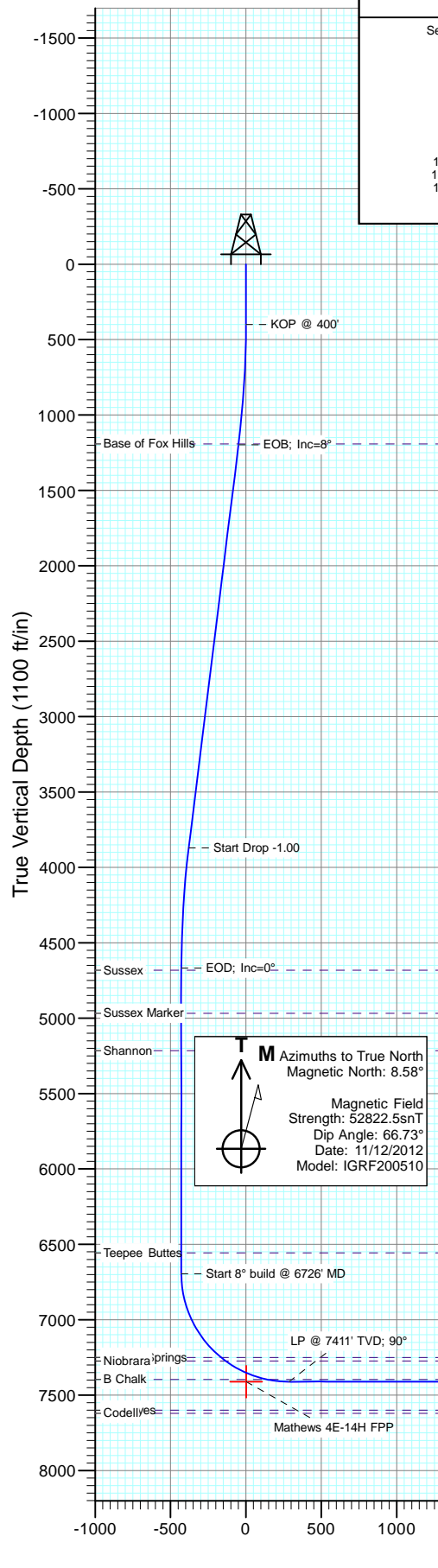
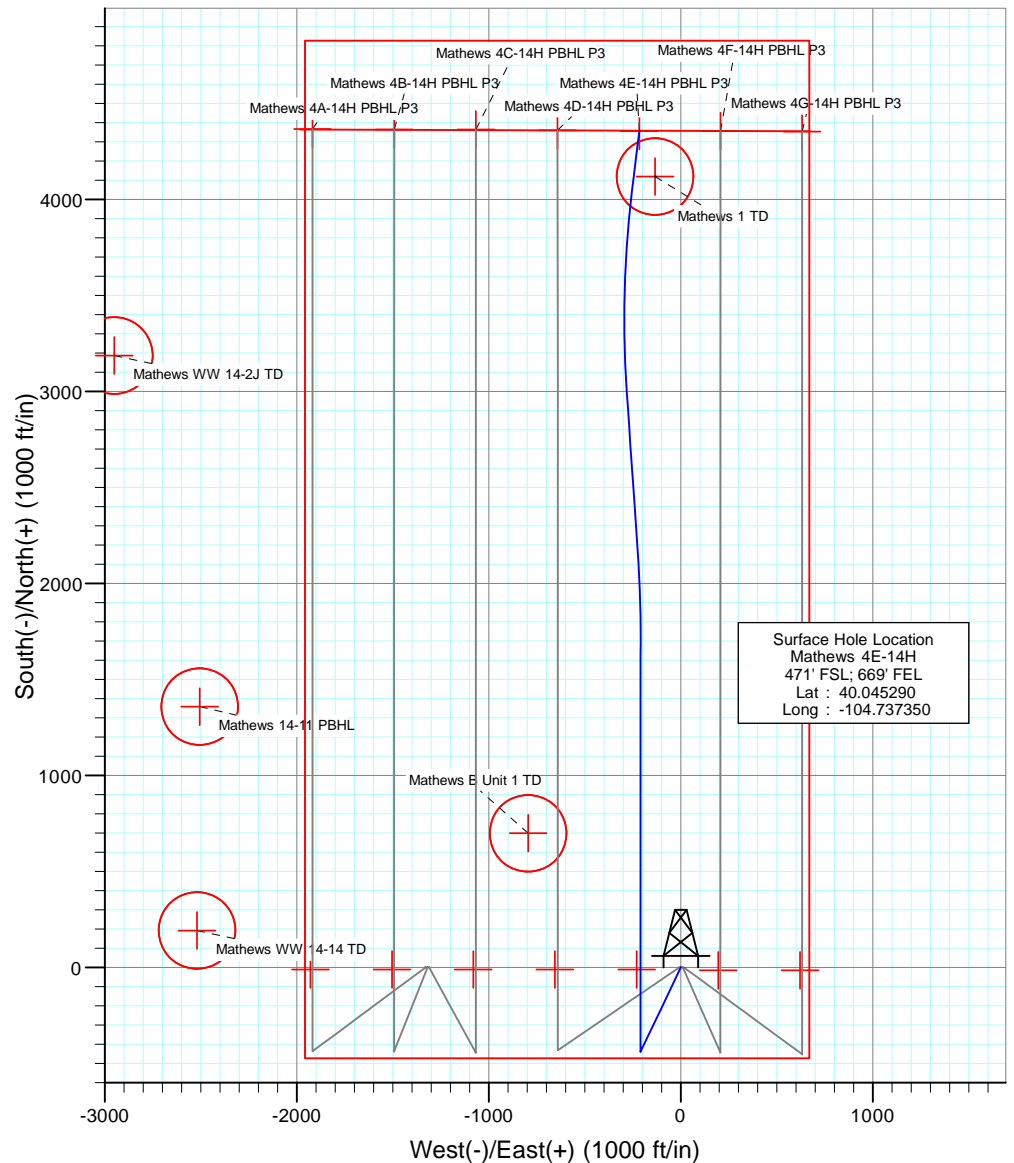




Project: DJ Wattenberg
Site: SWSE S14 T1N-R66W (Mathews)
Well: Mathews 4E-14H
Wellbore: HZ
Design: Plan #3



SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSec	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		KOP @ 400'
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0		EOB; Inc=8°
3	1200.0	8.00	205.50	1197.4	-50.3	-24.0	1.00	205.50	-49.0		Start Drop -1.00
4	3900.0	8.00	205.50	3871.1	-389.5	-185.8	0.00	0.00	-379.3		EOD; Inc=0°
5	4700.0	0.00	0.00	4668.5	-439.8	-209.8	1.00	180.00	-428.3		Start 8° build @ 6726' MD
6	6726.3	0.00	0.00	6694.8	-439.8	-209.8	0.00	0.00	-428.3		LP @ 7411' TVD; 90°
7	7851.3	90.00	0.00	7411.0	276.4	-209.8	8.00	0.00	286.9		Start turn @ 9351' MD
8	9351.3	90.00	0.00	7411.0	1776.4	-209.8	0.00	0.00	1784.9		End of turn @ 9751' MD
9	9751.3	90.00	356.00	7411.0	2176.1	-223.7	1.00	-90.00	2184.7		Start 1° Turn
10	10551.3	90.00	356.00	7411.0	2974.1	-279.5	0.00	0.00	2984.6		EOT; 7.06° Az
11	11657.3	90.00	7.06	7411.0	4078.0	-250.1	1.00	89.99	4085.4		PBHL @ 11938' MD
12	11938.2	90.00	7.06	7411.0	4356.8	-215.5	0.00	0.00	4362.1	Mathews 4E-14H PBHL P3	



DESIGN TARGET DETAILS						
Name	+N/-S	+E/-W	Nothing	Easting	Latitude	Longitude
Mathews 4E-14H FPP	-10.9	-229.6	1260252.63	3213291.57	40.045260	-104.738170
Mathews 4E-14H PBHL	7023.3	-209.9	1267286.72	3213250.73	40.064570	-104.738100
Mathews 4E-14H PBHL P3	4356.8	-215.5	1264620.26	3213268.04	40.057250	-104.738120

Vertical Section at 357.02° (1100 ft/in)

Plan #3
Mathews 4E-14H
Well @ 5117.0ft (Ensign)
Ground Elevation @ 5104.0
North American Datum 1983
Well Mathews 4E-14H, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4E-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5117.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5117.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #3		

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

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

Well	Mathews 4E-14H					
Well Position	+N/-S	0.0 ft	Northing:	1,260,265.51 ft	Latitude:	40.045290
	+E/-W	0.0 ft	Easting:	3,213,521.04 ft	Longitude:	-104.737350
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,104.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	11/12/2012	8.58	66.73	52,822

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	357.02

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	8.00	205.50	1,197.4	-50.3	-24.0	1.00	1.00	0.00	205.50	
3,900.0	8.00	205.50	3,871.1	-389.5	-185.8	0.00	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,668.5	-439.8	-209.8	1.00	-1.00	0.00	180.00	
6,726.3	0.00	0.00	6,694.8	-439.8	-209.8	0.00	0.00	0.00	0.00	
7,851.3	90.00	0.00	7,411.0	276.4	-209.8	8.00	8.00	0.00	0.00	
9,351.3	90.00	0.00	7,411.0	1,776.4	-209.8	0.00	0.00	0.00	0.00	
9,751.3	90.00	356.00	7,411.0	2,176.1	-223.7	1.00	0.00	-1.00	-90.00	
10,551.3	90.00	356.00	7,411.0	2,974.1	-279.5	0.00	0.00	0.00	0.00	
11,657.3	90.00	7.06	7,411.0	4,078.0	-250.1	1.00	0.00	1.00	89.99	
11,938.2	90.00	7.06	7,411.0	4,356.8	-215.5	0.00	0.00	0.00	0.00	Mathews 4E-14H PBI

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4E-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5117.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5117.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	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	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
500.0	1.00	205.50	500.0	-0.8	-0.4	-0.8	1.00	1.00	
600.0	2.00	205.50	600.0	-3.2	-1.5	-3.1	1.00	1.00	
700.0	3.00	205.50	699.9	-7.1	-3.4	-6.9	1.00	1.00	
800.0	4.00	205.50	799.7	-12.6	-6.0	-12.3	1.00	1.00	
900.0	5.00	205.50	899.4	-19.7	-9.4	-19.2	1.00	1.00	
1,000.0	6.00	205.50	998.9	-28.3	-13.5	-27.6	1.00	1.00	
1,100.0	7.00	205.50	1,098.3	-38.5	-18.4	-37.5	1.00	1.00	
1,194.5	7.95	205.50	1,192.0	-49.6	-23.7	-48.3	1.00	1.00	Base of Fox Hills
1,200.0	8.00	205.50	1,197.4	-50.3	-24.0	-49.0	1.00	1.00	EOB; Inc=8°
1,300.0	8.00	205.50	1,296.4	-62.9	-30.0	-61.2	0.00	0.00	
1,400.0	8.00	205.50	1,395.5	-75.5	-36.0	-73.5	0.00	0.00	
1,500.0	8.00	205.50	1,494.5	-88.0	-42.0	-85.7	0.00	0.00	
1,600.0	8.00	205.50	1,593.5	-100.6	-48.0	-97.9	0.00	0.00	
1,700.0	8.00	205.50	1,692.5	-113.1	-54.0	-110.2	0.00	0.00	
1,800.0	8.00	205.50	1,791.6	-125.7	-60.0	-122.4	0.00	0.00	
1,900.0	8.00	205.50	1,890.6	-138.3	-65.9	-134.6	0.00	0.00	
2,000.0	8.00	205.50	1,989.6	-150.8	-71.9	-146.9	0.00	0.00	
2,100.0	8.00	205.50	2,088.6	-163.4	-77.9	-159.1	0.00	0.00	
2,200.0	8.00	205.50	2,187.7	-175.9	-83.9	-171.3	0.00	0.00	
2,300.0	8.00	205.50	2,286.7	-188.5	-89.9	-183.6	0.00	0.00	
2,400.0	8.00	205.50	2,385.7	-201.1	-95.9	-195.8	0.00	0.00	
2,500.0	8.00	205.50	2,484.8	-213.6	-101.9	-208.0	0.00	0.00	
2,600.0	8.00	205.50	2,583.8	-226.2	-107.9	-220.3	0.00	0.00	
2,700.0	8.00	205.50	2,682.8	-238.8	-113.9	-232.5	0.00	0.00	
2,800.0	8.00	205.50	2,781.8	-251.3	-119.9	-244.7	0.00	0.00	
2,900.0	8.00	205.50	2,880.9	-263.9	-125.9	-257.0	0.00	0.00	
3,000.0	8.00	205.50	2,979.9	-276.4	-131.9	-269.2	0.00	0.00	
3,100.0	8.00	205.50	3,078.9	-289.0	-137.8	-281.4	0.00	0.00	
3,200.0	8.00	205.50	3,177.9	-301.6	-143.8	-293.7	0.00	0.00	
3,300.0	8.00	205.50	3,277.0	-314.1	-149.8	-305.9	0.00	0.00	
3,400.0	8.00	205.50	3,376.0	-326.7	-155.8	-318.1	0.00	0.00	
3,500.0	8.00	205.50	3,475.0	-339.2	-161.8	-330.4	0.00	0.00	
3,600.0	8.00	205.50	3,574.0	-351.8	-167.8	-342.6	0.00	0.00	
3,700.0	8.00	205.50	3,673.1	-364.4	-173.8	-354.8	0.00	0.00	
3,800.0	8.00	205.50	3,772.1	-376.9	-179.8	-367.1	0.00	0.00	
3,900.0	8.00	205.50	3,871.1	-389.5	-185.8	-379.3	0.00	0.00	Start Drop -1.00
4,000.0	7.00	205.50	3,970.3	-401.3	-191.4	-390.8	1.00	-1.00	
4,100.0	6.00	205.50	4,069.6	-411.5	-196.3	-400.7	1.00	-1.00	
4,200.0	5.00	205.50	4,169.2	-420.1	-200.4	-409.1	1.00	-1.00	
4,300.0	4.00	205.50	4,268.9	-427.2	-203.8	-416.0	1.00	-1.00	
4,400.0	3.00	205.50	4,368.7	-432.7	-206.4	-421.4	1.00	-1.00	
4,500.0	2.00	205.50	4,468.6	-436.7	-208.3	-425.2	1.00	-1.00	
4,600.0	1.00	205.50	4,568.5	-439.0	-209.4	-427.5	1.00	-1.00	
4,700.0	0.00	0.00	4,668.5	-439.8	-209.8	-428.3	1.00	-1.00	EOD; Inc=0°
4,713.5	0.00	0.00	4,682.0	-439.8	-209.8	-428.3	0.00	0.00	Sussex
4,800.0	0.00	0.00	4,768.5	-439.8	-209.8	-428.3	0.00	0.00	
4,900.0	0.00	0.00	4,868.5	-439.8	-209.8	-428.3	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4E-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5117.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5117.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	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
4,999.5	0.00	0.00	4,968.0	-439.8	-209.8	-428.3	0.00	0.00	Sussex Marker
5,000.0	0.00	0.00	4,968.5	-439.8	-209.8	-428.3	0.00	0.00	
5,100.0	0.00	0.00	5,068.5	-439.8	-209.8	-428.3	0.00	0.00	
5,200.0	0.00	0.00	5,168.5	-439.8	-209.8	-428.3	0.00	0.00	Shannon
5,246.5	0.00	0.00	5,215.0	-439.8	-209.8	-428.3	0.00	0.00	
5,300.0	0.00	0.00	5,268.5	-439.8	-209.8	-428.3	0.00	0.00	
5,400.0	0.00	0.00	5,368.5	-439.8	-209.8	-428.3	0.00	0.00	
5,500.0	0.00	0.00	5,468.5	-439.8	-209.8	-428.3	0.00	0.00	
5,600.0	0.00	0.00	5,568.5	-439.8	-209.8	-428.3	0.00	0.00	
5,700.0	0.00	0.00	5,668.5	-439.8	-209.8	-428.3	0.00	0.00	
5,800.0	0.00	0.00	5,768.5	-439.8	-209.8	-428.3	0.00	0.00	Teepee Buttes
5,900.0	0.00	0.00	5,868.5	-439.8	-209.8	-428.3	0.00	0.00	
6,000.0	0.00	0.00	5,968.5	-439.8	-209.8	-428.3	0.00	0.00	
6,100.0	0.00	0.00	6,068.5	-439.8	-209.8	-428.3	0.00	0.00	
6,200.0	0.00	0.00	6,168.5	-439.8	-209.8	-428.3	0.00	0.00	
6,300.0	0.00	0.00	6,268.5	-439.8	-209.8	-428.3	0.00	0.00	
6,400.0	0.00	0.00	6,368.5	-439.8	-209.8	-428.3	0.00	0.00	
6,500.0	0.00	0.00	6,468.5	-439.8	-209.8	-428.3	0.00	0.00	Start 8° build @ 6726' MD
6,587.5	0.00	0.00	6,556.0	-439.8	-209.8	-428.3	0.00	0.00	
6,600.0	0.00	0.00	6,568.5	-439.8	-209.8	-428.3	0.00	0.00	
6,700.0	0.00	0.00	6,668.5	-439.8	-209.8	-428.3	0.00	0.00	
6,726.3	0.00	0.00	6,694.8	-439.8	-209.8	-428.3	0.00	0.00	
6,800.0	5.90	0.00	6,768.4	-436.0	-209.8	-424.5	8.00	8.00	
6,900.0	13.90	0.00	6,866.8	-418.9	-209.8	-407.4	8.00	8.00	Sharon Springs Niobrara
7,000.0	21.90	0.00	6,961.9	-388.2	-209.8	-376.7	8.00	8.00	
7,100.0	29.90	0.00	7,051.8	-344.5	-209.8	-333.1	8.00	8.00	
7,200.0	37.90	0.00	7,134.7	-288.8	-209.8	-277.5	8.00	8.00	
7,300.0	45.90	0.00	7,209.1	-222.1	-209.8	-210.9	8.00	8.00	
7,361.5	50.82	0.00	7,250.0	-176.1	-209.8	-164.9	8.00	8.00	
7,399.2	53.83	0.00	7,273.0	-146.3	-209.8	-135.2	8.00	8.00	
7,400.0	53.90	0.00	7,273.5	-145.6	-209.8	-134.5	8.00	8.00	B Chalk
7,500.0	61.90	0.00	7,326.6	-61.0	-209.8	-50.0	8.00	8.00	
7,600.0	69.90	0.00	7,367.4	30.2	-209.8	41.1	8.00	8.00	
7,700.0	77.90	0.00	7,395.1	126.2	-209.8	136.9	8.00	8.00	
7,704.3	78.24	0.00	7,396.0	130.4	-209.8	141.2	8.00	8.00	
7,800.0	85.90	0.00	7,409.2	225.1	-209.8	235.7	8.00	8.00	
7,851.3	90.00	0.00	7,411.0	276.4	-209.8	286.9	8.00	8.00	
7,900.0	90.00	0.00	7,411.0	325.1	-209.8	335.5	0.00	0.00	LP @ 7411' TVD; 90°
8,000.0	90.00	0.00	7,411.0	425.1	-209.8	435.4	0.00	0.00	
8,100.0	90.00	0.00	7,411.0	525.1	-209.8	535.3	0.00	0.00	
8,200.0	90.00	0.00	7,411.0	625.1	-209.8	635.1	0.00	0.00	
8,300.0	90.00	0.00	7,411.0	725.1	-209.8	735.0	0.00	0.00	
8,400.0	90.00	0.00	7,411.0	825.1	-209.8	834.9	0.00	0.00	
8,500.0	90.00	0.00	7,411.0	925.1	-209.8	934.7	0.00	0.00	
8,600.0	90.00	0.00	7,411.0	1,025.1	-209.8	1,034.6	0.00	0.00	
8,700.0	90.00	0.00	7,411.0	1,125.1	-209.8	1,134.5	0.00	0.00	
8,800.0	90.00	0.00	7,411.0	1,225.1	-209.8	1,234.3	0.00	0.00	
8,900.0	90.00	0.00	7,411.0	1,325.1	-209.8	1,334.2	0.00	0.00	
9,000.0	90.00	0.00	7,411.0	1,425.1	-209.8	1,434.1	0.00	0.00	
9,100.0	90.00	0.00	7,411.0	1,525.1	-209.8	1,533.9	0.00	0.00	
9,200.0	90.00	0.00	7,411.0	1,625.1	-209.8	1,633.8	0.00	0.00	
9,300.0	90.00	0.00	7,411.0	1,725.1	-209.8	1,733.7	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4E-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5117.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5117.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	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
9,351.3	90.00	0.00	7,411.0	1,776.4	-209.8	1,784.9	0.00	0.00	Start turn @ 9351' MD
9,400.0	90.00	359.51	7,411.0	1,825.1	-210.0	1,833.5	1.00	0.00	
9,500.0	90.00	358.51	7,411.0	1,925.1	-211.7	1,933.5	1.00	0.00	
9,600.0	90.00	357.51	7,411.0	2,025.0	-215.2	2,033.5	1.00	0.00	
9,700.0	90.00	356.51	7,411.0	2,124.9	-220.4	2,133.5	1.00	0.00	
9,751.3	90.00	356.00	7,411.0	2,176.1	-223.7	2,184.7	1.00	0.00	End of turn @ 9751' MD
9,800.0	90.00	356.00	7,411.0	2,224.6	-227.1	2,233.4	0.00	0.00	
9,900.0	90.00	356.00	7,411.0	2,324.4	-234.1	2,333.4	0.00	0.00	
10,000.0	90.00	356.00	7,411.0	2,424.1	-241.1	2,433.4	0.00	0.00	
10,100.0	90.00	356.00	7,411.0	2,523.9	-248.1	2,533.4	0.00	0.00	
10,200.0	90.00	356.00	7,411.0	2,623.7	-255.0	2,633.4	0.00	0.00	
10,300.0	90.00	356.00	7,411.0	2,723.4	-262.0	2,733.4	0.00	0.00	
10,400.0	90.00	356.00	7,411.0	2,823.2	-269.0	2,833.3	0.00	0.00	
10,500.0	90.00	356.00	7,411.0	2,922.9	-276.0	2,933.3	0.00	0.00	
10,551.3	90.00	356.00	7,411.0	2,974.1	-279.5	2,984.6	0.00	0.00	Start 1° Turn
10,600.0	90.00	356.49	7,411.0	3,022.7	-282.7	3,033.3	1.00	0.00	
10,700.0	90.00	357.49	7,411.0	3,122.6	-288.0	3,133.3	1.00	0.00	
10,800.0	90.00	358.49	7,411.0	3,222.5	-291.5	3,233.3	1.00	0.00	
10,900.0	90.00	359.49	7,411.0	3,322.5	-293.3	3,333.2	1.00	0.00	
11,000.0	90.00	0.49	7,411.0	3,422.5	-293.3	3,433.1	1.00	0.00	
11,100.0	90.00	1.49	7,411.0	3,522.5	-291.6	3,532.9	1.00	0.00	
11,200.0	90.00	2.49	7,411.0	3,622.4	-288.1	3,632.5	1.00	0.00	
11,300.0	90.00	3.49	7,411.0	3,722.3	-282.9	3,731.9	1.00	0.00	
11,400.0	90.00	4.49	7,411.0	3,822.0	-275.9	3,831.2	1.00	0.00	
11,500.0	90.00	5.49	7,411.0	3,921.6	-267.2	3,930.2	1.00	0.00	
11,600.0	90.00	6.49	7,411.0	4,021.1	-256.8	4,029.0	1.00	0.00	
11,657.3	90.00	7.06	7,411.0	4,078.0	-250.1	4,085.5	1.00	0.00	EOT; 7.06° Az
11,700.0	90.00	7.06	7,411.0	4,120.4	-244.8	4,127.5	0.00	0.00	
11,800.0	90.00	7.06	7,411.0	4,219.6	-232.5	4,226.0	0.00	0.00	
11,900.0	90.00	7.06	7,411.0	4,318.9	-220.2	4,324.5	0.00	0.00	
11,938.2	90.00	7.06	7,411.0	4,356.8	-215.5	4,362.1	0.00	0.00	PBHL @ 11938' MD

Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)		Latitude	Longitude
- Shape										
Mathews 4E-14H PBHL	0.00	0.00	7,411.0	4,356.8	-215.5	1,264,620.26	3,213,268.04		40.057250	-104.738120
- plan hits target center										
- Point										
Mathews 4E-14H PBHL	0.00	0.00	7,411.0	7,023.3	-209.9	1,267,286.72	3,213,250.73		40.064570	-104.738100
- plan misses target center by 2666.5ft at 11938.2ft MD (7411.0 TVD, 4356.8 N, -215.5 E)										
- Point										
Mathews 4E-14H FPP	0.00	0.00	7,411.0	-10.9	-229.6	1,260,252.63	3,213,291.57		40.045260	-104.738170
- plan misses target center by 58.9ft at 7580.3ft MD (7360.4 TVD, 11.8 N, -209.8 E)										
- Point										

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4E-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5117.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5117.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,194.5	1,192.0	Base of Fox Hills		0.00		
4,713.5	4,682.0	Sussex		0.00		
4,999.5	4,968.0	Sussex Marker		0.00		
5,246.5	5,215.0	Shannon		0.00		
6,587.5	6,556.0	Teepee Buttes		0.00		
7,361.5	7,250.0	Sharon Springs		0.00		
7,399.2	7,273.0	Niobrara		0.00		
7,704.3	7,396.0	B Chalk		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
400.0	400.0	0.0	0.0	KOP @ 400'	
1,200.0	1,197.4	-50.3	-24.0	EOB; Inc=8°	
3,900.0	3,871.1	-389.5	-185.8	Start Drop -1.00	
4,700.0	4,668.5	-439.8	-209.8	EOD; Inc=0°	
6,726.3	6,694.8	-439.8	-209.8	Start 8° build @ 6726' MD	
7,851.3	7,411.0	276.4	-209.8	LP @ 7411' TVD; 90°	
9,351.3	7,411.0	1,776.4	-209.8	Start turn @ 9351' MD	
9,751.3	7,411.0	2,176.1	-223.7	End of turn @ 9751' MD	
10,551.3	7,411.0	2,974.1	-279.5	Start 1° Turn	
11,657.3	7,411.0	4,078.0	-250.1	EOT; 7.06° Az	
11,938.2	7,411.0	4,356.8	-215.5	PBHL @ 11938' MD	

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

SWSE S14 T1N-R66W (Mathews)

Mathews 4E-14H

HZ

Plan #3

Anticollision Report

27 December, 2012

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	12/27/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,938.2	Plan #3 (HZ)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SWSE S14 T1N-R66W (Mathews)						
05-123-07177, Mathews 1 (Exisitng) - VT (Existing) - Exis	11,712.9	7,413.0	110.3	23.0	1.263	Level 3, CC, ES, SF
Mathews 4A-14H - HZ - Plan #3	161.2	175.2	1,329.8	1,329.3	2,454.088	CC
Mathews 4A-14H - HZ - Plan #3	200.0	200.0	1,329.9	1,329.3	2,037.403	ES
Mathews 4A-14H - HZ - Plan #3	11,938.2	11,983.6	1,701.9	1,546.1	10.926	SF
Mathews 4B-14H - HZ - Plan #3	10,952.1	11,181.0	1,218.6	1,095.8	9.921	CC
Mathews 4B-14H - HZ - Plan #3	11,100.0	11,328.9	1,220.5	1,092.9	9.566	ES
Mathews 4B-14H - HZ - Plan #3	11,938.2	12,163.2	1,295.3	1,140.8	8.385	SF
Mathews 4C-14H - HZ - Plan #3	10,951.9	10,970.5	773.1	648.4	6.203	CC
Mathews 4C-14H - HZ - Plan #3	11,100.0	11,118.7	775.0	645.3	5.977	ES
Mathews 4C-14H - HZ - Plan #3	11,938.2	11,953.0	851.0	693.5	5.404	SF
Mathews 4D-14H - HZ - Plan #3	550.7	550.6	7.9	6.0	4.208	CC
Mathews 4D-14H - HZ - Plan #3	600.0	599.9	8.1	6.0	3.929	ES
Mathews 4D-14H - HZ - Plan #3	11,938.2	12,173.5	479.0	340.0	3.446	SF
Mathews 4F-14H - HZ - Plan #3	300.0	300.0	11.2	10.2	11.178	CC, ES
Mathews 4F-14H - HZ - Plan #3	11,938.2	12,161.4	476.5	335.9	3.389	SF
Mathews 4G-14H - HZ - Plan #3	200.0	200.0	22.7	22.0	34.762	CC, ES
Mathews 4G-14H - HZ - Plan #3	11,938.2	11,970.0	848.2	689.9	5.360	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - 05-123-07177, Mathews 1 (Exisitng) - VT (Existing) - Existing													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
0.0	0.0	2.0	2.0	0.0	0.0	-1.86	4,119.6	-133.8	4,121.8							
100.0	100.0	102.0	102.0	0.2	0.2	-1.86	4,119.6	-133.8	4,121.8	4,121.5	0.31	N/A				
200.0	200.0	202.0	202.0	0.3	0.3	-1.86	4,119.6	-133.8	4,121.8	4,121.1	0.66	6,280.864				
300.0	300.0	302.0	302.0	0.5	0.5	-1.86	4,119.6	-133.8	4,121.8	4,120.8	1.01	4,100.009				
400.0	400.0	402.0	402.0	0.7	0.7	-1.86	4,119.6	-133.8	4,121.8	4,120.4	1.35	3,043.306				
500.0	500.0	502.0	502.0	0.9	0.9	152.64	4,119.6	-133.8	4,122.6	4,120.9	1.70	2,420.165				
600.0	600.0	602.0	602.0	1.0	1.0	152.65	4,119.6	-133.8	4,124.9	4,122.8	2.05	2,009.467				
700.0	699.9	701.9	701.9	1.2	1.2	152.66	4,119.6	-133.8	4,128.8	4,126.4	2.40	1,718.277				
800.0	799.7	801.7	801.7	1.4	1.4	152.67	4,119.6	-133.8	4,134.2	4,131.4	2.75	1,500.937				
900.0	899.4	901.4	901.4	1.6	1.6	152.69	4,119.6	-133.8	4,141.2	4,138.0	3.11	1,332.414				
1,000.0	998.9	1,000.9	1,000.9	1.8	1.7	152.71	4,119.6	-133.8	4,149.7	4,146.2	3.46	1,197.843				
1,100.0	1,098.3	1,100.3	1,100.3	2.1	1.9	152.74	4,119.6	-133.8	4,159.8	4,155.9	3.82	1,087.847				
1,200.0	1,197.4	1,199.4	1,199.4	2.3	2.1	152.76	4,119.6	-133.8	4,171.4	4,167.2	4.19	996.217				
1,300.0	1,296.4	1,298.4	1,298.4	2.6	2.2	152.85	4,119.6	-133.8	4,183.8	4,179.2	4.56	918.287				
1,400.0	1,395.5	1,397.5	1,397.5	2.9	2.4	152.94	4,119.6	-133.8	4,196.2	4,191.3	4.93	851.804				
1,500.0	1,494.5	1,496.5	1,496.5	3.2	2.6	153.02	4,119.6	-133.8	4,208.6	4,203.3	5.30	794.472				
1,600.0	1,593.5	1,595.5	1,595.5	3.5	2.8	153.11	4,119.6	-133.8	4,221.1	4,215.4	5.67	744.559				
1,700.0	1,692.5	1,694.5	1,694.5	3.7	2.9	153.19	4,119.6	-133.8	4,233.5	4,227.5	6.04	700.734				
1,800.0	1,791.6	1,793.6	1,793.6	4.0	3.1	153.28	4,119.6	-133.8	4,245.9	4,239.5	6.41	661.964				
1,900.0	1,890.6	1,892.6	1,892.6	4.3	3.3	153.36	4,119.6	-133.8	4,258.4	4,251.6	6.79	627.431				
2,000.0	1,989.6	1,991.6	1,991.6	4.6	3.5	153.45	4,119.6	-133.8	4,270.9	4,263.7	7.16	596.484				
2,100.0	2,088.6	2,090.6	2,090.6	4.9	3.6	153.53	4,119.6	-133.8	4,283.4	4,275.8	7.53	568.598				
2,200.0	2,187.7	2,189.7	2,189.7	5.2	3.8	153.61	4,119.6	-133.8	4,295.8	4,287.9	7.91	543.344				
2,300.0	2,286.7	2,288.7	2,288.7	5.5	4.0	153.69	4,119.6	-133.8	4,308.3	4,300.1	8.28	520.369				
2,400.0	2,385.7	2,387.7	2,387.7	5.8	4.1	153.78	4,119.6	-133.8	4,320.8	4,312.2	8.65	499.380				
2,500.0	2,484.8	2,486.8	2,486.8	6.1	4.3	153.86	4,119.6	-133.8	4,333.4	4,324.3	9.03	480.132				
2,600.0	2,583.8	2,585.8	2,585.8	6.4	4.5	153.94	4,119.6	-133.8	4,345.9	4,336.5	9.40	462.418				
2,700.0	2,682.8	2,684.8	2,684.8	6.7	4.7	154.02	4,119.6	-133.8	4,358.4	4,348.6	9.77	446.063				
2,800.0	2,781.8	2,783.8	2,783.8	7.0	4.8	154.10	4,119.6	-133.8	4,370.9	4,360.8	10.14	430.918				
2,900.0	2,880.9	2,882.9	2,882.9	7.3	5.0	154.18	4,119.6	-133.8	4,383.5	4,373.0	10.52	416.852				
3,000.0	2,979.9	2,981.9	2,981.9	7.6	5.2	154.26	4,119.6	-133.8	4,396.0	4,385.2	10.89	403.756				
3,100.0	3,078.9	3,080.9	3,080.9	7.9	5.4	154.33	4,119.6	-133.8	4,408.6	4,397.3	11.26	391.533				
3,200.0	3,177.9	3,179.9	3,179.9	8.2	5.5	154.41	4,119.6	-133.8	4,421.2	4,409.5	11.63	380.099				
3,300.0	3,277.0	3,279.0	3,279.0	8.5	5.7	154.49	4,119.6	-133.8	4,433.8	4,421.8	12.00	369.379				
3,400.0	3,376.0	3,378.0	3,378.0	8.7	5.9	154.57	4,119.6	-133.8	4,446.3	4,434.0	12.37	359.311				
3,500.0	3,475.0	3,477.0	3,477.0	9.0	6.0	154.64	4,119.6	-133.8	4,458.9	4,446.2	12.75	349.835				
3,600.0	3,574.0	3,576.0	3,576.0	9.3	6.2	154.72	4,119.6	-133.8	4,471.5	4,458.4	13.12	340.902				
3,700.0	3,673.1	3,675.1	3,675.1	9.6	6.4	154.80	4,119.6	-133.8	4,484.2	4,470.7	13.49	332.466				
3,800.0	3,772.1	3,774.1	3,774.1	9.9	6.6	154.87	4,119.6	-133.8	4,496.8	4,482.9	13.86	324.487				
3,900.0	3,871.1	3,873.1	3,873.1	10.2	6.7	154.95	4,119.6	-133.8	4,509.4	4,495.2	14.23	316.929				
4,000.0	3,970.3	3,972.3	3,972.3	10.5	6.9	155.07	4,119.6	-133.8	4,521.2	4,506.6	14.60	309.664				
4,100.0	4,069.6	4,071.6	4,071.6	10.8	7.1	155.17	4,119.6	-133.8	4,531.5	4,516.6	14.97	302.784				
4,200.0	4,169.2	4,171.2	4,171.2	11.0	7.3	155.26	4,119.6	-133.8	4,540.2	4,524.9	15.33	296.254				
4,300.0	4,268.9	4,270.9	4,270.9	11.2	7.4	155.33	4,119.6	-133.8	4,547.4	4,531.7	15.68	290.040				
4,400.0	4,368.7	4,370.7	4,370.7	11.4	7.6	155.38	4,119.6	-133.8	4,552.9	4,536.9	16.03	284.112				
4,500.0	4,468.6	4,470.6	4,470.6	11.5	7.8	155.42	4,119.6	-133.8	4,556.9	4,540.5	16.37	278.446				
4,600.0	4,568.5	4,570.5	4,570.5	11.7	8.0	155.45	4,119.6	-133.8	4,559.3	4,542.6	16.70	273.018				
4,700.0	4,668.5	4,670.5	4,670.5	11.8	8.1	0.95	4,119.6	-133.8	4,560.1	4,543.0	17.03	267.807				
4,800.0	4,768.5	4,770.5	4,770.5	11.9	8.3	0.95	4,119.6	-133.8	4,560.1	4,542.7	17.36	262.636				
4,900.0	4,868.5	4,870.5	4,870.5	12.1	8.5	0.95	4,119.6	-133.8	4,560.1	4,542.4	17.70	257.654				
5,000.0	4,968.5	4,970.5	4,970.5	12.2	8.7	0.95	4,119.6	-133.8	4,560.1	4,542.0	18.03	252.850				
5,100.0	5,068.5	5,070.5	5,070.5	12.3	8.8	0.95	4,119.6	-133.8	4,560.1	4,541.7	18.37	248.216				

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
5,200.0	5,168.5	5,170.5	5,170.5	12.4	9.0	0.95	4,119.6	-133.8	4,560.1	4,541.4	18.71	243.744	
5,300.0	5,268.5	5,270.5	5,270.5	12.6	9.2	0.95	4,119.6	-133.8	4,560.1	4,541.0	19.05	239.424	
5,400.0	5,368.5	5,370.5	5,370.5	12.7	9.4	0.95	4,119.6	-133.8	4,560.1	4,540.7	19.38	235.251	
5,500.0	5,468.5	5,470.5	5,470.5	12.8	9.5	0.95	4,119.6	-133.8	4,560.1	4,540.3	19.72	231.216	
5,600.0	5,568.5	5,570.5	5,570.5	12.9	9.7	0.95	4,119.6	-133.8	4,560.1	4,540.0	20.06	227.313	
5,700.0	5,668.5	5,670.5	5,670.5	13.1	9.9	0.95	4,119.6	-133.8	4,560.1	4,539.7	20.40	223.536	
5,800.0	5,768.5	5,770.5	5,770.5	13.2	10.0	0.95	4,119.6	-133.8	4,560.1	4,539.3	20.74	219.879	
5,900.0	5,868.5	5,870.5	5,870.5	13.3	10.2	0.95	4,119.6	-133.8	4,560.1	4,539.0	21.08	216.337	
6,000.0	5,968.5	5,970.5	5,970.5	13.5	10.4	0.95	4,119.6	-133.8	4,560.1	4,538.6	21.42	212.904	
6,100.0	6,068.5	6,070.5	6,070.5	13.6	10.6	0.95	4,119.6	-133.8	4,560.1	4,538.3	21.76	209.575	
6,200.0	6,168.5	6,170.5	6,170.5	13.8	10.7	0.95	4,119.6	-133.8	4,560.1	4,538.0	22.10	206.347	
6,300.0	6,268.5	6,270.5	6,270.5	13.9	10.9	0.95	4,119.6	-133.8	4,560.1	4,537.6	22.44	203.214	
6,400.0	6,368.5	6,370.5	6,370.5	14.0	11.1	0.95	4,119.6	-133.8	4,560.1	4,537.3	22.78	200.173	
6,500.0	6,468.5	6,470.5	6,470.5	14.2	11.3	0.95	4,119.6	-133.8	4,560.1	4,536.9	23.12	197.219	
6,600.0	6,568.5	6,570.5	6,570.5	14.3	11.4	0.95	4,119.6	-133.8	4,560.1	4,536.6	23.46	194.350	
6,700.0	6,668.5	6,670.5	6,670.5	14.4	11.6	0.95	4,119.6	-133.8	4,560.1	4,536.3	23.80	191.561	
6,726.3	6,694.8	6,696.8	6,696.8	14.5	11.7	0.95	4,119.6	-133.8	4,560.1	4,536.2	23.89	190.841	
6,750.0	6,718.5	6,720.5	6,720.5	14.5	11.7	0.96	4,119.6	-133.8	4,559.7	4,535.7	23.95	190.381	
6,800.0	6,768.4	6,770.4	6,770.4	14.5	11.8	0.96	4,119.6	-133.8	4,556.3	4,532.3	24.01	189.777	
6,850.0	6,817.9	6,819.9	6,819.9	14.5	11.9	0.97	4,119.6	-133.8	4,549.4	4,525.4	23.99	189.663	
6,900.0	6,866.8	6,868.8	6,868.8	14.5	12.0	0.99	4,119.6	-133.8	4,539.1	4,515.2	23.89	190.034	
6,950.0	6,914.9	6,916.9	6,916.9	14.4	12.0	1.01	4,119.6	-133.8	4,525.4	4,501.7	23.71	190.891	
7,000.0	6,961.9	6,963.9	6,963.9	14.4	12.1	1.04	4,119.6	-133.8	4,508.4	4,484.9	23.45	192.236	
7,050.0	7,007.6	7,009.6	7,009.6	14.3	12.2	1.08	4,119.6	-133.8	4,488.2	4,465.0	23.13	194.070	
7,100.0	7,051.8	7,053.8	7,053.8	14.2	12.3	1.12	4,119.6	-133.8	4,464.8	4,442.0	22.73	196.397	
7,150.0	7,094.2	7,096.2	7,096.2	14.0	12.4	1.18	4,119.6	-133.8	4,438.4	4,416.1	22.28	199.217	
7,200.0	7,134.7	7,136.7	7,136.7	13.9	12.4	1.25	4,119.6	-133.8	4,409.1	4,387.3	21.77	202.523	
7,250.0	7,173.1	7,175.1	7,175.1	13.8	12.5	1.34	4,119.6	-133.8	4,377.0	4,355.8	21.22	206.300	
7,300.0	7,209.1	7,211.1	7,211.1	13.7	12.6	1.44	4,119.6	-133.8	4,342.3	4,321.7	20.63	210.515	
7,350.0	7,242.6	7,244.6	7,244.6	13.6	12.6	1.57	4,119.6	-133.8	4,305.3	4,285.2	20.01	215.111	
7,400.0	7,273.5	7,275.5	7,275.5	13.6	12.7	1.73	4,119.6	-133.8	4,265.9	4,246.5	19.39	219.999	
7,450.0	7,301.5	7,303.5	7,303.5	13.6	12.7	1.94	4,119.6	-133.8	4,224.5	4,205.8	18.77	225.040	
7,500.0	7,326.6	7,328.6	7,328.6	13.6	12.8	2.21	4,119.6	-133.8	4,181.3	4,163.1	18.18	230.040	
7,550.0	7,348.6	7,350.6	7,350.6	13.7	12.8	2.58	4,119.6	-133.8	4,136.4	4,118.8	17.62	234.734	
7,600.0	7,367.4	7,369.4	7,369.4	13.8	12.8	3.09	4,119.6	-133.8	4,090.1	4,073.0	17.13	238.772	
7,650.0	7,382.9	7,384.9	7,384.9	13.9	12.9	3.88	4,119.6	-133.8	4,042.6	4,025.9	16.73	241.708	
7,700.0	7,395.1	7,397.1	7,397.1	14.2	12.9	5.18	4,119.6	-133.8	3,994.1	3,977.7	16.44	242.919	
7,750.0	7,403.9	7,405.9	7,405.9	14.4	12.9	7.78	4,119.6	-133.8	3,944.9	3,928.6	16.36	241.102	
7,800.0	7,409.2	7,411.2	7,411.2	14.7	12.9	15.25	4,119.6	-133.8	3,895.2	3,878.2	16.98	229.430	
7,851.3	7,411.0	7,413.0	7,413.0	15.1	12.9	90.00	4,119.6	-133.8	3,844.0	3,816.4	27.57	139.416	
7,900.0	7,411.0	7,413.0	7,413.0	15.5	12.9	90.00	4,119.6	-133.8	3,795.3	3,767.3	27.97	135.667	
8,000.0	7,411.0	7,413.0	7,413.0	16.4	12.9	90.00	4,119.6	-133.8	3,695.3	3,666.4	28.91	127.803	
8,100.0	7,411.0	7,413.0	7,413.0	17.5	12.9	90.00	4,119.6	-133.8	3,595.3	3,565.3	29.98	119.915	
8,200.0	7,411.0	7,413.0	7,413.0	18.6	12.9	90.00	4,119.6	-133.8	3,495.4	3,464.2	31.16	112.186	
8,300.0	7,411.0	7,413.0	7,413.0	19.8	12.9	90.00	4,119.6	-133.8	3,395.4	3,363.0	32.42	104.736	
8,400.0	7,411.0	7,413.0	7,413.0	21.2	12.9	90.00	4,119.6	-133.8	3,295.4	3,261.7	33.75	97.637	
8,500.0	7,411.0	7,413.0	7,413.0	22.5	12.9	90.00	4,119.6	-133.8	3,195.4	3,160.3	35.14	90.925	
8,600.0	7,411.0	7,413.0	7,413.0	24.0	12.9	90.00	4,119.6	-133.8	3,095.5	3,058.9	36.58	84.614	
8,700.0	7,411.0	7,413.0	7,413.0	25.4	12.9	90.00	4,119.6	-133.8	2,995.5	2,957.4	38.06	78.698	
8,800.0	7,411.0	7,413.0	7,413.0	26.9	12.9	90.00	4,119.6	-133.8	2,895.5	2,855.9	39.58	73.163	
8,900.0	7,411.0	7,413.0	7,413.0	28.4	12.9	90.00	4,119.6	-133.8	2,795.6	2,754.4	41.12	67.990	
9,000.0	7,411.0	7,413.0	7,413.0	30.0	12.9	90.00	4,119.6	-133.8	2,695.6	2,652.9	42.68	63.156	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
9,100.0	7,411.0	7,413.0	7,413.0	31.6	12.9	90.00	4,119.6	-133.8	2,595.6	2,551.4	44.27	58.637		
9,200.0	7,411.0	7,413.0	7,413.0	33.2	12.9	90.00	4,119.6	-133.8	2,495.7	2,449.8	45.87	54.410		
9,300.0	7,411.0	7,413.0	7,413.0	34.8	12.9	90.00	4,119.6	-133.8	2,395.7	2,348.2	47.49	50.452		
9,351.3	7,411.0	7,413.0	7,413.0	35.6	12.9	90.00	4,119.6	-133.8	2,344.5	2,296.1	48.32	48.520		
9,400.0	7,411.0	7,413.0	7,413.0	36.4	12.9	90.00	4,119.6	-133.8	2,295.8	2,246.7	49.14	46.718		
9,500.0	7,411.0	7,413.0	7,413.0	38.0	12.9	90.00	4,119.6	-133.8	2,195.9	2,145.1	50.83	43.201		
9,600.0	7,411.0	7,413.0	7,413.0	39.7	12.9	90.00	4,119.6	-133.8	2,096.2	2,043.7	52.52	39.911		
9,700.0	7,411.0	7,413.0	7,413.0	41.3	12.9	90.00	4,119.6	-133.8	1,996.6	1,942.4	54.21	36.831		
9,751.3	7,411.0	7,413.0	7,413.0	42.2	12.9	90.00	4,119.6	-133.8	1,945.6	1,890.6	55.08	35.326		
9,800.0	7,411.0	7,413.0	7,413.0	43.0	12.9	90.00	4,119.6	-133.8	1,897.3	1,841.4	55.89	33.946		
9,900.0	7,411.0	7,413.0	7,413.0	44.7	12.9	90.00	4,119.6	-133.8	1,798.0	1,740.5	57.56	31.235		
10,000.0	7,411.0	7,413.0	7,413.0	46.3	12.9	90.00	4,119.6	-133.8	1,698.9	1,639.6	59.24	28.675		
10,100.0	7,411.0	7,413.0	7,413.0	48.0	12.9	90.00	4,119.6	-133.8	1,599.8	1,538.9	60.93	26.256		
10,200.0	7,411.0	7,413.0	7,413.0	49.7	12.9	90.00	4,119.6	-133.8	1,500.9	1,438.2	62.62	23.967		
10,300.0	7,411.0	7,413.0	7,413.0	51.4	12.9	90.00	4,119.6	-133.8	1,402.1	1,337.7	64.32	21.799		
10,400.0	7,411.0	7,413.0	7,413.0	53.1	12.9	90.00	4,119.6	-133.8	1,303.5	1,237.4	66.02	19.745		
10,500.0	7,411.0	7,413.0	7,413.0	54.8	12.9	90.00	4,119.6	-133.8	1,205.1	1,137.4	67.72	17.795		
10,551.3	7,411.0	7,413.0	7,413.0	55.7	12.9	90.00	4,119.6	-133.8	1,154.7	1,086.1	68.59	16.834		
10,600.0	7,411.0	7,413.0	7,413.0	56.5	12.9	90.00	4,119.6	-133.8	1,107.0	1,037.6	69.41	15.947		
10,700.0	7,411.0	7,413.0	7,413.0	58.2	12.9	90.00	4,119.6	-133.8	1,008.9	937.8	71.09	14.193		
10,800.0	7,411.0	7,413.0	7,413.0	59.9	12.9	90.00	4,119.6	-133.8	910.9	838.1	72.75	12.521		
10,900.0	7,411.0	7,413.0	7,413.0	61.6	12.9	90.00	4,119.6	-133.8	812.9	738.5	74.39	10.928		
11,000.0	7,411.0	7,413.0	7,413.0	63.4	12.9	90.00	4,119.6	-133.8	715.1	639.1	76.02	9.407		
11,100.0	7,411.0	7,413.0	7,413.0	65.1	12.9	90.00	4,119.6	-133.8	617.6	540.0	77.63	7.956		
11,200.0	7,411.0	7,413.0	7,413.0	66.8	12.9	90.00	4,119.6	-133.8	520.6	441.4	79.23	6.571		
11,300.0	7,411.0	7,413.0	7,413.0	68.5	12.9	90.00	4,119.6	-133.8	424.4	343.6	80.81	5.251		
11,400.0	7,411.0	7,413.0	7,413.0	70.2	12.9	90.00	4,119.6	-133.8	329.8	247.4	82.38	4.003		
11,500.0	7,411.0	7,413.0	7,413.0	71.9	12.9	90.00	4,119.6	-133.8	238.7	154.8	83.93	2.845		
11,600.0	7,411.0	7,413.0	7,413.0	73.6	12.9	90.00	4,119.6	-133.8	157.6	72.1	85.46	1.844		
11,657.3	7,411.0	7,413.0	7,413.0	74.6	12.9	90.00	4,119.6	-133.8	123.5	37.2	86.33	1.431 Level 3		
11,700.0	7,411.0	7,413.0	7,413.0	75.3	12.9	90.00	4,119.6	-133.8	111.0	23.9	87.07	1.275 Level 3		
11,712.9	7,411.0	7,413.0	7,413.0	75.5	12.9	90.00	4,119.6	-133.8	110.3	23.0	87.29	1.263 Level 3, CC, ES, SF		
11,800.0	7,411.0	7,413.0	7,413.0	77.0	12.9	90.00	4,119.6	-133.8	140.5	51.7	88.80	1.583		
11,900.0	7,411.0	7,413.0	7,413.0	78.7	12.9	90.00	4,119.6	-133.8	217.2	126.7	90.53	2.399		
11,938.2	7,411.0	7,413.0	7,413.0	79.4	12.9	90.00	4,119.6	-133.8	250.8	159.6	91.19	2.751		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4A-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		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	14.0	14.0	0.0	0.0	-90.00	0.0	-1,329.8	1,329.8					
100.0	100.0	114.0	114.0	0.2	0.2	-90.00	0.0	-1,329.8	1,329.8	1,329.5	0.33	4,052.906		
161.2	161.2	175.2	175.2	0.3	0.3	-90.00	0.0	-1,329.8	1,329.8	1,329.3	0.54	2,454.088 CC		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-1,329.8	1,329.9	1,329.3	0.65	2,037.403 ES		
300.0	300.0	283.0	283.0	0.5	0.5	-90.03	-0.7	-1,330.8	1,331.2	1,330.2	0.97	1,368.886		
400.0	400.0	355.7	355.7	0.7	0.6	-90.11	-2.5	-1,333.2	1,334.5	1,333.2	1.27	1,046.851		
500.0	500.0	428.3	428.1	0.9	0.8	64.25	-5.4	-1,337.1	1,339.5	1,338.0	1.59	842.894		
600.0	600.0	500.0	499.5	1.0	0.9	64.10	-9.3	-1,342.4	1,345.8	1,343.9	1.90	706.519		
700.0	699.9	572.9	571.8	1.2	1.1	63.93	-14.4	-1,349.3	1,353.4	1,351.2	2.24	604.378		
800.0	799.7	644.9	643.1	1.4	1.3	63.77	-20.5	-1,357.5	1,362.3	1,359.7	2.59	526.300		
900.0	899.4	716.6	713.8	1.6	1.6	63.59	-27.7	-1,367.1	1,372.4	1,369.4	2.96	464.238		
1,000.0	998.9	800.0	795.6	1.8	1.9	63.40	-37.3	-1,380.1	1,383.8	1,380.4	3.38	409.574		
1,100.0	1,098.3	882.6	876.4	2.1	2.2	63.22	-47.5	-1,393.9	1,395.6	1,391.8	3.82	365.393		
1,200.0	1,197.4	981.9	973.6	2.3	2.6	63.10	-59.8	-1,410.5	1,406.8	1,402.4	4.32	325.278		
1,300.0	1,296.4	1,081.4	1,070.8	2.6	3.0	63.12	-72.2	-1,427.1	1,417.5	1,412.7	4.84	292.762		
1,400.0	1,395.5	1,180.8	1,168.1	2.9	3.4	63.13	-84.5	-1,443.7	1,428.3	1,422.9	5.37	266.169		
1,500.0	1,494.5	1,280.2	1,265.3	3.2	3.8	63.14	-96.8	-1,460.3	1,439.0	1,433.1	5.90	244.092		
1,600.0	1,593.5	1,379.6	1,362.6	3.5	4.2	63.15	-109.1	-1,476.9	1,449.8	1,443.3	6.43	225.512		
1,700.0	1,692.5	1,479.0	1,459.8	3.7	4.6	63.17	-121.5	-1,493.5	1,460.5	1,453.5	6.97	209.685		
1,800.0	1,791.6	1,578.5	1,557.1	4.0	5.0	63.18	-133.8	-1,510.1	1,471.3	1,463.8	7.50	196.057		
1,900.0	1,890.6	1,677.9	1,654.3	4.3	5.4	63.19	-146.1	-1,526.6	1,482.0	1,474.0	8.05	184.209		
2,000.0	1,989.6	1,777.3	1,751.6	4.6	5.8	63.20	-158.4	-1,543.2	1,492.8	1,484.2	8.59	173.821		
2,100.0	2,088.6	1,876.7	1,848.8	4.9	6.2	63.21	-170.8	-1,559.8	1,503.5	1,494.4	9.13	164.643		
2,200.0	2,187.7	1,976.1	1,946.1	5.2	6.6	63.22	-183.1	-1,576.4	1,514.3	1,504.6	9.68	156.478		
2,300.0	2,286.7	2,075.6	2,043.3	5.5	7.0	63.23	-195.4	-1,593.0	1,525.0	1,514.8	10.22	149.169		
2,400.0	2,385.7	2,175.0	2,140.6	5.8	7.4	63.25	-207.7	-1,609.6	1,535.8	1,525.0	10.77	142.590		
2,500.0	2,484.8	2,274.4	2,237.8	6.1	7.8	63.26	-220.0	-1,626.2	1,546.5	1,535.2	11.32	136.639		
2,600.0	2,583.8	2,373.8	2,335.1	6.4	8.2	63.27	-232.4	-1,642.8	1,557.3	1,545.4	11.87	131.229		
2,700.0	2,682.8	2,473.2	2,432.3	6.7	8.6	63.28	-244.7	-1,659.4	1,568.0	1,555.6	12.42	126.292		
2,800.0	2,781.8	2,572.7	2,529.6	7.0	9.0	63.29	-257.0	-1,676.0	1,578.8	1,565.8	12.97	121.767		
2,900.0	2,880.9	2,672.1	2,626.8	7.3	9.4	63.30	-269.3	-1,692.6	1,589.5	1,576.0	13.52	117.607		
3,000.0	2,979.9	2,771.5	2,724.0	7.6	9.8	63.31	-281.7	-1,709.2	1,600.3	1,586.2	14.07	113.769		
3,100.0	3,078.9	2,870.9	2,821.3	7.9	10.2	63.32	-294.0	-1,725.8	1,611.0	1,596.4	14.62	110.216		
3,200.0	3,177.9	2,970.3	2,918.5	8.2	10.6	63.33	-306.3	-1,742.4	1,621.8	1,606.6	15.17	106.920		
3,300.0	3,277.0	3,069.8	3,015.8	8.5	11.0	63.34	-318.6	-1,759.0	1,632.5	1,616.8	15.72	103.852		
3,400.0	3,376.0	3,169.2	3,113.0	8.7	11.4	63.35	-331.0	-1,775.6	1,643.3	1,627.0	16.27	100.991		
3,500.0	3,475.0	3,268.6	3,210.3	9.0	11.8	63.36	-343.3	-1,792.2	1,654.0	1,637.2	16.82	98.316		
3,600.0	3,574.0	3,368.0	3,307.5	9.3	12.2	63.36	-355.6	-1,808.8	1,664.8	1,647.4	17.38	95.809		
3,700.0	3,673.1	3,467.4	3,404.8	9.6	12.6	63.37	-367.9	-1,825.4	1,675.5	1,657.6	17.93	93.455		
3,800.0	3,772.1	3,566.9	3,502.0	9.9	13.0	63.38	-380.2	-1,842.0	1,686.3	1,667.8	18.48	91.242		
3,900.0	3,871.1	3,666.3	3,599.3	10.2	13.4	63.39	-392.6	-1,858.6	1,697.0	1,678.0	19.03	89.155		
4,000.0	3,970.3	3,808.3	3,738.5	10.5	14.0	63.48	-409.4	-1,881.2	1,707.6	1,687.9	19.67	86.800		
4,100.0	4,069.6	4,001.6	3,929.7	10.8	14.5	63.65	-426.0	-1,903.6	1,714.3	1,694.0	20.35	84.243		
4,200.0	4,169.2	4,195.3	4,122.8	11.0	14.9	63.93	-434.9	-1,915.6	1,716.3	1,695.4	20.93	81.999		
4,300.0	4,268.9	4,355.4	4,282.9	11.2	15.0	64.24	-436.6	-1,917.8	1,714.0	1,692.7	21.38	80.162		
4,400.0	4,368.7	4,455.2	4,382.7	11.4	15.1	64.40	-436.6	-1,917.8	1,711.4	1,689.7	21.71	78.832		
4,500.0	4,468.6	4,555.1	4,482.6	11.5	15.2	64.52	-436.6	-1,917.8	1,709.5	1,687.5	22.01	77.665		
4,600.0	4,568.5	4,655.1	4,582.5	11.7	15.3	64.59	-436.6	-1,917.8	1,708.4	1,686.1	22.29	76.650		
4,700.0	4,668.5	4,755.1	4,682.5	11.8	15.4	-89.89	-436.6	-1,917.8	1,708.0	1,685.5	22.54	75.775		
4,800.0	4,768.5	4,855.1	4,782.5	11.9	15.5	-89.89	-436.6	-1,917.8	1,708.0	1,685.2	22.80	74.924		
4,900.0	4,868.5	4,955.1	4,882.5	12.1	15.6	-89.89	-436.6	-1,917.8	1,708.0	1,684.9	23.05	74.084		
5,000.0	4,968.5	5,055.1	4,982.5	12.2	15.7	-89.89	-436.6	-1,917.8	1,708.0	1,684.7	23.32	73.255		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,068.5	5,155.1	5,082.5	12.3	15.8	-89.89	-436.6	-1,917.8	1,708.0	1,684.4	23.58	72.437	
5,200.0	5,168.5	5,255.1	5,182.5	12.4	15.9	-89.89	-436.6	-1,917.8	1,708.0	1,684.2	23.84	71.631	
5,300.0	5,268.5	5,355.1	5,282.5	12.6	16.0	-89.89	-436.6	-1,917.8	1,708.0	1,683.9	24.11	70.836	
5,400.0	5,368.5	5,455.1	5,382.5	12.7	16.1	-89.89	-436.6	-1,917.8	1,708.0	1,683.6	24.38	70.053	
5,500.0	5,468.5	5,555.1	5,482.5	12.8	16.2	-89.89	-436.6	-1,917.8	1,708.0	1,683.3	24.65	69.281	
5,600.0	5,568.5	5,655.1	5,582.5	12.9	16.3	-89.89	-436.6	-1,917.8	1,708.0	1,683.1	24.93	68.521	
5,700.0	5,668.5	5,755.1	5,682.5	13.1	16.4	-89.89	-436.6	-1,917.8	1,708.0	1,682.8	25.20	67.772	
5,800.0	5,768.5	5,855.1	5,782.5	13.2	16.5	-89.89	-436.6	-1,917.8	1,708.0	1,682.5	25.48	67.035	
5,900.0	5,868.5	5,955.1	5,882.5	13.3	16.6	-89.89	-436.6	-1,917.8	1,708.0	1,682.2	25.76	66.309	
6,000.0	5,968.5	6,055.1	5,982.5	13.5	16.7	-89.89	-436.6	-1,917.8	1,708.0	1,682.0	26.04	65.595	
6,100.0	6,068.5	6,155.1	6,082.5	13.6	16.8	-89.89	-436.6	-1,917.8	1,708.0	1,681.7	26.32	64.891	
6,200.0	6,168.5	6,255.1	6,182.5	13.8	16.9	-89.89	-436.6	-1,917.8	1,708.0	1,681.4	26.60	64.199	
6,300.0	6,268.5	6,355.1	6,282.5	13.9	17.0	-89.89	-436.6	-1,917.8	1,708.0	1,681.1	26.89	63.518	
6,400.0	6,368.5	6,455.1	6,382.5	14.0	17.1	-89.89	-436.6	-1,917.8	1,708.0	1,680.8	27.18	62.847	
6,500.0	6,468.5	6,555.1	6,482.5	14.2	17.3	-89.89	-436.6	-1,917.8	1,708.0	1,680.5	27.47	62.188	
6,600.0	6,568.5	6,655.1	6,582.5	14.3	17.4	-89.89	-436.6	-1,917.8	1,708.0	1,680.2	27.76	61.538	
6,700.0	6,668.5	6,755.1	6,682.5	14.4	17.5	-89.89	-436.6	-1,917.8	1,708.0	1,680.0	28.05	60.900	
6,717.5	6,686.1	6,772.6	6,700.1	14.5	17.5	-89.89	-436.6	-1,917.8	1,708.0	1,679.9	28.10	60.789	
6,726.3	6,694.8	6,781.4	6,708.8	14.5	17.5	-89.89	-436.6	-1,917.8	1,708.0	1,679.9	28.12	60.734	
6,750.0	6,718.5	6,805.0	6,732.4	14.5	17.5	-89.89	-436.2	-1,917.8	1,708.0	1,679.8	28.18	60.620	
6,800.0	6,768.4	6,854.8	6,782.1	14.5	17.6	-89.89	-432.8	-1,917.8	1,708.0	1,679.8	28.23	60.513	
6,850.0	6,817.9	6,904.6	6,831.4	14.5	17.6	-89.89	-426.0	-1,917.8	1,708.0	1,679.8	28.21	60.537	
6,900.0	6,866.8	6,954.3	6,880.1	14.5	17.5	-89.89	-415.8	-1,917.8	1,708.0	1,679.9	28.15	60.683	
6,950.0	6,914.9	7,004.1	6,928.0	14.4	17.5	-89.90	-402.2	-1,917.8	1,708.0	1,680.0	28.03	60.941	
7,000.0	6,961.9	7,053.9	6,974.8	14.4	17.4	-89.90	-385.3	-1,917.8	1,708.0	1,680.1	27.86	61.296	
7,050.0	7,007.6	7,103.7	7,020.4	14.3	17.4	-89.90	-365.2	-1,917.8	1,708.0	1,680.3	27.67	61.733	
7,100.0	7,051.8	7,153.5	7,064.4	14.2	17.3	-89.90	-342.0	-1,917.8	1,708.0	1,680.5	27.45	62.233	
7,150.0	7,094.2	7,203.3	7,106.8	14.0	17.2	-89.91	-315.8	-1,917.8	1,708.0	1,680.8	27.21	62.772	
7,200.0	7,134.7	7,253.2	7,147.2	13.9	17.1	-89.91	-286.7	-1,917.8	1,708.0	1,681.0	26.97	63.323	
7,250.0	7,173.1	7,303.0	7,185.5	13.8	17.0	-89.92	-254.8	-1,917.8	1,708.0	1,681.2	26.75	63.854	
7,300.0	7,209.1	7,352.8	7,221.5	13.7	16.9	-89.92	-220.4	-1,917.8	1,708.0	1,681.4	26.55	64.330	
7,350.0	7,242.6	7,402.7	7,255.1	13.6	16.8	-89.93	-183.5	-1,917.8	1,708.0	1,681.6	26.39	64.712	
7,400.0	7,273.5	7,452.5	7,286.0	13.6	16.8	-89.93	-144.4	-1,917.8	1,708.0	1,681.7	26.29	64.963	
7,450.0	7,301.5	7,502.4	7,314.1	13.6	16.8	-89.94	-103.2	-1,917.8	1,708.0	1,681.7	26.26	65.045	
7,500.0	7,326.6	7,552.3	7,339.3	13.6	16.8	-89.95	-60.2	-1,917.8	1,708.0	1,681.7	26.31	64.927	
7,550.0	7,348.6	7,602.2	7,361.4	13.7	16.8	-89.95	-15.5	-1,917.8	1,708.0	1,681.5	26.44	64.586	
7,600.0	7,367.4	7,652.1	7,380.3	13.8	16.9	-89.96	30.7	-1,917.7	1,708.0	1,681.3	26.68	64.011	
7,650.0	7,382.9	7,702.1	7,396.1	13.9	17.0	-89.97	78.1	-1,917.7	1,708.0	1,680.9	27.02	63.204	
7,700.0	7,395.1	7,752.0	7,408.4	14.2	17.2	-89.98	126.5	-1,917.7	1,708.0	1,680.5	27.47	62.178	
7,750.0	7,403.9	7,802.0	7,417.4	14.4	17.4	-89.98	175.6	-1,917.7	1,708.0	1,679.9	28.02	60.959	
7,800.0	7,409.2	7,851.9	7,422.9	14.7	17.7	-89.99	225.3	-1,917.7	1,708.0	1,679.3	28.67	59.581	
7,851.3	7,411.0	7,903.2	7,425.0	15.1	18.0	-90.00	276.5	-1,917.7	1,707.9	1,678.5	29.43	58.043	
7,900.0	7,411.0	7,951.9	7,425.0	15.5	18.3	-90.00	325.2	-1,917.7	1,707.9	1,677.7	30.25	56.469	
8,000.0	7,411.0	8,051.9	7,425.0	16.4	19.1	-90.00	425.2	-1,917.7	1,707.9	1,675.8	32.12	53.178	
8,100.0	7,411.0	8,151.9	7,425.0	17.5	20.0	-90.00	525.2	-1,917.7	1,707.9	1,673.7	34.24	49.874	
8,200.0	7,411.0	8,251.9	7,425.0	18.6	21.0	-90.00	625.2	-1,917.7	1,707.9	1,671.3	36.59	46.683	
8,300.0	7,411.0	8,351.9	7,425.0	19.8	22.1	-90.00	725.2	-1,917.7	1,707.9	1,668.8	39.10	43.679	
8,400.0	7,411.0	8,451.9	7,425.0	21.2	23.3	-90.00	825.2	-1,917.7	1,707.9	1,666.1	41.76	40.897	
8,500.0	7,411.0	8,551.9	7,425.0	22.5	24.5	-90.00	925.2	-1,917.7	1,707.9	1,663.4	44.54	38.346	
8,600.0	7,411.0	8,651.9	7,425.0	24.0	25.9	-90.00	1,025.2	-1,917.7	1,707.9	1,660.5	47.41	36.022	
8,700.0	7,411.0	8,751.9	7,425.0	25.4	27.2	-90.00	1,125.2	-1,917.7	1,707.9	1,657.5	50.37	33.908	
8,800.0	7,411.0	8,851.9	7,425.0	26.9	28.6	-90.00	1,225.2	-1,917.7	1,707.9	1,654.5	53.39	31.989	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
8,900.0	7,411.0	8,951.9	7,425.0	28.4	30.1	-90.00	1,325.2	-1,917.7	1,707.9	1,651.4	56.47	30.245		
9,000.0	7,411.0	9,051.9	7,425.0	30.0	31.5	-90.00	1,425.2	-1,917.7	1,707.9	1,648.3	59.59	28.658		
9,100.0	7,411.0	9,151.9	7,425.0	31.6	33.0	-90.00	1,525.2	-1,917.6	1,707.9	1,645.1	62.76	27.212		
9,200.0	7,411.0	9,251.9	7,425.0	33.2	34.6	-90.00	1,625.2	-1,917.6	1,707.9	1,641.9	65.96	25.892		
9,300.0	7,411.0	9,351.9	7,425.0	34.8	36.1	-90.00	1,725.2	-1,917.6	1,707.8	1,638.7	69.19	24.683		
9,351.3	7,411.0	9,403.2	7,425.0	35.6	36.9	-90.00	1,776.5	-1,917.6	1,707.8	1,637.0	70.86	24.102		
9,400.0	7,411.0	9,451.9	7,425.0	36.4	37.7	-90.00	1,825.2	-1,917.6	1,707.6	1,635.1	72.55	23.537		
9,500.0	7,411.0	9,551.9	7,425.0	38.0	39.3	-90.00	1,925.2	-1,917.6	1,705.9	1,629.9	76.03	22.437		
9,600.0	7,411.0	9,651.8	7,425.0	39.7	40.8	-90.00	2,025.1	-1,917.6	1,702.4	1,622.9	79.51	21.410		
9,700.0	7,411.0	9,751.7	7,425.0	41.3	42.4	-90.00	2,125.0	-1,917.6	1,697.2	1,614.2	82.99	20.450		
9,751.3	7,411.0	9,802.9	7,425.0	42.2	43.3	-90.00	2,176.2	-1,917.6	1,693.9	1,609.1	84.77	19.981		
9,800.0	7,411.0	9,851.5	7,425.0	43.0	44.1	-90.00	2,224.8	-1,917.6	1,690.5	1,604.1	86.40	19.567		
9,900.0	7,411.0	9,951.2	7,425.0	44.7	45.7	-90.00	2,324.5	-1,917.6	1,683.5	1,593.7	89.74	18.760		
10,000.0	7,411.0	10,051.0	7,425.0	46.3	47.3	-90.00	2,424.3	-1,917.6	1,676.5	1,583.4	93.09	18.010		
10,100.0	7,411.0	10,150.7	7,425.0	48.0	49.0	-90.00	2,524.0	-1,917.6	1,669.5	1,573.1	96.45	17.309		
10,200.0	7,411.0	10,250.5	7,425.0	49.7	50.6	-90.00	2,623.8	-1,917.6	1,662.5	1,562.7	99.83	16.654		
10,300.0	7,411.0	10,350.3	7,425.0	51.4	52.3	-90.00	2,723.5	-1,917.6	1,655.5	1,552.3	103.21	16.041		
10,400.0	7,411.0	10,450.0	7,425.0	53.1	53.9	-90.00	2,823.3	-1,917.6	1,648.6	1,542.0	106.60	15.465		
10,500.0	7,411.0	10,549.8	7,425.0	54.8	55.6	-90.00	2,923.0	-1,917.5	1,641.6	1,531.6	109.99	14.924		
10,551.3	7,411.0	10,600.9	7,425.0	55.7	56.4	-90.00	2,974.2	-1,917.5	1,638.0	1,526.3	111.74	14.659		
10,600.0	7,411.0	10,649.5	7,425.0	56.5	57.3	-90.00	3,022.8	-1,917.5	1,634.8	1,521.5	113.33	14.425		
10,700.0	7,411.0	10,749.4	7,425.0	58.2	58.9	-90.00	3,122.7	-1,917.5	1,629.5	1,513.0	116.58	13.977		
10,800.0	7,411.0	10,849.3	7,425.0	59.9	60.6	-90.00	3,222.6	-1,917.5	1,626.0	1,506.2	119.81	13.571		
10,900.0	7,411.0	10,949.3	7,425.0	61.6	62.3	-90.00	3,322.6	-1,917.5	1,624.2	1,501.2	123.01	13.204		
10,951.7	7,411.0	11,001.0	7,425.0	62.5	63.2	-90.00	3,374.3	-1,917.5	1,624.0	1,499.4	124.66	13.028		
11,000.0	7,411.0	11,049.3	7,425.0	63.4	64.0	-90.00	3,422.6	-1,917.5	1,624.2	1,498.0	126.19	12.871		
11,100.0	7,411.0	11,149.3	7,425.0	65.1	65.7	-90.00	3,522.6	-1,917.5	1,625.9	1,496.6	129.33	12.572		
11,200.0	7,411.0	11,249.2	7,425.0	66.8	67.4	-90.00	3,622.5	-1,917.5	1,629.4	1,497.0	132.43	12.303		
11,300.0	7,411.0	11,349.1	7,425.0	68.5	69.1	-90.00	3,722.4	-1,917.5	1,634.6	1,499.1	135.50	12.063		
11,400.0	7,411.0	11,448.9	7,425.0	70.2	70.8	-90.00	3,822.1	-1,917.5	1,641.5	1,503.0	138.53	11.850		
11,500.0	7,411.0	11,548.5	7,425.0	71.9	72.5	-90.00	3,921.8	-1,917.5	1,650.2	1,508.7	141.52	11.661		
11,600.0	7,411.0	11,647.9	7,425.0	73.6	74.2	-90.00	4,021.2	-1,917.5	1,660.7	1,516.2	144.46	11.496		
11,657.3	7,411.0	11,704.8	7,425.0	74.6	75.2	-90.00	4,078.1	-1,917.5	1,667.4	1,521.3	146.12	11.411		
11,700.0	7,411.0	11,747.2	7,425.0	75.3	75.9	-90.00	4,120.5	-1,917.5	1,672.6	1,525.1	147.59	11.333		
11,800.0	7,411.0	11,846.5	7,425.0	77.0	77.6	-90.00	4,219.7	-1,917.5	1,684.9	1,533.9	151.02	11.157		
11,900.0	7,411.0	11,945.7	7,425.0	78.7	79.3	-90.00	4,319.0	-1,917.4	1,697.2	1,542.8	154.45	10.989		
11,938.2	7,411.0	11,983.6	7,425.0	79.4	79.9	-90.00	4,356.9	-1,917.4	1,701.9	1,546.1	155.76	10.926 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4B-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	14.0	14.0	0.0	0.0	-90.00	0.0	-1,318.6	1,318.6							
100.0	100.0	114.0	114.0	0.2	0.2	-90.00	0.0	-1,318.6	1,318.6	1,318.3	0.33	4,018.776				
200.0	200.0	214.0	214.0	0.3	0.4	-90.00	0.0	-1,318.6	1,318.6	1,318.0	0.68	1,947.243				
261.2	261.2	275.2	275.2	0.4	0.5	-90.00	0.0	-1,318.6	1,318.6	1,317.8	0.89	1,480.036				
300.0	300.0	312.0	312.0	0.5	0.5	-90.00	0.0	-1,318.7	1,318.7	1,317.6	1.02	1,289.107				
400.0	400.0	400.0	400.0	0.7	0.7	-90.07	-1.6	-1,319.3	1,319.4	1,318.0	1.35	975.755				
500.0	500.0	482.7	482.5	0.9	0.8	64.28	-5.4	-1,320.8	1,320.8	1,319.1	1.68	784.152				
600.0	600.0	567.8	567.4	1.0	1.0	64.08	-11.6	-1,323.3	1,322.6	1,320.6	2.04	648.878				
700.0	699.9	652.7	651.8	1.2	1.2	63.84	-20.1	-1,326.7	1,324.8	1,322.4	2.42	547.813				
800.0	799.7	744.1	742.3	1.4	1.5	63.54	-31.6	-1,331.2	1,327.3	1,324.4	2.84	467.682				
900.0	899.4	843.9	841.2	1.6	1.7	63.27	-44.5	-1,336.4	1,329.2	1,325.9	3.30	402.922				
1,000.0	998.9	943.8	940.1	1.8	2.0	63.08	-57.4	-1,341.5	1,330.3	1,326.5	3.78	352.044				
1,100.0	1,098.3	1,043.7	1,039.1	2.1	2.3	62.96	-70.3	-1,346.6	1,330.7	1,326.4	4.28	311.037				
1,200.0	1,197.4	1,143.7	1,138.1	2.3	2.6	62.91	-83.2	-1,351.8	1,330.2	1,325.4	4.80	277.252				
1,300.0	1,296.4	1,243.7	1,237.1	2.6	2.9	62.90	-96.2	-1,356.9	1,329.4	1,324.1	5.33	249.559				
1,400.0	1,395.5	1,343.7	1,336.1	2.9	3.2	62.88	-109.1	-1,362.1	1,328.6	1,322.7	5.86	226.637				
1,500.0	1,494.5	1,443.7	1,435.2	3.2	3.5	62.86	-122.0	-1,367.2	1,327.7	1,321.3	6.40	207.404				
1,600.0	1,593.5	1,543.7	1,534.2	3.5	3.8	62.85	-135.0	-1,372.4	1,326.9	1,319.9	6.94	191.068				
1,700.0	1,692.5	1,643.7	1,633.2	3.7	4.1	62.83	-147.9	-1,377.5	1,326.0	1,318.6	7.49	177.038				
1,800.0	1,791.6	1,743.7	1,732.2	4.0	4.4	62.81	-160.8	-1,382.7	1,325.2	1,317.2	8.04	164.872				
1,900.0	1,890.6	1,843.7	1,831.3	4.3	4.7	62.79	-173.8	-1,387.8	1,324.4	1,315.8	8.59	154.227				
2,000.0	1,989.6	1,943.7	1,930.3	4.6	5.0	62.78	-186.7	-1,393.0	1,323.5	1,314.4	9.14	144.842				
2,100.0	2,088.6	2,043.7	2,029.3	4.9	5.3	62.76	-199.6	-1,398.1	1,322.7	1,313.0	9.69	136.508				
2,200.0	2,187.7	2,143.7	2,128.3	5.2	5.5	62.74	-212.5	-1,403.3	1,321.9	1,311.6	10.24	129.061				
2,300.0	2,286.7	2,243.7	2,227.3	5.5	5.8	62.73	-225.5	-1,408.4	1,321.0	1,310.3	10.80	122.368				
2,400.0	2,385.7	2,343.7	2,326.4	5.8	6.1	62.71	-238.4	-1,413.6	1,320.2	1,308.9	11.35	116.322				
2,500.0	2,484.8	2,443.7	2,425.4	6.1	6.4	62.69	-251.3	-1,418.7	1,319.4	1,307.5	11.90	110.834				
2,600.0	2,583.8	2,543.7	2,524.4	6.4	6.7	62.67	-264.3	-1,423.8	1,318.6	1,306.1	12.46	105.830				
2,700.0	2,682.8	2,643.7	2,623.4	6.7	7.0	62.66	-277.2	-1,429.0	1,317.7	1,304.7	13.01	101.250				
2,800.0	2,781.8	2,743.6	2,722.5	7.0	7.3	62.64	-290.1	-1,434.1	1,316.9	1,303.3	13.57	97.043				
2,900.0	2,880.9	2,843.6	2,821.5	7.3	7.6	62.62	-303.1	-1,439.3	1,316.1	1,301.9	14.13	93.166				
3,000.0	2,979.9	2,943.6	2,920.5	7.6	7.9	62.61	-316.0	-1,444.4	1,315.2	1,300.5	14.68	89.580				
3,100.0	3,078.9	3,043.6	3,019.5	7.9	8.2	62.59	-328.9	-1,449.6	1,314.4	1,299.2	15.24	86.256				
3,200.0	3,177.9	3,143.6	3,118.6	8.2	8.5	62.57	-341.8	-1,454.7	1,313.6	1,297.8	15.79	83.165				
3,300.0	3,277.0	3,243.6	3,217.6	8.5	8.8	62.55	-354.8	-1,459.9	1,312.7	1,296.4	16.35	80.283				
3,400.0	3,376.0	3,343.6	3,316.6	8.7	9.1	62.54	-367.7	-1,465.0	1,311.9	1,295.0	16.91	77.591				
3,500.0	3,475.0	3,443.6	3,415.6	9.0	9.4	62.52	-380.6	-1,470.2	1,311.1	1,293.6	17.46	75.070				
3,600.0	3,574.0	3,543.6	3,514.6	9.3	9.7	62.50	-393.6	-1,475.3	1,310.2	1,292.2	18.02	72.704				
3,700.0	3,673.1	3,643.6	3,613.7	9.6	10.0	62.48	-406.5	-1,480.5	1,309.4	1,290.8	18.58	70.481				
3,800.0	3,772.1	3,757.9	3,727.0	9.9	10.3	62.51	-420.3	-1,485.9	1,308.2	1,289.1	19.15	68.320				
3,900.0	3,871.1	3,880.2	3,848.8	10.2	10.6	62.72	-430.6	-1,490.1	1,305.4	1,285.7	19.69	66.285				
4,000.0	3,970.3	4,001.8	3,970.3	10.5	10.8	63.07	-436.1	-1,492.2	1,301.4	1,281.2	20.17	64.510				
4,100.0	4,069.6	4,115.2	4,083.6	10.8	10.9	63.49	-437.1	-1,492.6	1,296.6	1,276.0	20.58	62.993				
4,200.0	4,169.2	4,214.8	4,183.2	11.0	11.0	63.83	-437.1	-1,492.6	1,292.4	1,271.4	20.95	61.682				
4,300.0	4,268.9	4,314.5	4,282.9	11.2	11.1	64.12	-437.1	-1,492.6	1,288.9	1,267.6	21.30	60.520				
4,400.0	4,368.7	4,414.3	4,382.7	11.4	11.3	64.34	-437.1	-1,492.6	1,286.2	1,264.6	21.62	59.495				
4,500.0	4,468.6	4,514.2	4,482.6	11.5	11.4	64.49	-437.1	-1,492.6	1,284.4	1,262.4	21.92	58.598				
4,600.0	4,568.5	4,614.1	4,582.5	11.7	11.5	64.59	-437.1	-1,492.6	1,283.2	1,261.0	22.19	57.818				
4,700.0	4,668.5	4,714.1	4,682.5	11.8	11.6	-89.88	-437.1	-1,492.6	1,282.9	1,260.4	22.45	57.147				
4,800.0	4,768.5	4,814.1	4,782.5	11.9	11.7	-89.88	-437.1	-1,492.6	1,282.9	1,260.2	22.70	56.503				
4,900.0	4,868.5	4,914.1	4,882.5	12.1	11.9	-89.88	-437.1	-1,492.6	1,282.9	1,259.9	22.96	55.867				
5,000.0	4,968.5	5,014.1	4,982.5	12.2	12.0	-89.88	-437.1	-1,492.6	1,282.9	1,259.6	23.22	55.239				

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
5,100.0	5,068.5	5,114.1	5,082.5	12.3	12.1	-89.88	-437.1	-1,492.6	1,282.9	1,259.4	23.49	54.620		
5,200.0	5,168.5	5,214.1	5,182.5	12.4	12.3	-89.88	-437.1	-1,492.6	1,282.9	1,259.1	23.75	54.010		
5,300.0	5,268.5	5,314.1	5,282.5	12.6	12.4	-89.88	-437.1	-1,492.6	1,282.9	1,258.8	24.02	53.409		
5,400.0	5,368.5	5,414.1	5,382.5	12.7	12.5	-89.88	-437.1	-1,492.6	1,282.9	1,258.6	24.29	52.816		
5,500.0	5,468.5	5,514.1	5,482.5	12.8	12.6	-89.88	-437.1	-1,492.6	1,282.9	1,258.3	24.56	52.232		
5,600.0	5,568.5	5,614.1	5,582.5	12.9	12.8	-89.88	-437.1	-1,492.6	1,282.9	1,258.0	24.83	51.657		
5,700.0	5,668.5	5,714.1	5,682.5	13.1	12.9	-89.88	-437.1	-1,492.6	1,282.9	1,257.7	25.11	51.090		
5,800.0	5,768.5	5,814.1	5,782.5	13.2	13.0	-89.88	-437.1	-1,492.6	1,282.9	1,257.5	25.39	50.532		
5,900.0	5,868.5	5,914.1	5,882.5	13.3	13.2	-89.88	-437.1	-1,492.6	1,282.9	1,257.2	25.67	49.983		
6,000.0	5,968.5	6,014.1	5,982.5	13.5	13.3	-89.88	-437.1	-1,492.6	1,282.9	1,256.9	25.95	49.442		
6,100.0	6,068.5	6,114.1	6,082.5	13.6	13.5	-89.88	-437.1	-1,492.6	1,282.9	1,256.6	26.23	48.910		
6,200.0	6,168.5	6,214.1	6,182.5	13.8	13.6	-89.88	-437.1	-1,492.6	1,282.9	1,256.3	26.51	48.386		
6,300.0	6,268.5	6,314.1	6,282.5	13.9	13.7	-89.88	-437.1	-1,492.6	1,282.9	1,256.1	26.80	47.871		
6,400.0	6,368.5	6,414.1	6,382.5	14.0	13.9	-89.88	-437.1	-1,492.6	1,282.9	1,255.8	27.09	47.364		
6,500.0	6,468.5	6,514.1	6,482.5	14.2	14.0	-89.88	-437.1	-1,492.6	1,282.9	1,255.5	27.37	46.865		
6,600.0	6,568.5	6,614.1	6,582.5	14.3	14.2	-89.88	-437.1	-1,492.6	1,282.9	1,255.2	27.66	46.374		
6,700.0	6,668.5	6,714.1	6,682.5	14.4	14.3	-89.88	-437.1	-1,492.6	1,282.9	1,254.9	27.95	45.891		
6,726.3	6,694.8	6,740.4	6,708.8	14.5	14.3	-89.88	-437.1	-1,492.6	1,282.9	1,254.8	28.03	45.765		
6,750.0	6,718.5	6,764.1	6,732.5	14.5	14.4	-89.90	-437.1	-1,492.6	1,282.9	1,254.8	28.09	45.667		
6,788.7	6,757.1	6,802.7	6,771.1	14.5	14.4	-90.00	-437.1	-1,492.6	1,282.9	1,254.7	28.16	45.555		
6,800.0	6,768.4	6,814.0	6,782.4	14.5	14.4	-90.05	-437.1	-1,492.6	1,282.9	1,254.7	28.18	45.524		
6,850.0	6,817.9	6,863.5	6,831.9	14.5	14.5	-90.35	-437.1	-1,492.6	1,282.9	1,254.7	28.23	45.448		
6,900.0	6,866.8	6,912.4	6,880.8	14.5	14.6	-90.79	-437.1	-1,492.6	1,283.0	1,254.7	28.24	45.436		
6,950.0	6,914.9	6,960.5	6,928.9	14.4	14.7	-91.36	-437.1	-1,492.6	1,283.3	1,255.0	28.21	45.483		
7,000.0	6,961.9	7,010.9	6,979.3	14.4	14.7	-92.01	-435.3	-1,492.6	1,283.7	1,255.6	28.14	45.625		
7,050.0	7,007.6	7,062.5	7,030.5	14.3	14.7	-92.66	-429.8	-1,492.6	1,284.4	1,256.4	28.01	45.849		
7,100.0	7,051.8	7,115.3	7,082.5	14.2	14.7	-93.31	-420.4	-1,492.6	1,285.2	1,257.4	27.85	46.147		
7,150.0	7,094.2	7,169.5	7,135.0	14.0	14.6	-93.95	-406.8	-1,492.6	1,286.2	1,258.5	27.66	46.508		
7,200.0	7,134.7	7,225.1	7,187.5	13.9	14.6	-94.58	-388.7	-1,492.6	1,287.3	1,259.9	27.44	46.919		
7,250.0	7,173.1	7,282.2	7,239.9	13.8	14.5	-95.19	-366.0	-1,492.6	1,288.6	1,261.4	27.21	47.364		
7,300.0	7,209.1	7,340.8	7,291.6	13.7	14.3	-95.79	-338.4	-1,492.6	1,289.9	1,263.0	26.97	47.820		
7,350.0	7,242.6	7,401.0	7,342.1	13.6	14.2	-96.37	-305.8	-1,492.6	1,291.3	1,264.6	26.76	48.261		
7,400.0	7,273.5	7,462.8	7,391.0	13.6	14.1	-96.92	-268.0	-1,492.6	1,292.8	1,266.2	26.57	48.651		
7,450.0	7,301.5	7,526.2	7,437.6	13.6	13.9	-97.44	-225.0	-1,492.6	1,294.3	1,267.8	26.44	48.954		
7,500.0	7,326.6	7,591.2	7,481.1	13.6	13.9	-97.92	-176.8	-1,492.6	1,295.7	1,269.3	26.37	49.131		
7,550.0	7,348.6	7,657.6	7,521.0	13.7	13.8	-98.36	-123.7	-1,492.6	1,297.0	1,270.6	26.40	49.133		
7,600.0	7,367.4	7,725.5	7,556.5	13.8	13.8	-98.75	-65.8	-1,492.6	1,298.3	1,271.7	26.54	48.918		
7,650.0	7,382.9	7,794.7	7,586.8	13.9	13.9	-99.08	-3.7	-1,492.6	1,299.3	1,272.5	26.80	48.480		
7,700.0	7,395.1	7,864.9	7,611.3	14.2	14.1	-99.35	62.1	-1,492.6	1,300.2	1,273.0	27.21	47.779		
7,750.0	7,403.9	7,936.0	7,629.5	14.4	14.4	-99.55	130.8	-1,492.6	1,300.9	1,273.1	27.77	46.845		
7,800.0	7,409.2	8,007.8	7,640.8	14.7	14.8	-99.68	201.6	-1,492.5	1,301.3	1,272.8	28.47	45.705		
7,851.3	7,411.0	8,081.7	7,645.0	15.1	15.3	-99.73	275.4	-1,492.5	1,301.5	1,272.1	29.34	44.366		
7,900.0	7,411.0	8,131.6	7,645.0	15.5	15.7	-99.73	325.3	-1,492.5	1,301.5	1,271.3	30.15	43.170		
8,000.0	7,411.0	8,231.6	7,645.0	16.4	16.6	-99.73	425.3	-1,492.5	1,301.5	1,269.5	31.98	40.692		
8,100.0	7,411.0	8,331.6	7,645.0	17.5	17.7	-99.73	525.3	-1,492.5	1,301.4	1,267.4	34.07	38.197		
8,200.0	7,411.0	8,431.6	7,645.0	18.6	18.8	-99.73	625.3	-1,492.5	1,301.4	1,265.1	36.37	35.783		
8,300.0	7,411.0	8,531.6	7,645.0	19.8	20.0	-99.73	725.3	-1,492.5	1,301.4	1,262.6	38.84	33.507		
8,400.0	7,411.0	8,631.6	7,645.0	21.2	21.3	-99.73	825.3	-1,492.5	1,301.4	1,260.0	41.45	31.395		
8,500.0	7,411.0	8,731.6	7,645.0	22.5	22.7	-99.73	925.3	-1,492.4	1,301.4	1,257.2	44.18	29.456		
8,600.0	7,411.0	8,831.6	7,645.0	24.0	24.1	-99.73	1,025.3	-1,492.4	1,301.4	1,254.4	47.01	27.685		
8,700.0	7,411.0	8,931.6	7,645.0	25.4	25.6	-99.73	1,125.3	-1,492.4	1,301.4	1,251.5	49.91	26.074		
8,800.0	7,411.0	9,031.6	7,645.0	26.9	27.1	-99.73	1,225.3	-1,492.4	1,301.3	1,248.5	52.88	24.608		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
8,900.0	7,411.0	9,131.6	7,645.0	28.4	28.6	-99.73	1,325.3	-1,492.4	1,301.3	1,245.4	55.91	23.276		
9,000.0	7,411.0	9,231.6	7,645.0	30.0	30.1	-99.73	1,425.3	-1,492.4	1,301.3	1,242.3	58.98	22.062		
9,100.0	7,411.0	9,331.6	7,645.0	31.6	31.7	-99.73	1,525.3	-1,492.4	1,301.3	1,239.2	62.10	20.955		
9,200.0	7,411.0	9,431.6	7,645.0	33.2	33.3	-99.73	1,625.3	-1,492.3	1,301.3	1,236.0	65.25	19.943		
9,300.0	7,411.0	9,531.6	7,645.0	34.8	34.9	-99.73	1,725.3	-1,492.3	1,301.3	1,232.9	68.43	19.016		
9,351.3	7,411.0	9,582.9	7,645.0	35.6	35.7	-99.73	1,776.6	-1,492.3	1,301.3	1,231.2	70.07	18.571		
9,400.0	7,411.0	9,631.6	7,645.0	36.4	36.5	-99.73	1,825.3	-1,492.3	1,301.1	1,229.4	71.68	18.150		
9,500.0	7,411.0	9,731.5	7,645.0	38.0	38.1	-99.75	1,925.2	-1,492.3	1,299.4	1,224.4	75.00	17.325		
9,600.0	7,411.0	9,831.5	7,645.0	39.7	39.8	-99.78	2,025.2	-1,492.3	1,295.9	1,217.6	78.31	16.548		
9,700.0	7,411.0	9,931.3	7,645.0	41.3	41.4	-99.83	2,125.0	-1,492.3	1,290.8	1,209.2	81.61	15.815		
9,751.3	7,411.0	9,982.5	7,645.0	42.2	42.3	-99.86	2,176.2	-1,492.3	1,287.5	1,204.2	83.30	15.455		
9,800.0	7,411.0	10,031.1	7,645.0	43.0	43.1	-99.89	2,224.8	-1,492.3	1,284.1	1,199.2	84.89	15.126		
9,900.0	7,411.0	10,130.9	7,645.0	44.7	44.7	-99.94	2,324.6	-1,492.3	1,277.2	1,189.1	88.17	14.487		
10,000.0	7,411.0	10,230.6	7,645.0	46.3	46.4	-100.00	2,424.3	-1,492.2	1,270.3	1,178.9	91.45	13.891		
10,100.0	7,411.0	10,330.4	7,645.0	48.0	48.1	-100.05	2,524.1	-1,492.2	1,263.5	1,168.7	94.74	13.336		
10,200.0	7,411.0	10,430.1	7,645.0	49.7	49.8	-100.11	2,623.8	-1,492.2	1,256.6	1,158.5	98.04	12.816		
10,300.0	7,411.0	10,529.9	7,645.0	51.4	51.4	-100.16	2,723.6	-1,492.2	1,249.7	1,148.3	101.35	12.330		
10,400.0	7,411.0	10,629.7	7,645.0	53.1	53.1	-100.22	2,823.3	-1,492.2	1,242.8	1,138.1	104.67	11.874		
10,500.0	7,411.0	10,729.4	7,645.0	54.8	54.8	-100.28	2,923.1	-1,492.2	1,235.9	1,127.9	107.99	11.445		
10,551.3	7,411.0	10,780.6	7,645.0	55.7	55.7	-100.31	2,974.3	-1,492.2	1,232.4	1,122.7	109.70	11.235		
10,600.0	7,411.0	10,829.2	7,645.0	56.5	56.5	-100.33	3,022.9	-1,492.2	1,229.3	1,118.0	111.31	11.044		
10,700.0	7,411.0	10,929.0	7,645.0	58.2	58.2	-100.36	3,122.7	-1,492.1	1,224.1	1,109.5	114.61	10.681		
10,800.0	7,411.0	11,029.0	7,645.0	59.9	59.9	-100.39	3,222.7	-1,492.1	1,220.6	1,102.7	117.89	10.354		
10,900.0	7,411.0	11,129.0	7,645.0	61.6	61.6	-100.40	3,322.6	-1,492.1	1,218.9	1,097.7	121.14	10.061		
10,952.1	7,411.0	11,181.0	7,645.0	62.5	62.5	-100.40	3,374.7	-1,492.1	1,218.6	1,095.8	122.83	9.921 CC		
11,000.0	7,411.0	11,229.0	7,645.0	63.4	63.3	-100.40	3,422.6	-1,492.1	1,218.8	1,094.4	124.38	9.799		
11,100.0	7,411.0	11,328.9	7,645.0	65.1	65.0	-100.39	3,522.6	-1,492.1	1,220.5	1,092.9	127.58	9.566 ES		
11,200.0	7,411.0	11,428.9	7,645.0	66.8	66.8	-100.36	3,622.6	-1,492.1	1,223.9	1,093.1	130.76	9.360		
11,300.0	7,411.0	11,528.7	7,645.0	68.5	68.5	-100.33	3,722.4	-1,492.1	1,229.0	1,095.1	133.91	9.178		
11,400.0	7,411.0	11,628.5	7,645.0	70.2	70.2	-100.28	3,822.2	-1,492.0	1,235.8	1,098.8	137.02	9.019		
11,500.0	7,411.0	11,728.1	7,645.0	71.9	71.9	-100.23	3,921.8	-1,492.0	1,244.4	1,104.3	140.09	8.882		
11,600.0	7,411.0	11,827.6	7,645.0	73.6	73.6	-100.16	4,021.3	-1,492.0	1,254.6	1,111.5	143.13	8.766		
11,657.3	7,411.0	11,884.4	7,645.0	74.6	74.6	-100.12	4,078.1	-1,492.0	1,261.3	1,116.4	144.85	8.707		
11,700.0	7,411.0	11,926.9	7,645.0	75.3	75.3	-100.08	4,120.5	-1,492.0	1,266.4	1,120.1	146.31	8.656		
11,800.0	7,411.0	12,026.1	7,645.0	77.0	77.0	-99.98	4,219.8	-1,492.0	1,278.5	1,128.8	149.73	8.539		
11,900.0	7,411.0	12,125.3	7,645.0	78.7	78.8	-99.89	4,319.0	-1,492.0	1,290.6	1,137.5	153.16	8.427		
11,938.2	7,411.0	12,163.2	7,645.0	79.4	79.4	-99.85	4,356.9	-1,492.0	1,295.3	1,140.8	154.47	8.385 SF		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4C-14H - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	14.0	14.0	0.0	0.0	-90.00	0.0	-1,310.3	1,310.3					
100.0	100.0	114.0	114.0	0.2	0.2	-90.00	0.0	-1,310.3	1,310.3	1,309.9	0.33	3,993.178		
200.0	200.0	214.0	214.0	0.3	0.4	-90.00	0.0	-1,310.3	1,310.3	1,309.6	0.68	1,934.840		
300.0	300.0	314.0	314.0	0.5	0.5	-90.00	0.0	-1,310.3	1,310.3	1,309.2	1.03	1,276.731		
400.0	400.0	417.9	417.9	0.7	0.7	-90.00	0.0	-1,310.2	1,310.2	1,308.8	1.38	947.734		
500.0	500.0	546.0	545.9	0.9	0.9	64.42	-3.2	-1,308.5	1,308.5	1,306.7	1.79	732.116		
600.0	600.0	673.6	673.2	1.0	1.2	64.23	-11.4	-1,304.0	1,303.9	1,301.6	2.21	588.661		
700.0	699.9	800.3	799.0	1.2	1.5	63.94	-24.5	-1,296.8	1,296.4	1,293.7	2.68	482.829		
800.0	799.7	899.6	897.4	1.4	1.8	63.72	-36.6	-1,290.2	1,287.1	1,284.0	3.12	412.620		
900.0	899.4	999.0	995.8	1.6	2.0	63.57	-48.7	-1,283.6	1,277.2	1,273.6	3.57	357.511		
1,000.0	998.9	1,098.4	1,094.2	1.8	2.3	63.50	-60.8	-1,276.9	1,266.4	1,262.4	4.04	313.219		
1,100.0	1,098.3	1,197.7	1,192.5	2.1	2.6	63.50	-73.0	-1,270.3	1,254.9	1,250.4	4.53	276.874		
1,200.0	1,197.4	1,296.9	1,290.8	2.3	2.9	63.58	-85.1	-1,263.7	1,242.7	1,237.6	5.04	246.519		
1,300.0	1,296.4	1,396.1	1,389.0	2.6	3.2	63.58	-97.2	-1,257.0	1,230.0	1,224.5	5.56	221.232		
1,400.0	1,395.5	1,495.3	1,487.2	2.9	3.5	63.59	-109.3	-1,250.4	1,217.4	1,211.3	6.09	200.056		
1,500.0	1,494.5	1,594.5	1,585.5	3.2	3.8	63.59	-121.4	-1,243.8	1,204.7	1,198.1	6.62	182.117		
1,600.0	1,593.5	1,693.7	1,683.7	3.5	4.0	63.60	-133.5	-1,237.1	1,192.1	1,184.9	7.15	166.754		
1,700.0	1,692.5	1,792.9	1,781.9	3.7	4.3	63.60	-145.6	-1,230.5	1,179.4	1,171.7	7.69	153.468		
1,800.0	1,791.6	1,892.1	1,880.2	4.0	4.6	63.61	-157.7	-1,223.9	1,166.8	1,158.5	8.22	141.877		
1,900.0	1,890.6	1,991.3	1,978.4	4.3	4.9	63.61	-169.8	-1,217.3	1,154.1	1,145.3	8.76	131.683		
2,000.0	1,889.6	2,090.5	2,076.6	4.6	5.2	63.62	-182.0	-1,210.6	1,141.4	1,132.1	9.31	122.654		
2,100.0	2,088.6	2,189.7	2,174.9	4.9	5.5	63.62	-194.1	-1,204.0	1,128.8	1,118.9	9.85	114.604		
2,200.0	2,187.7	2,288.9	2,273.1	5.2	5.8	63.63	-206.2	-1,197.4	1,116.1	1,105.7	10.39	107.385		
2,300.0	2,286.7	2,388.1	2,371.3	5.5	6.1	63.64	-218.3	-1,190.7	1,103.5	1,092.5	10.94	100.876		
2,400.0	2,385.7	2,487.3	2,469.5	5.8	6.4	63.64	-230.4	-1,184.1	1,090.8	1,079.4	11.49	94.978		
2,500.0	2,484.8	2,586.5	2,567.8	6.1	6.7	63.65	-242.5	-1,177.5	1,078.2	1,066.2	12.03	89.612		
2,600.0	2,583.8	2,685.7	2,666.0	6.4	7.0	63.65	-254.6	-1,170.8	1,065.5	1,052.9	12.58	84.708		
2,700.0	2,682.8	2,784.9	2,764.2	6.7	7.3	63.66	-266.7	-1,164.2	1,052.9	1,039.7	13.13	80.209		
2,800.0	2,781.8	2,884.0	2,862.5	7.0	7.6	63.67	-278.8	-1,157.6	1,040.2	1,026.5	13.67	76.069		
2,900.0	2,880.9	2,983.2	2,960.7	7.3	7.9	63.67	-290.9	-1,151.0	1,027.6	1,013.3	14.22	72.246		
3,000.0	2,979.9	3,082.4	3,058.9	7.6	8.2	63.68	-303.1	-1,144.3	1,014.9	1,000.1	14.77	68.705		
3,100.0	3,078.9	3,181.6	3,157.2	7.9	8.5	63.69	-315.2	-1,137.7	1,002.3	986.9	15.32	65.416		
3,200.0	3,177.9	3,280.8	3,255.4	8.2	8.8	63.69	-327.3	-1,131.1	989.6	973.7	15.87	62.355		
3,300.0	3,277.0	3,380.0	3,353.6	8.5	9.1	63.70	-339.4	-1,124.4	977.0	960.5	16.42	59.497		
3,400.0	3,376.0	3,479.2	3,451.9	8.7	9.4	63.71	-351.5	-1,117.8	964.3	947.3	16.97	56.823		
3,500.0	3,475.0	3,578.4	3,550.1	9.0	9.6	63.72	-363.6	-1,111.2	951.7	934.1	17.52	54.317		
3,600.0	3,574.0	3,677.6	3,648.3	9.3	9.9	63.72	-375.7	-1,104.6	939.0	920.9	18.07	51.963		
3,700.0	3,673.1	3,776.8	3,746.5	9.6	10.2	63.73	-387.8	-1,097.9	926.3	907.7	18.62	49.747		
3,800.0	3,772.1	3,876.0	3,844.8	9.9	10.5	63.74	-399.9	-1,091.3	913.7	894.5	19.17	47.659		
3,900.0	3,871.1	3,975.2	3,943.0	10.2	10.8	63.75	-412.0	-1,084.7	901.0	881.3	19.72	45.686		
4,000.0	3,970.3	4,070.1	4,037.0	10.5	11.1	63.61	-423.5	-1,078.4	888.9	868.6	20.24	43.907		
4,100.0	4,069.6	4,157.2	4,123.6	10.8	11.3	63.52	-432.2	-1,073.7	878.5	857.8	20.69	42.466		
4,200.0	4,169.2	4,244.6	4,210.6	11.0	11.5	63.52	-438.6	-1,070.2	870.4	849.3	21.08	41.284		
4,300.0	4,268.9	4,332.1	4,298.0	11.2	11.6	63.60	-442.6	-1,067.9	864.4	843.0	21.43	40.340		
4,400.0	4,368.7	4,419.7	4,385.5	11.4	11.7	63.77	-444.3	-1,067.0	860.7	838.9	21.73	39.607		
4,500.0	4,468.6	4,516.7	4,482.6	11.5	11.9	64.00	-444.4	-1,067.0	858.7	836.7	22.01	39.008		
4,600.0	4,568.5	4,616.7	4,582.5	11.7	12.0	64.14	-444.4	-1,067.0	857.6	835.3	22.28	38.484		
4,700.0	4,668.5	4,716.7	4,682.5	11.8	12.1	-90.31	-444.4	-1,067.0	857.2	834.6	22.54	38.035		
4,800.0	4,768.5	4,816.7	4,782.5	11.9	12.2	-90.31	-444.4	-1,067.0	857.2	834.4	22.79	37.610		
4,900.0	4,868.5	4,916.7	4,882.5	12.1	12.3	-90.31	-444.4	-1,067.0	857.2	834.1	23.05	37.189		
5,000.0	4,968.5	5,016.7	4,982.5	12.2	12.5	-90.31	-444.4	-1,067.0	857.2	833.9	23.31	36.774		
5,100.0	5,068.5	5,116.7	5,082.5	12.3	12.6	-90.31	-444.4	-1,067.0	857.2	833.6	23.57	36.365		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,168.5	5,216.7	5,182.5	12.4	12.7	-90.31	-444.4	-1,067.0	857.2	833.3	23.84	35.962	
5,300.0	5,268.5	5,316.7	5,282.5	12.6	12.8	-90.31	-444.4	-1,067.0	857.2	833.1	24.10	35.564	
5,400.0	5,368.5	5,416.7	5,382.5	12.7	13.0	-90.31	-444.4	-1,067.0	857.2	832.8	24.37	35.172	
5,500.0	5,468.5	5,516.7	5,482.5	12.8	13.1	-90.31	-444.4	-1,067.0	857.2	832.5	24.64	34.785	
5,600.0	5,568.5	5,616.7	5,582.5	12.9	13.2	-90.31	-444.4	-1,067.0	857.2	832.3	24.91	34.405	
5,700.0	5,668.5	5,716.7	5,682.5	13.1	13.3	-90.31	-444.4	-1,067.0	857.2	832.0	25.19	34.030	
5,800.0	5,768.5	5,816.7	5,782.5	13.2	13.5	-90.31	-444.4	-1,067.0	857.2	831.7	25.47	33.660	
5,900.0	5,868.5	5,916.7	5,882.5	13.3	13.6	-90.31	-444.4	-1,067.0	857.2	831.4	25.74	33.297	
6,000.0	5,968.5	6,016.7	5,982.5	13.5	13.7	-90.31	-444.4	-1,067.0	857.2	831.2	26.02	32.938	
6,100.0	6,068.5	6,116.7	6,082.5	13.6	13.9	-90.31	-444.4	-1,067.0	857.2	830.9	26.31	32.586	
6,200.0	6,168.5	6,216.7	6,182.5	13.8	14.0	-90.31	-444.4	-1,067.0	857.2	830.6	26.59	32.239	
6,300.0	6,268.5	6,316.7	6,282.5	13.9	14.1	-90.31	-444.4	-1,067.0	857.2	830.3	26.87	31.897	
6,400.0	6,368.5	6,416.7	6,382.5	14.0	14.3	-90.31	-444.4	-1,067.0	857.2	830.0	27.16	31.561	
6,500.0	6,468.5	6,516.7	6,482.5	14.2	14.4	-90.31	-444.4	-1,067.0	857.2	829.7	27.45	31.231	
6,600.0	6,568.5	6,616.7	6,582.5	14.3	14.5	-90.31	-444.4	-1,067.0	857.2	829.4	27.74	30.905	
6,700.0	6,668.5	6,716.7	6,682.5	14.4	14.7	-90.31	-444.4	-1,067.0	857.2	829.2	28.03	30.585	
6,726.3	6,694.8	6,743.0	6,708.8	14.5	14.7	-90.31	-444.4	-1,067.0	857.2	829.1	28.10	30.502	
6,750.0	6,718.5	6,766.8	6,732.7	14.5	14.7	-90.31	-444.0	-1,067.0	857.2	829.0	28.15	30.449	
6,800.0	6,768.4	6,817.1	6,782.9	14.5	14.8	-90.30	-440.6	-1,067.0	857.2	829.0	28.20	30.396	
6,850.0	6,817.9	6,867.5	6,832.7	14.5	14.8	-90.30	-433.6	-1,067.0	857.2	829.0	28.19	30.411	
6,900.0	6,866.8	6,917.8	6,881.9	14.5	14.7	-90.30	-423.2	-1,067.0	857.2	829.1	28.12	30.487	
6,950.0	6,914.9	6,968.1	6,930.3	14.4	14.7	-90.29	-409.3	-1,067.0	857.2	829.2	27.99	30.621	
7,000.0	6,961.9	7,018.4	6,977.5	14.4	14.6	-90.28	-392.1	-1,066.9	857.2	829.4	27.83	30.805	
7,050.0	7,007.6	7,068.7	7,023.5	14.3	14.5	-90.27	-371.6	-1,066.9	857.2	829.6	27.62	31.030	
7,100.0	7,051.8	7,119.0	7,067.8	14.2	14.4	-90.26	-347.9	-1,066.9	857.2	829.8	27.40	31.288	
7,150.0	7,094.2	7,169.3	7,110.4	14.0	14.3	-90.25	-321.2	-1,066.9	857.2	830.0	27.15	31.566	
7,200.0	7,134.7	7,219.5	7,151.0	13.9	14.1	-90.24	-291.6	-1,066.9	857.2	830.3	26.91	31.850	
7,250.0	7,173.1	7,269.8	7,189.4	13.8	14.0	-90.23	-259.2	-1,066.9	857.2	830.5	26.68	32.124	
7,300.0	7,209.1	7,320.0	7,225.4	13.7	13.9	-90.21	-224.2	-1,066.9	857.2	830.7	26.48	32.369	
7,350.0	7,242.6	7,370.2	7,258.9	13.6	13.9	-90.20	-186.8	-1,066.9	857.2	830.8	26.32	32.567	
7,400.0	7,273.5	7,420.4	7,289.7	13.6	13.8	-90.18	-147.2	-1,066.9	857.1	830.9	26.21	32.697	
7,450.0	7,301.5	7,470.6	7,317.6	13.6	13.8	-90.16	-105.5	-1,066.9	857.1	831.0	26.18	32.741	
7,500.0	7,326.6	7,520.8	7,342.5	13.6	13.8	-90.14	-61.9	-1,066.9	857.1	830.9	26.23	32.683	
7,550.0	7,348.6	7,570.9	7,364.3	13.7	13.9	-90.12	-16.8	-1,066.9	857.1	830.8	26.36	32.512	
7,600.0	7,367.4	7,621.0	7,382.9	13.8	14.0	-90.10	29.8	-1,066.9	857.1	830.5	26.60	32.221	
7,650.0	7,382.9	7,671.1	7,398.1	13.9	14.1	-90.08	77.5	-1,066.9	857.1	830.2	26.94	31.812	
7,700.0	7,395.1	7,721.2	7,410.0	14.2	14.3	-90.06	126.1	-1,066.9	857.1	829.7	27.39	31.293	
7,750.0	7,403.9	7,771.3	7,418.5	14.4	14.6	-90.04	175.4	-1,066.9	857.1	829.2	27.94	30.676	
7,800.0	7,409.2	7,821.3	7,423.5	14.7	14.9	-90.02	225.2	-1,066.9	857.1	828.5	28.59	29.979	
7,851.3	7,411.0	7,872.6	7,425.0	15.1	15.3	-90.00	276.5	-1,066.9	857.1	827.8	29.35	29.205	
7,900.0	7,411.0	7,921.3	7,425.0	15.5	15.7	-90.00	325.2	-1,066.9	857.1	826.9	30.16	28.415	
8,000.0	7,411.0	8,021.3	7,425.0	16.4	16.6	-90.00	425.2	-1,066.9	857.1	825.1	32.04	26.752	
8,100.0	7,411.0	8,121.3	7,425.0	17.5	17.6	-90.00	525.2	-1,066.9	857.1	822.9	34.17	25.083	
8,200.0	7,411.0	8,221.3	7,425.0	18.6	18.8	-90.00	625.2	-1,066.9	857.1	820.6	36.52	23.471	
8,300.0	7,411.0	8,321.3	7,425.0	19.8	20.0	-90.00	725.2	-1,066.8	857.1	818.0	39.04	21.956	
8,400.0	7,411.0	8,421.3	7,425.0	21.2	21.3	-90.00	825.2	-1,066.8	857.0	815.4	41.70	20.553	
8,500.0	7,411.0	8,521.3	7,425.0	22.5	22.7	-90.00	925.2	-1,066.8	857.0	812.6	44.48	19.268	
8,600.0	7,411.0	8,621.3	7,425.0	24.0	24.1	-90.00	1,025.2	-1,066.8	857.0	809.7	47.36	18.097	
8,700.0	7,411.0	8,721.3	7,425.0	25.4	25.5	-90.00	1,125.2	-1,066.8	857.0	806.7	50.32	17.033	
8,800.0	7,411.0	8,821.3	7,425.0	26.9	27.0	-90.00	1,225.2	-1,066.8	857.0	803.7	53.34	16.067	
8,900.0	7,411.0	8,921.3	7,425.0	28.4	28.5	-90.00	1,325.2	-1,066.8	857.0	800.6	56.42	15.190	
9,000.0	7,411.0	9,021.3	7,425.0	30.0	30.1	-90.00	1,425.2	-1,066.8	857.0	797.4	59.55	14.392	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
9,100.0	7,411.0	9,121.3	7,425.0	31.6	31.7	-90.00	1,525.2	-1,066.8	857.0	794.3	62.72	13.664		
9,200.0	7,411.0	9,221.3	7,425.0	33.2	33.2	-90.00	1,625.2	-1,066.8	857.0	791.1	65.92	13.000		
9,300.0	7,411.0	9,321.3	7,425.0	34.8	34.8	-90.00	1,725.2	-1,066.7	857.0	787.8	69.15	12.393		
9,351.3	7,411.0	9,372.6	7,425.0	35.6	35.7	-90.00	1,776.5	-1,066.7	857.0	786.1	70.82	12.100		
9,400.0	7,411.0	9,421.3	7,425.0	36.4	36.5	-90.00	1,825.2	-1,066.7	856.7	784.3	72.40	11.833		
9,500.0	7,411.0	9,521.3	7,425.0	38.0	38.1	-90.00	1,925.1	-1,066.7	855.0	779.4	75.66	11.301		
9,600.0	7,411.0	9,621.2	7,425.0	39.7	39.7	-90.00	2,025.1	-1,066.7	851.5	772.6	78.91	10.792		
9,700.0	7,411.0	9,721.1	7,425.0	41.3	41.4	-90.00	2,124.9	-1,066.7	846.3	764.2	82.15	10.302		
9,751.3	7,411.0	9,772.3	7,425.0	42.2	42.2	-90.00	2,176.1	-1,066.7	843.0	759.2	83.81	10.058		
9,800.0	7,411.0	9,820.9	7,425.0	43.0	43.0	-90.00	2,224.7	-1,066.7	839.6	754.1	85.43	9.828		
9,900.0	7,411.0	9,920.6	7,425.0	44.7	44.7	-90.00	2,324.5	-1,066.7	832.6	743.8	88.77	9.379		
10,000.0	7,411.0	10,020.4	7,425.0	46.3	46.4	-90.00	2,424.2	-1,066.7	825.6	733.5	92.12	8.963		
10,100.0	7,411.0	10,120.1	7,425.0	48.0	48.0	-90.00	2,524.0	-1,066.7	818.6	723.1	95.48	8.574		
10,200.0	7,411.0	10,219.9	7,425.0	49.7	49.7	-90.00	2,623.7	-1,066.7	811.6	712.8	98.85	8.211		
10,300.0	7,411.0	10,319.6	7,425.0	51.4	51.4	-90.00	2,723.5	-1,066.6	804.6	702.4	102.23	7.871		
10,400.0	7,411.0	10,419.4	7,425.0	53.1	53.1	-90.00	2,823.3	-1,066.6	797.6	692.0	105.61	7.553		
10,500.0	7,411.0	10,519.1	7,425.0	54.8	54.8	-90.00	2,923.0	-1,066.6	790.7	681.7	109.01	7.253		
10,551.3	7,411.0	10,570.3	7,425.0	55.7	55.6	-90.00	2,974.2	-1,066.6	787.1	676.3	110.75	7.107		
10,600.0	7,411.0	10,618.9	7,425.0	56.5	56.5	-90.00	3,022.8	-1,066.6	783.9	671.4	112.46	6.970		
10,700.0	7,411.0	10,718.8	7,425.0	58.2	58.2	-90.00	3,122.6	-1,066.6	778.6	662.7	115.95	6.715		
10,800.0	7,411.0	10,818.7	7,425.0	59.9	59.9	-90.00	3,222.6	-1,066.6	775.1	655.7	119.42	6.490		
10,900.0	7,411.0	10,918.7	7,425.0	61.6	61.6	-90.00	3,322.6	-1,066.6	773.3	650.5	122.86	6.294		
10,951.9	7,411.0	10,970.5	7,425.0	62.5	62.5	-90.00	3,374.4	-1,066.6	773.1	648.4	124.64	6.203 CC		
11,000.0	7,411.0	11,018.7	7,425.0	63.4	63.3	-90.00	3,422.6	-1,066.6	773.3	647.0	126.28	6.124		
11,100.0	7,411.0	11,118.7	7,425.0	65.1	65.0	-90.00	3,522.5	-1,066.6	775.0	645.3	129.66	5.977 ES		
11,200.0	7,411.0	11,218.6	7,425.0	66.8	66.7	-90.00	3,622.5	-1,066.6	778.5	645.4	133.01	5.852		
11,300.0	7,411.0	11,318.5	7,425.0	68.5	68.4	-90.00	3,722.3	-1,066.6	783.7	647.3	136.33	5.748		
11,400.0	7,411.0	11,418.2	7,425.0	70.2	70.1	-90.00	3,822.1	-1,066.5	790.6	651.0	139.60	5.663		
11,500.0	7,411.0	11,517.9	7,425.0	71.9	71.9	-90.00	3,921.7	-1,066.5	799.3	656.5	142.83	5.596		
11,600.0	7,411.0	11,617.3	7,425.0	73.6	73.6	-90.00	4,021.2	-1,066.5	809.7	663.7	146.02	5.545		
11,657.3	7,411.0	11,674.2	7,425.0	74.6	74.5	-90.00	4,078.0	-1,066.5	816.5	668.6	147.82	5.523		
11,700.0	7,411.0	11,716.6	7,425.0	75.3	75.3	-90.00	4,120.5	-1,066.5	821.7	672.4	149.29	5.504		
11,800.0	7,411.0	11,815.8	7,425.0	77.0	77.0	-90.00	4,219.7	-1,066.5	834.0	681.3	152.72	5.461		
11,900.0	7,411.0	11,915.1	7,425.0	78.7	78.7	-90.00	4,318.9	-1,066.5	846.3	690.1	156.16	5.419		
11,938.2	7,411.0	11,953.0	7,425.0	79.4	79.4	-90.00	4,356.8	-1,066.5	851.0	693.5	157.47	5.404 SF		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4D-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.03	0.0	-8.4	8.4					
100.0	100.0	100.0	100.0	0.2	0.2	-90.03	0.0	-8.4	8.4	8.1	0.30	27.657		
200.0	200.0	200.0	200.0	0.3	0.3	-90.03	0.0	-8.4	8.4	7.7	0.65	12.867		
300.0	300.0	300.0	300.0	0.5	0.5	-90.03	0.0	-8.4	8.4	7.4	1.00	8.384		
400.0	400.0	400.0	400.0	0.7	0.7	-90.03	0.0	-8.4	8.4	7.0	1.35	6.217		
500.0	500.0	500.0	500.0	0.9	0.8	70.08	0.0	-8.4	8.1	6.4	1.70	4.741		
550.7	550.7	550.6	550.6	0.9	0.9	76.60	-0.1	-8.6	7.9	6.0	1.88	4.208 CC		
600.0	600.0	599.9	599.9	1.0	1.0	83.71	-0.5	-9.1	8.1	6.0	2.05	3.929 ES		
700.0	699.9	699.8	699.7	1.2	1.2	97.42	-2.0	-11.3	9.4	7.0	2.41	3.898		
800.0	799.7	799.7	799.5	1.4	1.4	107.11	-4.4	-14.9	12.1	9.3	2.79	4.325		
900.0	899.4	899.5	899.2	1.6	1.6	112.74	-7.9	-19.9	15.8	12.6	3.18	4.977		
1,000.0	998.9	999.4	998.8	1.8	1.8	115.68	-12.3	-26.4	20.6	17.0	3.60	5.724		
1,100.0	1,098.3	1,099.2	1,098.1	2.1	2.0	117.08	-17.6	-34.3	26.2	22.2	4.04	6.496		
1,200.0	1,197.4	1,199.0	1,197.2	2.3	2.2	117.61	-24.0	-43.6	32.8	28.3	4.52	7.256		
1,300.0	1,296.4	1,298.7	1,296.1	2.6	2.5	116.61	-31.3	-54.3	39.8	34.8	5.04	7.911		
1,400.0	1,395.5	1,398.3	1,394.7	2.9	2.8	113.80	-39.6	-66.5	47.0	41.5	5.59	8.416		
1,500.0	1,494.5	1,497.9	1,492.8	3.2	3.1	109.94	-48.8	-80.0	54.6	48.4	6.18	8.840		
1,600.0	1,593.5	1,597.5	1,590.9	3.5	3.4	106.22	-58.6	-94.3	62.6	55.8	6.77	9.241		
1,700.0	1,692.5	1,697.1	1,689.0	3.7	3.7	103.34	-68.3	-108.6	70.7	63.4	7.36	9.604		
1,800.0	1,791.6	1,796.7	1,787.1	4.0	4.0	101.06	-78.1	-122.9	79.0	71.1	7.96	9.931		
1,900.0	1,890.6	1,896.3	1,885.2	4.3	4.4	99.22	-87.8	-137.2	87.4	78.9	8.55	10.225		
2,000.0	1,989.6	1,995.9	1,983.3	4.6	4.7	97.70	-97.6	-151.4	95.9	86.8	9.14	10.490		
2,100.0	2,088.6	2,095.5	2,081.4	4.9	5.0	96.43	-107.3	-165.7	104.4	94.7	9.73	10.727		
2,200.0	2,187.7	2,195.2	2,179.5	5.2	5.4	95.35	-117.1	-180.0	113.0	102.7	10.33	10.942		
2,300.0	2,286.7	2,294.8	2,277.6	5.5	5.7	94.43	-126.8	-194.3	121.6	110.7	10.92	11.137		
2,400.0	2,385.7	2,394.4	2,375.7	5.8	6.1	93.62	-136.6	-208.6	130.2	118.7	11.51	11.313		
2,500.0	2,484.8	2,494.0	2,473.8	6.1	6.4	92.92	-146.3	-222.9	138.9	126.8	12.10	11.475		
2,600.0	2,583.8	2,593.6	2,571.9	6.4	6.7	92.30	-156.1	-237.2	147.6	134.9	12.70	11.622		
2,700.0	2,682.8	2,693.2	2,670.0	6.7	7.1	91.75	-165.8	-251.5	156.3	143.0	13.29	11.757		
2,800.0	2,781.8	2,792.8	2,768.1	7.0	7.4	91.25	-175.6	-265.8	165.0	151.1	13.88	11.882		
2,900.0	2,880.9	2,892.4	2,866.2	7.3	7.8	90.81	-185.3	-280.1	173.7	159.2	14.48	11.997		
3,000.0	2,979.9	2,992.0	2,964.3	7.6	8.1	90.41	-195.1	-294.3	182.4	167.3	15.07	12.104		
3,100.0	3,078.9	3,091.7	3,062.4	7.9	8.5	90.04	-204.8	-308.6	191.1	175.5	15.66	12.203		
3,200.0	3,177.9	3,191.3	3,160.5	8.2	8.8	89.71	-214.6	-322.9	199.9	183.6	16.26	12.295		
3,300.0	3,277.0	3,290.9	3,258.6	8.5	9.2	89.40	-224.3	-337.2	208.6	191.8	16.85	12.381		
3,400.0	3,376.0	3,390.5	3,356.7	8.7	9.5	89.12	-234.1	-351.5	217.4	199.9	17.44	12.461		
3,500.0	3,475.0	3,490.1	3,454.8	9.0	9.9	88.86	-243.8	-365.8	226.1	208.1	18.04	12.537		
3,600.0	3,574.0	3,589.7	3,552.9	9.3	10.2	88.62	-253.5	-380.1	234.9	216.2	18.63	12.607		
3,700.0	3,673.1	3,689.3	3,651.0	9.6	10.6	88.40	-263.3	-394.4	243.6	224.4	19.22	12.674		
3,800.0	3,772.1	3,788.9	3,749.1	9.9	10.9	88.20	-273.0	-408.7	252.4	232.6	19.82	12.736		
3,900.0	3,871.1	3,888.5	3,847.2	10.2	11.3	88.00	-282.8	-422.9	261.2	240.8	20.41	12.795		
4,000.0	3,970.3	3,988.1	3,945.3	10.5	11.6	87.72	-292.5	-437.2	270.0	249.0	20.98	12.871		
4,100.0	4,069.6	4,087.7	4,043.3	10.8	11.9	87.11	-302.3	-451.5	278.9	257.4	21.49	12.977		
4,200.0	4,169.2	4,187.1	4,141.3	11.0	12.3	86.20	-312.0	-465.8	287.9	266.0	21.95	13.115		
4,300.0	4,268.9	4,286.5	4,239.1	11.2	12.6	85.01	-321.7	-480.0	297.2	274.8	22.37	13.289		
4,400.0	4,368.7	4,385.7	4,336.8	11.4	13.0	83.58	-331.4	-494.3	306.8	284.1	22.72	13.505		
4,500.0	4,468.6	4,484.8	4,434.3	11.5	13.3	81.94	-341.1	-508.5	316.9	293.9	23.02	13.768		
4,600.0	4,568.5	4,583.6	4,531.7	11.7	13.7	80.12	-350.8	-522.6	327.5	304.3	23.25	14.085		
4,700.0	4,668.5	4,682.2	4,628.8	11.8	14.0	-76.36	-360.5	-536.8	338.8	315.4	23.43	14.462		
4,800.0	4,768.5	4,780.7	4,725.8	11.9	14.4	-78.45	-370.1	-550.9	350.8	327.2	23.57	14.882		
4,900.0	4,868.5	4,879.2	4,822.8	12.1	14.7	-80.40	-379.7	-565.0	363.2	339.5	23.71	15.316		
5,000.0	4,968.5	4,981.4	4,923.5	12.2	15.1	-82.24	-389.4	-579.3	375.6	351.8	23.85	15.748		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
5,100.0	5,068.5	5,085.5	5,026.4	12.3	15.4	-83.81	-398.3	-592.3	387.1	363.1	24.00	16.126	
5,200.0	5,168.5	5,190.1	5,130.1	12.4	15.7	-85.12	-406.2	-603.9	397.4	373.2	24.17	16.439	
5,300.0	5,268.5	5,295.2	5,234.5	12.6	15.9	-86.21	-413.0	-613.9	406.4	382.1	24.36	16.685	
5,400.0	5,368.5	5,400.7	5,339.5	12.7	16.2	-87.08	-418.8	-622.3	414.1	389.6	24.56	16.862	
5,500.0	5,468.5	5,506.6	5,445.0	12.8	16.4	-87.77	-423.5	-629.2	420.4	395.6	24.78	16.968	
5,600.0	5,568.5	5,612.7	5,551.0	12.9	16.6	-88.29	-427.1	-634.5	425.3	400.3	25.01	17.003	
5,700.0	5,668.5	5,719.1	5,657.2	13.1	16.7	-88.63	-429.6	-638.2	428.7	403.4	25.26	16.969	
5,800.0	5,768.5	5,825.5	5,763.7	13.2	16.9	-88.83	-431.0	-640.2	430.5	405.0	25.53	16.867	
5,900.0	5,868.5	5,930.4	5,868.5	13.3	17.0	-88.87	-431.3	-640.7	431.0	405.2	25.80	16.702	
6,000.0	5,968.5	6,030.4	5,968.5	13.5	17.1	-88.87	-431.3	-640.7	431.0	404.9	26.08	16.523	
6,100.0	6,068.5	6,130.4	6,068.5	13.6	17.2	-88.87	-431.3	-640.7	431.0	404.6	26.36	16.347	
6,200.0	6,168.5	6,230.4	6,168.5	13.8	17.3	-88.87	-431.3	-640.7	431.0	404.3	26.65	16.173	
6,300.0	6,268.5	6,330.4	6,268.5	13.9	17.4	-88.87	-431.3	-640.7	431.0	404.0	26.93	16.002	
6,400.0	6,368.5	6,430.4	6,368.5	14.0	17.5	-88.87	-431.3	-640.7	431.0	403.7	27.22	15.834	
6,500.0	6,468.5	6,530.4	6,468.5	14.2	17.6	-88.87	-431.3	-640.7	431.0	403.5	27.50	15.669	
6,600.0	6,568.5	6,630.4	6,568.5	14.3	17.7	-88.87	-431.3	-640.7	431.0	403.2	27.79	15.506	
6,700.0	6,668.5	6,730.4	6,668.5	14.4	17.9	-88.87	-431.3	-640.7	431.0	402.9	28.08	15.346	
6,726.3	6,694.8	6,756.7	6,694.8	14.5	17.9	-88.87	-431.3	-640.7	431.0	402.8	28.16	15.304	
6,750.0	6,718.5	6,780.4	6,718.5	14.5	17.9	-88.92	-431.3	-640.7	431.0	402.7	28.21	15.274	
6,800.0	6,768.4	6,830.3	6,768.4	14.5	18.0	-89.38	-431.3	-640.7	430.9	402.7	28.25	15.254	
6,836.8	6,804.9	6,866.8	6,804.9	14.5	18.0	-90.00	-431.3	-640.7	430.9	402.7	28.21	15.274	
6,850.0	6,817.9	6,879.8	6,817.9	14.5	18.0	-90.28	-431.3	-640.7	430.9	402.7	28.19	15.286	
6,900.0	6,866.8	6,928.7	6,866.8	14.5	18.1	-91.61	-431.3	-640.7	431.1	403.0	28.04	15.371	
6,950.0	6,914.9	6,976.8	6,914.9	14.4	18.1	-93.30	-431.3	-640.7	431.7	403.8	27.83	15.511	
7,000.0	6,961.9	7,026.7	6,964.8	14.4	18.2	-95.24	-429.6	-640.7	432.9	405.3	27.55	15.714	
7,050.0	7,007.6	7,077.8	7,015.6	14.3	18.2	-97.16	-424.2	-640.7	434.6	407.4	27.24	15.956	
7,100.0	7,051.8	7,130.2	7,067.1	14.2	18.2	-99.06	-414.9	-640.7	436.9	409.9	26.92	16.231	
7,150.0	7,094.2	7,183.8	7,119.1	14.0	18.1	-100.92	-401.6	-640.7	439.6	413.0	26.59	16.534	
7,200.0	7,134.7	7,238.9	7,171.2	13.9	18.1	-102.74	-383.8	-640.7	442.7	416.5	26.27	16.857	
7,250.0	7,173.1	7,295.4	7,223.1	13.8	18.0	-104.50	-361.6	-640.7	446.3	420.3	25.96	17.190	
7,300.0	7,209.1	7,353.4	7,274.4	13.7	17.9	-106.19	-334.5	-640.7	450.1	424.4	25.68	17.525	
7,350.0	7,242.6	7,412.9	7,324.6	13.6	17.8	-107.80	-302.5	-640.7	454.1	428.6	25.44	17.849	
7,400.0	7,273.5	7,474.1	7,373.2	13.6	17.7	-109.33	-265.4	-640.7	458.2	433.0	25.25	18.148	
7,450.0	7,301.5	7,536.9	7,419.6	13.6	17.6	-110.75	-223.1	-640.7	462.3	437.2	25.11	18.410	
7,500.0	7,326.6	7,601.3	7,463.2	13.6	17.5	-112.05	-175.8	-640.7	466.4	441.3	25.05	18.621	
7,550.0	7,348.6	7,667.2	7,503.2	13.7	17.5	-113.23	-123.4	-640.7	470.2	445.2	25.06	18.760	
7,600.0	7,367.4	7,734.5	7,538.9	13.8	17.5	-114.27	-66.4	-640.7	473.8	448.6	25.17	18.823	
7,650.0	7,382.9	7,803.2	7,569.7	13.9	17.6	-115.16	-5.0	-640.7	476.9	451.5	25.36	18.806	
7,700.0	7,395.1	7,873.1	7,594.8	14.2	17.7	-115.89	60.2	-640.7	479.5	453.9	25.66	18.684	
7,750.0	7,403.9	7,943.9	7,613.7	14.4	17.9	-116.45	128.4	-640.7	481.6	455.5	26.07	18.471	
7,800.0	7,409.2	8,015.5	7,625.8	14.7	18.3	-116.83	198.9	-640.7	483.0	456.4	26.59	18.163	
7,851.3	7,411.0	8,089.3	7,630.9	15.1	18.7	-117.03	272.6	-640.7	483.8	456.6	27.24	17.762	
7,900.0	7,411.0	8,141.8	7,631.0	15.5	19.0	-117.04	325.0	-640.7	483.8	455.8	28.00	17.280	
8,000.0	7,411.0	8,241.8	7,631.0	16.4	19.7	-117.04	425.0	-640.7	483.8	454.2	29.68	16.303	
8,100.0	7,411.0	8,341.8	7,631.0	17.5	20.6	-117.04	525.0	-640.7	483.8	452.3	31.58	15.323	
8,200.0	7,411.0	8,441.8	7,631.0	18.6	21.6	-117.04	625.0	-640.7	483.9	450.2	33.66	14.374	
8,300.0	7,411.0	8,541.8	7,631.0	19.8	22.7	-117.04	725.0	-640.7	483.9	448.0	35.90	13.479	
8,400.0	7,411.0	8,641.8	7,631.0	21.2	23.8	-117.04	825.0	-640.8	483.9	445.6	38.26	12.647	
8,500.0	7,411.0	8,741.8	7,631.0	22.5	25.1	-117.04	925.0	-640.8	483.9	443.1	40.72	11.882	
8,600.0	7,411.0	8,841.8	7,631.0	24.0	26.4	-117.04	1,025.0	-640.8	483.9	440.6	43.28	11.181	
8,700.0	7,411.0	8,941.8	7,631.0	25.4	27.7	-117.04	1,125.0	-640.8	483.9	438.0	45.90	10.542	
8,800.0	7,411.0	9,041.8	7,631.0	26.9	29.1	-117.04	1,225.0	-640.8	483.9	435.3	48.58	9.960	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
8,900.0	7,411.0	9,141.8	7,631.0	28.4	30.5	-117.04	1,325.0	-640.8	483.9	432.6	51.32	9.430		
9,000.0	7,411.0	9,241.8	7,631.0	30.0	32.0	-117.04	1,425.0	-640.8	483.9	429.8	54.09	8.946		
9,100.0	7,411.0	9,341.8	7,631.0	31.6	33.4	-117.04	1,525.0	-640.8	483.9	427.0	56.91	8.503		
9,200.0	7,411.0	9,441.8	7,631.0	33.2	35.0	-117.04	1,625.0	-640.8	483.9	424.2	59.75	8.099		
9,300.0	7,411.0	9,541.8	7,631.0	34.8	36.5	-117.04	1,725.0	-640.8	483.9	421.3	62.63	7.727		
9,351.3	7,411.0	9,593.1	7,631.0	35.6	37.3	-117.04	1,776.3	-640.8	483.9	419.8	64.11	7.549		
9,400.0	7,411.0	9,641.8	7,631.0	36.4	38.0	-117.05	1,825.0	-640.8	483.7	418.1	65.62	7.372		
9,500.0	7,411.0	9,741.8	7,631.0	38.0	39.6	-117.15	1,925.0	-640.8	482.2	413.5	68.68	7.021		
9,600.0	7,411.0	9,841.7	7,631.0	39.7	41.2	-117.35	2,025.0	-640.8	479.1	407.5	71.68	6.684		
9,700.0	7,411.0	9,941.6	7,631.0	41.3	42.8	-117.66	2,124.8	-640.9	474.5	399.9	74.60	6.361		
9,751.3	7,411.0	9,992.8	7,631.0	42.2	43.6	-117.86	2,176.0	-640.9	471.6	395.5	76.07	6.199		
9,800.0	7,411.0	10,041.4	7,631.0	43.0	44.4	-118.06	2,224.6	-640.9	468.6	391.2	77.38	6.056		
9,900.0	7,411.0	10,141.1	7,631.0	44.7	46.0	-118.46	2,324.4	-640.9	462.4	382.4	80.05	5.777		
10,000.0	7,411.0	10,240.9	7,631.0	46.3	47.6	-118.88	2,424.1	-640.9	456.3	373.6	82.70	5.517		
10,100.0	7,411.0	10,340.7	7,631.0	48.0	49.2	-119.31	2,523.9	-640.9	450.2	364.9	85.33	5.276		
10,200.0	7,411.0	10,440.4	7,631.0	49.7	50.9	-119.75	2,623.6	-640.9	444.1	356.2	87.93	5.051		
10,300.0	7,411.0	10,540.2	7,631.0	51.4	52.5	-120.20	2,723.4	-640.9	438.1	347.6	90.50	4.841		
10,400.0	7,411.0	10,639.9	7,631.0	53.1	54.2	-120.66	2,823.1	-640.9	432.1	339.1	93.03	4.645		
10,500.0	7,411.0	10,739.7	7,631.0	54.8	55.8	-121.14	2,922.9	-640.9	426.1	330.6	95.52	4.461		
10,551.3	7,411.0	10,790.9	7,631.0	55.7	56.7	-121.39	2,974.1	-640.9	423.1	326.3	96.78	4.371		
10,600.0	7,411.0	10,839.5	7,631.0	56.5	57.5	-121.60	3,022.7	-640.9	420.3	322.4	97.93	4.292		
10,700.0	7,411.0	10,939.3	7,631.0	58.2	59.2	-121.96	3,122.5	-640.9	415.9	315.5	100.32	4.145		
10,800.0	7,411.0	11,039.3	7,631.0	59.9	60.9	-122.20	3,222.5	-640.9	412.9	310.1	102.79	4.017		
10,900.0	7,411.0	11,139.2	7,631.0	61.6	62.5	-122.32	3,322.5	-640.9	411.4	306.1	105.35	3.905		
10,950.8	7,411.0	11,190.1	7,631.0	62.5	63.4	-122.34	3,373.3	-640.9	411.2	304.5	106.69	3.854		
11,000.0	7,411.0	11,239.2	7,631.0	63.4	64.2	-122.32	3,422.5	-640.9	411.4	303.4	108.01	3.809		
11,100.0	7,411.0	11,339.2	7,631.0	65.1	65.9	-122.20	3,522.4	-641.0	412.9	302.1	110.78	3.727		
11,200.0	7,411.0	11,439.2	7,631.0	66.8	67.6	-121.96	3,622.4	-641.0	415.8	302.2	113.66	3.658		
11,300.0	7,411.0	11,539.0	7,631.0	68.5	69.3	-121.61	3,722.2	-641.0	420.2	303.6	116.65	3.603		
11,400.0	7,411.0	11,638.8	7,631.0	70.2	71.0	-121.15	3,822.0	-641.0	426.2	306.4	119.75	3.559		
11,500.0	7,411.0	11,738.4	7,631.0	71.9	72.7	-120.60	3,921.6	-641.0	433.7	310.7	122.94	3.528		
11,600.0	7,411.0	11,837.8	7,631.0	73.6	74.4	-119.96	4,021.1	-641.0	442.7	316.5	126.21	3.508		
11,657.3	7,411.0	11,894.7	7,631.0	74.6	75.4	-119.55	4,077.9	-641.0	448.6	320.5	128.12	3.501		
11,700.0	7,411.0	11,937.1	7,631.0	75.3	76.1	-119.23	4,120.3	-641.0	453.2	323.4	129.78	3.492		
11,800.0	7,411.0	12,036.4	7,631.0	77.0	77.8	-118.49	4,219.6	-641.0	464.0	330.3	133.66	3.471		
11,900.0	7,411.0	12,135.6	7,631.0	78.7	79.5	-117.78	4,318.8	-641.0	474.8	337.3	137.53	3.453		
11,938.2	7,411.0	12,173.5	7,631.0	79.4	80.1	-117.52	4,356.7	-641.0	479.0	340.0	139.00	3.446 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
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				
300.0	300.0	300.0	300.0	0.5	0.5	89.98	0.0	11.2	11.2	10.2	1.00	11.178	CC, ES			
400.0	400.0	399.9	399.9	0.7	0.7	93.93	-0.8	11.6	11.6	10.2	1.35	8.567				
500.0	500.0	499.8	499.7	0.9	0.9	-105.03	-3.2	12.6	13.2	11.5	1.70	7.750				
600.0	600.0	599.6	599.4	1.0	1.0	-101.24	-7.2	14.4	16.4	14.3	2.06	7.938				
700.0	699.9	699.3	698.9	1.2	1.2	-99.77	-12.7	16.8	21.0	18.5	2.43	8.625				
800.0	799.7	798.8	798.2	1.4	1.4	-99.65	-19.8	20.0	27.0	24.2	2.82	9.570				
900.0	899.4	898.2	897.1	1.6	1.7	-100.18	-28.5	23.8	34.4	31.2	3.23	10.643				
1,000.0	998.9	997.4	995.7	1.8	1.9	-100.97	-38.8	28.3	43.2	39.6	3.67	11.764				
1,100.0	1,098.3	1,096.4	1,093.8	2.1	2.2	-101.81	-50.6	33.5	53.4	49.3	4.15	12.881				
1,200.0	1,197.4	1,195.1	1,191.4	2.3	2.5	-102.62	-63.8	39.4	65.1	60.4	4.66	13.961				
1,300.0	1,296.4	1,293.5	1,288.5	2.6	2.8	-102.87	-78.6	45.9	77.9	72.7	5.19	14.992				
1,400.0	1,395.5	1,392.6	1,386.1	2.9	3.1	-102.56	-94.3	52.8	91.3	85.5	5.74	15.904				
1,500.0	1,494.5	1,491.7	1,483.7	3.2	3.4	-102.32	-110.1	59.8	104.7	98.4	6.29	16.637				
1,600.0	1,593.5	1,590.8	1,581.3	3.5	3.8	-102.14	-125.8	66.7	118.1	111.2	6.85	17.238				
1,700.0	1,692.5	1,689.9	1,678.9	3.7	4.1	-102.00	-141.6	73.6	131.5	124.0	7.41	17.737				
1,800.0	1,791.6	1,789.0	1,776.5	4.0	4.4	-101.88	-157.3	80.6	144.8	136.9	7.98	18.158				
1,900.0	1,890.6	1,888.1	1,874.1	4.3	4.8	-101.78	-173.1	87.5	158.2	149.7	8.55	18.517				
2,000.0	1,989.6	1,987.2	1,971.6	4.6	5.1	-101.70	-188.8	94.5	171.6	162.5	9.12	18.826				
2,100.0	2,088.6	2,086.3	2,069.2	4.9	5.4	-101.63	-204.6	101.4	185.0	175.3	9.69	19.095				
2,200.0	2,187.7	2,185.4	2,166.8	5.2	5.8	-101.57	-220.3	108.4	198.4	188.2	10.27	19.331				
2,300.0	2,286.7	2,284.5	2,264.4	5.5	6.1	-101.51	-236.0	115.3	211.8	201.0	10.84	19.540				
2,400.0	2,385.7	2,383.5	2,362.0	5.8	6.5	-101.47	-251.8	122.3	225.2	213.8	11.42	19.725				
2,500.0	2,484.8	2,482.6	2,459.6	6.1	6.8	-101.42	-267.5	129.2	238.6	226.6	12.00	19.891				
2,600.0	2,583.8	2,581.7	2,557.2	6.4	7.1	-101.39	-283.3	136.1	252.0	239.4	12.58	20.041				
2,700.0	2,682.8	2,680.8	2,654.8	6.7	7.5	-101.35	-299.0	143.1	265.4	252.3	13.16	20.176				
2,800.0	2,781.8	2,779.9	2,752.4	7.0	7.8	-101.32	-314.8	150.0	278.8	265.1	13.74	20.299				
2,900.0	2,880.9	2,879.0	2,850.0	7.3	8.2	-101.29	-330.5	157.0	292.2	277.9	14.32	20.411				
3,000.0	2,979.9	2,978.1	2,947.6	7.6	8.5	-101.27	-346.3	163.9	305.6	290.7	14.90	20.513				
3,100.0	3,078.9	3,077.2	3,045.2	7.9	8.9	-101.25	-362.0	170.9	319.0	303.5	15.48	20.608				
3,200.0	3,177.9	3,179.5	3,146.0	8.2	9.2	-101.32	-377.6	177.8	332.0	315.9	16.06	20.672				
3,300.0	3,277.0	3,282.4	3,247.8	8.5	9.5	-101.63	-391.7	184.0	343.9	327.3	16.64	20.675				
3,400.0	3,376.0	3,385.6	3,350.0	8.7	9.8	-102.17	-404.1	189.4	354.8	337.6	17.20	20.625				
3,500.0	3,475.0	3,488.8	3,452.6	9.0	10.1	-102.90	-414.8	194.2	364.6	346.9	17.76	20.532				
3,600.0	3,574.0	3,592.1	3,555.4	9.3	10.3	-103.83	-423.9	198.2	373.5	355.2	18.30	20.405				
3,700.0	3,673.1	3,695.4	3,658.4	9.6	10.5	-104.95	-431.3	201.4	381.4	362.6	18.83	20.252				
3,800.0	3,772.1	3,798.6	3,761.4	9.9	10.7	-106.25	-436.9	203.9	388.5	369.1	19.35	20.082				
3,900.0	3,871.1	3,901.7	3,864.4	10.2	10.8	-107.73	-440.8	205.6	394.8	375.0	19.84	19.905				
4,000.0	3,970.3	4,004.6	3,967.3	10.5	11.0	-109.32	-443.1	206.6	400.2	379.9	20.28	19.732				
4,100.0	4,069.6	4,107.0	4,069.6	10.8	11.1	-110.83	-443.7	206.9	404.4	383.8	20.68	19.555				
4,200.0	4,169.2	4,206.5	4,169.2	11.0	11.2	-112.12	-443.7	206.9	408.0	386.9	21.05	19.385				
4,300.0	4,268.9	4,306.2	4,268.9	11.2	11.3	-113.15	-443.7	206.9	411.0	389.6	21.38	19.222				
4,400.0	4,368.7	4,406.0	4,368.7	11.4	11.4	-113.95	-443.7	206.9	413.4	391.7	21.69	19.059				
4,500.0	4,468.6	4,505.9	4,468.6	11.5	11.6	-114.52	-443.7	206.9	415.2	393.2	21.98	18.889				
4,600.0	4,568.5	4,605.9	4,568.5	11.7	11.7	-114.86	-443.7	206.9	416.3	394.1	22.25	18.709				
4,700.0	4,668.5	4,705.9	4,668.5	11.8	11.8	90.53	-443.7	206.9	416.7	394.2	22.51	18.515				
4,800.0	4,768.5	4,805.9	4,768.5	11.9	11.9	90.53	-443.7	206.9	416.7	393.9	22.76	18.307				
4,900.0	4,868.5	4,905.9	4,868.5	12.1	12.0	90.53	-443.7	206.9	416.7	393.7	23.02	18.102				
5,000.0	4,968.5	5,005.9	4,968.5	12.2	12.2	90.53	-443.7	206.9	416.7	393.4	23.28	17.900				
5,100.0	5,068.5	5,105.9	5,068.5	12.3	12.3	90.53	-443.7	206.9	416.7	393.1	23.54	17.700				

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,168.5	5,205.9	5,168.5	12.4	12.4	90.53	-443.7	206.9	416.7	392.9	23.81	17.504	
5,300.0	5,268.5	5,305.9	5,268.5	12.6	12.5	90.53	-443.7	206.9	416.7	392.6	24.07	17.310	
5,400.0	5,368.5	5,405.9	5,368.5	12.7	12.7	90.53	-443.7	206.9	416.7	392.3	24.34	17.119	
5,500.0	5,468.5	5,505.9	5,468.5	12.8	12.8	90.53	-443.7	206.9	416.7	392.1	24.61	16.930	
5,600.0	5,568.5	5,605.9	5,568.5	12.9	12.9	90.53	-443.7	206.9	416.7	391.8	24.88	16.745	
5,700.0	5,668.5	5,705.9	5,668.5	13.1	13.1	90.53	-443.7	206.9	416.7	391.5	25.16	16.562	
5,800.0	5,768.5	5,805.9	5,768.5	13.2	13.2	90.53	-443.7	206.9	416.7	391.3	25.44	16.382	
5,900.0	5,868.5	5,905.9	5,868.5	13.3	13.3	90.53	-443.7	206.9	416.7	391.0	25.71	16.205	
6,000.0	5,968.5	6,005.9	5,968.5	13.5	13.5	90.53	-443.7	206.9	416.7	390.7	25.99	16.030	
6,100.0	6,068.5	6,105.9	6,068.5	13.6	13.6	90.53	-443.7	206.9	416.7	390.4	26.28	15.858	
6,200.0	6,168.5	6,205.9	6,168.5	13.8	13.7	90.53	-443.7	206.9	416.7	390.1	26.56	15.689	
6,300.0	6,268.5	6,305.9	6,268.5	13.9	13.9	90.53	-443.7	206.9	416.7	389.8	26.84	15.523	
6,400.0	6,368.5	6,405.9	6,368.5	14.0	14.0	90.53	-443.7	206.9	416.7	389.6	27.13	15.359	
6,500.0	6,468.5	6,505.9	6,468.5	14.2	14.2	90.53	-443.7	206.9	416.7	389.3	27.42	15.198	
6,600.0	6,568.5	6,605.9	6,568.5	14.3	14.3	90.53	-443.7	206.9	416.7	389.0	27.71	15.039	
6,700.0	6,668.5	6,705.9	6,668.5	14.4	14.4	90.53	-443.7	206.9	416.7	388.7	28.00	14.883	
6,726.3	6,694.8	6,732.2	6,694.8	14.5	14.5	90.53	-443.7	206.9	416.7	388.6	28.07	14.843	
6,750.0	6,718.5	6,755.9	6,718.5	14.5	14.5	90.58	-443.7	206.9	416.7	388.6	28.14	14.810	
6,800.0	6,768.4	6,805.7	6,768.4	14.5	14.6	91.05	-443.7	206.9	416.7	388.5	28.23	14.761	
6,850.0	6,817.9	6,855.2	6,817.9	14.5	14.6	91.97	-443.7	206.9	416.9	388.6	28.30	14.734	
6,900.0	6,866.8	6,904.2	6,866.8	14.5	14.7	93.31	-443.7	206.9	417.4	389.1	28.32	14.737	
6,950.0	6,914.9	6,952.2	6,914.9	14.4	14.8	95.03	-443.7	206.9	418.4	390.1	28.31	14.780	
7,000.0	6,961.9	7,003.1	6,965.7	14.4	14.8	97.01	-441.9	206.9	420.1	391.9	28.23	14.882	
7,050.0	7,007.6	7,055.2	7,017.5	14.3	14.8	98.98	-436.3	206.9	422.4	394.3	28.08	15.039	
7,100.0	7,051.8	7,108.6	7,070.0	14.2	14.8	100.91	-426.7	206.9	425.1	397.2	27.88	15.249	
7,150.0	7,094.2	7,163.4	7,123.0	14.0	14.8	102.79	-412.8	206.9	428.3	400.6	27.61	15.509	
7,200.0	7,134.7	7,219.6	7,176.1	13.9	14.7	104.62	-394.3	206.9	431.8	404.5	27.31	15.814	
7,250.0	7,173.1	7,277.3	7,228.9	13.8	14.6	106.37	-371.1	206.9	435.7	408.7	26.97	16.156	
7,300.0	7,209.1	7,336.6	7,281.0	13.7	14.4	108.05	-343.0	206.9	439.8	413.2	26.61	16.526	
7,350.0	7,242.6	7,397.4	7,332.0	13.6	14.3	109.63	-309.7	206.9	444.0	417.8	26.25	16.912	
7,400.0	7,273.5	7,459.9	7,381.1	13.6	14.2	111.11	-271.1	206.9	448.3	422.3	25.92	17.294	
7,450.0	7,301.5	7,523.9	7,427.8	13.6	14.0	112.47	-227.3	206.9	452.4	426.8	25.63	17.653	
7,500.0	7,326.6	7,589.5	7,471.3	13.6	13.9	113.70	-178.3	206.9	456.4	431.0	25.41	17.965	
7,550.0	7,348.6	7,656.6	7,511.1	13.7	13.9	114.79	-124.2	206.9	460.1	434.9	25.28	18.203	
7,600.0	7,367.4	7,725.1	7,546.2	13.8	13.9	115.73	-65.6	206.9	463.4	438.2	25.27	18.338	
7,650.0	7,382.9	7,794.7	7,576.0	13.9	14.0	116.51	-2.7	206.9	466.2	440.9	25.39	18.362	
7,700.0	7,395.1	7,865.3	7,599.9	14.2	14.2	117.11	63.8	206.9	468.5	442.8	25.68	18.245	
7,750.0	7,403.9	7,936.7	7,617.3	14.4	14.5	117.54	133.0	206.9	470.1	444.0	26.12	17.994	
7,800.0	7,409.2	8,008.7	7,627.7	14.7	14.9	117.78	204.1	206.9	471.0	444.3	26.74	17.617	
7,851.3	7,411.0	8,081.0	7,631.0	15.1	15.4	117.83	276.4	206.9	471.2	443.7	27.52	17.125	
7,900.0	7,411.0	8,129.7	7,631.0	15.5	15.8	117.83	325.1	206.9	471.2	443.0	28.24	16.685	
8,000.0	7,411.0	8,229.7	7,631.0	16.4	16.7	117.83	425.1	206.9	471.2	441.3	29.89	15.766	
8,100.0	7,411.0	8,329.7	7,631.0	17.5	17.7	117.83	525.1	206.9	471.2	439.5	31.76	14.839	
8,200.0	7,411.0	8,429.7	7,631.0	18.6	18.9	117.83	625.1	206.9	471.2	437.4	33.81	13.939	
8,300.0	7,411.0	8,529.7	7,631.0	19.8	20.1	117.83	725.1	206.9	471.2	435.2	36.01	13.087	
8,400.0	7,411.0	8,629.7	7,631.0	21.2	21.4	117.83	825.1	207.0	471.2	432.9	38.34	12.292	
8,500.0	7,411.0	8,729.7	7,631.0	22.5	22.8	117.83	925.1	207.0	471.2	430.5	40.77	11.559	
8,600.0	7,411.0	8,829.7	7,631.0	24.0	24.2	117.83	1,025.1	207.0	471.2	428.0	43.29	10.886	
8,700.0	7,411.0	8,929.7	7,631.0	25.4	25.6	117.83	1,125.1	207.0	471.2	425.4	45.88	10.272	
8,800.0	7,411.0	9,029.7	7,631.0	26.9	27.1	117.83	1,225.1	207.0	471.2	422.7	48.53	9.710	
8,900.0	7,411.0	9,129.7	7,631.0	28.4	28.6	117.83	1,325.1	207.0	471.3	420.0	51.23	9.198	
9,000.0	7,411.0	9,229.7	7,631.0	30.0	30.2	117.83	1,425.1	207.0	471.3	417.3	53.98	8.730	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
9,100.0	7,411.0	9,329.7	7,631.0	31.6	31.7	117.83	1,525.1	207.0	471.3	414.5	56.76	8.302	
9,200.0	7,411.0	9,429.7	7,631.0	33.2	33.3	117.82	1,625.1	207.0	471.3	411.7	59.58	7.910	
9,300.0	7,411.0	9,529.7	7,631.0	34.8	34.9	117.82	1,725.1	207.0	471.3	408.8	62.43	7.549	
9,351.3	7,411.0	9,581.0	7,631.0	35.6	35.8	117.82	1,776.4	207.0	471.3	407.4	63.89	7.376	
9,400.0	7,411.0	9,629.7	7,631.0	36.4	36.5	117.81	1,825.1	207.0	471.5	406.2	65.29	7.221	
9,500.0	7,411.0	9,729.7	7,631.0	38.0	38.2	117.72	1,925.0	207.0	473.0	404.8	68.21	6.935	
9,600.0	7,411.0	9,829.6	7,631.0	39.7	39.8	117.54	2,025.0	207.0	476.1	404.9	71.17	6.689	
9,700.0	7,411.0	9,929.5	7,631.0	41.3	41.5	117.28	2,124.8	207.0	480.7	406.5	74.20	6.479	
9,751.3	7,411.0	9,980.6	7,631.0	42.2	42.3	117.11	2,176.0	207.0	483.7	407.9	75.77	6.384	
9,800.0	7,411.0	10,029.2	7,631.0	43.0	43.1	116.93	2,224.6	207.0	486.7	409.4	77.32	6.295	
9,900.0	7,411.0	10,129.0	7,631.0	44.7	44.8	116.56	2,324.4	207.0	492.9	412.4	80.51	6.123	
10,000.0	7,411.0	10,228.7	7,631.0	46.3	46.4	116.20	2,424.1	207.0	499.2	415.5	83.73	5.962	
10,100.0	7,411.0	10,328.5	7,631.0	48.0	48.1	115.85	2,523.9	207.0	505.5	418.5	86.97	5.812	
10,200.0	7,411.0	10,428.3	7,631.0	49.7	49.8	115.51	2,623.6	207.0	511.8	421.5	90.23	5.672	
10,300.0	7,411.0	10,528.0	7,631.0	51.4	51.5	115.18	2,723.4	207.1	518.1	424.6	93.51	5.540	
10,400.0	7,411.0	10,627.8	7,631.0	53.1	53.2	114.85	2,823.1	207.1	524.4	427.6	96.80	5.417	
10,500.0	7,411.0	10,727.5	7,631.0	54.8	54.8	114.54	2,922.9	207.1	530.8	430.7	100.11	5.302	
10,551.3	7,411.0	10,778.7	7,631.0	55.7	55.7	114.38	2,974.1	207.1	534.0	432.2	101.81	5.245	
10,600.0	7,411.0	10,827.3	7,631.0	56.5	56.5	114.23	3,022.7	207.1	536.9	433.5	103.48	5.189	
10,700.0	7,411.0	10,927.2	7,631.0	58.2	58.2	113.98	3,122.5	207.1	541.7	434.9	106.85	5.070	
10,800.0	7,411.0	11,027.1	7,631.0	59.9	59.9	113.81	3,222.5	207.1	545.0	434.8	110.14	4.948	
10,900.0	7,411.0	11,127.1	7,631.0	61.6	61.6	113.73	3,322.5	207.1	546.6	433.2	113.35	4.822	
11,000.0	7,411.0	11,227.1	7,631.0	63.4	63.4	113.73	3,422.5	207.1	546.6	430.1	116.48	4.693	
11,100.0	7,411.0	11,327.1	7,631.0	65.1	65.1	113.81	3,522.4	207.1	545.0	425.5	119.51	4.561	
11,200.0	7,411.0	11,427.0	7,631.0	66.8	66.8	113.97	3,622.4	207.1	541.9	419.4	122.43	4.426	
11,300.0	7,411.0	11,526.9	7,631.0	68.5	68.5	114.22	3,722.2	207.1	537.1	411.9	125.23	4.289	
11,400.0	7,411.0	11,626.6	7,631.0	70.2	70.2	114.55	3,822.0	207.1	530.8	402.9	127.90	4.150	
11,500.0	7,411.0	11,726.2	7,631.0	71.9	71.9	114.98	3,921.6	207.1	522.9	392.5	130.42	4.009	
11,600.0	7,411.0	11,825.7	7,631.0	73.6	73.6	115.51	4,021.1	207.1	513.5	380.7	132.77	3.867	
11,657.3	7,411.0	11,882.5	7,631.0	74.6	74.6	115.87	4,077.9	207.1	507.4	373.3	134.03	3.785	
11,700.0	7,411.0	11,925.0	7,631.0	75.3	75.3	116.13	4,120.3	207.1	502.6	367.6	135.07	3.721	
11,800.0	7,411.0	12,024.2	7,631.0	77.0	77.1	116.76	4,219.6	207.1	491.6	354.2	137.45	3.577	
11,900.0	7,411.0	12,123.4	7,631.0	78.7	78.8	117.42	4,318.8	207.1	480.7	340.9	139.76	3.439	
11,938.2	7,411.0	12,161.4	7,631.0	79.4	79.4	117.68	4,356.7	207.1	476.5	335.9	140.61	3.389 SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	99.23	-3.6	22.4	22.7						
100.0	100.0	100.0	100.0	0.2	0.2	99.23	-3.6	22.4	22.7	22.4	0.30	74.718			
200.0	200.0	200.0	200.0	0.3	0.3	99.23	-3.6	22.4	22.7	22.0	0.65	34.762 CC, ES			
300.0	300.0	299.6	299.6	0.5	0.5	100.19	-4.2	23.1	23.5	22.5	1.00	23.428			
400.0	400.0	399.2	399.2	0.7	0.7	102.73	-5.7	25.2	25.8	24.5	1.35	19.095			
500.0	500.0	498.7	498.5	0.9	0.9	-101.05	-8.2	28.7	30.0	28.3	1.70	17.652			
600.0	600.0	598.0	597.6	1.0	1.1	-101.47	-11.8	33.5	36.2	34.1	2.06	17.593			
700.0	699.9	697.0	696.4	1.2	1.3	-103.08	-16.4	39.8	44.3	41.8	2.42	18.296			
800.0	799.7	795.7	794.6	1.4	1.5	-105.15	-22.0	47.3	54.4	51.6	2.80	19.443			
900.0	899.4	894.0	892.3	1.6	1.8	-107.28	-28.5	56.2	66.6	63.4	3.19	20.845			
1,000.0	998.9	991.8	989.3	1.8	2.0	-109.26	-36.0	66.4	80.9	77.3	3.61	22.381			
1,100.0	1,098.3	1,089.1	1,085.6	2.1	2.3	-111.01	-44.4	77.9	97.3	93.2	4.06	23.970			
1,200.0	1,197.4	1,185.9	1,181.0	2.3	2.6	-112.54	-53.7	90.6	115.8	111.3	4.53	25.555			
1,300.0	1,296.4	1,283.6	1,277.3	2.6	2.9	-113.87	-63.8	104.2	135.6	130.6	5.02	27.004			
1,400.0	1,395.5	1,381.6	1,373.7	2.9	3.3	-114.86	-73.8	118.0	155.5	150.0	5.52	28.164			
1,500.0	1,494.5	1,479.6	1,470.2	3.2	3.6	-115.62	-83.9	131.7	175.4	169.4	6.03	29.108			
1,600.0	1,593.5	1,577.5	1,566.7	3.5	3.9	-116.23	-94.0	145.4	195.3	188.8	6.53	29.889			
1,700.0	1,692.5	1,675.5	1,663.2	3.7	4.3	-116.73	-104.1	159.1	215.3	208.2	7.05	30.543			
1,800.0	1,791.6	1,773.5	1,759.7	4.0	4.6	-117.14	-114.1	172.8	235.2	227.7	7.56	31.099			
1,900.0	1,890.6	1,871.5	1,856.2	4.3	4.9	-117.49	-124.2	186.5	255.2	247.1	8.08	31.576			
2,000.0	1,989.6	1,969.4	1,952.7	4.6	5.3	-117.79	-134.3	200.2	275.2	266.6	8.60	31.989			
2,100.0	2,088.6	2,067.4	2,049.2	4.9	5.6	-118.04	-144.3	213.9	295.1	286.0	9.12	32.351			
2,200.0	2,187.7	2,165.4	2,145.6	5.2	6.0	-118.27	-154.4	227.7	315.1	305.5	9.65	32.669			
2,300.0	2,286.7	2,263.4	2,242.1	5.5	6.3	-118.46	-164.5	241.4	335.1	325.0	10.17	32.952			
2,400.0	2,385.7	2,361.3	2,338.6	5.8	6.6	-118.64	-174.6	255.1	355.1	344.4	10.70	33.204			
2,500.0	2,484.8	2,459.3	2,435.1	6.1	7.0	-118.80	-184.6	268.8	375.1	363.9	11.22	33.430			
2,600.0	2,583.8	2,557.3	2,531.6	6.4	7.3	-118.94	-194.7	282.5	395.1	383.4	11.75	33.635			
2,700.0	2,682.8	2,655.3	2,628.1	6.7	7.7	-119.06	-204.8	296.2	415.1	402.8	12.27	33.820			
2,800.0	2,781.8	2,753.2	2,724.6	7.0	8.0	-119.18	-214.8	309.9	435.1	422.3	12.80	33.989			
2,900.0	2,880.9	2,851.2	2,821.0	7.3	8.4	-119.28	-224.9	323.6	455.1	441.8	13.33	34.143			
3,000.0	2,979.9	2,949.2	2,917.5	7.6	8.7	-119.38	-235.0	337.3	475.1	461.3	13.86	34.285			
3,100.0	3,078.9	3,047.2	3,014.0	7.9	9.0	-119.47	-245.1	351.1	495.1	480.8	14.39	34.416			
3,200.0	3,177.9	3,145.1	3,110.5	8.2	9.4	-119.55	-255.1	364.8	515.1	500.2	14.92	34.536			
3,300.0	3,277.0	3,243.1	3,207.0	8.5	9.7	-119.63	-265.2	378.5	535.2	519.7	15.45	34.648			
3,400.0	3,376.0	3,341.1	3,303.5	8.7	10.1	-119.70	-275.3	392.2	555.2	539.2	15.98	34.752			
3,500.0	3,475.0	3,439.1	3,400.0	9.0	10.4	-119.76	-285.3	405.9	575.2	558.7	16.51	34.849			
3,600.0	3,574.0	3,537.0	3,496.5	9.3	10.8	-119.82	-295.4	419.6	595.2	578.2	17.04	34.939			
3,700.0	3,673.1	3,635.0	3,592.9	9.6	11.1	-119.88	-305.5	433.3	615.2	597.6	17.57	35.023			
3,800.0	3,772.1	3,733.0	3,689.4	9.9	11.4	-119.93	-315.6	447.0	635.2	617.1	18.10	35.102			
3,900.0	3,871.1	3,831.0	3,785.9	10.2	11.8	-119.98	-325.6	460.7	655.2	636.6	18.63	35.177			
4,000.0	3,970.3	3,929.0	3,882.5	10.5	12.1	-120.14	-335.7	474.5	674.8	655.7	19.16	35.226			
4,100.0	4,069.6	4,027.2	3,979.2	10.8	12.5	-120.16	-345.8	488.2	693.5	673.9	19.66	35.271			
4,200.0	4,169.2	4,125.6	4,076.1	11.0	12.8	-120.06	-355.9	502.0	711.4	691.3	20.14	35.316			
4,300.0	4,268.9	4,224.0	4,173.0	11.2	13.2	-119.84	-366.0	515.8	728.5	707.9	20.60	35.361			
4,400.0	4,368.7	4,322.5	4,270.0	11.4	13.5	-119.51	-376.2	529.5	744.7	723.6	21.03	35.409			
4,500.0	4,468.6	4,421.0	4,367.0	11.5	13.9	-119.08	-386.3	543.3	760.1	738.7	21.43	35.463			
4,600.0	4,568.5	4,519.6	4,464.1	11.7	14.2	-118.56	-396.4	557.1	774.8	753.0	21.81	35.527			
4,700.0	4,668.5	4,625.1	4,568.0	11.8	14.6	87.60	-407.1	571.6	788.5	766.3	22.16	35.577			
4,800.0	4,768.5	4,736.0	4,677.7	11.9	14.9	88.36	-417.1	585.3	800.5	778.0	22.50	35.581			
4,900.0	4,868.5	4,847.6	4,788.3	12.1	15.2	89.01	-425.9	597.3	811.2	788.3	22.83	35.538			
5,000.0	4,968.5	4,959.7	4,899.7	12.2	15.5	89.56	-433.5	607.6	820.3	797.2	23.14	35.445			
5,100.0	5,068.5	5,072.3	5,011.7	12.3	15.8	90.00	-439.8	616.2	827.9	804.5	23.45	35.301			

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
5,200.0	5,168.5	5,185.3	5,124.4	12.4	16.0	90.35	-444.9	623.1	834.0	810.3	23.76	35.104		
5,300.0	5,268.5	5,298.6	5,237.5	12.6	16.2	90.60	-448.6	628.1	838.5	814.5	24.06	34.855		
5,400.0	5,368.5	5,412.0	5,350.8	12.7	16.3	90.76	-451.0	631.4	841.4	817.1	24.35	34.555		
5,500.0	5,468.5	5,525.6	5,464.4	12.8	16.4	90.83	-452.1	632.8	842.7	818.1	24.64	34.202		
5,600.0	5,568.5	5,629.7	5,568.5	12.9	16.6	90.84	-452.1	632.9	842.8	817.9	24.92	33.823		
5,700.0	5,668.5	5,729.7	5,668.5	13.1	16.7	90.84	-452.1	632.9	842.8	817.6	25.19	33.454		
5,800.0	5,768.5	5,829.7	5,768.5	13.2	16.8	90.84	-452.1	632.9	842.8	817.3	25.47	33.091		
5,900.0	5,868.5	5,929.7	5,868.5	13.3	16.9	90.84	-452.1	632.9	842.8	817.1	25.75	32.733		
6,000.0	5,968.5	6,029.7	5,968.5	13.5	17.0	90.84	-452.1	632.9	842.8	816.8	26.03	32.381		
6,100.0	6,068.5	6,129.7	6,068.5	13.6	17.1	90.84	-452.1	632.9	842.8	816.5	26.31	32.034		
6,200.0	6,168.5	6,229.7	6,168.5	13.8	17.2	90.84	-452.1	632.9	842.8	816.2	26.59	31.692		
6,300.0	6,268.5	6,329.7	6,268.5	13.9	17.3	90.84	-452.1	632.9	842.8	815.9	26.88	31.356		
6,400.0	6,368.5	6,429.7	6,368.5	14.0	17.4	90.84	-452.1	632.9	842.8	815.6	27.16	31.026		
6,500.0	6,468.5	6,529.7	6,468.5	14.2	17.5	90.84	-452.1	632.9	842.8	815.3	27.45	30.700		
6,600.0	6,568.5	6,629.7	6,568.5	14.3	17.6	90.84	-452.1	632.9	842.8	815.1	27.74	30.380		
6,700.0	6,668.5	6,729.7	6,668.5	14.4	17.8	90.84	-452.1	632.9	842.8	814.8	28.03	30.065		
6,726.3	6,694.8	6,756.0	6,694.8	14.5	17.8	90.84	-452.1	632.9	842.8	814.7	28.11	29.983		
6,750.0	6,718.5	6,780.1	6,718.9	14.5	17.8	90.84	-451.7	632.9	842.8	814.6	28.16	29.932		
6,800.0	6,768.4	6,831.0	6,769.7	14.5	17.8	90.83	-448.2	632.9	842.8	814.6	28.21	29.880		
6,850.0	6,817.9	6,881.9	6,820.0	14.5	17.8	90.82	-441.1	632.9	842.8	814.6	28.19	29.893		
6,900.0	6,866.8	6,932.7	6,869.8	14.5	17.8	90.81	-430.4	632.9	842.8	814.7	28.12	29.968		
6,950.0	6,914.9	6,983.6	6,918.6	14.4	17.7	90.79	-416.3	632.9	842.8	814.8	28.00	30.098		
7,000.0	6,961.9	7,034.4	6,966.3	14.4	17.7	90.77	-398.7	632.9	842.8	814.9	27.84	30.277		
7,050.0	7,007.6	7,085.2	7,012.5	14.3	17.6	90.75	-377.8	632.9	842.8	815.1	27.63	30.497		
7,100.0	7,051.8	7,136.0	7,057.2	14.2	17.5	90.72	-353.7	632.9	842.8	815.4	27.41	30.748		
7,150.0	7,094.2	7,186.7	7,100.0	14.0	17.4	90.69	-326.5	632.9	842.8	815.6	27.17	31.019		
7,200.0	7,134.7	7,237.4	7,140.8	13.9	17.3	90.66	-296.3	632.9	842.8	815.8	26.93	31.294		
7,250.0	7,173.1	7,288.1	7,179.3	13.8	17.2	90.62	-263.4	632.9	842.7	816.0	26.70	31.560		
7,300.0	7,209.1	7,338.7	7,215.3	13.7	17.1	90.58	-227.9	632.9	842.7	816.2	26.50	31.797		
7,350.0	7,242.6	7,389.3	7,248.7	13.6	17.0	90.53	-189.9	632.9	842.7	816.4	26.35	31.987		
7,400.0	7,273.5	7,439.8	7,279.3	13.6	17.0	90.49	-149.7	632.9	842.7	816.5	26.25	32.109		
7,450.0	7,301.5	7,490.3	7,307.0	13.6	17.0	90.44	-107.5	632.9	842.7	816.5	26.21	32.147		
7,500.0	7,326.6	7,540.7	7,331.7	13.6	17.0	90.39	-63.6	632.9	842.7	816.4	26.27	32.085		
7,550.0	7,348.6	7,591.1	7,353.1	13.7	17.0	90.33	-18.0	632.9	842.7	816.3	26.41	31.911		
7,600.0	7,367.4	7,641.4	7,371.3	13.8	17.1	90.28	28.9	632.9	842.7	816.0	26.65	31.620		
7,650.0	7,382.9	7,691.6	7,386.1	13.9	17.3	90.22	76.9	632.9	842.7	815.7	27.00	31.214		
7,700.0	7,395.1	7,741.8	7,397.5	14.2	17.4	90.17	125.8	632.9	842.7	815.2	27.45	30.700		
7,750.0	7,403.9	7,791.9	7,405.5	14.4	17.7	90.11	175.3	632.9	842.7	814.7	28.00	30.092		
7,800.0	7,409.2	7,842.0	7,409.9	14.7	17.9	90.05	225.1	632.9	842.7	814.0	28.66	29.405		
7,851.3	7,411.0	7,893.3	7,411.0	15.1	18.2	90.00	276.4	632.9	842.7	813.2	29.42	28.643		
7,900.0	7,411.0	7,942.0	7,411.0	15.5	18.5	90.00	325.1	632.9	842.7	812.4	30.24	27.862		
8,000.0	7,411.0	8,042.0	7,411.0	16.4	19.3	90.00	425.1	632.9	842.7	810.5	32.12	26.234		
8,100.0	7,411.0	8,142.0	7,411.0	17.5	20.2	90.00	525.1	632.9	842.6	808.4	34.26	24.599		
8,200.0	7,411.0	8,242.0	7,411.0	18.6	21.2	90.00	625.1	632.9	842.6	806.0	36.60	23.022		
8,300.0	7,411.0	8,342.0	7,411.0	19.8	22.3	90.00	725.1	632.9	842.6	803.5	39.12	21.538		
8,400.0	7,411.0	8,442.0	7,411.0	21.2	23.5	90.00	825.1	632.8	842.6	800.8	41.79	20.165		
8,500.0	7,411.0	8,542.0	7,411.0	22.5	24.7	90.00	925.1	632.8	842.6	798.1	44.57	18.906		
8,600.0	7,411.0	8,642.0	7,411.0	24.0	26.0	90.00	1,025.1	632.8	842.6	795.2	47.45	17.760		
8,700.0	7,411.0	8,742.0	7,411.0	25.4	27.4	90.00	1,125.1	632.8	842.6	792.2	50.40	16.717		
8,800.0	7,411.0	8,842.0	7,411.0	26.9	28.8	90.00	1,225.1	632.8	842.6	789.2	53.43	15.771		
8,900.0	7,411.0	8,942.0	7,411.0	28.4	30.2	90.00	1,325.1	632.8	842.6	786.1	56.51	14.911		
9,000.0	7,411.0	9,042.0	7,411.0	30.0	31.7	90.00	1,425.1	632.8	842.6	783.0	59.64	14.129		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
9,100.0	7,411.0	9,142.0	7,411.0	31.6	33.2	90.00	1,525.1	632.8	842.6	779.8	62.80	13.416	
9,200.0	7,411.0	9,242.0	7,411.0	33.2	34.7	90.00	1,625.1	632.8	842.6	776.6	66.01	12.765	
9,300.0	7,411.0	9,342.0	7,411.0	34.8	36.3	90.00	1,725.1	632.8	842.6	773.3	69.24	12.169	
9,351.3	7,411.0	9,393.3	7,411.0	35.6	37.1	90.00	1,776.4	632.8	842.6	771.7	70.91	11.883	
9,351.7	7,411.0	9,393.7	7,411.0	35.6	37.1	90.00	1,776.8	632.8	842.6	771.6	70.92	11.881	
9,400.0	7,411.0	9,442.0	7,411.0	36.4	37.8	90.00	1,825.1	632.8	842.8	770.3	72.44	11.634	
9,500.0	7,411.0	9,542.0	7,411.0	38.0	39.4	90.00	1,925.1	632.8	844.5	768.9	75.59	11.172	
9,600.0	7,411.0	9,642.0	7,411.0	39.7	41.0	90.00	2,025.1	632.8	847.9	769.2	78.74	10.769	
9,700.0	7,411.0	9,741.8	7,411.0	41.3	42.6	90.00	2,124.9	632.8	853.2	771.3	81.88	10.419	
9,751.3	7,411.0	9,793.0	7,411.0	42.2	43.4	90.00	2,176.1	632.8	856.5	773.0	83.49	10.259	
9,800.0	7,411.0	9,841.6	7,411.0	43.0	44.2	90.00	2,224.7	632.8	859.9	774.8	85.11	10.104	
9,900.0	7,411.0	9,941.4	7,411.0	44.7	45.8	90.00	2,324.4	632.7	866.9	778.4	88.44	9.802	
10,000.0	7,411.0	10,041.1	7,411.0	46.3	47.5	90.00	2,424.2	632.7	873.8	782.0	91.79	9.520	
10,100.0	7,411.0	10,140.9	7,411.0	48.0	49.1	90.00	2,524.0	632.7	880.8	785.7	95.15	9.257	
10,200.0	7,411.0	10,240.6	7,411.0	49.7	50.7	90.00	2,623.7	632.7	887.8	789.3	98.51	9.012	
10,300.0	7,411.0	10,340.4	7,411.0	51.4	52.4	90.00	2,723.5	632.7	894.7	792.8	101.89	8.781	
10,400.0	7,411.0	10,440.1	7,411.0	53.1	54.1	90.00	2,823.2	632.7	901.7	796.4	105.28	8.565	
10,500.0	7,411.0	10,539.9	7,411.0	54.8	55.7	90.00	2,923.0	632.7	908.7	800.0	108.67	8.362	
10,551.3	7,411.0	10,591.1	7,411.0	55.7	56.6	90.00	2,974.2	632.7	912.3	801.8	110.41	8.262	
10,600.0	7,411.0	10,639.7	7,411.0	56.5	57.4	90.00	3,022.8	632.7	915.4	803.3	112.17	8.161	
10,700.0	7,411.0	10,739.5	7,411.0	58.2	59.1	90.00	3,122.6	632.7	920.7	804.9	115.77	7.953	
10,800.0	7,411.0	10,839.5	7,411.0	59.9	60.7	90.00	3,222.6	632.7	924.2	804.9	119.34	7.744	
10,900.0	7,411.0	10,939.4	7,411.0	61.6	62.4	90.00	3,322.5	632.7	926.0	803.1	122.89	7.535	
11,000.0	7,411.0	11,039.4	7,411.0	63.4	64.1	90.00	3,422.5	632.7	926.0	799.6	126.41	7.325	
11,100.0	7,411.0	11,139.4	7,411.0	65.1	65.8	90.00	3,522.5	632.7	924.2	794.3	129.91	7.115	
11,200.0	7,411.0	11,239.4	7,411.0	66.8	67.5	90.00	3,622.5	632.7	920.8	787.4	133.36	6.904	
11,300.0	7,411.0	11,339.2	7,411.0	68.5	69.2	90.00	3,722.3	632.7	915.6	778.8	136.78	6.693	
11,400.0	7,411.0	11,439.0	7,411.0	70.2	70.9	90.00	3,822.1	632.7	908.6	768.4	140.16	6.482	
11,500.0	7,411.0	11,538.6	7,411.0	71.9	72.6	90.00	3,921.7	632.6	899.9	756.4	143.50	6.271	
11,600.0	7,411.0	11,638.1	7,411.0	73.6	74.3	90.00	4,021.2	632.6	889.5	742.7	146.80	6.059	
11,657.3	7,411.0	11,694.9	7,411.0	74.6	75.3	90.00	4,078.0	632.6	882.7	734.0	148.66	5.938	
11,700.0	7,411.0	11,737.3	7,411.0	75.3	76.0	90.00	4,120.4	632.6	877.4	727.3	150.13	5.845	
11,800.0	7,411.0	11,836.6	7,411.0	77.0	77.7	90.00	4,219.7	632.6	865.1	711.6	153.56	5.634	
11,900.0	7,411.0	11,935.8	7,411.0	78.7	79.4	90.00	4,318.9	632.6	852.9	695.9	157.00	5.432	
11,938.2	7,411.0	11,970.0	7,411.0	79.4	80.0	90.00	4,353.1	632.6	848.2	689.9	158.25	5.360 SF	

Cathedral Energy Services

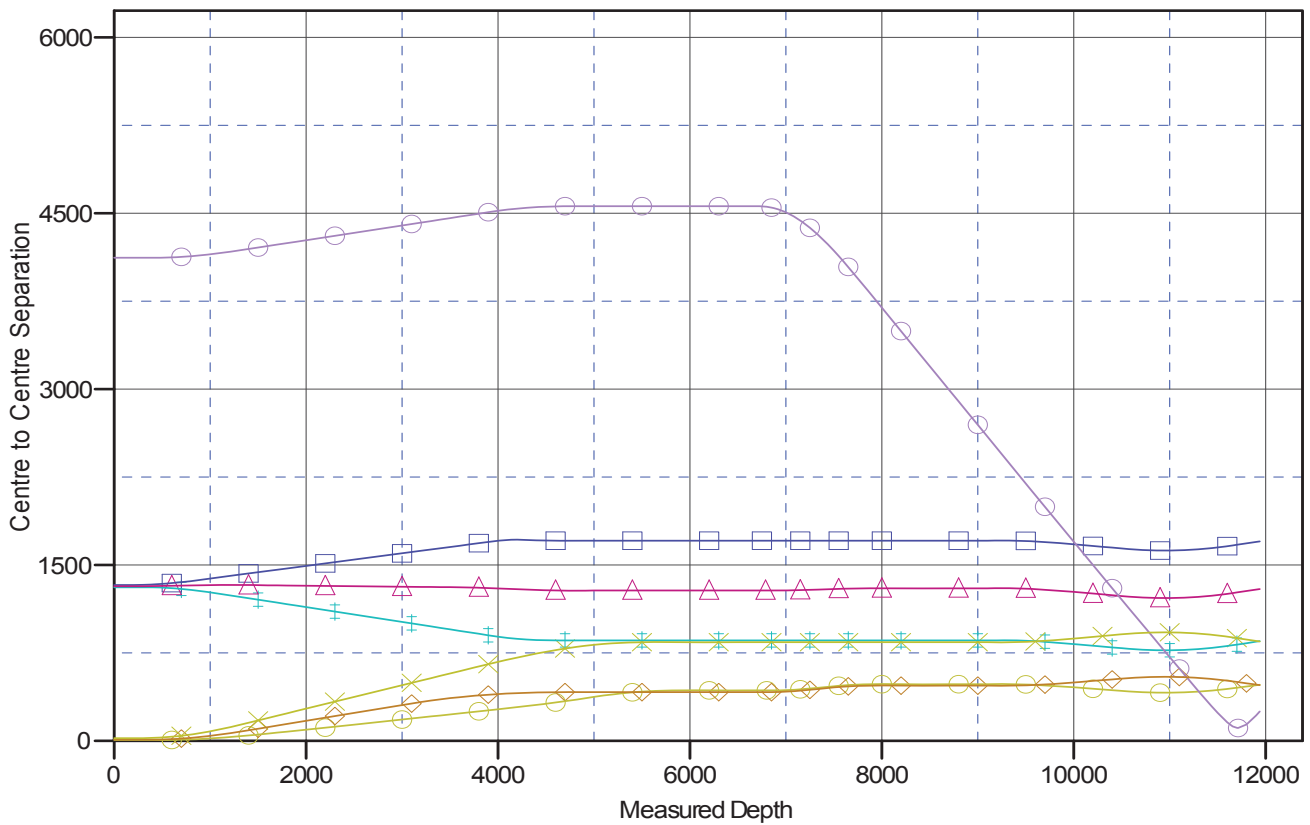
Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4E-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5117.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5117.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4E-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 5117.0ft (Ensign)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

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

Ladder Plot



LEGEND

4H, HZ, Plan #3 V0
 4H, HZ, Plan #3 V0
 4H, HZ, Plan #3 V0

Mathews4B-14H, HZ, Plan #3 V0
 05-123-07177, Mathews 1 (Existing), VT (Existing), Existing V0
 Mathews4F-14H, HZ, Plan #3 V0

Mathews4G-14H, HZ, Plan #3 V0