.9	24.24	144.481		
11,300.0	7,500.0	7,150.0	7,033.5	66.7	25.2	-1.59	172.7	1,279.5	3,601.3	3,576.8	24.46	147.202		
11,400.0	7,500.0	7,127.1	7,011.3	68.3	25.1	-1.00	169.3	1,275.1	3,699.9	3,675.4	24.57	150.574		
11,500.0	7,500.0	7,125.4	7,009.6	69.9	25.1	-0.96	169.1	1,274.8	3,799.1	3,774.3	24.79	153.271		
11,600.0	7,500.0	7,123.8	7,008.1	71.5	25.1	-0.92	168.9	1,274.5	3,898.3	3,873.3	25.00	155.924		
11,700.0	7,500.0	7,122.2	7,006.6	73.2	25.1	-0.89	168.7	1,274.2	3,997.5	3,972.3	25.21	158.536		
11,800.0	7,500.0	7,100.0	6,984.9	74.8	25.0	-0.37	166.4	1,269.9	4,097.2	4,071.8	25.35	161.614		
11,900.0	7,500.0	7,100.0	6,984.9	76.5	25.0	-0.37	166.4	1,269.9	4,196.4	4,170.8	25.57	164.112		
12,000.0	7,500.0	7,100.0	6,984.9	78.1	25.0	-0.37	166.4	1,269.9	4,295.6	4,269.9	25.79	166.573		
12,100.0	7,500.0	7,100.0	6,984.9	79.8	25.0	-0.37	166.4	1,269.9	4,394.9	4,368.9	26.01	168.997		
12,200.0	7,500.0	7,100.0	6,984.9	81.4	25.0	-0.37	166.4	1,269.9	4,494.3	4,468.0	26.22	171.385		
12,300.0	7,500.0	7,100.0	6,984.9	83.1	25.0	-0.37	166.4	1,269.9	4,593.6	4,567.2	26.44	173.738		
12,400.0	7,500.0	7,100.0	6,984.9	84.8	25.0	-0.37	166.4	1,269.9	4,693.0	4,666.3	26.66	176.057		
12,500.0	7,500.0	7,100.0	6,984.9	86.4	25.0	-0.37	166.4	1,269.9	4,792.4	4,765.5	26.87	178.342		
12,600.0	7,500.0	7,100.0	6,984.9	88.1	25.0	-0.37	166.4	1,269.9	4,891.8	4,864.8	27.09	180.595		
12,700.0	7,500.0	7,100.0	6,984.9	89.8	25.0	-0.37	166.4	1,269.9	4,991.3	4,964.0	27.30	182.816		
12,800.0	7,500.0	7,100.0	6,984.9	91.5	25.0	-0.37	166.4	1,269.9	5,090.8	5,063.3	27.52	185.005		
12,900.0	7,500.0	7,100.0	6,984.9	93.2	25.0	-0.37	166.4	1,269.9	5,190.3	5,162.5	27.73	187.164		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2G-7H-E168 - Hz - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	90.26	-0.4	79.8	79.8					
100.0	100.0	100.0	100.0	0.2	0.2	90.26	-0.4	79.8	79.8	79.5	0.30	262.660		
200.0	200.0	200.0	200.0	0.3	0.3	90.26	-0.4	79.8	79.8	79.1	0.65	122.200		
233.3	233.3	233.3	233.3	0.4	0.4	90.26	-0.4	79.8	79.8	79.0	0.77	103.712 CC		
300.0	300.0	299.3	299.3	0.5	0.5	90.29	-0.4	80.0	80.0	79.0	1.00	79.924 ES		
400.0	400.0	398.0	397.9	0.7	0.7	24.59	-0.7	81.6	80.9	79.5	1.35	60.028		
500.0	500.0	496.5	496.5	0.9	0.9	25.72	-1.3	85.0	81.9	80.2	1.69	48.335		
600.0	599.9	595.1	594.9	1.0	1.0	27.50	-2.2	90.0	83.1	81.1	2.04	40.682		
700.0	699.7	693.6	693.1	1.2	1.2	29.88	-3.3	96.7	84.6	82.2	2.40	35.330		
800.0	799.4	792.0	791.2	1.4	1.5	32.81	-4.8	105.0	86.5	83.8	2.75	31.422		
900.0	898.9	890.3	889.0	1.7	1.7	36.20	-6.6	115.0	88.9	85.8	3.12	28.479		
1,000.0	998.3	988.5	986.5	1.9	1.9	39.97	-8.6	126.6	92.0	88.5	3.51	26.208		
1,100.0	1,097.4	1,086.7	1,083.7	2.2	2.2	44.00	-11.0	139.8	95.9	92.0	3.93	24.415		
1,200.0	1,196.3	1,184.6	1,180.5	2.5	2.5	48.17	-13.6	154.7	100.8	96.4	4.39	22.965		
1,300.0	1,294.9	1,282.5	1,276.9	2.8	2.8	52.37	-16.5	171.1	106.6	101.7	4.90	21.769		
1,400.0	1,393.3	1,380.1	1,372.8	3.2	3.2	56.48	-19.7	189.2	113.7	108.2	5.47	20.767		
1,484.0	1,475.6	1,462.1	1,453.1	3.5	3.5	59.80	-22.5	205.6	120.5	114.5	6.01	20.049		
1,500.0	1,491.3	1,477.6	1,468.3	3.5	3.6	60.42	-23.1	208.8	121.9	115.8	6.12	19.931		
1,600.0	1,589.1	1,575.0	1,563.2	3.9	4.0	63.77	-26.9	230.0	131.8	125.0	6.80	19.389		
1,700.0	1,687.0	1,672.1	1,657.6	4.3	4.4	66.27	-30.9	252.7	143.6	136.1	7.51	19.130		
1,800.0	1,784.9	1,769.8	1,752.0	4.7	4.9	68.06	-35.1	277.1	156.9	148.7	8.23	19.073		
1,900.0	1,882.7	1,870.7	1,849.5	5.1	5.3	69.20	-38.4	302.9	170.0	161.0	8.97	18.953		
2,000.0	1,980.6	1,972.0	1,947.4	5.4	5.8	69.75	-40.0	329.0	182.0	172.3	9.71	18.736		
2,100.0	2,078.5	2,073.7	2,045.9	5.8	6.3	70.16	-40.4	354.6	192.8	182.4	10.45	18.444		
2,200.0	2,176.4	2,175.7	2,145.0	6.2	6.7	70.89	-40.9	378.5	202.4	191.2	11.21	18.051		
2,300.0	2,274.2	2,275.4	2,242.1	6.6	7.2	71.74	-41.3	401.0	211.4	199.4	11.98	17.641		
2,400.0	2,372.1	2,374.9	2,339.1	7.0	7.6	72.52	-41.7	423.3	220.4	207.7	12.76	17.276		
2,500.0	2,470.0	2,474.5	2,436.1	7.4	8.0	73.24	-42.1	445.7	229.5	215.9	13.54	16.950		
2,600.0	2,567.8	2,574.0	2,533.1	7.8	8.4	73.90	-42.5	468.1	238.5	224.2	14.32	16.657		
2,700.0	2,665.7	2,673.6	2,630.1	8.2	8.9	74.51	-43.0	490.5	247.7	232.5	15.11	16.393		
2,800.0	2,763.6	2,773.1	2,727.1	8.6	9.3	75.08	-43.4	512.9	256.8	240.9	15.90	16.154		
2,900.0	2,861.5	2,872.7	2,824.1	9.0	9.7	75.62	-43.8	535.3	266.0	249.3	16.69	15.937		
3,000.0	2,959.3	2,972.2	2,921.1	9.4	10.2	76.11	-44.2	557.7	275.1	257.7	17.48	15.739		
3,100.0	3,057.2	3,071.8	3,018.1	9.8	10.6	76.58	-44.6	580.0	284.3	266.1	18.28	15.558		
3,200.0	3,155.1	3,171.3	3,115.1	10.2	11.0	77.01	-45.0	602.4	293.6	274.5	19.07	15.391		
3,300.0	3,253.0	3,270.9	3,212.1	10.6	11.5	77.42	-45.5	624.8	302.8	282.9	19.87	15.238		
3,400.0	3,350.8	3,370.4	3,309.1	11.0	11.9	77.81	-45.9	647.2	312.0	291.4	20.67	15.096		
3,500.0	3,448.7	3,470.0	3,406.1	11.4	12.3	78.17	-46.3	669.6	321.3	299.8	21.47	14.965		
3,600.0	3,546.6	3,569.5	3,503.1	11.8	12.8	78.51	-46.7	692.0	330.6	308.3	22.27	14.844		
3,700.0	3,644.4	3,669.1	3,600.1	12.2	13.2	78.83	-47.1	714.3	339.9	316.8	23.07	14.731		
3,800.0	3,742.3	3,768.6	3,697.1	12.6	13.6	79.14	-47.5	736.7	349.2	325.3	23.87	14.625		
3,900.0	3,840.2	3,868.2	3,794.1	13.0	14.1	79.43	-47.9	759.1	358.5	333.8	24.68	14.527		
4,000.0	3,938.1	3,967.7	3,891.1	13.4	14.5	79.70	-48.4	781.5	367.8	342.3	25.48	14.434		
4,100.0	4,035.9	4,067.3	3,988.1	13.8	14.9	79.97	-48.8	803.9	377.1	350.8	26.28	14.348		
4,200.0	4,133.8	4,166.8	4,085.1	14.2	15.4	80.22	-49.2	826.3	386.4	359.3	27.09	14.266		
4,300.0	4,231.7	4,266.4	4,182.1	14.6	15.8	80.45	-49.6	848.6	395.8	367.9	27.89	14.190		
4,400.0	4,329.5	4,365.9	4,279.1	15.0	16.2	80.68	-50.0	871.0	405.1	376.4	28.70	14.117		
4,500.0	4,427.4	4,465.5	4,376.1	15.4	16.7	80.90	-50.4	893.4	414.5	385.0	29.50	14.049		
4,600.0	4,525.3	4,565.0	4,473.1	15.8	17.1	81.10	-50.8	915.8	423.8	393.5	30.31	13.985		
4,700.0	4,623.2	4,664.6	4,570.1	16.2	17.5	81.30	-51.3	938.2	433.2	402.1	31.11	13.924		
4,800.0	4,721.0	4,764.1	4,667.1	16.7	18.0	81.49	-51.7	960.6	442.5	410.6	31.92	13.866		
4,900.0	4,818.9	4,863.7	4,764.1	17.1	18.4	81.67	-52.1	982.9	451.9	419.2	32.72	13.811		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2G-7H-E168 - Hz - Plan #2													Offset Site Error: 0.0 ft			
Survey Program: 0-Geolink 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 +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
5,000.0	4,916.8	4,963.2	4,861.1	17.5	18.8	81.85	-52.5	1,005.3	461.3	427.8	33.53	13.758				
5,100.0	5,014.7	5,062.8	4,958.1	17.9	19.3	82.01	-52.9	1,027.7	470.7	436.3	34.33	13.708				
5,200.0	5,112.5	5,162.3	5,055.1	18.3	19.7	82.17	-53.3	1,050.1	480.0	444.9	35.14	13.661				
5,300.0	5,210.4	5,261.9	5,152.1	18.7	20.2	82.33	-53.7	1,072.5	489.4	453.5	35.95	13.616				
5,400.0	5,308.3	5,361.4	5,249.1	19.1	20.6	82.48	-54.2	1,094.9	498.8	462.1	36.75	13.572				
5,500.0	5,406.1	5,461.0	5,346.1	19.5	21.0	82.62	-54.6	1,117.2	508.2	470.6	37.56	13.531				
5,600.0	5,504.0	5,560.5	5,443.1	19.9	21.5	82.76	-55.0	1,139.6	517.6	479.2	38.36	13.491				
5,700.0	5,601.9	5,660.1	5,540.1	20.3	21.9	82.89	-55.4	1,162.0	527.0	487.8	39.17	13.454				
5,800.0	5,699.8	5,759.6	5,637.1	20.7	22.3	83.02	-55.8	1,184.4	536.4	496.4	39.98	13.417				
5,900.0	5,797.6	5,859.2	5,734.1	21.1	22.8	83.15	-56.2	1,206.8	545.8	505.0	40.78	13.382				
6,000.0	5,895.5	5,958.7	5,831.1	21.5	23.2	83.27	-56.6	1,229.2	555.2	513.6	41.59	13.349				
6,100.0	5,993.4	6,058.3	5,928.1	21.9	23.6	83.38	-57.1	1,251.5	564.6	522.2	42.40	13.317				
6,200.0	6,091.2	6,157.8	6,025.1	22.3	24.1	83.49	-57.5	1,273.9	574.0	530.8	43.20	13.286				
6,300.0	6,189.1	6,257.4	6,122.1	22.7	24.5	83.60	-57.9	1,296.3	583.4	539.4	44.01	13.256				
6,400.0	6,287.0	6,356.9	6,219.1	23.1	24.9	83.71	-58.3	1,318.7	592.8	548.0	44.82	13.228				
6,500.0	6,384.9	6,456.5	6,316.1	23.5	25.4	83.81	-58.7	1,341.1	602.3	556.6	45.62	13.200				
6,600.0	6,482.7	6,556.0	6,413.1	23.9	25.8	83.91	-59.1	1,363.5	611.7	565.2	46.43	13.174				
6,700.0	6,580.6	6,655.6	6,510.1	24.3	26.3	84.00	-59.5	1,385.9	621.1	573.9	47.24	13.148				
6,800.0	6,678.5	6,755.1	6,607.1	24.7	26.7	84.10	-60.0	1,408.2	630.5	582.5	48.05	13.123				
6,900.0	6,776.4	6,854.7	6,704.1	25.1	27.1	84.19	-60.4	1,430.6	639.9	591.1	48.85	13.099				
7,000.0	6,874.2	6,954.2	6,801.1	25.5	27.6	84.27	-60.8	1,453.0	649.4	599.7	49.66	13.076				
7,016.7	6,890.6	6,970.9	6,817.3	25.6	27.6	84.29	-60.9	1,456.7	650.9	601.1	49.79	13.072				
7,050.0	6,923.2	7,004.1	6,849.7	25.7	27.8	68.41	-61.0	1,464.2	653.2	603.1	50.11	13.035				
7,100.0	6,972.3	7,054.0	6,898.3	25.9	28.0	42.84	-61.2	1,475.4	653.5	603.3	50.23	13.010				
7,150.0	7,021.1	7,103.7	6,946.7	26.0	28.2	22.44	-61.4	1,486.6	650.0	600.1	49.91	13.022				
7,200.0	7,069.3	7,152.8	6,994.5	26.1	28.4	8.62	-61.6	1,497.6	642.8	593.6	49.16	13.075				
7,250.0	7,116.5	7,200.8	7,041.4	26.2	28.6	-0.93	-61.8	1,508.4	631.9	584.0	47.96	13.175				
7,300.0	7,162.3	7,247.5	7,086.9	26.2	28.8	-8.17	-62.0	1,518.9	617.6	571.3	46.33	13.330				
7,350.0	7,206.4	7,292.5	7,130.7	26.3	29.0	-14.28	-62.2	1,529.1	600.2	555.9	44.29	13.552				
7,400.0	7,248.4	7,335.4	7,172.5	26.3	29.2	-19.92	-62.4	1,538.7	579.8	537.9	41.86	13.852				
7,450.0	7,288.1	7,496.2	7,327.5	26.3	29.9	-34.07	-62.4	1,574.4	553.1	515.7	37.38	14.799				
7,500.0	7,325.1	7,589.2	7,412.6	26.3	30.3	-49.49	-10.8	1,593.8	519.5	486.9	32.64	15.916				
7,550.0	7,359.2	7,632.6	7,450.4	26.3	30.4	-61.53	8.6	1,602.5	484.6	455.0	29.58	16.385				
7,600.0	7,390.0	7,651.2	7,466.2	26.3	30.5	-69.97	17.9	1,606.1	450.9	422.8	28.10	16.048				
7,650.0	7,417.4	7,656.2	7,470.4	26.3	30.5	-75.50	20.5	1,607.0	419.9	392.4	27.45	15.294				
7,700.0	7,441.2	7,653.1	7,467.8	26.3	30.5	-78.82	18.9	1,606.4	392.6	365.4	27.18	14.444				
7,750.0	7,461.1	7,644.8	7,460.8	26.3	30.5	-80.40	14.7	1,604.8	370.1	343.0	27.08	13.667				
7,800.0	7,477.0	7,633.0	7,450.8	26.3	30.5	-80.57	8.9	1,602.5	353.2	326.2	27.06	13.051				
7,850.0	7,488.8	7,618.7	7,438.5	26.4	30.4	-79.56	2.1	1,599.7	342.6	315.5	27.09	12.645				
7,900.0	7,496.5	7,602.5	7,424.4	26.4	30.3	-77.52	-5.1	1,596.5	338.5	311.3	27.14	12.472				
7,906.7	7,497.2	7,600.3	7,422.4	26.4	30.3	-77.18	-6.1	1,596.1	338.4	311.3	27.15	12.465 SF				
7,950.0	7,499.8	7,585.0	7,408.9	26.5	30.3	-74.59	-12.5	1,593.0	340.7	313.6	27.19	12.534				
7,964.3	7,500.0	7,579.8	7,404.3	26.5	30.2	-73.60	-14.6	1,591.9	342.5	315.3	27.20	12.592				
8,000.0	7,500.0	7,567.3	7,393.1	26.6	30.2	-71.67	-19.5	1,589.4	349.0	321.8	27.24	12.811				
8,100.0	7,500.0	7,538.3	7,366.6	26.8	30.1	-67.17	-29.8	1,583.3	382.7	355.3	27.44	13.946				
8,200.0	7,500.0	7,515.7	7,345.8	27.2	30.0	-63.69	-36.9	1,578.6	435.2	407.4	27.77	15.673				
8,300.0	7,500.0	7,500.0	7,331.0	27.7	29.9	-61.30	-41.4	1,575.2	501.1	472.9	28.25	17.738				
8,400.0	7,500.0	7,483.1	7,315.2	28.3	29.9	-58.78	-45.6	1,571.5	576.2	547.4	28.76	20.034				
8,500.0	7,500.0	7,471.0	7,303.7	29.0	29.8	-57.00	-48.4	1,568.9	657.4	628.0	29.40	22.362				
8,600.0	7,500.0	7,450.0	7,283.6	29.8	29.7	-53.99	-52.7	1,564.3	743.1	713.3	29.82	24.920				
8,700.0	7,500.0	7,450.0	7,283.6	30.6	29.7	-53.99	-52.7	1,564.3	831.5	800.6	30.82	26.977				
8,800.0	7,500.0	7,450.0	7,283.6	31.5	29.7	-53.99	-52.7	1,564.3	922.2	890.3	31.88	28.931				

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2G-7H-E168 - Hz - Plan #2										Offset Site Error:		0.0 ft	
Survey Program: 0-Geolink 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	7,500.0	7,450.0	7,283.6	32.5	29.7	-53.99	-52.7	1,564.3	1,014.7	981.7	32.97	30.772	
9,000.0	7,500.0	7,432.3	7,266.6	33.6	29.6	-51.54	-55.6	1,560.4	1,108.0	1,074.6	33.47	33.109	
9,100.0	7,500.0	7,427.2	7,261.7	34.7	29.6	-50.85	-56.4	1,559.3	1,202.6	1,168.2	34.39	34.965	
9,200.0	7,500.0	7,422.7	7,257.3	35.9	29.6	-50.24	-57.0	1,558.3	1,297.9	1,262.5	35.35	36.720	
9,300.0	7,500.0	7,418.6	7,253.4	37.1	29.6	-49.70	-57.6	1,557.3	1,393.8	1,357.5	36.32	38.377	
9,400.0	7,500.0	7,400.0	7,235.4	38.3	29.5	-47.28	-59.7	1,553.2	1,490.5	1,453.9	36.61	40.715	
9,500.0	7,500.0	7,400.0	7,235.4	39.6	29.5	-47.28	-59.7	1,553.2	1,587.2	1,549.5	37.74	42.055	
9,600.0	7,500.0	7,400.0	7,235.4	41.0	29.5	-47.28	-59.7	1,553.2	1,684.3	1,645.4	38.89	43.310	
9,700.0	7,500.0	7,400.0	7,235.4	42.3	29.5	-47.28	-59.7	1,553.2	1,781.8	1,741.7	40.05	44.488	
9,800.0	7,500.0	7,400.0	7,235.4	43.7	29.5	-47.28	-59.7	1,553.2	1,879.5	1,838.2	41.22	45.593	
9,900.0	7,500.0	7,400.0	7,235.4	45.1	29.5	-47.28	-59.7	1,553.2	1,977.4	1,935.0	42.41	46.631	
10,000.0	7,500.0	7,400.0	7,235.4	46.6	29.5	-47.28	-59.7	1,553.2	2,075.5	2,031.9	43.60	47.608	
10,100.0	7,500.0	7,400.0	7,235.4	48.0	29.5	-47.28	-59.7	1,553.2	2,173.8	2,129.0	44.79	48.528	
10,200.0	7,500.0	7,400.0	7,235.4	49.5	29.5	-47.28	-59.7	1,553.2	2,272.3	2,226.3	46.00	49.396	
10,300.0	7,500.0	7,400.0	7,235.4	51.0	29.5	-47.28	-59.7	1,553.2	2,370.8	2,323.6	47.21	50.216	
10,400.0	7,500.0	7,400.0	7,235.4	52.5	29.5	-47.28	-59.7	1,553.2	2,469.5	2,421.1	48.43	50.991	
10,500.0	7,500.0	7,400.0	7,235.4	54.0	29.5	-47.28	-59.7	1,553.2	2,568.3	2,518.7	49.65	51.725	
10,600.0	7,500.0	7,400.0	7,235.4	55.6	29.5	-47.28	-59.7	1,553.2	2,667.2	2,616.3	50.88	52.420	
10,700.0	7,500.0	7,400.0	7,235.4	57.1	29.5	-47.28	-59.7	1,553.2	2,766.2	2,714.1	52.11	53.080	
10,800.0	7,500.0	7,400.0	7,235.4	58.7	29.5	-47.28	-59.7	1,553.2	2,865.2	2,811.9	53.35	53.707	
10,900.0	7,500.0	7,400.0	7,235.4	60.3	29.5	-47.28	-59.7	1,553.2	2,964.3	2,909.7	54.59	54.303	
11,000.0	7,500.0	7,400.0	7,235.4	61.9	29.5	-47.28	-59.7	1,553.2	3,063.5	3,007.6	55.83	54.870	
11,100.0	7,500.0	7,400.0	7,235.4	63.5	29.5	-47.28	-59.7	1,553.2	3,162.7	3,105.6	57.08	55.411	
11,200.0	7,500.0	7,400.0	7,235.4	65.1	29.5	-47.28	-59.7	1,553.2	3,261.9	3,203.6	58.33	55.927	
11,300.0	7,500.0	7,400.0	7,235.4	66.7	29.5	-47.28	-59.7	1,553.2	3,361.2	3,301.7	59.58	56.420	
11,400.0	7,500.0	7,400.0	7,235.4	68.3	29.5	-47.28	-59.7	1,553.2	3,460.6	3,399.8	60.83	56.890	
11,500.0	7,500.0	7,400.0	7,235.4	69.9	29.5	-47.28	-59.7	1,553.2	3,560.0	3,497.9	62.08	57.341	
11,600.0	7,500.0	7,378.1	7,214.1	71.5	29.4	-44.57	-61.4	1,548.3	3,658.9	3,597.8	61.08	59.900	
11,700.0	7,500.0	7,377.3	7,213.3	73.2	29.4	-44.48	-61.5	1,548.1	3,758.3	3,696.1	62.20	60.419	
11,800.0	7,500.0	7,376.5	7,212.6	74.8	29.4	-44.39	-61.5	1,547.9	3,857.8	3,794.4	63.33	60.919	
11,900.0	7,500.0	7,375.8	7,211.9	76.5	29.4	-44.30	-61.5	1,547.8	3,957.2	3,892.8	64.45	61.401	
12,000.0	7,500.0	7,375.1	7,211.2	78.1	29.4	-44.22	-61.6	1,547.6	4,056.7	3,991.1	65.57	61.866	
12,100.0	7,500.0	7,374.5	7,210.6	79.8	29.4	-44.14	-61.6	1,547.5	4,156.2	4,089.5	66.70	62.314	
12,200.0	7,500.0	7,373.8	7,210.0	81.4	29.4	-44.07	-61.6	1,547.3	4,255.8	4,187.9	67.83	62.746	
12,300.0	7,500.0	7,373.2	7,209.4	83.1	29.4	-44.00	-61.7	1,547.2	4,355.3	4,286.4	68.95	63.163	
12,400.0	7,500.0	7,372.7	7,208.8	84.8	29.4	-43.93	-61.7	1,547.1	4,454.9	4,384.8	70.08	63.567	
12,500.0	7,500.0	7,350.0	7,186.7	86.4	29.3	-41.32	-62.4	1,542.0	4,555.0	4,486.5	68.48	66.518	
12,600.0	7,500.0	7,350.0	7,186.7	88.1	29.3	-41.32	-62.4	1,542.0	4,654.6	4,585.0	69.62	66.856	
12,700.0	7,500.0	7,350.0	7,186.7	89.8	29.3	-41.32	-62.4	1,542.0	4,754.2	4,683.4	70.76	67.183	
12,800.0	7,500.0	7,350.0	7,186.7	91.5	29.3	-41.32	-62.4	1,542.0	4,853.8	4,781.9	71.91	67.499	
12,900.0	7,500.0	7,350.0	7,186.7	93.2	29.3	-41.32	-62.4	1,542.0	4,953.4	4,880.4	73.05	67.804	
13,000.0	7,500.0	7,350.0	7,186.7	94.8	29.3	-41.32	-62.4	1,542.0	5,053.1	4,978.9	74.20	68.100	
13,100.0	7,500.0	7,350.0	7,186.7	96.5	29.3	-41.32	-62.4	1,542.0	5,152.8	5,077.4	75.35	68.386	
13,200.0	7,500.0	7,350.0	7,186.7	98.2	29.3	-41.32	-62.4	1,542.0	5,252.4	5,175.9	76.50	68.663	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2H-7H-E168 - Hz - Plan #3														Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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		
0.0	0.0	0.0	0.0	0.0	0.0	90.23	-0.4	89.8	89.8						
100.0	100.0	100.0	100.0	0.2	0.2	90.23	-0.4	89.8	89.8	89.5	0.30	295.837			
200.0	200.0	200.0	200.0	0.3	0.3	90.23	-0.4	89.8	89.8	89.2	0.65	137.636 CC, ES			
300.0	300.0	298.4	298.4	0.5	0.5	90.25	-0.4	90.7	90.7	89.7	1.00	90.711			
400.0	400.0	396.9	396.8	0.7	0.7	24.36	-0.5	93.2	92.5	91.1	1.35	68.735			
500.0	500.0	495.2	495.1	0.9	0.9	25.05	-0.6	97.4	94.4	92.7	1.69	55.781			
600.0	599.9	593.6	593.2	1.0	1.1	26.16	-0.8	103.3	96.5	94.4	2.04	47.282			
700.0	699.7	691.8	691.2	1.2	1.3	27.64	-1.0	110.9	98.8	96.4	2.39	41.298			
800.0	799.4	790.0	789.0	1.4	1.5	29.47	-1.3	120.2	101.3	98.5	2.75	36.869			
900.0	898.9	888.2	886.5	1.7	1.7	31.60	-1.7	131.1	104.1	101.0	3.11	33.464			
1,000.0	998.3	986.2	983.7	1.9	2.0	33.99	-2.1	143.7	107.4	103.9	3.49	30.759			
1,100.0	1,097.4	1,084.2	1,080.7	2.2	2.3	36.59	-2.5	157.9	111.1	107.2	3.89	28.544			
1,200.0	1,196.3	1,182.0	1,177.2	2.5	2.6	39.34	-3.0	173.8	115.3	111.0	4.32	26.677			
1,300.0	1,294.9	1,279.8	1,273.4	2.8	3.0	42.21	-3.5	191.2	120.1	115.3	4.79	25.061			
1,400.0	1,393.3	1,377.5	1,369.2	3.2	3.3	45.13	-4.1	210.3	125.6	120.3	5.31	23.631			
1,484.0	1,475.6	1,459.4	1,449.3	3.5	3.6	47.60	-4.7	227.6	130.8	125.0	5.80	22.545			
1,500.0	1,491.3	1,475.0	1,464.5	3.5	3.7	48.07	-4.8	231.0	131.8	125.9	5.90	22.356			
1,600.0	1,589.1	1,572.4	1,559.3	3.9	4.1	50.66	-5.5	253.3	139.5	133.0	6.52	21.398			
1,700.0	1,687.0	1,669.6	1,653.6	4.3	4.6	52.68	-6.2	277.2	148.9	141.8	7.17	20.783			
1,800.0	1,784.9	1,766.6	1,747.2	4.7	5.1	54.16	-7.0	302.6	160.0	152.2	7.83	20.439			
1,900.0	1,882.7	1,863.4	1,840.1	5.1	5.6	55.18	-7.9	329.5	172.7	164.2	8.50	20.313 SF			
2,000.0	1,980.6	1,959.7	1,932.2	5.4	6.1	55.80	-8.8	357.8	186.8	177.6	9.17	20.364			
2,100.0	2,078.5	2,056.7	2,024.4	5.8	6.6	56.10	-9.7	387.8	202.2	192.4	9.84	20.552			
2,200.0	2,176.4	2,155.5	2,118.2	6.2	7.2	56.32	-10.7	418.7	218.0	207.5	10.52	20.727			
2,300.0	2,274.2	2,254.2	2,212.0	6.6	7.8	56.50	-11.7	449.6	233.7	222.5	11.20	20.873			
2,400.0	2,372.1	2,353.0	2,305.8	7.0	8.4	56.67	-12.6	480.4	249.5	237.6	11.88	20.995			
2,500.0	2,470.0	2,451.7	2,399.6	7.4	8.9	56.81	-13.6	511.3	265.3	252.7	12.57	21.099			
2,600.0	2,567.8	2,550.5	2,493.4	7.8	9.5	56.94	-14.6	542.2	281.0	267.8	13.27	21.187			
2,700.0	2,665.7	2,649.2	2,587.2	8.2	10.1	57.05	-15.5	573.1	296.8	282.9	13.96	21.263			
2,800.0	2,763.6	2,748.0	2,681.0	8.6	10.7	57.16	-16.5	603.9	312.6	297.9	14.66	21.328			
2,900.0	2,861.5	2,846.7	2,774.8	9.0	11.3	57.25	-17.5	634.8	328.4	313.0	15.35	21.385			
3,000.0	2,959.3	2,945.5	2,868.6	9.4	11.8	57.33	-18.4	665.7	344.1	328.1	16.05	21.436			
3,100.0	3,057.2	3,044.2	2,962.4	9.8	12.4	57.41	-19.4	696.5	359.9	343.2	16.76	21.480			
3,200.0	3,155.1	3,142.9	3,056.1	10.2	13.0	57.48	-20.4	727.4	375.7	358.2	17.46	21.519			
3,300.0	3,253.0	3,241.7	3,149.9	10.6	13.6	57.55	-21.3	758.3	391.5	373.3	18.16	21.554			
3,400.0	3,350.8	3,340.4	3,243.7	11.0	14.2	57.61	-22.3	789.2	407.3	388.4	18.87	21.585			
3,500.0	3,448.7	3,439.2	3,337.5	11.4	14.8	57.66	-23.3	820.0	423.0	403.5	19.57	21.613			
3,600.0	3,546.6	3,537.9	3,431.3	11.8	15.3	57.71	-24.3	850.9	438.8	418.5	20.28	21.639			
3,700.0	3,644.4	3,636.7	3,525.1	12.2	15.9	57.76	-25.2	881.8	454.6	433.6	20.99	21.662			
3,800.0	3,742.3	3,735.4	3,618.9	12.6	16.5	57.81	-26.2	912.6	470.4	448.7	21.69	21.683			
3,900.0	3,840.2	3,834.2	3,712.7	13.0	17.1	57.85	-27.2	943.5	486.1	463.7	22.40	21.702			
4,000.0	3,938.1	3,932.9	3,806.5	13.4	17.7	57.89	-28.1	974.4	501.9	478.8	23.11	21.719			
4,100.0	4,035.9	4,031.7	3,900.3	13.8	18.3	57.92	-29.1	1,005.3	517.7	493.9	23.82	21.735			
4,200.0	4,133.8	4,130.4	3,994.1	14.2	18.9	57.96	-30.1	1,036.1	533.5	509.0	24.53	21.750			
4,300.0	4,231.7	4,229.2	4,087.9	14.6	19.5	57.99	-31.0	1,067.0	549.3	524.0	25.24	21.763			
4,400.0	4,329.5	4,327.9	4,181.6	15.0	20.0	58.02	-32.0	1,097.9	565.0	539.1	25.95	21.776			
4,500.0	4,427.4	4,426.7	4,275.4	15.4	20.6	58.05	-33.0	1,128.8	580.8	554.2	26.66	21.787			
4,600.0	4,525.3	4,525.4	4,369.2	15.8	21.2	58.08	-33.9	1,159.6	596.6	569.2	27.37	21.798			
4,700.0	4,623.2	4,624.1	4,463.0	16.2	21.8	58.10	-34.9	1,190.5	612.4	584.3	28.08	21.808			
4,800.0	4,721.0	4,722.9	4,556.8	16.7	22.4	58.13	-35.9	1,221.4	628.2	599.4	28.79	21.817			
4,900.0	4,818.9	4,821.6	4,650.6	17.1	23.0	58.15	-36.9	1,252.2	643.9	614.4	29.50	21.826			
5,000.0	4,916.8	4,920.4	4,744.4	17.5	23.6	58.18	-37.8	1,283.1	659.7	629.5	30.22	21.834			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2H-7H-E168 - Hz - Plan #3												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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
5,100.0	5,014.7	5,019.1	4,838.2	17.9	24.2	58.20	-38.8	1,314.0	675.5	644.6	30.93	21.842	
5,200.0	5,112.5	5,117.9	4,932.0	18.3	24.8	58.22	-39.8	1,344.9	691.3	659.7	31.64	21.849	
5,300.0	5,210.4	5,216.6	5,025.8	18.7	25.3	58.24	-40.7	1,375.7	707.1	674.7	32.35	21.856	
5,400.0	5,308.3	5,315.4	5,119.6	19.1	25.9	58.26	-41.7	1,406.6	722.9	689.8	33.06	21.862	
5,500.0	5,406.1	5,414.1	5,213.4	19.5	26.5	58.27	-42.7	1,437.5	738.6	704.9	33.78	21.868	
5,600.0	5,504.0	5,512.9	5,307.1	19.9	27.1	58.29	-43.6	1,468.3	754.4	719.9	34.49	21.873	
5,700.0	5,601.9	5,611.6	5,400.9	20.3	27.7	58.31	-44.6	1,499.2	770.2	735.0	35.20	21.879	
5,800.0	5,699.8	5,710.4	5,494.7	20.7	28.3	58.32	-45.6	1,530.1	786.0	750.1	35.92	21.884	
5,900.0	5,797.6	5,809.1	5,588.5	21.1	28.9	58.34	-46.5	1,561.0	801.8	765.1	36.63	21.888	
6,000.0	5,895.5	5,907.9	5,682.3	21.5	29.5	58.35	-47.5	1,591.8	817.5	780.2	37.34	21.893	
6,100.0	5,993.4	6,006.6	5,776.1	21.9	30.1	58.37	-48.5	1,622.7	833.3	795.3	38.06	21.897	
6,200.0	6,091.2	6,105.3	5,869.9	22.3	30.6	58.38	-49.4	1,653.6	849.1	810.3	38.77	21.901	
6,300.0	6,189.1	6,204.1	5,963.7	22.7	31.2	58.39	-50.4	1,684.4	864.9	825.4	39.48	21.905	
6,400.0	6,287.0	6,302.8	6,057.5	23.1	31.8	58.41	-51.4	1,715.3	880.7	840.5	40.20	21.909	
6,500.0	6,384.9	6,401.6	6,151.3	23.5	32.4	58.42	-52.4	1,746.2	896.5	855.5	40.91	21.912	
6,600.0	6,482.7	6,500.3	6,245.1	23.9	33.0	58.43	-53.3	1,777.1	912.2	870.6	41.63	21.915	
6,700.0	6,580.6	6,599.1	6,338.9	24.3	33.6	58.44	-54.3	1,807.9	928.0	885.7	42.34	21.919	
6,800.0	6,678.5	6,697.8	6,432.6	24.7	34.2	58.45	-55.3	1,838.8	943.8	900.7	43.05	21.922	
6,900.0	6,776.4	6,796.6	6,526.4	25.1	34.8	58.46	-56.2	1,869.7	959.6	915.8	43.77	21.924	
7,000.0	6,874.2	6,895.3	6,620.2	25.5	35.4	58.47	-57.2	1,900.6	975.4	930.9	44.48	21.927	
7,016.7	6,890.6	6,911.8	6,635.9	25.6	35.5	58.47	-57.4	1,905.7	978.0	933.4	44.60	21.928	
7,050.0	6,923.2	6,944.8	6,667.2	25.7	35.7	42.84	-57.7	1,916.0	982.7	937.6	45.06	21.807	
7,100.0	6,972.3	6,994.3	6,714.3	25.9	36.0	17.61	-58.2	1,931.5	987.7	942.4	45.32	21.792	
7,150.0	7,021.1	7,043.7	6,761.1	26.0	36.2	-2.49	-58.7	1,946.9	990.2	945.1	45.07	21.968	
7,200.0	7,069.3	7,092.4	6,807.4	26.1	36.5	-16.01	-59.1	1,962.2	990.2	945.9	44.33	22.338	
7,250.0	7,116.5	7,140.2	6,852.8	26.2	36.8	-25.20	-59.6	1,977.1	988.0	944.8	43.13	22.906	
7,300.0	7,162.3	7,186.6	6,896.9	26.2	37.1	-31.99	-60.1	1,991.6	983.6	942.0	41.53	23.682	
7,350.0	7,206.4	7,230.5	6,940.0	26.3	37.4	-38.52	-60.6	2,006.1	979.2	938.6	40.03	24.458	
7,400.0	7,248.4	7,272.4	6,984.1	26.3	37.7	-45.05	-61.1	2,020.6	974.8	934.2	38.53	25.234	
7,450.0	7,288.1	7,312.1	7,028.2	26.3	38.0	-51.58	-61.6	2,035.1	970.4	929.8	37.03	26.010	
7,500.0	7,325.1	7,349.7	7,072.3	26.3	38.3	-58.11	-62.1	2,049.6	966.0	925.4	35.53	26.786	
7,550.0	7,359.2	7,383.2	7,116.4	26.3	38.6	-64.64	-62.6	2,064.1	961.6	921.0	34.03	27.562	
7,600.0	7,390.0	7,414.0	7,160.5	26.3	38.9	-71.17	-63.1	2,078.6	957.2	916.6	32.53	28.338	
7,650.0	7,417.4	7,441.4	7,204.6	26.3	39.2	-77.70	-63.6	2,093.1	952.8	912.2	31.03	29.114	
7,700.0	7,441.2	7,465.2	7,248.7	26.3	39.5	-84.23	-64.1	2,107.6	948.4	907.8	29.53	29.890	
7,750.0	7,461.1	7,485.1	7,292.8	26.3	39.8	-90.76	-64.6	2,122.1	944.0	903.4	28.03	30.666	
7,800.0	7,477.0	7,501.0	7,336.9	26.3	40.1	-97.29	-65.1	2,136.6	939.6	899.0	26.53	31.442	
7,827.1	7,483.9	7,507.9	7,343.8	26.3	40.2	-98.52	-65.2	2,138.7	938.7	898.1	26.44	31.531	
7,850.0	7,488.8	7,512.8	7,348.7	26.4	39.2	-75.47	56.3	2,103.6	866.7	839.5	27.21	31.853	
7,900.0	7,496.5	7,518.3	7,356.4	26.4	39.1	-73.91	41.2	2,098.4	868.6	841.4	27.17	31.968	
7,950.0	7,499.8	7,521.6	7,359.7	26.5	39.0	-72.13	27.1	2,093.0	872.2	845.0	27.17	32.103	
7,964.3	7,500.0	7,522.9	7,360.0	26.5	39.0	-71.58	23.2	2,091.4	873.6	846.4	27.18	32.136	
8,000.0	7,500.0	7,527.9	7,363.3	26.6	38.9	-70.60	14.4	2,087.5	877.6	850.3	27.25	32.207	
8,100.0	7,500.0	7,487.5	7,176.3	26.8	38.7	-68.25	-4.3	2,077.9	894.8	867.3	27.56	32.469	
8,200.0	7,500.0	7,450.0	7,143.3	27.2	38.5	-66.02	-19.3	2,068.6	921.0	893.0	28.00	32.887	
8,300.0	7,500.0	7,431.4	7,126.6	27.7	38.4	-64.90	-25.9	2,063.7	955.7	927.1	28.66	33.342	
8,400.0	7,500.0	7,411.4	7,108.5	28.3	38.3	-63.69	-32.4	2,058.4	998.6	969.2	29.41	33.959	
8,500.0	7,500.0	7,400.0	7,098.0	29.0	38.3	-62.99	-35.8	2,055.3	1,048.8	1,018.5	30.29	34.628	
8,600.0	7,500.0	7,381.1	7,080.7	29.8	38.2	-61.84	-41.0	2,050.1	1,105.3	1,074.1	31.16	35.467	
8,700.0	7,500.0	7,369.5	7,069.8	30.6	38.1	-61.13	-43.9	2,046.8	1,167.4	1,135.3	32.15	36.312	
8,800.0	7,500.0	7,350.0	7,051.7	31.5	38.0	-59.94	-48.2	2,041.3	1,234.4	1,201.3	33.08	37.315	
8,900.0	7,500.0	7,350.0	7,051.7	32.5	38.0	-59.94	-48.2	2,041.3	1,305.2	1,271.0	34.27	38.092	

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Becky 2H-7H-E168 - Hz - Plan #3												Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	
9,000.0	7,500.0	7,350.0	7,051.7	33.6	38.0	-59.94	-48.2	2,041.3	1,379.7	1,344.2	35.49	38.876	
9,100.0	7,500.0	7,350.0	7,051.7	34.7	38.0	-59.94	-48.2	2,041.3	1,457.3	1,420.5	36.75	39.654	
9,200.0	7,500.0	7,330.5	7,033.3	35.9	37.9	-58.75	-51.9	2,035.6	1,537.0	1,499.3	37.74	40.730	
9,300.0	7,500.0	7,325.1	7,028.3	37.1	37.9	-58.43	-52.8	2,034.0	1,619.2	1,580.2	38.94	41.577	
9,400.0	7,500.0	7,320.3	7,023.8	38.3	37.9	-58.13	-53.5	2,032.6	1,703.1	1,663.0	40.17	42.399	
9,500.0	7,500.0	7,300.0	7,004.6	39.6	37.8	-56.90	-56.3	2,026.6	1,789.0	1,747.9	41.11	43.519	
9,600.0	7,500.0	7,300.0	7,004.6	41.0	37.8	-56.90	-56.3	2,026.6	1,875.9	1,833.4	42.43	44.212	
9,700.0	7,500.0	7,300.0	7,004.6	42.3	37.8	-56.90	-56.3	2,026.6	1,964.0	1,920.2	43.76	44.878	
9,800.0	7,500.0	7,300.0	7,004.6	43.7	37.8	-56.90	-56.3	2,026.6	2,053.2	2,008.1	45.11	45.516	
9,900.0	7,500.0	7,300.0	7,004.6	45.1	37.8	-56.90	-56.3	2,026.6	2,143.4	2,096.9	46.47	46.128	
10,000.0	7,500.0	7,300.0	7,004.6	46.6	37.8	-56.90	-56.3	2,026.6	2,234.4	2,186.5	47.83	46.713	
10,100.0	7,500.0	7,300.0	7,004.6	48.0	37.8	-56.90	-56.3	2,026.6	2,326.1	2,276.9	49.21	47.272	
10,200.0	7,500.0	7,300.0	7,004.6	49.5	37.8	-56.90	-56.3	2,026.6	2,418.5	2,367.9	50.59	47.808	
10,300.0	7,500.0	7,300.0	7,004.6	51.0	37.8	-56.90	-56.3	2,026.6	2,511.5	2,459.5	51.98	48.320	
10,400.0	7,500.0	7,300.0	7,004.6	52.5	37.8	-56.90	-56.3	2,026.6	2,605.0	2,551.6	53.37	48.809	
10,500.0	7,500.0	7,300.0	7,004.6	54.0	37.8	-56.90	-56.3	2,026.6	2,698.9	2,644.2	54.77	49.277	
10,600.0	7,500.0	7,300.0	7,004.6	55.6	37.8	-56.90	-56.3	2,026.6	2,793.3	2,737.1	56.17	49.725	
10,700.0	7,500.0	7,300.0	7,004.6	57.1	37.8	-56.90	-56.3	2,026.6	2,888.1	2,830.5	57.58	50.154	
10,800.0	7,500.0	7,300.0	7,004.6	58.7	37.8	-56.90	-56.3	2,026.6	2,983.2	2,924.2	59.00	50.565	
10,900.0	7,500.0	7,300.0	7,004.6	60.3	37.8	-56.90	-56.3	2,026.6	3,078.6	3,018.2	60.41	50.959	
11,000.0	7,500.0	7,300.0	7,004.6	61.9	37.8	-56.90	-56.3	2,026.6	3,174.3	3,112.5	61.83	51.337	
11,100.0	7,500.0	7,278.8	6,984.5	63.5	37.6	-55.63	-58.5	2,020.2	3,269.8	3,207.3	62.50	52.315	
11,200.0	7,500.0	7,277.5	6,983.3	65.1	37.6	-55.55	-58.6	2,019.8	3,365.9	3,302.1	63.86	52.708	
11,300.0	7,500.0	7,276.3	6,982.2	66.7	37.6	-55.48	-58.7	2,019.5	3,462.3	3,397.1	65.22	53.087	
11,400.0	7,500.0	7,275.2	6,981.1	68.3	37.6	-55.41	-58.8	2,019.1	3,558.9	3,492.3	66.58	53.451	
11,500.0	7,500.0	7,274.1	6,980.0	69.9	37.6	-55.35	-58.9	2,018.8	3,655.6	3,587.6	67.95	53.802	
11,600.0	7,500.0	7,273.1	6,979.0	71.5	37.6	-55.28	-58.9	2,018.5	3,752.5	3,683.2	69.31	54.140	
11,700.0	7,500.0	7,272.1	6,978.1	73.2	37.6	-55.22	-59.0	2,018.2	3,849.5	3,778.9	70.68	54.466	
11,800.0	7,500.0	7,250.0	6,957.1	74.8	37.5	-53.91	-60.2	2,011.4	3,947.2	3,876.1	71.12	55.501	
11,900.0	7,500.0	7,250.0	6,957.1	76.5	37.5	-53.91	-60.2	2,011.4	4,044.5	3,972.0	72.51	55.780	
12,000.0	7,500.0	7,250.0	6,957.1	78.1	37.5	-53.91	-60.2	2,011.4	4,141.9	4,068.0	73.90	56.048	
12,100.0	7,500.0	7,250.0	6,957.1	79.8	37.5	-53.91	-60.2	2,011.4	4,239.5	4,164.2	75.29	56.308	
12,200.0	7,500.0	7,250.0	6,957.1	81.4	37.5	-53.91	-60.2	2,011.4	4,337.1	4,260.4	76.68	56.559	
12,300.0	7,500.0	7,250.0	6,957.1	83.1	37.5	-53.91	-60.2	2,011.4	4,434.9	4,356.8	78.08	56.801	
12,400.0	7,500.0	7,250.0	6,957.1	84.8	37.5	-53.91	-60.2	2,011.4	4,532.8	4,453.3	79.47	57.035	
12,500.0	7,500.0	7,250.0	6,957.1	86.4	37.5	-53.91	-60.2	2,011.4	4,630.7	4,549.8	80.87	57.261	
12,600.0	7,500.0	7,250.0	6,957.1	88.1	37.5	-53.91	-60.2	2,011.4	4,728.8	4,646.5	82.27	57.480	
12,700.0	7,500.0	7,250.0	6,957.1	89.8	37.5	-53.91	-60.2	2,011.4	4,826.9	4,743.2	83.67	57.692	
12,800.0	7,500.0	7,250.0	6,957.1	91.5	37.5	-53.91	-60.2	2,011.4	4,925.1	4,840.0	85.07	57.897	
12,900.0	7,500.0	7,250.0	6,957.1	93.2	37.5	-53.91	-60.2	2,011.4	5,023.3	4,936.9	86.47	58.096	
13,000.0	7,500.0	7,250.0	6,957.1	94.8	37.5	-53.91	-60.2	2,011.4	5,121.7	5,033.8	87.87	58.288	
13,100.0	7,500.0	7,250.0	6,957.1	96.5	37.5	-53.91	-60.2	2,011.4	5,220.1	5,130.8	89.27	58.475	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2A-7H-E168 - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	-89.96	0.4	-498.2	498.2					
100.0	100.0	100.0	100.0	0.2	0.2	-89.96	0.4	-498.2	498.2	497.9	0.30	1,640.454		
200.0	200.0	200.0	200.0	0.3	0.3	-89.96	0.4	-498.2	498.2	497.5	0.65	763.206 CC		
200.6	200.6	200.6	200.6	0.3	0.3	-89.96	0.4	-498.2	498.2	497.5	0.65	760.623		
300.0	300.0	300.0	300.0	0.5	0.5	-89.86	1.2	-498.2	498.2	497.2	1.00	497.219 ES		
400.0	400.0	399.9	399.9	0.7	0.7	-155.74	3.9	-498.2	499.0	497.6	1.36	367.749		
500.0	500.0	499.7	499.6	0.9	0.9	-155.35	8.2	-498.2	501.4	499.7	1.72	291.655		
600.0	599.9	599.4	599.1	1.0	1.1	-154.85	14.3	-498.2	505.5	503.4	2.09	241.427		
700.0	699.7	699.1	698.5	1.2	1.3	-154.29	21.7	-498.2	511.2	508.7	2.48	206.334		
800.0	799.4	798.7	797.8	1.4	1.5	-153.80	29.2	-498.2	518.5	515.7	2.87	180.855		
900.0	898.9	898.3	897.1	1.7	1.7	-153.40	36.7	-498.2	527.4	524.2	3.26	161.705		
1,000.0	998.3	997.7	996.2	1.9	1.9	-153.09	44.2	-498.2	537.9	534.3	3.66	146.913		
1,100.0	1,097.4	1,096.9	1,095.2	2.2	2.1	-152.86	51.7	-498.2	550.0	545.9	4.07	135.241		
1,200.0	1,196.3	1,196.0	1,194.0	2.5	2.3	-152.72	59.2	-498.2	563.5	559.1	4.48	125.875		
1,300.0	1,294.9	1,294.9	1,292.6	2.8	2.5	-152.65	66.6	-498.2	578.7	573.8	4.89	118.263		
1,400.0	1,393.3	1,393.5	1,390.9	3.2	2.8	-152.66	74.1	-498.2	595.3	590.0	5.31	112.015		
1,484.0	1,475.6	1,476.1	1,473.3	3.5	2.9	-152.71	80.3	-498.2	610.5	604.8	5.67	107.618		
1,500.0	1,491.3	1,491.8	1,488.9	3.5	3.0	-152.74	81.5	-498.2	613.5	607.7	5.74	106.840		
1,600.0	1,589.1	1,590.0	1,586.9	3.9	3.2	-152.91	88.9	-498.2	632.2	626.0	6.18	102.342		
1,700.0	1,687.0	1,688.2	1,684.8	4.3	3.4	-153.07	96.3	-498.2	650.9	644.2	6.61	98.418		
1,800.0	1,784.9	1,786.4	1,782.7	4.7	3.6	-153.22	103.7	-498.2	669.6	662.5	7.05	94.968		
1,900.0	1,882.7	1,884.7	1,880.7	5.1	3.8	-153.36	111.1	-498.2	688.3	680.8	7.49	91.914		
2,000.0	1,980.6	1,982.9	1,978.6	5.4	4.0	-153.50	118.5	-498.2	707.0	699.1	7.93	89.192		
2,100.0	2,078.5	2,081.1	2,076.6	5.8	4.3	-153.63	126.0	-498.2	725.7	717.4	8.37	86.754		
2,200.0	2,176.4	2,179.3	2,174.5	6.2	4.5	-153.75	133.4	-498.2	744.4	735.6	8.80	84.558		
2,300.0	2,274.2	2,277.5	2,272.4	6.6	4.7	-153.86	140.8	-498.2	763.2	753.9	9.24	82.569		
2,400.0	2,372.1	2,375.8	2,370.4	7.0	4.9	-153.97	148.2	-498.2	781.9	772.2	9.68	80.762		
2,500.0	2,470.0	2,474.0	2,468.3	7.4	5.1	-154.08	155.6	-498.2	800.6	790.5	10.12	79.111		
2,600.0	2,567.8	2,572.2	2,566.3	7.8	5.3	-154.18	163.0	-498.2	819.4	808.8	10.56	77.598		
2,700.0	2,665.7	2,670.4	2,664.2	8.2	5.5	-154.28	170.4	-498.2	838.1	827.1	11.00	76.207		
2,800.0	2,763.6	2,768.6	2,762.1	8.6	5.8	-154.37	177.8	-498.2	856.8	845.4	11.44	74.924		
2,900.0	2,861.5	2,866.8	2,860.1	9.0	6.0	-154.45	185.2	-498.2	875.6	863.7	11.87	73.736		
3,000.0	2,959.3	2,965.1	2,958.0	9.4	6.2	-154.54	192.6	-498.2	894.3	882.0	12.31	72.634		
3,100.0	3,057.2	3,063.3	3,055.9	9.8	6.4	-154.62	200.0	-498.2	913.1	900.3	12.75	71.608		
3,200.0	3,155.1	3,161.5	3,153.9	10.2	6.6	-154.70	207.5	-498.2	931.8	918.6	13.19	70.652		
3,300.0	3,253.0	3,259.7	3,251.8	10.6	6.8	-154.77	214.9	-498.2	950.6	936.9	13.63	69.758		
3,400.0	3,350.8	3,357.9	3,349.8	11.0	7.0	-154.84	222.3	-498.2	969.3	955.3	14.06	68.920		
3,500.0	3,448.7	3,456.2	3,447.7	11.4	7.3	-154.91	229.7	-498.2	988.1	973.6	14.50	68.134		
3,600.0	3,546.6	3,554.4	3,545.6	11.8	7.5	-154.98	237.1	-498.2	1,006.8	991.9	14.94	67.394		
3,700.0	3,644.4	3,652.6	3,643.6	12.2	7.7	-155.04	244.5	-498.2	1,025.6	1,010.2	15.38	66.697		
3,800.0	3,742.3	3,750.8	3,741.5	12.6	7.9	-155.10	251.9	-498.2	1,044.3	1,028.5	15.81	66.040		
3,900.0	3,840.2	3,849.0	3,839.5	13.0	8.1	-155.16	259.3	-498.2	1,063.1	1,046.8	16.25	65.418		
4,000.0	3,938.1	3,947.3	3,937.4	13.4	8.3	-155.22	266.7	-498.2	1,081.8	1,065.2	16.69	64.830		
4,100.0	4,035.9	4,045.5	4,035.3	13.8	8.5	-155.27	274.1	-498.2	1,100.6	1,083.5	17.12	64.272		
4,200.0	4,133.8	4,143.7	4,133.3	14.2	8.8	-155.33	281.5	-498.2	1,119.4	1,101.8	17.56	63.742		
4,300.0	4,231.7	4,241.9	4,231.2	14.6	9.0	-155.38	289.0	-498.2	1,138.1	1,120.1	18.00	63.238		
4,400.0	4,329.5	4,340.1	4,329.2	15.0	9.2	-155.43	296.4	-498.2	1,156.9	1,138.4	18.43	62.759		
4,500.0	4,427.4	4,438.4	4,427.1	15.4	9.4	-155.48	303.8	-498.2	1,175.6	1,156.8	18.87	62.302		
4,600.0	4,525.3	4,536.6	4,525.0	15.8	9.6	-155.52	311.2	-498.2	1,194.4	1,175.1	19.31	61.867		
4,700.0	4,623.2	4,634.8	4,623.0	16.2	9.8	-155.57	318.6	-498.2	1,213.2	1,193.4	19.74	61.451		
4,800.0	4,721.0	4,733.0	4,720.9	16.7	10.0	-155.61	326.0	-498.2	1,231.9	1,211.8	20.18	61.053		
4,900.0	4,818.9	4,831.2	4,818.9	17.1	10.3	-155.66	333.4	-498.2	1,250.7	1,230.1	20.61	60.672		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2A-7H-E168 - Hz - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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)			
5,000.0	4,916.8	4,929.5	4,916.8	17.5	10.5	-155.70	340.8	-498.2	1,269.5	1,248.4	21.05	60.308	
5,100.0	5,014.7	5,027.7	5,014.7	17.9	10.7	-155.74	348.2	-498.2	1,288.2	1,266.7	21.49	59.958	
5,200.0	5,112.5	5,125.9	5,112.7	18.3	10.9	-155.78	355.6	-498.2	1,307.0	1,285.1	21.92	59.623	
5,300.0	5,210.4	5,224.1	5,210.6	18.7	11.1	-155.81	363.1	-498.2	1,325.8	1,303.4	22.36	59.301	
5,400.0	5,308.3	5,322.3	5,308.6	19.1	11.3	-155.85	370.5	-498.2	1,344.5	1,321.7	22.79	58.992	
5,500.0	5,406.1	5,420.6	5,406.5	19.5	11.5	-155.89	377.9	-498.2	1,363.3	1,340.1	23.23	58.694	
5,600.0	5,504.0	5,518.8	5,504.4	19.9	11.8	-155.92	385.3	-498.2	1,382.1	1,358.4	23.66	58.408	
5,700.0	5,601.9	5,617.0	5,602.4	20.3	12.0	-155.96	392.7	-498.2	1,400.8	1,376.7	24.10	58.132	
5,800.0	5,699.8	5,715.2	5,700.3	20.7	12.2	-155.99	400.1	-498.2	1,419.6	1,395.1	24.53	57.866	
5,900.0	5,797.6	5,813.4	5,798.3	21.1	12.4	-156.02	407.5	-498.2	1,438.4	1,413.4	24.97	57.609	
6,000.0	5,895.5	5,911.7	5,896.2	21.5	12.6	-156.05	414.9	-498.2	1,457.1	1,431.7	25.40	57.362	
6,100.0	5,993.4	6,009.9	5,994.1	21.9	12.8	-156.08	422.3	-498.2	1,475.9	1,450.1	25.84	57.123	
6,200.0	6,091.2	6,108.1	6,092.1	22.3	13.0	-156.11	429.7	-498.2	1,494.7	1,468.4	26.27	56.892	
6,300.0	6,189.1	6,206.3	6,190.0	22.7	13.3	-156.14	437.1	-498.2	1,513.5	1,486.8	26.71	56.668	
6,400.0	6,287.0	6,304.5	6,288.0	23.1	13.5	-156.17	444.6	-498.2	1,532.2	1,505.1	27.14	56.452	
6,500.0	6,384.9	6,402.7	6,385.9	23.5	13.7	-156.20	452.0	-498.2	1,551.0	1,523.4	27.58	56.243	
6,600.0	6,482.7	6,501.0	6,483.8	23.9	13.9	-156.22	459.4	-498.2	1,569.8	1,541.8	28.01	56.041	
6,700.0	6,580.6	6,599.2	6,581.8	24.3	14.1	-156.25	466.8	-498.2	1,588.6	1,560.1	28.45	55.845	
6,800.0	6,678.5	6,697.4	6,679.7	24.7	14.3	-156.28	474.2	-498.2	1,607.3	1,578.4	28.88	55.654	
6,900.0	6,776.4	6,795.6	6,777.7	25.1	14.6	-156.30	481.6	-498.2	1,626.1	1,596.8	29.31	55.470	
7,000.0	6,874.2	6,893.8	6,875.6	25.5	14.8	-156.33	489.0	-498.2	1,644.9	1,615.1	29.75	55.291	
7,016.7	6,890.6	6,910.3	6,892.0	25.6	14.8	-156.33	490.2	-498.2	1,648.0	1,618.2	29.82	55.262	
7,050.0	6,923.2	6,942.9	6,924.6	25.7	14.9	-172.92	492.7	-498.2	1,654.3	1,624.4	29.82	55.477	
7,100.0	6,972.3	6,991.8	6,973.3	25.9	15.0	160.89	496.4	-498.2	1,663.6	1,633.8	29.80	55.817	
7,150.0	7,021.1	7,040.1	7,021.4	26.0	15.1	140.38	500.0	-498.2	1,672.9	1,643.2	29.79	56.155	
7,200.0	7,069.3	7,087.4	7,068.6	26.1	15.2	126.99	503.6	-498.2	1,682.2	1,652.4	29.78	56.491	
7,250.0	7,116.5	7,133.4	7,114.5	26.2	15.3	118.40	507.1	-498.2	1,691.4	1,661.7	29.76	56.829	
7,300.0	7,162.3	7,180.9	7,161.9	26.2	15.4	112.70	509.4	-498.2	1,700.6	1,670.9	29.72	57.221	
7,350.0	7,206.4	7,230.6	7,211.6	26.3	15.4	108.69	507.7	-498.2	1,709.8	1,680.1	29.63	57.700	
7,400.0	7,248.4	7,282.6	7,263.1	26.3	15.4	105.78	501.3	-498.2	1,718.8	1,689.3	29.50	58.265	
7,450.0	7,288.1	7,336.9	7,316.2	26.3	15.3	103.60	489.7	-498.2	1,727.5	1,698.2	29.32	58.912	
7,500.0	7,325.1	7,394.0	7,370.5	26.3	15.2	101.95	472.1	-498.2	1,735.9	1,706.8	29.11	59.638	
7,550.0	7,359.2	7,454.2	7,425.5	26.3	15.1	100.69	447.8	-498.2	1,744.0	1,715.1	28.86	60.436	
7,600.0	7,390.0	7,517.6	7,480.4	26.3	14.9	99.75	416.1	-498.2	1,751.5	1,722.9	28.58	61.293	
7,650.0	7,417.4	7,584.7	7,534.3	26.3	14.6	99.04	376.2	-498.2	1,758.4	1,730.1	28.28	62.172	
7,700.0	7,441.2	7,655.6	7,585.7	26.3	14.4	98.54	327.6	-498.2	1,764.6	1,736.6	28.00	63.028	
7,750.0	7,461.1	7,730.2	7,633.0	26.3	14.2	98.19	269.9	-498.2	1,770.0	1,742.2	27.75	63.781	
7,800.0	7,477.0	7,808.5	7,674.1	26.3	14.0	97.97	203.3	-498.2	1,774.4	1,746.8	27.58	64.335	
7,850.0	7,488.8	7,890.0	7,706.8	26.4	13.9	97.83	128.7	-498.2	1,777.7	1,750.2	27.54	64.561	
7,900.0	7,496.5	7,974.1	7,729.1	26.4	13.9	97.77	47.7	-498.2	1,780.0	1,752.3	27.66	64.349	
7,950.0	7,499.8	8,059.6	7,739.4	26.5	14.1	97.74	-37.1	-498.2	1,781.0	1,753.0	27.97	63.665	
7,964.3	7,500.0	8,084.3	7,740.0	26.5	14.2	97.74	-61.8	-498.2	1,781.0	1,752.9	28.10	63.383	
8,000.0	7,500.0	8,120.7	7,740.0	26.6	14.3	97.74	-98.2	-498.2	1,781.0	1,752.6	28.40	62.719	
8,100.0	7,500.0	8,220.7	7,740.0	26.8	14.9	97.74	-198.2	-498.2	1,781.0	1,751.6	29.44	60.488	
8,200.0	7,500.0	8,320.7	7,740.0	27.2	15.6	97.74	-298.2	-498.2	1,781.0	1,750.2	30.85	57.732	
8,300.0	7,500.0	8,420.7	7,740.0	27.7	16.4	97.74	-398.2	-498.2	1,781.0	1,748.5	32.57	54.688	
8,400.0	7,500.0	8,520.7	7,740.0	28.3	17.4	97.74	-498.2	-498.2	1,781.0	1,746.5	34.55	51.549	
8,500.0	7,500.0	8,620.7	7,740.0	29.0	18.5	97.74	-598.2	-498.2	1,781.0	1,744.3	36.76	48.456	
8,600.0	7,500.0	8,720.7	7,740.0	29.8	19.7	97.74	-698.2	-498.2	1,781.0	1,741.9	39.15	45.497	
8,700.0	7,500.0	8,820.7	7,740.0	30.6	21.0	97.74	-798.2	-498.2	1,781.0	1,739.3	41.69	42.721	
8,800.0	7,500.0	8,920.7	7,740.0	31.5	22.4	97.74	-898.2	-498.2	1,781.0	1,736.7	44.36	40.149	
8,900.0	7,500.0	9,020.7	7,740.0	32.5	23.8	97.74	-998.2	-498.2	1,781.0	1,733.9	47.14	37.784	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2A-7H-E168 - Hz - Plan #2												Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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	
9,000.0	7,500.0	9,120.7	7,740.0	33.6	25.2	97.74	-1,098.2	-498.2	1,781.0	1,731.0	50.00	35.621	
9,100.0	7,500.0	9,220.7	7,740.0	34.7	26.7	97.74	-1,198.2	-498.2	1,781.0	1,728.1	52.94	33.644	
9,200.0	7,500.0	9,320.7	7,740.0	35.9	28.2	97.74	-1,298.2	-498.2	1,781.0	1,725.1	55.94	31.840	
9,300.0	7,500.0	9,420.7	7,740.0	37.1	29.7	97.74	-1,398.2	-498.2	1,781.0	1,722.1	58.99	30.193	
9,400.0	7,500.0	9,520.7	7,740.0	38.3	31.3	97.74	-1,498.2	-498.2	1,781.0	1,719.0	62.08	28.688	
9,500.0	7,500.0	9,620.7	7,740.0	39.6	32.9	97.74	-1,598.2	-498.2	1,781.0	1,715.8	65.22	27.309	
9,600.0	7,500.0	9,720.7	7,740.0	41.0	34.5	97.74	-1,698.2	-498.2	1,781.0	1,712.7	68.39	26.044	
9,700.0	7,500.0	9,820.7	7,740.0	42.3	36.1	97.74	-1,798.2	-498.2	1,781.0	1,709.5	71.58	24.881	
9,800.0	7,500.0	9,920.7	7,740.0	43.7	37.7	97.74	-1,898.2	-498.2	1,781.0	1,706.2	74.80	23.810	
9,900.0	7,500.0	10,020.7	7,740.0	45.1	39.4	97.74	-1,998.2	-498.2	1,781.0	1,703.0	78.05	22.820	
10,000.0	7,500.0	10,120.7	7,740.0	46.6	41.0	97.74	-2,098.2	-498.2	1,781.1	1,699.7	81.31	21.905	
10,100.0	7,500.0	10,220.7	7,740.0	48.0	42.7	97.74	-2,198.2	-498.2	1,781.1	1,696.5	84.59	21.055	
10,200.0	7,500.0	10,320.7	7,740.0	49.5	44.3	97.74	-2,298.2	-498.2	1,781.1	1,693.2	87.88	20.266	
10,300.0	7,500.0	10,420.7	7,740.0	51.0	46.0	97.74	-2,398.2	-498.2	1,781.1	1,689.9	91.19	19.531	
10,400.0	7,500.0	10,520.7	7,740.0	52.5	47.7	97.74	-2,498.2	-498.2	1,781.1	1,686.5	94.51	18.845	
10,500.0	7,500.0	10,620.7	7,740.0	54.0	49.4	97.74	-2,598.2	-498.2	1,781.1	1,683.2	97.84	18.203	
10,600.0	7,500.0	10,720.7	7,740.0	55.6	51.0	97.74	-2,698.2	-498.2	1,781.1	1,679.9	101.18	17.602	
10,700.0	7,500.0	10,820.7	7,740.0	57.1	52.7	97.74	-2,798.2	-498.2	1,781.1	1,676.5	104.53	17.038	
10,800.0	7,500.0	10,920.7	7,740.0	58.7	54.4	97.74	-2,898.2	-498.2	1,781.1	1,673.2	107.89	16.508	
10,900.0	7,500.0	11,020.7	7,740.0	60.3	56.1	97.74	-2,998.2	-498.2	1,781.1	1,669.8	111.26	16.009	
11,000.0	7,500.0	11,120.7	7,740.0	61.9	57.8	97.74	-3,098.2	-498.2	1,781.1	1,666.4	114.63	15.538	
11,100.0	7,500.0	11,220.7	7,740.0	63.5	59.5	97.74	-3,198.2	-498.2	1,781.1	1,663.1	118.01	15.093	
11,200.0	7,500.0	11,320.7	7,740.0	65.1	61.2	97.74	-3,298.2	-498.3	1,781.1	1,659.7	121.39	14.672	
11,300.0	7,500.0	11,420.7	7,740.0	66.7	62.9	97.74	-3,398.2	-498.3	1,781.1	1,656.3	124.78	14.274	
11,400.0	7,500.0	11,520.7	7,740.0	68.3	64.7	97.74	-3,498.2	-498.3	1,781.1	1,652.9	128.17	13.896	
11,500.0	7,500.0	11,620.7	7,740.0	69.9	66.4	97.74	-3,598.2	-498.3	1,781.1	1,649.5	131.57	13.537	
11,600.0	7,500.0	11,720.7	7,740.0	71.5	68.1	97.74	-3,698.2	-498.3	1,781.1	1,646.1	134.97	13.196	
11,700.0	7,500.0	11,820.7	7,740.0	73.2	69.8	97.74	-3,798.2	-498.3	1,781.1	1,642.7	138.38	12.871	
11,800.0	7,500.0	11,920.7	7,740.0	74.8	71.5	97.74	-3,898.2	-498.3	1,781.1	1,639.3	141.79	12.562	
11,900.0	7,500.0	12,020.7	7,740.0	76.5	73.2	97.74	-3,998.2	-498.3	1,781.1	1,635.9	145.20	12.267	
12,000.0	7,500.0	12,120.7	7,740.0	78.1	75.0	97.74	-4,098.2	-498.3	1,781.1	1,632.5	148.61	11.985	
12,100.0	7,500.0	12,220.7	7,740.0	79.8	76.7	97.74	-4,198.2	-498.3	1,781.1	1,629.1	152.03	11.715	
12,200.0	7,500.0	12,320.7	7,740.0	81.4	78.4	97.74	-4,298.2	-498.3	1,781.1	1,625.6	155.45	11.458	
12,300.0	7,500.0	12,420.7	7,740.0	83.1	80.1	97.74	-4,398.2	-498.3	1,781.1	1,622.2	158.87	11.211	
12,400.0	7,500.0	12,520.7	7,740.0	84.8	81.9	97.74	-4,498.2	-498.3	1,781.1	1,618.8	162.30	10.974	
12,500.0	7,500.0	12,620.7	7,740.0	86.4	83.6	97.74	-4,598.2	-498.3	1,781.1	1,615.4	165.73	10.747	
12,600.0	7,500.0	12,720.7	7,740.0	88.1	85.3	97.74	-4,698.2	-498.3	1,781.1	1,611.9	169.15	10.529	
12,700.0	7,500.0	12,820.7	7,740.0	89.8	87.1	97.74	-4,798.2	-498.3	1,781.1	1,608.5	172.59	10.320	
12,800.0	7,500.0	12,920.7	7,740.0	91.5	88.8	97.74	-4,898.2	-498.3	1,781.1	1,605.1	176.02	10.119	
12,900.0	7,500.0	13,020.7	7,740.0	93.2	90.5	97.74	-4,998.2	-498.3	1,781.1	1,601.7	179.45	9.925	
13,000.0	7,500.0	13,120.7	7,740.0	94.8	92.3	97.74	-5,098.2	-498.3	1,781.1	1,598.2	182.89	9.739	
13,100.0	7,500.0	13,220.7	7,740.0	96.5	94.0	97.74	-5,198.2	-498.3	1,781.1	1,594.8	186.33	9.559	
13,200.0	7,500.0	13,320.7	7,740.0	98.2	95.7	97.74	-5,298.2	-498.3	1,781.1	1,591.3	189.77	9.386	
13,300.0	7,500.0	13,420.7	7,740.0	99.9	97.5	97.74	-5,398.2	-498.3	1,781.1	1,587.9	193.21	9.219	
13,400.0	7,500.0	13,520.7	7,740.0	101.6	99.2	97.74	-5,498.2	-498.3	1,781.1	1,584.5	196.65	9.057	
13,500.0	7,500.0	13,620.7	7,740.0	103.3	100.9	97.74	-5,598.2	-498.3	1,781.1	1,581.0	200.09	8.902	
13,600.0	7,500.0	13,720.7	7,740.0	105.0	102.7	97.74	-5,698.2	-498.3	1,781.1	1,577.6	203.54	8.751	
13,700.0	7,500.0	13,820.7	7,740.0	106.7	104.4	97.74	-5,798.2	-498.3	1,781.1	1,574.1	206.98	8.605	
13,800.0	7,500.0	13,920.7	7,740.0	108.4	106.2	97.74	-5,898.2	-498.3	1,781.1	1,570.7	210.43	8.464	
13,900.0	7,500.0	14,020.7	7,740.0	110.1	107.9	97.74	-5,998.2	-498.3	1,781.1	1,567.3	213.87	8.328	
14,000.0	7,500.0	14,120.7	7,740.0	111.8	109.6	97.74	-6,098.2	-498.3	1,781.1	1,563.8	217.32	8.196	
14,100.0	7,500.0	14,220.7	7,740.0	113.5	111.4	97.74	-6,198.2	-498.3	1,781.1	1,560.4	220.77	8.068	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2A-7H-E168 - Hz - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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		
14,200.0	7,500.0	14,320.7	7,740.0	115.2	113.1	97.74	-6,298.2	-498.3	1,781.1	1,556.9	224.22	7.944		
14,300.0	7,500.0	14,420.7	7,740.0	116.9	114.9	97.74	-6,398.2	-498.3	1,781.1	1,553.5	227.67	7.823		
14,400.0	7,500.0	14,520.7	7,740.0	118.6	116.6	97.74	-6,498.2	-498.3	1,781.1	1,550.0	231.12	7.706		
14,500.0	7,500.0	14,620.7	7,740.0	120.3	118.3	97.74	-6,598.2	-498.3	1,781.1	1,546.6	234.57	7.593		
14,600.0	7,500.0	14,720.7	7,740.0	122.1	120.1	97.74	-6,698.2	-498.3	1,781.1	1,543.1	238.03	7.483		
14,700.0	7,500.0	14,820.7	7,740.0	123.8	121.8	97.74	-6,798.2	-498.3	1,781.1	1,539.7	241.48	7.376		
14,800.0	7,500.0	14,920.7	7,740.0	125.5	123.6	97.74	-6,898.2	-498.3	1,781.1	1,536.2	244.94	7.272		
14,900.0	7,500.0	15,020.7	7,740.0	127.2	125.3	97.74	-6,998.2	-498.3	1,781.1	1,532.8	248.39	7.171		
15,000.0	7,500.0	15,120.7	7,740.0	128.9	127.1	97.74	-7,098.2	-498.3	1,781.2	1,529.3	251.85	7.072		
15,100.0	7,500.0	15,220.7	7,740.0	130.6	128.8	97.74	-7,198.2	-498.3	1,781.2	1,525.9	255.30	6.977		
15,200.0	7,500.0	15,320.7	7,740.0	132.4	130.5	97.74	-7,298.2	-498.3	1,781.2	1,522.4	258.76	6.883		
15,300.0	7,500.0	15,420.7	7,740.0	134.1	132.3	97.74	-7,398.2	-498.3	1,781.2	1,518.9	262.21	6.793		
15,400.0	7,500.0	15,520.7	7,740.0	135.8	134.0	97.74	-7,498.2	-498.3	1,781.2	1,515.5	265.67	6.704		
15,500.0	7,500.0	15,620.7	7,740.0	137.5	135.8	97.74	-7,598.2	-498.3	1,781.2	1,512.0	269.13	6.618		
15,600.0	7,500.0	15,720.7	7,740.0	139.2	137.5	97.74	-7,698.2	-498.3	1,781.2	1,508.6	272.59	6.534		
15,700.0	7,500.0	15,820.7	7,740.0	141.0	139.3	97.74	-7,798.2	-498.3	1,781.2	1,505.1	276.05	6.452		
15,800.0	7,500.0	15,920.7	7,740.0	142.7	141.0	97.74	-7,898.2	-498.3	1,781.2	1,501.7	279.51	6.373		
15,800.0	7,500.0	15,920.7	7,740.0	142.7	141.0	97.74	-7,898.2	-498.3	1,781.2	1,501.7	279.51	6.373		
15,839.3	7,500.0	15,936.0	7,740.0	143.4	141.3	97.74	-7,913.5	-498.3	1,781.3	1,500.9	280.45	6.352 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2B-7H-E168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	-89.48	0.4	-40.0	40.0					
100.0	100.0	100.0	100.0	0.2	0.2	-89.48	0.4	-40.0	40.0	39.7	0.30	131.795		
200.0	200.0	200.0	200.0	0.3	0.3	-89.48	0.4	-40.0	40.0	39.4	0.65	61.316		
300.0	300.0	300.0	300.0	0.5	0.5	-89.48	0.4	-40.0	40.0	39.0	1.00	39.952 CC, ES		
400.0	400.0	399.5	399.5	0.7	0.7	-155.20	1.0	-40.6	41.4	40.0	1.35	30.645		
500.0	500.0	498.9	498.9	0.9	0.9	-154.10	3.0	-42.2	45.5	43.8	1.70	26.731		
600.0	599.9	598.1	598.0	1.0	1.0	-152.63	6.3	-45.0	52.3	50.3	2.06	25.443		
700.0	699.7	697.0	696.6	1.2	1.2	-151.12	10.9	-48.9	61.9	59.5	2.42	25.611		
800.0	799.4	796.2	795.7	1.4	1.4	-150.17	16.2	-53.3	73.7	70.9	2.79	26.466		
900.0	898.9	895.3	894.5	1.7	1.6	-150.05	21.5	-57.8	87.0	83.9	3.16	27.557		
1,000.0	998.3	994.2	993.2	1.9	1.8	-150.42	26.8	-62.2	101.8	98.3	3.53	28.804		
1,100.0	1,097.4	1,092.9	1,091.6	2.2	2.0	-151.10	32.1	-66.6	118.1	114.2	3.92	30.164		
1,200.0	1,196.3	1,191.3	1,189.7	2.5	2.2	-151.94	37.3	-71.0	136.0	131.7	4.30	31.614		
1,300.0	1,294.9	1,291.0	1,289.3	2.8	2.5	-152.68	43.1	-75.0	154.9	150.2	4.70	32.958		
1,400.0	1,393.3	1,391.2	1,389.1	3.2	2.7	-153.10	50.2	-77.7	174.2	169.0	5.11	34.064		
1,484.0	1,475.6	1,474.9	1,472.5	3.5	2.8	-153.27	56.9	-79.0	190.6	185.2	5.47	34.863		
1,500.0	1,491.3	1,490.5	1,488.1	3.5	2.9	-153.32	58.2	-79.2	193.8	188.3	5.54	35.008		
1,600.0	1,589.1	1,588.5	1,585.7	3.9	3.1	-153.57	66.4	-80.4	213.8	207.9	5.97	35.828		
1,700.0	1,687.0	1,686.4	1,683.4	4.3	3.3	-153.78	74.6	-81.7	233.9	227.5	6.40	36.524		
1,800.0	1,784.9	1,784.4	1,781.0	4.7	3.5	-153.95	82.7	-83.0	253.9	247.0	6.84	37.122		
1,900.0	1,882.7	1,882.4	1,878.6	5.1	3.7	-154.10	90.9	-84.2	273.9	266.6	7.28	37.640		
2,000.0	1,980.6	1,980.4	1,976.2	5.4	4.0	-154.23	99.1	-85.5	293.9	286.2	7.72	38.092		
2,100.0	2,078.5	2,078.3	2,073.8	5.8	4.2	-154.34	107.3	-86.8	313.9	305.8	8.16	38.492		
2,200.0	2,176.4	2,176.3	2,171.5	6.2	4.4	-154.44	115.4	-88.0	334.0	325.4	8.60	38.846		
2,300.0	2,274.2	2,274.3	2,269.1	6.6	4.6	-154.53	123.6	-89.3	354.0	345.0	9.04	39.162		
2,400.0	2,372.1	2,372.3	2,366.7	7.0	4.8	-154.61	131.8	-90.5	374.0	364.5	9.48	39.447		
2,500.0	2,470.0	2,470.2	2,464.3	7.4	5.1	-154.68	139.9	-91.8	394.0	384.1	9.92	39.703		
2,600.0	2,567.8	2,568.2	2,562.0	7.8	5.3	-154.75	148.1	-93.1	414.1	403.7	10.37	39.936		
2,700.0	2,665.7	2,666.2	2,659.6	8.2	5.5	-154.80	156.3	-94.3	434.1	423.3	10.81	40.149		
2,800.0	2,763.6	2,764.2	2,757.2	8.6	5.7	-154.86	164.4	-95.6	454.1	442.9	11.26	40.343		
2,900.0	2,861.5	2,862.1	2,854.8	9.0	5.9	-154.90	172.6	-96.9	474.2	462.5	11.70	40.521		
3,000.0	2,959.3	2,960.1	2,952.5	9.4	6.2	-154.95	180.8	-98.1	494.2	482.0	12.15	40.686		
3,100.0	3,057.2	3,058.1	3,050.1	9.8	6.4	-154.99	188.9	-99.4	514.2	501.6	12.59	40.838		
3,200.0	3,155.1	3,156.0	3,147.7	10.2	6.6	-155.03	197.1	-100.7	534.2	521.2	13.04	40.978		
3,300.0	3,253.0	3,254.0	3,245.3	10.6	6.8	-155.06	205.3	-101.9	554.3	540.8	13.48	41.109		
3,400.0	3,350.8	3,352.0	3,343.0	11.0	7.0	-155.10	213.4	-103.2	574.3	560.4	13.93	41.231		
3,500.0	3,448.7	3,450.0	3,440.6	11.4	7.3	-155.13	221.6	-104.5	594.3	580.0	14.37	41.345		
3,600.0	3,546.6	3,547.9	3,538.2	11.8	7.5	-155.16	229.8	-105.7	614.4	599.5	14.82	41.452		
3,700.0	3,644.4	3,645.9	3,635.8	12.2	7.7	-155.18	237.9	-107.0	634.4	619.1	15.27	41.552		
3,800.0	3,742.3	3,743.9	3,733.5	12.6	7.9	-155.21	246.1	-108.2	654.4	638.7	15.71	41.646		
3,900.0	3,840.2	3,841.9	3,831.1	13.0	8.2	-155.23	254.3	-109.5	674.4	658.3	16.16	41.734		
4,000.0	3,938.1	3,939.8	3,928.7	13.4	8.4	-155.25	262.4	-110.8	694.5	677.9	16.61	41.818		
4,100.0	4,035.9	4,037.8	4,026.3	13.8	8.6	-155.27	270.6	-112.0	714.5	697.5	17.05	41.896		
4,200.0	4,133.8	4,135.8	4,123.9	14.2	8.8	-155.29	278.8	-113.3	734.5	717.0	17.50	41.971		
4,300.0	4,231.7	4,233.7	4,221.6	14.6	9.0	-155.31	287.0	-114.6	754.6	736.6	17.95	42.042		
4,400.0	4,329.5	4,331.7	4,319.2	15.0	9.3	-155.33	295.1	-115.8	774.6	756.2	18.40	42.109		
4,500.0	4,427.4	4,429.7	4,416.8	15.4	9.5	-155.35	303.3	-117.1	794.6	775.8	18.84	42.172		
4,600.0	4,525.3	4,527.7	4,514.4	15.8	9.7	-155.36	311.5	-118.4	814.7	795.4	19.29	42.233		
4,700.0	4,623.2	4,625.6	4,612.1	16.2	9.9	-155.38	319.6	-119.6	834.7	815.0	19.74	42.291		
4,800.0	4,721.0	4,723.6	4,709.7	16.7	10.2	-155.39	327.8	-120.9	854.7	834.5	20.18	42.346		
4,900.0	4,818.9	4,821.6	4,807.3	17.1	10.4	-155.41	336.0	-122.2	874.8	854.1	20.63	42.398		
5,000.0	4,916.8	4,919.6	4,904.9	17.5	10.6	-155.42	344.1	-123.4	894.8	873.7	21.08	42.449		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2B-7H-E168 - HZ - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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)			
5,100.0	5,014.7	5,017.5	5,002.6	17.9	10.8	-155.43	352.3	-124.7	914.8	893.3	21.53	42.497	
5,200.0	5,112.5	5,115.5	5,100.2	18.3	11.0	-155.45	360.5	-125.9	934.8	912.9	21.97	42.543	
5,300.0	5,210.4	5,213.5	5,197.8	18.7	11.3	-155.46	368.6	-127.2	954.9	932.5	22.42	42.587	
5,400.0	5,308.3	5,311.5	5,295.4	19.1	11.5	-155.47	376.8	-128.5	974.9	952.0	22.87	42.629	
5,500.0	5,406.1	5,409.4	5,393.1	19.5	11.7	-155.48	385.0	-129.7	994.9	971.6	23.32	42.670	
5,600.0	5,504.0	5,507.4	5,490.7	19.9	11.9	-155.49	393.1	-131.0	1,015.0	991.2	23.76	42.709	
5,700.0	5,601.9	5,605.4	5,588.3	20.3	12.2	-155.50	401.3	-132.3	1,035.0	1,010.8	24.21	42.746	
5,800.0	5,699.8	5,703.3	5,685.9	20.7	12.4	-155.51	409.5	-133.5	1,055.0	1,030.4	24.66	42.782	
5,900.0	5,797.6	5,801.3	5,783.6	21.1	12.6	-155.52	417.6	-134.8	1,075.1	1,050.0	25.11	42.817	
6,000.0	5,895.5	5,899.3	5,881.2	21.5	12.8	-155.53	425.8	-136.1	1,095.1	1,069.5	25.56	42.851	
6,100.0	5,993.4	5,997.3	5,978.8	21.9	13.1	-155.54	434.0	-137.3	1,115.1	1,089.1	26.00	42.883	
6,200.0	6,091.2	6,095.2	6,076.4	22.3	13.3	-155.54	442.1	-138.6	1,135.2	1,108.7	26.45	42.914	
6,300.0	6,189.1	6,193.2	6,174.0	22.7	13.5	-155.55	450.3	-139.9	1,155.2	1,128.3	26.90	42.944	
6,400.0	6,287.0	6,291.2	6,271.7	23.1	13.7	-155.56	458.5	-141.1	1,175.2	1,147.9	27.35	42.973	
6,500.0	6,384.9	6,389.2	6,369.3	23.5	13.9	-155.57	466.7	-142.4	1,195.3	1,167.5	27.80	43.001	
6,600.0	6,482.7	6,487.1	6,466.9	23.9	14.2	-155.57	474.8	-143.6	1,215.3	1,187.0	28.24	43.028	
6,700.0	6,580.6	6,585.1	6,564.5	24.3	14.4	-155.58	483.0	-144.9	1,235.3	1,206.6	28.69	43.055	
6,800.0	6,678.5	6,683.1	6,662.2	24.7	14.6	-155.59	491.2	-146.2	1,255.3	1,226.2	29.14	43.080	
6,900.0	6,776.4	6,781.1	6,759.8	25.1	14.8	-155.59	499.3	-147.4	1,275.4	1,245.8	29.59	43.105	
7,000.0	6,874.2	6,879.0	6,857.4	25.5	15.1	-155.60	507.5	-148.7	1,295.4	1,265.4	30.04	43.129	
7,016.7	6,890.6	6,895.4	6,873.7	25.6	15.1	-155.60	508.9	-148.9	1,298.8	1,268.6	30.11	43.133	
7,050.0	6,923.2	6,928.0	6,906.3	25.7	15.1	-172.24	510.9	-149.3	1,305.4	1,275.3	30.08	43.392	
7,100.0	6,972.3	6,977.1	6,955.3	25.9	15.2	161.35	510.6	-150.0	1,315.5	1,285.5	29.98	43.877	
7,150.0	7,021.1	7,026.2	7,004.2	26.0	15.2	140.50	506.1	-150.6	1,325.5	1,295.7	29.81	44.459	
7,200.0	7,069.3	7,075.5	7,052.7	26.1	15.2	126.64	497.4	-151.2	1,335.3	1,305.7	29.59	45.122	
7,250.0	7,116.5	7,124.8	7,100.3	26.2	15.1	117.49	484.5	-151.8	1,345.0	1,315.7	29.34	45.849	
7,300.0	7,162.3	7,174.3	7,146.8	26.2	15.0	111.16	467.5	-152.4	1,354.4	1,325.3	29.05	46.624	
7,350.0	7,206.4	7,224.0	7,191.8	26.3	14.8	106.53	446.5	-153.0	1,363.4	1,334.7	28.75	47.429	
7,400.0	7,248.4	7,273.9	7,234.9	26.3	14.7	102.99	421.6	-153.6	1,372.0	1,343.6	28.44	48.245	
7,450.0	7,288.1	7,323.9	7,275.9	26.3	14.5	100.20	392.9	-154.1	1,380.1	1,352.0	28.14	49.053	
7,500.0	7,325.1	7,374.2	7,314.4	26.3	14.3	97.95	360.5	-154.6	1,387.7	1,359.9	27.85	49.830	
7,550.0	7,359.2	7,424.7	7,350.1	26.3	14.2	96.10	324.8	-155.1	1,394.7	1,367.1	27.59	50.555	
7,600.0	7,390.0	7,475.4	7,382.6	26.3	14.0	94.58	285.9	-155.5	1,401.0	1,373.7	27.36	51.202	
7,650.0	7,417.4	7,526.4	7,411.6	26.3	13.8	93.34	244.1	-155.9	1,406.7	1,379.5	27.18	51.747	
7,700.0	7,441.2	7,577.5	7,436.9	26.3	13.7	92.32	199.7	-156.2	1,411.5	1,384.5	27.06	52.162	
7,750.0	7,461.1	7,628.8	7,458.3	26.3	13.6	91.50	153.1	-156.5	1,415.6	1,388.6	27.00	52.425	
7,800.0	7,477.0	7,680.2	7,475.4	26.3	13.6	90.88	104.6	-156.7	1,418.9	1,391.9	27.02	52.513	
7,850.0	7,488.8	7,731.7	7,488.1	26.4	13.6	90.42	54.7	-156.9	1,421.3	1,394.2	27.12	52.414	
7,900.0	7,496.5	7,783.3	7,496.3	26.4	13.7	90.14	3.7	-157.0	1,422.9	1,395.6	27.30	52.119	
7,950.0	7,499.8	7,835.0	7,499.8	26.5	13.9	90.01	-47.8	-157.0	1,423.6	1,396.0	27.57	51.639	
7,964.3	7,500.0	7,849.7	7,500.0	26.5	13.9	90.00	-62.5	-157.0	1,423.6	1,395.9	27.66	51.476	
8,000.0	7,500.0	7,885.4	7,500.0	26.6	14.1	90.00	-98.2	-157.0	1,423.6	1,395.7	27.95	50.942	
8,100.0	7,500.0	7,985.4	7,500.0	26.8	14.6	90.00	-198.2	-157.0	1,423.6	1,394.6	29.02	49.049	
8,200.0	7,500.0	8,085.4	7,500.0	27.2	15.3	90.00	-298.2	-157.0	1,423.6	1,393.1	30.46	46.732	
8,300.0	7,500.0	8,185.4	7,500.0	27.7	16.2	90.00	-398.2	-157.0	1,423.6	1,391.4	32.22	44.181	
8,400.0	7,500.0	8,285.4	7,500.0	28.3	17.2	90.00	-498.2	-157.0	1,423.6	1,389.4	34.25	41.565	
8,500.0	7,500.0	8,385.4	7,500.0	29.0	18.3	90.00	-598.2	-157.0	1,423.6	1,387.1	36.50	38.998	
8,600.0	7,500.0	8,485.4	7,500.0	29.8	19.5	90.00	-698.2	-157.0	1,423.6	1,384.7	38.94	36.555	
8,700.0	7,500.0	8,585.4	7,500.0	30.6	20.8	90.00	-798.2	-157.0	1,423.6	1,382.1	41.54	34.273	
8,800.0	7,500.0	8,685.4	7,500.0	31.5	22.2	90.00	-898.2	-157.0	1,423.6	1,379.3	44.26	32.167	
8,900.0	7,500.0	8,785.4	7,500.0	32.5	23.6	90.00	-998.2	-157.0	1,423.6	1,376.5	47.08	30.238	
9,000.0	7,500.0	8,885.4	7,500.0	33.6	25.0	90.00	-1,098.2	-157.0	1,423.6	1,373.6	49.99	28.477	

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2B-7H-E168 - HZ - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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		
9,100.0	7,500.0	9,985.4	7,500.0	34.7	26.5	90.00	-1,198.2	-157.0	1,423.6	1,370.6	52.97	26.873		
9,200.0	7,500.0	9,085.4	7,500.0	35.9	28.1	90.00	-1,298.2	-157.0	1,423.6	1,367.6	56.02	25.413		
9,300.0	7,500.0	9,185.4	7,500.0	37.1	29.6	90.00	-1,398.2	-157.0	1,423.6	1,364.5	59.11	24.082		
9,400.0	7,500.0	9,285.4	7,500.0	38.3	31.2	90.00	-1,498.2	-157.0	1,423.6	1,361.4	62.25	22.868		
9,500.0	7,500.0	9,385.4	7,500.0	39.6	32.7	90.00	-1,598.2	-157.0	1,423.6	1,358.2	65.43	21.757		
9,600.0	7,500.0	9,485.4	7,500.0	41.0	34.4	90.00	-1,698.2	-157.0	1,423.6	1,355.0	68.64	20.740		
9,700.0	7,500.0	9,585.4	7,500.0	42.3	36.0	90.00	-1,798.2	-157.0	1,423.6	1,351.7	71.88	19.806		
9,800.0	7,500.0	9,685.4	7,500.0	43.7	37.6	90.00	-1,898.2	-157.0	1,423.6	1,348.5	75.14	18.946		
9,900.0	7,500.0	9,785.4	7,500.0	45.1	39.2	90.00	-1,998.2	-157.0	1,423.6	1,345.2	78.42	18.153		
10,000.0	7,500.0	9,885.4	7,500.0	46.6	40.9	90.00	-2,098.2	-157.0	1,423.6	1,341.9	81.72	17.420		
10,100.0	7,500.0	9,985.4	7,500.0	48.0	42.5	90.00	-2,198.2	-157.0	1,423.6	1,338.6	85.04	16.740		
10,200.0	7,500.0	10,085.4	7,500.0	49.5	44.2	90.00	-2,298.2	-157.0	1,423.6	1,335.2	88.37	16.109		
10,300.0	7,500.0	10,185.4	7,500.0	51.0	45.9	90.00	-2,398.2	-157.0	1,423.6	1,331.9	91.72	15.521		
10,400.0	7,500.0	10,285.4	7,500.0	52.5	47.6	90.00	-2,498.2	-157.0	1,423.6	1,328.5	95.08	14.973		
10,500.0	7,500.0	10,385.4	7,500.0	54.0	49.2	90.00	-2,598.2	-157.0	1,423.6	1,325.2	98.44	14.461		
10,600.0	7,500.0	10,485.4	7,500.0	55.6	50.9	90.00	-2,698.2	-157.0	1,423.6	1,321.8	101.82	13.981		
10,700.0	7,500.0	10,585.4	7,500.0	57.1	52.6	90.00	-2,798.2	-157.0	1,423.6	1,318.4	105.21	13.531		
10,800.0	7,500.0	10,685.4	7,500.0	58.7	54.3	90.00	-2,898.2	-157.0	1,423.6	1,315.0	108.60	13.108		
10,900.0	7,500.0	10,785.4	7,500.0	60.3	56.0	90.00	-2,998.2	-157.0	1,423.6	1,311.6	112.00	12.710		
11,000.0	7,500.0	10,885.4	7,500.0	61.9	57.7	90.00	-3,098.2	-157.0	1,423.6	1,308.2	115.41	12.335		
11,100.0	7,500.0	10,985.4	7,500.0	63.5	59.4	90.00	-3,198.2	-157.0	1,423.6	1,304.8	118.82	11.981		
11,200.0	7,500.0	11,085.4	7,500.0	65.1	61.1	90.00	-3,298.2	-157.0	1,423.6	1,301.4	122.24	11.646		
11,300.0	7,500.0	11,185.4	7,500.0	66.7	62.8	90.00	-3,398.2	-157.0	1,423.6	1,297.9	125.66	11.329		
11,400.0	7,500.0	11,285.4	7,500.0	68.3	64.6	90.00	-3,498.2	-157.0	1,423.6	1,294.5	129.09	11.028		
11,500.0	7,500.0	11,385.4	7,500.0	69.9	66.3	90.00	-3,598.2	-157.0	1,423.6	1,291.1	132.52	10.742		
11,600.0	7,500.0	11,485.4	7,500.0	71.5	68.0	90.00	-3,698.2	-157.0	1,423.6	1,287.6	135.96	10.471		
11,700.0	7,500.0	11,585.4	7,500.0	73.2	69.7	90.00	-3,798.2	-157.0	1,423.6	1,284.2	139.40	10.212		
11,800.0	7,500.0	11,685.4	7,500.0	74.8	71.4	90.00	-3,898.2	-157.0	1,423.6	1,280.8	142.84	9.966		
11,900.0	7,500.0	11,785.4	7,500.0	76.5	73.2	90.00	-3,998.2	-157.0	1,423.6	1,277.3	146.29	9.731		
12,000.0	7,500.0	11,885.4	7,500.0	78.1	74.9	90.00	-4,098.2	-157.0	1,423.6	1,273.9	149.74	9.507		
12,100.0	7,500.0	11,985.4	7,500.0	79.8	76.6	90.00	-4,198.2	-157.0	1,423.6	1,270.4	153.19	9.293		
12,200.0	7,500.0	12,085.4	7,500.0	81.4	78.3	90.00	-4,298.2	-157.0	1,423.6	1,267.0	156.64	9.088		
12,300.0	7,500.0	12,185.4	7,500.0	83.1	80.1	90.00	-4,398.2	-157.0	1,423.6	1,263.5	160.10	8.892		
12,400.0	7,500.0	12,285.4	7,500.0	84.8	81.8	90.00	-4,498.2	-157.0	1,423.6	1,260.1	163.56	8.704		
12,500.0	7,500.0	12,385.4	7,500.0	86.4	83.5	90.00	-4,598.2	-157.0	1,423.6	1,256.6	167.02	8.524		
12,600.0	7,500.0	12,485.4	7,500.0	88.1	85.3	90.00	-4,698.2	-157.0	1,423.6	1,253.1	170.48	8.350		
12,700.0	7,500.0	12,585.4	7,500.0	89.8	87.0	90.00	-4,798.2	-157.0	1,423.6	1,249.7	173.95	8.184		
12,800.0	7,500.0	12,685.4	7,500.0	91.5	88.7	90.00	-4,898.2	-157.0	1,423.6	1,246.2	177.41	8.024		
12,900.0	7,500.0	12,785.4	7,500.0	93.2	90.5	90.00	-4,998.2	-157.0	1,423.6	1,242.7	180.88	7.870		
13,000.0	7,500.0	12,885.4	7,500.0	94.8	92.2	90.00	-5,098.2	-157.0	1,423.6	1,239.3	184.35	7.722		
13,100.0	7,500.0	12,985.4	7,500.0	96.5	93.9	90.00	-5,198.2	-157.0	1,423.6	1,235.8	187.82	7.580		
13,200.0	7,500.0	13,103.2	7,500.0	98.2	96.0	90.00	-5,316.0	-156.0	1,422.7	1,231.1	191.60	7.425		
13,300.0	7,500.0	13,203.2	7,500.0	99.9	97.7	90.00	-5,416.0	-154.8	1,421.5	1,226.4	195.08	7.287		
13,400.0	7,500.0	13,303.2	7,500.0	101.6	99.4	90.00	-5,516.0	-153.5	1,420.2	1,221.7	198.55	7.153		
13,500.0	7,500.0	13,403.2	7,500.0	103.3	101.2	90.00	-5,616.0	-152.3	1,419.0	1,216.9	202.03	7.024		
13,600.0	7,500.0	13,503.2	7,500.0	105.0	102.9	90.00	-5,716.0	-151.0	1,417.7	1,212.2	205.50	6.899		
13,700.0	7,500.0	13,603.2	7,500.0	106.7	104.7	90.00	-5,815.9	-149.8	1,416.5	1,207.5	208.98	6.778		
13,800.0	7,500.0	13,703.2	7,500.0	108.4	106.4	90.00	-5,915.9	-148.5	1,415.2	1,202.8	212.46	6.661		
13,900.0	7,500.0	13,803.2	7,500.0	110.1	108.1	90.00	-6,015.9	-147.3	1,414.0	1,198.0	215.94	6.548		
14,000.0	7,500.0	13,903.2	7,500.0	111.8	109.9	90.00	-6,115.9	-146.0	1,412.7	1,193.3	219.42	6.438		
14,100.0	7,500.0	14,003.2	7,500.0	113.5	111.6	90.00	-6,215.9	-144.8	1,411.5	1,188.6	222.90	6.332		
14,200.0	7,500.0	14,103.1	7,500.0	115.2	113.3	90.00	-6,315.9	-143.5	1,410.2	1,183.8	226.38	6.229		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2B-7H-E168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink 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		
14,300.0	7,500.0	14,203.1	7,500.0	116.9	115.1	90.00	-6,415.8	-142.3	1,409.0	1,179.1	229.87	6.129		
14,400.0	7,500.0	14,303.1	7,500.0	118.6	116.8	90.00	-6,515.8	-141.0	1,407.7	1,174.4	233.35	6.033		
14,500.0	7,500.0	14,403.1	7,500.0	120.3	118.6	90.00	-6,615.8	-139.8	1,406.5	1,169.6	236.83	5.939		
14,600.0	7,500.0	14,503.1	7,500.0	122.1	120.3	90.00	-6,715.8	-138.5	1,405.2	1,164.9	240.32	5.847		
14,700.0	7,500.0	14,603.1	7,500.0	123.8	122.1	90.00	-6,815.8	-137.3	1,404.0	1,160.1	243.81	5.758		
14,800.0	7,500.0	14,703.1	7,500.0	125.5	123.8	90.00	-6,915.8	-136.0	1,402.7	1,155.4	247.29	5.672		
14,900.0	7,500.0	14,803.1	7,500.0	127.2	125.5	90.00	-7,015.8	-134.8	1,401.5	1,150.7	250.78	5.588		
15,000.0	7,500.0	14,903.1	7,500.0	128.9	127.3	90.00	-7,115.7	-133.5	1,400.2	1,145.9	254.27	5.507		
15,100.0	7,500.0	15,003.1	7,500.0	130.6	129.0	90.00	-7,215.7	-132.3	1,398.9	1,141.2	257.75	5.427		
15,200.0	7,500.0	15,103.1	7,500.0	132.4	130.8	90.00	-7,315.7	-131.0	1,397.7	1,136.5	261.24	5.350		
15,300.0	7,500.0	15,203.1	7,500.0	134.1	132.5	90.00	-7,415.7	-129.8	1,396.4	1,131.7	264.73	5.275		
15,400.0	7,500.0	15,303.1	7,500.0	135.8	134.3	90.00	-7,515.7	-128.5	1,395.2	1,127.0	268.22	5.202		
15,500.0	7,500.0	15,403.0	7,500.0	137.5	136.0	90.00	-7,615.7	-127.3	1,393.9	1,122.2	271.71	5.130		
15,600.0	7,500.0	15,503.0	7,500.0	139.2	137.8	90.00	-7,715.6	-126.0	1,392.7	1,117.5	275.20	5.061		
15,700.0	7,500.0	15,603.0	7,500.0	141.0	139.5	90.00	-7,815.6	-124.8	1,391.4	1,112.7	278.69	4.993		
15,800.0	7,500.0	15,703.0	7,500.0	142.7	141.2	90.00	-7,915.6	-123.5	1,390.2	1,108.0	282.19	4.927		
15,820.4	7,500.0	15,706.0	7,500.0	143.0	141.3	90.00	-7,918.6	-123.5	1,390.0	1,107.5	282.60	4.919		
15,839.3	7,500.0	15,706.0	7,500.0	143.4	141.3	90.00	-7,918.6	-123.5	1,390.2	1,107.2	282.93	4.914 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2C-7H-E168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	-89.31	0.4	-30.2	30.2					
100.0	100.0	100.0	100.0	0.2	0.2	-89.31	0.4	-30.2	30.2	29.9	0.30	99.540		
200.0	200.0	200.0	200.0	0.3	0.3	-89.31	0.4	-30.2	30.2	29.6	0.65	46.310		
300.0	300.0	300.0	300.0	0.5	0.5	-89.31	0.4	-30.2	30.2	29.2	1.00	30.174 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-156.12	0.4	-30.2	31.0	29.7	1.35	22.967		
500.0	500.0	500.2	500.2	0.9	0.9	-156.59	1.2	-29.8	33.0	31.3	1.70	19.422		
600.0	599.9	600.4	600.4	1.0	1.0	-155.59	3.5	-28.7	35.9	33.8	2.05	17.462		
700.0	699.7	700.6	700.5	1.2	1.2	-153.50	7.5	-26.8	39.6	37.2	2.42	16.384		
800.0	799.4	800.8	800.5	1.4	1.4	-150.73	13.0	-24.1	44.2	41.5	2.79	15.844		
900.0	898.9	900.8	900.2	1.7	1.6	-147.63	20.0	-20.7	49.9	46.7	3.19	15.648		
1,000.0	998.3	1,000.6	999.6	1.9	1.8	-145.35	27.8	-16.9	56.9	53.3	3.60	15.798		
1,100.0	1,097.4	1,100.2	1,098.8	2.2	2.0	-144.47	35.6	-13.1	65.4	61.4	4.03	16.244		
1,200.0	1,196.3	1,199.7	1,198.0	2.5	2.3	-144.55	43.4	-9.3	75.3	70.9	4.46	16.899		
1,300.0	1,294.9	1,299.1	1,296.9	2.8	2.5	-145.27	51.1	-5.5	86.6	81.7	4.89	17.719		
1,400.0	1,393.3	1,398.2	1,395.7	3.2	2.7	-146.37	58.9	-1.8	99.4	94.1	5.32	18.675		
1,484.0	1,475.6	1,481.4	1,478.6	3.5	2.9	-147.46	65.4	1.4	111.3	105.6	5.69	19.573		
1,500.0	1,491.3	1,497.2	1,494.3	3.5	2.9	-147.68	66.6	2.0	113.7	107.9	5.76	19.748		
1,600.0	1,589.1	1,596.0	1,592.8	3.9	3.1	-148.89	74.3	5.8	128.5	122.3	6.19	20.759		
1,700.0	1,687.0	1,694.9	1,691.3	4.3	3.4	-149.86	82.0	9.5	143.3	136.7	6.62	21.643		
1,800.0	1,784.9	1,793.8	1,789.8	4.7	3.6	-150.64	89.8	13.3	158.2	151.2	7.06	22.421		
1,900.0	1,882.7	1,892.6	1,888.3	5.1	3.8	-151.28	97.5	17.0	173.1	165.7	7.49	23.112		
2,000.0	1,980.6	1,991.5	1,986.7	5.4	4.0	-151.83	105.2	20.8	188.1	180.2	7.93	23.729		
2,100.0	2,078.5	2,090.4	2,085.2	5.8	4.3	-152.29	112.9	24.5	203.0	194.7	8.36	24.282		
2,200.0	2,176.4	2,189.2	2,183.7	6.2	4.5	-152.69	120.6	28.3	218.0	209.2	8.80	24.782		
2,300.0	2,274.2	2,288.1	2,282.2	6.6	4.7	-153.04	128.4	32.1	233.0	223.7	9.23	25.235		
2,400.0	2,372.1	2,387.0	2,380.7	7.0	5.0	-153.35	136.1	35.8	247.9	238.3	9.67	25.647		
2,500.0	2,470.0	2,485.8	2,479.2	7.4	5.2	-153.62	143.8	39.6	262.9	252.8	10.10	26.025		
2,600.0	2,567.8	2,584.7	2,577.7	7.8	5.4	-153.86	151.5	43.3	277.9	267.4	10.54	26.371		
2,700.0	2,665.7	2,683.5	2,676.2	8.2	5.6	-154.08	159.2	47.1	292.9	281.9	10.97	26.690		
2,800.0	2,763.6	2,782.4	2,774.7	8.6	5.9	-154.28	166.9	50.8	307.9	296.5	11.41	26.985		
2,900.0	2,861.5	2,881.3	2,873.2	9.0	6.1	-154.46	174.7	54.6	322.9	311.1	11.85	27.258		
3,000.0	2,959.3	2,980.1	2,971.6	9.4	6.3	-154.62	182.4	58.4	337.9	325.6	12.28	27.512		
3,100.0	3,057.2	3,079.0	3,070.1	9.8	6.5	-154.77	190.1	62.1	352.9	340.2	12.72	27.748		
3,200.0	3,155.1	3,177.9	3,168.6	10.2	6.8	-154.90	197.8	65.9	367.9	354.8	13.16	27.969		
3,300.0	3,253.0	3,276.7	3,267.1	10.6	7.0	-155.03	205.5	69.6	382.9	369.4	13.59	28.176		
3,400.0	3,350.8	3,375.6	3,365.6	11.0	7.2	-155.15	213.3	73.4	398.0	383.9	14.03	28.369		
3,500.0	3,448.7	3,474.5	3,464.1	11.4	7.5	-155.25	221.0	77.1	413.0	398.5	14.46	28.551		
3,600.0	3,546.6	3,573.3	3,562.6	11.8	7.7	-155.35	228.7	80.9	428.0	413.1	14.90	28.723		
3,700.0	3,644.4	3,672.2	3,661.1	12.2	7.9	-155.45	236.4	84.6	443.0	427.7	15.34	28.885		
3,800.0	3,742.3	3,771.0	3,759.6	12.6	8.1	-155.54	244.1	88.4	458.0	442.3	15.77	29.037		
3,900.0	3,840.2	3,869.9	3,858.1	13.0	8.4	-155.62	251.9	92.2	473.0	456.8	16.21	29.182		
4,000.0	3,938.1	3,968.8	3,956.5	13.4	8.6	-155.69	259.6	95.9	488.1	471.4	16.65	29.319		
4,100.0	4,035.9	4,067.6	4,055.0	13.8	8.8	-155.77	267.3	99.7	503.1	486.0	17.08	29.449		
4,200.0	4,133.8	4,166.5	4,153.5	14.2	9.0	-155.83	275.0	103.4	518.1	500.6	17.52	29.572		
4,300.0	4,231.7	4,265.4	4,252.0	14.6	9.3	-155.90	282.7	107.2	533.1	515.2	17.96	29.690		
4,400.0	4,329.5	4,364.2	4,350.5	15.0	9.5	-155.96	290.5	110.9	548.1	529.8	18.39	29.801		
4,500.0	4,427.4	4,463.1	4,449.0	15.4	9.7	-156.02	298.2	114.7	563.2	544.3	18.83	29.908		
4,600.0	4,525.3	4,562.0	4,547.5	15.8	10.0	-156.07	305.9	118.5	578.2	558.9	19.27	30.010		
4,700.0	4,623.2	4,660.8	4,646.0	16.2	10.2	-156.12	313.6	122.2	593.2	573.5	19.70	30.107		
4,800.0	4,721.0	4,759.7	4,744.5	16.7	10.4	-156.17	321.3	126.0	608.2	588.1	20.14	30.200		
4,900.0	4,818.9	4,858.5	4,843.0	17.1	10.6	-156.22	329.1	129.7	623.3	602.7	20.58	30.290		
5,000.0	4,916.8	4,957.4	4,941.4	17.5	10.9	-156.26	336.8	133.5	638.3	617.3	21.01	30.375		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2C-7H-E168 - HZ - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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
5,100.0	5,014.7	5,056.3	5,039.9	17.9	11.1	-156.31	344.5	137.2	653.3	631.9	21.45	30.457	
5,200.0	5,112.5	5,155.1	5,138.4	18.3	11.3	-156.35	352.2	141.0	668.3	646.5	21.89	30.536	
5,300.0	5,210.4	5,254.0	5,236.9	18.7	11.6	-156.39	359.9	144.8	683.4	661.0	22.32	30.611	
5,400.0	5,308.3	5,352.9	5,335.4	19.1	11.8	-156.42	367.7	148.5	698.4	675.6	22.76	30.684	
5,500.0	5,406.1	5,451.7	5,433.9	19.5	12.0	-156.46	375.4	152.3	713.4	690.2	23.20	30.754	
5,600.0	5,504.0	5,550.6	5,532.4	19.9	12.2	-156.49	383.1	156.0	728.5	704.8	23.63	30.821	
5,700.0	5,601.9	5,649.5	5,630.9	20.3	12.5	-156.52	390.8	159.8	743.5	719.4	24.07	30.886	
5,800.0	5,699.8	5,748.3	5,729.4	20.7	12.7	-156.56	398.5	163.5	758.5	734.0	24.51	30.949	
5,900.0	5,797.6	5,847.2	5,827.9	21.1	12.9	-156.59	406.3	167.3	773.5	748.6	24.95	31.009	
6,000.0	5,895.5	5,946.0	5,926.3	21.5	13.2	-156.62	414.0	171.0	788.6	763.2	25.38	31.067	
6,100.0	5,993.4	6,044.9	6,024.8	21.9	13.4	-156.64	421.7	174.8	803.6	777.8	25.82	31.124	
6,200.0	6,091.2	6,143.8	6,123.3	22.3	13.6	-156.67	429.4	178.6	818.6	792.4	26.26	31.178	
6,300.0	6,189.1	6,242.6	6,221.8	22.7	13.8	-156.70	437.1	182.3	833.6	807.0	26.69	31.231	
6,400.0	6,287.0	6,341.5	6,320.3	23.1	14.1	-156.72	444.8	186.1	848.7	821.5	27.13	31.282	
6,500.0	6,384.9	6,440.4	6,418.8	23.5	14.3	-156.75	452.6	189.8	863.7	836.1	27.57	31.331	
6,600.0	6,482.7	6,539.2	6,517.3	23.9	14.5	-156.77	460.3	193.6	878.7	850.7	28.00	31.379	
6,700.0	6,580.6	6,638.1	6,615.8	24.3	14.8	-156.79	468.0	197.3	893.8	865.3	28.44	31.425	
6,800.0	6,678.5	6,737.0	6,714.3	24.7	15.0	-156.81	475.7	201.1	908.8	879.9	28.88	31.470	
6,900.0	6,776.4	6,835.8	6,812.8	25.1	15.2	-156.83	483.4	204.9	923.8	894.5	29.31	31.514	
7,000.0	6,874.2	6,934.7	6,911.2	25.5	15.4	-156.86	491.2	208.6	938.8	909.1	29.75	31.556	
7,016.7	6,890.6	6,951.2	6,927.7	25.6	15.5	-156.86	492.5	209.2	941.4	911.5	29.82	31.563	
7,050.0	6,923.2	6,984.1	6,960.5	25.7	15.6	-173.29	495.0	210.5	946.4	916.5	29.84	31.716	
7,100.0	6,972.3	7,033.3	7,009.5	25.9	15.7	160.85	498.9	212.4	953.8	923.9	29.88	31.926	
7,150.0	7,021.1	7,081.8	7,057.9	26.0	15.8	140.77	502.7	214.2	961.3	931.3	29.94	32.107	
7,200.0	7,069.3	7,129.4	7,105.3	26.1	15.9	127.89	506.4	216.0	968.7	938.7	30.02	32.272	
7,250.0	7,116.5	7,177.2	7,152.9	26.2	16.0	119.88	509.3	217.8	976.3	946.2	30.08	32.462	
7,300.0	7,162.3	7,226.9	7,202.6	26.2	16.0	114.67	508.4	219.7	984.0	953.9	30.07	32.727	
7,350.0	7,206.4	7,278.3	7,253.6	26.3	16.0	111.14	503.0	221.7	991.7	961.7	29.99	33.070	
7,400.0	7,248.4	7,331.5	7,305.7	26.3	16.0	108.68	492.5	223.7	999.4	969.5	29.84	33.490	
7,450.0	7,288.1	7,386.8	7,358.6	26.3	15.9	106.92	476.6	225.7	1,006.9	977.3	29.63	33.984	
7,500.0	7,325.1	7,444.3	7,411.7	26.3	15.8	105.67	454.8	227.7	1,014.2	984.9	29.36	34.545	
7,550.0	7,359.2	7,504.1	7,464.4	26.3	15.6	104.77	426.4	229.7	1,021.3	992.2	29.04	35.164	
7,600.0	7,390.0	7,566.5	7,515.8	26.3	15.4	104.15	391.3	231.7	1,027.9	999.2	28.69	35.823	
7,650.0	7,417.4	7,631.5	7,565.0	26.3	15.2	103.72	348.9	233.5	1,034.0	1,005.7	28.34	36.491	
7,700.0	7,441.2	7,699.0	7,610.7	26.3	15.0	103.45	299.2	235.3	1,039.5	1,011.5	28.00	37.130	
7,750.0	7,461.1	7,769.1	7,651.6	26.3	14.8	103.29	242.4	236.9	1,044.3	1,016.5	27.72	37.678	
7,800.0	7,477.0	7,841.5	7,686.2	26.3	14.7	103.20	178.9	238.2	1,048.2	1,020.6	27.53	38.079	
7,850.0	7,488.8	7,915.8	7,713.2	26.4	14.7	103.16	109.7	239.2	1,051.1	1,023.7	27.48	38.257	
7,900.0	7,496.5	7,991.6	7,731.3	26.4	14.7	103.16	36.2	239.9	1,053.1	1,025.5	27.59	38.169	
7,950.0	7,499.8	8,068.3	7,739.5	26.5	14.9	103.16	-40.0	240.2	1,054.0	1,026.1	27.90	37.782	
7,964.3	7,500.0	8,090.4	7,740.0	26.5	14.9	103.16	-62.1	240.2	1,054.0	1,026.0	28.02	37.624	
8,000.0	7,500.0	8,126.5	7,740.0	26.6	15.1	103.16	-98.2	240.2	1,054.0	1,025.7	28.31	37.232	
8,100.0	7,500.0	8,226.5	7,740.0	26.8	15.6	103.16	-198.2	240.2	1,054.0	1,024.7	29.34	35.928	
8,200.0	7,500.0	8,326.5	7,740.0	27.2	16.3	103.16	-298.2	240.2	1,054.0	1,023.3	30.71	34.319	
8,300.0	7,500.0	8,426.5	7,740.0	27.7	17.1	103.16	-398.2	240.2	1,054.0	1,021.7	32.39	32.540	
8,400.0	7,500.0	8,526.5	7,740.0	28.3	18.1	103.16	-498.2	240.2	1,054.0	1,019.7	34.33	30.704	
8,500.0	7,500.0	8,626.5	7,740.0	29.0	19.1	103.16	-598.2	240.2	1,054.0	1,017.6	36.49	28.890	
8,600.0	7,500.0	8,726.5	7,740.0	29.8	20.3	103.16	-698.2	240.2	1,054.0	1,015.2	38.82	27.150	
8,700.0	7,500.0	8,826.5	7,740.0	30.6	21.6	103.16	-798.2	240.2	1,054.0	1,012.7	41.31	25.515	
8,800.0	7,500.0	8,926.5	7,740.0	31.5	22.9	103.16	-898.2	240.2	1,054.0	1,010.1	43.92	23.997	
8,900.0	7,500.0	9,026.5	7,740.0	32.5	24.2	103.16	-998.2	240.2	1,054.0	1,007.4	46.64	22.599	
9,000.0	7,500.0	9,126.5	7,740.0	33.6	25.7	103.16	-1,098.2	240.2	1,054.0	1,004.6	49.45	21.317	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2C-7H-E168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	
9,100.0	7,500.0	9,226.5	7,740.0	34.7	27.1	103.16	-1,198.2	240.2	1,054.0	1,001.7	52.32	20.145		
9,200.0	7,500.0	9,326.5	7,740.0	35.9	28.6	103.16	-1,298.2	240.2	1,054.0	998.8	55.26	19.074		
9,300.0	7,500.0	9,426.5	7,740.0	37.1	30.1	103.16	-1,398.2	240.2	1,054.0	995.8	58.25	18.095		
9,400.0	7,500.0	9,526.5	7,740.0	38.3	31.7	103.16	-1,498.2	240.2	1,054.0	992.8	61.29	17.198		
9,500.0	7,500.0	9,626.5	7,740.0	39.6	33.2	103.16	-1,598.2	240.2	1,054.0	989.7	64.36	16.377		
9,600.0	7,500.0	9,726.5	7,740.0	41.0	34.8	103.16	-1,698.2	240.2	1,054.0	986.6	67.47	15.623		
9,700.0	7,500.0	9,826.5	7,740.0	42.3	36.4	103.16	-1,798.2	240.2	1,054.0	983.4	70.60	14.929		
9,800.0	7,500.0	9,926.5	7,740.0	43.7	38.0	103.16	-1,898.2	240.2	1,054.0	980.3	73.77	14.289		
9,900.0	7,500.0	10,026.5	7,740.0	45.1	39.7	103.16	-1,998.2	240.2	1,054.0	977.1	76.95	13.698		
10,000.0	7,500.0	10,126.5	7,740.0	46.6	41.3	103.16	-2,098.2	240.2	1,054.0	973.9	80.15	13.151		
10,100.0	7,500.0	10,226.5	7,740.0	48.0	42.9	103.16	-2,198.2	240.2	1,054.0	970.7	83.37	12.643		
10,200.0	7,500.0	10,326.5	7,740.0	49.5	44.6	103.16	-2,298.2	240.2	1,054.0	967.4	86.60	12.171		
10,300.0	7,500.0	10,426.5	7,740.0	51.0	46.2	103.16	-2,398.2	240.2	1,054.0	964.2	89.85	11.731		
10,400.0	7,500.0	10,526.5	7,740.0	52.5	47.9	103.16	-2,498.2	240.2	1,054.0	960.9	93.11	11.320		
10,500.0	7,500.0	10,626.5	7,740.0	54.0	49.6	103.16	-2,598.2	240.2	1,054.0	957.7	96.38	10.936		
10,600.0	7,500.0	10,726.5	7,740.0	55.6	51.3	103.16	-2,698.2	240.2	1,054.0	954.4	99.66	10.576		
10,700.0	7,500.0	10,826.5	7,740.0	57.1	52.9	103.16	-2,798.2	240.2	1,054.0	951.1	102.95	10.238		
10,800.0	7,500.0	10,926.5	7,740.0	58.7	54.6	103.16	-2,898.2	240.2	1,054.0	947.8	106.25	9.921		
10,900.0	7,500.0	11,026.5	7,740.0	60.3	56.3	103.16	-2,998.2	240.2	1,054.0	944.5	109.55	9.621		
11,000.0	7,500.0	11,126.5	7,740.0	61.9	58.0	103.16	-3,098.2	240.2	1,054.0	941.2	112.87	9.339		
11,100.0	7,500.0	11,226.5	7,740.0	63.5	59.7	103.16	-3,198.2	240.2	1,054.0	937.9	116.18	9.072		
11,200.0	7,500.0	11,326.5	7,740.0	65.1	61.4	103.16	-3,298.2	240.2	1,054.0	934.5	119.51	8.820		
11,300.0	7,500.0	11,426.5	7,740.0	66.7	63.1	103.16	-3,398.2	240.2	1,054.0	931.2	122.83	8.581		
11,400.0	7,500.0	11,526.5	7,740.0	68.3	64.8	103.16	-3,498.2	240.2	1,054.0	927.9	126.17	8.354		
11,500.0	7,500.0	11,626.5	7,740.0	69.9	66.5	103.16	-3,598.2	240.2	1,054.0	924.5	129.50	8.139		
11,600.0	7,500.0	11,726.5	7,740.0	71.5	68.3	103.16	-3,698.2	240.2	1,054.0	921.2	132.85	7.934		
11,700.0	7,500.0	11,826.5	7,740.0	73.2	70.0	103.16	-3,798.2	240.2	1,054.0	917.9	136.19	7.739		
11,800.0	7,500.0	11,926.5	7,740.0	74.8	71.7	103.16	-3,898.2	240.2	1,054.0	914.5	139.54	7.554		
11,900.0	7,500.0	12,026.5	7,740.0	76.5	73.4	103.16	-3,998.2	240.2	1,054.0	911.2	142.89	7.377		
12,000.0	7,500.0	12,126.5	7,740.0	78.1	75.1	103.16	-4,098.2	240.2	1,054.0	907.8	146.25	7.207		
12,100.0	7,500.0	12,226.5	7,740.0	79.8	76.8	103.16	-4,198.2	240.2	1,054.0	904.4	149.61	7.046		
12,200.0	7,500.0	12,326.5	7,740.0	81.4	78.6	103.16	-4,298.2	240.2	1,054.0	901.1	152.97	6.891		
12,300.0	7,500.0	12,426.5	7,740.0	83.1	80.3	103.16	-4,398.2	240.2	1,054.0	897.7	156.33	6.743		
12,400.0	7,500.0	12,526.5	7,740.0	84.8	82.0	103.16	-4,498.2	240.2	1,054.0	894.4	159.69	6.600		
12,500.0	7,500.0	12,626.5	7,740.0	86.4	83.7	103.16	-4,598.2	240.2	1,054.0	891.0	163.06	6.464		
12,600.0	7,500.0	12,726.5	7,740.0	88.1	85.5	103.16	-4,698.2	240.2	1,054.0	887.6	166.43	6.333		
12,700.0	7,500.0	12,826.5	7,740.0	89.8	87.2	103.16	-4,798.2	240.2	1,054.0	884.2	169.80	6.208		
12,800.0	7,500.0	12,926.5	7,740.0	91.5	88.9	103.16	-4,898.2	240.2	1,054.0	880.9	173.18	6.087		
12,900.0	7,500.0	13,026.5	7,740.0	93.2	90.7	103.16	-4,998.2	240.2	1,054.0	877.5	176.55	5.970		
13,000.0	7,500.0	13,126.5	7,740.0	94.8	92.4	103.16	-5,098.2	240.2	1,054.0	874.1	179.93	5.858		
13,100.0	7,500.0	13,226.5	7,740.0	96.5	94.1	103.16	-5,198.2	240.2	1,054.1	870.7	183.30	5.750		
13,200.0	7,500.0	13,326.5	7,740.0	98.2	95.9	103.16	-5,298.2	240.2	1,054.1	867.4	186.68	5.646		
13,300.0	7,500.0	13,426.5	7,740.0	99.9	97.6	103.16	-5,398.2	240.2	1,054.1	864.0	190.06	5.546		
13,400.0	7,500.0	13,526.5	7,740.0	101.6	99.3	103.16	-5,498.2	240.2	1,054.1	860.6	193.45	5.449		
13,500.0	7,500.0	13,626.5	7,740.0	103.3	101.1	103.16	-5,598.2	240.2	1,054.1	857.2	196.83	5.355		
13,600.0	7,500.0	13,726.5	7,740.0	105.0	102.8	103.16	-5,698.2	240.2	1,054.1	853.8	200.21	5.265		
13,700.0	7,500.0	13,826.5	7,740.0	106.7	104.5	103.16	-5,798.2	240.2	1,054.1	850.5	203.60	5.177		
13,800.0	7,500.0	13,926.5	7,740.0	108.4	106.3	103.16	-5,898.2	240.2	1,054.1	847.1	206.99	5.092		
13,900.0	7,500.0	14,026.5	7,740.0	110.1	108.0	103.16	-5,998.2	240.2	1,054.1	843.7	210.37	5.010		
14,000.0	7,500.0	14,126.5	7,740.0	111.8	109.7	103.16	-6,098.2	240.2	1,054.1	840.3	213.76	4.931		
14,100.0	7,500.0	14,226.5	7,740.0	113.5	111.5	103.16	-6,198.2	240.2	1,054.1	836.9	217.15	4.854		
14,200.0	7,500.0	14,326.5	7,740.0	115.2	113.2	103.16	-6,298.2	240.2	1,054.1	833.5	220.54	4.779		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2C-7H-E168 - HZ - Plan #2										Offset Site Error:		0.0 ft	
Survey Program: 0-Geolink 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	
14,300.0	7,500.0	14,426.5	7,740.0	116.9	115.0	103.16	-6,398.2	240.2	1,054.1	830.1	223.93	4.707	
14,400.0	7,500.0	14,526.5	7,740.0	118.6	116.7	103.16	-6,498.2	240.2	1,054.1	826.7	227.32	4.637	
14,500.0	7,500.0	14,626.5	7,740.0	120.3	118.4	103.16	-6,598.2	240.2	1,054.1	823.3	230.72	4.569	
14,600.0	7,500.0	14,726.5	7,740.0	122.1	120.2	103.16	-6,698.2	240.2	1,054.1	819.9	234.11	4.502	
14,700.0	7,500.0	14,826.5	7,740.0	123.8	121.9	103.16	-6,798.2	240.2	1,054.1	816.5	237.50	4.438	
14,800.0	7,500.0	14,926.5	7,740.0	125.5	123.7	103.16	-6,898.2	240.2	1,054.1	813.2	240.90	4.376	
14,900.0	7,500.0	15,026.5	7,740.0	127.2	125.4	103.16	-6,998.2	240.2	1,054.1	809.8	244.29	4.315	
15,000.0	7,500.0	15,126.5	7,740.0	128.9	127.1	103.16	-7,098.2	240.2	1,054.1	806.4	247.69	4.256	
15,100.0	7,500.0	15,226.5	7,740.0	130.6	128.9	103.16	-7,198.2	240.2	1,054.1	803.0	251.09	4.198	
15,200.0	7,500.0	15,326.5	7,740.0	132.4	130.6	103.16	-7,298.2	240.2	1,054.1	799.6	254.48	4.142	
15,300.0	7,500.0	15,426.5	7,740.0	134.1	132.4	103.16	-7,398.2	240.2	1,054.1	796.2	257.88	4.087	
15,400.0	7,500.0	15,526.5	7,740.0	135.8	134.1	103.16	-7,498.2	240.2	1,054.1	792.8	261.28	4.034	
15,500.0	7,500.0	15,626.5	7,740.0	137.5	135.9	103.16	-7,598.2	240.2	1,054.1	789.4	264.68	3.982	
15,600.0	7,500.0	15,726.5	7,740.0	139.2	137.6	103.16	-7,698.2	240.2	1,054.1	786.0	268.07	3.932	
15,700.0	7,500.0	15,826.5	7,740.0	141.0	139.3	103.16	-7,798.2	240.2	1,054.1	782.6	271.47	3.883	
15,800.0	7,500.0	15,926.5	7,740.0	142.7	141.1	103.16	-7,898.2	240.2	1,054.1	779.2	274.87	3.835	
15,814.1	7,500.0	15,940.6	7,740.0	142.9	141.3	103.16	-7,912.3	240.2	1,054.1	778.7	275.35	3.828	
15,839.3	7,500.0	15,952.8	7,740.0	143.4	141.6	103.16	-7,924.5	240.2	1,054.1	778.1	275.99	3.819 SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2D-7H-E168 - HZ - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink 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		
0.0	0.0	0.0	0.0	0.0	0.0	-88.96	0.4	-20.2	20.2					
100.0	100.0	100.0	100.0	0.2	0.2	-88.96	0.4	-20.2	20.2	19.9	0.30	66.366	20.118 CC, ES	
200.0	200.0	200.0	200.0	0.3	0.3	-88.96	0.4	-20.2	20.2	19.5	0.65	30.876		
300.0	300.0	300.0	300.0	0.5	0.5	-88.96	0.4	-20.2	20.2	19.2	1.00	20.118		
400.0	400.0	400.0	400.0	0.7	0.7	-156.11	0.4	-20.2	20.9	19.6	1.35	15.508		
500.0	500.0	500.0	500.0	0.9	0.8	-158.70	0.4	-20.2	23.4	21.7	1.70	13.745		
600.0	599.9	600.2	600.2	1.0	1.0	-160.69	1.0	-19.6	26.9	24.8	2.05	13.103		
700.0	699.7	700.5	700.4	1.2	1.2	-160.93	3.1	-17.9	30.8	28.4	2.40	12.822		
800.0	799.4	800.8	800.6	1.4	1.4	-159.99	6.5	-15.1	35.2	32.4	2.76	12.746		
900.0	898.9	901.1	900.8	1.7	1.6	-158.29	11.2	-11.2	40.0	36.9	3.13	12.794		
1,000.0	998.3	1,001.4	1,000.8	1.9	1.8	-156.12	17.3	-6.2	45.3	41.8	3.51	12.918		
1,100.0	1,097.4	1,101.8	1,100.6	2.2	2.0	-153.70	24.7	-0.1	51.2	47.3	3.92	13.082		
1,200.0	1,196.3	1,202.1	1,200.3	2.5	2.2	-151.17	33.5	7.2	57.7	53.4	4.35	13.258		
1,300.0	1,294.9	1,301.8	1,299.3	2.8	2.5	-149.30	42.9	14.9	65.3	60.5	4.81	13.580		
1,400.0	1,393.3	1,401.3	1,398.1	3.2	2.7	-148.52	52.3	22.6	74.4	69.2	5.27	14.117		
1,484.0	1,475.6	1,484.9	1,481.0	3.5	3.0	-148.48	60.2	29.1	83.3	77.6	5.66	14.699		
1,500.0	1,491.3	1,500.8	1,496.8	3.5	3.0	-148.52	61.7	30.3	85.0	79.3	5.74	14.817		
1,600.0	1,589.1	1,600.2	1,595.4	3.9	3.3	-148.75	71.0	38.1	96.2	90.0	6.21	15.485		
1,700.0	1,687.0	1,699.5	1,694.1	4.3	3.5	-148.93	80.4	45.8	107.3	100.6	6.68	16.049		
1,800.0	1,784.9	1,798.9	1,792.7	4.7	3.8	-149.08	89.8	53.5	118.4	111.3	7.16	16.533		
1,900.0	1,882.7	1,898.3	1,891.3	5.1	4.0	-149.20	99.1	61.2	129.5	121.9	7.64	16.950		
2,000.0	1,980.6	1,997.7	1,990.0	5.4	4.3	-149.31	108.5	68.9	140.7	132.5	8.12	17.314		
2,100.0	2,078.5	2,097.0	2,088.6	5.8	4.6	-149.39	117.9	76.6	151.8	143.2	8.61	17.633		
2,200.0	2,176.4	2,196.4	2,187.2	6.2	4.8	-149.47	127.2	84.3	162.9	153.8	9.09	17.917		
2,300.0	2,274.2	2,295.8	2,285.9	6.6	5.1	-149.53	136.6	92.1	174.1	164.5	9.58	18.169		
2,400.0	2,372.1	2,395.2	2,384.5	7.0	5.4	-149.59	146.0	99.8	185.2	175.1	10.07	18.395		
2,500.0	2,470.0	2,494.6	2,483.1	7.4	5.6	-149.64	155.3	107.5	196.3	185.8	10.56	18.598		
2,600.0	2,567.8	2,593.9	2,581.8	7.8	5.9	-149.69	164.7	115.2	207.4	196.4	11.04	18.783		
2,700.0	2,665.7	2,693.3	2,680.4	8.2	6.2	-149.73	174.1	122.9	218.6	207.0	11.53	18.950		
2,800.0	2,763.6	2,792.7	2,779.0	8.6	6.5	-149.77	183.4	130.6	229.7	217.7	12.02	19.103		
2,900.0	2,861.5	2,892.1	2,877.7	9.0	6.7	-149.80	192.8	138.3	240.8	228.3	12.51	19.244		
3,000.0	2,959.3	2,991.5	2,976.3	9.4	7.0	-149.83	202.2	146.1	251.9	238.9	13.01	19.373		
3,100.0	3,057.2	3,090.8	3,074.9	9.8	7.3	-149.86	211.5	153.8	263.1	249.6	13.50	19.492		
3,200.0	3,155.1	3,190.2	3,173.6	10.2	7.5	-149.89	220.9	161.5	274.2	260.2	13.99	19.602		
3,300.0	3,253.0	3,289.6	3,272.2	10.6	7.8	-149.91	230.3	169.2	285.3	270.9	14.48	19.704		
3,400.0	3,350.8	3,389.0	3,370.9	11.0	8.1	-149.93	239.6	176.9	296.5	281.5	14.97	19.800		
3,500.0	3,448.7	3,488.3	3,469.5	11.4	8.4	-149.96	249.0	184.6	307.6	292.1	15.47	19.889		
3,600.0	3,546.6	3,587.7	3,568.1	11.8	8.6	-149.97	258.4	192.3	318.7	302.8	15.96	19.972		
3,700.0	3,644.4	3,687.1	3,666.8	12.2	8.9	-149.99	267.7	200.1	329.8	313.4	16.45	20.049		
3,800.0	3,742.3	3,786.5	3,765.4	12.6	9.2	-150.01	277.1	207.8	341.0	324.0	16.95	20.122		
3,900.0	3,840.2	3,885.9	3,864.0	13.0	9.4	-150.02	286.5	215.5	352.1	334.7	17.44	20.191		
4,000.0	3,938.1	3,985.2	3,962.7	13.4	9.7	-150.04	295.8	223.2	363.2	345.3	17.93	20.256		
4,100.0	4,035.9	4,084.6	4,061.3	13.8	10.0	-150.05	305.2	230.9	374.4	355.9	18.43	20.317		
4,200.0	4,133.8	4,184.0	4,159.9	14.2	10.3	-150.07	314.5	238.6	385.5	366.6	18.92	20.375		
4,300.0	4,231.7	4,283.4	4,258.6	14.6	10.5	-150.08	323.9	246.3	396.6	377.2	19.41	20.429		
4,400.0	4,329.5	4,382.8	4,357.2	15.0	10.8	-150.09	333.3	254.1	407.7	387.8	19.91	20.481		
4,500.0	4,427.4	4,482.1	4,455.8	15.4	11.1	-150.10	342.6	261.8	418.9	398.5	20.40	20.530		
4,600.0	4,525.3	4,581.5	4,554.5	15.8	11.4	-150.11	352.0	269.5	430.0	409.1	20.90	20.577		
4,700.0	4,623.2	4,680.9	4,653.1	16.2	11.6	-150.12	361.4	277.2	441.1	419.7	21.39	20.622		
4,800.0	4,721.0	4,780.3	4,751.7	16.7	11.9	-150.13	370.7	284.9	452.3	430.4	21.89	20.664		
4,900.0	4,818.9	4,879.7	4,850.4	17.1	12.2	-150.14	380.1	292.6	463.4	441.0	22.38	20.705		
5,000.0	4,916.8	4,979.0	4,949.0	17.5	12.4	-150.15	389.5	300.3	474.5	451.6	22.88	20.743		

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



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2D-7H-E168 - HZ - Plan #2												Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
5,100.0	5,014.7	5,078.4	5,047.7	17.9	12.7	-150.16	398.8	308.1	485.6	462.3	23.37	20.780	
5,200.0	5,112.5	5,177.8	5,146.3	18.3	13.0	-150.16	408.2	315.8	496.8	472.9	23.87	20.816	
5,300.0	5,210.4	5,277.2	5,244.9	18.7	13.3	-150.17	417.6	323.5	507.9	483.5	24.36	20.850	
5,400.0	5,308.3	5,376.5	5,343.6	19.1	13.5	-150.18	426.9	331.2	519.0	494.2	24.86	20.882	
5,500.0	5,406.1	5,475.9	5,442.2	19.5	13.8	-150.19	436.3	338.9	530.2	504.8	25.35	20.913	
5,600.0	5,504.0	5,575.3	5,540.8	19.9	14.1	-150.19	445.7	346.6	541.3	515.4	25.85	20.943	
5,700.0	5,601.9	5,674.7	5,639.5	20.3	14.4	-150.20	455.0	354.3	552.4	526.1	26.34	20.972	
5,800.0	5,699.8	5,774.1	5,738.1	20.7	14.6	-150.20	464.4	362.1	563.6	536.7	26.84	21.000	
5,900.0	5,797.6	5,873.4	5,836.7	21.1	14.9	-150.21	473.8	369.8	574.7	547.3	27.33	21.026	
6,000.0	5,895.5	5,972.8	5,935.4	21.5	15.2	-150.22	483.1	377.5	585.8	558.0	27.83	21.052	
6,100.0	5,993.4	6,072.2	6,034.0	21.9	15.5	-150.22	492.5	385.2	596.9	568.6	28.32	21.077	
6,200.0	6,091.2	6,171.6	6,132.6	22.3	15.7	-150.23	501.9	392.9	608.1	579.3	28.82	21.101	
6,300.0	6,189.1	6,271.0	6,231.3	22.7	16.0	-150.23	511.2	400.6	619.2	589.9	29.31	21.124	
6,400.0	6,287.0	6,370.3	6,329.9	23.1	16.3	-150.24	520.6	408.3	630.3	600.5	29.81	21.146	
6,500.0	6,384.9	6,469.7	6,428.5	23.5	16.5	-150.24	530.0	416.1	641.5	611.2	30.30	21.167	
6,600.0	6,482.7	6,569.1	6,527.2	23.9	16.8	-150.24	539.3	423.8	652.6	621.8	30.80	21.188	
6,700.0	6,580.6	6,668.5	6,625.8	24.3	17.1	-150.25	548.7	431.5	663.7	632.4	31.30	21.208	
6,800.0	6,678.5	6,767.8	6,724.5	24.7	17.4	-150.25	558.1	439.2	674.8	643.1	31.79	21.228	
6,900.0	6,776.4	6,867.2	6,823.1	25.1	17.6	-150.26	567.4	446.9	686.0	653.7	32.29	21.246	
7,000.0	6,874.2	6,973.0	6,928.2	25.5	17.9	-150.47	574.9	455.1	696.9	664.2	32.68	21.326	
7,016.7	6,890.6	6,991.7	6,946.9	25.6	17.9	-150.64	574.6	456.6	698.6	665.9	32.68	21.374	
7,050.0	6,923.2	7,028.7	6,983.7	25.7	17.9	-167.33	572.2	459.5	701.9	669.4	32.51	21.590	
7,100.0	6,972.3	7,083.7	7,037.9	25.9	17.9	166.16	564.3	463.7	706.9	674.8	32.15	21.991	
7,150.0	7,021.1	7,138.0	7,090.5	26.0	17.9	145.17	551.5	467.8	711.9	680.2	31.69	22.468	
7,200.0	7,069.3	7,191.5	7,140.9	26.1	17.8	131.14	533.9	471.8	716.9	685.8	31.16	23.010	
7,250.0	7,116.5	7,244.3	7,188.8	26.2	17.7	121.81	512.1	475.5	721.9	691.3	30.59	23.599	
7,300.0	7,162.3	7,296.4	7,233.8	26.2	17.6	115.26	486.3	479.0	726.7	696.7	30.01	24.219	
7,350.0	7,206.4	7,347.7	7,275.9	26.3	17.4	110.39	457.0	482.3	731.5	702.0	29.44	24.849	
7,400.0	7,248.4	7,398.4	7,314.6	26.3	17.2	106.59	424.5	485.3	736.0	707.1	28.90	25.469	
7,450.0	7,288.1	7,448.4	7,349.8	26.3	17.1	103.53	389.1	488.1	740.4	712.0	28.41	26.058	
7,500.0	7,325.1	7,497.8	7,381.5	26.3	16.9	100.98	351.3	490.6	744.6	716.6	28.00	26.596	
7,550.0	7,359.2	7,546.6	7,409.5	26.3	16.8	98.83	311.4	492.8	748.5	720.9	27.66	27.065	
7,600.0	7,390.0	7,594.8	7,433.7	26.3	16.6	96.98	269.8	494.7	752.1	724.7	27.40	27.453	
7,650.0	7,417.4	7,642.5	7,454.2	26.3	16.5	95.40	226.8	496.3	755.4	728.2	27.22	27.751	
7,700.0	7,441.2	7,689.7	7,470.8	26.3	16.4	94.03	182.7	497.6	758.4	731.2	27.13	27.955	
7,750.0	7,461.1	7,736.4	7,483.7	26.3	16.4	92.87	137.8	498.6	760.9	733.8	27.11	28.066	
7,800.0	7,477.0	7,782.6	7,492.8	26.3	16.4	91.88	92.5	499.3	763.1	735.9	27.17	28.086	
7,850.0	7,488.8	7,828.4	7,498.2	26.4	16.4	91.06	47.1	499.7	764.8	737.5	27.29	28.023	
7,900.0	7,496.5	7,873.9	7,500.0	26.4	16.5	90.40	1.6	499.8	766.1	738.6	27.46	27.895	
7,950.0	7,499.8	7,923.7	7,500.0	26.5	16.6	90.02	-48.2	499.8	766.7	739.0	27.73	27.646	
7,964.3	7,500.0	7,938.1	7,500.0	26.5	16.6	90.00	-62.5	499.8	766.7	738.9	27.82	27.556	
8,000.0	7,500.0	7,973.7	7,500.0	26.6	16.7	90.00	-98.2	499.8	766.7	738.6	28.10	27.283	
8,100.0	7,500.0	8,073.7	7,500.0	26.8	17.2	90.00	-198.2	499.8	766.7	737.6	29.17	26.287	
8,200.0	7,500.0	8,173.7	7,500.0	27.2	17.8	90.00	-298.2	499.8	766.7	736.1	30.60	25.057	
8,300.0	7,500.0	8,273.7	7,500.0	27.7	18.6	90.00	-398.2	499.8	766.7	734.4	32.35	23.701	
8,400.0	7,500.0	8,373.7	7,500.0	28.3	19.5	90.00	-498.2	499.8	766.7	732.4	34.37	22.308	
8,500.0	7,500.0	8,473.7	7,500.0	29.0	20.5	90.00	-598.2	499.8	766.7	730.1	36.62	20.939	
8,600.0	7,500.0	8,573.7	7,500.0	29.8	21.6	90.00	-698.2	499.8	766.7	727.7	39.05	19.635	
8,700.0	7,500.0	8,673.7	7,500.0	30.6	22.7	90.00	-798.2	499.8	766.7	725.1	41.64	18.415	
8,800.0	7,500.0	8,773.7	7,500.0	31.5	24.0	90.00	-898.2	499.8	766.7	722.4	44.35	17.289	
8,900.0	7,500.0	8,873.7	7,500.0	32.5	25.3	90.00	-998.2	499.8	766.7	719.6	47.17	16.256	
9,000.0	7,500.0	8,973.7	7,500.0	33.6	26.7	90.00	-1,098.2	499.8	766.7	716.7	50.07	15.312	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2D-7H-E168 - HZ - Plan #2										Offset Site Error: 0.0 ft			
Survey Program: O-Geolink 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
9,100.0	7,500.0	9,073.7	7,500.0	34.7	28.1	90.00	-1,198.2	499.8	766.7	713.7	53.05	14.453	
9,200.0	7,500.0	9,173.7	7,500.0	35.9	29.5	90.00	-1,298.2	499.8	766.7	710.6	56.09	13.669	
9,300.0	7,500.0	9,273.7	7,500.0	37.1	31.0	90.00	-1,398.2	499.8	766.7	707.5	59.18	12.955	
9,400.0	7,500.0	9,373.7	7,500.0	38.3	32.5	90.00	-1,498.2	499.8	766.7	704.4	62.32	12.303	
9,500.0	7,500.0	9,473.7	7,500.0	39.6	34.0	90.00	-1,598.2	499.8	766.7	701.2	65.49	11.707	
9,600.0	7,500.0	9,573.7	7,500.0	41.0	35.5	90.00	-1,698.2	499.8	766.7	698.0	68.70	11.161	
9,700.0	7,500.0	9,673.7	7,500.0	42.3	37.1	90.00	-1,798.2	499.8	766.7	694.8	71.93	10.659	
9,800.0	7,500.0	9,773.7	7,500.0	43.7	38.7	90.00	-1,898.2	499.8	766.7	691.5	75.19	10.197	
9,900.0	7,500.0	9,873.7	7,500.0	45.1	40.3	90.00	-1,998.2	499.8	766.7	688.3	78.47	9.771	
10,000.0	7,500.0	9,973.7	7,500.0	46.6	41.9	90.00	-2,098.2	499.8	766.7	685.0	81.77	9.377	
10,100.0	7,500.0	10,073.7	7,500.0	48.0	43.5	90.00	-2,198.2	499.8	766.7	681.6	85.09	9.011	
10,200.0	7,500.0	10,173.7	7,500.0	49.5	45.1	90.00	-2,298.2	499.8	766.7	678.3	88.42	8.672	
10,300.0	7,500.0	10,273.7	7,500.0	51.0	46.8	90.00	-2,398.2	499.8	766.7	675.0	91.76	8.356	
10,400.0	7,500.0	10,373.7	7,500.0	52.5	48.4	90.00	-2,498.2	499.8	766.7	671.6	95.12	8.061	
10,500.0	7,500.0	10,473.7	7,500.0	54.0	50.1	90.00	-2,598.2	499.8	766.7	668.2	98.49	7.785	
10,600.0	7,500.0	10,573.7	7,500.0	55.6	51.7	90.00	-2,698.2	499.8	766.7	664.9	101.86	7.527	
10,700.0	7,500.0	10,673.7	7,500.0	57.1	53.4	90.00	-2,798.2	499.8	766.7	661.5	105.25	7.285	
10,800.0	7,500.0	10,773.7	7,500.0	58.7	55.1	90.00	-2,898.2	499.8	766.7	658.1	108.64	7.058	
10,900.0	7,500.0	10,873.7	7,500.0	60.3	56.8	90.00	-2,998.2	499.8	766.7	654.7	112.04	6.844	
11,000.0	7,500.0	10,973.7	7,500.0	61.9	58.4	90.00	-3,098.2	499.8	766.7	651.3	115.44	6.642	
11,100.0	7,500.0	11,073.7	7,500.0	63.5	60.1	90.00	-3,198.2	499.8	766.7	647.9	118.86	6.451	
11,200.0	7,500.0	11,173.7	7,500.0	65.1	61.8	90.00	-3,298.2	499.8	766.7	644.5	122.27	6.271	
11,300.0	7,500.0	11,284.5	7,500.0	66.7	63.7	90.00	-3,409.0	500.1	766.5	640.6	125.88	6.089	
11,400.0	7,500.0	11,420.9	7,500.0	68.3	66.0	90.00	-3,545.2	505.3	762.7	632.8	129.93	5.870	
11,500.0	7,500.0	11,526.8	7,500.0	69.9	67.8	90.00	-3,650.9	512.6	755.8	622.4	133.46	5.663	
11,600.0	7,500.0	11,626.6	7,500.0	71.5	69.5	90.00	-3,750.5	519.5	748.9	612.0	136.89	5.471	
11,700.0	7,500.0	11,726.3	7,500.0	73.2	71.3	90.00	-3,850.0	526.5	741.9	601.6	140.32	5.287	
11,800.0	7,500.0	11,826.1	7,500.0	74.8	73.0	90.00	-3,949.5	533.5	734.9	591.2	143.75	5.112	
11,900.0	7,500.0	11,925.8	7,500.0	76.5	74.7	90.00	-4,049.0	540.4	727.9	580.7	147.19	4.945	
12,000.0	7,500.0	12,025.6	7,500.0	78.1	76.4	90.00	-4,148.5	547.4	721.0	570.3	150.63	4.786	
12,100.0	7,500.0	12,125.4	7,500.0	79.8	78.1	90.00	-4,248.0	554.3	714.0	559.9	154.08	4.634	
12,200.0	7,500.0	12,219.0	7,500.0	81.4	79.7	90.00	-4,341.4	560.8	707.1	549.7	157.42	4.492	
12,300.0	7,500.0	12,300.0	7,500.0	83.1	81.1	90.00	-4,422.4	564.6	702.4	541.9	160.54	4.375	
12,400.0	7,500.0	12,379.5	7,500.0	84.8	82.5	90.00	-4,501.8	566.1	700.5	536.9	163.65	4.281	
12,442.7	7,500.0	12,418.7	7,500.0	85.5	83.2	90.00	-4,541.1	566.1	700.5	535.4	165.07	4.243	
12,500.0	7,500.0	12,476.0	7,500.0	86.4	84.2	90.00	-4,598.3	566.1	700.4	533.4	167.05	4.193	
12,600.0	7,500.0	12,576.0	7,500.0	88.1	85.9	90.00	-4,698.3	566.1	700.4	529.9	170.51	4.108	
12,700.0	7,500.0	12,676.0	7,500.0	89.8	87.6	90.00	-4,798.3	566.2	700.4	526.4	173.97	4.026	
12,800.0	7,500.0	12,776.0	7,500.0	91.5	89.3	90.00	-4,898.3	566.2	700.4	523.0	177.44	3.947	
12,900.0	7,500.0	12,876.0	7,500.0	93.2	91.0	90.00	-4,998.3	566.2	700.4	519.5	180.91	3.872	
13,000.0	7,500.0	12,976.0	7,500.0	94.8	92.8	90.00	-5,098.3	566.2	700.4	516.0	184.38	3.799	
13,100.0	7,500.0	13,076.0	7,500.0	96.5	94.5	90.00	-5,198.3	566.2	700.4	512.5	187.85	3.728	
13,200.0	7,500.0	13,176.0	7,500.0	98.2	96.2	90.00	-5,298.3	566.2	700.3	509.0	191.32	3.661	
13,300.0	7,500.0	13,276.0	7,500.0	99.9	97.9	90.00	-5,398.3	566.3	700.3	505.5	194.79	3.595	
13,400.0	7,500.0	13,376.0	7,500.0	101.6	99.7	90.00	-5,498.3	566.3	700.3	502.0	198.27	3.532	
13,500.0	7,500.0	13,476.0	7,500.0	103.3	101.4	90.00	-5,598.3	566.3	700.3	498.5	201.74	3.471	
13,600.0	7,500.0	13,576.0	7,500.0	105.0	103.1	90.00	-5,698.3	566.3	700.3	495.1	205.22	3.412	
13,700.0	7,500.0	13,676.0	7,500.0	106.7	104.9	90.00	-5,798.3	566.3	700.3	491.6	208.70	3.355	
13,800.0	7,500.0	13,776.0	7,500.0	108.4	106.6	90.00	-5,898.3	566.3	700.2	488.1	212.17	3.300	
13,900.0	7,500.0	13,876.0	7,500.0	110.1	108.3	90.00	-5,998.3	566.4	700.2	484.6	215.65	3.247	
14,000.0	7,500.0	13,976.0	7,500.0	111.8	110.1	90.00	-6,098.3	566.4	700.2	481.1	219.13	3.195	
14,100.0	7,500.0	14,076.0	7,500.0	113.5	111.8	90.00	-6,198.3	566.4	700.2	477.6	222.61	3.145	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2D-7H-E168 - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink 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		
14,200.0	7,500.0	14,176.0	7,500.0	115.2	113.5	90.00	-6,298.3	566.4	700.2	474.1	226.10	3.097		
14,300.0	7,500.0	14,276.0	7,500.0	116.9	115.3	90.00	-6,398.3	566.4	700.2	470.6	229.58	3.050		
14,400.0	7,500.0	14,376.0	7,500.0	118.6	117.0	90.00	-6,498.3	566.4	700.1	467.1	233.06	3.004		
14,500.0	7,500.0	14,476.0	7,500.0	120.3	118.7	90.00	-6,598.3	566.4	700.1	463.6	236.55	2.960		
14,600.0	7,500.0	14,576.0	7,500.0	122.1	120.5	90.00	-6,698.3	566.5	700.1	460.1	240.03	2.917		
14,700.0	7,500.0	14,676.0	7,500.0	123.8	122.2	90.00	-6,798.3	566.5	700.1	456.6	243.52	2.875		
14,800.0	7,500.0	14,776.0	7,500.0	125.5	123.9	90.00	-6,898.3	566.5	700.1	453.1	247.01	2.834		
14,900.0	7,500.0	14,876.0	7,500.0	127.2	125.7	90.00	-6,998.3	566.5	700.1	449.6	250.49	2.795		
15,000.0	7,500.0	14,976.0	7,500.0	128.9	127.4	90.00	-7,098.3	566.5	700.1	446.1	253.98	2.756		
15,100.0	7,500.0	15,076.0	7,500.0	130.6	129.1	90.00	-7,198.3	566.5	700.0	442.6	257.47	2.719		
15,200.0	7,500.0	15,176.0	7,500.0	132.4	130.9	90.00	-7,298.3	566.6	700.0	439.1	260.96	2.683		
15,300.0	7,500.0	15,276.0	7,500.0	134.1	132.6	90.00	-7,398.3	566.6	700.0	435.6	264.45	2.647		
15,400.0	7,500.0	15,376.0	7,500.0	135.8	134.4	90.00	-7,498.3	566.6	700.0	432.1	267.94	2.613		
15,500.0	7,500.0	15,476.0	7,500.0	137.5	136.1	90.00	-7,598.3	566.6	700.0	428.5	271.43	2.579		
15,600.0	7,500.0	15,576.0	7,500.0	139.2	137.8	90.00	-7,698.3	566.6	700.0	425.0	274.92	2.546		
15,700.0	7,500.0	15,676.0	7,500.0	141.0	139.6	90.00	-7,798.3	566.6	699.9	421.5	278.41	2.514		
15,800.0	7,500.0	15,776.0	7,500.0	142.7	141.3	90.00	-7,898.3	566.7	699.9	418.0	281.90	2.483		
15,827.4	7,500.0	15,803.4	7,500.0	143.2	141.8	90.00	-7,925.7	566.7	699.9	417.1	282.86	2.474		
15,839.3	7,500.0	15,805.8	7,500.0	143.4	141.8	90.00	-7,928.1	566.7	700.0	416.9	283.11	2.473 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2E-7H-E168 - HZ - Plan #3														Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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		
0.0	0.0	0.0	0.0	0.0	0.0	-90.02	0.0	-10.1	10.1						
100.0	100.0	100.0	100.0	0.2	0.2	-90.02	0.0	-10.1	10.1	9.8	0.30	33.178			
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-10.1	10.1	9.4	0.65	15.436			
300.0	300.0	300.0	300.0	0.5	0.5	-90.02	0.0	-10.1	10.1	9.1	1.00	10.057 CC, ES			
400.0	400.0	400.0	400.0	0.7	0.7	-158.02	0.0	-10.1	10.9	9.5	1.35	8.054			
500.0	500.0	500.0	500.0	0.9	0.8	-162.23	0.0	-10.1	13.3	11.6	1.70	7.850			
600.0	599.9	599.9	599.9	1.0	1.0	-166.57	0.0	-10.1	17.5	15.5	2.05	8.567			
700.0	699.7	699.7	699.7	1.2	1.2	-170.01	0.0	-10.1	23.5	21.1	2.40	9.821			
800.0	799.4	799.4	799.4	1.4	1.4	-172.49	0.0	-10.1	31.3	28.5	2.74	11.408			
900.0	898.9	898.9	898.9	1.7	1.5	-174.24	0.0	-10.1	40.8	37.7	3.09	13.216			
1,000.0	998.3	998.3	998.3	1.9	1.7	-175.48	0.0	-10.1	52.1	48.7	3.43	15.177			
1,100.0	1,097.4	1,098.5	1,098.4	2.2	1.9	-176.14	0.5	-9.4	64.3	60.5	3.78	17.030			
1,200.0	1,196.3	1,198.9	1,198.8	2.5	2.1	-176.25	2.2	-7.4	76.6	72.5	4.12	18.594			
1,300.0	1,294.9	1,299.5	1,299.3	2.8	2.3	-176.03	4.9	-4.0	89.0	84.6	4.47	19.933			
1,400.0	1,393.3	1,400.3	1,399.9	3.2	2.4	-175.61	8.8	0.8	101.5	96.7	4.81	21.092			
1,484.0	1,475.6	1,485.1	1,484.5	3.5	2.6	-175.14	12.9	5.9	112.1	107.0	5.11	21.950			
1,500.0	1,491.3	1,501.3	1,500.6	3.5	2.6	-175.04	13.8	7.0	114.1	108.9	5.16	22.093			
1,600.0	1,589.1	1,602.6	1,601.5	3.9	2.8	-174.33	19.9	14.5	125.6	120.1	5.52	22.730			
1,700.0	1,687.0	1,704.2	1,702.4	4.3	3.1	-173.47	27.2	23.5	135.5	129.6	5.89	22.986			
1,800.0	1,784.9	1,806.1	1,803.5	4.7	3.3	-172.45	35.6	33.9	143.8	137.5	6.27	22.921			
1,900.0	1,882.7	1,908.3	1,904.5	5.1	3.6	-171.26	45.2	45.8	150.5	143.8	6.66	22.581			
2,000.0	1,980.6	2,008.1	2,003.0	5.4	3.9	-170.07	55.1	58.0	156.4	149.3	7.06	22.151			
2,100.0	2,078.5	2,107.8	2,101.5	5.8	4.1	-168.96	65.0	70.3	162.4	154.9	7.47	21.748			
2,200.0	2,176.4	2,207.6	2,200.1	6.2	4.4	-167.94	74.9	82.5	168.5	160.6	7.88	21.368			
2,300.0	2,274.2	2,307.4	2,298.6	6.6	4.7	-166.98	84.8	94.8	174.6	166.3	8.31	21.010			
2,400.0	2,372.1	2,407.2	2,397.1	7.0	5.0	-166.09	94.7	107.0	180.7	172.0	8.74	20.671			
2,500.0	2,470.0	2,506.9	2,495.6	7.4	5.3	-165.26	104.6	119.3	186.9	177.8	9.19	20.352			
2,600.0	2,567.8	2,606.7	2,594.1	7.8	5.6	-164.48	114.6	131.5	193.2	183.5	9.63	20.049			
2,700.0	2,665.7	2,706.5	2,692.7	8.2	5.9	-163.75	124.5	143.7	199.4	189.3	10.09	19.764			
2,800.0	2,763.6	2,806.2	2,791.2	8.6	6.2	-163.07	134.4	156.0	205.7	195.2	10.55	19.493			
2,900.0	2,861.5	2,906.0	2,889.7	9.0	6.5	-162.42	144.3	168.2	212.1	201.0	11.02	19.237			
3,000.0	2,959.3	3,005.8	2,988.2	9.4	6.9	-161.81	154.2	180.5	218.4	206.9	11.50	18.995			
3,100.0	3,057.2	3,105.6	3,086.7	9.8	7.2	-161.24	164.1	192.7	224.8	212.8	11.98	18.766			
3,200.0	3,155.1	3,205.3	3,185.3	10.2	7.5	-160.70	174.0	205.0	231.2	218.7	12.46	18.549			
3,300.0	3,253.0	3,305.1	3,283.8	10.6	7.8	-160.19	183.9	217.2	237.6	224.6	12.95	18.343			
3,400.0	3,350.8	3,404.9	3,382.3	11.0	8.1	-159.70	193.8	229.5	244.0	230.6	13.45	18.148			
3,500.0	3,448.7	3,504.7	3,480.8	11.4	8.4	-159.24	203.7	241.7	250.5	236.5	13.94	17.963			
3,600.0	3,546.6	3,604.4	3,579.3	11.8	8.8	-158.81	213.7	254.0	256.9	242.5	14.45	17.787			
3,700.0	3,644.4	3,704.2	3,677.9	12.2	9.1	-158.39	223.6	266.2	263.4	248.5	14.95	17.620			
3,800.0	3,742.3	3,804.0	3,776.4	12.6	9.4	-158.00	233.5	278.5	269.9	254.5	15.46	17.461			
3,900.0	3,840.2	3,903.7	3,874.9	13.0	9.7	-157.62	243.4	290.7	276.4	260.5	15.97	17.310			
4,000.0	3,938.1	4,003.5	3,973.4	13.4	10.0	-157.26	253.3	303.0	282.9	266.5	16.48	17.166			
4,100.0	4,035.9	4,103.3	4,072.0	13.8	10.3	-156.92	263.2	315.2	289.5	272.5	17.00	17.029			
4,200.0	4,133.8	4,203.1	4,170.5	14.2	10.7	-156.59	273.1	327.4	296.0	278.5	17.52	16.899			
4,300.0	4,231.7	4,302.8	4,269.0	14.6	11.0	-156.28	283.0	339.7	302.5	284.5	18.04	16.774			
4,400.0	4,329.5	4,402.6	4,367.5	15.0	11.3	-155.98	292.9	351.9	309.1	290.5	18.56	16.655			
4,500.0	4,427.4	4,502.4	4,466.0	15.4	11.6	-155.69	302.8	364.2	315.7	296.6	19.08	16.542			
4,600.0	4,525.3	4,602.1	4,564.6	15.8	12.0	-155.41	312.8	376.4	322.2	302.6	19.61	16.433			
4,700.0	4,623.2	4,701.9	4,663.1	16.2	12.3	-155.15	322.7	388.7	328.8	308.7	20.14	16.329			
4,800.0	4,721.0	4,801.7	4,761.6	16.7	12.6	-154.89	332.6	400.9	335.4	314.7	20.67	16.229			
4,900.0	4,818.9	4,901.5	4,860.1	17.1	12.9	-154.65	342.5	413.2	342.0	320.8	21.20	16.134			
5,000.0	4,916.8	5,001.2	4,958.6	17.5	13.2	-154.41	352.4	425.4	348.6	326.8	21.73	16.042			

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2E-7H-E168 - HZ - Plan #3												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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)			
5,100.0	5,014.7	5,101.0	5,057.2	17.9	13.6	-154.18	362.3	437.7	355.2	332.9	22.26	15.954	
5,200.0	5,112.5	5,200.8	5,155.7	18.3	13.9	-153.96	372.2	449.9	361.8	339.0	22.80	15.870	
5,300.0	5,210.4	5,300.6	5,254.2	18.7	14.2	-153.75	382.1	462.2	368.4	345.1	23.33	15.789	
5,400.0	5,308.3	5,400.3	5,352.7	19.1	14.5	-153.55	392.0	474.4	375.0	351.1	23.87	15.711	
5,500.0	5,406.1	5,500.1	5,451.2	19.5	14.9	-153.35	401.9	486.7	381.6	357.2	24.41	15.636	
5,600.0	5,504.0	5,599.9	5,549.8	19.9	15.2	-153.16	411.9	498.9	388.3	363.3	24.95	15.564	
5,700.0	5,601.9	5,699.6	5,648.3	20.3	15.5	-152.98	421.8	511.1	394.9	369.4	25.49	15.494	
5,800.0	5,699.8	5,799.4	5,746.8	20.7	15.8	-152.80	431.7	523.4	401.5	375.5	26.03	15.427	
5,900.0	5,797.6	5,899.2	5,845.3	21.1	16.2	-152.63	441.6	535.6	408.2	381.6	26.57	15.363	
6,000.0	5,895.5	5,999.0	5,943.8	21.5	16.5	-152.46	451.5	547.9	414.8	387.7	27.11	15.300	
6,100.0	5,993.4	6,098.7	6,042.4	21.9	16.8	-152.30	461.4	560.1	421.4	393.8	27.65	15.240	
6,200.0	6,091.2	6,198.5	6,140.9	22.3	17.1	-152.15	471.3	572.4	428.1	399.9	28.20	15.182	
6,300.0	6,189.1	6,298.3	6,239.4	22.7	17.5	-152.00	481.2	584.6	434.7	406.0	28.74	15.126	
6,400.0	6,287.0	6,398.0	6,337.9	23.1	17.8	-151.85	491.1	596.9	441.4	412.1	29.29	15.072	
6,500.0	6,384.9	6,497.8	6,436.4	23.5	18.1	-151.71	501.0	609.1	448.0	418.2	29.83	15.019	
6,600.0	6,482.7	6,597.6	6,535.0	23.9	18.4	-151.57	511.0	621.4	454.7	424.3	30.38	14.968	
6,700.0	6,580.6	6,697.4	6,633.5	24.3	18.8	-151.44	520.9	633.6	461.4	430.4	30.92	14.919	
6,800.0	6,678.5	6,797.1	6,732.0	24.7	19.1	-151.31	530.8	645.9	468.0	436.6	31.47	14.871	
6,900.0	6,776.4	6,896.9	6,830.5	25.1	19.4	-151.18	540.7	658.1	474.7	442.7	32.02	14.825	
7,000.0	6,874.2	6,996.7	6,929.0	25.5	19.7	-151.06	550.6	670.4	481.4	448.8	32.57	14.780	
7,016.7	6,890.6	7,013.4	6,945.5	25.6	19.8	-151.04	552.3	672.4	482.5	449.8	32.66	14.773	
7,050.0	6,923.2	7,046.5	6,978.3	25.7	19.9	-167.09	555.5	676.5	484.8	452.0	32.77	14.795	
7,100.0	6,972.3	7,096.1	7,027.2	25.9	20.1	167.77	560.5	682.6	488.6	455.6	33.00	14.808	
7,150.0	7,021.1	7,144.9	7,075.4	26.0	20.2	148.58	565.3	688.5	493.1	459.8	33.30	14.806	
7,200.0	7,069.3	7,193.1	7,123.0	26.1	20.4	136.73	570.1	694.5	498.3	464.6	33.64	14.810	
7,250.0	7,116.5	7,252.7	7,182.1	26.2	20.5	130.06	572.7	702.0	503.9	469.8	34.01	14.815	
7,300.0	7,162.3	7,314.9	7,243.5	26.2	20.6	126.11	568.8	710.4	509.3	475.1	34.16	14.909	
7,350.0	7,206.4	7,379.6	7,306.6	26.3	20.7	123.75	557.6	719.5	514.4	480.3	34.08	15.093	
7,400.0	7,248.4	7,447.0	7,370.4	26.3	20.7	122.35	538.4	729.2	519.1	485.3	33.78	15.367	
7,450.0	7,288.1	7,517.0	7,433.8	26.3	20.6	121.53	510.7	739.4	523.1	489.8	33.24	15.738	
7,500.0	7,325.1	7,589.4	7,495.2	26.3	20.6	121.05	474.0	750.1	526.3	493.8	32.49	16.197	
7,550.0	7,359.2	7,663.8	7,553.0	26.3	20.4	120.75	428.5	760.8	528.5	496.9	31.58	16.734	
7,600.0	7,390.0	7,739.8	7,605.4	26.3	20.3	120.52	374.5	771.5	529.5	499.0	30.57	17.324	
7,650.0	7,417.4	7,816.9	7,650.7	26.3	20.2	120.28	313.0	781.8	529.4	499.9	29.53	17.927	
7,700.0	7,441.2	7,894.4	7,687.6	26.3	20.2	119.98	245.6	791.3	528.0	499.5	28.57	18.483	
7,750.0	7,461.1	7,971.6	7,714.9	26.3	20.1	119.58	174.0	799.9	525.4	497.6	27.78	18.913	
7,800.0	7,477.0	8,047.9	7,732.3	26.3	20.2	119.07	100.2	807.3	521.6	494.3	27.25	19.142	
7,850.0	7,488.8	8,122.6	7,739.7	26.4	20.3	118.43	26.1	813.5	516.6	489.6	27.04	19.108	
7,900.0	7,496.5	8,178.6	7,740.0	26.4	20.4	118.09	-29.7	817.4	511.3	484.2	27.09	18.871	
7,950.0	7,499.8	8,228.4	7,740.0	26.5	20.6	118.24	-79.4	820.9	507.2	479.8	27.35	18.547	
7,964.3	7,500.0	8,242.7	7,740.0	26.5	20.7	118.36	-93.6	821.9	506.3	478.8	27.46	18.438	
8,000.0	7,500.0	8,278.2	7,740.0	26.6	20.8	118.49	-129.1	824.4	504.1	476.4	27.71	18.190	
8,100.0	7,500.0	8,378.0	7,740.0	26.8	21.3	118.87	-228.7	831.4	497.9	469.3	28.65	17.382	
8,200.0	7,500.0	8,475.3	7,740.0	27.2	21.9	119.25	-325.7	838.0	491.9	462.1	29.84	16.488	
8,300.0	7,500.0	8,568.2	7,740.0	27.7	22.6	119.55	-418.5	843.2	487.1	455.8	31.25	15.586	
8,400.0	7,500.0	8,661.3	7,740.0	28.3	23.3	119.77	-511.5	846.9	483.6	450.7	32.86	14.717	
8,500.0	7,500.0	8,754.5	7,740.0	29.0	24.1	119.90	-604.6	849.1	481.6	446.9	34.65	13.897	
8,594.4	7,500.0	8,842.5	7,740.0	29.7	25.0	119.94	-692.7	849.8	480.9	444.5	36.48	13.182	
8,600.0	7,500.0	8,848.0	7,740.0	29.8	25.0	119.94	-698.2	849.8	480.9	444.3	36.60	13.140	
8,700.0	7,500.0	8,948.0	7,740.0	30.6	26.0	119.94	-798.2	849.8	480.9	442.2	38.77	12.406	
8,800.0	7,500.0	9,048.0	7,740.0	31.5	27.1	119.94	-898.2	849.8	480.9	439.9	41.04	11.719	
8,900.0	7,500.0	9,148.0	7,740.0	32.5	28.3	119.94	-998.2	849.8	480.9	437.5	43.40	11.080	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2E-7H-E168 - HZ - Plan #3												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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
9,000.0	7,500.0	9,248.0	7,740.0	33.6	29.5	119.94	-1,098.2	849.8	480.9	435.1	45.85	10.489	
9,100.0	7,500.0	9,348.5	7,740.0	34.7	30.8	119.94	-1,198.7	849.8	480.9	432.6	48.37	9.943	
9,200.0	7,500.0	9,452.2	7,740.0	35.9	32.2	119.98	-1,302.4	850.6	480.3	429.3	50.98	9.421	
9,300.0	7,500.0	9,552.2	7,740.0	37.1	33.5	120.04	-1,402.4	851.6	479.4	425.8	53.58	8.948	
9,400.0	7,500.0	9,652.2	7,740.0	38.3	34.9	120.10	-1,502.3	852.6	478.5	422.3	56.21	8.513	
9,500.0	7,500.0	9,752.2	7,740.0	39.6	36.4	120.16	-1,602.3	853.6	477.7	418.8	58.88	8.112	
9,600.0	7,500.0	9,852.2	7,740.0	41.0	37.8	120.22	-1,702.3	854.6	476.8	415.2	61.58	7.742	
9,700.0	7,500.0	9,952.2	7,740.0	42.3	39.3	120.28	-1,802.3	855.6	475.9	411.6	64.31	7.401	
9,800.0	7,500.0	10,052.2	7,740.0	43.7	40.8	120.34	-1,902.3	856.6	475.1	408.0	67.05	7.085	
9,900.0	7,500.0	10,152.2	7,740.0	45.1	42.4	120.40	-2,002.3	857.6	474.2	404.4	69.81	6.793	
10,000.0	7,500.0	10,252.2	7,740.0	46.6	43.9	120.47	-2,102.3	858.6	473.4	400.8	72.59	6.521	
10,100.0	7,500.0	10,352.1	7,740.0	48.0	45.5	120.53	-2,202.3	859.6	472.5	397.1	75.38	6.268	
10,200.0	7,500.0	10,452.1	7,740.0	49.5	47.0	120.59	-2,302.3	860.6	471.7	393.5	78.18	6.033	
10,300.0	7,500.0	10,552.1	7,740.0	51.0	48.6	120.65	-2,402.3	861.6	470.8	389.8	80.99	5.813	
10,400.0	7,500.0	10,652.1	7,740.0	52.5	50.2	120.71	-2,502.2	862.6	469.9	386.1	83.81	5.607	
10,500.0	7,500.0	10,752.1	7,740.0	54.0	51.8	120.77	-2,602.2	863.6	469.1	382.5	86.64	5.415	
10,600.0	7,500.0	10,852.1	7,740.0	55.6	53.4	120.84	-2,702.2	864.6	468.2	378.8	89.47	5.234	
10,700.0	7,500.0	10,952.1	7,740.0	57.1	55.1	120.90	-2,802.2	865.5	467.4	375.1	92.30	5.064	
10,800.0	7,500.0	11,052.1	7,740.0	58.7	56.7	120.96	-2,902.2	866.5	466.5	371.4	95.14	4.903	
10,900.0	7,500.0	11,152.1	7,740.0	60.3	58.3	121.02	-3,002.2	867.5	465.7	367.7	97.99	4.752	
11,000.0	7,500.0	11,252.1	7,740.0	61.9	60.0	121.09	-3,102.2	868.5	464.8	364.0	100.83	4.610	
11,100.0	7,500.0	11,352.1	7,740.0	63.5	61.6	121.15	-3,202.2	869.5	464.0	360.3	103.68	4.475	
11,200.0	7,500.0	11,452.1	7,740.0	65.1	63.3	121.21	-3,302.2	870.5	463.1	356.6	106.53	4.347	
11,300.0	7,500.0	11,552.1	7,740.0	66.7	64.9	121.28	-3,402.2	871.5	462.3	352.9	109.38	4.226	
11,400.0	7,500.0	11,652.1	7,740.0	68.3	66.6	121.34	-3,502.1	872.5	461.4	349.2	112.23	4.111	
11,500.0	7,500.0	11,752.1	7,740.0	69.9	68.3	121.41	-3,602.1	873.5	460.6	345.5	115.08	4.002	
11,600.0	7,500.0	11,852.1	7,740.0	71.5	70.0	121.47	-3,702.1	874.5	459.7	341.8	117.93	3.898	
11,700.0	7,500.0	11,952.1	7,740.0	73.2	71.6	121.54	-3,802.1	875.5	458.9	338.1	120.78	3.799	
11,800.0	7,500.0	12,052.1	7,740.0	74.8	73.3	121.60	-3,902.1	876.5	458.0	334.4	123.62	3.705	
11,900.0	7,500.0	12,152.1	7,740.0	76.5	75.0	121.67	-4,002.1	877.5	457.2	330.7	126.47	3.615	
12,000.0	7,500.0	12,252.1	7,740.0	78.1	76.7	121.73	-4,102.1	878.5	456.3	327.0	129.32	3.529	
12,100.0	7,500.0	12,352.0	7,740.0	79.8	78.4	121.80	-4,202.1	879.5	455.5	323.3	132.16	3.446	
12,200.0	7,500.0	12,452.0	7,740.0	81.4	80.1	121.86	-4,302.1	880.5	454.6	319.6	135.00	3.368	
12,300.0	7,500.0	12,552.0	7,740.0	83.1	81.8	121.93	-4,402.1	881.5	453.8	315.9	137.84	3.292	
12,400.0	7,500.0	12,652.0	7,740.0	84.8	83.5	122.00	-4,502.0	882.5	452.9	312.3	140.68	3.220	
12,500.0	7,500.0	12,752.0	7,740.0	86.4	85.2	122.06	-4,602.0	883.5	452.1	308.6	143.51	3.150	
12,600.0	7,500.0	12,852.0	7,740.0	88.1	86.9	122.13	-4,702.0	884.5	451.3	304.9	146.34	3.084	
12,700.0	7,500.0	12,952.0	7,740.0	89.8	88.6	122.20	-4,802.0	885.5	450.4	301.2	149.17	3.019	
12,800.0	7,500.0	13,052.0	7,740.0	91.5	90.3	122.27	-4,902.0	886.4	449.6	297.6	152.00	2.958	
12,900.0	7,500.0	13,152.0	7,740.0	93.2	92.0	122.33	-5,002.0	887.4	448.7	293.9	154.82	2.898	
13,000.0	7,500.0	13,252.0	7,740.0	94.8	93.7	122.40	-5,102.0	888.4	447.9	290.2	157.64	2.841	
13,100.0	7,500.0	13,352.0	7,740.0	96.5	95.4	122.47	-5,202.0	889.4	447.0	286.6	160.46	2.786	
13,200.0	7,500.0	13,452.0	7,740.0	98.2	97.1	122.54	-5,302.0	890.4	446.2	282.9	163.27	2.733	
13,300.0	7,500.0	13,552.0	7,740.0	99.9	98.8	122.61	-5,402.0	891.4	445.4	279.3	166.08	2.682	
13,400.0	7,500.0	13,652.0	7,740.0	101.6	100.6	122.68	-5,501.9	892.4	444.5	275.7	168.88	2.632	
13,500.0	7,500.0	13,752.0	7,740.0	103.3	102.3	122.75	-5,601.9	893.4	443.7	272.0	171.68	2.584	
13,600.0	7,500.0	13,852.0	7,740.0	105.0	104.0	122.82	-5,701.9	894.4	442.9	268.4	174.48	2.538	
13,700.0	7,500.0	13,952.0	7,740.0	106.7	105.7	122.89	-5,801.9	895.4	442.0	264.8	177.27	2.493	
13,800.0	7,500.0	14,052.0	7,740.0	108.4	107.4	122.96	-5,901.9	896.4	441.2	261.1	180.06	2.450	
13,900.0	7,500.0	14,152.0	7,740.0	110.1	109.2	123.03	-6,001.9	897.4	440.4	257.5	182.84	2.408	
14,000.0	7,500.0	14,252.0	7,740.0	111.8	110.9	123.10	-6,101.9	898.4	439.5	253.9	185.62	2.368	
14,100.0	7,500.0	14,351.9	7,740.0	113.5	112.6	123.17	-6,201.9	899.4	438.7	250.3	188.40	2.329	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2E-7H-E168 - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink 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		
14,200.0	7,500.0	14,451.9	7,740.0	115.2	114.3	123.24	-6,301.9	900.4	437.9	246.7	191.17	2.290		
14,300.0	7,500.0	14,551.9	7,740.0	116.9	116.1	123.31	-6,401.9	901.4	437.0	243.1	193.93	2.253		
14,400.0	7,500.0	14,651.9	7,740.0	118.6	117.8	123.38	-6,501.8	902.4	436.2	239.5	196.69	2.218		
14,500.0	7,500.0	14,751.9	7,740.0	120.3	119.5	123.46	-6,601.8	903.4	435.4	235.9	199.45	2.183		
14,600.0	7,500.0	14,851.9	7,740.0	122.1	121.2	123.53	-6,701.8	904.4	434.5	232.3	202.20	2.149		
14,700.0	7,500.0	14,951.9	7,740.0	123.8	123.0	123.60	-6,801.8	905.4	433.7	228.7	204.95	2.116		
14,800.0	7,500.0	15,051.9	7,740.0	125.5	124.7	123.67	-6,901.8	906.4	432.9	225.2	207.69	2.084		
14,900.0	7,500.0	15,151.9	7,740.0	127.2	126.4	123.75	-7,001.8	907.4	432.0	221.6	210.42	2.053		
15,000.0	7,500.0	15,251.9	7,740.0	128.9	128.2	123.82	-7,101.8	908.3	431.2	218.1	213.15	2.023		
15,100.0	7,500.0	15,351.9	7,740.0	130.6	129.9	123.89	-7,201.8	909.3	430.4	214.5	215.88	1.994		
15,200.0	7,500.0	15,451.9	7,740.0	132.4	131.6	123.97	-7,301.8	910.3	429.6	211.0	218.60	1.965		
15,300.0	7,500.0	15,551.9	7,740.0	134.1	133.4	124.04	-7,401.8	911.3	428.7	207.4	221.31	1.937		
15,400.0	7,500.0	15,651.9	7,740.0	135.8	135.1	124.12	-7,501.8	912.3	427.9	203.9	224.02	1.910		
15,500.0	7,500.0	15,751.9	7,740.0	137.5	136.8	124.19	-7,601.7	913.3	427.1	200.4	226.72	1.884		
15,600.0	7,500.0	15,851.9	7,740.0	139.2	138.6	124.27	-7,701.7	914.3	426.3	196.8	229.42	1.858		
15,700.0	7,500.0	15,951.9	7,740.0	141.0	140.3	124.34	-7,801.7	915.3	425.4	193.3	232.11	1.833		
15,800.0	7,500.0	16,051.9	7,740.0	142.7	142.0	124.42	-7,901.7	916.3	424.6	189.8	234.80	1.808		
15,835.5	7,500.0	16,083.8	7,740.0	143.3	142.6	124.44	-7,933.7	916.6	424.3	188.6	235.71	1.800		
15,839.3	7,500.0	16,083.8	7,740.0	143.4	142.6	124.44	-7,933.7	916.6	424.4	188.6	235.76	1.800 SF		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2G-7H-E168 - HZ - Plan #2												Offset Site Error: 0.0 ft		
Survey Program: 0-Geolink 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	89.98	0.0	9.8	9.8					
100.0	100.0	100.0	100.0	0.2	0.2	89.98	0.0	9.8	9.8	9.5	0.30	32.256		
200.0	200.0	200.0	200.0	0.3	0.3	89.98	0.0	9.8	9.8	9.1	0.65	15.007	CC, ES	
300.0	300.0	299.8	299.8	0.5	0.5	88.45	0.3	10.6	10.6	9.6	1.00	10.602		
400.0	400.0	399.6	399.6	0.7	0.7	20.20	1.1	13.1	12.3	11.0	1.35	9.119		
500.0	500.0	499.4	499.2	0.9	0.9	19.18	2.6	17.2	14.1	12.4	1.70	8.270		
600.0	599.9	599.1	598.8	1.0	1.1	18.90	4.5	22.9	15.8	13.8	2.05	7.725		
700.0	699.7	698.8	698.2	1.2	1.3	19.13	7.1	30.3	17.7	15.3	2.40	7.349		
800.0	799.4	798.5	797.4	1.4	1.5	19.74	10.2	39.3	19.5	16.8	2.76	7.073		
900.0	898.9	898.1	896.4	1.7	1.8	20.62	13.8	50.0	21.4	18.3	3.12	6.861		
1,000.0	998.3	997.7	995.2	1.9	2.0	21.69	18.1	62.2	23.4	19.9	3.49	6.689		
1,100.0	1,097.4	1,097.3	1,093.6	2.2	2.3	22.92	22.8	76.1	25.4	21.5	3.88	6.542		
1,200.0	1,196.3	1,196.8	1,191.8	2.5	2.7	24.25	28.2	91.6	27.4	23.2	4.28	6.409		
1,300.0	1,294.9	1,296.4	1,289.7	2.8	3.0	25.65	34.1	108.7	29.5	24.8	4.70	6.283		
1,400.0	1,393.3	1,395.8	1,387.2	3.2	3.4	27.11	40.5	127.4	31.7	26.6	5.16	6.156		
1,484.0	1,475.6	1,479.4	1,468.8	3.5	3.7	28.36	46.3	144.3	33.6	28.1	5.56	6.046		
1,500.0	1,491.3	1,495.3	1,484.3	3.5	3.8	28.58	47.5	147.6	34.0	28.4	5.64	6.029		
1,600.0	1,589.1	1,594.7	1,580.9	3.9	4.2	29.23	55.0	169.5	37.4	31.2	6.13	6.093		
1,700.0	1,687.0	1,694.6	1,677.9	4.3	4.7	29.25	62.9	192.3	41.5	34.9	6.60	6.282		
1,800.0	1,784.9	1,794.5	1,774.9	4.7	5.1	29.27	70.7	215.0	45.6	38.6	7.08	6.443		
1,900.0	1,882.7	1,894.4	1,871.8	5.1	5.6	29.28	78.6	237.8	49.8	42.2	7.56	6.580		
2,000.0	1,980.6	1,994.3	1,968.8	5.4	6.0	29.30	86.4	260.6	53.9	45.9	8.05	6.699		
2,100.0	2,078.5	2,094.2	2,065.8	5.8	6.5	29.31	94.3	283.4	58.1	49.5	8.53	6.803		
2,200.0	2,176.4	2,194.1	2,162.7	6.2	6.9	29.32	102.1	306.2	62.2	53.2	9.02	6.894		
2,300.0	2,274.2	2,294.1	2,259.7	6.6	7.4	29.33	110.0	329.0	66.3	56.8	9.51	6.975		
2,400.0	2,372.1	2,394.0	2,356.6	7.0	7.8	29.33	117.8	351.7	70.5	60.5	10.00	7.047		
2,500.0	2,470.0	2,493.9	2,453.6	7.4	8.3	29.34	125.7	374.5	74.6	64.1	10.49	7.111		
2,600.0	2,567.8	2,593.8	2,550.6	7.8	8.8	29.35	133.5	397.3	78.8	67.8	10.99	7.169		
2,700.0	2,665.7	2,693.7	2,647.5	8.2	9.2	29.35	141.4	420.1	82.9	71.4	11.48	7.222		
2,800.0	2,763.6	2,793.6	2,744.5	8.6	9.7	29.36	149.2	442.9	87.1	75.1	11.97	7.270		
2,900.0	2,861.5	2,893.5	2,841.5	9.0	10.1	29.36	157.1	465.6	91.2	78.7	12.47	7.313		
3,000.0	2,959.3	2,993.5	2,938.4	9.4	10.6	29.36	164.9	488.4	95.3	82.4	12.96	7.353		
3,100.0	3,057.2	3,093.4	3,035.4	9.8	11.1	29.37	172.8	511.2	99.5	86.0	13.46	7.390		
3,200.0	3,155.1	3,193.3	3,132.4	10.2	11.5	29.37	180.6	534.0	103.6	89.7	13.96	7.424		
3,300.0	3,253.0	3,293.2	3,229.3	10.6	12.0	29.37	188.5	556.8	107.8	93.3	14.45	7.455		
3,400.0	3,350.8	3,393.1	3,326.3	11.0	12.4	29.38	196.3	579.6	111.9	96.9	14.95	7.485		
3,500.0	3,448.7	3,493.0	3,423.3	11.4	12.9	29.38	204.2	602.3	116.0	100.6	15.45	7.512		
3,600.0	3,546.6	3,592.9	3,520.2	11.8	13.4	29.38	212.0	625.1	120.2	104.2	15.95	7.537		
3,700.0	3,644.4	3,692.9	3,617.2	12.2	13.8	29.39	219.9	647.9	124.3	107.9	16.44	7.561		
3,800.0	3,742.3	3,792.8	3,714.2	12.6	14.3	29.39	227.7	670.7	128.5	111.5	16.94	7.583		
3,900.0	3,840.2	3,892.7	3,811.1	13.0	14.8	29.39	235.6	693.5	132.6	115.2	17.44	7.604		
4,000.0	3,938.1	3,992.6	3,908.1	13.4	15.2	29.39	243.4	716.2	136.7	118.8	17.94	7.623		
4,100.0	4,035.9	4,092.5	4,005.1	13.8	15.7	29.39	251.3	739.0	140.9	122.5	18.44	7.641		
4,200.0	4,133.8	4,192.4	4,102.0	14.2	16.1	29.40	259.1	761.8	145.0	126.1	18.94	7.659		
4,300.0	4,231.7	4,292.3	4,199.0	14.6	16.6	29.40	267.0	784.6	149.2	129.7	19.44	7.675		
4,400.0	4,329.5	4,392.3	4,295.9	15.0	17.1	29.40	274.8	807.4	153.3	133.4	19.94	7.691		
4,500.0	4,427.4	4,492.2	4,392.9	15.4	17.5	29.40	282.7	830.2	157.5	137.0	20.43	7.705		
4,600.0	4,525.3	4,592.1	4,489.9	15.8	18.0	29.40	290.5	852.9	161.6	140.7	20.93	7.719		
4,700.0	4,623.2	4,692.0	4,586.8	16.2	18.5	29.40	298.4	875.7	165.7	144.3	21.43	7.733		
4,800.0	4,721.0	4,791.9	4,683.8	16.7	18.9	29.40	306.2	898.5	169.9	147.9	21.93	7.745		
4,900.0	4,818.9	4,891.8	4,780.8	17.1	19.4	29.40	314.1	921.3	174.0	151.6	22.43	7.757		
5,000.0	4,916.8	4,991.7	4,877.7	17.5	19.9	29.41	321.9	944.1	178.2	155.2	22.93	7.769		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2G-7H-E168 - HZ - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	
5,100.0	5,014.7	5,091.7	4,974.7	17.9	20.3	29.41	329.8	966.8	182.3	158.9	23.43	7.780	
5,200.0	5,112.5	5,191.6	5,071.7	18.3	20.8	29.41	337.6	989.6	186.4	162.5	23.93	7.790	
5,300.0	5,210.4	5,291.5	5,168.6	18.7	21.3	29.41	345.5	1,012.4	190.6	166.2	24.43	7.800	
5,400.0	5,308.3	5,391.4	5,265.6	19.1	21.7	29.41	353.3	1,035.2	194.7	169.8	24.93	7.810	
5,500.0	5,406.1	5,491.3	5,362.6	19.5	22.2	29.41	361.2	1,058.0	198.9	173.4	25.43	7.819	
5,600.0	5,504.0	5,591.2	5,459.5	19.9	22.6	29.41	369.0	1,080.7	203.0	177.1	25.94	7.828	
5,700.0	5,601.9	5,691.1	5,556.5	20.3	23.1	29.41	376.9	1,103.5	207.2	180.7	26.44	7.836	
5,800.0	5,699.8	5,791.1	5,653.5	20.7	23.6	29.41	384.7	1,126.3	211.3	184.4	26.94	7.844	
5,900.0	5,797.6	5,891.0	5,750.4	21.1	24.0	29.41	392.6	1,149.1	215.4	188.0	27.44	7.852	
6,000.0	5,895.5	5,990.9	5,847.4	21.5	24.5	29.42	400.4	1,171.9	219.6	191.6	27.94	7.860	
6,100.0	5,993.4	6,090.8	5,944.4	21.9	25.0	29.42	408.3	1,194.7	223.7	195.3	28.44	7.867	
6,200.0	6,091.2	6,190.7	6,041.3	22.3	25.4	29.42	416.1	1,217.4	227.9	198.9	28.94	7.874	
6,300.0	6,189.1	6,290.6	6,138.3	22.7	25.9	29.42	424.0	1,240.2	232.0	202.6	29.44	7.881	
6,400.0	6,287.0	6,390.5	6,235.3	23.1	26.4	29.42	431.8	1,263.0	236.1	206.2	29.94	7.887	
6,500.0	6,384.9	6,490.5	6,332.2	23.5	26.8	29.42	439.7	1,285.8	240.3	209.8	30.44	7.893	
6,600.0	6,482.7	6,590.4	6,429.2	23.9	27.3	29.42	447.5	1,308.6	244.4	213.5	30.94	7.899	
6,700.0	6,580.6	6,690.3	6,526.1	24.3	27.8	29.42	455.4	1,331.3	248.6	217.1	31.44	7.905	
6,800.0	6,678.5	6,790.2	6,623.1	24.7	28.2	29.42	463.2	1,354.1	252.7	220.8	31.94	7.911	
6,900.0	6,776.4	6,890.1	6,720.1	25.1	28.7	29.42	471.1	1,376.9	256.9	224.4	32.45	7.916	
7,000.0	6,874.2	6,990.0	6,817.0	25.5	29.1	29.42	478.9	1,399.7	261.0	228.1	32.95	7.922	
7,016.7	6,890.6	7,006.7	6,833.3	25.6	29.2	29.42	480.2	1,403.5	261.7	228.7	33.03	7.923	
7,050.0	6,923.2	7,040.0	6,865.5	25.7	29.4	13.37	482.8	1,411.1	263.0	229.8	33.13	7.938	
7,100.0	6,972.3	7,089.7	6,913.7	25.9	29.6	-12.97	486.7	1,422.4	264.6	231.8	32.80	8.066	
7,150.0	7,021.1	7,138.8	6,961.4	26.0	29.8	-34.66	490.6	1,433.6	266.0	234.0	31.97	8.319	
7,200.0	7,069.3	7,186.9	7,008.1	26.1	30.1	-50.17	494.4	1,444.6	267.7	236.9	30.79	8.692	
7,250.0	7,116.5	7,233.6	7,053.5	26.2	30.3	-61.62	498.0	1,455.2	270.2	240.8	29.46	9.172	
7,300.0	7,162.3	7,278.7	7,097.2	26.2	30.5	-70.69	501.6	1,465.5	274.4	246.2	28.20	9.731	
7,350.0	7,206.4	7,321.7	7,139.0	26.3	30.7	-78.26	505.0	1,475.3	280.9	253.8	27.17	10.340	
7,400.0	7,248.4	7,370.2	7,186.1	26.3	30.9	-85.27	506.7	1,486.4	290.1	263.8	26.34	11.013	
7,450.0	7,288.1	7,421.5	7,235.9	26.3	31.1	-91.41	504.0	1,498.1	301.4	275.6	25.85	11.660	
7,500.0	7,325.1	7,476.1	7,288.6	26.3	31.3	-96.88	496.2	1,510.5	314.5	288.9	25.59	12.293	
7,550.0	7,359.2	7,534.8	7,344.0	26.3	31.4	-101.82	482.1	1,523.5	329.0	303.5	25.43	12.937	
7,600.0	7,390.0	7,598.2	7,401.9	26.3	31.6	-106.29	460.4	1,537.1	344.3	319.0	25.28	13.619	
7,650.0	7,417.4	7,667.1	7,461.8	26.3	31.7	-110.35	429.5	1,551.2	360.0	334.9	25.08	14.350	
7,700.0	7,441.2	7,742.4	7,522.7	26.3	31.8	-114.00	387.6	1,565.5	375.4	350.6	24.80	15.133	
7,750.0	7,461.1	7,825.0	7,582.6	26.3	31.8	-117.22	332.6	1,579.6	389.8	365.4	24.46	15.938	
7,800.0	7,477.0	7,915.2	7,638.6	26.3	31.9	-119.96	263.2	1,592.7	402.7	378.6	24.09	16.716	
7,850.0	7,488.8	8,013.0	7,686.4	26.4	32.0	-122.13	178.8	1,604.0	413.1	389.3	23.77	17.380	
7,900.0	7,496.5	8,117.5	7,721.3	26.4	32.1	-123.63	80.8	1,612.1	420.4	396.8	23.59	17.820	
7,950.0	7,499.8	8,226.4	7,738.7	26.5	32.2	-124.37	-26.5	1,616.2	424.0	400.4	23.62	17.950	
7,964.3	7,500.0	8,258.0	7,739.9	26.5	32.2	-124.44	-58.1	1,616.5	424.3	400.6	23.68	17.919	
8,000.0	7,500.0	8,298.2	7,740.0	26.6	32.3	-124.44	-98.2	1,616.5	424.3	400.4	23.97	17.704	
8,100.0	7,500.0	8,398.2	7,740.0	26.8	32.5	-124.44	-198.2	1,616.5	424.3	399.4	24.95	17.008	
8,200.0	7,500.0	8,498.2	7,740.0	27.2	32.8	-124.44	-298.2	1,616.5	424.3	398.1	26.22	16.186	
8,300.0	7,500.0	8,598.2	7,740.0	27.7	33.2	-124.44	-398.2	1,616.5	424.3	396.6	27.73	15.303	
8,400.0	7,500.0	8,698.2	7,740.0	28.3	33.7	-124.44	-498.2	1,616.5	424.3	394.9	29.45	14.408	
8,500.0	7,500.0	8,798.2	7,740.0	29.0	34.3	-124.44	-598.2	1,616.5	424.3	393.0	31.35	13.536	
8,600.0	7,500.0	8,898.2	7,740.0	29.8	34.9	-124.44	-698.2	1,616.5	424.3	391.0	33.39	12.709	
8,700.0	7,500.0	8,998.2	7,740.0	30.6	35.6	-124.44	-798.2	1,616.5	424.3	388.8	35.55	11.936	
8,800.0	7,500.0	9,098.2	7,740.0	31.5	36.4	-124.44	-898.2	1,616.5	424.3	386.5	37.81	11.223	
8,900.0	7,500.0	9,198.2	7,740.0	32.5	37.3	-124.44	-998.2	1,616.5	424.3	384.2	40.15	10.568	
9,000.0	7,500.0	9,298.2	7,740.0	33.6	38.2	-124.44	-1,098.2	1,616.5	424.3	381.8	42.57	9.969	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2G-7H-E168 - HZ - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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)			
9,100.0	7,500.0	9,398.2	7,740.0	34.7	39.2	-124.44	-1,198.2	1,616.5	424.3	379.3	45.04	9.422	
9,200.0	7,500.0	9,498.2	7,740.0	35.9	40.2	-124.44	-1,298.2	1,616.5	424.3	376.8	47.55	8.923	
9,300.0	7,500.0	9,598.2	7,740.0	37.1	41.3	-124.44	-1,398.2	1,616.5	424.3	374.2	50.11	8.468	
9,400.0	7,500.0	9,698.2	7,740.0	38.3	42.4	-124.44	-1,498.2	1,616.5	424.3	371.6	52.71	8.051	
9,500.0	7,500.0	9,798.2	7,740.0	39.6	43.6	-124.44	-1,598.2	1,616.5	424.3	369.0	55.34	7.669	
9,600.0	7,500.0	9,898.2	7,740.0	41.0	44.8	-124.44	-1,698.2	1,616.5	424.3	366.4	57.99	7.318	
9,700.0	7,500.0	9,998.2	7,740.0	42.3	46.0	-124.44	-1,798.2	1,616.5	424.3	363.7	60.66	6.995	
9,800.0	7,500.0	10,098.2	7,740.0	43.7	47.3	-124.44	-1,898.2	1,616.5	424.3	361.0	63.36	6.698	
9,900.0	7,500.0	10,198.2	7,740.0	45.1	48.6	-124.44	-1,998.2	1,616.5	424.3	358.3	66.07	6.423	
10,000.0	7,500.0	10,298.2	7,740.0	46.6	49.9	-124.44	-2,098.2	1,616.5	424.3	355.6	68.80	6.168	
10,100.0	7,500.0	10,398.2	7,740.0	48.0	51.3	-124.44	-2,198.2	1,616.5	424.3	352.8	71.54	5.932	
10,200.0	7,500.0	10,498.2	7,740.0	49.5	52.7	-124.44	-2,298.2	1,616.5	424.3	350.1	74.29	5.712	
10,300.0	7,500.0	10,598.2	7,740.0	51.0	54.1	-124.44	-2,398.2	1,616.5	424.3	347.3	77.06	5.507	
10,400.0	7,500.0	10,698.2	7,740.0	52.5	55.5	-124.44	-2,498.2	1,616.5	424.3	344.5	79.83	5.316	
10,500.0	7,500.0	10,798.2	7,740.0	54.0	57.0	-124.44	-2,598.2	1,616.5	424.3	341.7	82.61	5.137	
10,600.0	7,500.0	10,898.2	7,740.0	55.6	58.4	-124.44	-2,698.2	1,616.5	424.3	338.9	85.40	4.969	
10,700.0	7,500.0	10,998.2	7,740.0	57.1	59.9	-124.44	-2,798.2	1,616.5	424.3	336.1	88.20	4.811	
10,800.0	7,500.0	11,098.2	7,740.0	58.7	61.4	-124.44	-2,898.2	1,616.5	424.3	333.3	91.01	4.663	
10,900.0	7,500.0	11,198.2	7,740.0	60.3	62.9	-124.44	-2,998.2	1,616.5	424.3	330.5	93.82	4.523	
11,000.0	7,500.0	11,298.2	7,740.0	61.9	64.4	-124.44	-3,098.2	1,616.5	424.3	327.7	96.63	4.391	
11,100.0	7,500.0	11,398.2	7,740.0	63.5	66.0	-124.44	-3,198.2	1,616.5	424.3	324.9	99.45	4.267	
11,200.0	7,500.0	11,498.2	7,740.0	65.1	67.5	-124.44	-3,298.2	1,616.5	424.3	322.1	102.28	4.149	
11,300.0	7,500.0	11,598.2	7,740.0	66.7	69.1	-124.44	-3,398.2	1,616.5	424.3	319.2	105.11	4.037	
11,400.0	7,500.0	11,698.2	7,740.0	68.3	70.6	-124.44	-3,498.2	1,616.5	424.3	316.4	107.94	3.931	
11,500.0	7,500.0	11,798.2	7,740.0	69.9	72.2	-124.44	-3,598.2	1,616.5	424.3	313.6	110.78	3.831	
11,600.0	7,500.0	11,898.2	7,740.0	71.5	73.8	-124.44	-3,698.2	1,616.5	424.3	310.7	113.62	3.735	
11,700.0	7,500.0	11,998.2	7,740.0	73.2	75.4	-124.44	-3,798.2	1,616.5	424.3	307.9	116.46	3.644	
11,800.0	7,500.0	12,098.2	7,740.0	74.8	77.0	-124.44	-3,898.2	1,616.5	424.3	305.0	119.31	3.557	
11,900.0	7,500.0	12,198.2	7,740.0	76.5	78.6	-124.44	-3,998.2	1,616.5	424.3	302.2	122.15	3.474	
12,000.0	7,500.0	12,298.2	7,740.0	78.1	80.2	-124.44	-4,098.2	1,616.5	424.3	299.3	125.01	3.395	
12,100.0	7,500.0	12,398.2	7,740.0	79.8	81.8	-124.44	-4,198.2	1,616.5	424.3	296.5	127.86	3.319	
12,200.0	7,500.0	12,498.2	7,740.0	81.4	83.4	-124.44	-4,298.2	1,616.5	424.3	293.6	130.71	3.246	
12,300.0	7,500.0	12,598.2	7,740.0	83.1	85.0	-124.44	-4,398.2	1,616.5	424.3	290.8	133.57	3.177	
12,400.0	7,500.0	12,698.2	7,740.0	84.8	86.7	-124.44	-4,498.2	1,616.5	424.3	287.9	136.43	3.110	
12,500.0	7,500.0	12,798.2	7,740.0	86.4	88.3	-124.44	-4,598.2	1,616.5	424.3	285.1	139.29	3.046	
12,600.0	7,500.0	12,898.2	7,740.0	88.1	89.9	-124.44	-4,698.2	1,616.5	424.3	282.2	142.15	2.985	
12,700.0	7,500.0	12,998.2	7,740.0	89.8	91.6	-124.44	-4,798.2	1,616.5	424.3	279.3	145.02	2.926	
12,800.0	7,500.0	13,098.2	7,740.0	91.5	93.2	-124.44	-4,898.2	1,616.5	424.3	276.5	147.88	2.869	
12,900.0	7,500.0	13,198.2	7,740.0	93.2	94.9	-124.44	-4,998.2	1,616.5	424.3	273.6	150.75	2.815	
13,000.0	7,500.0	13,298.2	7,740.0	94.8	96.5	-124.44	-5,098.2	1,616.5	424.3	270.7	153.62	2.762	
13,100.0	7,500.0	13,398.2	7,740.0	96.5	98.2	-124.44	-5,198.2	1,616.5	424.3	267.9	156.49	2.712	
13,200.0	7,500.0	13,498.2	7,740.0	98.2	99.9	-124.44	-5,298.2	1,616.5	424.3	265.0	159.36	2.663	
13,300.0	7,500.0	13,598.2	7,740.0	99.9	101.5	-124.44	-5,398.2	1,616.5	424.3	262.1	162.23	2.616	
13,400.0	7,500.0	13,698.2	7,740.0	101.6	103.2	-124.44	-5,498.2	1,616.5	424.3	259.2	165.10	2.570	
13,500.0	7,500.0	13,798.2	7,740.0	103.3	104.9	-124.44	-5,598.2	1,616.5	424.3	256.4	167.98	2.526	
13,600.0	7,500.0	13,898.2	7,740.0	105.0	106.5	-124.44	-5,698.2	1,616.5	424.3	253.5	170.85	2.484	
13,700.0	7,500.0	13,998.2	7,740.0	106.7	108.2	-124.44	-5,798.2	1,616.5	424.3	250.6	173.73	2.443	
13,800.0	7,500.0	14,098.2	7,740.0	108.4	109.9	-124.44	-5,898.2	1,616.5	424.3	247.7	176.60	2.403	
13,900.0	7,500.0	14,198.2	7,740.0	110.1	111.6	-124.44	-5,998.2	1,616.5	424.3	244.9	179.48	2.364	
14,000.0	7,500.0	14,298.2	7,740.0	111.8	113.3	-124.44	-6,098.2	1,616.5	424.3	242.0	182.36	2.327	
14,100.0	7,500.0	14,398.2	7,740.0	113.5	114.9	-124.44	-6,198.2	1,616.5	424.3	239.1	185.24	2.291	
14,200.0	7,500.0	14,498.2	7,740.0	115.2	116.6	-124.44	-6,298.2	1,616.5	424.3	236.2	188.12	2.256	

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills) - Woolley-Sosa 2G-7H-E168 - HZ - Plan #2		Offset Site Error:		0.0 ft
Survey Program:													0-Geolink 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					
14,300.0	7,500.0	14,598.2	7,740.0	116.9	118.3	-124.44	-6,398.2	1,616.5	424.3	233.4	191.00	2.222					
14,400.0	7,500.0	14,698.2	7,740.0	118.6	120.0	-124.44	-6,498.2	1,616.5	424.3	230.5	193.88	2.189					
14,500.0	7,500.0	14,798.2	7,740.0	120.3	121.7	-124.44	-6,598.2	1,616.5	424.3	227.6	196.76	2.157					
14,600.0	7,500.0	14,898.2	7,740.0	122.1	123.4	-124.44	-6,698.2	1,616.5	424.3	224.7	199.64	2.126					
14,700.0	7,500.0	14,998.2	7,740.0	123.8	125.1	-124.44	-6,798.2	1,616.5	424.3	221.8	202.52	2.095					
14,800.0	7,500.0	15,098.2	7,740.0	125.5	126.8	-124.44	-6,898.2	1,616.5	424.3	218.9	205.41	2.066					
14,900.0	7,500.0	15,198.2	7,740.0	127.2	128.5	-124.44	-6,998.2	1,616.5	424.3	216.1	208.29	2.037					
15,000.0	7,500.0	15,298.2	7,740.0	128.9	130.2	-124.44	-7,098.2	1,616.5	424.3	213.2	211.17	2.009					
15,100.0	7,500.0	15,398.2	7,740.0	130.6	131.9	-124.44	-7,198.2	1,616.5	424.3	210.3	214.06	1.982					
15,200.0	7,500.0	15,498.2	7,740.0	132.4	133.6	-124.44	-7,298.2	1,616.5	424.4	207.4	216.94	1.956					
15,300.0	7,500.0	15,598.2	7,740.0	134.1	135.3	-124.44	-7,398.2	1,616.5	424.4	204.5	219.83	1.930					
15,400.0	7,500.0	15,698.2	7,740.0	135.8	137.0	-124.44	-7,498.2	1,616.5	424.4	201.6	222.72	1.905					
15,500.0	7,500.0	15,798.2	7,740.0	137.5	138.7	-124.44	-7,598.2	1,616.5	424.4	198.7	225.60	1.881					
15,600.0	7,500.0	15,898.2	7,740.0	139.2	140.4	-124.44	-7,698.2	1,616.5	424.4	195.9	228.49	1.857					
15,700.0	7,500.0	15,998.2	7,740.0	141.0	142.1	-124.44	-7,798.2	1,616.5	424.4	193.0	231.38	1.834					
15,800.0	7,500.0	16,098.2	7,740.0	142.7	143.8	-124.44	-7,898.2	1,616.5	424.4	190.1	234.26	1.811					
15,839.3	7,500.0	16,137.5	7,740.0	143.4	144.5	-124.44	-7,937.5	1,616.5	424.4	189.0	235.40	1.803 SF					

# Cathedral Energy Services

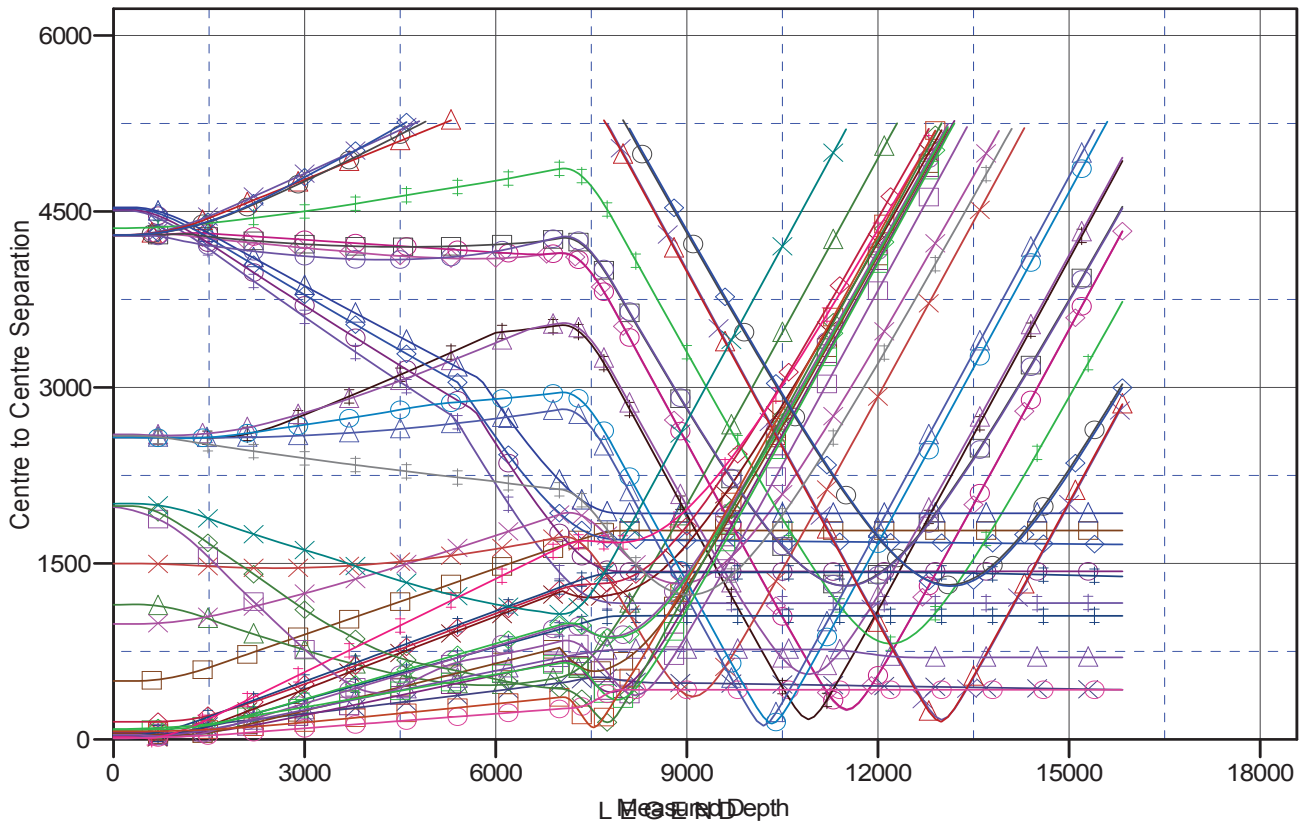
## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Woolley-Sosa 2F-7H-E168
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Reference Site:</b>	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	<b>MD Reference:</b>	KB @ 5007.0ft (Unassigned)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Woolley-Sosa 2F-7H-E168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB @ 5007.0ft (Unassigned)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °

Coordinates are relative to: Woolley-Sosa 2F-7H-E168  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.29°

### Ladder Plot



-A168, HZ, Plan #2 V0	THOMAS E UNIT 1 (EXISTING), Existing, NO SURVEYS V0	Woolley-Becky 2H-7H-E168, HZ, Plan #3
-E168, HZ, Plan #2 V0	Morgan Hills 1D-7H-A168, HZ, Plan #2 V0	Sosa 22-18, DD, DD V0
WD), DD V0	Woolley-Becky 2B-7H-E168, HZ, Plan #2 V0	Sosa 22-18, DD, Plan #2 V0
WD), Plan #2 V0	THOMAS 24-7 (Existing), Existing, NO SURVEYS V0	WOOLLEY 22-7 (EXISTING), ENCANA
-E168, HZ, Plan #3 V0	Woolley-Sosa 2C-7H-E168, HZ, Plan #2 V0	WOOLLEY 21-7 (EXISTING), ENCANA
1 (EXISTING), ENCANA WELL, GYRO V0	WOOLLEY 12-7 (EXISTING), ENCANA WELL, NO SURVEYS V0	Woolley-Sosa 2D-7H-E168, HZ, Plan #2
KISTING), ENCANA WELL, PLAN ONLY V0	Woolley-Becky 2D-7H-E168, HZ, Plan #4 V0	THOMAS 33-7 (EXISTING), ENCANA V
H-E168, HZ, Plan #2 V0	THOMAS 24-7 (EXISTING), ENCANA WELL, SURVEYS V0	Woolley-Becky 2A-7H-E168, HZ, Plan #2
-A168, HZ, Plan #2 V0	WOOLLEY 2-4-7 (EXISTING), ENCANA WELL, SURVEYS V0	Woolley-Becky 2G-7H-E168, HZ, Plan #2
-A168, HZ, Plan #2 V0	Woolley-Sosa 2B-7H-E168, HZ, Plan #2 V0	Woolley-Becky 2F-7H-E168, HZ, Plan #3
ng), Existing, NO SURVEYS V0	Sosa 11-18, DD, Plan #1 V0	Woolley-Sosa 2G-7H-E168, HZ, Plan #2

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