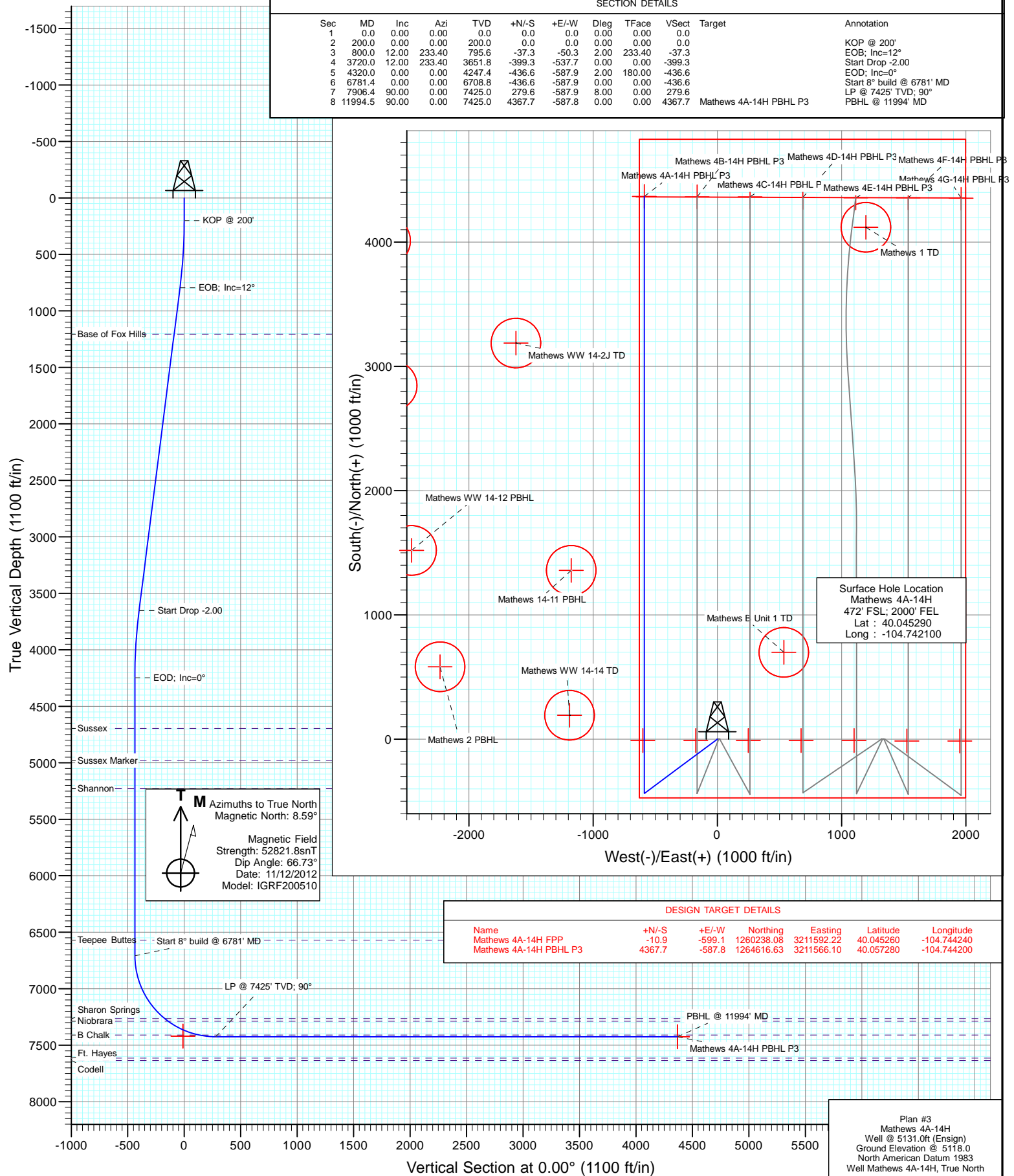




Project: DJ Wattenberg  
Site: SWSE S14 T1N-R66W (Mathews)  
Well: Mathews 4A-14H  
Wellbore: HZ  
Design: Plan #3



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>North Reference:</b>	True
<b>Well:</b>	Mathews 4A-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #3		

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

Well	Mathews 4A-14H					
Well Position	+N/-S	0.0 ft	Northing:	1,260,254.11 ft	Latitude:	40.045290
	+E/-W	0.0 ft	Easting:	3,212,191.24 ft	Longitude:	-104.742100
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,118.0 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 (nT)</b>
	IGRF200510	11/12/2012	8.59	66.73	52,822

<b>Design</b>	Plan #3			
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	0.00

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	12.00	233.40	795.6	-37.3	-50.3	2.00	2.00	0.00	233.40	
3,720.0	12.00	233.40	3,651.8	-399.3	-537.7	0.00	0.00	0.00	0.00	
4,320.0	0.00	0.00	4,247.4	-436.6	-587.9	2.00	-2.00	0.00	180.00	
6,781.4	0.00	0.00	6,708.8	-436.6	-587.9	0.00	0.00	0.00	0.00	
7,906.4	90.00	0.00	7,425.0	279.6	-587.9	8.00	8.00	0.00	0.00	
11,994.5	90.00	0.00	7,425.0	4,367.7	-587.8	0.00	0.00	0.00	0.00	Mathews 4A-14H PB#

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>North Reference:</b>	True
<b>Well:</b>	Mathews 4A-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #3		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200'
300.0	2.00	233.40	300.0	-1.0	-1.4	-1.0	2.00	2.00	
400.0	4.00	233.40	399.8	-4.2	-5.6	-4.2	2.00	2.00	
500.0	6.00	233.40	499.5	-9.4	-12.6	-9.4	2.00	2.00	
600.0	8.00	233.40	598.7	-16.6	-22.4	-16.6	2.00	2.00	
700.0	10.00	233.40	697.5	-25.9	-34.9	-25.9	2.00	2.00	
800.0	12.00	233.40	795.6	-37.3	-50.3	-37.3	2.00	2.00	EOB; Inc=12°
900.0	12.00	233.40	893.4	-49.7	-66.9	-49.7	0.00	0.00	
1,000.0	12.00	233.40	991.3	-62.1	-83.6	-62.1	0.00	0.00	
1,100.0	12.00	233.40	1,089.1	-74.5	-100.3	-74.5	0.00	0.00	
1,200.0	12.00	233.40	1,186.9	-86.9	-117.0	-86.9	0.00	0.00	
1,219.5	12.00	233.40	1,206.0	-89.3	-120.3	-89.3	0.00	0.00	Base of Fox Hills
1,300.0	12.00	233.40	1,284.7	-99.3	-133.7	-99.3	0.00	0.00	
1,400.0	12.00	233.40	1,382.5	-111.7	-150.4	-111.7	0.00	0.00	
1,500.0	12.00	233.40	1,480.3	-124.1	-167.1	-124.1	0.00	0.00	
1,600.0	12.00	233.40	1,578.1	-136.5	-183.8	-136.5	0.00	0.00	
1,700.0	12.00	233.40	1,676.0	-148.9	-200.5	-148.9	0.00	0.00	
1,800.0	12.00	233.40	1,773.8	-161.3	-217.2	-161.3	0.00	0.00	
1,900.0	12.00	233.40	1,871.6	-173.7	-233.9	-173.7	0.00	0.00	
2,000.0	12.00	233.40	1,969.4	-186.1	-250.6	-186.1	0.00	0.00	
2,100.0	12.00	233.40	2,067.2	-198.5	-267.2	-198.5	0.00	0.00	
2,200.0	12.00	233.40	2,165.0	-210.9	-283.9	-210.9	0.00	0.00	
2,300.0	12.00	233.40	2,262.8	-223.3	-300.6	-223.3	0.00	0.00	
2,400.0	12.00	233.40	2,360.7	-235.7	-317.3	-235.7	0.00	0.00	
2,500.0	12.00	233.40	2,458.5	-248.1	-334.0	-248.1	0.00	0.00	
2,600.0	12.00	233.40	2,556.3	-260.5	-350.7	-260.5	0.00	0.00	
2,700.0	12.00	233.40	2,654.1	-272.9	-367.4	-272.9	0.00	0.00	
2,800.0	12.00	233.40	2,751.9	-285.2	-384.1	-285.2	0.00	0.00	
2,900.0	12.00	233.40	2,849.7	-297.6	-400.8	-297.6	0.00	0.00	
3,000.0	12.00	233.40	2,947.5	-310.0	-417.5	-310.0	0.00	0.00	
3,100.0	12.00	233.40	3,045.4	-322.4	-434.2	-322.4	0.00	0.00	
3,200.0	12.00	233.40	3,143.2	-334.8	-450.9	-334.8	0.00	0.00	
3,300.0	12.00	233.40	3,241.0	-347.2	-467.5	-347.2	0.00	0.00	
3,400.0	12.00	233.40	3,338.8	-359.6	-484.2	-359.6	0.00	0.00	
3,500.0	12.00	233.40	3,436.6	-372.0	-500.9	-372.0	0.00	0.00	
3,600.0	12.00	233.40	3,534.4	-384.4	-517.6	-384.4	0.00	0.00	
3,700.0	12.00	233.40	3,632.3	-396.8	-534.3	-396.8	0.00	0.00	
3,720.0	12.00	233.40	3,651.8	-399.3	-537.7	-399.3	0.00	0.00	Start Drop -2.00
3,800.0	10.40	233.40	3,730.3	-408.6	-550.1	-408.6	2.00	-2.00	
3,900.0	8.40	233.40	3,828.9	-418.3	-563.2	-418.3	2.00	-2.00	
4,000.0	6.40	233.40	3,928.1	-426.0	-573.6	-426.0	2.00	-2.00	
4,100.0	4.40	233.40	4,027.7	-431.6	-581.1	-431.6	2.00	-2.00	
4,200.0	2.40	233.40	4,127.5	-435.1	-585.9	-435.1	2.00	-2.00	
4,300.0	0.40	233.40	4,227.4	-436.6	-587.9	-436.6	2.00	-2.00	
4,320.0	0.00	0.00	4,247.4	-436.6	-587.9	-436.6	2.00	-2.00	EOD; Inc=0°
4,400.0	0.00	0.00	4,327.4	-436.6	-587.9	-436.6	0.00	0.00	
4,500.0	0.00	0.00	4,427.4	-436.6	-587.9	-436.6	0.00	0.00	
4,600.0	0.00	0.00	4,527.4	-436.6	-587.9	-436.6	0.00	0.00	
4,700.0	0.00	0.00	4,627.4	-436.6	-587.9	-436.6	0.00	0.00	
4,768.6	0.00	0.00	4,696.0	-436.6	-587.9	-436.6	0.00	0.00	Sussex

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>North Reference:</b>	True
<b>Well:</b>	Mathews 4A-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,800.0	0.00	0.00	4,727.4	-436.6	-587.9	-436.6	0.00	0.00	
4,900.0	0.00	0.00	4,827.4	-436.6	-587.9	-436.6	0.00	0.00	
5,000.0	0.00	0.00	4,927.4	-436.6	-587.9	-436.6	0.00	0.00	
5,054.6	0.00	0.00	4,982.0	-436.6	-587.9	-436.6	0.00	0.00	Sussex Marker
5,100.0	0.00	0.00	5,027.4	-436.6	-587.9	-436.6	0.00	0.00	
5,200.0	0.00	0.00	5,127.4	-436.6	-587.9	-436.6	0.00	0.00	
5,300.0	0.00	0.00	5,227.4	-436.6	-587.9	-436.6	0.00	0.00	
5,301.6	0.00	0.00	5,229.0	-436.6	-587.9	-436.6	0.00	0.00	Shannon
5,400.0	0.00	0.00	5,327.4	-436.6	-587.9	-436.6	0.00	0.00	
5,500.0	0.00	0.00	5,427.4	-436.6	-587.9	-436.6	0.00	0.00	
5,600.0	0.00	0.00	5,527.4	-436.6	-587.9	-436.6	0.00	0.00	
5,700.0	0.00	0.00	5,627.4	-436.6	-587.9	-436.6	0.00	0.00	
5,800.0	0.00	0.00	5,727.4	-436.6	-587.9	-436.6	0.00	0.00	
5,900.0	0.00	0.00	5,827.4	-436.6	-587.9	-436.6	0.00	0.00	
6,000.0	0.00	0.00	5,927.4	-436.6	-587.9	-436.6	0.00	0.00	
6,100.0	0.00	0.00	6,027.4	-436.6	-587.9	-436.6	0.00	0.00	
6,200.0	0.00	0.00	6,127.4	-436.6	-587.9	-436.6	0.00	0.00	
6,300.0	0.00	0.00	6,227.4	-436.6	-587.9	-436.6	0.00	0.00	
6,400.0	0.00	0.00	6,327.4	-436.6	-587.9	-436.6	0.00	0.00	
6,500.0	0.00	0.00	6,427.4	-436.6	-587.9	-436.6	0.00	0.00	
6,600.0	0.00	0.00	6,527.4	-436.6	-587.9	-436.6	0.00	0.00	
6,642.6	0.00	0.00	6,570.0	-436.6	-587.9	-436.6	0.00	0.00	Teepee Buttes
6,700.0	0.00	0.00	6,627.4	-436.6	-587.9	-436.6	0.00	0.00	
6,781.4	0.00	0.00	6,708.8	-436.6	-587.9	-436.6	0.00	0.00	Start 8° build @ 6781' MD
6,800.0	1.49	0.00	6,727.4	-436.4	-587.9	-436.4	8.00	8.00	
6,900.0	9.49	0.00	6,826.9	-426.8	-587.9	-426.8	8.00	8.00	
7,000.0	17.49	0.00	6,924.1	-403.5	-587.9	-403.5	8.00	8.00	
7,100.0	25.49	0.00	7,017.0	-366.9	-587.9	-366.9	8.00	8.00	
7,200.0	33.49	0.00	7,104.0	-317.7	-587.9	-317.7	8.00	8.00	
7,300.0	41.49	0.00	7,183.3	-256.9	-587.9	-256.9	8.00	8.00	
7,400.0	49.49	0.00	7,253.3	-185.6	-587.9	-185.6	8.00	8.00	
7,416.7	50.82	0.00	7,264.0	-172.9	-587.9	-172.9	8.00	8.00	Sharon Springs
7,454.3	53.83	0.00	7,287.0	-143.1	-587.9	-143.1	8.00	8.00	Niobrara
7,500.0	57.49	0.00	7,312.8	-105.3	-587.9	-105.3	8.00	8.00	
7,600.0	65.49	0.00	7,360.5	-17.5	-587.9	-17.5	8.00	8.00	
7,700.0	73.49	0.00	7,395.5	76.1	-587.9	76.1	8.00	8.00	
7,759.5	78.25	0.00	7,410.0	133.8	-587.9	133.8	8.00	8.00	B Chalk
7,800.0	81.49	0.00	7,417.1	173.6	-587.9	173.6	8.00	8.00	
7,900.0	89.49	0.00	7,425.0	273.2	-587.9	273.2	8.00	8.00	
7,906.4	90.00	0.00	7,425.0	279.6	-587.9	279.6	8.00	8.00	LP @ 7425' TVD; 90°
8,000.0	90.00	0.00	7,425.0	373.2	-587.9	373.2	0.00	0.00	
8,100.0	90.00	0.00	7,425.0	473.2	-587.9	473.2	0.00	0.00	
8,200.0	90.00	0.00	7,425.0	573.2	-587.9	573.2	0.00	0.00	
8,300.0	90.00	0.00	7,425.0	673.2	-587.9	673.2	0.00	0.00	
8,400.0	90.00	0.00	7,425.0	773.2	-587.9	773.2	0.00	0.00	
8,500.0	90.00	0.00	7,425.0	873.2	-587.9	873.2	0.00	0.00	
8,600.0	90.00	0.00	7,425.0	973.2	-587.9	973.2	0.00	0.00	
8,700.0	90.00	0.00	7,425.0	1,073.2	-587.9	1,073.2	0.00	0.00	
8,800.0	90.00	0.00	7,425.0	1,173.2	-587.9	1,173.2	0.00	0.00	
8,900.0	90.00	0.00	7,425.0	1,273.2	-587.9	1,273.2	0.00	0.00	
9,000.0	90.00	0.00	7,425.0	1,373.2	-587.9	1,373.2	0.00	0.00	
9,100.0	90.00	0.00	7,425.0	1,473.2	-587.9	1,473.2	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 Mathews 4A-14H
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>North Reference:</b>	True
<b>Well:</b>	Mathews 4A-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #3		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,200.0	90.00	0.00	7,425.0	1,573.2	-587.9	1,573.2	0.00	0.00	
9,300.0	90.00	0.00	7,425.0	1,673.2	-587.9	1,673.2	0.00	0.00	
9,400.0	90.00	0.00	7,425.0	1,773.2	-587.9	1,773.2	0.00	0.00	
9,500.0	90.00	0.00	7,425.0	1,873.2	-587.9	1,873.2	0.00	0.00	
9,600.0	90.00	0.00	7,425.0	1,973.2	-587.9	1,973.2	0.00	0.00	
9,700.0	90.00	0.00	7,425.0	2,073.2	-587.9	2,073.2	0.00	0.00	
9,800.0	90.00	0.00	7,425.0	2,173.2	-587.9	2,173.2	0.00	0.00	
9,900.0	90.00	0.00	7,425.0	2,273.2	-587.9	2,273.2	0.00	0.00	
10,000.0	90.00	0.00	7,425.0	2,373.2	-587.9	2,373.2	0.00	0.00	
10,100.0	90.00	0.00	7,425.0	2,473.2	-587.9	2,473.2	0.00	0.00	
10,200.0	90.00	0.00	7,425.0	2,573.2	-587.9	2,573.2	0.00	0.00	
10,300.0	90.00	0.00	7,425.0	2,673.2	-587.9	2,673.2	0.00	0.00	
10,400.0	90.00	0.00	7,425.0	2,773.2	-587.9	2,773.2	0.00	0.00	
10,500.0	90.00	0.00	7,425.0	2,873.2	-587.9	2,873.2	0.00	0.00	
10,600.0	90.00	0.00	7,425.0	2,973.2	-587.9	2,973.2	0.00	0.00	
10,700.0	90.00	0.00	7,425.0	3,073.2	-587.9	3,073.2	0.00	0.00	
10,800.0	90.00	0.00	7,425.0	3,173.2	-587.8	3,173.2	0.00	0.00	
10,900.0	90.00	0.00	7,425.0	3,273.2	-587.8	3,273.2	0.00	0.00	
11,000.0	90.00	0.00	7,425.0	3,373.2	-587.8	3,373.2	0.00	0.00	
11,100.0	90.00	0.00	7,425.0	3,473.2	-587.8	3,473.2	0.00	0.00	
11,200.0	90.00	0.00	7,425.0	3,573.2	-587.8	3,573.2	0.00	0.00	
11,300.0	90.00	0.00	7,425.0	3,673.2	-587.8	3,673.2	0.00	0.00	
11,400.0	90.00	0.00	7,425.0	3,773.2	-587.8	3,773.2	0.00	0.00	
11,500.0	90.00	0.00	7,425.0	3,873.2	-587.8	3,873.2	0.00	0.00	
11,600.0	90.00	0.00	7,425.0	3,973.2	-587.8	3,973.2	0.00	0.00	
11,700.0	90.00	0.00	7,425.0	4,073.2	-587.8	4,073.2	0.00	0.00	
11,800.0	90.00	0.00	7,425.0	4,173.2	-587.8	4,173.2	0.00	0.00	
11,900.0	90.00	0.00	7,425.0	4,273.2	-587.8	4,273.2	0.00	0.00	
11,994.5	90.00	0.00	7,425.0	4,367.7	-587.8	4,367.7	0.00	0.00	PBHL @ 11994' MD

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Mathews 4A-14H FPP	0.00	0.00	7,420.0	-10.9	-599.1	1,260,238.08	3,211,592.22	40.045260	-104.744240
- plan misses target center by 53.3ft at 7627.1ft MD (7371.2 TVD, 7.3 N, -587.9 E)									
- Point									
Mathews 4A-14H PBHL	0.00	0.00	7,425.0	4,367.7	-587.8	1,264,616.63	3,211,566.10	40.057280	-104.744200
- plan hits target center									
- Point									

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>North Reference:</b>	True
<b>Well:</b>	Mathews 4A-14H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,219.5	1,206.0	Base of Fox Hills		0.00		
4,768.6	4,696.0	Sussex		0.00		
5,054.6	4,982.0	Sussex Marker		0.00		
5,301.6	5,229.0	Shannon		0.00		
6,642.6	6,570.0	Teepee Buttes		0.00		
7,416.7	7,264.0	Sharon Springs		0.00		
7,454.3	7,287.0	Niobrara		0.00		
7,759.5	7,410.0	B Chalk		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP @ 200'	
800.0	795.6	-37.3	-50.3	EOB; Inc=12°	
3,720.0	3,651.8	-399.3	-537.7	Start Drop -2.00	
4,320.0	4,247.4	-436.6	-587.9	EOD; Inc=0°	
6,781.4	6,708.8	-436.6	-587.9	Start 8° build @ 6781' MD	
7,906.4	7,425.0	279.6	-587.9	LP @ 7425' TVD; 90°	
11,994.5	7,425.0	4,367.7	-587.8	PBHL @ 11994' MD	

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

**DJ Wattenberg**

**SWSE S14 T1N-R66W (Mathews)**

**Mathews 4A-14H**

**HZ**

**Plan #3**

## **Anticollision Report**

**27 December, 2012**

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

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

Survey Tool Program		Date	12/27/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,994.5	Plan #3 (HZ)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SWSE S14 T1N-R66W (Mathews)						
05-123-17474, Mathews WW 14-2J (Existing) - VT (Exist	10,814.2	7,413.0	1,033.0	960.9	14.335	CC, ES
05-123-17474, Mathews WW 14-2J (Existing) - VT (Exist	11,100.0	7,413.0	1,071.8	994.8	13.927	SF
05-123-17475, Mathews WW 14-11 (Existing) - Existing -	8,985.6	7,408.0	587.9	546.2	14.093	CC
05-123-17475, Mathews WW 14-11 (Existing) - Existing -	9,000.0	7,408.0	588.1	546.2	14.022	ES
05-123-17475, Mathews WW 14-11 (Existing) - Existing -	9,100.0	7,408.0	599.0	555.4	13.765	SF
05-123-17477, Mathews WW 14-14 (Existing) - VT (Exist	7,819.3	7,407.7	601.4	574.3	22.203	CC, ES
05-123-17477, Mathews WW 14-14 (Existing) - VT (Exist	7,906.4	7,413.0	607.6	579.9	21.929	SF
Mathews 4B-14H - HZ - Plan #3	200.0	200.0	11.2	10.5	17.156	CC, ES
Mathews 4B-14H - HZ - Plan #3	11,994.5	12,170.4	479.0	336.7	3.367	SF
Mathews 4C-14H - HZ - Plan #3	200.0	200.0	19.6	18.9	30.023	CC, ES
Mathews 4C-14H - HZ - Plan #3	11,994.5	11,961.1	851.0	692.1	5.357	SF
Mathews 4D-14H - HZ - Plan #3	6,868.8	6,843.9	1,277.1	1,248.9	45.186	CC
Mathews 4D-14H - HZ - Plan #3	11,994.5	12,177.2	1,295.3	1,138.5	8.264	ES, SF
Mathews 4E-14H - HZ - Plan #3	200.0	186.0	1,329.8	1,329.2	2,116.518	CC, ES
Mathews 4E-14H - HZ - Plan #3	11,994.5	11,739.9	1,690.4	1,535.0	10.883	SF
Mathews 4F-14H - HZ - Plan #3	200.0	186.0	1,341.0	1,340.4	2,134.342	CC, ES
Mathews 4F-14H - HZ - Plan #3	11,994.5	12,161.4	2,136.0	1,978.0	13.517	SF
Mathews 4G-14H - HZ - Plan #3	200.0	186.0	1,352.3	1,351.6	2,152.173	CC, ES
Mathews 4G-14H - HZ - Plan #3	11,994.5	11,970.0	2,550.1	2,391.4	16.067	SF



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-26.95	3,187.5	-1,620.8	3,575.9					
100.0	100.0	88.0	88.0	0.2	0.1	-26.95	3,187.5	-1,620.8	3,575.9	3,575.6	0.29	N/A		
200.0	200.0	188.0	188.0	0.3	0.3	-26.95	3,187.5	-1,620.8	3,575.9	3,575.3	0.63	5,659.767		
300.0	300.0	288.0	288.0	0.5	0.5	99.67	3,187.5	-1,620.8	3,576.2	3,575.2	0.98	3,632.790		
400.0	399.8	387.8	387.8	0.7	0.7	99.73	3,187.5	-1,620.8	3,577.1	3,575.7	1.35	2,643.337		
500.0	499.5	487.5	487.5	0.9	0.8	99.84	3,187.5	-1,620.8	3,578.6	3,576.8	1.75	2,043.481		
600.0	598.7	586.7	586.7	1.2	1.0	99.99	3,187.5	-1,620.8	3,580.7	3,578.5	2.19	1,635.946		
700.0	697.5	685.5	685.5	1.5	1.2	100.18	3,187.5	-1,620.8	3,583.4	3,580.8	2.67	1,340.473		
800.0	795.6	783.6	783.6	1.9	1.3	100.41	3,187.5	-1,620.8	3,586.9	3,583.7	3.21	1,117.576		
900.0	893.4	881.4	881.4	2.3	1.5	100.73	3,187.5	-1,620.8	3,590.8	3,587.1	3.76	955.764		
1,000.0	891.3	879.3	879.3	2.7	1.7	101.04	3,187.5	-1,620.8	3,594.8	3,590.5	4.31	833.917		
1,100.0	1,089.1	1,077.1	1,077.1	3.0	1.9	101.36	3,187.5	-1,620.8	3,598.9	3,594.1	4.87	739.290		
1,200.0	1,186.9	1,174.9	1,174.9	3.4	2.0	101.68	3,187.5	-1,620.8	3,603.2	3,597.8	5.43	663.873		
1,300.0	1,284.7	1,272.7	1,272.7	3.8	2.2	102.00	3,187.5	-1,620.8	3,607.5	3,601.6	5.99	602.453		
1,400.0	1,382.5	1,370.5	1,370.5	4.2	2.4	102.31	3,187.5	-1,620.8	3,612.0	3,605.5	6.55	551.517		
1,500.0	1,480.3	1,468.3	1,468.3	4.6	2.5	102.63	3,187.5	-1,620.8	3,616.6	3,609.5	7.11	508.623		
1,600.0	1,578.1	1,566.1	1,566.1	5.1	2.7	102.94	3,187.5	-1,620.8	3,621.3	3,613.6	7.67	472.026		
1,700.0	1,676.0	1,664.0	1,664.0	5.5	2.9	103.25	3,187.5	-1,620.8	3,626.1	3,617.9	8.23	440.448		
1,800.0	1,773.8	1,761.8	1,761.8	5.9	3.1	103.57	3,187.5	-1,620.8	3,631.0	3,622.2	8.79	412.933		
1,900.0	1,871.6	1,859.6	1,859.6	6.3	3.2	103.88	3,187.5	-1,620.8	3,636.1	3,626.7	9.35	388.750		
2,000.0	1,969.4	1,957.4	1,957.4	6.7	3.4	104.19	3,187.5	-1,620.8	3,641.2	3,631.3	9.91	367.336		
2,100.0	2,067.2	2,055.2	2,055.2	7.1	3.6	104.50	3,187.5	-1,620.8	3,646.5	3,636.0	10.47	348.244		
2,200.0	2,165.0	2,153.0	2,153.0	7.5	3.7	104.81	3,187.5	-1,620.8	3,651.8	3,640.8	11.03	331.119		
2,300.0	2,262.8	2,250.8	2,250.8	7.9	3.9	105.12	3,187.5	-1,620.8	3,657.3	3,645.7	11.59	315.677		
2,400.0	2,360.7	2,348.7	2,348.7	8.3	4.1	105.43	3,187.5	-1,620.8	3,662.9	3,650.8	12.14	301.682		
2,500.0	2,458.5	2,446.5	2,446.5	8.7	4.2	105.73	3,187.5	-1,620.8	3,668.6	3,655.9	12.70	288.944		
2,600.0	2,556.3	2,544.3	2,544.3	9.1	4.4	106.04	3,187.5	-1,620.8	3,674.4	3,661.2	13.25	277.301		
2,700.0	2,654.1	2,642.1	2,642.1	9.5	4.6	106.34	3,187.5	-1,620.8	3,680.3	3,666.5	13.80	266.621		
2,800.0	2,751.9	2,739.9	2,739.9	9.9	4.8	106.65	3,187.5	-1,620.8	3,686.4	3,672.0	14.36	256.790		
2,900.0	2,849.7	2,837.7	2,837.7	10.3	4.9	106.95	3,187.5	-1,620.8	3,692.5	3,677.6	14.91	247.712		
3,000.0	2,947.5	2,935.5	2,935.5	10.7	5.1	107.25	3,187.5	-1,620.8	3,698.7	3,683.3	15.46	239.305		
3,100.0	3,045.4	3,033.4	3,033.4	11.1	5.3	107.55	3,187.5	-1,620.8	3,705.1	3,689.1	16.00	231.499		
3,200.0	3,143.2	3,131.2	3,131.2	11.5	5.4	107.85	3,187.5	-1,620.8	3,711.5	3,695.0	16.55	224.233		
3,300.0	3,241.0	3,229.0	3,229.0	11.9	5.6	108.15	3,187.5	-1,620.8	3,718.1	3,701.0	17.10	217.453		
3,400.0	3,338.8	3,326.8	3,326.8	12.4	5.8	108.45	3,187.5	-1,620.8	3,724.7	3,707.1	17.64	211.114		
3,500.0	3,436.6	3,424.6	3,424.6	12.8	6.0	108.75	3,187.5	-1,620.8	3,731.5	3,713.3	18.19	205.174		
3,600.0	3,534.4	3,522.4	3,522.4	13.2	6.1	109.04	3,187.5	-1,620.8	3,738.4	3,719.6	18.73	199.598		
3,700.0	3,632.3	3,620.3	3,620.3	13.6	6.3	109.34	3,187.5	-1,620.8	3,745.3	3,726.1	19.27	194.353		
3,720.0	3,651.8	3,639.8	3,639.8	13.7	6.3	109.40	3,187.5	-1,620.8	3,746.8	3,727.4	19.38	193.342		
3,800.0	3,730.3	3,718.3	3,718.3	13.9	6.5	109.72	3,187.5	-1,620.8	3,752.0	3,732.3	19.78	189.727		
3,900.0	3,828.9	3,816.9	3,816.9	14.3	6.6	110.05	3,187.5	-1,620.8	3,757.7	3,737.4	20.23	185.792		
4,000.0	3,928.1	3,916.1	3,916.1	14.5	6.8	110.32	3,187.5	-1,620.8	3,762.1	3,741.5	20.63	182.380		
4,100.0	4,027.7	4,015.7	4,015.7	14.7	7.0	110.52	3,187.5	-1,620.8	3,765.4	3,744.5	20.99	179.427		
4,200.0	4,127.5	4,115.5	4,115.5	14.9	7.2	110.64	3,187.5	-1,620.8	3,767.5	3,746.2	21.30	176.883		
4,300.0	4,227.4	4,215.4	4,215.4	15.0	7.3	110.69	3,187.5	-1,620.8	3,768.4	3,746.8	21.57	174.706		
4,320.0	4,247.4	4,235.4	4,235.4	15.0	7.4	-15.91	3,187.5	-1,620.8	3,768.4	3,746.8	21.62	174.280		
4,400.0	4,327.4	4,315.4	4,315.4	15.0	7.5	-15.91	3,187.5	-1,620.8	3,768.4	3,746.6	21.84	172.574		
4,500.0	4,427.4	4,415.4	4,415.4	15.1	7.7	-15.91	3,187.5	-1,620.8	3,768.4	3,746.3	22.11	170.477		
4,600.0	4,527.4	4,515.4	4,515.4	15.2	7.9	-15.91	3,187.5	-1,620.8	3,768.4	3,746.0	22.38	168.419		
4,700.0	4,627.4	4,615.4	4,615.4	15.3	8.0	-15.91	3,187.5	-1,620.8	3,768.4	3,745.8	22.65	166.400		
4,800.0	4,727.4	4,715.4	4,715.4	15.4	8.2	-15.91	3,187.5	-1,620.8	3,768.4	3,745.5	22.92	164.419		
4,900.0	4,827.4	4,815.4	4,815.4	15.5	8.4	-15.91	3,187.5	-1,620.8	3,768.4	3,745.2	23.19	162.474		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,927.4	4,915.4	4,915.4	15.6	8.6	-15.91	3,187.5	-1,620.8	3,768.4	3,744.9	23.47	160.565		
5,100.0	5,027.4	5,015.4	5,015.4	15.7	8.7	-15.91	3,187.5	-1,620.8	3,768.4	3,744.7	23.75	158.692		
5,200.0	5,127.4	5,115.4	5,115.4	15.8	8.9	-15.91	3,187.5	-1,620.8	3,768.4	3,744.4	24.03	156.853		
5,300.0	5,227.4	5,215.4	5,215.4	15.9	9.1	-15.91	3,187.5	-1,620.8	3,768.4	3,744.1	24.30	155.048		
5,400.0	5,327.4	5,315.4	5,315.4	16.0	9.3	-15.91	3,187.5	-1,620.8	3,768.4	3,743.8	24.59	153.276		
5,500.0	5,427.4	5,415.4	5,415.4	16.1	9.4	-15.91	3,187.5	-1,620.8	3,768.4	3,743.5	24.87	151.537		
5,600.0	5,527.4	5,515.4	5,515.4	16.2	9.6	-15.91	3,187.5	-1,620.8	3,768.4	3,743.3	25.15	149.830		
5,700.0	5,627.4	5,615.4	5,615.4	16.3	9.8	-15.91	3,187.5	-1,620.8	3,768.4	3,743.0	25.44	148.153		
5,800.0	5,727.4	5,715.4	5,715.4	16.4	10.0	-15.91	3,187.5	-1,620.8	3,768.4	3,742.7	25.72	146.507		
5,900.0	5,827.4	5,815.4	5,815.4	16.5	10.1	-15.91	3,187.5	-1,620.8	3,768.4	3,742.4	26.01	144.891		
6,000.0	5,927.4	5,915.4	5,915.4	16.6	10.3	-15.91	3,187.5	-1,620.8	3,768.4	3,742.1	26.30	143.304		
6,100.0	6,027.4	6,015.4	6,015.4	16.7	10.5	-15.91	3,187.5	-1,620.8	3,768.4	3,741.8	26.59	141.746		
6,200.0	6,127.4	6,115.4	6,115.4	16.9	10.7	-15.91	3,187.5	-1,620.8	3,768.4	3,741.5	26.88	140.216		
6,300.0	6,227.4	6,215.4	6,215.4	17.0	10.8	-15.91	3,187.5	-1,620.8	3,768.4	3,741.2	27.17	138.713		
6,400.0	6,327.4	6,315.4	6,315.4	17.1	11.0	-15.91	3,187.5	-1,620.8	3,768.4	3,741.0	27.46	137.237		
6,500.0	6,427.4	6,415.4	6,415.4	17.2	11.2	-15.91	3,187.5	-1,620.8	3,768.4	3,740.7	27.75	135.786		
6,600.0	6,527.4	6,515.4	6,515.4	17.3	11.3	-15.91	3,187.5	-1,620.8	3,768.4	3,740.4	28.05	134.362		
6,700.0	6,627.4	6,615.4	6,615.4	17.4	11.5	-15.91	3,187.5	-1,620.8	3,768.4	3,740.1	28.34	132.963		
6,781.4	6,708.8	6,696.8	6,696.8	17.5	11.7	-15.91	3,187.5	-1,620.8	3,768.4	3,739.8	28.58	131.842		
6,800.0	6,727.4	6,715.4	6,715.4	17.5	11.7	-15.92	3,187.5	-1,620.8	3,768.2	3,739.6	28.62	131.640		
6,850.0	6,777.3	6,765.3	6,765.3	17.6	11.8	-15.99	3,187.5	-1,620.8	3,765.3	3,736.6	28.66	131.356		
6,900.0	6,826.9	6,814.9	6,814.9	17.6	11.9	-16.16	3,187.5	-1,620.8	3,759.0	3,730.4	28.60	131.420		
6,950.0	6,875.9	6,863.9	6,863.9	17.5	12.0	-16.42	3,187.5	-1,620.8	3,749.4	3,721.0	28.44	131.828		
7,000.0	6,924.1	6,912.1	6,912.1	17.5	12.0	-16.78	3,187.5	-1,620.8	3,736.6	3,708.4	28.18	132.581		
7,050.0	6,971.2	6,959.2	6,959.2	17.4	12.1	-17.25	3,187.5	-1,620.8	3,720.6	3,692.7	27.83	133.680		
7,100.0	7,017.0	7,005.0	7,005.0	17.4	12.2	-17.85	3,187.5	-1,620.8	3,701.4	3,674.0	27.39	135.124		
7,150.0	7,061.4	7,049.4	7,049.4	17.3	12.3	-18.58	3,187.5	-1,620.8	3,679.3	3,652.4	26.87	136.907		
7,200.0	7,104.0	7,092.0	7,092.0	17.2	12.4	-19.46	3,187.5	-1,620.8	3,654.2	3,627.9	26.29	139.016		
7,250.0	7,144.7	7,132.7	7,132.7	17.1	12.4	-20.53	3,187.5	-1,620.8	3,626.4	3,600.7	25.64	141.420		
7,300.0	7,183.3	7,171.3	7,171.3	17.0	12.5	-21.82	3,187.5	-1,620.8	3,595.9	3,571.0	24.96	144.060		
7,350.0	7,219.5	7,207.5	7,207.5	16.9	12.6	-23.37	3,187.5	-1,620.8	3,563.0	3,538.7	24.27	146.830		
7,400.0	7,253.3	7,241.3	7,241.3	16.8	12.6	-25.24	3,187.5	-1,620.8	3,527.7	3,504.1	23.59	149.552		
7,450.0	7,284.5	7,272.5	7,272.5	16.8	12.7	-27.51	3,187.5	-1,620.8	3,490.3	3,467.4	22.97	151.943		
7,500.0	7,312.8	7,300.8	7,300.8	16.8	12.7	-30.27	3,187.5	-1,620.8	3,451.0	3,428.5	22.47	153.585		
7,550.0	7,338.2	7,326.2	7,326.2	16.8	12.8	-33.66	3,187.5	-1,620.8	3,409.9	3,387.8	22.16	153.910		
7,600.0	7,360.5	7,348.5	7,348.5	16.8	12.8	-37.84	3,187.5	-1,620.8	3,367.3	3,345.2	22.11	152.269		
7,650.0	7,379.6	7,367.6	7,367.6	16.9	12.8	-43.03	3,187.5	-1,620.8	3,323.4	3,301.0	22.44	148.128		
7,700.0	7,395.5	7,383.5	7,383.5	17.0	12.9	-49.44	3,187.5	-1,620.8	3,278.4	3,255.2	23.18	141.419		
7,750.0	7,408.0	7,396.0	7,396.0	17.2	12.9	-57.29	3,187.5	-1,620.8	3,232.5	3,208.2	24.33	132.864		
7,800.0	7,417.1	7,405.1	7,405.1	17.4	12.9	-66.65	3,187.5	-1,620.8	3,186.0	3,160.3	25.70	123.966		
7,850.0	7,422.8	7,410.8	7,410.8	17.7	12.9	-77.29	3,187.5	-1,620.8	3,139.0	3,112.1	26.95	116.495		
7,900.0	7,425.0	7,413.0	7,413.0	18.0	12.9	-88.56	3,187.5	-1,620.8	3,091.9	3,064.2	27.67	111.748		
7,906.4	7,425.0	7,413.0	7,413.0	18.0	12.9	-90.00	3,187.5	-1,620.8	3,085.9	3,058.2	27.71	111.368		
8,000.0	7,425.0	7,413.0	7,413.0	18.7	12.9	-90.00	3,187.5	-1,620.8	2,997.8	2,969.3	28.52	105.129		
8,100.0	7,425.0	7,413.0	7,413.0	19.5	12.9	-90.00	3,187.5	-1,620.8	2,904.2	2,874.6	29.51	98.400		
8,200.0	7,425.0	7,413.0	7,413.0	20.5	12.9	-90.00	3,187.5	-1,620.8	2,810.9	2,780.3	30.63	91.771		
8,300.0	7,425.0	7,413.0	7,413.0	21.5	12.9	-90.00	3,187.5	-1,620.8	2,718.2	2,686.3	31.84	85.362		
8,400.0	7,425.0	7,413.0	7,413.0	22.7	12.9	-90.00	3,187.5	-1,620.8	2,625.9	2,592.8	33.14	79.249		
8,500.0	7,425.0	7,413.0	7,413.0	23.9	12.9	-90.00	3,187.5	-1,620.8	2,534.3	2,499.8	34.49	73.473		
8,600.0	7,425.0	7,413.0	7,413.0	25.2	12.9	-90.00	3,187.5	-1,620.8	2,443.3	2,407.4	35.90	68.050		
8,700.0	7,425.0	7,413.0	7,413.0	26.5	12.9	-90.00	3,187.5	-1,620.8	2,353.1	2,315.7	37.36	62.983		
8,800.0	7,425.0	7,413.0	7,413.0	27.9	12.9	-90.00	3,187.5	-1,620.8	2,263.7	2,224.8	38.85	58.262		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-17474, Mathews WW 14-2J (Existing) - VT (Existing) - Exis													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
8,900.0	7,425.0	7,413.0	7,413.0	29.3	12.9	-90.00	3,187.5	-1,620.8	2,175.2	2,134.8	40.38	53.871		
9,000.0	7,425.0	7,413.0	7,413.0	30.8	12.9	-90.00	3,187.5	-1,620.8	2,087.7	2,045.8	41.93	49.794		
9,100.0	7,425.0	7,413.0	7,413.0	32.3	12.9	-90.00	3,187.5	-1,620.8	2,001.4	1,957.9	43.50	46.011		
9,200.0	7,425.0	7,413.0	7,413.0	33.8	12.9	-90.00	3,187.5	-1,620.8	1,916.5	1,871.4	45.09	42.503		
9,300.0	7,425.0	7,413.0	7,413.0	35.3	12.9	-90.00	3,187.5	-1,620.8	1,833.0	1,786.3	46.70	39.254		
9,400.0	7,425.0	7,413.0	7,413.0	36.9	12.9	-90.00	3,187.5	-1,620.8	1,751.3	1,703.0	48.32	36.246		
9,500.0	7,425.0	7,413.0	7,413.0	38.4	12.9	-90.00	3,187.5	-1,620.8	1,671.6	1,621.7	49.95	33.465		
9,600.0	7,425.0	7,413.0	7,413.0	40.0	12.9	-90.00	3,187.5	-1,620.8	1,594.2	1,542.6	51.59	30.899		
9,700.0	7,425.0	7,413.0	7,413.0	41.6	12.9	-90.00	3,187.5	-1,620.8	1,519.4	1,466.1	53.25	28.535		
9,800.0	7,425.0	7,413.0	7,413.0	43.2	12.9	-90.00	3,187.5	-1,620.8	1,447.7	1,392.7	54.91	26.365		
9,900.0	7,425.0	7,413.0	7,413.0	44.9	12.9	-90.00	3,187.5	-1,620.8	1,379.4	1,322.9	56.58	24.382		
10,000.0	7,425.0	7,413.0	7,413.0	46.5	12.9	-90.00	3,187.5	-1,620.8	1,315.3	1,257.0	58.25	22.580		
10,100.0	7,425.0	7,413.0	7,413.0	48.1	12.9	-90.00	3,187.5	-1,620.8	1,255.8	1,195.9	59.93	20.955		
10,200.0	7,425.0	7,413.0	7,413.0	49.8	12.9	-90.00	3,187.5	-1,620.8	1,201.8	1,140.2	61.62	19.504		
10,300.0	7,425.0	7,413.0	7,413.0	51.4	12.9	-90.00	3,187.5	-1,620.8	1,153.9	1,090.6	63.31	18.227		
10,400.0	7,425.0	7,413.0	7,413.0	53.1	12.9	-90.00	3,187.5	-1,620.8	1,112.9	1,047.9	65.00	17.121		
10,500.0	7,425.0	7,413.0	7,413.0	54.8	12.9	-90.00	3,187.5	-1,620.8	1,079.7	1,013.0	66.70	16.187		
10,600.0	7,425.0	7,413.0	7,413.0	56.4	12.9	-90.00	3,187.5	-1,620.8	1,054.9	986.5	68.40	15.423		
10,700.0	7,425.0	7,413.0	7,413.0	58.1	12.9	-90.00	3,187.5	-1,620.8	1,039.3	969.1	70.11	14.824		
10,800.0	7,425.0	7,413.0	7,413.0	59.8	12.9	-90.00	3,187.5	-1,620.8	1,033.1	961.2	71.82	14.385		
10,814.2	7,425.0	7,413.0	7,413.0	60.0	12.9	-90.00	3,187.5	-1,620.8	1,033.0	960.9	72.06	14.335 CC, ES		
10,900.0	7,425.0	7,413.0	7,413.0	61.5	12.9	-90.00	3,187.5	-1,620.8	1,036.5	963.0	73.53	14.097		
11,000.0	7,425.0	7,413.0	7,413.0	63.2	12.9	-90.00	3,187.5	-1,620.8	1,049.5	974.3	75.24	13.949		
11,100.0	7,425.0	7,413.0	7,413.0	64.9	12.9	-90.00	3,187.5	-1,620.8	1,071.8	994.8	76.95	13.927 SF		
11,200.0	7,425.0	7,413.0	7,413.0	66.6	12.9	-90.00	3,187.5	-1,620.8	1,102.6	1,024.0	78.67	14.016		
11,300.0	7,425.0	7,413.0	7,413.0	68.3	12.9	-90.00	3,187.5	-1,620.8	1,141.5	1,061.1	80.39	14.199		
11,400.0	7,425.0	7,413.0	7,413.0	70.0	12.9	-90.00	3,187.5	-1,620.8	1,187.5	1,105.4	82.11	14.462		
11,500.0	7,425.0	7,413.0	7,413.0	71.7	12.9	-90.00	3,187.5	-1,620.8	1,239.9	1,156.0	83.83	14.789		
11,600.0	7,425.0	7,413.0	7,413.0	73.4	12.9	-90.00	3,187.5	-1,620.8	1,297.8	1,212.3	85.56	15.169		
11,700.0	7,425.0	7,413.0	7,413.0	75.1	12.9	-90.00	3,187.5	-1,620.8	1,360.7	1,273.4	87.28	15.590		
11,800.0	7,425.0	7,413.0	7,413.0	76.8	12.9	-90.00	3,187.5	-1,620.8	1,427.8	1,338.8	89.01	16.041		
11,900.0	7,425.0	7,413.0	7,413.0	78.5	12.9	-90.00	3,187.5	-1,620.8	1,498.6	1,407.9	90.74	16.516		
11,994.5	7,425.0	7,413.0	7,413.0	80.1	12.9	-90.00	3,187.5	-1,620.8	1,568.4	1,476.1	92.37	16.979		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
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	-40.87	1,358.8	-1,175.8	1,797.0						
100.0	100.0	83.0	83.0	0.2	0.1	-40.87	1,358.8	-1,175.8	1,796.9	1,796.6	0.30	6,055.399			
200.0	200.0	183.0	183.0	0.3	0.3	-40.87	1,358.8	-1,175.8	1,796.9	1,796.2	0.65	2,782.530			
300.0	300.0	283.0	283.0	0.5	0.5	85.79	1,358.8	-1,175.8	1,796.8	1,795.8	1.00	1,799.498			
400.0	399.8	382.8	382.8	0.7	0.7	85.96	1,358.8	-1,175.8	1,796.4	1,795.0	1.37	1,313.324			
500.0	499.5	482.5	482.5	0.9	0.8	86.25	1,358.8	-1,175.8	1,795.8	1,794.0	1.77	1,016.238			
600.0	598.7	581.7	581.7	1.2	1.0	86.65	1,358.8	-1,175.8	1,795.0	1,792.8	2.21	813.285			
700.0	697.5	680.5	680.5	1.5	1.2	87.16	1,358.8	-1,175.8	1,794.2	1,791.5	2.70	665.564			
800.0	795.6	778.6	778.6	1.9	1.4	87.77	1,358.8	-1,175.8	1,793.3	1,790.1	3.24	553.838			
900.0	893.4	876.4	876.4	2.3	1.5	88.42	1,358.8	-1,175.8	1,792.6	1,788.8	3.79	472.691			
1,000.0	991.3	974.3	974.3	2.7	1.7	89.07	1,358.8	-1,175.8	1,792.1	1,787.8	4.35	411.622			
1,100.0	1,089.1	1,072.1	1,072.1	3.0	1.9	89.72	1,358.8	-1,175.8	1,791.9	1,787.0	4.92	364.238			
1,142.5	1,130.7	1,113.7	1,113.7	3.2	1.9	90.00	1,358.8	-1,175.8	1,791.9	1,786.7	5.16	347.175			
1,200.0	1,186.9	1,169.9	1,169.9	3.4	2.0	90.37	1,358.8	-1,175.8	1,791.9	1,786.4	5.49	326.514			
1,300.0	1,284.7	1,267.7	1,267.7	3.8	2.2	91.02	1,358.8	-1,175.8	1,792.2	1,786.1	6.06	295.831			
1,400.0	1,382.5	1,365.5	1,365.5	4.2	2.4	91.67	1,358.8	-1,175.8	1,792.7	1,786.1	6.63	270.424			
1,500.0	1,480.3	1,463.3	1,463.3	4.6	2.6	92.32	1,358.8	-1,175.8	1,793.4	1,786.2	7.20	249.065			
1,600.0	1,578.1	1,561.1	1,561.1	5.1	2.7	92.97	1,358.8	-1,175.8	1,794.4	1,786.6	7.77	230.875			
1,700.0	1,676.0	1,659.0	1,659.0	5.5	2.9	93.62	1,358.8	-1,175.8	1,795.6	1,787.3	8.34	215.213			
1,800.0	1,773.8	1,756.8	1,756.8	5.9	3.1	94.27	1,358.8	-1,175.8	1,797.1	1,788.2	8.91	201.595			
1,900.0	1,871.6	1,854.6	1,854.6	6.3	3.2	94.91	1,358.8	-1,175.8	1,798.8	1,789.3	9.48	189.656			
2,000.0	1,969.4	1,952.4	1,952.4	6.7	3.4	95.56	1,358.8	-1,175.8	1,800.7	1,790.7	10.05	179.111			
2,100.0	2,067.2	2,050.2	2,050.2	7.1	3.6	96.20	1,358.8	-1,175.8	1,802.9	1,792.3	10.62	169.735			
2,200.0	2,165.0	2,148.0	2,148.0	7.5	3.7	96.84	1,358.8	-1,175.8	1,805.3	1,794.1	11.19	161.351			
2,300.0	2,262.8	2,245.8	2,245.8	7.9	3.9	97.48	1,358.8	-1,175.8	1,808.0	1,796.2	11.75	153.813			
2,400.0	2,360.7	2,343.7	2,343.7	8.3	4.1	98.12	1,358.8	-1,175.8	1,810.9	1,798.5	12.32	147.004			
2,500.0	2,458.5	2,441.5	2,441.5	8.7	4.3	98.76	1,358.8	-1,175.8	1,814.0	1,801.1	12.88	140.828			
2,600.0	2,556.3	2,539.3	2,539.3	9.1	4.4	99.39	1,358.8	-1,175.8	1,817.3	1,803.9	13.44	135.204			
2,700.0	2,654.1	2,637.1	2,637.1	9.5	4.6	100.02	1,358.8	-1,175.8	1,820.9	1,806.9	14.00	130.064			
2,800.0	2,751.9	2,734.9	2,734.9	9.9	4.8	100.65	1,358.8	-1,175.8	1,824.7	1,810.2	14.56	125.352			
2,900.0	2,849.7	2,832.7	2,832.7	10.3	4.9	101.28	1,358.8	-1,175.8	1,828.8	1,813.7	15.11	121.018			
3,000.0	2,947.5	2,930.5	2,930.5	10.7	5.1	101.90	1,358.8	-1,175.8	1,833.0	1,817.4	15.66	117.023			
3,100.0	3,045.4	3,028.4	3,028.4	11.1	5.3	102.53	1,358.8	-1,175.8	1,837.5	1,821.3	16.21	113.330			
3,200.0	3,143.2	3,126.2	3,126.2	11.5	5.5	103.14	1,358.8	-1,175.8	1,842.2	1,825.5	16.76	109.908			
3,300.0	3,241.0	3,224.0	3,224.0	11.9	5.6	103.76	1,358.8	-1,175.8	1,847.2	1,829.9	17.31	106.730			
3,400.0	3,338.8	3,321.8	3,321.8	12.4	5.8	104.37	1,358.8	-1,175.8	1,852.3	1,834.5	17.85	103.774			
3,500.0	3,436.6	3,419.6	3,419.6	12.8	6.0	104.98	1,358.8	-1,175.8	1,857.7	1,839.3	18.39	101.019			
3,600.0	3,534.4	3,517.4	3,517.4	13.2	6.1	105.58	1,358.8	-1,175.8	1,863.3	1,844.4	18.93	98.446			
3,700.0	3,632.3	3,615.3	3,615.3	13.6	6.3	106.19	1,358.8	-1,175.8	1,869.1	1,849.7	19.46	96.040			
3,720.0	3,651.8	3,634.8	3,634.8	13.7	6.3	106.31	1,358.8	-1,175.8	1,870.3	1,850.7	19.57	95.578			
3,800.0	3,730.3	3,713.3	3,713.3	13.9	6.5	106.84	1,358.8	-1,175.8	1,874.8	1,854.9	19.96	93.930			
3,900.0	3,828.9	3,811.9	3,811.9	14.3	6.7	107.40	1,358.8	-1,175.8	1,879.7	1,859.3	20.40	92.134			
4,000.0	3,928.1	3,911.1	3,911.1	14.5	6.8	107.85	1,358.8	-1,175.8	1,883.6	1,862.8	20.80	90.567			
4,100.0	4,027.7	4,010.7	4,010.7	14.7	7.0	108.18	1,358.8	-1,175.8	1,886.5	1,865.4	21.15	89.197			
4,200.0	4,127.5	4,110.5	4,110.5	14.9	7.2	108.38	1,358.8	-1,175.8	1,888.4	1,866.9	21.46	87.997			
4,300.0	4,227.4	4,210.4	4,210.4	15.0	7.3	108.47	1,358.8	-1,175.8	1,889.2	1,867.4	21.73	86.947			
4,320.0	4,247.4	4,230.4	4,230.4	15.0	7.4	-18.13	1,358.8	-1,175.8	1,889.2	1,867.4	21.78	86.737			
4,400.0	4,327.4	4,310.4	4,310.4	15.0	7.5	-18.13	1,358.8	-1,175.8	1,889.2	1,867.2	21.99	85.897			
4,500.0	4,427.4	4,410.4	4,410.4	15.1	7.7	-18.13	1,358.8	-1,175.8	1,889.2	1,866.9	22.26	84.864			
4,600.0	4,527.4	4,510.4	4,510.4	15.2	7.9	-18.13	1,358.8	-1,175.8	1,889.2	1,866.7	22.53	83.851			
4,700.0	4,627.4	4,610.4	4,610.4	15.3	8.0	-18.13	1,358.8	-1,175.8	1,889.2	1,866.4	22.80	82.856			
4,800.0	4,727.4	4,710.4	4,710.4	15.4	8.2	-18.13	1,358.8	-1,175.8	1,889.2	1,866.1	23.07	81.879			

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
4,900.0	4,827.4	4,810.4	4,810.4	15.5	8.4	-18.13	1,358.8	-1,175.8	1,889.2	1,865.8	23.35	80.920		
5,000.0	4,927.4	4,910.4	4,910.4	15.6	8.6	-18.13	1,358.8	-1,175.8	1,889.2	1,865.6	23.62	79.979		
5,100.0	5,027.4	5,010.4	5,010.4	15.7	8.7	-18.13	1,358.8	-1,175.8	1,889.2	1,865.3	23.90	79.054		
5,200.0	5,127.4	5,110.4	5,110.4	15.8	8.9	-18.13	1,358.8	-1,175.8	1,889.2	1,865.0	24.17	78.147		
5,300.0	5,227.4	5,210.4	5,210.4	15.9	9.1	-18.13	1,358.8	-1,175.8	1,889.2	1,864.7	24.45	77.256		
5,400.0	5,327.4	5,310.4	5,310.4	16.0	9.3	-18.13	1,358.8	-1,175.8	1,889.2	1,864.5	24.73	76.382		
5,500.0	5,427.4	5,410.4	5,410.4	16.1	9.4	-18.13	1,358.8	-1,175.8	1,889.2	1,864.2	25.01	75.523		
5,600.0	5,527.4	5,510.4	5,510.4	16.2	9.6	-18.13	1,358.8	-1,175.8	1,889.2	1,863.9	25.30	74.680		
5,700.0	5,627.4	5,610.4	5,610.4	16.3	9.8	-18.13	1,358.8	-1,175.8	1,889.2	1,863.6	25.58	73.851		
5,800.0	5,727.4	5,710.4	5,710.4	16.4	10.0	-18.13	1,358.8	-1,175.8	1,889.2	1,863.3	25.87	73.038		
5,900.0	5,827.4	5,810.4	5,810.4	16.5	10.1	-18.13	1,358.8	-1,175.8	1,889.2	1,863.0	26.15	72.239		
6,000.0	5,927.4	5,910.4	5,910.4	16.6	10.3	-18.13	1,358.8	-1,175.8	1,889.2	1,862.8	26.44	71.455		
6,100.0	6,027.4	6,010.4	6,010.4	16.7	10.5	-18.13	1,358.8	-1,175.8	1,889.2	1,862.5	26.73	70.685		
6,200.0	6,127.4	6,110.4	6,110.4	16.9	10.7	-18.13	1,358.8	-1,175.8	1,889.2	1,862.2	27.02	69.928		
6,300.0	6,227.4	6,210.4	6,210.4	17.0	10.8	-18.13	1,358.8	-1,175.8	1,889.2	1,861.9	27.31	69.184		
6,400.0	6,327.4	6,310.4	6,310.4	17.1	11.0	-18.13	1,358.8	-1,175.8	1,889.2	1,861.6	27.60	68.454		
6,500.0	6,427.4	6,410.4	6,410.4	17.2	11.2	-18.13	1,358.8	-1,175.8	1,889.2	1,861.3	27.89	67.736		
6,600.0	6,527.4	6,510.4	6,510.4	17.3	11.4	-18.13	1,358.8	-1,175.8	1,889.2	1,861.0	28.18	67.031		
6,700.0	6,627.4	6,610.4	6,610.4	17.4	11.5	-18.13	1,358.8	-1,175.8	1,889.2	1,860.7	28.48	66.339		
6,781.4	6,708.8	6,691.8	6,691.8	17.5	11.7	-18.13	1,358.8	-1,175.8	1,889.2	1,860.5	28.72	65.784		
6,800.0	6,727.4	6,710.4	6,710.4	17.5	11.7	-18.14	1,358.8	-1,175.8	1,889.0	1,860.2	28.76	65.679		
6,850.0	6,777.3	6,760.3	6,760.3	17.6	11.8	-18.24	1,358.8	-1,175.8	1,886.1	1,857.3	28.80	65.485		
6,900.0	6,826.9	6,809.9	6,809.9	17.6	11.9	-18.46	1,358.8	-1,175.8	1,879.9	1,851.1	28.74	65.404		
6,950.0	6,875.9	6,858.9	6,858.9	17.5	12.0	-18.80	1,358.8	-1,175.8	1,870.4	1,841.8	28.59	65.434		
7,000.0	6,924.1	6,907.1	6,907.1	17.5	12.1	-19.28	1,358.8	-1,175.8	1,857.8	1,829.4	28.33	65.571		
7,050.0	6,971.2	6,954.2	6,954.2	17.4	12.1	-19.90	1,358.8	-1,175.8	1,841.9	1,814.0	27.99	65.811		
7,100.0	7,017.0	7,000.0	7,000.0	17.4	12.2	-20.68	1,358.8	-1,175.8	1,823.1	1,795.5	27.56	66.149		
7,150.0	7,061.4	7,044.4	7,044.4	17.3	12.3	-21.64	1,358.8	-1,175.8	1,801.2	1,774.2	27.06	66.574		
7,200.0	7,104.0	7,087.0	7,087.0	17.2	12.4	-22.81	1,358.8	-1,175.8	1,776.6	1,750.1	26.49	67.069		
7,250.0	7,144.7	7,127.7	7,127.7	17.1	12.4	-24.22	1,358.8	-1,175.8	1,749.2	1,723.3	25.87	67.604		
7,300.0	7,183.3	7,166.3	7,166.3	17.0	12.5	-25.91	1,358.8	-1,175.8	1,719.3	1,694.1	25.23	68.133		
7,350.0	7,219.5	7,202.5	7,202.5	16.9	12.6	-27.94	1,358.8	-1,175.8	1,687.0	1,662.4	24.60	68.584		
7,400.0	7,253.3	7,236.3	7,236.3	16.8	12.6	-30.37	1,358.8	-1,175.8	1,652.5	1,628.5	24.00	68.848		
7,450.0	7,284.5	7,267.5	7,267.5	16.8	12.7	-33.28	1,358.8	-1,175.8	1,616.0	1,592.5	23.50	68.775		
7,500.0	7,312.8	7,295.8	7,295.8	16.8	12.7	-36.77	1,358.8	-1,175.8	1,577.7	1,554.6	23.14	68.173		
7,550.0	7,338.2	7,321.2	7,321.2	16.8	12.8	-40.92	1,358.8	-1,175.8	1,537.8	1,514.8	23.01	66.839		
7,600.0	7,360.5	7,343.5	7,343.5	16.8	12.8	-45.84	1,358.8	-1,175.8	1,496.6	1,473.5	23.16	64.627		
7,650.0	7,379.6	7,362.6	7,362.6	16.9	12.9	-51.60	1,358.8	-1,175.8	1,454.3	1,430.6	23.63	61.545		
7,700.0	7,395.5	7,378.5	7,378.5	17.0	12.9	-58.20	1,358.8	-1,175.8	1,411.0	1,386.6	24.40	57.828		
7,750.0	7,408.0	7,391.0	7,391.0	17.2	12.9	-65.55	1,358.8	-1,175.8	1,367.2	1,341.8	25.37	53.897		
7,800.0	7,417.1	7,400.1	7,400.1	17.4	12.9	-73.39	1,358.8	-1,175.8	1,323.0	1,296.6	26.35	50.207		
7,850.0	7,422.8	7,405.8	7,405.8	17.7	12.9	-81.37	1,358.8	-1,175.8	1,278.7	1,251.5	27.16	47.074		
7,900.0	7,425.0	7,408.0	7,408.0	18.0	12.9	-89.06	1,358.8	-1,175.8	1,234.5	1,206.9	27.68	44.599		
7,906.4	7,425.0	7,408.0	7,408.0	18.0	12.9	-90.00	1,358.8	-1,175.8	1,228.9	1,201.2	27.72	44.329		
8,000.0	7,425.0	7,408.0	7,408.0	18.7	12.9	-90.00	1,358.8	-1,175.8	1,147.6	1,119.1	28.53	40.224		
8,100.0	7,425.0	7,408.0	7,408.0	19.5	12.9	-90.00	1,358.8	-1,175.8	1,062.9	1,033.4	29.53	35.998		
8,200.0	7,425.0	7,408.0	7,408.0	20.5	12.9	-90.00	1,358.8	-1,175.8	981.2	950.6	30.64	32.019		
8,300.0	7,425.0	7,408.0	7,408.0	21.5	12.9	-90.00	1,358.8	-1,175.8	903.1	871.3	31.86	28.349		
8,400.0	7,425.0	7,408.0	7,408.0	22.7	12.9	-90.00	1,358.8	-1,175.8	829.8	796.6	33.15	25.031		
8,500.0	7,425.0	7,408.0	7,408.0	23.9	12.9	-90.00	1,358.8	-1,175.8	762.5	728.0	34.51	22.097		
8,600.0	7,425.0	7,408.0	7,408.0	25.2	12.9	-90.00	1,358.8	-1,175.8	703.1	667.1	35.92	19.574		
8,700.0	7,425.0	7,408.0	7,408.0	26.5	12.9	-90.00	1,358.8	-1,175.8	653.6	616.2	37.37	17.488		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-17475, Mathews WW 14-11 (Existing) - Existing - Existing											Offset Site Error: 0.0 ft		
Survey Program: 0-MWD											Offset Well Error: 0.0 ft		
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis		Separation Factor
8,800.0	7,425.0	7,408.0	7,408.0	27.9	12.9	-90.00	1,358.8	-1,175.8	616.5	577.6	38.87	15.862	
8,900.0	7,425.0	7,408.0	7,408.0	29.3	12.9	-90.00	1,358.8	-1,175.8	594.1	553.7	40.39	14.709	
8,985.6	7,425.0	7,408.0	7,408.0	30.6	12.9	-90.00	1,358.8	-1,175.8	587.9	546.2	41.72	14.093 CC	
9,000.0	7,425.0	7,408.0	7,408.0	30.8	12.9	-90.00	1,358.8	-1,175.8	588.1	546.2	41.94	14.022 ES	
9,100.0	7,425.0	7,408.0	7,408.0	32.3	12.9	-90.00	1,358.8	-1,175.8	599.0	555.4	43.51	13.765 SF	
9,200.0	7,425.0	7,408.0	7,408.0	33.8	12.9	-90.00	1,358.8	-1,175.8	625.8	580.7	45.10	13.875	
9,300.0	7,425.0	7,408.0	7,408.0	35.3	12.9	-90.00	1,358.8	-1,175.8	666.7	620.0	46.71	14.274	
9,400.0	7,425.0	7,408.0	7,408.0	36.9	12.9	-90.00	1,358.8	-1,175.8	719.3	671.0	48.33	14.883	
9,500.0	7,425.0	7,408.0	7,408.0	38.4	12.9	-90.00	1,358.8	-1,175.8	781.2	731.3	49.96	15.636	
9,600.0	7,425.0	7,408.0	7,408.0	40.0	12.9	-90.00	1,358.8	-1,175.8	850.4	798.8	51.61	16.478	
9,700.0	7,425.0	7,408.0	7,408.0	41.6	12.9	-90.00	1,358.8	-1,175.8	925.2	872.0	53.26	17.372	
9,800.0	7,425.0	7,408.0	7,408.0	43.2	12.9	-90.00	1,358.8	-1,175.8	1,004.5	949.6	54.92	18.289	
9,900.0	7,425.0	7,408.0	7,408.0	44.9	12.9	-90.00	1,358.8	-1,175.8	1,087.1	1,030.5	56.59	19.211	
10,000.0	7,425.0	7,408.0	7,408.0	46.5	12.9	-90.00	1,358.8	-1,175.8	1,172.5	1,114.2	58.26	20.124	
10,100.0	7,425.0	7,408.0	7,408.0	48.1	12.9	-90.00	1,358.8	-1,175.8	1,260.0	1,200.1	59.95	21.019	
10,200.0	7,425.0	7,408.0	7,408.0	49.8	12.9	-90.00	1,358.8	-1,175.8	1,349.3	1,287.6	61.63	21.893	
10,300.0	7,425.0	7,408.0	7,408.0	51.4	12.9	-90.00	1,358.8	-1,175.8	1,439.9	1,376.6	63.32	22.740	
10,400.0	7,425.0	7,408.0	7,408.0	53.1	12.9	-90.00	1,358.8	-1,175.8	1,531.8	1,466.8	65.02	23.560	
10,500.0	7,425.0	7,408.0	7,408.0	54.8	12.9	-90.00	1,358.8	-1,175.8	1,624.6	1,557.8	66.71	24.351	
10,600.0	7,425.0	7,408.0	7,408.0	56.4	12.9	-90.00	1,358.8	-1,175.8	1,718.2	1,649.7	68.42	25.113	
10,700.0	7,425.0	7,408.0	7,408.0	58.1	12.9	-90.00	1,358.8	-1,175.8	1,812.5	1,742.3	70.12	25.847	
10,800.0	7,425.0	7,408.0	7,408.0	59.8	12.9	-90.00	1,358.8	-1,175.8	1,907.3	1,835.5	71.83	26.553	
10,900.0	7,425.0	7,408.0	7,408.0	61.5	12.9	-90.00	1,358.8	-1,175.8	2,002.7	1,929.1	73.54	27.233	
11,000.0	7,425.0	7,408.0	7,408.0	63.2	12.9	-90.00	1,358.8	-1,175.8	2,098.5	2,023.2	75.25	27.886	
11,100.0	7,425.0	7,408.0	7,408.0	64.9	12.9	-90.00	1,358.8	-1,175.8	2,194.7	2,117.7	76.97	28.514	
11,200.0	7,425.0	7,408.0	7,408.0	66.6	12.9	-90.00	1,358.8	-1,175.8	2,291.2	2,212.5	78.69	29.118	
11,300.0	7,425.0	7,408.0	7,408.0	68.3	12.9	-90.00	1,358.8	-1,175.8	2,388.0	2,307.5	80.40	29.699	
11,400.0	7,425.0	7,408.0	7,408.0	70.0	12.9	-90.00	1,358.8	-1,175.8	2,485.0	2,402.9	82.13	30.258	
11,500.0	7,425.0	7,408.0	7,408.0	71.7	12.9	-90.00	1,358.8	-1,175.8	2,582.3	2,498.4	83.85	30.797	
11,600.0	7,425.0	7,408.0	7,408.0	73.4	12.9	-90.00	1,358.8	-1,175.8	2,679.7	2,594.2	85.57	31.315	
11,700.0	7,425.0	7,408.0	7,408.0	75.1	12.9	-90.00	1,358.8	-1,175.8	2,777.4	2,690.1	87.30	31.815	
11,800.0	7,425.0	7,408.0	7,408.0	76.8	12.9	-90.00	1,358.8	-1,175.8	2,875.2	2,786.2	89.02	32.297	
11,900.0	7,425.0	7,408.0	7,408.0	78.5	12.9	-90.00	1,358.8	-1,175.8	2,973.2	2,882.4	90.75	32.761	
11,994.5	7,425.0	7,408.0	7,408.0	80.1	12.9	-90.00	1,358.8	-1,175.8	3,065.8	2,973.4	92.39	33.185	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-80.79	192.7	-1,189.3	1,204.9					
100.0	100.0	88.0	88.0	0.2	0.1	-80.79	192.7	-1,189.3	1,204.8	1,204.5	0.29	4,220.501		
200.0	200.0	188.0	188.0	0.3	0.3	-80.79	192.7	-1,189.3	1,204.8	1,204.2	0.63	1,906.921		
300.0	300.0	288.0	288.0	0.5	0.5	45.88	192.7	-1,189.3	1,203.6	1,202.6	0.98	1,224.939		
400.0	399.8	387.8	387.8	0.7	0.7	46.11	192.7	-1,189.3	1,200.0	1,198.6	1.34	894.436		
500.0	499.5	487.5	487.5	0.9	0.8	46.50	192.7	-1,189.3	1,193.9	1,192.2	1.72	695.596		
600.0	598.7	586.7	586.7	1.2	1.0	47.05	192.7	-1,189.3	1,185.5	1,183.4	2.11	560.622		
700.0	697.5	685.5	685.5	1.5	1.2	47.76	192.7	-1,189.3	1,174.9	1,172.3	2.54	461.831		
800.0	795.6	783.6	783.6	1.9	1.3	48.65	192.7	-1,189.3	1,162.0	1,159.0	3.01	385.851		
900.0	893.4	881.4	881.4	2.3	1.5	49.42	192.7	-1,189.3	1,148.2	1,144.7	3.50	328.375		
1,000.0	991.3	979.3	979.3	2.7	1.7	50.20	192.7	-1,189.3	1,134.6	1,130.7	3.99	284.151		
1,100.0	1,089.1	1,077.1	1,077.1	3.0	1.9	51.01	192.7	-1,189.3	1,121.3	1,116.8	4.50	249.232		
1,200.0	1,186.9	1,174.9	1,174.9	3.4	2.0	51.83	192.7	-1,189.3	1,108.1	1,103.1	5.01	221.050		
1,300.0	1,284.7	1,272.7	1,272.7	3.8	2.2	52.68	192.7	-1,189.3	1,095.2	1,089.7	5.53	197.880		
1,400.0	1,382.5	1,370.5	1,370.5	4.2	2.4	53.54	192.7	-1,189.3	1,082.6	1,076.5	6.06	178.529		
1,500.0	1,480.3	1,468.3	1,468.3	4.6	2.5	54.42	192.7	-1,189.3	1,070.2	1,063.6	6.60	162.151		
1,600.0	1,578.1	1,566.1	1,566.1	5.1	2.7	55.32	192.7	-1,189.3	1,058.0	1,050.9	7.14	148.132		
1,700.0	1,676.0	1,664.0	1,664.0	5.5	2.9	56.25	192.7	-1,189.3	1,046.2	1,038.5	7.69	136.012		
1,800.0	1,773.8	1,761.8	1,761.8	5.9	3.1	57.19	192.7	-1,189.3	1,034.6	1,026.3	8.25	125.445		
1,900.0	1,871.6	1,859.6	1,859.6	6.3	3.2	58.15	192.7	-1,189.3	1,023.3	1,014.5	8.81	116.162		
2,000.0	1,969.4	1,957.4	1,957.4	6.7	3.4	59.14	192.7	-1,189.3	1,012.3	1,002.9	9.38	107.956		
2,100.0	2,067.2	2,055.2	2,055.2	7.1	3.6	60.14	192.7	-1,189.3	1,001.6	991.7	9.95	100.658		
2,200.0	2,165.0	2,153.0	2,153.0	7.5	3.7	61.17	192.7	-1,189.3	991.2	980.7	10.53	94.136		
2,300.0	2,262.8	2,250.8	2,250.8	7.9	3.9	62.21	192.7	-1,189.3	981.2	970.1	11.11	88.281		
2,400.0	2,360.7	2,348.7	2,348.7	8.3	4.1	63.28	192.7	-1,189.3	971.5	959.8	11.70	83.003		
2,500.0	2,458.5	2,446.5	2,446.5	8.7	4.2	64.36	192.7	-1,189.3	962.2	949.9	12.30	78.230		
2,600.0	2,556.3	2,544.3	2,544.3	9.1	4.4	65.47	192.7	-1,189.3	953.2	940.3	12.90	73.898		
2,700.0	2,654.1	2,642.1	2,642.1	9.5	4.6	66.60	192.7	-1,189.3	944.6	931.1	13.50	69.958		
2,800.0	2,751.9	2,739.9	2,739.9	9.9	4.8	67.74	192.7	-1,189.3	936.4	922.3	14.11	66.363		
2,900.0	2,849.7	2,837.7	2,837.7	10.3	4.9	68.91	192.7	-1,189.3	928.6	913.8	14.72	63.078		
3,000.0	2,947.5	2,935.5	2,935.5	10.7	5.1	70.09	192.7	-1,189.3	921.1	905.8	15.33	60.069		
3,100.0	3,045.4	3,033.4	3,033.4	11.1	5.3	71.29	192.7	-1,189.3	914.1	898.2	15.95	57.308		
3,200.0	3,143.2	3,131.2	3,131.2	11.5	5.4	72.51	192.7	-1,189.3	907.5	891.0	16.57	54.773		
3,300.0	3,241.0	3,229.0	3,229.0	11.9	5.6	73.74	192.7	-1,189.3	901.4	884.2	17.19	52.440		
3,400.0	3,338.8	3,326.8	3,326.8	12.4	5.8	75.00	192.7	-1,189.3	895.7	877.9	17.81	50.293		
3,500.0	3,436.6	3,424.6	3,424.6	12.8	6.0	76.26	192.7	-1,189.3	890.4	872.0	18.43	48.314		
3,600.0	3,534.4	3,522.4	3,522.4	13.2	6.1	77.54	192.7	-1,189.3	885.6	866.5	19.05	46.490		
3,700.0	3,632.3	3,620.3	3,620.3	13.6	6.3	78.83	192.7	-1,189.3	881.2	861.6	19.67	44.807		
3,720.0	3,651.8	3,639.8	3,639.8	13.7	6.3	79.09	192.7	-1,189.3	880.4	860.6	19.79	44.486		
3,800.0	3,730.3	3,718.3	3,718.3	13.9	6.5	80.01	192.7	-1,189.3	877.5	857.3	20.25	43.343		
3,900.0	3,828.9	3,816.9	3,816.9	14.3	6.6	81.00	192.7	-1,189.3	874.8	854.1	20.76	42.147		
4,000.0	3,928.1	3,916.1	3,916.1	14.5	6.8	81.79	192.7	-1,189.3	872.9	851.7	21.21	41.162		
4,100.0	4,027.7	4,015.7	4,015.7	14.7	7.0	82.37	192.7	-1,189.3	871.6	850.0	21.60	40.359		
4,200.0	4,127.5	4,115.5	4,115.5	14.9	7.2	82.74	192.7	-1,189.3	870.8	848.9	21.93	39.712		
4,300.0	4,227.4	4,215.4	4,215.4	15.0	7.3	82.90	192.7	-1,189.3	870.5	848.3	22.20	39.206		
4,320.0	4,247.4	4,235.4	4,235.4	15.0	7.4	-43.70	192.7	-1,189.3	870.5	848.2	22.26	39.113		
4,400.0	4,327.4	4,315.4	4,315.4	15.0	7.5	-43.70	192.7	-1,189.3	870.5	848.0	22.47	38.746		
4,500.0	4,427.4	4,415.4	4,415.4	15.1	7.7	-43.70	192.7	-1,189.3	870.5	847.8	22.73	38.295		
4,600.0	4,527.4	4,515.4	4,515.4	15.2	7.9	-43.70	192.7	-1,189.3	870.5	847.5	23.00	37.852		
4,700.0	4,627.4	4,615.4	4,615.4	15.3	8.0	-43.70	192.7	-1,189.3	870.5	847.2	23.26	37.417		
4,800.0	4,727.4	4,715.4	4,715.4	15.4	8.2	-43.70	192.7	-1,189.3	870.5	847.0	23.53	36.989		
4,900.0	4,827.4	4,815.4	4,815.4	15.5	8.4	-43.70	192.7	-1,189.3	870.5	846.7	23.80	36.569		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,927.4	4,915.4	4,915.4	15.6	8.6	-43.70	192.7	-1,189.3	870.5	846.4	24.08	36.156		
5,100.0	5,027.4	5,015.4	5,015.4	15.7	8.7	-43.70	192.7	-1,189.3	870.5	846.1	24.35	35.751		
5,200.0	5,127.4	5,115.4	5,115.4	15.8	8.9	-43.70	192.7	-1,189.3	870.5	845.9	24.62	35.352		
5,300.0	5,227.4	5,215.4	5,215.4	15.9	9.1	-43.70	192.7	-1,189.3	870.5	845.6	24.90	34.961		
5,400.0	5,327.4	5,315.4	5,315.4	16.0	9.3	-43.70	192.7	-1,189.3	870.5	845.3	25.18	34.576		
5,500.0	5,427.4	5,415.4	5,415.4	16.1	9.4	-43.70	192.7	-1,189.3	870.5	845.0	25.45	34.198		
5,600.0	5,527.4	5,515.4	5,515.4	16.2	9.6	-43.70	192.7	-1,189.3	870.5	844.8	25.73	33.827		
5,700.0	5,627.4	5,615.4	5,615.4	16.3	9.8	-43.70	192.7	-1,189.3	870.5	844.5	26.01	33.462		
5,800.0	5,727.4	5,715.4	5,715.4	16.4	10.0	-43.70	192.7	-1,189.3	870.5	844.2	26.30	33.103		
5,900.0	5,827.4	5,815.4	5,815.4	16.5	10.1	-43.70	192.7	-1,189.3	870.5	843.9	26.58	32.751		
6,000.0	5,927.4	5,915.4	5,915.4	16.6	10.3	-43.70	192.7	-1,189.3	870.5	843.6	26.86	32.405		
6,100.0	6,027.4	6,015.4	6,015.4	16.7	10.5	-43.70	192.7	-1,189.3	870.5	843.3	27.15	32.064		
6,200.0	6,127.4	6,115.4	6,115.4	16.9	10.7	-43.70	192.7	-1,189.3	870.5	843.1	27.43	31.730		
6,300.0	6,227.4	6,215.4	6,215.4	17.0	10.8	-43.70	192.7	-1,189.3	870.5	842.8	27.72	31.401		
6,400.0	6,327.4	6,315.4	6,315.4	17.1	11.0	-43.70	192.7	-1,189.3	870.5	842.5	28.01	31.077		
6,500.0	6,427.4	6,415.4	6,415.4	17.2	11.2	-43.70	192.7	-1,189.3	870.5	842.2	28.30	30.759		
6,600.0	6,527.4	6,515.4	6,515.4	17.3	11.3	-43.70	192.7	-1,189.3	870.5	841.9	28.59	30.447		
6,700.0	6,627.4	6,615.4	6,615.4	17.4	11.5	-43.70	192.7	-1,189.3	870.5	841.6	28.88	30.140		
6,781.4	6,708.8	6,696.8	6,696.8	17.5	11.7	-43.70	192.7	-1,189.3	870.5	841.4	29.12	29.894		
6,800.0	6,727.4	6,715.4	6,715.4	17.5	11.7	-43.72	192.7	-1,189.3	870.3	841.1	29.17	29.839		
6,850.0	6,777.3	6,765.3	6,765.3	17.6	11.8	-43.98	192.7	-1,189.3	868.1	838.9	29.22	29.713		
6,900.0	6,826.9	6,814.9	6,814.9	17.6	11.9	-44.54	192.7	-1,189.3	863.4	834.3	29.17	29.596		
6,950.0	6,875.9	6,863.9	6,863.9	17.5	12.0	-45.41	192.7	-1,189.3	856.3	827.3	29.04	29.488		
7,000.0	6,924.1	6,912.1	6,912.1	17.5	12.0	-46.60	192.7	-1,189.3	846.9	818.0	28.82	29.381		
7,050.0	6,971.2	6,959.2	6,959.2	17.4	12.1	-48.12	192.7	-1,189.3	835.2	806.7	28.53	29.270		
7,100.0	7,017.0	7,005.0	7,005.0	17.4	12.2	-49.97	192.7	-1,189.3	821.5	793.3	28.19	29.145		
7,150.0	7,061.4	7,049.4	7,049.4	17.3	12.3	-52.17	192.7	-1,189.3	806.0	778.2	27.80	28.993		
7,200.0	7,104.0	7,092.0	7,092.0	17.2	12.4	-54.71	192.7	-1,189.3	788.8	761.4	27.39	28.799		
7,250.0	7,144.7	7,132.7	7,132.7	17.1	12.4	-57.58	192.7	-1,189.3	770.3	743.4	26.99	28.543		
7,300.0	7,183.3	7,171.3	7,171.3	17.0	12.5	-60.75	192.7	-1,189.3	750.9	724.3	26.62	28.208		
7,350.0	7,219.5	7,207.5	7,207.5	16.9	12.6	-64.17	192.7	-1,189.3	730.8	704.5	26.31	27.778		
7,400.0	7,253.3	7,241.3	7,241.3	16.8	12.6	-67.77	192.7	-1,189.3	710.5	684.4	26.08	27.246		
7,450.0	7,284.5	7,272.5	7,272.5	16.8	12.7	-71.45	192.7	-1,189.3	690.5	664.5	25.94	26.620		
7,500.0	7,312.8	7,300.8	7,300.8	16.8	12.7	-75.09	192.7	-1,189.3	671.2	645.3	25.89	25.922		
7,550.0	7,338.2	7,326.2	7,326.2	16.8	12.8	-78.56	192.7	-1,189.3	653.2	627.3	25.93	25.189		
7,600.0	7,360.5	7,348.5	7,348.5	16.8	12.8	-81.75	192.7	-1,189.3	637.1	611.0	26.04	24.462		
7,650.0	7,379.6	7,367.6	7,367.6	16.9	12.8	-84.54	192.7	-1,189.3	623.4	597.2	26.21	23.783		
7,700.0	7,395.5	7,383.5	7,383.5	17.0	12.9	-86.84	192.7	-1,189.3	612.6	586.2	26.42	23.186		
7,750.0	7,408.0	7,396.0	7,396.0	17.2	12.9	-88.59	192.7	-1,189.3	605.3	578.6	26.67	22.693		
7,800.0	7,417.1	7,405.1	7,405.1	17.4	12.9	-89.73	192.7	-1,189.3	601.7	574.7	26.96	22.319		
7,819.3	7,419.7	7,407.7	7,407.7	17.5	12.9	-90.00	192.7	-1,189.3	601.4	574.3	27.09	22.203 CC, ES		
7,850.0	7,422.8	7,410.8	7,410.8	17.7	12.9	-90.23	192.7	-1,189.3	602.2	574.9	27.29	22.068		
7,900.0	7,425.0	7,413.0	7,413.0	18.0	12.9	-90.07	192.7	-1,189.3	606.8	579.1	27.66	21.937		
7,906.4	7,425.0	7,413.0	7,413.0	18.0	12.9	-90.00	192.7	-1,189.3	607.6	579.9	27.71	21.929 SF		
8,000.0	7,425.0	7,413.0	7,413.0	18.7	12.9	-90.00	192.7	-1,189.3	627.9	599.4	28.52	22.019		
8,100.0	7,425.0	7,413.0	7,413.0	19.5	12.9	-90.00	192.7	-1,189.3	663.6	634.1	29.51	22.484		
8,200.0	7,425.0	7,413.0	7,413.0	20.5	12.9	-90.00	192.7	-1,189.3	711.7	681.0	30.63	23.234		
8,300.0	7,425.0	7,413.0	7,413.0	21.5	12.9	-90.00	192.7	-1,189.3	769.8	737.9	31.84	24.174		
8,400.0	7,425.0	7,413.0	7,413.0	22.7	12.9	-90.00	192.7	-1,189.3	835.8	802.7	33.14	25.225		
8,500.0	7,425.0	7,413.0	7,413.0	23.9	12.9	-90.00	192.7	-1,189.3	908.2	873.7	34.49	26.328		
8,600.0	7,425.0	7,413.0	7,413.0	25.2	12.9	-90.00	192.7	-1,189.3	985.3	949.4	35.90	27.442		
8,700.0	7,425.0	7,413.0	7,413.0	26.5	12.9	-90.00	192.7	-1,189.3	1,066.3	1,028.9	37.36	28.540		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-17477, Mathews WW 14-14 (Existing) - VT (Existing) - Exis														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
8,800.0	7,425.0	7,413.0	7,413.0	27.9	12.9	-90.00	192.7	-1,189.3	1,150.2	1,111.4	38.85	29.604			
8,900.0	7,425.0	7,413.0	7,413.0	29.3	12.9	-90.00	192.7	-1,189.3	1,236.6	1,196.2	40.38	30.626			
9,000.0	7,425.0	7,413.0	7,413.0	30.8	12.9	-90.00	192.7	-1,189.3	1,324.9	1,282.9	41.93	31.599			
9,100.0	7,425.0	7,413.0	7,413.0	32.3	12.9	-90.00	192.7	-1,189.3	1,414.7	1,371.2	43.50	32.522			
9,200.0	7,425.0	7,413.0	7,413.0	33.8	12.9	-90.00	192.7	-1,189.3	1,505.8	1,460.7	45.09	33.396			
9,300.0	7,425.0	7,413.0	7,413.0	35.3	12.9	-90.00	192.7	-1,189.3	1,598.0	1,551.3	46.70	34.221			
9,400.0	7,425.0	7,413.0	7,413.0	36.9	12.9	-90.00	192.7	-1,189.3	1,691.0	1,642.7	48.32	34.999			
9,500.0	7,425.0	7,413.0	7,413.0	38.4	12.9	-90.00	192.7	-1,189.3	1,784.9	1,734.9	49.95	35.733			
9,600.0	7,425.0	7,413.0	7,413.0	40.0	12.9	-90.00	192.7	-1,189.3	1,879.3	1,827.7	51.59	36.425			
9,700.0	7,425.0	7,413.0	7,413.0	41.6	12.9	-90.00	192.7	-1,189.3	1,974.3	1,921.1	53.25	37.079			
9,800.0	7,425.0	7,413.0	7,413.0	43.2	12.9	-90.00	192.7	-1,189.3	2,069.8	2,014.9	54.91	37.696			
9,900.0	7,425.0	7,413.0	7,413.0	44.9	12.9	-90.00	192.7	-1,189.3	2,165.7	2,109.1	56.58	38.279			
10,000.0	7,425.0	7,413.0	7,413.0	46.5	12.9	-90.00	192.7	-1,189.3	2,261.9	2,203.7	58.25	38.830			
10,100.0	7,425.0	7,413.0	7,413.0	48.1	12.9	-90.00	192.7	-1,189.3	2,358.5	2,298.5	59.93	39.353			
10,200.0	7,425.0	7,413.0	7,413.0	49.8	12.9	-90.00	192.7	-1,189.3	2,455.3	2,393.7	61.62	39.847			
10,300.0	7,425.0	7,413.0	7,413.0	51.4	12.9	-90.00	192.7	-1,189.3	2,552.4	2,489.0	63.31	40.317			
10,400.0	7,425.0	7,413.0	7,413.0	53.1	12.9	-90.00	192.7	-1,189.3	2,649.6	2,584.6	65.00	40.762			
10,500.0	7,425.0	7,413.0	7,413.0	54.8	12.9	-90.00	192.7	-1,189.3	2,747.1	2,680.4	66.70	41.186			
10,600.0	7,425.0	7,413.0	7,413.0	56.4	12.9	-90.00	192.7	-1,189.3	2,844.8	2,776.4	68.40	41.589			
10,700.0	7,425.0	7,413.0	7,413.0	58.1	12.9	-90.00	192.7	-1,189.3	2,942.6	2,872.5	70.11	41.973			
10,800.0	7,425.0	7,413.0	7,413.0	59.8	12.9	-90.00	192.7	-1,189.3	3,040.6	2,968.7	71.82	42.338			
10,900.0	7,425.0	7,413.0	7,413.0	61.5	12.9	-90.00	192.7	-1,189.3	3,138.6	3,065.1	73.53	42.687			
11,000.0	7,425.0	7,413.0	7,413.0	63.2	12.9	-90.00	192.7	-1,189.3	3,236.8	3,161.6	75.24	43.021			
11,100.0	7,425.0	7,413.0	7,413.0	64.9	12.9	-90.00	192.7	-1,189.3	3,335.2	3,258.2	76.95	43.339			
11,200.0	7,425.0	7,413.0	7,413.0	66.6	12.9	-90.00	192.7	-1,189.3	3,433.6	3,354.9	78.67	43.644			
11,300.0	7,425.0	7,413.0	7,413.0	68.3	12.9	-90.00	192.7	-1,189.3	3,532.1	3,451.7	80.39	43.936			
11,400.0	7,425.0	7,413.0	7,413.0	70.0	12.9	-90.00	192.7	-1,189.3	3,630.6	3,548.5	82.11	44.216			
11,500.0	7,425.0	7,413.0	7,413.0	71.7	12.9	-90.00	192.7	-1,189.3	3,729.3	3,645.5	83.83	44.484			
11,600.0	7,425.0	7,413.0	7,413.0	73.4	12.9	-90.00	192.7	-1,189.3	3,828.0	3,742.5	85.56	44.742			
11,700.0	7,425.0	7,413.0	7,413.0	75.1	12.9	-90.00	192.7	-1,189.3	3,926.8	3,839.5	87.28	44.989			
11,800.0	7,425.0	7,413.0	7,413.0	76.8	12.9	-90.00	192.7	-1,189.3	4,025.7	3,936.7	89.01	45.227			
11,900.0	7,425.0	7,413.0	7,413.0	78.5	12.9	-90.00	192.7	-1,189.3	4,124.6	4,033.8	90.74	45.456			
11,994.5	7,425.0	7,413.0	7,413.0	80.1	12.9	-90.00	192.7	-1,189.3	4,218.1	4,125.7	92.37	45.664			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4B-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	89.98	0.0	11.2	11.2					
100.0	100.0	100.0	100.0	0.2	0.2	89.98	0.0	11.2	11.2	10.9	0.30	36.876		
200.0	200.0	200.0	200.0	0.3	0.3	89.98	0.0	11.2	11.2	10.5	0.65	17.156 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-148.12	0.0	11.2	12.6	11.6	1.00	12.611		
400.0	399.8	400.1	400.1	0.7	0.7	-152.31	-1.6	10.6	16.4	15.0	1.36	12.051		
500.0	499.5	500.4	500.2	0.9	0.9	-151.03	-6.5	8.6	21.4	19.7	1.73	12.374		
600.0	598.7	600.5	600.0	1.2	1.1	-147.45	-14.6	5.4	27.9	25.7	2.15	12.976		
700.0	697.5	700.6	699.3	1.5	1.3	-143.24	-26.0	0.9	35.8	33.2	2.64	13.600		
800.0	795.6	800.1	797.8	1.9	1.6	-141.25	-38.8	-4.3	46.1	42.9	3.17	14.552		
900.0	893.4	899.4	896.2	2.3	1.9	-141.19	-51.7	-9.4	57.7	54.0	3.70	15.570		
1,000.0	991.3	998.7	994.5	2.7	2.2	-141.14	-64.5	-14.5	69.3	65.0	4.25	16.293		
1,100.0	1,089.1	1,098.1	1,092.9	3.0	2.5	-141.11	-77.4	-19.6	80.9	76.1	4.81	16.829		
1,200.0	1,186.9	1,197.4	1,191.2	3.4	2.8	-141.09	-90.2	-24.7	92.5	87.1	5.36	17.240		
1,300.0	1,284.7	1,296.7	1,289.6	3.8	3.0	-141.07	-103.1	-29.8	104.1	98.2	5.93	17.564		
1,400.0	1,382.5	1,396.0	1,388.0	4.2	3.3	-141.05	-115.9	-34.9	115.7	109.2	6.49	17.825		
1,500.0	1,480.3	1,495.4	1,486.3	4.6	3.6	-141.04	-128.7	-40.0	127.3	120.2	7.06	18.041		
1,600.0	1,578.1	1,594.7	1,584.7	5.1	3.9	-141.03	-141.6	-45.1	138.9	131.3	7.62	18.220		
1,700.0	1,676.0	1,694.0	1,683.0	5.5	4.2	-141.02	-154.4	-50.3	150.5	142.3	8.19	18.373		
1,800.0	1,773.8	1,793.3	1,781.4	5.9	4.5	-141.02	-167.3	-55.4	162.1	153.3	8.76	18.504		
1,900.0	1,871.6	1,892.7	1,879.8	6.3	4.8	-141.01	-180.1	-60.5	173.7	164.4	9.33	18.617		
2,000.0	1,969.4	1,992.0	1,978.1	6.7	5.1	-141.01	-193.0	-65.6	185.3	175.4	9.90	18.717		
2,100.0	2,067.2	2,091.3	2,076.5	7.1	5.4	-141.00	-205.8	-70.7	196.9	186.4	10.47	18.804		
2,200.0	2,165.0	2,190.6	2,174.8	7.5	5.7	-141.00	-218.7	-75.8	208.5	197.5	11.04	18.882		
2,300.0	2,262.8	2,290.0	2,273.2	7.9	6.0	-140.99	-231.5	-80.9	220.1	208.5	11.61	18.952		
2,400.0	2,360.7	2,389.3	2,371.5	8.3	6.3	-140.99	-244.3	-86.0	231.7	219.5	12.19	19.014		
2,500.0	2,458.5	2,488.6	2,469.9	8.7	6.6	-140.99	-257.2	-91.1	243.3	230.5	12.76	19.071		
2,600.0	2,556.3	2,587.9	2,568.3	9.1	6.9	-140.98	-270.0	-96.3	254.9	241.6	13.33	19.122		
2,700.0	2,654.1	2,687.3	2,666.6	9.5	7.2	-140.98	-282.9	-101.4	266.5	252.6	13.90	19.169		
2,800.0	2,751.9	2,786.6	2,765.0	9.9	7.5	-140.98	-295.7	-106.5	278.1	263.6	14.48	19.212		
2,900.0	2,849.7	2,885.9	2,863.3	10.3	7.8	-140.98	-308.6	-111.6	289.7	274.7	15.05	19.251		
3,000.0	2,947.5	2,985.2	2,961.7	10.7	8.1	-140.97	-321.4	-116.7	301.3	285.7	15.62	19.288		
3,100.0	3,045.4	3,084.6	3,060.1	11.1	8.4	-140.97	-334.2	-121.8	312.9	296.7	16.20	19.321		
3,200.0	3,143.2	3,183.9	3,158.4	11.5	8.7	-140.97	-347.1	-126.9	324.5	307.7	16.77	19.352		
3,300.0	3,241.0	3,283.2	3,256.8	11.9	8.9	-140.97	-359.9	-132.0	336.1	318.8	17.34	19.381		
3,400.0	3,338.8	3,382.5	3,355.1	12.4	9.2	-140.97	-372.8	-137.1	347.7	329.8	17.92	19.409		
3,500.0	3,436.6	3,481.9	3,453.5	12.8	9.5	-140.97	-385.6	-142.3	359.3	340.8	18.49	19.434		
3,600.0	3,534.4	3,581.2	3,551.8	13.2	9.8	-140.96	-398.5	-147.4	370.9	351.9	19.06	19.458		
3,700.0	3,632.3	3,680.5	3,650.2	13.6	10.1	-140.96	-411.3	-152.5	382.5	362.9	19.64	19.480		
3,720.0	3,651.8	3,699.5	3,669.0	13.7	10.2	-140.97	-413.7	-153.4	384.9	365.1	19.75	19.491		
3,800.0	3,730.3	3,775.5	3,744.5	13.9	10.4	-141.20	-422.1	-156.8	393.8	373.7	20.12	19.572		
3,900.0	3,828.9	3,870.5	3,839.1	14.3	10.6	-141.56	-430.0	-159.9	403.6	383.1	20.51	19.678		
4,000.0	3,928.1	3,965.4	3,933.9	14.5	10.7	-142.02	-435.0	-161.9	411.8	391.0	20.81	19.791		
4,100.0	4,027.7	4,060.3	4,028.7	14.7	10.8	-142.57	-437.1	-162.7	418.4	397.4	21.02	19.905		
4,200.0	4,127.5	4,159.1	4,127.5	14.9	11.0	-143.10	-437.1	-162.8	423.1	401.9	21.20	19.962		
4,300.0	4,227.4	4,259.0	4,227.4	15.0	11.1	-143.32	-437.1	-162.8	425.1	403.7	21.39	19.869		
4,320.0	4,247.4	4,279.0	4,247.4	15.0	11.1	90.07	-437.1	-162.8	425.1	403.7	21.44	19.831		
4,400.0	4,327.4	4,359.0	4,327.4	15.0	11.2	90.07	-437.1	-162.8	425.1	403.5	21.63	19.651		
4,500.0	4,427.4	4,459.0	4,427.4	15.1	11.3	90.07	-437.1	-162.8	425.1	403.3	21.88	19.429		
4,600.0	4,527.4	4,559.0	4,527.4	15.2	11.4	90.07	-437.1	-162.8	425.1	403.0	22.13	19.210		
4,700.0	4,627.4	4,659.0	4,627.4	15.3	11.6	90.07	-437.1	-162.8	425.1	402.8	22.38	18.993		
4,800.0	4,727.4	4,759.0	4,727.4	15.4	11.7	90.07	-437.1	-162.8	425.1	402.5	22.64	18.779		
4,900.0	4,827.4	4,859.0	4,827.4	15.5	11.8	90.07	-437.1	-162.8	425.1	402.2	22.90	18.567		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
5,000.0	4,927.4	4,959.0	4,927.4	15.6	11.9	90.07	-437.1	-162.8	425.1	402.0	23.16	18.359		
5,100.0	5,027.4	5,059.0	5,027.4	15.7	12.1	90.07	-437.1	-162.8	425.1	401.7	23.42	18.153		
5,200.0	5,127.4	5,159.0	5,127.4	15.8	12.2	90.07	-437.1	-162.8	425.1	401.5	23.68	17.950		
5,300.0	5,227.4	5,259.0	5,227.4	15.9	12.3	90.07	-437.1	-162.8	425.1	401.2	23.95	17.750		
5,400.0	5,327.4	5,359.0	5,327.4	16.0	12.4	90.07	-437.1	-162.8	425.1	400.9	24.22	17.553		
5,500.0	5,427.4	5,459.0	5,427.4	16.1	12.6	90.07	-437.1	-162.8	425.1	400.7	24.49	17.359		
5,600.0	5,527.4	5,559.0	5,527.4	16.2	12.7	90.07	-437.1	-162.8	425.1	400.4	24.76	17.168		
5,700.0	5,627.4	5,659.0	5,627.4	16.3	12.8	90.07	-437.1	-162.8	425.1	400.1	25.04	16.979		
5,800.0	5,727.4	5,759.0	5,727.4	16.4	13.0	90.07	-437.1	-162.8	425.1	399.8	25.32	16.794		
5,900.0	5,827.4	5,859.0	5,827.4	16.5	13.1	90.07	-437.1	-162.8	425.1	399.5	25.59	16.611		
6,000.0	5,927.4	5,959.0	5,927.4	16.6	13.2	90.07	-437.1	-162.8	425.1	399.3	25.87	16.431		
6,100.0	6,027.4	6,059.0	6,027.4	16.7	13.4	90.07	-437.1	-162.8	425.1	399.0	26.16	16.254		
6,200.0	6,127.4	6,159.0	6,127.4	16.9	13.5	90.07	-437.1	-162.8	425.1	398.7	26.44	16.080		
6,300.0	6,227.4	6,259.0	6,227.4	17.0	13.7	90.07	-437.1	-162.8	425.1	398.4	26.72	15.908		
6,400.0	6,327.4	6,359.0	6,327.4	17.1	13.8	90.07	-437.1	-162.8	425.1	398.1	27.01	15.740		
6,500.0	6,427.4	6,459.0	6,427.4	17.2	13.9	90.07	-437.1	-162.8	425.1	397.8	27.30	15.574		
6,600.0	6,527.4	6,559.0	6,527.4	17.3	14.1	90.07	-437.1	-162.8	425.1	397.6	27.59	15.410		
6,700.0	6,627.4	6,659.0	6,627.4	17.4	14.2	90.07	-437.1	-162.8	425.1	397.3	27.88	15.250		
6,781.4	6,708.8	6,740.4	6,708.8	17.5	14.3	90.07	-437.1	-162.8	425.1	397.0	28.12	15.121		
6,800.0	6,727.4	6,759.0	6,727.4	17.5	14.4	90.10	-437.1	-162.8	425.1	397.0	28.17	15.092		
6,850.0	6,777.3	6,808.9	6,777.3	17.6	14.4	90.51	-437.1	-162.8	425.2	396.8	28.32	15.010		
6,900.0	6,826.9	6,858.5	6,826.9	17.6	14.5	91.37	-437.1	-162.8	425.3	396.8	28.50	14.921		
6,950.0	6,875.9	6,907.5	6,875.9	17.5	14.6	92.66	-437.1	-162.8	425.6	396.9	28.69	14.834		
7,000.0	6,924.1	6,955.7	6,924.1	17.5	14.6	94.32	-437.1	-162.8	426.5	397.6	28.88	14.765		
7,050.0	6,971.2	7,005.9	6,974.3	17.4	14.7	96.26	-435.7	-162.8	428.0	398.9	29.03	14.742		
7,100.0	7,017.0	7,057.6	7,025.7	17.4	14.7	98.19	-430.6	-162.8	430.0	400.9	29.08	14.785		
7,150.0	7,061.4	7,110.6	7,077.9	17.3	14.7	100.10	-421.5	-162.8	432.5	403.5	29.04	14.894		
7,200.0	7,104.0	7,164.9	7,130.5	17.2	14.6	101.96	-408.1	-162.8	435.5	406.6	28.90	15.068		
7,250.0	7,144.7	7,220.6	7,183.4	17.1	14.6	103.77	-390.4	-162.8	438.8	410.2	28.67	15.305		
7,300.0	7,183.3	7,277.9	7,236.0	17.0	14.5	105.52	-367.9	-162.8	442.6	414.2	28.37	15.601		
7,350.0	7,219.5	7,336.6	7,288.0	16.9	14.3	107.20	-340.6	-162.8	446.5	418.5	27.99	15.950		
7,400.0	7,253.3	7,397.0	7,338.8	16.8	14.2	108.78	-308.1	-162.8	450.6	423.1	27.58	16.341		
7,450.0	7,284.5	7,458.9	7,388.0	16.8	14.1	110.27	-270.5	-162.8	454.8	427.7	27.14	16.758		
7,500.0	7,312.8	7,522.5	7,434.9	16.8	14.0	111.65	-227.7	-162.7	459.0	432.2	26.71	17.180		
7,550.0	7,338.2	7,587.6	7,478.9	16.8	13.9	112.91	-179.6	-162.7	463.0	436.6	26.34	17.579		
7,600.0	7,360.5	7,654.2	7,519.1	16.8	13.8	114.03	-126.6	-162.7	466.7	440.7	26.04	17.920		
7,650.0	7,379.6	7,722.2	7,554.9	16.9	13.8	115.00	-68.8	-162.7	470.1	444.2	25.88	18.163		
7,700.0	7,395.5	7,791.5	7,585.5	17.0	13.9	115.82	-6.7	-162.7	473.0	447.1	25.88	18.276		
7,750.0	7,408.0	7,861.8	7,610.4	17.2	14.1	116.47	59.1	-162.7	475.4	449.3	26.07	18.233		
7,800.0	7,417.1	7,933.0	7,628.9	17.4	14.4	116.95	127.8	-162.7	477.2	450.7	26.48	18.018		
7,850.0	7,422.8	8,004.8	7,640.5	17.7	14.8	117.25	198.6	-162.7	478.3	451.2	27.11	17.641		
7,900.0	7,425.0	8,076.9	7,644.9	18.0	15.3	117.36	270.6	-162.7	478.7	450.8	27.96	17.119		
7,906.4	7,425.0	8,085.9	7,645.0	18.0	15.4	117.36	279.5	-162.7	478.7	450.7	28.08	17.046		
8,000.0	7,425.0	8,179.5	7,645.0	18.7	16.1	117.36	373.2	-162.7	478.7	449.2	29.51	16.223		
8,100.0	7,425.0	8,279.5	7,645.0	19.5	17.1	117.36	473.2	-162.7	478.7	447.5	31.25	15.318		
8,200.0	7,425.0	8,379.5	7,645.0	20.5	18.2	117.36	573.2	-162.7	478.8	445.6	33.20	14.421		
8,300.0	7,425.0	8,479.5	7,645.0	21.5	19.4	117.36	673.2	-162.7	478.8	443.4	35.31	13.558		
8,400.0	7,425.0	8,579.5	7,645.0	22.7	20.7	117.36	773.2	-162.7	478.8	441.2	37.57	12.744		
8,500.0	7,425.0	8,679.5	7,645.0	23.9	22.0	117.36	873.2	-162.7	478.8	438.8	39.94	11.987		
8,600.0	7,425.0	8,779.5	7,645.0	25.2	23.4	117.35	973.2	-162.6	478.8	436.4	42.41	11.289		
8,700.0	7,425.0	8,879.5	7,645.0	26.5	24.8	117.35	1,073.2	-162.6	478.8	433.8	44.96	10.649		
8,800.0	7,425.0	8,979.5	7,645.0	27.9	26.3	117.35	1,173.2	-162.6	478.8	431.2	47.58	10.063		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4B-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total 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)				
8,900.0	7,425.0	9,079.5	7,645.0	29.3	27.8	117.35	1,273.2	-162.6	478.8	428.5	50.25	9.528		
9,000.0	7,425.0	9,179.5	7,645.0	30.8	29.3	117.35	1,373.2	-162.6	478.8	425.8	52.98	9.038		
9,100.0	7,425.0	9,279.5	7,645.0	32.3	30.9	117.35	1,473.2	-162.6	478.8	423.1	55.75	8.589		
9,200.0	7,425.0	9,379.5	7,645.0	33.8	32.5	117.35	1,573.2	-162.6	478.8	420.3	58.55	8.178		
9,300.0	7,425.0	9,479.5	7,645.0	35.3	34.1	117.35	1,673.2	-162.6	478.8	417.4	61.38	7.801		
9,400.0	7,425.0	9,579.5	7,645.0	36.9	35.7	117.35	1,773.2	-162.6	478.8	414.6	64.24	7.454		
9,500.0	7,425.0	9,679.5	7,645.0	38.4	37.3	117.35	1,873.2	-162.6	478.8	411.7	67.12	7.134		
9,600.0	7,425.0	9,779.5	7,645.0	40.0	38.9	117.35	1,973.2	-162.6	478.8	408.8	70.03	6.838		
9,700.0	7,425.0	9,879.5	7,645.0	41.6	40.6	117.35	2,073.2	-162.5	478.8	405.9	72.95	6.564		
9,800.0	7,425.0	9,979.5	7,645.0	43.2	42.2	117.35	2,173.2	-162.5	478.9	403.0	75.89	6.310		
9,900.0	7,425.0	10,079.5	7,645.0	44.9	43.9	117.35	2,273.2	-162.5	478.9	400.0	78.84	6.074		
10,000.0	7,425.0	10,179.5	7,645.0	46.5	45.5	117.35	2,373.2	-162.5	478.9	397.1	81.80	5.854		
10,100.0	7,425.0	10,279.5	7,645.0	48.1	47.2	117.35	2,473.2	-162.5	478.9	394.1	84.78	5.649		
10,200.0	7,425.0	10,379.5	7,645.0	49.8	48.9	117.35	2,573.2	-162.5	478.9	391.1	87.76	5.457		
10,300.0	7,425.0	10,479.5	7,645.0	51.4	50.6	117.35	2,673.2	-162.5	478.9	388.1	90.76	5.277		
10,400.0	7,425.0	10,579.5	7,645.0	53.1	52.3	117.35	2,773.2	-162.5	478.9	385.1	93.76	5.108		
10,500.0	7,425.0	10,679.5	7,645.0	54.8	54.0	117.35	2,873.2	-162.5	478.9	382.1	96.77	4.949		
10,600.0	7,425.0	10,779.5	7,645.0	56.4	55.7	117.35	2,973.2	-162.5	478.9	379.1	99.79	4.799		
10,700.0	7,425.0	10,879.5	7,645.0	58.1	57.4	117.35	3,073.2	-162.5	478.9	376.1	102.81	4.658		
10,800.0	7,425.0	10,979.5	7,645.0	59.8	59.1	117.35	3,173.2	-162.5	478.9	373.1	105.84	4.525		
10,900.0	7,425.0	11,079.5	7,645.0	61.5	60.8	117.35	3,273.2	-162.4	478.9	370.0	108.88	4.399		
11,000.0	7,425.0	11,179.5	7,645.0	63.2	62.5	117.35	3,373.2	-162.4	478.9	367.0	111.92	4.279		
11,100.0	7,425.0	11,279.5	7,645.0	64.9	64.2	117.35	3,473.2	-162.4	478.9	364.0	114.96	4.166		
11,200.0	7,425.0	11,379.5	7,645.0	66.6	65.9	117.35	3,573.2	-162.4	478.9	360.9	118.01	4.059		
11,300.0	7,425.0	11,479.5	7,645.0	68.3	67.6	117.34	3,673.2	-162.4	478.9	357.9	121.06	3.956		
11,400.0	7,425.0	11,579.5	7,645.0	70.0	69.3	117.34	3,773.2	-162.4	479.0	354.8	124.11	3.859		
11,500.0	7,425.0	11,679.5	7,645.0	71.7	71.1	117.34	3,873.2	-162.4	479.0	351.8	127.17	3.766		
11,600.0	7,425.0	11,779.5	7,645.0	73.4	72.8	117.34	3,973.2	-162.4	479.0	348.7	130.23	3.678		
11,700.0	7,425.0	11,879.5	7,645.0	75.1	74.5	117.34	4,073.2	-162.4	479.0	345.7	133.30	3.593		
11,800.0	7,425.0	11,979.5	7,645.0	76.8	76.2	117.34	4,173.2	-162.4	479.0	342.6	136.37	3.512		
11,900.0	7,425.0	12,079.5	7,645.0	78.5	78.0	117.34	4,273.2	-162.4	479.0	339.5	139.43	3.435		
11,955.8	7,425.0	12,135.3	7,645.0	79.5	78.9	117.34	4,329.0	-162.4	479.0	337.8	141.15	3.394		
11,994.5	7,425.0	12,170.4	7,645.0	80.1	79.5	117.34	4,364.0	-162.4	479.0	336.7	142.28	3.367 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4C-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		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	89.99	0.0	19.6	19.6					
100.0	100.0	100.0	100.0	0.2	0.2	89.99	0.0	19.6	19.6	19.3	0.30	64.533		
200.0	200.0	200.0	200.0	0.3	0.3	89.99	0.0	19.6	19.6	18.9	0.65	30.023 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-146.23	0.0	19.6	21.0	20.0	1.00	20.969		
400.0	399.8	399.8	399.8	0.7	0.7	-152.73	0.0	19.6	25.5	24.2	1.35	18.859		
500.0	499.5	499.2	499.1	0.9	0.9	-156.65	-1.5	20.4	33.9	32.2	1.71	19.864		
600.0	598.7	598.0	597.8	1.2	1.0	-156.35	-6.0	22.9	46.5	44.4	2.08	22.349		
700.0	697.5	696.1	695.5	1.5	1.2	-154.39	-13.4	26.9	63.2	60.7	2.49	25.390		
800.0	795.6	793.0	791.8	1.9	1.5	-152.03	-23.6	32.5	84.0	81.1	2.95	28.519		
900.0	893.4	890.2	888.0	2.3	1.7	-150.22	-35.5	39.0	107.1	103.6	3.44	31.146		
1,000.0	991.3	987.5	984.4	2.7	2.0	-149.05	-47.3	45.5	130.2	126.2	3.94	33.018		
1,100.0	1,089.1	1,084.7	1,080.7	3.0	2.3	-148.23	-59.2	52.0	153.3	148.9	4.46	34.402		
1,200.0	1,186.9	1,182.0	1,177.0	3.4	2.6	-147.62	-71.1	58.5	176.5	171.6	4.98	35.461		
1,300.0	1,284.7	1,279.3	1,273.3	3.8	2.8	-147.16	-83.0	65.0	199.7	194.2	5.50	36.293		
1,400.0	1,382.5	1,376.5	1,369.6	4.2	3.1	-146.79	-94.8	71.5	222.9	216.9	6.03	36.961		
1,500.0	1,480.3	1,473.8	1,465.9	4.6	3.4	-146.49	-106.7	78.0	246.2	239.6	6.56	37.510		
1,600.0	1,578.1	1,571.0	1,562.2	5.1	3.7	-146.24	-118.6	84.5	269.4	262.3	7.10	37.966		
1,700.0	1,676.0	1,668.3	1,658.6	5.5	4.0	-146.04	-130.4	91.0	292.6	285.0	7.63	38.352		
1,800.0	1,773.8	1,765.6	1,754.9	5.9	4.3	-145.86	-142.3	97.5	315.8	307.7	8.16	38.682		
1,900.0	1,871.6	1,862.8	1,851.2	6.3	4.5	-145.71	-154.2	104.0	339.1	330.4	8.70	38.968		
2,000.0	1,969.4	1,960.1	1,947.5	6.7	4.8	-145.57	-166.1	110.5	362.3	353.1	9.24	39.217		
2,100.0	2,067.2	2,057.3	2,043.8	7.1	5.1	-145.46	-177.9	117.0	385.5	375.8	9.78	39.436		
2,200.0	2,165.0	2,154.6	2,140.1	7.5	5.4	-145.35	-189.8	123.5	408.8	398.4	10.31	39.630		
2,300.0	2,262.8	2,251.9	2,236.4	7.9	5.7	-145.26	-201.7	130.0	432.0	421.1	10.85	39.803		
2,400.0	2,360.7	2,349.1	2,332.8	8.3	6.0	-145.18	-213.6	136.5	455.2	443.8	11.39	39.959		
2,500.0	2,458.5	2,446.4	2,429.1	8.7	6.3	-145.10	-225.4	143.0	478.5	466.5	11.93	40.099		
2,600.0	2,556.3	2,543.6	2,525.4	9.1	6.6	-145.03	-237.3	149.5	501.7	489.2	12.47	40.226		
2,700.0	2,654.1	2,640.9	2,621.7	9.5	6.9	-144.97	-249.2	156.0	525.0	511.9	13.01	40.342		
2,800.0	2,751.9	2,738.2	2,718.0	9.9	7.1	-144.91	-261.1	162.5	548.2	534.6	13.55	40.448		
2,900.0	2,849.7	2,835.4	2,814.3	10.3	7.4	-144.86	-272.9	169.0	571.4	557.3	14.09	40.545		
3,000.0	2,947.5	2,932.7	2,910.6	10.7	7.7	-144.81	-284.8	175.5	594.7	580.0	14.63	40.635		
3,100.0	3,045.4	3,030.0	3,007.0	11.1	8.0	-144.77	-296.7	182.0	617.9	602.7	15.18	40.717		
3,200.0	3,143.2	3,127.2	3,103.3	11.5	8.3	-144.73	-308.5	188.5	641.2	625.4	15.72	40.794		
3,300.0	3,241.0	3,224.5	3,199.6	11.9	8.6	-144.69	-320.4	195.0	664.4	648.1	16.26	40.865		
3,400.0	3,338.8	3,321.7	3,295.9	12.4	8.9	-144.65	-332.3	201.5	687.6	670.8	16.80	40.932		
3,500.0	3,436.6	3,419.0	3,392.2	12.8	9.2	-144.62	-344.2	208.0	710.9	693.5	17.34	40.994		
3,600.0	3,534.4	3,516.3	3,488.5	13.2	9.5	-144.59	-356.0	214.5	734.1	716.3	17.88	41.052		
3,700.0	3,632.3	3,613.5	3,584.8	13.6	9.8	-144.56	-367.9	221.0	757.4	739.0	18.42	41.106		
3,720.0	3,651.8	3,633.0	3,604.1	13.7	9.8	-144.55	-370.3	222.3	762.0	743.5	18.53	41.117		
3,800.0	3,730.3	3,711.0	3,681.3	13.9	10.0	-144.69	-379.8	227.5	779.7	760.8	18.98	41.090		
3,900.0	3,828.9	3,809.0	3,778.4	14.3	10.3	-144.71	-391.8	234.1	799.4	779.9	19.51	40.969		
4,000.0	3,928.1	3,907.4	3,875.9	14.5	10.6	-144.55	-403.8	240.7	816.2	796.2	20.03	40.754		
4,100.0	4,027.7	4,006.2	3,973.7	14.7	10.9	-144.24	-415.8	247.3	830.3	809.8	20.52	40.456		
4,200.0	4,127.5	4,115.7	4,082.3	14.9	11.2	-143.76	-428.3	254.1	841.2	820.2	21.00	40.055		
4,300.0	4,227.4	4,231.7	4,197.7	15.0	11.5	-143.31	-437.8	259.3	847.7	826.3	21.40	39.613		
4,320.0	4,247.4	4,255.0	4,221.0	15.0	11.5	90.17	-439.2	260.0	848.4	826.9	21.47	39.517		
4,400.0	4,327.4	4,348.3	4,314.2	15.0	11.7	90.44	-443.1	262.2	850.3	828.5	21.73	39.126		
4,500.0	4,427.4	4,461.6	4,427.4	15.1	11.8	90.53	-444.4	262.9	850.9	828.9	22.01	38.662		
4,600.0	4,527.4	4,561.6	4,527.4	15.2	11.9	90.53	-444.4	262.9	850.9	828.6	22.26	38.230		
4,700.0	4,627.4	4,661.6	4,627.4	15.3	12.0	90.53	-444.4	262.9	850.9	828.4	22.51	37.803		
4,800.0	4,727.4	4,761.6	4,727.4	15.4	12.1	90.53	-444.4	262.9	850.9	828.1	22.76	37.381		
4,900.0	4,827.4	4,861.6	4,827.4	15.5	12.3	90.53	-444.4	262.9	850.9	827.8	23.02	36.965		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
5,000.0	4,927.4	4,961.6	4,927.4	15.6	12.4	90.53	-444.4	262.9	850.9	827.6	23.28	36.554	
5,100.0	5,027.4	5,061.6	5,027.4	15.7	12.5	90.53	-444.4	262.9	850.9	827.3	23.54	36.148	
5,200.0	5,127.4	5,161.6	5,127.4	15.8	12.6	90.53	-444.4	262.9	850.9	827.1	23.80	35.748	
5,300.0	5,227.4	5,261.6	5,227.4	15.9	12.8	90.53	-444.4	262.9	850.9	826.8	24.07	35.353	
5,400.0	5,327.4	5,361.6	5,327.4	16.0	12.9	90.53	-444.4	262.9	850.9	826.5	24.34	34.964	
5,500.0	5,427.4	5,461.6	5,427.4	16.1	13.0	90.53	-444.4	262.9	850.9	826.3	24.60	34.581	
5,600.0	5,527.4	5,561.6	5,527.4	16.2	13.1	90.53	-444.4	262.9	850.9	826.0	24.88	34.203	
5,700.0	5,627.4	5,661.6	5,627.4	16.3	13.3	90.53	-444.4	262.9	850.9	825.7	25.15	33.831	
5,800.0	5,727.4	5,761.6	5,727.4	16.4	13.4	90.53	-444.4	262.9	850.9	825.4	25.43	33.465	
5,900.0	5,827.4	5,861.6	5,827.4	16.5	13.5	90.53	-444.4	262.9	850.9	825.2	25.70	33.104	
6,000.0	5,927.4	5,961.6	5,927.4	16.6	13.7	90.53	-444.4	262.9	850.9	824.9	25.98	32.748	
6,100.0	6,027.4	6,061.6	6,027.4	16.7	13.8	90.53	-444.4	262.9	850.9	824.6	26.26	32.398	
6,200.0	6,127.4	6,161.6	6,127.4	16.9	13.9	90.53	-444.4	262.9	850.9	824.3	26.55	32.054	
6,300.0	6,227.4	6,261.6	6,227.4	17.0	14.1	90.53	-444.4	262.9	850.9	824.0	26.83	31.714	
6,400.0	6,327.4	6,361.6	6,327.4	17.1	14.2	90.53	-444.4	262.9	850.9	823.7	27.11	31.381	
6,500.0	6,427.4	6,461.6	6,427.4	17.2	14.3	90.53	-444.4	262.9	850.9	823.5	27.40	31.052	
6,600.0	6,527.4	6,561.6	6,527.4	17.3	14.5	90.53	-444.4	262.9	850.9	823.2	27.69	30.729	
6,700.0	6,627.4	6,661.6	6,627.4	17.4	14.6	90.53	-444.4	262.9	850.9	822.9	27.98	30.410	
6,781.4	6,708.8	6,742.9	6,708.8	17.5	14.7	90.53	-444.4	262.9	850.9	822.6	28.22	30.155	
6,800.0	6,727.4	6,761.8	6,727.6	17.5	14.7	90.52	-444.2	262.9	850.9	822.6	28.26	30.112	
6,850.0	6,777.3	6,812.3	6,778.1	17.6	14.8	90.52	-441.1	262.9	850.9	822.6	28.31	30.053	
6,900.0	6,826.9	6,862.9	6,828.2	17.6	14.8	90.52	-434.4	262.9	850.9	822.6	28.30	30.061	
6,950.0	6,875.9	6,913.4	6,877.7	17.5	14.7	90.51	-424.2	262.9	850.9	822.6	28.24	30.131	
7,000.0	6,924.1	6,963.9	6,926.3	17.5	14.7	90.50	-410.6	262.9	850.9	822.7	28.12	30.257	
7,050.0	6,971.2	7,014.4	6,973.9	17.4	14.6	90.49	-393.6	262.9	850.9	822.9	27.96	30.434	
7,100.0	7,017.0	7,064.9	7,020.1	17.4	14.5	90.47	-373.2	262.9	850.9	823.1	27.76	30.653	
7,150.0	7,061.4	7,115.4	7,064.7	17.3	14.4	90.46	-349.7	262.9	850.9	823.3	27.53	30.904	
7,200.0	7,104.0	7,165.9	7,107.6	17.2	14.3	90.44	-323.1	262.9	850.9	823.6	27.29	31.176	
7,250.0	7,144.7	7,216.3	7,148.5	17.1	14.1	90.42	-293.6	262.9	850.9	823.8	27.05	31.455	
7,300.0	7,183.3	7,266.8	7,187.2	17.0	14.0	90.39	-261.3	262.9	850.9	824.0	26.82	31.725	
7,350.0	7,219.5	7,317.2	7,223.4	16.9	13.9	90.37	-226.3	262.9	850.9	824.2	26.62	31.968	
7,400.0	7,253.3	7,367.5	7,257.2	16.8	13.9	90.34	-188.9	262.9	850.8	824.4	26.45	32.166	
7,450.0	7,284.5	7,417.9	7,288.2	16.8	13.8	90.31	-149.3	262.9	850.8	824.5	26.34	32.297	
7,500.0	7,312.8	7,468.2	7,316.3	16.8	13.8	90.28	-107.6	262.9	850.8	824.5	26.31	32.345	
7,550.0	7,338.2	7,518.4	7,341.4	16.8	13.8	90.25	-64.0	262.9	850.8	824.5	26.35	32.294	
7,600.0	7,360.5	7,568.7	7,363.4	16.8	13.9	90.22	-18.9	262.9	850.8	824.4	26.48	32.131	
7,650.0	7,379.6	7,618.9	7,382.1	16.9	14.0	90.18	27.7	262.9	850.8	824.1	26.71	31.851	
7,700.0	7,395.5	7,669.0	7,397.6	17.0	14.1	90.15	75.4	262.9	850.8	823.8	27.05	31.455	
7,711.3	7,398.6	7,680.4	7,400.6	17.1	14.2	90.14	86.4	262.9	850.8	823.7	27.14	31.345	
7,750.0	7,408.0	7,719.2	7,409.6	17.2	14.3	90.11	124.1	262.9	850.8	823.4	27.49	30.951	
7,800.0	7,417.1	7,769.3	7,418.2	17.4	14.6	90.07	173.4	262.9	850.8	822.8	28.04	30.349	
7,850.0	7,422.8	7,819.3	7,423.4	17.7	14.9	90.04	223.2	262.9	850.8	822.2	28.68	29.668	
7,900.0	7,425.0	7,869.3	7,425.0	18.0	15.3	90.00	273.2	262.9	850.8	821.4	29.41	28.932	
7,906.4	7,425.0	7,875.7	7,425.0	18.0	15.3	90.00	279.5	262.9	850.8	821.3	29.51	28.833	
8,000.0	7,425.0	7,969.3	7,425.0	18.7	16.1	90.00	373.2	263.0	850.8	819.7	31.14	27.323	
8,100.0	7,425.0	8,069.3	7,425.0	19.5	17.1	90.00	473.2	263.0	850.9	817.7	33.14	25.676	
8,200.0	7,425.0	8,169.3	7,425.0	20.5	18.2	90.00	573.2	263.0	850.9	815.5	35.37	24.055	
8,300.0	7,425.0	8,269.3	7,425.0	21.5	19.3	90.00	673.2	263.0	850.9	813.1	37.80	22.510	
8,400.0	7,425.0	8,369.3	7,425.0	22.7	20.6	90.00	773.2	263.0	850.9	810.5	40.39	21.069	
8,500.0	7,425.0	8,469.3	7,425.0	23.9	21.9	90.00	873.2	263.0	850.9	807.8	43.10	19.740	
8,600.0	7,425.0	8,569.3	7,425.0	25.2	23.3	90.00	973.2	263.0	850.9	804.9	45.93	18.526	
8,700.0	7,425.0	8,669.3	7,425.0	26.5	24.8	90.00	1,073.2	263.0	850.9	802.0	48.84	17.421	

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4C-14H - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
8,800.0	7,425.0	8,769.3	7,425.0	27.9	26.2	90.00	1,173.2	263.0	850.9	799.0	51.83	16.417		
8,900.0	7,425.0	8,869.3	7,425.0	29.3	27.7	90.00	1,273.2	263.0	850.9	796.0	54.88	15.505		
9,000.0	7,425.0	8,969.3	7,425.0	30.8	29.3	90.00	1,373.2	263.0	850.9	792.9	57.98	14.676		
9,100.0	7,425.0	9,069.3	7,425.0	32.3	30.8	90.00	1,473.2	263.0	850.9	789.8	61.12	13.920		
9,200.0	7,425.0	9,169.3	7,425.0	33.8	32.4	90.00	1,573.2	263.0	850.9	786.6	64.31	13.232		
9,300.0	7,425.0	9,269.3	7,425.0	35.3	34.0	90.00	1,673.2	263.0	850.9	783.4	67.52	12.602		
9,400.0	7,425.0	9,369.3	7,425.0	36.9	35.6	90.00	1,773.2	263.0	850.9	780.1	70.76	12.024		
9,500.0	7,425.0	9,469.3	7,425.0	38.4	37.2	90.00	1,873.2	263.0	850.9	776.9	74.03	11.494		
9,600.0	7,425.0	9,569.3	7,425.0	40.0	38.9	90.00	1,973.2	263.0	850.9	773.6	77.32	11.005		
9,700.0	7,425.0	9,669.3	7,425.0	41.6	40.5	90.00	2,073.2	263.0	850.9	770.3	80.63	10.553		
9,800.0	7,425.0	9,769.3	7,425.0	43.2	42.2	90.00	2,173.2	263.0	850.9	766.9	83.95	10.136		
9,900.0	7,425.0	9,869.3	7,425.0	44.9	43.8	90.00	2,273.2	263.0	850.9	763.6	87.29	9.748		
10,000.0	7,425.0	9,969.3	7,425.0	46.5	45.5	90.00	2,373.2	263.0	850.9	760.3	90.64	9.388		
10,100.0	7,425.0	10,069.3	7,425.0	48.1	47.2	90.00	2,473.2	263.0	850.9	756.9	94.00	9.052		
10,200.0	7,425.0	10,169.3	7,425.0	49.8	48.9	90.00	2,573.2	263.0	850.9	753.5	97.37	8.739		
10,300.0	7,425.0	10,269.3	7,425.0	51.4	50.5	90.00	2,673.2	263.1	850.9	750.2	100.75	8.445		
10,400.0	7,425.0	10,369.3	7,425.0	53.1	52.2	90.00	2,773.2	263.1	850.9	746.8	104.14	8.171		
10,500.0	7,425.0	10,469.3	7,425.0	54.8	53.9	90.00	2,873.2	263.1	850.9	743.4	107.54	7.912		
10,600.0	7,425.0	10,569.3	7,425.0	56.4	55.6	90.00	2,973.2	263.1	850.9	740.0	110.95	7.670		
10,700.0	7,425.0	10,669.3	7,425.0	58.1	57.3	90.00	3,073.2	263.1	850.9	736.6	114.36	7.441		
10,800.0	7,425.0	10,769.3	7,425.0	59.8	59.0	90.00	3,173.2	263.1	850.9	733.1	117.77	7.225		
10,900.0	7,425.0	10,869.3	7,425.0	61.5	60.7	90.00	3,273.2	263.1	850.9	729.7	121.19	7.021		
11,000.0	7,425.0	10,969.3	7,425.0	63.2	62.4	90.00	3,373.2	263.1	850.9	726.3	124.62	6.828		
11,100.0	7,425.0	11,069.3	7,425.0	64.9	64.2	90.00	3,473.2	263.1	850.9	722.9	128.05	6.645		
11,200.0	7,425.0	11,169.3	7,425.0	66.6	65.9	90.00	3,573.2	263.1	850.9	719.4	131.49	6.472		
11,300.0	7,425.0	11,269.3	7,425.0	68.3	67.6	90.00	3,673.2	263.1	850.9	716.0	134.93	6.307		
11,400.0	7,425.0	11,369.3	7,425.0	70.0	69.3	90.00	3,773.2	263.1	850.9	712.6	138.37	6.150		
11,500.0	7,425.0	11,469.3	7,425.0	71.7	71.0	90.00	3,873.2	263.1	850.9	709.1	141.81	6.000		
11,600.0	7,425.0	11,569.3	7,425.0	73.4	72.7	90.00	3,973.2	263.1	850.9	705.7	145.26	5.858		
11,700.0	7,425.0	11,669.3	7,425.0	75.1	74.5	90.00	4,073.2	263.1	850.9	702.2	148.71	5.722		
11,800.0	7,425.0	11,769.3	7,425.0	76.8	76.2	90.00	4,173.2	263.1	850.9	698.8	152.17	5.592		
11,900.0	7,425.0	11,869.3	7,425.0	78.5	77.9	90.00	4,273.2	263.1	851.0	695.3	155.62	5.468		
11,956.1	7,425.0	11,925.4	7,425.0	79.5	78.9	90.00	4,329.3	263.1	851.0	693.4	157.56	5.401		
11,994.5	7,425.0	11,961.1	7,425.0	80.1	79.5	90.00	4,364.9	263.1	851.0	692.1	158.84	5.357 SF		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	1,321.4	1,321.5					
100.0	100.0	86.0	86.0	0.2	0.1	90.00	0.0	1,321.4	1,321.4	1,321.2	0.28	4,678.865		
200.0	200.0	186.0	186.0	0.3	0.3	90.00	0.0	1,321.4	1,321.4	1,320.8	0.63	2,103.151		
300.0	300.0	286.0	286.0	0.5	0.5	-143.43	0.0	1,321.4	1,322.9	1,321.9	0.98	1,352.004		
400.0	399.8	385.8	385.8	0.7	0.7	-143.51	0.0	1,321.4	1,327.1	1,325.7	1.33	994.971		
500.0	499.5	485.5	485.5	0.9	0.8	-143.65	0.0	1,321.4	1,334.1	1,332.4	1.70	785.273		
600.0	598.7	605.3	605.3	1.2	1.0	-143.89	-0.5	1,320.7	1,343.3	1,341.2	2.11	635.550		
700.0	697.5	728.7	728.6	1.5	1.3	-144.17	-2.5	1,317.7	1,353.6	1,351.0	2.55	530.035		
800.0	795.6	852.2	852.0	1.9	1.5	-144.48	-6.1	1,312.5	1,364.9	1,361.9	3.02	452.350		
900.0	893.4	976.2	975.7	2.3	1.7	-144.90	-11.1	1,305.1	1,376.0	1,372.5	3.50	393.551		
1,000.0	991.3	1,100.9	1,099.8	2.7	2.0	-145.26	-17.7	1,295.4	1,385.2	1,381.2	3.99	347.583		
1,100.0	1,089.1	1,226.2	1,224.2	3.0	2.3	-145.56	-25.9	1,283.5	1,392.7	1,388.2	4.49	310.399		
1,200.0	1,186.9	1,351.9	1,348.7	3.4	2.6	-145.79	-35.6	1,269.2	1,398.3	1,393.3	5.00	279.632		
1,300.0	1,284.7	1,477.9	1,473.2	3.8	3.0	-145.96	-46.9	1,252.7	1,402.1	1,396.6	5.53	253.625		
1,400.0	1,382.5	1,582.5	1,576.1	4.2	3.4	-146.07	-57.1	1,237.7	1,404.6	1,398.6	6.02	233.414		
1,500.0	1,480.3	1,682.4	1,674.5	4.6	3.7	-146.17	-66.9	1,223.4	1,407.1	1,400.6	6.50	216.488		
1,600.0	1,578.1	1,782.3	1,773.0	5.1	4.0	-146.28	-76.7	1,209.0	1,409.7	1,402.7	6.98	201.857		
1,700.0	1,676.0	1,882.3	1,871.4	5.5	4.3	-146.38	-86.4	1,194.7	1,412.2	1,404.7	7.47	189.098		
1,800.0	1,773.8	1,982.2	1,969.8	5.9	4.7	-146.48	-96.2	1,180.4	1,414.7	1,406.8	7.95	177.883		
1,900.0	1,871.6	2,082.1	2,068.2	6.3	5.0	-146.58	-106.0	1,166.0	1,417.3	1,408.8	8.44	167.954		
2,000.0	1,969.4	2,182.1	2,166.6	6.7	5.3	-146.68	-115.8	1,151.7	1,419.8	1,410.9	8.92	159.107		
2,100.0	2,067.2	2,282.0	2,265.1	7.1	5.7	-146.78	-125.6	1,137.4	1,422.4	1,413.0	9.41	151.177		
2,200.0	2,165.0	2,381.9	2,363.5	7.5	6.0	-146.88	-135.3	1,123.0	1,424.9	1,415.0	9.89	144.031		
2,300.0	2,262.8	2,481.9	2,461.9	7.9	6.4	-146.98	-145.1	1,108.7	1,427.5	1,417.1	10.38	137.560		
2,400.0	2,360.7	2,581.8	2,560.3	8.3	6.7	-147.08	-154.9	1,094.4	1,430.0	1,419.2	10.86	131.675		
2,500.0	2,458.5	2,681.7	2,658.7	8.7	7.1	-147.18	-164.7	1,080.0	1,432.6	1,421.3	11.34	126.299		
2,600.0	2,556.3	2,781.7	2,757.1	9.1	7.4	-147.28	-174.5	1,065.7	1,435.2	1,423.4	11.82	121.371		
2,700.0	2,654.1	2,881.6	2,855.6	9.5	7.7	-147.38	-184.2	1,051.4	1,437.8	1,425.4	12.31	116.838		
2,800.0	2,751.9	2,981.6	2,954.0	9.9	8.1	-147.48	-194.0	1,037.0	1,440.3	1,427.5	12.79	112.654		
2,900.0	2,849.7	3,081.5	3,052.4	10.3	8.4	-147.58	-203.8	1,022.7	1,442.9	1,429.7	13.26	108.780		
3,000.0	2,947.5	3,181.4	3,150.8	10.7	8.8	-147.68	-213.6	1,008.4	1,445.5	1,431.8	13.74	105.185		
3,100.0	3,045.4	3,281.4	3,249.2	11.1	9.1	-147.77	-223.4	994.0	1,448.1	1,433.9	14.22	101.839		
3,200.0	3,143.2	3,381.3	3,347.7	11.5	9.5	-147.87	-233.1	979.7	1,450.7	1,436.0	14.70	98.717		
3,300.0	3,241.0	3,481.2	3,446.1	11.9	9.8	-147.97	-242.9	965.3	1,453.3	1,438.1	15.17	95.799		
3,400.0	3,338.8	3,581.2	3,544.5	12.4	10.2	-148.06	-252.7	951.0	1,455.9	1,440.3	15.64	93.064		
3,500.0	3,436.6	3,681.1	3,642.9	12.8	10.5	-148.16	-262.5	936.7	1,458.5	1,442.4	16.12	90.496		
3,600.0	3,534.4	3,781.0	3,741.3	13.2	10.9	-148.25	-272.3	922.3	1,461.1	1,444.5	16.59	88.081		
3,700.0	3,632.3	3,881.0	3,839.7	13.6	11.2	-148.35	-282.0	908.0	1,463.7	1,446.7	17.06	85.805		
3,720.0	3,651.8	3,901.0	3,859.4	13.7	11.3	-148.37	-284.0	905.1	1,464.3	1,447.1	17.15	85.365		
3,800.0	3,730.3	3,980.9	3,938.2	13.9	11.6	-148.43	-291.8	893.7	1,465.4	1,447.9	17.52	83.637		
3,900.0	3,828.9	4,080.9	4,036.7	14.3	11.9	-148.42	-301.6	879.3	1,464.2	1,446.2	17.97	81.472		
4,000.0	3,928.1	4,180.8	4,135.0	14.5	12.3	-148.31	-311.4	865.0	1,459.9	1,441.5	18.41	79.280		
4,100.0	4,027.7	4,280.5	4,233.2	14.7	12.6	-148.09	-321.1	850.7	1,452.8	1,433.9	18.85	77.057		
4,200.0	4,127.5	4,379.8	4,331.0	14.9	13.0	-147.77	-330.9	836.4	1,442.7	1,423.4	19.29	74.798		
4,300.0	4,227.4	4,478.7	4,428.4	15.0	13.3	-147.33	-340.5	822.3	1,429.6	1,409.9	19.72	72.501		
4,320.0	4,247.4	4,498.4	4,447.8	15.0	13.4	86.17	-342.5	819.4	1,426.7	1,406.9	19.81	72.031		
4,400.0	4,327.4	4,577.2	4,525.4	15.0	13.7	86.46	-350.2	808.1	1,414.7	1,394.5	20.16	70.187		
4,500.0	4,427.4	4,675.7	4,622.4	15.1	14.0	86.82	-359.8	794.0	1,399.7	1,379.1	20.60	67.959		
4,600.0	4,527.4	4,774.2	4,719.3	15.2	14.4	87.19	-369.4	779.9	1,384.8	1,363.8	21.04	65.813		
4,700.0	4,627.4	4,872.6	4,816.3	15.3	14.7	87.57	-379.1	765.8	1,370.0	1,348.5	21.49	63.746		
4,800.0	4,727.4	4,960.1	4,902.5	15.4	15.0	87.90	-387.5	753.4	1,355.5	1,333.6	21.90	61.888		
4,900.0	4,827.4	5,042.4	4,983.8	15.5	15.2	88.20	-394.8	742.7	1,342.2	1,319.9	22.29	60.222		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
5,000.0	4,927.4	5,125.1	5,065.6	15.6	15.5	88.47	-401.4	733.0	1,330.1	1,307.4	22.66	58.692		
5,100.0	5,027.4	5,200.0	5,139.9	15.7	15.7	88.70	-406.9	725.0	1,319.3	1,296.3	23.01	57.346		
5,200.0	5,127.4	5,291.4	5,230.7	15.8	15.9	88.95	-412.8	716.3	1,309.7	1,286.3	23.38	56.015		
5,300.0	5,227.4	5,375.0	5,313.9	15.9	16.1	89.16	-417.5	709.4	1,301.4	1,277.7	23.72	54.858		
5,400.0	5,327.4	5,458.8	5,397.4	16.0	16.3	89.33	-421.5	703.6	1,294.3	1,270.2	24.05	53.811		
5,500.0	5,427.4	5,542.8	5,481.1	16.1	16.5	89.48	-424.9	698.7	1,288.4	1,264.0	24.37	52.870		
5,600.0	5,527.4	5,626.9	5,565.2	16.2	16.6	89.59	-427.5	694.8	1,283.8	1,259.1	24.67	52.030		
5,700.0	5,627.4	5,711.2	5,649.4	16.3	16.7	89.68	-429.5	691.9	1,280.3	1,255.4	24.97	51.285		
5,800.0	5,727.4	5,800.0	5,738.1	16.4	16.8	89.74	-430.8	690.0	1,278.2	1,252.9	25.25	50.619		
5,900.0	5,827.4	5,879.9	5,818.1	16.5	16.9	89.76	-431.3	689.3	1,277.2	1,251.7	25.51	50.070		
5,947.4	5,874.8	5,922.7	5,860.8	16.6	17.0	89.76	-431.3	689.2	1,277.1	1,251.5	25.63	49.820		
6,000.0	5,927.4	5,975.3	5,913.4	16.6	17.0	89.76	-431.3	689.2	1,277.1	1,251.3	25.78	49.534		
6,100.0	6,027.4	6,075.3	6,013.4	16.7	17.1	89.76	-431.3	689.2	1,277.1	1,251.1	26.07	48.996		
6,200.0	6,127.4	6,175.3	6,113.4	16.9	17.2	89.76	-431.3	689.2	1,277.1	1,250.8	26.35	48.466		
6,300.0	6,227.4	6,275.3	6,213.4	17.0	17.4	89.76	-431.3	689.2	1,277.1	1,250.5	26.64	47.945		
6,400.0	6,327.4	6,375.3	6,313.4	17.1	17.5	89.76	-431.3	689.2	1,277.1	1,250.2	26.92	47.433		
6,500.0	6,427.4	6,475.3	6,413.4	17.2	17.6	89.76	-431.3	689.2	1,277.1	1,249.9	27.21	46.929		
6,600.0	6,527.4	6,575.3	6,513.4	17.3	17.7	89.76	-431.3	689.2	1,277.1	1,249.6	27.50	46.433		
6,700.0	6,627.4	6,675.3	6,613.4	17.4	17.8	89.76	-431.3	689.2	1,277.1	1,249.3	27.80	45.945		
6,781.4	6,708.8	6,756.7	6,694.8	17.5	17.9	89.76	-431.3	689.2	1,277.1	1,249.1	28.04	45.555		
6,800.0	6,727.4	6,775.3	6,713.4	17.5	17.9	89.77	-431.3	689.2	1,277.1	1,249.0	28.09	45.469		
6,850.0	6,777.3	6,825.2	6,763.3	17.6	18.0	89.91	-431.3	689.2	1,277.1	1,248.9	28.22	45.259		
6,868.8	6,796.1	6,843.9	6,782.1	17.6	18.0	90.00	-431.3	689.2	1,277.1	1,248.9	28.26	45.186 CC		
6,900.0	6,826.9	6,874.8	6,812.9	17.6	18.0	90.20	-431.3	689.2	1,277.1	1,248.8	28.35	45.052		
6,950.0	6,875.9	6,923.8	6,861.9	17.5	18.1	90.63	-431.3	689.2	1,277.2	1,248.7	28.47	44.855		
7,000.0	6,924.1	6,971.9	6,910.1	17.5	18.1	91.19	-431.3	689.2	1,277.4	1,248.8	28.59	44.676		
7,050.0	6,971.2	7,021.8	6,959.9	17.4	18.2	91.84	-429.9	689.2	1,277.8	1,249.2	28.67	44.565		
7,100.0	7,017.0	7,073.1	7,010.9	17.4	18.2	92.50	-424.8	689.2	1,278.5	1,249.8	28.69	44.561		
7,150.0	7,061.4	7,125.5	7,062.6	17.3	18.2	93.15	-415.9	689.2	1,279.2	1,250.6	28.64	44.660		
7,200.0	7,104.0	7,179.4	7,114.8	17.2	18.1	93.79	-402.8	689.2	1,280.2	1,251.6	28.54	44.858		
7,250.0	7,144.7	7,234.6	7,167.2	17.1	18.1	94.43	-385.4	689.2	1,281.3	1,252.9	28.38	45.147		
7,300.0	7,183.3	7,291.2	7,219.4	17.0	18.0	95.05	-363.3	689.2	1,282.5	1,254.3	28.18	45.518		
7,350.0	7,219.5	7,349.4	7,271.0	16.9	17.9	95.66	-336.5	689.2	1,283.8	1,255.9	27.94	45.952		
7,400.0	7,253.3	7,409.2	7,321.5	16.8	17.8	96.25	-304.6	689.2	1,285.3	1,257.6	27.68	46.427		
7,450.0	7,284.5	7,470.6	7,370.5	16.8	17.7	96.81	-267.6	689.2	1,286.7	1,259.3	27.43	46.908		
7,500.0	7,312.8	7,533.5	7,417.2	16.8	17.6	97.34	-225.5	689.2	1,288.2	1,261.0	27.20	47.353		
7,550.0	7,338.2	7,598.1	7,461.1	16.8	17.5	97.83	-178.2	689.2	1,289.6	1,262.6	27.03	47.710		
7,600.0	7,360.5	7,664.2	7,501.5	16.8	17.5	98.29	-125.9	689.2	1,291.0	1,264.1	26.95	47.911		
7,650.0	7,379.6	7,731.7	7,537.5	16.9	17.5	98.69	-68.9	689.2	1,292.3	1,265.3	26.98	47.903		
7,700.0	7,395.5	7,800.5	7,568.6	17.0	17.6	99.04	-7.5	689.2	1,293.4	1,266.2	27.15	47.637		
7,750.0	7,408.0	7,870.5	7,594.0	17.2	17.7	99.33	57.7	689.1	1,294.3	1,266.8	27.51	47.054		
7,800.0	7,417.1	7,941.4	7,613.1	17.4	17.9	99.55	126.0	689.1	1,295.1	1,267.0	28.04	46.185		
7,850.0	7,422.8	8,013.0	7,625.5	17.7	18.2	99.70	196.5	689.1	1,295.6	1,266.8	28.77	45.032		
7,900.0	7,425.0	8,085.0	7,630.8	18.0	18.6	99.77	268.3	689.1	1,295.8	1,266.1	29.68	43.658		
7,906.4	7,425.0	8,094.2	7,631.0	18.0	18.7	99.77	277.5	689.1	1,295.8	1,266.0	29.81	43.474		
8,000.0	7,425.0	8,190.2	7,631.0	18.7	19.3	99.77	373.4	689.1	1,295.8	1,264.4	31.40	41.271		
8,100.0	7,425.0	8,290.2	7,631.0	19.5	20.2	99.77	473.4	689.1	1,295.8	1,262.5	33.34	38.866		
8,200.0	7,425.0	8,390.2	7,631.0	20.5	21.1	99.78	573.4	689.1	1,295.8	1,260.3	35.51	36.487		
8,300.0	7,425.0	8,490.2	7,631.0	21.5	22.1	99.78	673.4	689.1	1,295.8	1,257.9	37.88	34.208		
8,400.0	7,425.0	8,590.2	7,631.0	22.7	23.2	99.78	773.4	689.1	1,295.8	1,255.4	40.40	32.072		
8,500.0	7,425.0	8,690.2	7,631.0	23.9	24.4	99.78	873.4	689.0	1,295.7	1,252.7	43.05	30.095		
8,600.0	7,425.0	8,790.2	7,631.0	25.2	25.7	99.78	973.4	689.0	1,295.7	1,249.9	45.82	28.282		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
8,700.0	7,425.0	8,890.2	7,631.0	26.5	27.0	99.78	1,073.4	689.0	1,295.7	1,247.0	48.66	26.625		
8,800.0	7,425.0	8,990.2	7,631.0	27.9	28.4	99.78	1,173.4	689.0	1,295.7	1,244.1	51.59	25.116		
8,900.0	7,425.0	9,090.2	7,631.0	29.3	29.8	99.78	1,273.4	689.0	1,295.7	1,241.1	54.58	23.741		
9,000.0	7,425.0	9,190.2	7,631.0	30.8	31.2	99.78	1,373.4	689.0	1,295.7	1,238.1	57.61	22.488		
9,100.0	7,425.0	9,290.2	7,631.0	32.3	32.7	99.78	1,473.4	689.0	1,295.7	1,235.0	60.70	21.346		
9,200.0	7,425.0	9,390.2	7,631.0	33.8	34.2	99.78	1,573.4	689.0	1,295.6	1,231.8	63.82	20.301		
9,300.0	7,425.0	9,490.2	7,631.0	35.3	35.7	99.78	1,673.4	688.9	1,295.6	1,228.7	66.98	19.344		
9,400.0	7,425.0	9,590.2	7,631.0	36.9	37.2	99.78	1,773.4	688.9	1,295.6	1,225.5	70.16	18.466		
9,500.0	7,425.0	9,690.2	7,631.0	38.4	38.8	99.78	1,873.4	688.9	1,295.6	1,222.2	73.37	17.659		
9,600.0	7,425.0	9,790.2	7,631.0	40.0	40.4	99.78	1,973.4	688.9	1,295.6	1,219.0	76.60	16.914		
9,700.0	7,425.0	9,890.2	7,631.0	41.6	42.0	99.78	2,073.4	688.9	1,295.6	1,215.7	79.85	16.225		
9,800.0	7,425.0	9,990.2	7,631.0	43.2	43.6	99.78	2,173.4	688.9	1,295.6	1,212.4	83.12	15.587		
9,900.0	7,425.0	10,090.2	7,631.0	44.9	45.2	99.78	2,273.4	688.9	1,295.5	1,209.1	86.40	14.995		
10,000.0	7,425.0	10,190.2	7,631.0	46.5	46.8	99.78	2,373.4	688.9	1,295.5	1,205.8	89.69	14.444		
10,100.0	7,425.0	10,290.2	7,631.0	48.1	48.4	99.78	2,473.4	688.8	1,295.5	1,202.5	93.00	13.931		
10,200.0	7,425.0	10,390.2	7,631.0	49.8	50.1	99.78	2,573.4	688.8	1,295.5	1,199.2	96.31	13.451		
10,300.0	7,425.0	10,490.2	7,631.0	51.4	51.7	99.78	2,673.4	688.8	1,295.5	1,195.8	99.64	13.002		
10,400.0	7,425.0	10,590.2	7,631.0	53.1	53.4	99.78	2,773.4	688.8	1,295.5	1,192.5	102.98	12.580		
10,500.0	7,425.0	10,690.2	7,631.0	54.8	55.0	99.78	2,873.4	688.8	1,295.5	1,189.1	106.32	12.185		
10,600.0	7,425.0	10,790.2	7,631.0	56.4	56.7	99.78	2,973.4	688.8	1,295.4	1,185.8	109.67	11.812		
10,700.0	7,425.0	10,890.2	7,631.0	58.1	58.4	99.78	3,073.4	688.8	1,295.4	1,182.4	113.03	11.461		
10,800.0	7,425.0	10,990.2	7,631.0	59.8	60.0	99.78	3,173.4	688.8	1,295.4	1,179.0	116.39	11.130		
10,900.0	7,425.0	11,090.2	7,631.0	61.5	61.7	99.78	3,273.4	688.7	1,295.4	1,175.6	119.76	10.817		
11,000.0	7,425.0	11,190.2	7,631.0	63.2	63.4	99.78	3,373.4	688.7	1,295.4	1,172.3	123.13	10.521		
11,100.0	7,425.0	11,290.2	7,631.0	64.9	65.1	99.78	3,473.4	688.7	1,295.4	1,168.9	126.51	10.240		
11,200.0	7,425.0	11,390.2	7,631.0	66.6	66.8	99.78	3,573.4	688.7	1,295.4	1,165.5	129.89	9.973		
11,300.0	7,425.0	11,490.2	7,631.0	68.3	68.5	99.78	3,673.4	688.7	1,295.3	1,162.1	133.27	9.719		
11,400.0	7,425.0	11,590.2	7,631.0	70.0	70.2	99.78	3,773.4	688.7	1,295.3	1,158.7	136.66	9.478		
11,500.0	7,425.0	11,690.2	7,631.0	71.7	71.9	99.78	3,873.4	688.7	1,295.3	1,155.3	140.05	9.249		
11,600.0	7,425.0	11,790.2	7,631.0	73.4	73.6	99.78	3,973.4	688.6	1,295.3	1,151.9	143.45	9.030		
11,700.0	7,425.0	11,890.2	7,631.0	75.1	75.3	99.78	4,073.4	688.6	1,295.3	1,148.4	146.85	8.821		
11,800.0	7,425.0	11,990.2	7,631.0	76.8	77.0	99.78	4,173.4	688.6	1,295.3	1,145.0	150.25	8.621		
11,900.0	7,425.0	12,090.2	7,631.0	78.5	78.7	99.78	4,273.4	688.6	1,295.3	1,141.6	153.65	8.430		
11,966.6	7,425.0	12,156.7	7,631.0	79.6	79.8	99.78	4,340.0	688.6	1,295.3	1,139.3	155.92	8.307		
11,994.5	7,425.0	12,177.2	7,631.0	80.1	80.2	99.78	4,360.4	688.6	1,295.3	1,138.5	156.75	8.264 ES, SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4E-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	1,329.8	1,329.9					
100.0	100.0	86.0	86.0	0.2	0.1	90.00	0.0	1,329.8	1,329.8	1,329.6	0.28	4,708.603		
200.0	200.0	186.0	186.0	0.3	0.3	90.00	0.0	1,329.8	1,329.8	1,329.2	0.63	2,116.518	CC, ES	
300.0	300.0	286.0	286.0	0.5	0.5	-143.43	0.0	1,329.8	1,331.2	1,330.3	0.98	1,360.588		
400.0	399.8	385.8	385.8	0.7	0.7	-143.51	0.0	1,329.8	1,335.5	1,334.1	1.33	1,001.268		
500.0	499.5	495.2	495.2	0.9	0.8	-143.65	-0.7	1,329.5	1,342.2	1,340.5	1.72	782.028		
600.0	598.7	606.1	606.1	1.2	1.0	-143.77	-3.3	1,328.3	1,350.9	1,348.8	2.12	637.478		
700.0	697.5	717.0	716.8	1.5	1.2	-143.89	-7.9	1,326.1	1,361.5	1,359.0	2.55	534.560		
800.0	795.6	827.8	827.4	1.9	1.5	-143.99	-14.4	1,323.0	1,374.2	1,371.2	3.01	457.027		
900.0	893.4	938.8	938.0	2.3	1.7	-144.21	-22.8	1,319.0	1,387.4	1,383.9	3.49	397.346		
1,000.0	991.3	1,050.2	1,048.8	2.7	2.0	-144.34	-33.2	1,314.0	1,399.8	1,395.8	4.00	350.045		
1,100.0	1,089.1	1,161.9	1,159.7	3.0	2.2	-144.40	-45.6	1,308.1	1,411.2	1,406.7	4.53	311.493		
1,200.0	1,186.9	1,265.6	1,262.3	3.4	2.5	-144.39	-58.5	1,301.9	1,422.0	1,417.0	5.06	281.098		
1,300.0	1,284.7	1,365.0	1,360.8	3.8	2.8	-144.38	-71.0	1,296.0	1,432.8	1,427.2	5.58	256.601		
1,400.0	1,382.5	1,464.4	1,459.2	4.2	3.1	-144.36	-83.5	1,290.0	1,443.5	1,437.4	6.11	236.117		
1,500.0	1,480.3	1,563.8	1,557.7	4.6	3.4	-144.35	-96.0	1,284.0	1,454.3	1,447.6	6.65	218.772		
1,600.0	1,578.1	1,663.2	1,656.1	5.1	3.6	-144.34	-108.5	1,278.1	1,465.0	1,457.9	7.18	203.919		
1,700.0	1,676.0	1,762.7	1,754.6	5.5	3.9	-144.33	-121.0	1,272.1	1,475.8	1,468.1	7.72	191.072		
1,800.0	1,773.8	1,862.1	1,853.0	5.9	4.2	-144.32	-133.5	1,266.2	1,486.5	1,478.3	8.27	179.859		
1,900.0	1,871.6	1,961.5	1,951.5	6.3	4.5	-144.31	-146.0	1,260.2	1,497.3	1,488.5	8.81	169.993		
2,000.0	1,969.4	2,060.9	2,049.9	6.7	4.8	-144.29	-158.4	1,254.3	1,508.0	1,498.7	9.35	161.249		
2,100.0	2,067.2	2,160.3	2,148.4	7.1	5.1	-144.28	-170.9	1,248.3	1,518.8	1,508.9	9.90	153.450		
2,200.0	2,165.0	2,259.8	2,246.8	7.5	5.4	-144.27	-183.4	1,242.4	1,529.5	1,519.1	10.44	146.451		
2,300.0	2,262.8	2,359.2	2,345.3	7.9	5.7	-144.26	-195.9	1,236.4	1,540.3	1,529.3	10.99	140.137		
2,400.0	2,360.7	2,458.6	2,443.8	8.3	6.0	-144.25	-208.4	1,230.4	1,551.0	1,539.5	11.54	134.414		
2,500.0	2,458.5	2,558.0	2,542.2	8.7	6.3	-144.24	-220.9	1,224.5	1,561.8	1,549.7	12.09	129.203		
2,600.0	2,556.3	2,657.4	2,640.7	9.1	6.5	-144.23	-233.4	1,218.5	1,572.6	1,559.9	12.64	124.438		
2,700.0	2,654.1	2,756.9	2,739.1	9.5	6.8	-144.22	-245.9	1,212.6	1,583.3	1,570.1	13.19	120.066		
2,800.0	2,751.9	2,856.3	2,837.6	9.9	7.1	-144.21	-258.4	1,206.6	1,594.1	1,580.3	13.74	116.040		
2,900.0	2,849.7	2,955.7	2,936.0	10.3	7.4	-144.20	-270.8	1,200.7	1,604.8	1,590.5	14.29	112.320		
3,000.0	2,947.5	3,055.1	3,034.5	10.7	7.7	-144.19	-283.3	1,194.7	1,615.6	1,600.7	14.84	108.874		
3,100.0	3,045.4	3,154.5	3,132.9	11.1	8.0	-144.18	-295.8	1,188.8	1,626.3	1,610.9	15.39	105.673		
3,200.0	3,143.2	3,254.0	3,231.4	11.5	8.3	-144.17	-308.3	1,182.8	1,637.1	1,621.1	15.94	102.690		
3,300.0	3,241.0	3,353.4	3,329.8	11.9	8.6	-144.16	-320.8	1,176.8	1,647.8	1,631.3	16.49	99.906		
3,400.0	3,338.8	3,452.8	3,428.3	12.4	8.9	-144.15	-333.3	1,170.9	1,658.6	1,641.5	17.05	97.300		
3,500.0	3,436.6	3,552.2	3,526.7	12.8	9.2	-144.14	-345.8	1,164.9	1,669.3	1,651.7	17.60	94.856		
3,600.0	3,534.4	3,651.6	3,625.2	13.2	9.5	-144.13	-358.3	1,159.0	1,680.1	1,661.9	18.15	92.560		
3,700.0	3,632.3	3,751.1	3,723.6	13.6	9.8	-144.13	-370.8	1,153.0	1,690.8	1,672.1	18.70	90.399		
3,720.0	3,651.8	3,770.9	3,743.3	13.7	9.9	-144.12	-373.3	1,151.8	1,693.0	1,674.2	18.81	89.982		
3,800.0	3,730.3	3,850.6	3,822.2	13.9	10.1	-144.18	-383.3	1,147.1	1,700.7	1,681.4	19.25	88.355		
3,900.0	3,828.9	3,944.4	3,915.1	14.3	10.4	-144.18	-394.9	1,141.5	1,707.8	1,688.1	19.75	86.488		
4,000.0	3,928.1	4,032.5	4,002.5	14.5	10.6	-144.14	-404.7	1,136.8	1,712.8	1,692.6	20.19	84.837		
4,100.0	4,027.7	4,120.7	4,090.2	14.7	10.8	-144.04	-413.4	1,132.7	1,715.6	1,695.0	20.59	83.314		
4,200.0	4,127.5	4,208.9	4,178.0	14.9	11.0	-143.91	-420.8	1,129.1	1,716.3	1,695.4	20.96	81.903		
4,300.0	4,227.4	4,300.0	4,268.9	15.0	11.2	-143.72	-427.2	1,126.1	1,714.9	1,693.6	21.29	80.567		
4,320.0	4,247.4	4,314.8	4,283.6	15.0	11.2	89.72	-428.1	1,125.7	1,714.3	1,693.0	21.34	80.337		
4,400.0	4,327.4	4,385.5	4,354.2	15.0	11.4	89.85	-432.0	1,123.8	1,712.2	1,690.6	21.59	79.311		
4,500.0	4,427.4	4,473.9	4,442.5	15.1	11.5	89.97	-435.8	1,122.0	1,710.2	1,688.3	21.88	78.157		
4,600.0	4,527.4	4,562.5	4,531.1	15.2	11.6	90.06	-438.3	1,120.8	1,708.8	1,686.6	22.15	77.134		
4,700.0	4,627.4	4,651.2	4,619.7	15.3	11.8	90.10	-439.6	1,120.2	1,708.1	1,685.7	22.41	76.232		
4,774.2	4,701.7	4,719.1	4,687.7	15.4	11.8	90.11	-439.8	1,120.1	1,708.0	1,685.4	22.59	75.614		
4,800.0	4,727.4	4,744.9	4,713.4	15.4	11.9	90.11	-439.8	1,120.1	1,708.0	1,685.3	22.65	75.394		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: O-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
4,900.0	4,827.4	4,844.9	4,813.4	15.5	12.0	90.11	-439.8	1,120.1	1,708.0	1,685.1	22.91	74.548	
5,000.0	4,927.4	4,944.9	4,913.4	15.6	12.1	90.11	-439.8	1,120.1	1,708.0	1,684.8	23.17	73.712	
5,100.0	5,027.4	5,044.9	5,013.4	15.7	12.2	90.11	-439.8	1,120.1	1,708.0	1,684.6	23.43	72.888	
5,200.0	5,127.4	5,144.9	5,113.4	15.8	12.4	90.11	-439.8	1,120.1	1,708.0	1,684.3	23.70	72.076	
5,300.0	5,227.4	5,244.9	5,213.4	15.9	12.5	90.11	-439.8	1,120.1	1,708.0	1,684.0	23.96	71.275	
5,400.0	5,327.4	5,344.9	5,313.4	16.0	12.6	90.11	-439.8	1,120.1	1,708.0	1,683.8	24.23	70.485	
5,500.0	5,427.4	5,444.9	5,413.4	16.1	12.7	90.11	-439.8	1,120.1	1,708.0	1,683.5	24.50	69.707	
5,600.0	5,527.4	5,544.9	5,513.4	16.2	12.9	90.11	-439.8	1,120.1	1,708.0	1,683.2	24.78	68.940	
5,700.0	5,627.4	5,644.9	5,613.4	16.3	13.0	90.11	-439.8	1,120.1	1,708.0	1,683.0	25.05	68.185	
5,800.0	5,727.4	5,744.9	5,713.4	16.4	13.1	90.11	-439.8	1,120.1	1,708.0	1,682.7	25.33	67.442	
5,900.0	5,827.4	5,844.9	5,813.4	16.5	13.3	90.11	-439.8	1,120.1	1,708.0	1,682.4	25.60	66.709	
6,000.0	5,927.4	5,944.9	5,913.4	16.6	13.4	90.11	-439.8	1,120.1	1,708.0	1,682.1	25.88	65.989	
6,100.0	6,027.4	6,044.9	6,013.4	16.7	13.5	90.11	-439.8	1,120.1	1,708.0	1,681.8	26.16	65.279	
6,200.0	6,127.4	6,144.9	6,113.4	16.9	13.7	90.11	-439.8	1,120.1	1,708.0	1,681.6	26.45	64.580	
6,300.0	6,227.4	6,244.9	6,213.4	17.0	13.8	90.11	-439.8	1,120.1	1,708.0	1,681.3	26.73	63.893	
6,400.0	6,327.4	6,344.9	6,313.4	17.1	14.0	90.11	-439.8	1,120.1	1,708.0	1,681.0	27.02	63.217	
6,500.0	6,427.4	6,444.9	6,413.4	17.2	14.1	90.11	-439.8	1,120.1	1,708.0	1,680.7	27.31	62.551	
6,600.0	6,527.4	6,544.9	6,513.4	17.3	14.2	90.11	-439.8	1,120.1	1,708.0	1,680.4	27.59	61.896	
6,700.0	6,627.4	6,644.9	6,613.4	17.4	14.4	90.11	-439.8	1,120.1	1,708.0	1,680.1	27.89	61.252	
6,781.4	6,708.8	6,726.3	6,694.8	17.5	14.5	90.11	-439.8	1,120.1	1,708.0	1,679.9	28.12	60.735	
6,800.0	6,727.4	6,745.0	6,713.5	17.5	14.5	90.11	-439.5	1,120.1	1,708.0	1,679.8	28.17	60.640	
6,850.0	6,777.3	6,795.2	6,763.6	17.6	14.5	90.11	-436.5	1,120.1	1,708.0	1,679.8	28.22	60.518	
6,900.0	6,826.9	6,845.4	6,813.4	17.6	14.5	90.10	-429.9	1,120.1	1,708.0	1,679.8	28.22	60.530	
6,950.0	6,875.9	6,895.7	6,862.6	17.5	14.5	90.10	-419.9	1,120.1	1,708.0	1,679.8	28.15	60.667	
7,000.0	6,924.1	6,945.9	6,911.0	17.5	14.4	90.10	-406.4	1,120.1	1,708.0	1,680.0	28.04	60.916	
7,050.0	6,971.2	6,996.1	6,958.3	17.4	14.4	90.10	-389.6	1,120.1	1,708.0	1,680.1	27.88	61.266	
7,100.0	7,017.0	7,046.3	7,004.3	17.4	14.3	90.10	-369.5	1,120.1	1,708.0	1,680.3	27.68	61.699	
7,150.0	7,061.4	7,096.5	7,048.8	17.3	14.2	90.09	-346.2	1,120.1	1,708.0	1,680.5	27.46	62.197	
7,200.0	7,104.0	7,146.7	7,091.5	17.2	14.0	90.09	-319.9	1,120.1	1,708.0	1,680.8	27.22	62.736	
7,250.0	7,144.7	7,196.9	7,132.3	17.1	13.9	90.08	-290.7	1,120.1	1,708.0	1,681.0	26.99	63.289	
7,300.0	7,183.3	7,247.1	7,170.9	17.0	13.8	90.08	-258.6	1,120.1	1,708.0	1,681.2	26.76	63.824	
7,350.0	7,219.5	7,297.3	7,207.2	16.9	13.7	90.07	-224.0	1,120.1	1,708.0	1,681.4	26.56	64.306	
7,400.0	7,253.3	7,347.4	7,241.0	16.8	13.6	90.07	-186.9	1,120.1	1,708.0	1,681.6	26.40	64.695	
7,450.0	7,284.5	7,397.6	7,272.0	16.8	13.6	90.06	-147.6	1,120.1	1,708.0	1,681.7	26.30	64.954	
7,500.0	7,312.8	7,447.7	7,300.3	16.8	13.6	90.06	-106.2	1,120.1	1,708.0	1,681.7	26.26	65.045	
7,550.0	7,338.2	7,497.8	7,325.5	16.8	13.6	90.05	-62.9	1,120.1	1,708.0	1,681.7	26.30	64.937	
7,600.0	7,360.5	7,547.9	7,347.7	16.8	13.7	90.04	-18.0	1,120.1	1,708.0	1,681.5	26.44	64.606	
7,650.0	7,379.6	7,598.0	7,366.7	16.9	13.8	90.04	28.3	1,120.1	1,708.0	1,681.3	26.67	64.040	
7,700.0	7,395.5	7,648.1	7,382.4	17.0	13.9	90.03	75.9	1,120.1	1,708.0	1,681.0	27.01	63.240	
7,750.0	7,408.0	7,698.1	7,394.7	17.2	14.1	90.02	124.4	1,120.1	1,708.0	1,680.5	27.45	62.221	
7,800.0	7,417.1	7,748.2	7,403.6	17.4	14.4	90.02	173.6	1,120.1	1,708.0	1,680.0	28.00	61.008	
7,850.0	7,422.8	7,798.2	7,409.1	17.7	14.7	90.01	223.3	1,120.1	1,708.0	1,679.3	28.64	59.635	
7,900.0	7,425.0	7,848.2	7,411.0	18.0	15.1	90.00	273.3	1,120.1	1,707.9	1,678.6	29.38	58.138	
7,906.4	7,425.0	7,854.6	7,411.0	18.0	15.1	90.00	279.7	1,120.1	1,707.9	1,678.5	29.48	57.941	
8,000.0	7,425.0	7,948.2	7,411.0	18.7	15.9	90.00	373.3	1,120.0	1,707.9	1,676.8	31.11	54.896	
8,100.0	7,425.0	8,048.2	7,411.0	19.5	16.9	90.00	473.3	1,120.0	1,707.9	1,674.8	33.11	51.581	
8,200.0	7,425.0	8,148.2	7,411.0	20.5	18.0	90.00	573.3	1,120.0	1,707.9	1,672.6	35.35	48.318	
8,300.0	7,425.0	8,248.2	7,411.0	21.5	19.2	90.00	673.3	1,120.0	1,707.9	1,670.1	37.78	45.211	
8,400.0	7,425.0	8,348.2	7,411.0	22.7	20.5	90.00	773.3	1,120.0	1,707.9	1,667.5	40.37	42.311	
8,500.0	7,425.0	8,448.2	7,411.0	23.9	21.8	90.00	873.3	1,120.0	1,707.9	1,664.8	43.08	39.641	
8,600.0	7,425.0	8,548.2	7,411.0	25.2	23.2	90.00	973.3	1,120.0	1,707.9	1,662.0	45.91	37.200	
8,700.0	7,425.0	8,648.2	7,411.0	26.5	24.7	90.00	1,073.3	1,120.0	1,707.9	1,659.1	48.83	34.979	

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4E-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
8,800.0	7,425.0	8,748.2	7,411.0	27.9	26.1	90.00	1,173.3	1,120.0	1,707.9	1,656.1	51.82	32.961		
8,900.0	7,425.0	8,848.2	7,411.0	29.3	27.6	90.00	1,273.3	1,120.0	1,707.9	1,653.0	54.87	31.129		
9,000.0	7,425.0	8,948.2	7,411.0	30.8	29.2	90.00	1,373.3	1,120.0	1,707.9	1,649.9	57.97	29.463		
9,100.0	7,425.0	9,048.2	7,411.0	32.3	30.7	90.00	1,473.3	1,120.0	1,707.9	1,646.8	61.11	27.946		
9,200.0	7,425.0	9,148.2	7,411.0	33.8	32.3	90.00	1,573.3	1,120.0	1,707.9	1,643.6	64.30	26.562		
9,300.0	7,425.0	9,248.2	7,411.0	35.3	33.9	90.00	1,673.3	1,120.0	1,707.9	1,640.3	67.51	25.297		
9,400.0	7,425.0	9,348.2	7,411.0	36.9	35.5	90.00	1,773.3	1,120.0	1,707.8	1,637.1	70.76	24.137		
9,500.0	7,425.0	9,448.3	7,411.0	38.4	37.8	90.00	1,914.4	1,118.3	1,706.7	1,632.0	74.70	22.848		
9,600.0	7,425.0	9,631.6	7,411.0	40.0	40.2	90.00	2,056.6	1,113.1	1,703.0	1,624.3	78.69	21.643		
9,700.0	7,425.0	9,766.9	7,411.0	41.6	42.4	90.00	2,191.7	1,104.9	1,696.9	1,614.3	82.58	20.547		
9,800.0	7,425.0	9,866.7	7,411.0	43.2	44.1	90.00	2,291.2	1,097.9	1,689.9	1,604.0	85.91	19.671		
9,900.0	7,425.0	9,966.4	7,411.0	44.9	45.8	90.00	2,390.7	1,091.0	1,682.9	1,593.7	89.25	18.857		
10,000.0	7,425.0	10,066.2	7,411.0	46.5	47.5	90.00	2,490.2	1,084.0	1,676.0	1,583.4	92.60	18.099		
10,100.0	7,425.0	10,166.0	7,411.0	48.1	49.1	90.00	2,589.7	1,077.0	1,669.0	1,573.0	95.96	17.393		
10,200.0	7,425.0	10,265.7	7,411.0	49.8	50.8	90.00	2,689.2	1,070.1	1,662.0	1,562.7	99.33	16.732		
10,300.0	7,425.0	10,365.5	7,411.0	51.4	52.5	90.00	2,788.7	1,063.1	1,655.0	1,552.3	102.71	16.114		
10,400.0	7,425.0	10,465.2	7,411.0	53.1	54.2	90.00	2,888.3	1,056.2	1,648.0	1,541.9	106.10	15.533		
10,500.0	7,425.0	10,561.9	7,411.0	54.8	55.9	90.00	2,984.7	1,049.4	1,641.1	1,531.6	109.44	14.995		
10,600.0	7,425.0	10,639.6	7,411.0	56.4	57.2	90.00	3,062.2	1,044.7	1,634.9	1,522.5	112.47	14.537		
10,700.0	7,425.0	10,717.3	7,411.0	58.1	58.5	90.00	3,139.9	1,041.0	1,630.2	1,514.7	115.50	14.114		
10,800.0	7,425.0	10,800.0	7,411.0	59.8	59.9	90.00	3,222.5	1,038.2	1,626.8	1,508.1	118.62	13.714		
10,900.0	7,425.0	10,873.0	7,411.0	61.5	61.2	90.00	3,295.5	1,036.7	1,624.7	1,503.1	121.58	13.363		
11,000.0	7,425.0	10,950.9	7,411.0	63.2	62.5	90.00	3,373.4	1,036.2	1,624.0	1,499.4	124.63	13.031		
11,001.0	7,425.0	10,951.7	7,411.0	63.2	62.5	90.00	3,374.2	1,036.2	1,624.0	1,499.4	124.66	13.028		
11,100.0	7,425.0	11,028.8	7,411.0	64.9	63.8	90.00	3,451.3	1,036.7	1,624.7	1,497.0	127.68	12.725		
11,200.0	7,425.0	11,100.0	7,411.0	66.6	65.1	90.00	3,522.5	1,038.1	1,626.7	1,496.1	130.62	12.454		
11,300.0	7,425.0	11,184.5	7,411.0	68.3	66.5	90.00	3,607.0	1,040.9	1,630.1	1,496.3	133.79	12.184		
11,400.0	7,425.0	11,262.3	7,411.0	70.0	67.8	90.00	3,684.6	1,044.6	1,634.8	1,498.0	136.85	11.946		
11,500.0	7,425.0	11,339.9	7,411.0	71.7	69.2	90.00	3,762.1	1,049.3	1,640.9	1,501.0	139.91	11.729		
11,600.0	7,425.0	11,417.4	7,411.0	73.4	70.5	90.00	3,839.4	1,055.1	1,648.4	1,505.4	142.96	11.530		
11,700.0	7,425.0	11,500.0	7,411.0	75.1	71.9	90.00	3,921.7	1,062.4	1,657.2	1,511.1	146.11	11.342		
11,800.0	7,425.0	11,571.8	7,411.0	76.8	73.1	90.00	3,993.1	1,069.7	1,667.3	1,518.2	149.07	11.185		
11,900.0	7,425.0	11,648.7	7,411.0	78.5	74.4	90.00	4,069.5	1,078.5	1,678.8	1,526.6	152.12	11.036		
11,994.5	7,425.0	11,739.9	7,411.0	80.1	76.0	90.00	4,160.0	1,089.7	1,690.4	1,535.0	155.32	10.883 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3													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)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	1,341.0	1,341.1					
100.0	100.0	86.0	86.0	0.2	0.1	90.00	0.0	1,341.0	1,341.0	1,340.8	0.28	4,748.255	CC, ES	
200.0	200.0	186.0	186.0	0.3	0.3	90.00	0.0	1,341.0	1,341.0	1,340.4	0.63	2,134.342		
300.0	300.0	286.0	286.0	0.5	0.5	-143.43	0.0	1,341.0	1,342.4	1,341.5	0.98	1,372.034		
400.0	399.8	378.4	378.4	0.7	0.6	-143.48	-0.5	1,341.3	1,346.9	1,345.6	1.32	1,019.343		
500.0	499.5	469.5	469.5	0.9	0.8	-143.51	-2.3	1,342.1	1,354.8	1,353.1	1.67	809.196		
600.0	598.7	560.2	560.1	1.2	1.0	-143.52	-5.4	1,343.4	1,366.1	1,364.0	2.05	667.815		
700.0	697.5	650.5	650.3	1.5	1.1	-143.51	-9.8	1,345.4	1,380.8	1,378.4	2.44	565.590		
800.0	795.6	740.2	739.7	1.9	1.3	-143.48	-15.4	1,347.9	1,398.9	1,396.1	2.87	488.010		
900.0	893.4	829.5	828.7	2.3	1.5	-143.65	-22.3	1,350.9	1,419.0	1,415.7	3.31	428.469		
1,000.0	991.3	918.7	917.5	2.7	1.7	-143.76	-30.5	1,354.5	1,439.7	1,436.0	3.77	381.636		
1,100.0	1,089.1	1,007.7	1,005.9	3.0	1.9	-143.82	-39.9	1,358.7	1,461.0	1,456.8	4.25	343.854		
1,200.0	1,186.9	1,100.0	1,097.4	3.4	2.2	-143.83	-51.0	1,363.6	1,482.9	1,478.2	4.75	312.101		
1,300.0	1,284.7	1,185.1	1,181.5	3.8	2.4	-143.79	-62.4	1,368.6	1,505.4	1,500.1	5.26	286.450		
1,400.0	1,382.5	1,273.3	1,268.7	4.2	2.7	-143.70	-75.4	1,374.3	1,528.4	1,522.7	5.79	264.153		
1,500.0	1,480.3	1,367.7	1,361.6	4.6	3.0	-143.56	-90.4	1,380.9	1,551.9	1,545.6	6.34	244.598		
1,600.0	1,578.1	1,464.8	1,457.3	5.1	3.3	-143.43	-105.8	1,387.7	1,575.5	1,568.5	6.92	227.744		
1,700.0	1,676.0	1,562.0	1,552.9	5.5	3.7	-143.30	-121.2	1,394.5	1,599.0	1,591.5	7.50	213.336		
1,800.0	1,773.8	1,659.1	1,648.6	5.9	4.0	-143.17	-136.7	1,401.3	1,622.5	1,614.4	8.08	200.899		
1,900.0	1,871.6	1,756.2	1,744.2	6.3	4.3	-143.05	-152.1	1,408.2	1,646.1	1,637.4	8.66	190.069		
2,000.0	1,969.4	1,853.3	1,839.9	6.7	4.6	-142.93	-167.5	1,415.0	1,669.6	1,660.4	9.25	180.560		
2,100.0	2,067.2	1,950.5	1,935.5	7.1	5.0	-142.81	-182.9	1,421.8	1,693.2	1,683.3	9.84	172.152		
2,200.0	2,165.0	2,047.6	2,031.2	7.5	5.3	-142.70	-198.4	1,428.6	1,716.7	1,706.3	10.43	164.666		
2,300.0	2,262.8	2,144.7	2,126.8	7.9	5.6	-142.59	-213.8	1,435.4	1,740.3	1,729.3	11.02	157.962		
2,400.0	2,360.7	2,241.9	2,222.5	8.3	6.0	-142.48	-229.2	1,442.2	1,763.9	1,752.3	11.61	151.926		
2,500.0	2,458.5	2,339.0	2,318.1	8.7	6.3	-142.38	-244.7	1,449.0	1,787.5	1,775.3	12.20	146.463		
2,600.0	2,556.3	2,436.1	2,413.8	9.1	6.6	-142.28	-260.1	1,455.8	1,811.1	1,798.3	12.80	141.497		
2,700.0	2,654.1	2,533.2	2,509.4	9.5	7.0	-142.18	-275.5	1,462.6	1,834.7	1,821.3	13.40	136.964		
2,800.0	2,751.9	2,630.4	2,605.1	9.9	7.3	-142.08	-291.0	1,469.4	1,858.3	1,844.3	13.99	132.810		
2,900.0	2,849.7	2,727.5	2,700.7	10.3	7.7	-141.99	-306.4	1,476.2	1,881.9	1,867.3	14.59	128.990		
3,000.0	2,947.5	2,824.6	2,796.4	10.7	8.0	-141.90	-321.8	1,483.0	1,905.5	1,890.3	15.19	125.465		
3,100.0	3,045.4	2,921.8	2,892.1	11.1	8.3	-141.81	-337.3	1,489.8	1,929.1	1,913.3	15.79	122.203		
3,200.0	3,143.2	3,018.9	2,987.7	11.5	8.7	-141.72	-352.7	1,496.6	1,952.7	1,936.3	16.39	119.176		
3,300.0	3,241.0	3,120.4	3,087.7	11.9	9.0	-141.63	-368.7	1,503.7	1,976.3	1,959.3	16.99	116.295		
3,400.0	3,338.8	3,234.3	3,200.1	12.4	9.4	-141.58	-385.3	1,511.0	1,999.3	1,981.7	17.61	113.520		
3,500.0	3,436.6	3,348.6	3,313.3	12.8	9.7	-141.59	-399.8	1,517.4	2,021.5	2,003.3	18.20	111.066		
3,600.0	3,534.4	3,463.3	3,427.2	13.2	10.0	-141.66	-412.3	1,522.9	2,042.9	2,024.1	18.76	108.896		
3,700.0	3,632.3	3,578.3	3,541.6	13.6	10.3	-141.79	-422.7	1,527.5	2,063.4	2,044.2	19.29	106.979		
3,720.0	3,651.8	3,601.3	3,564.5	13.7	10.3	-141.82	-424.6	1,528.4	2,067.5	2,048.1	19.39	106.616		
3,800.0	3,730.3	3,693.7	3,656.7	13.9	10.5	-142.14	-431.1	1,531.2	2,082.3	2,062.5	19.79	105.203		
3,900.0	3,828.9	3,809.9	3,772.7	14.3	10.7	-142.48	-437.4	1,534.0	2,097.7	2,077.5	20.24	103.644		
4,000.0	3,928.1	3,926.7	3,889.4	14.5	10.9	-142.76	-441.5	1,535.8	2,109.6	2,089.0	20.63	102.277		
4,100.0	4,027.7	4,044.0	4,006.7	14.7	11.0	-142.99	-443.5	1,536.7	2,117.9	2,096.9	20.95	101.069		
4,200.0	4,127.5	4,150.8	4,113.5	14.9	11.1	-143.15	-443.6	1,536.8	2,122.7	2,101.4	21.23	99.993		
4,300.0	4,227.4	4,250.8	4,213.4	15.0	11.3	-143.21	-443.6	1,536.8	2,124.6	2,103.2	21.47	98.971		
4,320.0	4,247.4	4,270.8	4,233.4	15.0	11.3	90.19	-443.6	1,536.8	2,124.7	2,103.2	21.51	98.760		
4,400.0	4,327.4	4,350.8	4,313.4	15.0	11.4	90.19	-443.6	1,536.8	2,124.7	2,103.0	21.71	97.873		
4,500.0	4,427.4	4,450.8	4,413.4	15.1	11.5	90.19	-443.6	1,536.8	2,124.7	2,102.7	21.95	96.775		
4,600.0	4,527.4	4,550.8	4,513.4	15.2	11.6	90.19	-443.6	1,536.8	2,124.7	2,102.5	22.20	95.689		
4,700.0	4,627.4	4,650.8	4,613.4	15.3	11.7	90.19	-443.6	1,536.8	2,124.7	2,102.2	22.46	94.617		
4,800.0	4,727.4	4,750.8	4,713.4	15.4	11.8	90.19	-443.6	1,536.8	2,124.7	2,102.0	22.71	93.558		
4,900.0	4,827.4	4,850.8	4,813.4	15.5	12.0	90.19	-443.6	1,536.8	2,124.7	2,101.7	22.97	92.512		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3		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)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
5,000.0	4,927.4	4,950.8	4,913.4	15.6	12.1	90.19	-443.6	1,536.8	2,124.7	2,101.5	23.23	91.480				
5,100.0	5,027.4	5,050.8	5,013.4	15.7	12.2	90.19	-443.6	1,536.8	2,124.7	2,101.2	23.49	90.461				
5,200.0	5,127.4	5,150.8	5,113.4	15.8	12.3	90.19	-443.6	1,536.8	2,124.7	2,100.9	23.75	89.457				
5,300.0	5,227.4	5,250.8	5,213.4	15.9	12.5	90.19	-443.6	1,536.8	2,124.7	2,100.7	24.02	88.466				
5,400.0	5,327.4	5,350.8	5,313.4	16.0	12.6	90.19	-443.6	1,536.8	2,124.7	2,100.4	24.28	87.490				
5,500.0	5,427.4	5,450.8	5,413.4	16.1	12.7	90.19	-443.6	1,536.8	2,124.7	2,100.1	24.55	86.528				
5,600.0	5,527.4	5,550.8	5,513.4	16.2	12.9	90.19	-443.6	1,536.8	2,124.7	2,099.9	24.83	85.579				
5,700.0	5,627.4	5,650.8	5,613.4	16.3	13.0	90.19	-443.6	1,536.8	2,124.7	2,099.6	25.10	84.646				
5,800.0	5,727.4	5,750.8	5,713.4	16.4	13.1	90.19	-443.6	1,536.8	2,124.7	2,099.3	25.38	83.726				
5,900.0	5,827.4	5,850.8	5,813.4	16.5	13.3	90.19	-443.6	1,536.8	2,124.7	2,099.0	25.65	82.820				
6,000.0	5,927.4	5,950.8	5,913.4	16.6	13.4	90.19	-443.6	1,536.8	2,124.7	2,098.7	25.93	81.928				
6,100.0	6,027.4	6,050.8	6,013.4	16.7	13.5	90.19	-443.6	1,536.8	2,124.7	2,098.5	26.21	81.050				
6,200.0	6,127.4	6,150.8	6,113.4	16.9	13.7	90.19	-443.6	1,536.8	2,124.7	2,098.2	26.50	80.185				
6,300.0	6,227.4	6,250.8	6,213.4	17.0	13.8	90.19	-443.6	1,536.8	2,124.7	2,097.9	26.78	79.335				
6,400.0	6,327.4	6,350.8	6,313.4	17.1	13.9	90.19	-443.6	1,536.8	2,124.7	2,097.6	27.07	78.497				
6,500.0	6,427.4	6,450.8	6,413.4	17.2	14.1	90.19	-443.6	1,536.8	2,124.7	2,097.3	27.35	77.673				
6,600.0	6,527.4	6,550.8	6,513.4	17.3	14.2	90.19	-443.6	1,536.8	2,124.7	2,097.0	27.64	76.862				
6,700.0	6,627.4	6,650.8	6,613.4	17.4	14.4	90.19	-443.6	1,536.8	2,124.7	2,096.7	27.93	76.065				
6,781.4	6,708.8	6,732.1	6,694.8	17.5	14.5	90.19	-443.6	1,536.8	2,124.7	2,096.5	28.17	75.425				
6,800.0	6,727.4	6,750.8	6,713.4	17.5	14.5	90.19	-443.6	1,536.8	2,124.7	2,096.5	28.22	75.290				
6,850.0	6,777.3	6,800.7	6,763.3	17.6	14.6	90.28	-443.6	1,536.8	2,124.7	2,096.4	28.33	75.008				
6,900.0	6,826.9	6,850.2	6,812.9	17.6	14.6	90.45	-443.6	1,536.8	2,124.7	2,096.3	28.41	74.796				
6,950.0	6,875.9	6,899.2	6,861.9	17.5	14.7	90.70	-443.6	1,536.8	2,124.8	2,096.4	28.46	74.653				
7,000.0	6,924.1	6,947.4	6,910.1	17.5	14.8	91.03	-443.6	1,536.8	2,125.0	2,096.6	28.49	74.579				
7,050.0	6,971.2	6,998.1	6,960.7	17.4	14.8	91.42	-442.2	1,536.8	2,125.4	2,096.9	28.48	74.633				
7,100.0	7,017.0	7,050.3	7,012.7	17.4	14.8	91.81	-436.9	1,536.8	2,125.8	2,097.4	28.41	74.835				
7,150.0	7,061.4	7,103.9	7,065.4	17.3	14.8	92.20	-427.6	1,536.8	2,126.4	2,098.1	28.28	75.180				
7,200.0	7,104.0	7,158.8	7,118.6	17.2	14.8	92.59	-414.0	1,536.8	2,127.0	2,098.9	28.12	75.650				
7,250.0	7,144.7	7,215.1	7,171.9	17.1	14.7	92.97	-395.9	1,536.8	2,127.8	2,099.9	27.91	76.227				
7,300.0	7,183.3	7,273.0	7,225.1	17.0	14.6	93.34	-372.9	1,536.8	2,128.6	2,100.9	27.68	76.885				
7,350.0	7,219.5	7,332.5	7,277.5	16.9	14.5	93.69	-345.0	1,536.8	2,129.4	2,102.0	27.44	77.590				
7,400.0	7,253.3	7,393.5	7,328.7	16.8	14.3	94.04	-311.9	1,536.8	2,130.3	2,103.1	27.21	78.298				
7,450.0	7,284.5	7,456.1	7,378.2	16.8	14.2	94.36	-273.5	1,536.8	2,131.2	2,104.2	26.99	78.951				
7,500.0	7,312.8	7,520.3	7,425.3	16.8	14.0	94.67	-229.8	1,536.8	2,132.1	2,105.2	26.83	79.477				
7,550.0	7,338.2	7,586.1	7,469.2	16.8	13.9	94.95	-180.9	1,536.8	2,132.9	2,106.2	26.73	79.804				
7,600.0	7,360.5	7,653.4	7,509.2	16.8	13.9	95.20	-126.9	1,536.8	2,133.7	2,107.0	26.72	79.852				
7,650.0	7,379.6	7,721.9	7,544.7	16.9	13.9	95.42	-68.3	1,536.8	2,134.4	2,107.6	26.84	79.523				
7,700.0	7,395.5	7,791.7	7,574.9	17.0	14.0	95.61	-5.4	1,536.8	2,135.0	2,107.9	27.09	78.806				
7,750.0	7,408.0	7,862.4	7,599.1	17.2	14.2	95.75	61.1	1,536.8	2,135.5	2,108.0	27.51	77.639				
7,800.0	7,417.1	7,933.9	7,616.7	17.4	14.5	95.85	130.3	1,536.8	2,135.8	2,107.7	28.08	76.062				
7,850.0	7,422.8	8,005.9	7,627.5	17.7	14.9	95.90	201.5	1,536.8	2,136.0	2,107.2	28.81	74.135				
7,900.0	7,425.0	8,077.8	7,631.0	18.0	15.4	95.91	273.2	1,536.8	2,136.0	2,106.3	29.69	71.939				
7,906.4	7,425.0	8,084.1	7,631.0	18.0	15.4	95.91	279.6	1,536.8	2,136.0	2,106.2	29.79	71.694				
8,000.0	7,425.0	8,177.8	7,631.0	18.7	16.2	95.91	373.2	1,536.8	2,136.0	2,104.6	31.40	68.029				
8,100.0	7,425.0	8,277.8	7,631.0	19.5	17.2	95.91	473.2	1,536.8	2,136.0	2,102.6	33.37	64.012				
8,200.0	7,425.0	8,377.8	7,631.0	20.5	18.3	95.91	573.2	1,536.8	2,136.0	2,100.4	35.57	60.045				
8,300.0	7,425.0	8,477.8	7,631.0	21.5	19.5	95.91	673.2	1,536.8	2,136.0	2,098.0	37.97	56.254				
8,400.0	7,425.0	8,577.8	7,631.0	22.7	20.7	95.91	773.2	1,536.8	2,136.0	2,095.5	40.53	52.705				
8,500.0	7,425.0	8,677.8	7,631.0	23.9	22.1	95.91	873.2	1,536.8	2,136.0	2,092.8	43.22	49.427				
8,600.0	7,425.0	8,777.8	7,631.0	25.2	23.4	95.91	973.2	1,536.8	2,136.0	2,090.0	46.01	46.424				
8,700.0	7,425.0	8,877.8	7,631.0	26.5	24.9	95.91	1,073.2	1,536.8	2,136.0	2,087.1	48.90	43.685				
8,800.0	7,425.0	8,977.8	7,631.0	27.9	26.3	95.91	1,173.2	1,536.8	2,136.0	2,084.1	51.85	41.192				

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
8,900.0	7,425.0	9,077.8	7,631.0	29.3	27.8	95.91	1,273.2	1,536.8	2,136.0	2,081.1	54.88	38.924		
9,000.0	7,425.0	9,177.8	7,631.0	30.8	29.4	95.91	1,373.2	1,536.8	2,136.0	2,078.0	57.95	36.859		
9,100.0	7,425.0	9,277.8	7,631.0	32.3	30.9	95.91	1,473.2	1,536.8	2,136.0	2,074.9	61.07	34.976		
9,200.0	7,425.0	9,377.8	7,631.0	33.8	32.5	95.91	1,573.2	1,536.8	2,136.0	2,071.8	64.23	33.257		
9,300.0	7,425.0	9,477.8	7,631.0	35.3	34.1	95.91	1,673.2	1,536.8	2,136.0	2,068.6	67.42	31.683		
9,400.0	7,425.0	9,577.8	7,631.0	36.9	35.7	95.91	1,773.2	1,536.8	2,136.0	2,065.4	70.64	30.240		
9,500.0	7,425.0	9,677.8	7,631.0	38.4	37.3	95.91	1,873.2	1,536.8	2,136.0	2,062.1	73.88	28.912		
9,600.0	7,425.0	9,777.8	7,631.0	40.0	39.0	95.91	1,973.2	1,536.8	2,136.0	2,058.8	77.14	27.689		
9,700.0	7,425.0	9,877.8	7,631.0	41.6	40.6	95.91	2,073.2	1,536.8	2,136.0	2,055.6	80.43	26.558		
9,800.0	7,425.0	9,977.8	7,631.0	43.2	42.3	95.91	2,173.2	1,536.8	2,136.0	2,052.3	83.73	25.511		
9,900.0	7,425.0	10,077.8	7,631.0	44.9	43.9	95.91	2,273.2	1,536.8	2,136.0	2,048.9	87.04	24.540		
10,000.0	7,425.0	10,177.8	7,631.0	46.5	45.6	95.91	2,373.2	1,536.8	2,136.0	2,045.6	90.37	23.636		
10,100.0	7,425.0	10,277.8	7,631.0	48.1	47.3	95.91	2,473.2	1,536.8	2,136.0	2,042.3	93.71	22.794		
10,200.0	7,425.0	10,377.8	7,631.0	49.8	48.9	95.91	2,573.2	1,536.8	2,136.0	2,038.9	97.06	22.007		
10,300.0	7,425.0	10,477.8	7,631.0	51.4	50.6	95.91	2,673.2	1,536.8	2,136.0	2,035.6	100.42	21.270		
10,400.0	7,425.0	10,577.8	7,631.0	53.1	52.3	95.91	2,773.2	1,536.8	2,136.0	2,032.2	103.79	20.580		
10,500.0	7,425.0	10,677.8	7,631.0	54.8	54.0	95.91	2,873.2	1,536.8	2,136.0	2,028.8	107.16	19.932		
10,600.0	7,425.0	10,777.8	7,631.0	56.4	55.7	95.91	2,973.2	1,536.8	2,136.0	2,025.4	110.55	19.322		
10,700.0	7,425.0	10,877.8	7,631.0	58.1	57.4	95.91	3,073.2	1,536.8	2,136.0	2,022.0	113.94	18.747		
10,800.0	7,425.0	10,977.8	7,631.0	59.8	59.1	95.91	3,173.2	1,536.8	2,136.0	2,018.6	117.33	18.204		
10,900.0	7,425.0	11,077.8	7,631.0	61.5	60.8	95.91	3,273.2	1,536.8	2,136.0	2,015.2	120.73	17.692		
11,000.0	7,425.0	11,177.8	7,631.0	63.2	62.5	95.91	3,373.2	1,536.8	2,136.0	2,011.8	124.14	17.206		
11,100.0	7,425.0	11,277.8	7,631.0	64.9	64.2	95.91	3,473.2	1,536.8	2,136.0	2,008.4	127.55	16.746		
11,200.0	7,425.0	11,377.8	7,631.0	66.6	65.9	95.91	3,573.2	1,536.8	2,136.0	2,005.0	130.96	16.309		
11,300.0	7,425.0	11,477.8	7,631.0	68.3	67.7	95.91	3,673.2	1,536.8	2,136.0	2,001.6	134.38	15.895		
11,400.0	7,425.0	11,577.8	7,631.0	70.0	69.4	95.91	3,773.2	1,536.8	2,136.0	1,998.2	137.80	15.500		
11,500.0	7,425.0	11,677.8	7,631.0	71.7	71.1	95.91	3,873.2	1,536.8	2,136.0	1,994.7	141.23	15.124		
11,600.0	7,425.0	11,777.8	7,631.0	73.4	72.8	95.91	3,973.2	1,536.8	2,136.0	1,991.3	144.66	14.765		
11,700.0	7,425.0	11,877.8	7,631.0	75.1	74.5	95.91	4,073.2	1,536.8	2,135.9	1,987.9	148.09	14.423		
11,800.0	7,425.0	11,977.8	7,631.0	76.8	76.3	95.91	4,173.2	1,536.8	2,135.9	1,984.4	151.52	14.096		
11,900.0	7,425.0	12,077.8	7,631.0	78.5	78.0	95.91	4,273.2	1,536.8	2,135.9	1,981.0	154.96	13.784		
11,964.1	7,425.0	12,141.9	7,631.0	79.6	79.1	95.91	4,337.3	1,536.8	2,135.9	1,978.8	157.16	13.591		
11,994.5	7,425.0	12,161.4	7,631.0	80.1	79.4	95.91	4,356.8	1,536.8	2,136.0	1,978.0	158.02	13.517 SF		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3													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)	+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	90.15	-3.6	1,352.2	1,352.3					
100.0	100.0	86.0	86.0	0.2	0.1	90.15	-3.6	1,352.2	1,352.3	1,352.0	0.28	4,787.924		
200.0	200.0	186.0	186.0	0.3	0.3	90.15	-3.6	1,352.2	1,352.3	1,351.6	0.63	2,152.173	CC, ES	
300.0	300.0	272.2	272.2	0.5	0.5	-143.25	-3.9	1,352.6	1,354.1	1,353.1	0.95	1,418.420		
400.0	399.8	356.0	356.0	0.7	0.6	-143.25	-4.9	1,354.0	1,359.9	1,358.6	1.28	1,059.822		
500.0	499.5	439.5	439.4	0.9	0.8	-143.25	-6.6	1,356.3	1,369.7	1,368.0	1.62	843.922		
600.0	598.7	522.4	522.2	1.2	0.9	-143.23	-9.0	1,359.6	1,383.4	1,381.4	1.98	698.993		
700.0	697.5	600.0	599.7	1.5	1.1	-143.20	-11.9	1,363.5	1,401.0	1,398.7	2.35	596.875		
800.0	795.6	686.0	685.5	1.9	1.3	-143.18	-15.8	1,368.9	1,422.5	1,419.8	2.76	515.841		
900.0	893.4	766.8	765.8	2.3	1.4	-143.41	-20.2	1,374.8	1,446.5	1,443.4	3.17	455.894		
1,000.0	991.3	847.1	845.8	2.7	1.6	-143.60	-25.2	1,381.7	1,471.7	1,468.1	3.60	409.301		
1,100.0	1,089.1	927.1	925.2	3.0	1.8	-143.76	-30.9	1,389.4	1,497.9	1,493.8	4.02	372.187		
1,200.0	1,186.9	1,000.0	997.4	3.4	2.0	-143.88	-36.6	1,397.2	1,525.2	1,520.7	4.45	343.104		
1,300.0	1,284.7	1,085.8	1,082.2	3.8	2.3	-143.99	-44.1	1,407.3	1,553.5	1,548.6	4.90	316.902		
1,400.0	1,382.5	1,164.4	1,159.8	4.2	2.6	-144.06	-51.5	1,417.5	1,582.9	1,577.5	5.35	295.764		
1,500.0	1,480.3	1,251.9	1,246.0	4.6	2.8	-144.11	-60.5	1,429.7	1,613.1	1,607.3	5.83	276.882		
1,600.0	1,578.1	1,347.2	1,339.9	5.1	3.2	-144.16	-70.3	1,443.0	1,643.5	1,637.2	6.32	260.002		
1,700.0	1,676.0	1,442.4	1,433.7	5.5	3.5	-144.21	-80.1	1,456.3	1,673.9	1,667.1	6.82	245.486		
1,800.0	1,773.8	1,537.7	1,527.5	5.9	3.8	-144.26	-89.8	1,469.7	1,704.3	1,696.9	7.32	232.883		
1,900.0	1,871.6	1,633.0	1,621.3	6.3	4.1	-144.31	-99.6	1,483.0	1,734.6	1,726.8	7.82	221.847		
2,000.0	1,969.4	1,728.2	1,715.1	6.7	4.5	-144.35	-109.4	1,496.3	1,765.0	1,756.7	8.32	212.108		
2,100.0	2,067.2	1,823.5	1,809.0	7.1	4.8	-144.40	-119.2	1,509.7	1,795.4	1,786.5	8.82	203.455		
2,200.0	2,165.0	1,918.8	1,902.8	7.5	5.1	-144.44	-129.0	1,523.0	1,825.7	1,816.4	9.33	195.719		
2,300.0	2,262.8	2,014.0	1,996.6	7.9	5.4	-144.48	-138.8	1,536.3	1,856.1	1,846.3	9.83	188.762		
2,400.0	2,360.7	2,109.3	2,090.4	8.3	5.8	-144.52	-148.6	1,549.7	1,886.5	1,876.2	10.34	182.475		
2,500.0	2,458.5	2,204.6	2,184.2	8.7	6.1	-144.56	-158.4	1,563.0	1,916.9	1,906.0	10.84	176.765		
2,600.0	2,556.3	2,299.8	2,278.1	9.1	6.4	-144.59	-168.2	1,576.3	1,947.3	1,935.9	11.35	171.558		
2,700.0	2,654.1	2,395.1	2,371.9	9.5	6.8	-144.63	-178.0	1,589.7	1,977.6	1,965.8	11.86	166.790		
2,800.0	2,751.9	2,490.4	2,465.7	9.9	7.1	-144.66	-187.8	1,603.0	2,008.0	1,995.6	12.36	162.410		
2,900.0	2,849.7	2,585.6	2,559.5	10.3	7.4	-144.70	-197.6	1,616.3	2,038.4	2,025.5	12.87	158.371		
3,000.0	2,947.5	2,680.9	2,653.3	10.7	7.8	-144.73	-207.4	1,629.7	2,068.8	2,055.4	13.38	154.635		
3,100.0	3,045.4	2,776.2	2,747.2	11.1	8.1	-144.76	-217.2	1,643.0	2,099.2	2,085.3	13.89	151.170		
3,200.0	3,143.2	2,871.4	2,841.0	11.5	8.4	-144.79	-226.9	1,656.3	2,129.5	2,115.1	14.39	147.948		
3,300.0	3,241.0	2,966.7	2,934.8	11.9	8.8	-144.82	-236.7	1,669.7	2,159.9	2,145.0	14.90	144.944		
3,400.0	3,338.8	3,062.0	3,028.6	12.4	9.1	-144.85	-246.5	1,683.0	2,190.3	2,174.9	15.41	142.137		
3,500.0	3,436.6	3,157.2	3,122.4	12.8	9.4	-144.88	-256.3	1,696.3	2,220.7	2,204.8	15.92	139.507		
3,600.0	3,534.4	3,252.5	3,216.3	13.2	9.8	-144.91	-266.1	1,709.7	2,251.1	2,234.6	16.43	137.040		
3,700.0	3,632.3	3,347.8	3,310.1	13.6	10.1	-144.93	-275.9	1,723.0	2,281.4	2,264.5	16.93	134.720		
3,720.0	3,651.8	3,366.8	3,328.8	13.7	10.2	-144.94	-277.9	1,725.7	2,287.5	2,270.5	17.04	134.272		
3,800.0	3,730.3	3,443.3	3,404.2	13.9	10.4	-145.22	-285.7	1,736.4	2,311.0	2,293.5	17.46	132.384		
3,900.0	3,828.9	3,539.6	3,499.0	14.3	10.8	-145.50	-295.6	1,749.8	2,337.8	2,319.8	17.96	130.193		
4,000.0	3,928.1	3,636.6	3,594.6	14.5	11.1	-145.69	-305.6	1,763.4	2,361.8	2,343.4	18.43	128.152		
4,100.0	4,027.7	3,734.2	3,690.6	14.7	11.5	-145.80	-315.6	1,777.1	2,383.0	2,364.2	18.88	126.247		
4,200.0	4,127.5	3,832.2	3,787.1	14.9	11.8	-145.83	-325.7	1,790.8	2,401.5	2,382.2	19.29	124.466		
4,300.0	4,227.4	3,930.5	3,884.0	15.0	12.1	-145.78	-335.8	1,804.5	2,417.1	2,397.4	19.68	122.802		
4,320.0	4,247.4	3,950.2	3,903.4	15.0	12.2	87.64	-337.8	1,807.3	2,419.9	2,400.1	19.76	122.471		
4,400.0	4,327.4	4,029.0	3,980.9	15.0	12.5	87.84	-345.9	1,818.3	2,430.8	2,410.7	20.07	121.120		
4,500.0	4,427.4	4,127.5	4,077.9	15.1	12.8	88.09	-356.1	1,832.1	2,444.5	2,424.0	20.46	119.496		
4,600.0	4,527.4	4,226.0	4,174.9	15.2	13.2	88.34	-366.2	1,845.9	2,458.2	2,437.4	20.84	117.941		
4,700.0	4,627.4	4,324.4	4,271.9	15.3	13.5	88.59	-376.3	1,859.7	2,472.0	2,450.8	21.23	116.450		
4,800.0	4,727.4	4,422.9	4,368.9	15.4	13.9	88.83	-386.4	1,873.5	2,485.9	2,464.3	21.61	115.019		
4,900.0	4,827.4	4,521.4	4,465.9	15.5	14.2	89.07	-396.6	1,887.2	2,499.8	2,477.8	22.00	113.645		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
5,000.0	4,927.4	4,652.5	4,595.1	15.6	14.7	89.38	-409.6	1,905.0	2,513.3	2,490.8	22.45	111.951		
5,100.0	5,027.4	4,805.5	4,746.5	15.7	15.1	89.68	-422.7	1,922.8	2,524.9	2,502.0	22.93	110.122		
5,200.0	5,127.4	4,959.7	4,899.6	15.8	15.5	89.93	-433.4	1,937.5	2,534.4	2,511.0	23.38	108.415		
5,300.0	5,227.4	5,114.7	5,054.0	15.9	15.8	90.12	-441.8	1,948.9	2,541.8	2,518.0	23.80	106.795		
5,400.0	5,327.4	5,270.4	5,209.4	16.0	16.1	90.25	-447.7	1,956.9	2,547.0	2,522.8	24.20	105.257		
5,500.0	5,427.4	5,426.5	5,365.4	16.1	16.3	90.33	-451.1	1,961.5	2,550.0	2,525.4	24.57	103.783		
5,600.0	5,527.4	5,574.6	5,513.4	16.2	16.5	90.35	-452.0	1,962.8	2,550.8	2,525.8	24.91	102.394		
5,700.0	5,627.4	5,674.6	5,613.4	16.3	16.6	90.35	-452.0	1,962.8	2,550.8	2,525.6	25.18	101.282		
5,800.0	5,727.4	5,774.6	5,713.4	16.4	16.7	90.35	-452.0	1,962.8	2,550.8	2,525.3	25.46	100.186		
5,900.0	5,827.4	5,874.6	5,813.4	16.5	16.8	90.35	-452.0	1,962.8	2,550.8	2,525.0	25.74	99.107		
6,000.0	5,927.4	5,974.6	5,913.4	16.6	16.9	90.35	-452.0	1,962.8	2,550.8	2,524.7	26.02	98.044		
6,100.0	6,027.4	6,074.6	6,013.4	16.7	17.0	90.35	-452.0	1,962.8	2,550.8	2,524.5	26.30	96.998		
6,200.0	6,127.4	6,174.6	6,113.4	16.9	17.1	90.35	-452.0	1,962.8	2,550.8	2,524.2	26.58	95.968		
6,300.0	6,227.4	6,274.6	6,213.4	17.0	17.2	90.35	-452.0	1,962.8	2,550.8	2,523.9	26.86	94.954		
6,400.0	6,327.4	6,374.6	6,313.4	17.1	17.4	90.35	-452.0	1,962.8	2,550.8	2,523.6	27.15	93.956		
6,500.0	6,427.4	6,474.6	6,413.4	17.2	17.5	90.35	-452.0	1,962.8	2,550.8	2,523.3	27.44	92.974		
6,600.0	6,527.4	6,574.6	6,513.4	17.3	17.6	90.35	-452.0	1,962.8	2,550.8	2,523.0	27.72	92.007		
6,700.0	6,627.4	6,674.6	6,613.4	17.4	17.7	90.35	-452.0	1,962.8	2,550.8	2,522.7	28.01	91.056		
6,781.4	6,708.8	6,756.0	6,694.8	17.5	17.8	90.35	-452.0	1,962.8	2,550.8	2,522.5	28.25	90.293		
6,800.0	6,727.4	6,775.0	6,713.9	17.5	17.8	90.35	-451.8	1,962.8	2,550.8	2,522.5	28.29	90.168		
6,850.0	6,777.3	6,826.2	6,764.9	17.6	17.8	90.34	-448.6	1,962.8	2,550.8	2,522.4	28.34	89.990		
6,900.0	6,826.9	6,877.3	6,815.5	17.6	17.8	90.34	-441.8	1,962.8	2,550.8	2,522.4	28.34	90.013		
6,950.0	6,875.9	6,928.4	6,865.5	17.5	17.8	90.34	-431.4	1,962.8	2,550.8	2,522.5	28.27	90.224		
7,000.0	6,924.1	6,979.4	6,914.7	17.5	17.7	90.33	-417.5	1,962.8	2,550.7	2,522.6	28.15	90.605		
7,050.0	6,971.2	7,030.5	6,962.6	17.4	17.7	90.32	-400.1	1,962.8	2,550.7	2,522.8	27.99	91.136		
7,100.0	7,017.0	7,081.5	7,009.2	17.4	17.6	90.31	-379.3	1,962.8	2,550.7	2,522.9	27.79	91.792		
7,150.0	7,061.4	7,132.5	7,054.2	17.3	17.5	90.30	-355.3	1,962.8	2,550.7	2,523.2	27.56	92.546		
7,200.0	7,104.0	7,183.5	7,097.3	17.2	17.4	90.29	-328.2	1,962.8	2,550.7	2,523.4	27.32	93.360		
7,250.0	7,144.7	7,234.4	7,138.4	17.1	17.3	90.27	-298.1	1,962.8	2,550.7	2,523.6	27.08	94.194		
7,300.0	7,183.3	7,285.2	7,177.2	17.0	17.2	90.26	-265.2	1,962.8	2,550.7	2,523.9	26.85	95.000		
7,350.0	7,219.5	7,336.0	7,213.5	16.9	17.1	90.24	-229.7	1,962.8	2,550.7	2,524.1	26.65	95.723		
7,400.0	7,253.3	7,386.8	7,247.1	16.8	17.0	90.22	-191.8	1,962.8	2,550.7	2,524.2	26.49	96.306		
7,450.0	7,284.5	7,437.4	7,278.0	16.8	17.0	90.20	-151.6	1,962.8	2,550.7	2,524.3	26.38	96.691		
7,500.0	7,312.8	7,488.0	7,305.9	16.8	17.0	90.18	-109.4	1,962.8	2,550.7	2,524.3	26.34	96.823		
7,550.0	7,338.2	7,538.6	7,330.7	16.8	17.0	90.16	-65.4	1,962.8	2,550.7	2,524.3	26.39	96.654		
7,600.0	7,360.5	7,589.1	7,352.3	16.8	17.0	90.14	-19.8	1,962.7	2,550.7	2,524.1	26.53	96.152		
7,650.0	7,379.6	7,639.5	7,370.7	16.9	17.1	90.12	27.2	1,962.7	2,550.7	2,523.9	26.76	95.301		
7,700.0	7,395.5	7,689.8	7,385.6	17.0	17.3	90.09	75.2	1,962.7	2,550.6	2,523.5	27.11	94.102		
7,750.0	7,408.0	7,740.0	7,397.2	17.2	17.4	90.07	124.1	1,962.7	2,550.6	2,523.1	27.55	92.578		
7,800.0	7,417.1	7,790.2	7,405.3	17.4	17.6	90.05	173.6	1,962.7	2,550.6	2,522.5	28.10	90.769		
7,850.0	7,422.8	7,840.3	7,409.8	17.7	17.9	90.02	223.5	1,962.7	2,550.6	2,521.9	28.75	88.724		
7,900.0	7,425.0	7,890.4	7,411.0	18.0	18.2	90.00	273.5	1,962.7	2,550.6	2,521.1	29.48	86.510		
7,906.4	7,425.0	7,896.7	7,411.0	18.0	18.2	90.00	279.9	1,962.7	2,550.6	2,521.0	29.58	86.218		
8,000.0	7,425.0	7,990.4	7,411.0	18.7	18.9	90.00	373.5	1,962.7	2,550.6	2,519.4	31.21	81.723		
8,100.0	7,425.0	8,090.4	7,411.0	19.5	19.7	90.00	473.5	1,962.7	2,550.6	2,517.4	33.21	76.795		
8,200.0	7,425.0	8,190.4	7,411.0	20.5	20.7	90.00	573.5	1,962.7	2,550.6	2,515.1	35.45	71.948		
8,300.0	7,425.0	8,290.4	7,411.0	21.5	21.7	90.00	673.5	1,962.7	2,550.6	2,512.7	37.88	67.331		
8,400.0	7,425.0	8,390.4	7,411.0	22.7	22.9	90.00	773.5	1,962.7	2,550.5	2,510.1	40.47	63.023		
8,500.0	7,425.0	8,490.4	7,411.0	23.9	24.1	90.00	873.5	1,962.6	2,550.5	2,507.3	43.19	59.055		
8,600.0	7,425.0	8,590.4	7,411.0	25.2	25.4	90.00	973.5	1,962.6	2,550.5	2,504.5	46.02	55.428		
8,700.0	7,425.0	8,690.4	7,411.0	26.5	26.7	90.00	1,073.5	1,962.6	2,550.5	2,501.6	48.93	52.126		
8,800.0	7,425.0	8,790.4	7,411.0	27.9	28.1	90.00	1,173.5	1,962.6	2,550.5	2,498.6	51.92	49.126		

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 Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
8,900.0	7,425.0	8,890.4	7,411.0	29.3	29.5	90.00	1,273.5	1,962.6	2,550.5	2,495.5	54.97	46.400		
9,000.0	7,425.0	8,990.4	7,411.0	30.8	30.9	90.00	1,373.5	1,962.6	2,550.5	2,492.4	58.07	43.922		
9,100.0	7,425.0	9,090.4	7,411.0	32.3	32.4	90.00	1,473.5	1,962.6	2,550.4	2,489.2	61.21	41.665		
9,200.0	7,425.0	9,190.4	7,411.0	33.8	33.9	90.00	1,573.5	1,962.6	2,550.4	2,486.0	64.40	39.605		
9,300.0	7,425.0	9,290.4	7,411.0	35.3	35.5	90.00	1,673.5	1,962.5	2,550.4	2,482.8	67.61	37.722		
9,400.0	7,425.0	9,390.4	7,411.0	36.9	37.0	90.00	1,773.5	1,962.5	2,550.4	2,479.6	70.85	35.995		
9,500.0	7,425.0	9,490.4	7,411.0	38.4	38.6	90.00	1,873.5	1,962.5	2,550.4	2,476.3	74.12	34.408		
9,600.0	7,425.0	9,590.4	7,411.0	40.0	40.2	90.00	1,973.5	1,962.5	2,550.4	2,473.0	77.41	32.947		
9,700.0	7,425.0	9,690.4	7,411.0	41.6	41.8	90.00	2,073.5	1,962.5	2,550.4	2,469.7	80.72	31.597		
9,800.0	7,425.0	9,790.4	7,411.0	43.2	43.4	90.00	2,173.5	1,962.5	2,550.4	2,466.3	84.04	30.347		
9,900.0	7,425.0	9,890.4	7,411.0	44.9	45.0	90.00	2,273.5	1,962.5	2,550.3	2,463.0	87.38	29.188		
10,000.0	7,425.0	9,990.4	7,411.0	46.5	46.6	90.00	2,373.5	1,962.5	2,550.3	2,459.6	90.73	28.110		
10,100.0	7,425.0	10,090.4	7,411.0	48.1	48.3	90.00	2,473.5	1,962.5	2,550.3	2,456.2	94.09	27.105		
10,200.0	7,425.0	10,190.4	7,411.0	49.8	49.9	90.00	2,573.5	1,962.4	2,550.3	2,452.8	97.46	26.167		
10,300.0	7,425.0	10,290.4	7,411.0	51.4	51.6	90.00	2,673.5	1,962.4	2,550.3	2,449.4	100.84	25.290		
10,400.0	7,425.0	10,390.4	7,411.0	53.1	53.2	90.00	2,773.5	1,962.4	2,550.3	2,446.0	104.23	24.467		
10,500.0	7,425.0	10,490.4	7,411.0	54.8	54.9	90.00	2,873.5	1,962.4	2,550.3	2,442.6	107.63	23.695		
10,600.0	7,425.0	10,590.4	7,411.0	56.4	56.6	90.00	2,973.5	1,962.4	2,550.2	2,439.2	111.03	22.968		
10,700.0	7,425.0	10,690.4	7,411.0	58.1	58.2	90.00	3,073.5	1,962.4	2,550.2	2,435.8	114.44	22.284		
10,800.0	7,425.0	10,790.4	7,411.0	59.8	59.9	90.00	3,173.5	1,962.4	2,550.2	2,432.4	117.86	21.638		
10,900.0	7,425.0	10,890.4	7,411.0	61.5	61.6	90.00	3,273.5	1,962.4	2,550.2	2,428.9	121.28	21.027		
11,000.0	7,425.0	10,990.4	7,411.0	63.2	63.3	90.00	3,373.5	1,962.3	2,550.2	2,425.5	124.71	20.449		
11,100.0	7,425.0	11,090.4	7,411.0	64.9	65.0	90.00	3,473.5	1,962.3	2,550.2	2,422.0	128.14	19.902		
11,200.0	7,425.0	11,190.4	7,411.0	66.6	66.7	90.00	3,573.5	1,962.3	2,550.2	2,418.6	131.57	19.382		
11,300.0	7,425.0	11,290.4	7,411.0	68.3	68.4	90.00	3,673.5	1,962.3	2,550.2	2,415.1	135.01	18.888		
11,400.0	7,425.0	11,390.4	7,411.0	70.0	70.1	90.00	3,773.5	1,962.3	2,550.1	2,411.7	138.45	18.419		
11,500.0	7,425.0	11,490.4	7,411.0	71.7	71.8	90.00	3,873.5	1,962.3	2,550.1	2,408.2	141.90	17.971		
11,600.0	7,425.0	11,590.4	7,411.0	73.4	73.5	90.00	3,973.5	1,962.3	2,550.1	2,404.8	145.35	17.545		
11,700.0	7,425.0	11,690.4	7,411.0	75.1	75.2	90.00	4,073.5	1,962.3	2,550.1	2,401.3	148.80	17.138		
11,800.0	7,425.0	11,790.4	7,411.0	76.8	76.9	90.00	4,173.5	1,962.3	2,550.1	2,397.8	152.25	16.749		
11,900.0	7,425.0	11,890.4	7,411.0	78.5	78.6	90.00	4,273.5	1,962.2	2,550.1	2,394.4	155.71	16.377		
11,963.5	7,425.0	11,953.9	7,411.0	79.6	79.7	90.00	4,337.1	1,962.2	2,550.1	2,392.2	157.91	16.149		
11,994.5	7,425.0	11,970.0	7,411.0	80.1	80.0	90.00	4,353.2	1,962.2	2,550.1	2,391.4	158.72	16.067 SF		

# Cathedral Energy Services

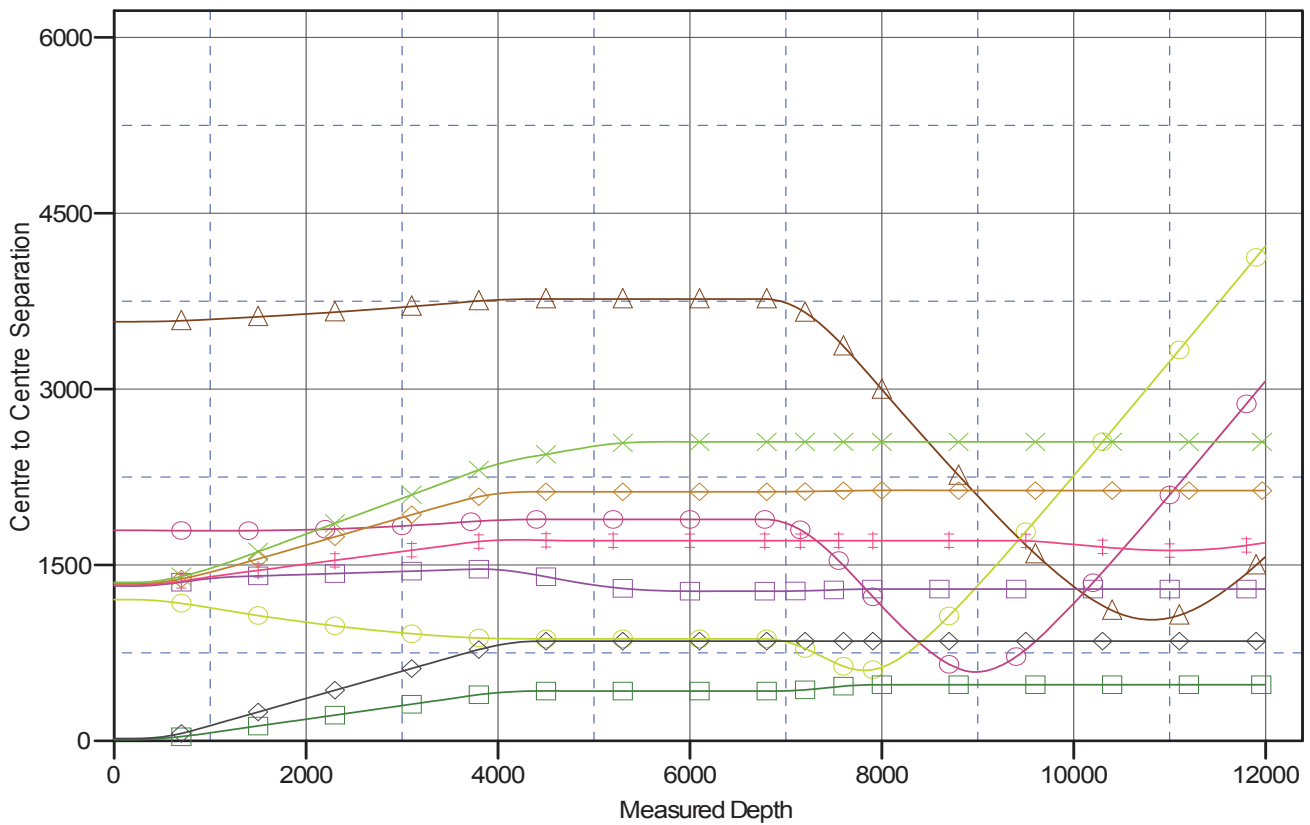
## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Mathews 4A-14H
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Reference Site:</b>	SWSE S14 T1N-R66W (Mathews)	<b>MD Reference:</b>	Well @ 5131.0ft (Ensign)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Mathews 4A-14H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

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

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

### Ladder Plot



### LEGEND

V 14-2J (Existing), VT (Existing), Existing V0	Mathews4B-14H, HZ, Plan #3 V0	Mathews4E-14H, HZ, Plan #3 V0
V 14-11 (Existing), Existing, Existing V0	Mathews4C-14H, HZ, Plan #3 V0	Mathews4F-14H, HZ, Plan #3 V0
V 14-14 (Existing), VT (Existing), Existing V0	Mathews4D-14H, HZ, Plan #3 V0	Mathews4G-14H, HZ, Plan #3 V0