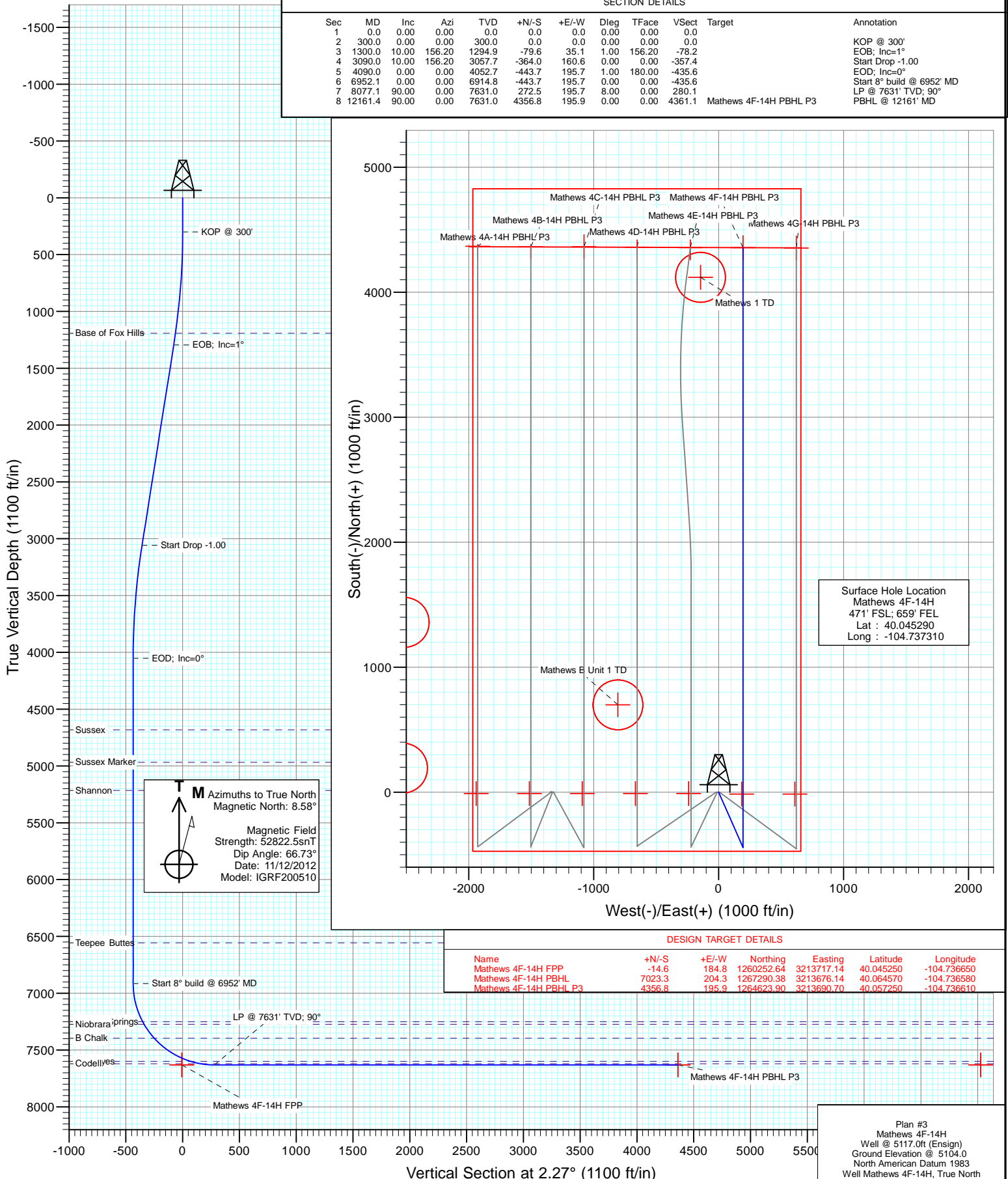




Project: DJ Wattenberg
Site: SWSE S14 T1N-R66W (Mathews)
Well: Mathews 4F-14H
Wellbore: HZ
Design: Plan #3



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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 4F-14H					
Well Position	+N/-S	0.0 ft	Northing:	1,260,265.62 ft	Latitude:	40.045290
	+E/-W	0.0 ft	Easting:	3,213,532.24 ft	Longitude:	-104.737310
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) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	2.27

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,300.0	10.00	156.20	1,294.9	-79.6	35.1	1.00	1.00	0.00	156.20	
3,090.0	10.00	156.20	3,057.7	-364.0	160.6	0.00	0.00	0.00	0.00	
4,090.0	0.00	0.00	4,052.7	-443.7	195.7	1.00	-1.00	0.00	180.00	
6,952.1	0.00	0.00	6,914.8	-443.7	195.7	0.00	0.00	0.00	0.00	
8,077.1	90.00	0.00	7,631.0	272.5	195.7	8.00	8.00	0.00	0.00	
12,161.4	90.00	0.00	7,631.0	4,356.8	195.9	0.00	0.00	0.00	0.00	Mathews 4F-14H PB†

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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	KOP @ 300'
400.0	1.00	156.20	400.0	-0.8	0.4	-0.8	1.00	1.00	
500.0	2.00	156.20	500.0	-3.2	1.4	-3.1	1.00	1.00	
600.0	3.00	156.20	599.9	-7.2	3.2	-7.1	1.00	1.00	
700.0	4.00	156.20	699.7	-12.8	5.6	-12.5	1.00	1.00	
800.0	5.00	156.20	799.4	-19.9	8.8	-19.6	1.00	1.00	
900.0	6.00	156.20	898.9	-28.7	12.7	-28.2	1.00	1.00	
1,000.0	7.00	156.20	998.3	-39.1	17.2	-38.4	1.00	1.00	
1,100.0	8.00	156.20	1,097.4	-51.0	22.5	-50.1	1.00	1.00	
1,195.6	8.96	156.20	1,192.0	-63.9	28.2	-62.8	1.00	1.00	Base of Fox Hills
1,200.0	9.00	156.20	1,196.3	-64.5	28.5	-63.4	1.00	1.00	
1,300.0	10.00	156.20	1,294.9	-79.6	35.1	-78.2	1.00	1.00	EOD; Inc=1°
1,400.0	10.00	156.20	1,393.4	-95.5	42.1	-93.8	0.00	0.00	
1,500.0	10.00	156.20	1,491.9	-111.4	49.1	-109.4	0.00	0.00	
1,600.0	10.00	156.20	1,590.4	-127.3	56.1	-125.0	0.00	0.00	
1,700.0	10.00	156.20	1,688.9	-143.2	63.2	-140.6	0.00	0.00	
1,800.0	10.00	156.20	1,787.3	-159.1	70.2	-156.2	0.00	0.00	
1,900.0	10.00	156.20	1,885.8	-175.0	77.2	-171.8	0.00	0.00	
2,000.0	10.00	156.20	1,984.3	-190.9	84.2	-187.4	0.00	0.00	
2,100.0	10.00	156.20	2,082.8	-206.7	91.2	-203.0	0.00	0.00	
2,200.0	10.00	156.20	2,181.3	-222.6	98.2	-218.6	0.00	0.00	
2,300.0	10.00	156.20	2,279.7	-238.5	105.2	-234.2	0.00	0.00	
2,400.0	10.00	156.20	2,378.2	-254.4	112.2	-249.8	0.00	0.00	
2,500.0	10.00	156.20	2,476.7	-270.3	119.2	-265.4	0.00	0.00	
2,600.0	10.00	156.20	2,575.2	-286.2	126.2	-281.0	0.00	0.00	
2,700.0	10.00	156.20	2,673.7	-302.1	133.2	-296.6	0.00	0.00	
2,800.0	10.00	156.20	2,772.1	-318.0	140.2	-312.2	0.00	0.00	
2,900.0	10.00	156.20	2,870.6	-333.9	147.2	-327.8	0.00	0.00	
3,000.0	10.00	156.20	2,969.1	-349.7	154.3	-343.4	0.00	0.00	
3,090.0	10.00	156.20	3,057.7	-364.0	160.6	-357.4	0.00	0.00	Start Drop -1.00
3,100.0	9.90	156.20	3,067.6	-365.6	161.3	-358.9	1.00	-1.00	
3,200.0	8.90	156.20	3,166.2	-380.6	167.8	-373.6	1.00	-1.00	
3,300.0	7.90	156.20	3,265.2	-393.9	173.7	-386.7	1.00	-1.00	
3,400.0	6.90	156.20	3,364.3	-405.7	178.9	-398.3	1.00	-1.00	
3,500.0	5.90	156.20	3,463.7	-415.9	183.4	-408.3	1.00	-1.00	
3,600.0	4.90	156.20	3,563.3	-424.5	187.2	-416.8	1.00	-1.00	
3,700.0	3.90	156.20	3,663.0	-431.5	190.3	-423.7	1.00	-1.00	
3,800.0	2.90	156.20	3,762.8	-437.0	192.7	-429.0	1.00	-1.00	
3,900.0	1.90	156.20	3,862.7	-440.8	194.4	-432.8	1.00	-1.00	
4,000.0	0.90	156.20	3,962.7	-443.0	195.4	-434.9	1.00	-1.00	
4,090.0	0.00	0.00	4,052.7	-443.7	195.7	-435.6	1.00	-1.00	EOD; Inc=0°
4,100.0	0.00	0.00	4,062.7	-443.7	195.7	-435.6	0.00	0.00	
4,200.0	0.00	0.00	4,162.7	-443.7	195.7	-435.6	0.00	0.00	
4,300.0	0.00	0.00	4,262.7	-443.7	195.7	-435.6	0.00	0.00	
4,400.0	0.00	0.00	4,362.7	-443.7	195.7	-435.6	0.00	0.00	
4,500.0	0.00	0.00	4,462.7	-443.7	195.7	-435.6	0.00	0.00	
4,600.0	0.00	0.00	4,562.7	-443.7	195.7	-435.6	0.00	0.00	
4,700.0	0.00	0.00	4,662.7	-443.7	195.7	-435.6	0.00	0.00	
4,719.3	0.00	0.00	4,682.0	-443.7	195.7	-435.6	0.00	0.00	Sussex

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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
4,800.0	0.00	0.00	4,762.7	-443.7	195.7	-435.6	0.00	0.00	
4,900.0	0.00	0.00	4,862.7	-443.7	195.7	-435.6	0.00	0.00	
5,000.0	0.00	0.00	4,962.7	-443.7	195.7	-435.6	0.00	0.00	
5,005.3	0.00	0.00	4,968.0	-443.7	195.7	-435.6	0.00	0.00	Sussex Marker
5,100.0	0.00	0.00	5,062.7	-443.7	195.7	-435.6	0.00	0.00	
5,200.0	0.00	0.00	5,162.7	-443.7	195.7	-435.6	0.00	0.00	
5,252.3	0.00	0.00	5,215.0	-443.7	195.7	-435.6	0.00	0.00	Shannon
5,300.0	0.00	0.00	5,262.7	-443.7	195.7	-435.6	0.00	0.00	
5,400.0	0.00	0.00	5,362.7	-443.7	195.7	-435.6	0.00	0.00	
5,500.0	0.00	0.00	5,462.7	-443.7	195.7	-435.6	0.00	0.00	
5,600.0	0.00	0.00	5,562.7	-443.7	195.7	-435.6	0.00	0.00	
5,700.0	0.00	0.00	5,662.7	-443.7	195.7	-435.6	0.00	0.00	
5,800.0	0.00	0.00	5,762.7	-443.7	195.7	-435.6	0.00	0.00	
5,900.0	0.00	0.00	5,862.7	-443.7	195.7	-435.6	0.00	0.00	
6,000.0	0.00	0.00	5,962.7	-443.7	195.7	-435.6	0.00	0.00	
6,100.0	0.00	0.00	6,062.7	-443.7	195.7	-435.6	0.00	0.00	
6,200.0	0.00	0.00	6,162.7	-443.7	195.7	-435.6	0.00	0.00	
6,300.0	0.00	0.00	6,262.7	-443.7	195.7	-435.6	0.00	0.00	
6,400.0	0.00	0.00	6,362.7	-443.7	195.7	-435.6	0.00	0.00	
6,500.0	0.00	0.00	6,462.7	-443.7	195.7	-435.6	0.00	0.00	
6,593.3	0.00	0.00	6,556.0	-443.7	195.7	-435.6	0.00	0.00	Teepee Buttes
6,600.0	0.00	0.00	6,562.7	-443.7	195.7	-435.6	0.00	0.00	
6,700.0	0.00	0.00	6,662.7	-443.7	195.7	-435.6	0.00	0.00	
6,800.0	0.00	0.00	6,762.7	-443.7	195.7	-435.6	0.00	0.00	
6,900.0	0.00	0.00	6,862.7	-443.7	195.7	-435.6	0.00	0.00	
6,952.1	0.00	0.00	6,914.8	-443.7	195.7	-435.6	0.00	0.00	Start 8° build @ 6952' MD
7,000.0	3.83	0.00	6,962.6	-442.1	195.7	-434.0	8.00	8.00	
7,100.0	11.83	0.00	7,061.6	-428.5	195.7	-420.4	8.00	8.00	
7,200.0	19.83	0.00	7,157.7	-401.2	195.7	-393.1	8.00	8.00	
7,300.0	27.83	0.00	7,249.2	-360.8	195.7	-352.8	8.00	8.00	
7,301.0	27.91	0.00	7,250.0	-360.4	195.7	-352.4	8.00	8.00	Sharon Springs
7,327.2	30.01	0.00	7,273.0	-347.7	195.7	-339.6	8.00	8.00	Niobrara
7,400.0	35.83	0.00	7,334.0	-308.2	195.7	-300.2	8.00	8.00	
7,479.8	42.21	0.00	7,396.0	-257.9	195.7	-250.0	8.00	8.00	B Chalk
7,500.0	43.83	0.00	7,410.8	-244.2	195.7	-236.2	8.00	8.00	
7,600.0	51.83	0.00	7,477.9	-170.1	195.7	-162.2	8.00	8.00	
7,700.0	59.83	0.00	7,534.0	-87.4	195.7	-79.6	8.00	8.00	
7,800.0	67.83	0.00	7,578.0	2.2	195.7	10.0	8.00	8.00	
7,865.6	73.08	0.00	7,600.0	64.1	195.7	71.8	8.00	8.00	Ft. Hayes
7,900.0	75.83	0.00	7,609.2	97.2	195.7	104.9	8.00	8.00	
7,957.3	80.41	0.00	7,621.0	153.3	195.7	160.9	8.00	8.00	Codell
8,000.0	83.83	0.00	7,626.9	195.5	195.7	203.1	8.00	8.00	
8,077.1	90.00	0.00	7,631.0	272.5	195.7	280.1	8.00	8.00	LP @ 7631' TVD; 90°
8,100.0	90.00	0.00	7,631.0	295.4	195.7	302.9	0.00	0.00	
8,200.0	90.00	0.00	7,631.0	395.4	195.7	402.8	0.00	0.00	
8,300.0	90.00	0.00	7,631.0	495.4	195.7	502.7	0.00	0.00	
8,400.0	90.00	0.00	7,631.0	595.4	195.7	602.7	0.00	0.00	
8,500.0	90.00	0.00	7,631.0	695.4	195.7	702.6	0.00	0.00	
8,600.0	90.00	0.00	7,631.0	795.4	195.8	802.5	0.00	0.00	
8,700.0	90.00	0.00	7,631.0	895.4	195.8	902.4	0.00	0.00	
8,800.0	90.00	0.00	7,631.0	995.4	195.8	1,002.4	0.00	0.00	
8,900.0	90.00	0.00	7,631.0	1,095.4	195.8	1,102.3	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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
9,000.0	90.00	0.00	7,631.0	1,195.4	195.8	1,202.2	0.00	0.00	
9,100.0	90.00	0.00	7,631.0	1,295.4	195.8	1,302.1	0.00	0.00	
9,200.0	90.00	0.00	7,631.0	1,395.4	195.8	1,402.0	0.00	0.00	
9,300.0	90.00	0.00	7,631.0	1,495.4	195.8	1,502.0	0.00	0.00	
9,400.0	90.00	0.00	7,631.0	1,595.4	195.8	1,601.9	0.00	0.00	
9,500.0	90.00	0.00	7,631.0	1,695.4	195.8	1,701.8	0.00	0.00	
9,600.0	90.00	0.00	7,631.0	1,795.4	195.8	1,801.7	0.00	0.00	
9,700.0	90.00	0.00	7,631.0	1,895.4	195.8	1,901.6	0.00	0.00	
9,800.0	90.00	0.00	7,631.0	1,995.4	195.8	2,001.6	0.00	0.00	
9,900.0	90.00	0.00	7,631.0	2,095.4	195.8	2,101.5	0.00	0.00	
10,000.0	90.00	0.00	7,631.0	2,195.4	195.8	2,201.4	0.00	0.00	
10,100.0	90.00	0.00	7,631.0	2,295.4	195.8	2,301.3	0.00	0.00	
10,200.0	90.00	0.00	7,631.0	2,395.4	195.8	2,401.3	0.00	0.00	
10,300.0	90.00	0.00	7,631.0	2,495.4	195.8	2,501.2	0.00	0.00	
10,400.0	90.00	0.00	7,631.0	2,595.4	195.8	2,601.1	0.00	0.00	
10,500.0	90.00	0.00	7,631.0	2,695.4	195.9	2,701.0	0.00	0.00	
10,600.0	90.00	0.00	7,631.0	2,795.4	195.9	2,800.9	0.00	0.00	
10,700.0	90.00	0.00	7,631.0	2,895.4	195.9	2,900.9	0.00	0.00	
10,800.0	90.00	0.00	7,631.0	2,995.4	195.9	3,000.8	0.00	0.00	
10,900.0	90.00	0.00	7,631.0	3,095.4	195.9	3,100.7	0.00	0.00	
11,000.0	90.00	0.00	7,631.0	3,195.4	195.9	3,200.6	0.00	0.00	
11,100.0	90.00	0.00	7,631.0	3,295.4	195.9	3,300.6	0.00	0.00	
11,200.0	90.00	0.00	7,631.0	3,395.4	195.9	3,400.5	0.00	0.00	
11,300.0	90.00	0.00	7,631.0	3,495.4	195.9	3,500.4	0.00	0.00	
11,400.0	90.00	0.00	7,631.0	3,595.4	195.9	3,600.3	0.00	0.00	
11,500.0	90.00	0.00	7,631.0	3,695.4	195.9	3,700.2	0.00	0.00	
11,600.0	90.00	0.00	7,631.0	3,795.4	195.9	3,800.2	0.00	0.00	
11,700.0	90.00	0.00	7,631.0	3,895.4	195.9	3,900.1	0.00	0.00	
11,800.0	90.00	0.00	7,631.0	3,995.4	195.9	4,000.0	0.00	0.00	
11,900.0	90.00	0.00	7,631.0	4,095.4	195.9	4,099.9	0.00	0.00	
12,000.0	90.00	0.00	7,631.0	4,195.4	195.9	4,199.8	0.00	0.00	
12,100.0	90.00	0.00	7,631.0	4,295.4	195.9	4,299.8	0.00	0.00	
12,161.4	90.00	0.00	7,631.0	4,356.8	195.9	4,361.1	0.00	0.00	PBHL @ 12161' MD

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Mathews 4F-14H PBHL	0.00	0.00	7,631.0	4,356.8	195.9	1,264,623.90	3,213,690.70	40.057250	-104.736610
- plan hits target center									
- Point									
Mathews 4F-14H FPP	0.00	0.00	7,631.0	-14.6	184.8	1,260,252.64	3,213,717.14	40.045250	-104.736650
- plan misses target center by 56.5ft at 7801.9ft MD (7578.8 TVD, 4.0 N, 195.7 E)									
- Point									
Mathews 4F-14H PBHL	0.00	0.00	7,631.0	7,023.3	204.3	1,267,290.38	3,213,676.14	40.064570	-104.736580
- plan misses target center by 2666.5ft at 12161.4ft MD (7631.0 TVD, 4356.8 N, 195.9 E)									
- Point									

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,195.6	1,192.0	Base of Fox Hills		0.00		
4,719.3	4,682.0	Sussex		0.00		
5,005.3	4,968.0	Sussex Marker		0.00		
5,252.3	5,215.0	Shannon		0.00		
6,593.3	6,556.0	Teepee Buttes		0.00		
7,301.0	7,250.0	Sharon Springs		0.00		
7,327.2	7,273.0	Niobrara		0.00		
7,479.8	7,396.0	B Chalk		0.00		
7,865.6	7,600.0	Ft. Hayes		0.00		
7,957.3	7,621.0	Codell		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.0	300.0	0.0	0.0	KOP @ 300'	
1,300.0	1,294.9	-79.6	35.1	EOB; Inc=1°	
3,090.0	3,057.7	-364.0	160.6	Start Drop -1.00	
4,090.0	4,052.7	-443.7	195.7	EOD; Inc=0°	
6,952.1	6,914.8	-443.7	195.7	Start 8° build @ 6952' MD	
8,077.1	7,631.0	272.5	195.7	LP @ 7631' TVD; 90°	
12,161.4	7,631.0	4,356.8	195.9	PBHL @ 12161' MD	

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

SWSE S14 T1N-R66W (Mathews)

Mathews 4F-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 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	12/27/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,160.7	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	11,924.2	7,633.0	340.9	252.4	3.850	CC, ES, SF
Mathews 4A-14H - HZ - Plan #3	161.2	175.2	1,341.0	1,340.5	2,474.754	CC
Mathews 4A-14H - HZ - Plan #3	200.0	200.0	1,341.1	1,340.5	2,054.559	ES
Mathews 4A-14H - HZ - Plan #3	12,161.4	11,983.6	2,135.9	1,978.1	13.533	SF
Mathews 4B-14H - HZ - Plan #3	261.2	275.2	1,329.8	1,329.0	1,492.606	CC
Mathews 4B-14H - HZ - Plan #3	300.0	311.9	1,329.9	1,328.8	1,300.047	ES
Mathews 4B-14H - HZ - Plan #3	12,161.4	12,163.3	1,699.1	1,540.4	10.706	SF
Mathews 4C-14H - HZ - Plan #3	6,762.4	6,773.2	1,273.8	1,245.6	45.139	CC
Mathews 4C-14H - HZ - Plan #3	12,161.4	11,953.0	1,292.5	1,136.1	8.264	ES, SF
Mathews 4D-14H - HZ - Plan #3	300.0	300.0	19.6	18.6	19.562	CC, ES
Mathews 4D-14H - HZ - Plan #3	12,161.4	12,173.5	848.2	689.4	5.344	SF
Mathews 4E-14H - HZ - Plan #3	300.0	300.0	11.2	10.2	11.178	CC, ES
Mathews 4E-14H - HZ - Plan #3	12,161.4	11,938.2	476.5	334.8	3.362	SF
Mathews 4G-14H - HZ - Plan #3	200.0	200.0	11.8	11.1	18.041	CC, ES
Mathews 4G-14H - HZ - Plan #3	12,161.4	11,970.0	479.0	337.0	3.373	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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	-2.02	4,119.6	-145.0	4,122.2					
100.0	100.0	102.0	102.0	0.2	0.2	-2.02	4,119.6	-145.0	4,122.2	4,121.8	0.31	N/A		
200.0	200.0	202.0	202.0	0.3	0.3	-2.02	4,119.6	-145.0	4,122.2	4,121.5	0.66	6,281.435		
300.0	300.0	302.0	302.0	0.5	0.5	-2.02	4,119.6	-145.0	4,122.2	4,121.1	1.01	4,100.382		
400.0	400.0	402.0	402.0	0.7	0.7	-158.22	4,119.6	-145.0	4,123.0	4,121.6	1.35	3,044.235		
500.0	500.0	502.0	502.0	0.9	0.9	-158.22	4,119.6	-145.0	4,125.4	4,123.7	1.70	2,421.654		
600.0	599.9	601.9	601.9	1.0	1.0	-158.23	4,119.6	-145.0	4,129.4	4,127.4	2.05	2,011.196		
700.0	699.7	701.7	701.7	1.2	1.2	-158.24	4,119.6	-145.0	4,135.1	4,132.7	2.40	1,720.264		
800.0	799.4	801.4	801.4	1.4	1.4	-158.25	4,119.6	-145.0	4,142.4	4,139.7	2.76	1,503.309		
900.0	898.9	900.9	900.9	1.7	1.5	-158.27	4,119.6	-145.0	4,151.3	4,148.2	3.11	1,335.320		
1,000.0	998.3	1,000.3	1,000.3	1.9	1.7	-158.29	4,119.6	-145.0	4,161.8	4,158.4	3.46	1,201.424		
1,100.0	1,097.4	1,099.4	1,099.4	2.2	1.9	-158.31	4,119.6	-145.0	4,174.0	4,170.2	3.82	1,092.221		
1,200.0	1,196.3	1,198.3	1,198.3	2.5	2.1	-158.33	4,119.6	-145.0	4,187.7	4,183.6	4.18	1,001.480		
1,300.0	1,294.9	1,296.9	1,296.9	2.8	2.2	-158.36	4,119.6	-145.0	4,203.1	4,198.6	4.54	924.908		
1,400.0	1,393.4	1,395.4	1,395.4	3.1	2.4	-158.44	4,119.6	-145.0	4,219.3	4,214.4	4.91	858.699		
1,500.0	1,491.9	1,493.9	1,493.9	3.5	2.6	-158.53	4,119.6	-145.0	4,235.5	4,230.2	5.28	801.616		
1,600.0	1,590.4	1,592.4	1,592.4	3.8	2.8	-158.62	4,119.6	-145.0	4,251.7	4,246.0	5.65	751.929		
1,700.0	1,688.9	1,690.9	1,690.9	4.1	2.9	-158.70	4,119.6	-145.0	4,267.9	4,261.9	6.03	708.310		
1,800.0	1,787.3	1,789.3	1,789.3	4.5	3.1	-158.78	4,119.6	-145.0	4,284.1	4,277.7	6.40	669.728		
1,900.0	1,885.8	1,887.8	1,887.8	4.8	3.3	-158.87	4,119.6	-145.0	4,300.3	4,293.6	6.77	635.368		
2,000.0	1,984.3	1,986.3	1,986.3	5.1	3.4	-158.95	4,119.6	-145.0	4,316.6	4,309.4	7.14	604.580		
2,100.0	2,082.8	2,084.8	2,084.8	5.5	3.6	-159.03	4,119.6	-145.0	4,332.8	4,325.3	7.51	576.841		
2,200.0	2,181.3	2,183.3	2,183.3	5.8	3.8	-159.12	4,119.6	-145.0	4,349.0	4,341.2	7.88	551.722		
2,300.0	2,279.7	2,281.7	2,281.7	6.2	4.0	-159.20	4,119.6	-145.0	4,365.3	4,357.0	8.25	528.872		
2,400.0	2,378.2	2,380.2	2,380.2	6.5	4.1	-159.28	4,119.6	-145.0	4,381.6	4,372.9	8.63	507.999		
2,500.0	2,476.7	2,478.7	2,478.7	6.9	4.3	-159.36	4,119.6	-145.0	4,397.8	4,388.9	9.00	488.859		
2,600.0	2,575.2	2,577.2	2,577.2	7.2	4.5	-159.44	4,119.6	-145.0	4,414.1	4,404.8	9.37	471.246		
2,700.0	2,673.7	2,675.7	2,675.7	7.6	4.6	-159.51	4,119.6	-145.0	4,430.4	4,420.7	9.74	454.985		
2,800.0	2,772.1	2,774.1	2,774.1	7.9	4.8	-159.59	4,119.6	-145.0	4,446.7	4,436.6	10.11	439.927		
2,900.0	2,870.6	2,872.6	2,872.6	8.3	5.0	-159.67	4,119.6	-145.0	4,463.0	4,452.6	10.48	425.944		
3,000.0	2,969.1	2,971.1	2,971.1	8.6	5.2	-159.75	4,119.6	-145.0	4,479.4	4,468.5	10.85	412.925		
3,090.0	3,057.7	3,059.7	3,059.7	8.9	5.3	-159.82	4,119.6	-145.0	4,494.0	4,482.9	11.18	401.953		
3,100.0	3,067.6	3,069.6	3,069.6	8.9	5.3	-159.83	4,119.6	-145.0	4,495.7	4,484.5	11.22	400.744		
3,200.0	3,166.2	3,168.2	3,168.2	9.3	5.5	-159.95	4,119.6	-145.0	4,511.0	4,499.4	11.59	389.162		
3,300.0	3,265.2	3,267.2	3,267.2	9.6	5.7	-160.07	4,119.6	-145.0	4,524.8	4,512.8	11.96	378.325		
3,400.0	3,364.3	3,366.3	3,366.3	9.8	5.9	-160.16	4,119.6	-145.0	4,536.9	4,524.6	12.32	368.153		
3,500.0	3,463.7	3,465.7	3,465.7	10.1	6.0	-160.25	4,119.6	-145.0	4,547.4	4,534.7	12.68	358.576		
3,600.0	3,563.3	3,565.3	3,565.3	10.3	6.2	-160.32	4,119.6	-145.0	4,556.3	4,543.2	13.04	349.533		
3,700.0	3,663.0	3,665.0	3,665.0	10.5	6.4	-160.37	4,119.6	-145.0	4,563.5	4,550.1	13.38	340.971		
3,800.0	3,762.8	3,764.8	3,764.8	10.7	6.5	-160.42	4,119.6	-145.0	4,569.1	4,555.3	13.73	332.843		
3,900.0	3,862.7	3,864.7	3,864.7	10.8	6.7	-160.45	4,119.6	-145.0	4,573.0	4,559.0	14.07	325.110		
4,000.0	3,962.7	3,964.7	3,964.7	11.0	6.9	-160.46	4,119.6	-145.0	4,575.3	4,560.9	14.40	317.735		
4,090.0	4,052.7	4,054.7	4,054.7	11.1	7.1	-4.27	4,119.6	-145.0	4,576.0	4,561.3	14.70	311.376		
4,100.0	4,062.7	4,064.7	4,064.7	11.1	7.1	-4.27	4,119.6	-145.0	4,576.0	4,561.3	14.73	310.663		
4,200.0	4,162.7	4,164.7	4,164.7	11.2	7.2	-4.27	4,119.6	-145.0	4,576.0	4,560.9	15.07	303.708		
4,300.0	4,262.7	4,264.7	4,264.7	11.3	7.4	-4.27	4,119.6	-145.0	4,576.0	4,560.6	15.40	297.047		
4,400.0	4,362.7	4,364.7	4,364.7	11.4	7.6	-4.27	4,119.6	-145.0	4,576.0	4,560.2	15.74	290.663		
4,500.0	4,462.7	4,464.7	4,464.7	11.5	7.8	-4.27	4,119.6	-145.0	4,576.0	4,559.9	16.08	284.541		
4,600.0	4,562.7	4,564.7	4,564.7	11.7	7.9	-4.27	4,119.6	-145.0	4,576.0	4,559.6	16.42	278.664		
4,700.0	4,662.7	4,664.7	4,664.7	11.8	8.1	-4.27	4,119.6	-145.0	4,576.0	4,559.2	16.76	273.018		
4,800.0	4,762.7	4,764.7	4,764.7	11.9	8.3	-4.27	4,119.6	-145.0	4,576.0	4,558.9	17.10	267.591		
4,900.0	4,862.7	4,864.7	4,864.7	12.0	8.5	-4.27	4,119.6	-145.0	4,576.0	4,558.5	17.44	262.371		

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 4F-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 4F-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: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,000.0	4,962.7	4,964.7	4,964.7	12.2	8.6	-4.27	4,119.6	-145.0	4,576.0	4,558.2	17.78	257.345		
5,100.0	5,062.7	5,064.7	5,064.7	12.3	8.8	-4.27	4,119.6	-145.0	4,576.0	4,557.9	18.12	252.504		
5,200.0	5,162.7	5,164.7	5,164.7	12.4	9.0	-4.27	4,119.6	-145.0	4,576.0	4,557.5	18.46	247.838		
5,300.0	5,262.7	5,264.7	5,264.7	12.5	9.2	-4.27	4,119.6	-145.0	4,576.0	4,557.2	18.81	243.338		
5,400.0	5,362.7	5,364.7	5,364.7	12.7	9.3	-4.27	4,119.6	-145.0	4,576.0	4,556.8	19.15	238.994		
5,500.0	5,462.7	5,464.7	5,464.7	12.8	9.5	-4.27	4,119.6	-145.0	4,576.0	4,556.5	19.49	234.800		
5,600.0	5,562.7	5,564.7	5,564.7	12.9	9.7	-4.27	4,119.6	-145.0	4,576.0	4,556.2	19.83	230.748		
5,700.0	5,662.7	5,664.7	5,664.7	13.1	9.9	-4.27	4,119.6	-145.0	4,576.0	4,555.8	20.17	226.831		
5,800.0	5,762.7	5,764.7	5,764.7	13.2	10.0	-4.27	4,119.6	-145.0	4,576.0	4,555.5	20.52	223.043		
5,900.0	5,862.7	5,864.7	5,864.7	13.3	10.2	-4.27	4,119.6	-145.0	4,576.0	4,555.1	20.86	219.376		
6,000.0	5,962.7	5,964.7	5,964.7	13.5	10.4	-4.27	4,119.6	-145.0	4,576.0	4,554.8	21.20	215.827		
6,100.0	6,062.7	6,064.7	6,064.7	13.6	10.6	-4.27	4,119.6	-145.0	4,576.0	4,554.4	21.55	212.388		
6,200.0	6,162.7	6,164.7	6,164.7	13.7	10.7	-4.27	4,119.6	-145.0	4,576.0	4,554.1	21.89	209.056		
6,300.0	6,262.7	6,264.7	6,264.7	13.9	10.9	-4.27	4,119.6	-145.0	4,576.0	4,553.8	22.23	205.824		
6,400.0	6,362.7	6,364.7	6,364.7	14.0	11.1	-4.27	4,119.6	-145.0	4,576.0	4,553.4	22.58	202.690		
6,500.0	6,462.7	6,464.7	6,464.7	14.1	11.3	-4.27	4,119.6	-145.0	4,576.0	4,553.1	22.92	199.649		
6,600.0	6,562.7	6,564.7	6,564.7	14.3	11.4	-4.27	4,119.6	-145.0	4,576.0	4,552.7	23.26	196.696		
6,700.0	6,662.7	6,664.7	6,664.7	14.4	11.6	-4.27	4,119.6	-145.0	4,576.0	4,552.4	23.61	193.828		
6,800.0	6,762.7	6,764.7	6,764.7	14.6	11.8	-4.27	4,119.6	-145.0	4,576.0	4,552.0	23.95	191.041		
6,900.0	6,862.7	6,864.7	6,864.7	14.7	12.0	-4.27	4,119.6	-145.0	4,576.0	4,551.7	24.30	188.333		
6,952.1	6,914.8	6,916.8	6,916.8	14.8	12.0	-4.27	4,119.6	-145.0	4,576.0	4,551.5	24.48	186.951		
7,000.0	6,962.6	6,964.6	6,964.6	14.8	12.1	-4.28	4,119.6	-145.0	4,574.4	4,549.8	24.57	186.174		
7,050.0	7,012.4	7,014.4	7,014.4	14.8	12.2	-4.32	4,119.6	-145.0	4,569.3	4,544.7	24.59	185.830		
7,100.0	7,061.6	7,063.6	7,063.6	14.8	12.3	-4.38	4,119.6	-145.0	4,560.8	4,536.3	24.53	185.957		
7,150.0	7,110.2	7,112.2	7,112.2	14.8	12.4	-4.47	4,119.6	-145.0	4,548.9	4,524.5	24.38	186.553		
7,200.0	7,157.7	7,159.7	7,159.7	14.7	12.5	-4.58	4,119.6	-145.0	4,533.6	4,509.5	24.16	187.617		
7,250.0	7,204.2	7,206.2	7,206.2	14.6	12.6	-4.73	4,119.6	-145.0	4,515.1	4,491.2	23.87	189.147		
7,300.0	7,249.2	7,251.2	7,251.2	14.5	12.6	-4.92	4,119.6	-145.0	4,493.4	4,469.9	23.51	191.145		
7,350.0	7,292.5	7,294.5	7,294.5	14.4	12.7	-5.15	4,119.6	-145.0	4,468.6	4,445.5	23.08	193.605		
7,400.0	7,334.0	7,336.0	7,336.0	14.3	12.8	-5.43	4,119.6	-145.0	4,440.8	4,418.2	22.60	196.517		
7,450.0	7,373.5	7,375.5	7,375.5	14.2	12.9	-5.77	4,119.6	-145.0	4,410.3	4,388.2	22.07	199.859		
7,500.0	7,410.8	7,412.8	7,412.8	14.1	12.9	-6.18	4,119.6	-145.0	4,377.0	4,355.5	21.50	203.590		
7,550.0	7,445.6	7,447.6	7,447.6	14.0	13.0	-6.69	4,119.6	-145.0	4,341.3	4,320.4	20.91	207.640		
7,600.0	7,477.9	7,479.9	7,479.9	13.9	13.0	-7.33	4,119.6	-145.0	4,303.2	4,282.9	20.31	211.894		
7,650.0	7,507.4	7,509.4	7,509.4	13.9	13.1	-8.13	4,119.6	-145.0	4,263.0	4,243.3	19.72	216.175		
7,700.0	7,534.0	7,536.0	7,536.0	13.9	13.1	-9.16	4,119.6	-145.0	4,220.8	4,201.6	19.17	220.205		
7,750.0	7,557.6	7,559.6	7,559.6	13.9	13.2	-10.52	4,119.6	-145.0	4,176.9	4,158.2	18.68	223.562		
7,800.0	7,578.0	7,580.0	7,580.0	14.0	13.2	-12.38	4,119.6	-145.0	4,131.4	4,113.1	18.31	225.585		
7,850.0	7,595.3	7,597.3	7,597.3	14.2	13.2	-15.03	4,119.6	-145.0	4,084.7	4,066.5	18.14	225.198		
7,900.0	7,609.2	7,611.2	7,611.2	14.3	13.3	-19.10	4,119.6	-145.0	4,036.8	4,018.5	18.31	220.519		
7,950.0	7,619.7	7,621.7	7,621.7	14.6	13.3	-25.91	4,119.6	-145.0	3,988.1	3,969.0	19.17	208.062		
8,000.0	7,626.9	7,628.9	7,628.9	14.9	13.3	-38.95	4,119.6	-145.0	3,938.8	3,917.2	21.60	182.380		
8,050.0	7,630.5	7,632.5	7,632.5	15.2	13.3	-66.71	4,119.6	-145.0	3,889.2	3,862.6	26.56	146.448		
8,077.1	7,631.0	7,633.0	7,633.0	15.4	13.3	-90.00	4,119.6	-145.0	3,862.1	3,833.8	28.30	136.451		
8,100.0	7,631.0	7,633.0	7,633.0	15.6	13.3	-90.00	4,119.6	-145.0	3,839.4	3,810.9	28.48	134.791		
8,200.0	7,631.0	7,633.0	7,633.0	16.4	13.3	-90.00	4,119.6	-145.0	3,739.8	3,710.4	29.36	127.361		
8,300.0	7,631.0	7,633.0	7,633.0	17.4	13.3	-90.00	4,119.6	-145.0	3,640.2	3,609.8	30.38	119.827		
8,400.0	7,631.0	7,633.0	7,633.0	18.5	13.3	-90.00	4,119.6	-145.0	3,540.7	3,509.2	31.51	112.378		
8,500.0	7,631.0	7,633.0	7,633.0	19.7	13.3	-90.00	4,119.6	-145.0	3,441.1	3,408.4	32.73	105.145		
8,600.0	7,631.0	7,633.0	7,633.0	21.0	13.3	-90.00	4,119.6	-145.0	3,341.6	3,307.6	34.03	98.211		
8,700.0	7,631.0	7,633.0	7,633.0	22.4	13.3	-90.00	4,119.6	-145.0	3,242.2	3,206.8	35.39	91.623		
8,800.0	7,631.0	7,633.0	7,633.0	23.7	13.3	-90.00	4,119.6	-145.0	3,142.8	3,106.0	36.80	85.403		

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 4F-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 4F-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 (Existing) - 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		
8,900.0	7,631.0	7,633.0	7,633.0	25.2	13.3	-90.00	4,119.6	-145.0	3,043.4	3,005.1	38.26	79.554		
9,000.0	7,631.0	7,633.0	7,633.0	26.7	13.3	-90.00	4,119.6	-145.0	2,944.0	2,904.3	39.75	74.067		
9,100.0	7,631.0	7,633.0	7,633.0	28.2	13.3	-90.00	4,119.6	-145.0	2,844.7	2,803.4	41.27	68.928		
9,200.0	7,631.0	7,633.0	7,633.0	29.7	13.3	-90.00	4,119.6	-145.0	2,745.5	2,702.6	42.82	64.118		
9,300.0	7,631.0	7,633.0	7,633.0	31.3	13.3	-90.00	4,119.6	-145.0	2,646.3	2,601.9	44.39	59.615		
9,400.0	7,631.0	7,633.0	7,633.0	32.9	13.3	-90.00	4,119.6	-145.0	2,547.1	2,501.1	45.98	55.398		
9,500.0	7,631.0	7,633.0	7,633.0	34.5	13.3	-90.00	4,119.6	-145.0	2,448.1	2,400.5	47.58	51.448		
9,600.0	7,631.0	7,633.0	7,633.0	36.1	13.3	-90.00	4,119.6	-145.0	2,349.1	2,299.9	49.20	47.743		
9,700.0	7,631.0	7,633.0	7,633.0	37.7	13.3	-90.00	4,119.6	-145.0	2,250.2	2,199.4	50.83	44.265		
9,800.0	7,631.0	7,633.0	7,633.0	39.3	13.3	-90.00	4,119.6	-145.0	2,151.4	2,098.9	52.48	40.998		
9,900.0	7,631.0	7,633.0	7,633.0	41.0	13.3	-90.00	4,119.6	-145.0	2,052.7	1,998.6	54.13	37.924		
10,000.0	7,631.0	7,633.0	7,633.0	42.6	13.3	-90.00	4,119.6	-145.0	1,954.2	1,898.4	55.79	35.030		
10,100.0	7,631.0	7,633.0	7,633.0	44.3	13.3	-90.00	4,119.6	-145.0	1,855.8	1,798.3	57.45	32.301		
10,200.0	7,631.0	7,633.0	7,633.0	46.0	13.3	-90.00	4,119.6	-145.0	1,757.6	1,698.5	59.13	29.726		
10,300.0	7,631.0	7,633.0	7,633.0	47.6	13.3	-90.00	4,119.6	-145.0	1,659.6	1,598.8	60.81	27.294		
10,400.0	7,631.0	7,633.0	7,633.0	49.3	13.3	-90.00	4,119.6	-145.0	1,561.9	1,499.4	62.49	24.994		
10,500.0	7,631.0	7,633.0	7,633.0	51.0	13.3	-90.00	4,119.6	-145.0	1,464.4	1,400.3	64.18	22.818		
10,600.0	7,631.0	7,633.0	7,633.0	52.7	13.3	-90.00	4,119.6	-145.0	1,367.4	1,301.5	65.87	20.758		
10,700.0	7,631.0	7,633.0	7,633.0	54.4	13.3	-90.00	4,119.6	-145.0	1,270.8	1,203.2	67.57	18.807		
10,800.0	7,631.0	7,633.0	7,633.0	56.1	13.3	-90.00	4,119.6	-145.0	1,174.8	1,105.5	69.27	16.959		
10,900.0	7,631.0	7,633.0	7,633.0	57.8	13.3	-90.00	4,119.6	-145.0	1,079.5	1,008.5	70.97	15.209		
11,000.0	7,631.0	7,633.0	7,633.0	59.5	13.3	-90.00	4,119.6	-145.0	985.1	912.4	72.68	13.554		
11,100.0	7,631.0	7,633.0	7,633.0	61.2	13.3	-90.00	4,119.6	-145.0	891.9	817.5	74.39	11.990		
11,200.0	7,631.0	7,633.0	7,633.0	62.9	13.3	-90.00	4,119.6	-145.0	800.4	724.3	76.10	10.518		
11,300.0	7,631.0	7,633.0	7,633.0	64.6	13.3	-90.00	4,119.6	-145.0	711.2	633.4	77.82	9.140		
11,400.0	7,631.0	7,633.0	7,633.0	66.3	13.3	-90.00	4,119.6	-145.0	625.3	545.8	79.53	7.863		
11,500.0	7,631.0	7,633.0	7,633.0	68.0	13.3	-90.00	4,119.6	-145.0	544.2	463.0	81.25	6.698		
11,600.0	7,631.0	7,633.0	7,633.0	69.8	13.3	-90.00	4,119.6	-145.0	470.5	387.5	82.97	5.670		
11,700.0	7,631.0	7,633.0	7,633.0	71.5	13.3	-90.00	4,119.6	-145.0	408.0	323.4	84.69	4.818		
11,800.0	7,631.0	7,633.0	7,633.0	73.2	13.3	-90.00	4,119.6	-145.0	362.9	276.4	86.41	4.199		
11,900.0	7,631.0	7,633.0	7,633.0	74.9	13.3	-90.00	4,119.6	-145.0	341.8	253.6	88.14	3.878		
11,924.2	7,631.0	7,633.0	7,633.0	75.3	13.3	-90.00	4,119.6	-145.0	340.9	252.4	88.56	3.850 CC, ES, SF		
12,000.0	7,631.0	7,633.0	7,633.0	76.6	13.3	-90.00	4,119.6	-145.0	349.3	259.4	89.87	3.886		
12,100.0	7,631.0	7,633.0	7,633.0	78.4	13.3	-90.00	4,119.6	-145.0	383.6	292.0	91.59	4.188		
12,161.4	7,631.0	7,633.0	7,633.0	79.4	13.3	-90.00	4,119.6	-145.0	415.3	322.7	92.65	4.482		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	14.0	14.0	0.0	0.0	-90.00	0.0	-1,341.0	1,341.0					
100.0	100.0	114.0	114.0	0.2	0.2	-90.00	0.0	-1,341.0	1,341.0	1,340.7	0.33	4,087.035		
161.2	161.2	175.2	175.2	0.3	0.3	-90.00	0.0	-1,341.0	1,341.0	1,340.5	0.54	2,474.754 CC		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-1,341.0	1,341.1	1,340.5	0.65	2,054.559 ES		
300.0	300.0	282.8	282.8	0.5	0.5	-90.03	-0.7	-1,342.0	1,342.4	1,341.4	0.97	1,378.130		
400.0	400.0	355.4	355.3	0.7	0.6	113.69	-2.5	-1,344.4	1,346.1	1,344.8	1.28	1,052.442		
500.0	500.0	427.8	427.5	0.9	0.8	113.58	-5.4	-1,348.3	1,352.5	1,350.9	1.59	849.743		
600.0	599.9	500.0	499.5	1.0	0.9	113.45	-9.3	-1,353.6	1,361.6	1,359.7	1.91	711.142		
700.0	699.7	571.6	570.5	1.2	1.1	113.30	-14.3	-1,360.4	1,373.5	1,371.2	2.26	608.686		
800.0	799.4	642.8	641.0	1.4	1.3	113.13	-20.3	-1,368.5	1,388.0	1,385.4	2.62	530.292		
900.0	898.9	700.0	697.5	1.7	1.5	112.94	-25.9	-1,376.0	1,405.3	1,402.3	2.97	473.812		
1,000.0	998.3	783.6	779.6	1.9	1.8	112.73	-35.3	-1,388.6	1,425.0	1,421.6	3.41	417.923		
1,100.0	1,097.4	874.6	868.6	2.2	2.2	112.52	-46.5	-1,403.8	1,446.8	1,442.9	3.89	371.493		
1,200.0	1,196.3	972.0	963.9	2.5	2.5	112.36	-58.6	-1,420.0	1,469.3	1,464.9	4.42	332.443		
1,300.0	1,294.9	1,069.2	1,059.0	2.8	2.9	112.26	-70.7	-1,436.2	1,492.5	1,487.5	4.97	300.361		
1,400.0	1,393.4	1,166.4	1,154.0	3.1	3.3	112.40	-82.7	-1,452.5	1,516.0	1,510.5	5.53	274.043		
1,500.0	1,491.9	1,263.5	1,249.0	3.5	3.7	112.54	-94.7	-1,468.7	1,539.5	1,533.4	6.10	252.305		
1,600.0	1,590.4	1,360.6	1,344.0	3.8	4.1	112.68	-106.8	-1,484.9	1,563.0	1,556.3	6.68	234.099		
1,700.0	1,688.9	1,457.8	1,439.0	4.1	4.5	112.81	-118.8	-1,501.1	1,586.5	1,579.3	7.26	218.659		
1,800.0	1,787.3	1,554.9	1,534.0	4.5	4.9	112.94	-130.9	-1,517.3	1,610.1	1,602.2	7.84	205.418		
1,900.0	1,885.8	1,652.0	1,629.0	4.8	5.3	113.06	-142.9	-1,533.5	1,633.6	1,625.2	8.42	193.948		
2,000.0	1,984.3	1,749.1	1,724.0	5.1	5.7	113.19	-154.9	-1,549.7	1,657.2	1,648.2	9.01	183.923		
2,100.0	2,082.8	1,846.3	1,819.0	5.5	6.0	113.30	-167.0	-1,566.0	1,680.7	1,671.1	9.60	175.092		
2,200.0	2,181.3	1,943.4	1,914.0	5.8	6.4	113.42	-179.0	-1,582.2	1,704.3	1,694.1	10.19	167.257		
2,300.0	2,279.7	2,040.5	2,009.0	6.2	6.8	113.53	-191.1	-1,598.4	1,727.9	1,717.1	10.78	160.260		
2,400.0	2,378.2	2,137.6	2,104.0	6.5	7.2	113.64	-203.1	-1,614.6	1,751.4	1,740.1	11.37	153.976		
2,500.0	2,476.7	2,234.8	2,199.0	6.9	7.6	113.74	-215.1	-1,630.8	1,775.0	1,763.0	11.97	148.303		
2,600.0	2,575.2	2,331.9	2,294.1	7.2	8.0	113.85	-227.2	-1,647.0	1,798.6	1,786.0	12.56	143.156		
2,700.0	2,673.7	2,429.0	2,389.1	7.6	8.4	113.95	-239.2	-1,663.2	1,822.2	1,809.0	13.16	138.466		
2,800.0	2,772.1	2,526.2	2,484.1	7.9	8.8	114.04	-251.3	-1,679.4	1,845.8	1,832.0	13.76	134.175		
2,900.0	2,870.6	2,623.3	2,579.1	8.3	9.2	114.14	-263.3	-1,695.7	1,869.4	1,855.0	14.35	130.236		
3,000.0	2,969.1	2,720.4	2,674.1	8.6	9.6	114.23	-275.3	-1,711.9	1,893.0	1,878.0	14.95	126.606		
3,090.0	3,057.7	2,807.8	2,759.6	8.9	9.9	114.31	-286.2	-1,726.5	1,914.2	1,898.8	15.49	123.575		
3,100.0	3,067.6	2,817.5	2,769.1	8.9	10.0	114.35	-287.4	-1,728.1	1,916.6	1,901.1	15.55	123.235		
3,200.0	3,166.2	2,914.8	2,864.2	9.3	10.4	114.62	-299.4	-1,744.3	1,939.8	1,923.7	16.15	120.118		
3,300.0	3,265.2	3,012.2	2,959.5	9.6	10.8	114.84	-311.5	-1,760.6	1,962.3	1,945.6	16.72	117.338		
3,400.0	3,364.3	3,109.8	3,055.0	9.8	11.2	115.01	-323.6	-1,776.9	1,984.1	1,966.8	17.28	114.851		
3,500.0	3,463.7	3,207.5	3,150.6	10.1	11.6	115.12	-335.7	-1,793.2	2,005.1	1,987.3	17.80	112.626		
3,600.0	3,563.3	3,305.4	3,246.2	10.3	12.0	115.18	-347.8	-1,809.5	2,025.5	2,007.1	18.31	110.631		
3,700.0	3,663.0	3,403.2	3,342.0	10.5	12.4	115.20	-360.0	-1,825.8	2,045.1	2,026.3	18.79	108.845		
3,800.0	3,762.8	3,501.2	3,437.8	10.7	12.8	115.16	-372.1	-1,842.2	2,064.0	2,044.7	19.25	107.246		
3,900.0	3,862.7	3,599.1	3,533.5	10.8	13.2	115.08	-384.2	-1,858.5	2,082.2	2,062.5	19.68	105.818		
4,000.0	3,962.7	3,697.0	3,629.3	11.0	13.6	114.95	-396.4	-1,874.9	2,099.7	2,079.7	20.08	104.547		
4,090.0	4,052.7	3,787.3	3,807.5	11.1	14.2	-89.25	-416.3	-1,901.7	2,113.5	2,092.9	20.61	102.526		
4,100.0	4,062.7	3,902.4	3,831.3	11.1	14.3	-89.31	-418.4	-1,904.6	2,114.7	2,094.0	20.68	102.277		
4,200.0	4,162.7	4,145.9	4,073.5	11.2	14.8	-89.72	-433.4	-1,924.7	2,123.0	2,101.8	21.20	100.118		
4,300.0	4,262.7	4,349.2	4,276.7	11.3	15.0	-89.81	-436.6	-1,929.0	2,124.7	2,103.1	21.58	98.434		
4,400.0	4,362.7	4,449.2	4,376.7	11.4	15.1	-89.81	-436.6	-1,929.0	2,124.7	2,102.8	21.83	97.330		
4,500.0	4,462.7	4,549.2	4,476.7	11.5	15.2	-89.81	-436.6	-1,929.0	2,124.7	2,102.6	22.08	96.239		
4,600.0	4,562.7	4,649.2	4,576.7	11.7	15.3	-89.81	-436.6	-1,929.0	2,124.7	2,102.4	22.33	95.159		
4,700.0	4,662.7	4,749.2	4,676.7	11.8	15.4	-89.81	-436.6	-1,929.0	2,124.7	2,102.1	22.58	94.093		
4,800.0	4,762.7	4,849.2	4,776.7	11.9	15.5	-89.81	-436.6	-1,929.0	2,124.7	2,101.8	22.84	93.041		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
4,900.0	4,862.7	4,949.2	4,876.7	12.0	15.6	-89.81	-436.6	-1,929.0	2,124.7	2,101.6	23.09	92.002		
5,000.0	4,962.7	5,049.2	4,976.7	12.2	15.7	-89.81	-436.6	-1,929.0	2,124.7	2,101.3	23.35	90.976		
5,100.0	5,062.7	5,149.2	5,076.7	12.3	15.7	-89.81	-436.6	-1,929.0	2,124.7	2,101.1	23.62	89.965		
5,200.0	5,162.7	5,249.2	5,176.7	12.4	15.8	-89.81	-436.6	-1,929.0	2,124.7	2,100.8	23.88	88.967		
5,300.0	5,262.7	5,349.2	5,276.7	12.5	16.0	-89.81	-436.6	-1,929.0	2,124.7	2,100.5	24.15	87.983		
5,400.0	5,362.7	5,449.2	5,376.7	12.7	16.1	-89.81	-436.6	-1,929.0	2,124.7	2,100.3	24.42	87.014		
5,500.0	5,462.7	5,549.2	5,476.7	12.8	16.2	-89.81	-436.6	-1,929.0	2,124.7	2,100.0	24.69	86.059		
5,600.0	5,562.7	5,649.2	5,576.7	12.9	16.3	-89.81	-436.6	-1,929.0	2,124.7	2,099.7	24.96	85.118		
5,700.0	5,662.7	5,749.2	5,676.7	13.1	16.4	-89.81	-436.6	-1,929.0	2,124.7	2,099.4	25.24	84.191		
5,800.0	5,762.7	5,849.2	5,776.7	13.2	16.5	-89.81	-436.6	-1,929.0	2,124.7	2,099.2	25.51	83.278		
5,900.0	5,862.7	5,949.2	5,876.7	13.3	16.6	-89.81	-436.6	-1,929.0	2,124.7	2,098.9	25.79	82.379		
6,000.0	5,962.7	6,049.2	5,976.7	13.5	16.7	-89.81	-436.6	-1,929.0	2,124.7	2,098.6	26.07	81.494		
6,100.0	6,062.7	6,149.2	6,076.7	13.6	16.8	-89.81	-436.6	-1,929.0	2,124.7	2,098.3	26.35	80.622		
6,200.0	6,162.7	6,249.2	6,176.7	13.7	16.9	-89.81	-436.6	-1,929.0	2,124.7	2,098.0	26.64	79.765		
6,300.0	6,262.7	6,349.2	6,276.7	13.9	17.0	-89.81	-436.6	-1,929.0	2,124.7	2,097.8	26.92	78.921		
6,400.0	6,362.7	6,449.2	6,376.7	14.0	17.1	-89.81	-436.6	-1,929.0	2,124.7	2,097.5	27.21	78.090		
6,500.0	6,462.7	6,549.2	6,476.7	14.1	17.3	-89.81	-436.6	-1,929.0	2,124.7	2,097.2	27.50	77.272		
6,600.0	6,562.7	6,649.2	6,576.7	14.3	17.4	-89.81	-436.6	-1,929.0	2,124.7	2,096.9	27.79	76.468		
6,700.0	6,662.7	6,749.2	6,676.7	14.4	17.5	-89.81	-436.6	-1,929.0	2,124.7	2,096.6	28.08	75.676		
6,721.8	6,684.5	6,771.0	6,698.5	14.5	17.5	-89.81	-436.6	-1,929.0	2,124.7	2,096.5	28.14	75.506		
6,800.0	6,762.7	6,848.4	6,775.7	14.6	17.6	-89.72	-433.4	-1,929.0	2,124.7	2,096.4	28.32	75.014		
6,900.0	6,862.7	6,944.7	6,870.7	14.7	17.5	-89.31	-418.0	-1,929.0	2,124.8	2,096.4	28.47	74.643		
6,952.1	6,914.8	6,992.9	6,917.2	14.8	17.5	-88.97	-405.6	-1,929.0	2,125.0	2,096.5	28.51	74.537		
7,000.0	6,962.6	7,035.9	6,958.0	14.8	17.5	-88.62	-391.8	-1,929.0	2,125.3	2,096.8	28.50	74.562		
7,050.0	7,012.4	7,080.2	6,999.0	14.8	17.4	-88.25	-375.1	-1,929.0	2,125.7	2,097.3	28.45	74.716		
7,100.0	7,061.6	7,123.7	7,038.3	14.8	17.3	-87.89	-356.3	-1,929.0	2,126.2	2,097.9	28.36	74.985		
7,150.0	7,110.2	7,166.7	7,075.8	14.8	17.2	-87.54	-335.4	-1,929.0	2,126.8	2,098.5	28.22	75.357		
7,200.0	7,157.7	7,209.1	7,111.6	14.7	17.2	-87.21	-312.6	-1,929.0	2,127.4	2,099.3	28.06	75.816		
7,250.0	7,204.2	7,250.0	7,144.7	14.6	17.1	-86.89	-288.6	-1,929.0	2,128.0	2,100.1	27.88	76.339		
7,300.0	7,249.2	7,292.4	7,177.6	14.5	17.0	-86.57	-261.8	-1,929.0	2,128.7	2,101.0	27.67	76.923		
7,350.0	7,292.5	7,333.4	7,207.8	14.4	16.9	-86.27	-234.1	-1,929.0	2,129.4	2,101.9	27.47	77.521		
7,400.0	7,334.0	7,374.0	7,236.1	14.3	16.9	-85.99	-205.1	-1,929.0	2,130.1	2,102.8	27.27	78.116		
7,450.0	7,373.5	7,414.2	7,262.4	14.2	16.8	-85.72	-174.7	-1,929.0	2,130.8	2,103.7	27.08	78.678		
7,500.0	7,410.8	7,450.0	7,284.5	14.1	16.8	-85.49	-146.5	-1,929.0	2,131.5	2,104.6	26.93	79.164		
7,550.0	7,445.6	7,493.7	7,309.4	14.0	16.8	-85.24	-110.5	-1,929.0	2,132.2	2,105.4	26.80	79.564		
7,600.0	7,477.9	7,533.1	7,329.9	13.9	16.8	-85.03	-77.0	-1,929.0	2,132.9	2,106.1	26.72	79.811		
7,650.0	7,507.4	7,572.2	7,348.5	13.9	16.8	-84.84	-42.5	-1,929.0	2,133.5	2,106.8	26.70	79.897		
7,700.0	7,534.0	7,611.2	7,365.0	13.9	16.9	-84.67	-7.3	-1,928.9	2,134.0	2,107.3	26.75	79.764		
7,750.0	7,557.6	7,650.0	7,379.6	13.9	16.9	-84.51	28.7	-1,928.9	2,134.5	2,107.7	26.87	79.447		
7,800.0	7,578.0	7,688.5	7,392.1	14.0	17.0	-84.39	65.1	-1,928.9	2,135.0	2,107.9	27.07	78.861		
7,850.0	7,595.3	7,727.0	7,402.7	14.2	17.1	-84.28	102.2	-1,928.9	2,135.3	2,108.0	27.36	78.052		
7,900.0	7,609.2	7,765.4	7,411.2	14.3	17.3	-84.20	139.6	-1,928.9	2,135.6	2,107.9	27.73	77.026		
7,950.0	7,619.7	7,800.0	7,417.1	14.6	17.4	-84.14	173.7	-1,928.9	2,135.8	2,107.7	28.15	75.863		
8,000.0	7,626.9	7,842.0	7,422.1	14.9	17.6	-84.10	215.4	-1,928.9	2,136.0	2,107.3	28.72	74.380		
8,050.0	7,630.5	7,880.3	7,424.5	15.2	17.8	-84.09	253.6	-1,928.9	2,136.0	2,106.7	29.34	72.812		
8,077.1	7,631.0	7,901.0	7,425.0	15.4	18.0	-84.09	274.3	-1,928.9	2,136.0	2,106.3	29.70	71.927		
8,088.6	7,631.0	7,910.8	7,425.0	15.5	18.0	-84.09	284.1	-1,928.9	2,136.0	2,106.1	29.87	71.519		
8,100.0	7,631.0	7,922.3	7,425.0	15.6	18.1	-84.09	295.5	-1,928.9	2,136.0	2,106.0	30.05	71.075		
8,200.0	7,631.0	8,022.3	7,425.0	16.4	18.8	-84.09	395.5	-1,928.9	2,136.0	2,104.2	31.81	67.142		
8,300.0	7,631.0	8,122.3	7,425.0	17.4	19.7	-84.09	495.5	-1,928.9	2,136.0	2,102.2	33.84	63.122		
8,400.0	7,631.0	8,222.3	7,425.0	18.5	20.7	-84.09	595.5	-1,928.9	2,136.0	2,099.9	36.09	59.185		
8,500.0	7,631.0	8,322.3	7,425.0	19.7	21.8	-84.09	695.5	-1,928.9	2,136.0	2,097.5	38.53	55.443		

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 4F-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 4F-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		
8,600.0	7,631.0	8,422.3	7,425.0	21.0	22.9	-84.09	795.5	-1,928.9	2,136.0	2,094.9	41.11	51.953		
8,700.0	7,631.0	8,522.3	7,425.0	22.4	24.2	-84.09	895.5	-1,928.9	2,136.0	2,092.2	43.83	48.737		
8,800.0	7,631.0	8,622.3	7,425.0	23.7	25.5	-84.09	995.5	-1,928.9	2,136.0	2,089.4	46.64	45.793		
8,900.0	7,631.0	8,722.3	7,425.0	25.2	26.8	-84.09	1,095.5	-1,928.9	2,136.0	2,086.5	49.55	43.111		
9,000.0	7,631.0	8,822.3	7,425.0	26.7	28.2	-84.09	1,195.5	-1,928.9	2,136.0	2,083.5	52.52	40.669		
9,100.0	7,631.0	8,922.3	7,425.0	28.2	29.6	-84.09	1,295.5	-1,928.9	2,136.0	2,080.4	55.56	38.448		
9,200.0	7,631.0	9,022.3	7,425.0	29.7	31.1	-84.09	1,395.5	-1,928.9	2,136.0	2,077.4	58.64	36.425		
9,300.0	7,631.0	9,122.3	7,425.0	31.3	32.6	-84.09	1,495.5	-1,928.8	2,136.0	2,074.2	61.77	34.581		
9,400.0	7,631.0	9,222.3	7,425.0	32.9	34.1	-84.09	1,595.5	-1,928.8	2,136.0	2,071.1	64.93	32.895		
9,500.0	7,631.0	9,322.3	7,425.0	34.5	35.6	-84.09	1,695.5	-1,928.8	2,136.0	2,067.9	68.13	31.352		
9,600.0	7,631.0	9,422.3	7,425.0	36.1	37.2	-84.09	1,795.5	-1,928.8	2,136.0	2,064.6	71.35	29.935		
9,700.0	7,631.0	9,522.3	7,425.0	37.7	38.8	-84.09	1,895.5	-1,928.8	2,136.0	2,061.4	74.60	28.632		
9,800.0	7,631.0	9,622.3	7,425.0	39.3	40.4	-84.09	1,995.5	-1,928.8	2,136.0	2,058.1	77.87	27.430		
9,900.0	7,631.0	9,722.3	7,425.0	41.0	42.0	-84.09	2,095.5	-1,928.8	2,136.0	2,054.8	81.16	26.319		
10,000.0	7,631.0	9,822.3	7,425.0	42.6	43.6	-84.09	2,195.5	-1,928.8	2,136.0	2,051.5	84.46	25.289		
10,100.0	7,631.0	9,922.3	7,425.0	44.3	45.2	-84.09	2,295.5	-1,928.8	2,136.0	2,048.2	87.78	24.333		
10,200.0	7,631.0	10,022.3	7,425.0	46.0	46.8	-84.09	2,395.5	-1,928.8	2,136.0	2,044.9	91.11	23.444		
10,300.0	7,631.0	10,122.3	7,425.0	47.6	48.5	-84.09	2,495.5	-1,928.8	2,136.0	2,041.5	94.45	22.614		
10,400.0	7,631.0	10,222.3	7,425.0	49.3	50.1	-84.09	2,595.5	-1,928.8	2,136.0	2,038.2	97.81	21.839		
10,500.0	7,631.0	10,322.3	7,425.0	51.0	51.8	-84.09	2,695.5	-1,928.8	2,136.0	2,034.8	101.17	21.113		
10,600.0	7,631.0	10,422.3	7,425.0	52.7	53.5	-84.09	2,795.5	-1,928.8	2,136.0	2,031.4	104.54	20.433		
10,700.0	7,631.0	10,522.3	7,425.0	54.4	55.1	-84.09	2,895.5	-1,928.7	2,136.0	2,028.1	107.92	19.793		
10,800.0	7,631.0	10,622.3	7,425.0	56.1	56.8	-84.09	2,995.5	-1,928.7	2,136.0	2,024.7	111.30	19.191		
10,900.0	7,631.0	10,722.3	7,425.0	57.8	58.5	-84.09	3,095.5	-1,928.7	2,136.0	2,021.3	114.69	18.624		
11,000.0	7,631.0	10,822.3	7,425.0	59.5	60.2	-84.09	3,195.5	-1,928.7	2,136.0	2,017.9	118.09	18.088		
11,100.0	7,631.0	10,922.3	7,425.0	61.2	61.9	-84.09	3,295.5	-1,928.7	2,136.0	2,014.5	121.49	17.581		
11,200.0	7,631.0	11,022.3	7,425.0	62.9	63.5	-84.09	3,395.5	-1,928.7	2,136.0	2,011.1	124.90	17.102		
11,300.0	7,631.0	11,122.3	7,425.0	64.6	65.2	-84.09	3,495.5	-1,928.7	2,136.0	2,007.7	128.31	16.647		
11,400.0	7,631.0	11,222.3	7,425.0	66.3	66.9	-84.09	3,595.5	-1,928.7	2,136.0	2,004.2	131.72	16.215		
11,500.0	7,631.0	11,322.3	7,425.0	68.0	68.6	-84.09	3,695.5	-1,928.7	2,136.0	2,000.8	135.14	15.805		
11,600.0	7,631.0	11,422.3	7,425.0	69.8	70.3	-84.09	3,795.5	-1,928.7	2,136.0	1,997.4	138.57	15.415		
11,700.0	7,631.0	11,522.3	7,425.0	71.5	72.0	-84.09	3,895.5	-1,928.7	2,136.0	1,994.0	141.99	15.043		
11,800.0	7,631.0	11,622.3	7,425.0	73.2	73.7	-84.09	3,995.5	-1,928.7	2,136.0	1,990.5	145.42	14.688		
11,900.0	7,631.0	11,722.3	7,425.0	74.9	75.5	-84.09	4,095.5	-1,928.7	2,135.9	1,987.1	148.85	14.349		
12,000.0	7,631.0	11,822.3	7,425.0	76.6	77.2	-84.09	4,195.5	-1,928.7	2,135.9	1,983.7	152.29	14.026		
12,100.0	7,631.0	11,922.3	7,425.0	78.4	78.9	-84.09	4,295.5	-1,928.6	2,135.9	1,980.2	155.72	13.716		
12,161.4	7,631.0	11,983.6	7,425.0	79.4	79.9	-84.09	4,356.9	-1,928.6	2,135.9	1,978.1	157.83	13.533 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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: 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	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		
200.0	200.0	214.0	214.0	0.3	0.4	-90.00	0.0	-1,329.8	1,329.8	1,329.2	0.68	1,963.780		
261.2	261.2	275.2	275.2	0.4	0.5	-90.00	0.0	-1,329.8	1,329.8	1,329.0	0.89	1,492.606 CC		
300.0	300.0	311.9	311.9	0.5	0.5	-90.00	0.0	-1,329.9	1,329.9	1,328.8	1.02	1,300.047 ES		
400.0	400.0	400.0	400.0	0.7	0.7	113.75	-1.6	-1,330.5	1,330.9	1,329.6	1.35	983.097		
500.0	500.0	482.5	482.4	0.9	0.8	113.65	-5.4	-1,332.0	1,333.8	1,332.1	1.69	790.326		
600.0	599.9	567.5	567.2	1.0	1.0	113.49	-11.6	-1,334.5	1,338.5	1,336.4	2.05	653.578		
700.0	699.7	652.3	651.4	1.2	1.2	113.27	-20.1	-1,337.8	1,344.9	1,342.5	2.44	551.661		
800.0	799.4	743.4	741.6	1.4	1.5	112.99	-31.5	-1,342.4	1,353.1	1,350.3	2.87	471.240		
900.0	898.9	842.9	840.2	1.7	1.7	112.73	-44.3	-1,347.5	1,362.2	1,358.9	3.35	406.593		
1,000.0	998.3	942.4	938.7	1.9	2.0	112.54	-57.2	-1,352.6	1,372.0	1,368.1	3.85	356.168		
1,100.0	1,097.4	1,041.8	1,037.2	2.2	2.3	112.41	-70.1	-1,357.7	1,382.4	1,378.0	4.38	315.878		
1,200.0	1,196.3	1,141.2	1,135.6	2.5	2.6	112.34	-82.9	-1,362.9	1,393.5	1,388.5	4.92	283.017		
1,300.0	1,294.9	1,240.5	1,233.9	2.8	2.9	112.33	-95.8	-1,368.0	1,405.2	1,399.7	5.49	255.755		
1,400.0	1,393.4	1,339.7	1,332.2	3.1	3.2	112.46	-108.6	-1,373.1	1,417.3	1,411.2	6.07	233.307		
1,500.0	1,491.9	1,438.9	1,430.4	3.5	3.5	112.59	-121.4	-1,378.2	1,429.4	1,422.7	6.66	214.595		
1,600.0	1,590.4	1,538.1	1,528.7	3.8	3.8	112.72	-134.2	-1,383.3	1,441.4	1,434.2	7.25	198.795		
1,700.0	1,688.9	1,637.3	1,626.9	4.1	4.0	112.85	-147.1	-1,388.4	1,453.5	1,445.7	7.84	185.300		
1,800.0	1,787.3	1,736.5	1,725.2	4.5	4.3	112.97	-159.9	-1,393.5	1,465.7	1,457.2	8.44	173.654		
1,900.0	1,885.8	1,835.8	1,823.4	4.8	4.6	113.09	-172.7	-1,398.6	1,477.8	1,468.7	9.04	163.510		
2,000.0	1,984.3	1,935.0	1,921.7	5.1	4.9	113.21	-185.6	-1,403.7	1,489.9	1,480.2	9.64	154.600		
2,100.0	2,082.8	2,034.2	2,019.9	5.5	5.2	113.32	-198.4	-1,408.8	1,502.0	1,491.8	10.24	146.717		
2,200.0	2,181.3	2,133.4	2,118.2	5.8	5.5	113.44	-211.2	-1,413.9	1,514.1	1,503.3	10.84	139.695		
2,300.0	2,279.7	2,232.6	2,216.4	6.2	5.8	113.55	-224.0	-1,419.0	1,526.3	1,514.8	11.44	133.402		
2,400.0	2,378.2	2,331.8	2,314.7	6.5	6.1	113.66	-236.9	-1,424.1	1,538.4	1,526.4	12.04	127.733		
2,500.0	2,476.7	2,431.1	2,412.9	6.9	6.4	113.77	-249.7	-1,429.2	1,550.6	1,537.9	12.65	122.599		
2,600.0	2,575.2	2,530.3	2,511.2	7.2	6.7	113.88	-262.5	-1,434.4	1,562.7	1,549.5	13.25	117.929		
2,700.0	2,673.7	2,629.5	2,609.4	7.6	7.0	113.99	-275.4	-1,439.5	1,574.9	1,561.0	13.86	113.664		
2,800.0	2,772.1	2,728.7	2,707.7	7.9	7.3	114.09	-288.2	-1,444.6	1,587.0	1,572.6	14.46	109.753		
2,900.0	2,870.6	2,827.9	2,805.9	8.3	7.6	114.20	-301.0	-1,449.7	1,599.2	1,584.1	15.06	106.155		
3,000.0	2,969.1	2,927.1	2,904.2	8.6	7.9	114.30	-313.9	-1,454.8	1,611.4	1,595.7	15.67	102.833		
3,090.0	3,057.7	3,016.4	2,992.6	8.9	8.2	114.39	-325.4	-1,459.4	1,622.3	1,606.1	16.21	100.055		
3,100.0	3,067.6	3,026.4	3,002.4	8.9	8.2	114.41	-326.7	-1,459.9	1,623.5	1,607.3	16.28	99.756		
3,200.0	3,166.2	3,125.6	3,100.7	9.3	8.5	114.58	-339.5	-1,465.0	1,635.3	1,618.4	16.86	96.978		
3,300.0	3,265.2	3,225.0	3,199.2	9.6	8.8	114.69	-352.4	-1,470.1	1,646.3	1,628.9	17.43	94.456		
3,400.0	3,364.3	3,324.5	3,297.7	9.8	9.1	114.74	-365.2	-1,475.2	1,656.6	1,638.7	17.98	92.158		
3,500.0	3,463.7	3,424.0	3,396.2	10.1	9.4	114.72	-378.1	-1,480.4	1,666.2	1,647.7	18.50	90.058		
3,600.0	3,563.3	3,523.5	3,494.7	10.3	9.7	114.65	-391.0	-1,485.5	1,675.1	1,656.1	19.01	88.132		
3,700.0	3,663.0	3,623.0	3,593.2	10.5	10.0	114.52	-403.8	-1,490.6	1,683.2	1,663.7	19.49	86.363		
3,800.0	3,762.8	3,733.9	3,703.1	10.7	10.3	114.31	-417.7	-1,496.1	1,690.6	1,670.6	19.97	84.668		
3,900.0	3,862.7	3,860.9	3,829.5	10.8	10.6	114.13	-429.3	-1,500.7	1,695.9	1,675.5	20.40	83.145		
4,000.0	3,962.7	3,988.4	3,956.8	11.0	10.8	114.03	-435.7	-1,503.3	1,698.8	1,678.1	20.74	81.909		
4,090.0	4,052.7	4,098.3	4,066.7	11.1	10.9	-89.78	-437.1	-1,503.8	1,699.5	1,678.6	20.98	81.008		
4,100.0	4,062.7	4,108.3	4,076.7	11.1	10.9	-89.78	-437.1	-1,503.8	1,699.5	1,678.5	21.00	80.916		
4,200.0	4,162.7	4,208.3	4,176.7	11.2	11.0	-89.78	-437.1	-1,503.8	1,699.5	1,678.3	21.24	80.006		
4,300.0	4,262.7	4,308.3	4,276.7	11.3	11.1	-89.78	-437.1	-1,503.8	1,699.5	1,678.1	21.48	79.105		
4,400.0	4,362.7	4,408.3	4,376.7	11.4	11.3	-89.78	-437.1	-1,503.8	1,699.5	1,677.8	21.73	78.214		
4,500.0	4,462.7	4,508.3	4,476.7	11.5	11.4	-89.78	-437.1	-1,503.8	1,699.5	1,677.6	21.98	77.333		
4,600.0	4,562.7	4,608.3	4,576.7	11.7	11.5	-89.78	-437.1	-1,503.8	1,699.5	1,677.3	22.23	76.462		
4,700.0	4,662.7	4,708.3	4,676.7	11.8	11.6	-89.78	-437.1	-1,503.8	1,699.5	1,677.1	22.48	75.601		
4,800.0	4,762.7	4,808.3	4,776.7	11.9	11.7	-89.78	-437.1	-1,503.8	1,699.5	1,676.8	22.74	74.752		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
4,900.0	4,862.7	4,908.3	4,876.7	12.0	11.9	-89.78	-437.1	-1,503.8	1,699.5	1,676.5	22.99	73.913	
5,000.0	4,962.7	5,008.3	4,976.7	12.2	12.0	-89.78	-437.1	-1,503.8	1,699.5	1,676.3	23.25	73.085	
5,100.0	5,062.7	5,108.3	5,076.7	12.3	12.1	-89.78	-437.1	-1,503.8	1,699.5	1,676.0	23.52	72.269	
5,200.0	5,162.7	5,208.3	5,176.7	12.4	12.2	-89.78	-437.1	-1,503.8	1,699.5	1,675.8	23.78	71.464	
5,300.0	5,262.7	5,308.3	5,276.7	12.5	12.4	-89.78	-437.1	-1,503.8	1,699.5	1,675.5	24.05	70.670	
5,400.0	5,362.7	5,408.3	5,376.7	12.7	12.5	-89.78	-437.1	-1,503.8	1,699.5	1,675.2	24.32	69.888	
5,500.0	5,462.7	5,508.3	5,476.7	12.8	12.6	-89.78	-437.1	-1,503.8	1,699.5	1,674.9	24.59	69.118	
5,600.0	5,562.7	5,608.3	5,576.7	12.9	12.8	-89.78	-437.1	-1,503.8	1,699.5	1,674.7	24.86	68.359	
5,700.0	5,662.7	5,708.3	5,676.7	13.1	12.9	-89.78	-437.1	-1,503.8	1,699.5	1,674.4	25.14	67.611	
5,800.0	5,762.7	5,808.3	5,776.7	13.2	13.0	-89.78	-437.1	-1,503.8	1,699.5	1,674.1	25.41	66.875	
5,900.0	5,862.7	5,908.3	5,876.7	13.3	13.2	-89.78	-437.1	-1,503.8	1,699.5	1,673.8	25.69	66.150	
6,000.0	5,962.7	6,008.3	5,976.7	13.5	13.3	-89.78	-437.1	-1,503.8	1,699.5	1,673.6	25.97	65.436	
6,100.0	6,062.7	6,108.3	6,076.7	13.6	13.5	-89.78	-437.1	-1,503.8	1,699.5	1,673.3	26.25	64.733	
6,200.0	6,162.7	6,208.3	6,176.7	13.7	13.6	-89.78	-437.1	-1,503.8	1,699.5	1,673.0	26.54	64.042	
6,300.0	6,262.7	6,308.3	6,276.7	13.9	13.7	-89.78	-437.1	-1,503.8	1,699.5	1,672.7	26.82	63.361	
6,400.0	6,362.7	6,408.3	6,376.7	14.0	13.9	-89.78	-437.1	-1,503.8	1,699.5	1,672.4	27.11	62.692	
6,500.0	6,462.7	6,508.3	6,476.7	14.1	14.0	-89.78	-437.1	-1,503.8	1,699.5	1,672.1	27.40	62.033	
6,600.0	6,562.7	6,608.3	6,576.7	14.3	14.2	-89.78	-437.1	-1,503.8	1,699.5	1,671.8	27.69	61.384	
6,700.0	6,662.7	6,708.3	6,676.7	14.4	14.3	-89.78	-437.1	-1,503.8	1,699.5	1,671.6	27.98	60.746	
6,800.0	6,762.7	6,808.3	6,776.7	14.6	14.4	-89.78	-437.1	-1,503.8	1,699.5	1,671.3	28.27	60.119	
6,900.0	6,862.7	6,908.3	6,876.7	14.7	14.6	-89.78	-437.1	-1,503.8	1,699.5	1,671.0	28.56	59.501	
6,952.1	6,914.8	6,960.4	6,928.8	14.8	14.7	-89.78	-437.1	-1,503.8	1,699.5	1,670.8	28.72	59.184	
7,000.0	6,962.6	7,007.8	6,976.2	14.8	14.7	-89.78	-435.5	-1,503.8	1,699.5	1,670.7	28.80	59.016	
7,050.0	7,012.4	7,057.4	7,025.5	14.8	14.7	-89.78	-430.5	-1,503.8	1,699.5	1,670.7	28.82	58.967	
7,100.0	7,061.6	7,107.0	7,074.4	14.8	14.7	-89.79	-422.2	-1,503.8	1,699.5	1,670.7	28.79	59.037	
7,150.0	7,110.2	7,156.6	7,122.5	14.8	14.7	-89.79	-410.4	-1,503.8	1,699.5	1,670.8	28.70	59.216	
7,200.0	7,157.7	7,206.1	7,169.7	14.7	14.6	-89.79	-395.4	-1,503.8	1,699.5	1,671.0	28.57	59.492	
7,250.0	7,204.2	7,255.7	7,215.8	14.6	14.5	-89.80	-377.1	-1,503.8	1,699.5	1,671.1	28.40	59.853	
7,300.0	7,249.2	7,305.3	7,260.6	14.5	14.4	-89.81	-355.6	-1,503.8	1,699.5	1,671.3	28.19	60.281	
7,350.0	7,292.5	7,354.9	7,303.7	14.4	14.3	-89.81	-331.2	-1,503.8	1,699.5	1,671.6	27.97	60.757	
7,400.0	7,334.0	7,404.6	7,345.1	14.3	14.2	-89.82	-303.7	-1,503.8	1,699.5	1,671.8	27.74	61.258	
7,450.0	7,373.5	7,454.2	7,384.4	14.2	14.1	-89.83	-273.5	-1,503.8	1,699.5	1,672.0	27.52	61.757	
7,500.0	7,410.8	7,503.9	7,421.6	14.1	14.0	-89.84	-240.6	-1,503.8	1,699.5	1,672.2	27.31	62.222	
7,550.0	7,445.6	7,553.6	7,456.5	14.0	13.9	-89.85	-205.2	-1,503.8	1,699.5	1,672.4	27.14	62.621	
7,600.0	7,477.9	7,603.3	7,488.8	13.9	13.8	-89.86	-167.4	-1,503.8	1,699.5	1,672.5	27.01	62.917	
7,650.0	7,507.4	7,653.0	7,518.4	13.9	13.8	-89.88	-127.5	-1,503.8	1,699.5	1,672.6	26.94	63.077	
7,700.0	7,534.0	7,702.8	7,545.2	13.9	13.8	-89.89	-85.6	-1,503.8	1,699.5	1,672.5	26.95	63.069	
7,750.0	7,557.6	7,752.6	7,569.1	13.9	13.9	-89.90	-41.9	-1,503.8	1,699.5	1,672.5	27.03	62.867	
7,800.0	7,578.0	7,802.4	7,589.8	14.0	13.9	-89.92	3.4	-1,503.8	1,699.5	1,672.3	27.21	62.454	
7,850.0	7,595.3	7,852.3	7,607.4	14.2	14.1	-89.93	50.0	-1,503.8	1,699.5	1,672.0	27.49	61.825	
7,900.0	7,609.2	7,902.1	7,621.7	14.3	14.3	-89.95	97.8	-1,503.8	1,699.5	1,671.6	27.87	60.984	
7,950.0	7,619.7	7,952.0	7,632.6	14.6	14.5	-89.96	146.5	-1,503.8	1,699.5	1,671.1	28.35	59.949	
8,000.0	7,626.9	8,002.0	7,640.1	14.9	14.8	-89.98	195.8	-1,503.7	1,699.5	1,670.5	28.93	58.745	
8,050.0	7,630.5	8,051.9	7,644.2	15.2	15.1	-89.99	245.6	-1,503.7	1,699.5	1,669.9	29.60	57.405	
8,077.1	7,631.0	8,079.1	7,645.0	15.4	15.3	-90.00	272.8	-1,503.7	1,699.5	1,669.5	30.01	56.631	
8,100.0	7,631.0	8,101.9	7,645.0	15.6	15.5	-90.00	295.6	-1,503.7	1,699.5	1,669.1	30.37	55.962	
8,200.0	7,631.0	8,201.9	7,645.0	16.4	16.3	-90.00	395.6	-1,503.7	1,699.5	1,667.3	32.13	52.898	
8,300.0	7,631.0	8,301.9	7,645.0	17.4	17.3	-90.00	495.6	-1,503.7	1,699.4	1,665.3	34.16	49.754	
8,400.0	7,631.0	8,401.9	7,645.0	18.5	18.5	-90.00	595.6	-1,503.7	1,699.4	1,663.0	36.41	46.673	
8,500.0	7,631.0	8,501.9	7,645.0	19.7	19.7	-90.00	695.6	-1,503.7	1,699.4	1,660.6	38.85	43.740	
8,600.0	7,631.0	8,601.9	7,645.0	21.0	20.9	-90.00	795.6	-1,503.7	1,699.4	1,658.0	41.45	41.001	
8,700.0	7,631.0	8,701.9	7,645.0	22.4	22.3	-90.00	895.6	-1,503.6	1,699.4	1,655.2	44.17	38.475	

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 4F-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 4F-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		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
8,800.0	7,631.0	8,801.9	7,645.0	23.7	23.7	-90.00	995.6	-1,503.6	1,699.4	1,652.4	46.99	36.162		
8,900.0	7,631.0	8,901.9	7,645.0	25.2	25.1	-90.00	1,095.6	-1,503.6	1,699.4	1,649.5	49.91	34.051		
9,000.0	7,631.0	9,001.9	7,645.0	26.7	26.6	-90.00	1,195.6	-1,503.6	1,699.4	1,646.5	52.89	32.129		
9,100.0	7,631.0	9,101.9	7,645.0	28.2	28.1	-90.00	1,295.6	-1,503.6	1,699.4	1,643.4	55.94	30.380		
9,200.0	7,631.0	9,201.9	7,645.0	29.7	29.7	-90.00	1,395.6	-1,503.6	1,699.4	1,640.3	59.03	28.786		
9,300.0	7,631.0	9,301.9	7,645.0	31.3	31.2	-90.00	1,495.6	-1,503.6	1,699.4	1,637.2	62.17	27.332		
9,400.0	7,631.0	9,401.9	7,645.0	32.9	32.8	-90.00	1,595.6	-1,503.6	1,699.3	1,634.0	65.35	26.003		
9,500.0	7,631.0	9,501.9	7,645.0	34.5	34.4	-90.00	1,695.6	-1,503.5	1,699.3	1,630.8	68.56	24.785		
9,600.0	7,631.0	9,601.9	7,645.0	36.1	36.0	-90.00	1,795.6	-1,503.5	1,699.3	1,627.5	71.80	23.667		
9,700.0	7,631.0	9,701.9	7,645.0	37.7	37.7	-90.00	1,895.6	-1,503.5	1,699.3	1,624.3	75.06	22.639		
9,800.0	7,631.0	9,801.9	7,645.0	39.3	39.3	-90.00	1,995.6	-1,503.5	1,699.3	1,621.0	78.35	21.690		
9,900.0	7,631.0	9,901.9	7,645.0	41.0	40.9	-90.00	2,095.6	-1,503.5	1,699.3	1,617.7	81.65	20.812		
10,000.0	7,631.0	10,001.9	7,645.0	42.6	42.6	-90.00	2,195.6	-1,503.5	1,699.3	1,614.3	84.97	19.999		
10,100.0	7,631.0	10,101.9	7,645.0	44.3	44.3	-90.00	2,295.6	-1,503.5	1,699.3	1,611.0	88.30	19.244		
10,200.0	7,631.0	10,201.9	7,645.0	46.0	45.9	-90.00	2,395.6	-1,503.4	1,699.3	1,607.6	91.65	18.541		
10,300.0	7,631.0	10,301.9	7,645.0	47.6	47.6	-90.00	2,495.6	-1,503.4	1,699.3	1,604.3	95.01	17.886		
10,400.0	7,631.0	10,401.9	7,645.0	49.3	49.3	-90.00	2,595.6	-1,503.4	1,699.3	1,600.9	98.37	17.273		
10,500.0	7,631.0	10,501.9	7,645.0	51.0	51.0	-90.00	2,695.6	-1,503.4	1,699.3	1,597.5	101.75	16.700		
10,600.0	7,631.0	10,601.9	7,645.0	52.7	52.7	-90.00	2,795.6	-1,503.4	1,699.2	1,594.1	105.14	16.162		
10,700.0	7,631.0	10,701.9	7,645.0	54.4	54.3	-90.00	2,895.6	-1,503.4	1,699.2	1,590.7	108.53	15.656		
10,800.0	7,631.0	10,801.9	7,645.0	56.1	56.0	-90.00	2,995.6	-1,503.4	1,699.2	1,587.3	111.93	15.181		
10,900.0	7,631.0	10,901.9	7,645.0	57.8	57.7	-90.00	3,095.6	-1,503.3	1,699.2	1,583.9	115.34	14.732		
11,000.0	7,631.0	11,001.9	7,645.0	59.5	59.5	-90.00	3,195.6	-1,503.3	1,699.2	1,580.5	118.76	14.309		
11,100.0	7,631.0	11,101.9	7,645.0	61.2	61.2	-90.00	3,295.6	-1,503.3	1,699.2	1,577.0	122.17	13.908		
11,200.0	7,631.0	11,201.9	7,645.0	62.9	62.9	-90.00	3,395.6	-1,503.3	1,699.2	1,573.6	125.60	13.529		
11,300.0	7,631.0	11,301.9	7,645.0	64.6	64.6	-90.00	3,495.6	-1,503.3	1,699.2	1,570.2	129.03	13.169		
11,400.0	7,631.0	11,401.9	7,645.0	66.3	66.3	-90.00	3,595.6	-1,503.3	1,699.2	1,566.7	132.46	12.828		
11,500.0	7,631.0	11,501.9	7,645.0	68.0	68.0	-90.00	3,695.6	-1,503.3	1,699.2	1,563.3	135.89	12.504		
11,600.0	7,631.0	11,601.9	7,645.0	69.8	69.7	-90.00	3,795.6	-1,503.2	1,699.2	1,559.8	139.33	12.195		
11,700.0	7,631.0	11,701.9	7,645.0	71.5	71.5	-90.00	3,895.6	-1,503.2	1,699.1	1,556.4	142.78	11.901		
11,800.0	7,631.0	11,801.9	7,645.0	73.2	73.2	-90.00	3,995.6	-1,503.2	1,699.1	1,552.9	146.22	11.620		
11,900.0	7,631.0	11,901.9	7,645.0	74.9	74.9	-90.00	4,095.6	-1,503.2	1,699.1	1,549.5	149.67	11.352		
12,000.0	7,631.0	12,001.9	7,645.0	76.6	76.6	-90.00	4,195.6	-1,503.2	1,699.1	1,546.0	153.13	11.096		
12,100.0	7,631.0	12,101.9	7,645.0	78.4	78.3	-90.00	4,295.6	-1,503.2	1,699.1	1,542.5	156.58	10.851		
12,161.4	7,631.0	12,163.3	7,645.0	79.4	79.4	-90.00	4,357.0	-1,503.2	1,699.1	1,540.4	158.70	10.706 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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	-1,321.4	1,321.4					
100.0	100.0	114.0	114.0	0.2	0.2	-90.00	0.0	-1,321.4	1,321.4	1,321.1	0.33	4,027.308		
200.0	200.0	214.0	214.0	0.3	0.4	-90.00	0.0	-1,321.4	1,321.4	1,320.8	0.68	1,951.377		
300.0	300.0	314.0	314.0	0.5	0.5	-90.00	0.0	-1,321.4	1,321.4	1,320.4	1.03	1,287.644		
400.0	400.0	418.0	418.0	0.7	0.7	113.83	0.0	-1,321.4	1,321.8	1,320.4	1.38	955.646		
500.0	500.0	546.5	546.4	0.9	0.9	113.83	-3.2	-1,319.7	1,321.5	1,319.7	1.79	737.506		
600.0	599.9	674.8	674.4	1.0	1.2	113.71	-11.5	-1,315.1	1,319.7	1,317.5	2.23	592.382		
700.0	699.7	802.2	800.9	1.2	1.5	113.47	-24.7	-1,307.9	1,316.5	1,313.8	2.71	485.671		
800.0	799.4	902.0	899.7	1.4	1.8	113.28	-36.9	-1,301.2	1,313.0	1,309.8	3.16	415.268		
900.0	898.9	1,001.9	998.6	1.7	2.0	113.16	-49.1	-1,294.6	1,310.2	1,306.6	3.64	360.338		
1,000.0	998.3	1,101.8	1,097.6	1.9	2.3	113.09	-61.3	-1,287.9	1,308.1	1,304.0	4.13	316.527		
1,100.0	1,097.4	1,201.8	1,196.6	2.2	2.6	113.09	-73.5	-1,281.2	1,306.7	1,302.0	4.65	280.911		
1,200.0	1,196.3	1,301.8	1,295.6	2.5	2.9	113.16	-85.7	-1,274.5	1,306.0	1,300.8	5.19	251.488		
1,255.8	1,251.4	1,357.6	1,350.9	2.7	3.1	113.22	-92.5	-1,270.8	1,305.8	1,300.3	5.51	237.096		
1,300.0	1,294.9	1,401.8	1,394.6	2.8	3.2	113.29	-97.9	-1,267.8	1,305.9	1,300.2	5.76	226.854		
1,400.0	1,393.4	1,501.7	1,493.6	3.1	3.5	113.45	-110.1	-1,261.2	1,306.2	1,299.9	6.33	206.447		
1,500.0	1,491.9	1,601.6	1,592.5	3.5	3.8	113.61	-122.3	-1,254.5	1,306.6	1,299.7	6.90	189.288		
1,600.0	1,590.4	1,701.6	1,691.5	3.8	4.1	113.78	-134.5	-1,247.8	1,306.9	1,299.4	7.48	174.693		
1,700.0	1,688.9	1,801.5	1,790.4	4.1	4.4	113.94	-146.7	-1,241.1	1,307.2	1,299.2	8.06	162.150		
1,800.0	1,787.3	1,901.4	1,889.4	4.5	4.7	114.10	-158.9	-1,234.5	1,307.6	1,298.9	8.64	151.267		
1,900.0	1,885.8	2,001.3	1,988.4	4.8	5.0	114.26	-171.1	-1,227.8	1,308.0	1,298.7	9.23	141.743		
2,000.0	1,984.3	2,101.3	2,087.3	5.1	5.2	114.43	-183.3	-1,221.1	1,308.3	1,298.5	9.81	133.345		
2,100.0	2,082.8	2,201.2	2,186.3	5.5	5.5	114.59	-195.5	-1,214.4	1,308.7	1,298.3	10.40	125.889		
2,200.0	2,181.3	2,301.1	2,285.2	5.8	5.8	114.75	-207.7	-1,207.7	1,309.1	1,298.1	10.98	119.226		
2,300.0	2,279.7	2,401.1	2,384.2	6.2	6.1	114.91	-219.9	-1,201.1	1,309.5	1,298.0	11.56	113.240		
2,400.0	2,378.2	2,501.0	2,483.1	6.5	6.4	115.08	-232.1	-1,194.4	1,309.9	1,297.8	12.15	107.833		
2,500.0	2,476.7	2,600.9	2,582.1	6.9	6.7	115.24	-244.3	-1,187.7	1,310.4	1,297.6	12.73	102.926		
2,600.0	2,575.2	2,700.9	2,681.1	7.2	7.0	115.40	-256.5	-1,181.0	1,310.8	1,297.5	13.31	98.454		
2,700.0	2,673.7	2,800.8	2,780.0	7.6	7.3	115.56	-268.7	-1,174.4	1,311.3	1,297.4	13.90	94.362		
2,800.0	2,772.1	2,900.7	2,879.0	7.9	7.6	115.72	-280.9	-1,167.7	1,311.7	1,297.3	14.48	90.605		
2,900.0	2,870.6	3,000.7	2,977.9	8.3	7.9	115.89	-293.1	-1,161.0	1,312.2	1,297.1	15.06	87.143		
3,000.0	2,969.1	3,100.6	3,076.9	8.6	8.2	116.05	-305.3	-1,154.3	1,312.7	1,297.0	15.64	83.943		
3,090.0	3,057.7	3,190.5	3,166.0	8.9	8.5	116.19	-316.3	-1,148.3	1,313.1	1,297.0	16.16	81.264		
3,100.0	3,067.6	3,200.5	3,175.9	8.9	8.5	116.21	-317.5	-1,147.6	1,313.2	1,297.0	16.22	80.978		
3,200.0	3,166.2	3,300.5	3,274.8	9.3	8.8	116.33	-329.7	-1,141.0	1,313.2	1,296.4	16.78	78.284		
3,300.0	3,265.2	3,400.5	3,373.9	9.6	9.1	116.37	-341.9	-1,134.3	1,312.5	1,295.2	17.32	75.784		
3,400.0	3,364.3	3,500.4	3,472.9	9.8	9.4	116.35	-354.1	-1,127.6	1,311.0	1,293.1	17.85	73.452		
3,500.0	3,463.7	3,600.4	3,571.9	10.1	9.7	116.24	-366.3	-1,120.9	1,308.7	1,290.3	18.36	71.267		
3,600.0	3,563.3	3,700.3	3,670.8	10.3	10.0	116.06	-378.5	-1,114.2	1,305.6	1,286.8	18.87	69.209		
3,700.0	3,663.0	3,800.1	3,769.6	10.5	10.3	115.80	-390.7	-1,107.6	1,301.8	1,282.5	19.35	67.263		
3,800.0	3,762.8	3,899.8	3,868.3	10.7	10.6	115.47	-402.8	-1,100.9	1,297.3	1,277.5	19.83	65.417		
3,900.0	3,862.7	3,999.3	3,966.9	10.8	10.9	115.06	-415.0	-1,094.3	1,292.1	1,271.8	20.30	63.660		
4,000.0	3,962.7	4,088.0	4,054.7	11.0	11.2	114.63	-425.5	-1,088.5	1,286.4	1,265.7	20.70	62.137		
4,090.0	4,052.7	4,161.3	4,127.6	11.1	11.3	-89.50	-432.5	-1,084.7	1,281.8	1,260.8	21.00	61.039		
4,100.0	4,062.7	4,169.5	4,135.7	11.1	11.3	-89.53	-433.2	-1,084.3	1,281.4	1,260.3	21.03	60.923		
4,200.0	4,162.7	4,251.4	4,217.4	11.2	11.5	-89.79	-439.0	-1,081.1	1,277.5	1,256.1	21.33	59.887		
4,300.0	4,262.7	4,333.6	4,299.5	11.3	11.6	-89.95	-442.7	-1,079.1	1,275.0	1,253.4	21.60	59.030		
4,400.0	4,362.7	4,415.9	4,381.8	11.4	11.7	-90.03	-444.3	-1,078.2	1,273.9	1,252.1	21.84	58.332		
4,447.1	4,409.8	4,457.9	4,423.8	11.5	11.8	-90.03	-444.4	-1,078.2	1,273.8	1,251.9	21.95	58.037		
4,500.0	4,462.7	4,510.8	4,476.7	11.5	11.8	-90.03	-444.4	-1,078.2	1,273.8	1,251.8	22.08	57.693		
4,600.0	4,562.7	4,610.8	4,576.7	11.7	12.0	-90.03	-444.4	-1,078.2	1,273.8	1,251.5	22.33	57.049		
4,700.0	4,662.7	4,710.8	4,676.7	11.8	12.1	-90.03	-444.4	-1,078.2	1,273.8	1,251.3	22.58	56.413		

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 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
4,800.0	4,762.7	4,810.8	4,776.7	11.9	12.2	-90.03	-444.4	-1,078.2	1,273.8	1,251.0	22.84	55.784		
4,900.0	4,862.7	4,910.8	4,876.7	12.0	12.3	-90.03	-444.4	-1,078.2	1,273.8	1,250.7	23.09	55.164		
5,000.0	4,962.7	5,010.8	4,976.7	12.2	12.4	-90.03	-444.4	-1,078.2	1,273.8	1,250.5	23.35	54.551		
5,100.0	5,062.7	5,110.8	5,076.7	12.3	12.6	-90.03	-444.4	-1,078.2	1,273.8	1,250.2	23.61	53.946		
5,200.0	5,162.7	5,210.8	5,176.7	12.4	12.7	-90.03	-444.4	-1,078.2	1,273.8	1,250.0	23.88	53.350		
5,300.0	5,262.7	5,310.8	5,276.7	12.5	12.8	-90.03	-444.4	-1,078.2	1,273.8	1,249.7	24.14	52.762		
5,400.0	5,362.7	5,410.8	5,376.7	12.7	12.9	-90.03	-444.4	-1,078.2	1,273.8	1,249.4	24.41	52.183		
5,500.0	5,462.7	5,510.8	5,476.7	12.8	13.1	-90.03	-444.4	-1,078.2	1,273.8	1,249.2	24.68	51.612		
5,600.0	5,562.7	5,610.8	5,576.7	12.9	13.2	-90.03	-444.4	-1,078.2	1,273.8	1,248.9	24.95	51.049		
5,700.0	5,662.7	5,710.8	5,676.7	13.1	13.3	-90.03	-444.4	-1,078.2	1,273.8	1,248.6	25.23	50.494		
5,800.0	5,762.7	5,810.8	5,776.7	13.2	13.5	-90.03	-444.4	-1,078.2	1,273.8	1,248.3	25.50	49.948		
5,900.0	5,862.7	5,910.8	5,876.7	13.3	13.6	-90.03	-444.4	-1,078.2	1,273.8	1,248.1	25.78	49.410		
6,000.0	5,962.7	6,010.8	5,976.7	13.5	13.7	-90.03	-444.4	-1,078.2	1,273.8	1,247.8	26.06	48.881		
6,100.0	6,062.7	6,110.8	6,076.7	13.6	13.9	-90.03	-444.4	-1,078.2	1,273.8	1,247.5	26.34	48.359		
6,200.0	6,162.7	6,210.8	6,176.7	13.7	14.0	-90.03	-444.4	-1,078.2	1,273.8	1,247.2	26.62	47.846		
6,300.0	6,262.7	6,310.8	6,276.7	13.9	14.1	-90.03	-444.4	-1,078.2	1,273.8	1,246.9	26.91	47.341		
6,400.0	6,362.7	6,410.8	6,376.7	14.0	14.3	-90.03	-444.4	-1,078.2	1,273.8	1,246.6	27.19	46.843		
6,500.0	6,462.7	6,510.8	6,476.7	14.1	14.4	-90.03	-444.4	-1,078.2	1,273.8	1,246.4	27.48	46.354		
6,600.0	6,562.7	6,610.8	6,576.7	14.3	14.5	-90.03	-444.4	-1,078.2	1,273.8	1,246.1	27.77	45.872		
6,700.0	6,662.7	6,710.8	6,676.7	14.4	14.7	-90.03	-444.4	-1,078.2	1,273.8	1,245.8	28.06	45.398		
6,762.4	6,725.1	6,773.2	6,739.1	14.5	14.7	-90.00	-443.8	-1,078.2	1,273.8	1,245.6	28.22	45.139 CC		
6,800.0	6,762.7	6,810.7	6,776.4	14.6	14.8	-89.89	-441.2	-1,078.2	1,273.8	1,245.6	28.29	45.034		
6,900.0	6,862.7	6,908.0	6,872.4	14.7	14.7	-89.18	-425.5	-1,078.2	1,274.0	1,245.6	28.35	44.939		
6,952.1	6,914.8	6,956.6	6,919.3	14.8	14.7	-88.61	-412.8	-1,078.2	1,274.2	1,245.9	28.33	44.978		
7,000.0	6,962.6	7,000.0	6,960.4	14.8	14.6	-88.01	-398.8	-1,078.1	1,274.7	1,246.4	28.26	45.101		
7,050.0	7,012.4	7,044.7	7,001.7	14.8	14.5	-87.39	-381.8	-1,078.1	1,275.3	1,247.1	28.15	45.307		
7,100.0	7,061.6	7,088.6	7,041.2	14.8	14.4	-86.79	-362.6	-1,078.1	1,276.0	1,248.0	28.00	45.574		
7,150.0	7,110.2	7,131.8	7,078.9	14.8	14.3	-86.20	-341.4	-1,078.1	1,276.8	1,249.0	27.82	45.893		
7,200.0	7,157.7	7,174.5	7,114.8	14.7	14.2	-85.63	-318.3	-1,078.1	1,277.8	1,250.2	27.63	46.252		
7,250.0	7,204.2	7,216.7	7,148.8	14.6	14.1	-85.08	-293.4	-1,078.1	1,278.8	1,251.4	27.42	46.638		
7,300.0	7,249.2	7,258.3	7,180.9	14.5	14.1	-84.55	-266.8	-1,078.1	1,279.9	1,252.7	27.21	47.039		
7,350.0	7,292.5	7,300.0	7,211.4	14.4	14.0	-84.04	-238.5	-1,078.1	1,281.1	1,254.1	27.00	47.442		
7,400.0	7,334.0	7,340.3	7,239.3	14.3	13.9	-83.56	-209.4	-1,078.1	1,282.3	1,255.5	26.82	47.817		
7,450.0	7,373.5	7,380.7	7,265.6	14.2	13.8	-83.11	-178.7	-1,078.1	1,283.5	1,256.8	26.65	48.156		
7,500.0	7,410.8	7,420.8	7,289.9	14.1	13.8	-82.68	-146.9	-1,078.1	1,284.6	1,258.1	26.52	48.443		
7,550.0	7,445.6	7,460.6	7,312.2	14.0	13.8	-82.29	-114.0	-1,078.1	1,285.8	1,259.4	26.42	48.660		
7,600.0	7,477.9	7,500.0	7,332.6	13.9	13.8	-81.92	-80.2	-1,078.1	1,286.9	1,260.5	26.37	48.793		
7,650.0	7,507.4	7,539.3	7,350.9	13.9	13.8	-81.59	-45.4	-1,078.1	1,287.9	1,261.5	26.39	48.804		
7,700.0	7,534.0	7,578.3	7,367.2	13.9	13.9	-81.29	-10.0	-1,078.1	1,288.9	1,262.4	26.46	48.711		
7,750.0	7,557.6	7,617.2	7,381.6	13.9	14.0	-81.03	26.1	-1,078.1	1,289.8	1,263.2	26.60	48.484		
7,800.0	7,578.0	7,655.9	7,393.8	14.0	14.1	-80.80	62.8	-1,078.1	1,290.6	1,263.8	26.81	48.135		
7,850.0	7,595.3	7,700.0	7,405.4	14.2	14.3	-80.58	105.4	-1,078.1	1,291.3	1,264.1	27.12	47.615		
7,900.0	7,609.2	7,732.9	7,412.3	14.3	14.4	-80.45	137.5	-1,078.1	1,291.8	1,264.3	27.46	47.045		
7,950.0	7,619.7	7,771.3	7,418.5	14.6	14.6	-80.33	175.4	-1,078.1	1,292.2	1,264.3	27.89	46.328		
8,000.0	7,626.9	7,809.6	7,422.6	14.9	14.8	-80.25	213.5	-1,078.1	1,292.5	1,264.1	28.40	45.518		
8,050.0	7,630.5	7,850.0	7,424.8	15.2	15.1	-80.21	253.9	-1,078.1	1,292.6	1,263.7	28.98	44.602		
8,050.1	7,630.5	7,850.0	7,424.8	15.2	15.1	-80.21	253.9	-1,078.1	1,292.6	1,263.7	28.98	44.601		
8,077.1	7,631.0	7,868.8	7,425.0	15.4	15.3	-80.20	272.6	-1,078.1	1,292.7	1,263.4	29.31	44.109		
8,100.0	7,631.0	7,891.6	7,425.0	15.6	15.4	-80.20	295.5	-1,078.1	1,292.7	1,263.0	29.67	43.575		
8,200.0	7,631.0	7,991.6	7,425.0	16.4	16.3	-80.20	395.5	-1,078.1	1,292.7	1,261.2	31.42	41.140		
8,300.0	7,631.0	8,091.6	7,425.0	17.4	17.3	-80.20	495.5	-1,078.1	1,292.7	1,259.2	33.44	38.657		
8,400.0	7,631.0	8,191.6	7,425.0	18.5	18.4	-80.20	595.5	-1,078.1	1,292.7	1,257.0	35.68	36.230		

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 4F-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 4F-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		
8,500.0	7,631.0	8,291.6	7,425.0	19.7	19.6	-80.20	695.5	-1,078.0	1,292.6	1,254.5	38.10	33.926		
8,600.0	7,631.0	8,391.6	7,425.0	21.0	20.9	-80.20	795.5	-1,078.0	1,292.6	1,252.0	40.67	31.781		
8,700.0	7,631.0	8,491.6	7,425.0	22.4	22.2	-80.20	895.5	-1,078.0	1,292.6	1,249.3	43.37	29.805		
8,800.0	7,631.0	8,591.6	7,425.0	23.7	23.6	-80.20	995.5	-1,078.0	1,292.6	1,246.5	46.17	27.999		
8,900.0	7,631.0	8,691.6	7,425.0	25.2	25.1	-80.20	1,095.5	-1,078.0	1,292.6	1,243.6	49.05	26.354		
9,000.0	7,631.0	8,791.6	7,425.0	26.7	26.6	-80.20	1,195.5	-1,078.0	1,292.6	1,240.6	52.00	24.858		
9,100.0	7,631.0	8,891.6	7,425.0	28.2	28.1	-80.20	1,295.5	-1,078.0	1,292.6	1,237.6	55.01	23.497		
9,200.0	7,631.0	8,991.6	7,425.0	29.7	29.6	-80.20	1,395.5	-1,078.0	1,292.6	1,234.5	58.07	22.259		
9,300.0	7,631.0	9,091.6	7,425.0	31.3	31.2	-80.20	1,495.5	-1,078.0	1,292.6	1,231.4	61.17	21.130		
9,400.0	7,631.0	9,191.6	7,425.0	32.9	32.8	-80.20	1,595.5	-1,078.0	1,292.6	1,228.3	64.31	20.099		
9,500.0	7,631.0	9,291.6	7,425.0	34.5	34.4	-80.20	1,695.5	-1,077.9	1,292.6	1,225.1	67.48	19.154		
9,600.0	7,631.0	9,391.6	7,425.0	36.1	36.0	-80.20	1,795.5	-1,077.9	1,292.6	1,221.9	70.68	18.288		
9,700.0	7,631.0	9,491.6	7,425.0	37.7	37.6	-80.20	1,895.5	-1,077.9	1,292.6	1,218.7	73.90	17.491		
9,800.0	7,631.0	9,591.6	7,425.0	39.3	39.2	-80.20	1,995.5	-1,077.9	1,292.6	1,215.5	77.14	16.756		
9,900.0	7,631.0	9,691.6	7,425.0	41.0	40.9	-80.20	2,095.5	-1,077.9	1,292.6	1,212.2	80.40	16.077		
10,000.0	7,631.0	9,791.6	7,425.0	42.6	42.5	-80.20	2,195.5	-1,077.9	1,292.6	1,208.9	83.68	15.447		
10,100.0	7,631.0	9,891.6	7,425.0	44.3	44.2	-80.20	2,295.5	-1,077.9	1,292.6	1,205.6	86.97	14.863		
10,200.0	7,631.0	9,991.6	7,425.0	46.0	45.9	-80.20	2,395.5	-1,077.9	1,292.6	1,202.3	90.27	14.319		
10,300.0	7,631.0	10,091.6	7,425.0	47.6	47.6	-80.20	2,495.5	-1,077.9	1,292.6	1,199.0	93.58	13.812		
10,400.0	7,631.0	10,191.6	7,425.0	49.3	49.2	-80.20	2,595.5	-1,077.9	1,292.6	1,195.7	96.90	13.339		
10,500.0	7,631.0	10,291.6	7,425.0	51.0	50.9	-80.20	2,695.5	-1,077.8	1,292.6	1,192.3	100.24	12.895		
10,600.0	7,631.0	10,391.6	7,425.0	52.7	52.6	-80.20	2,795.5	-1,077.8	1,292.6	1,189.0	103.58	12.479		
10,700.0	7,631.0	10,491.6	7,425.0	54.4	54.3	-80.20	2,895.5	-1,077.8	1,292.6	1,185.6	106.93	12.088		
10,800.0	7,631.0	10,591.6	7,425.0	56.1	56.0	-80.20	2,995.5	-1,077.8	1,292.6	1,182.3	110.28	11.721		
10,900.0	7,631.0	10,691.6	7,425.0	57.8	57.7	-80.20	3,095.5	-1,077.8	1,292.5	1,178.9	113.64	11.374		
11,000.0	7,631.0	10,791.6	7,425.0	59.5	59.4	-80.20	3,195.5	-1,077.8	1,292.5	1,175.5	117.01	11.047		
11,100.0	7,631.0	10,891.6	7,425.0	61.2	61.1	-80.20	3,295.5	-1,077.8	1,292.5	1,172.2	120.38	10.737		
11,200.0	7,631.0	10,991.6	7,425.0	62.9	62.8	-80.20	3,395.5	-1,077.8	1,292.5	1,168.8	123.76	10.444		
11,300.0	7,631.0	11,091.6	7,425.0	64.6	64.5	-80.20	3,495.5	-1,077.8	1,292.5	1,165.4	127.14	10.167		
11,400.0	7,631.0	11,191.6	7,425.0	66.3	66.3	-80.20	3,595.5	-1,077.8	1,292.5	1,162.0	130.52	9.903		
11,500.0	7,631.0	11,291.6	7,425.0	68.0	68.0	-80.20	3,695.5	-1,077.8	1,292.5	1,158.6	133.91	9.652		
11,600.0	7,631.0	11,391.6	7,425.0	69.8	69.7	-80.20	3,795.5	-1,077.7	1,292.5	1,155.2	137.30	9.414		
11,700.0	7,631.0	11,491.6	7,425.0	71.5	71.4	-80.20	3,895.5	-1,077.7	1,292.5	1,151.8	140.70	9.187		
11,800.0	7,631.0	11,591.6	7,425.0	73.2	73.1	-80.20	3,995.5	-1,077.7	1,292.5	1,148.4	144.09	8.970		
11,900.0	7,631.0	11,691.6	7,425.0	74.9	74.9	-80.20	4,095.5	-1,077.7	1,292.5	1,145.0	147.49	8.763		
12,000.0	7,631.0	11,791.6	7,425.0	76.6	76.6	-80.20	4,195.5	-1,077.7	1,292.5	1,141.6	150.90	8.565		
12,100.0	7,631.0	11,891.6	7,425.0	78.4	78.3	-80.20	4,295.5	-1,077.7	1,292.5	1,138.2	154.30	8.376		
12,161.4	7,631.0	11,953.0	7,425.0	79.4	79.4	-80.20	4,356.9	-1,077.7	1,292.5	1,136.1	156.40	8.264 ES, SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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	-90.02	0.0	-19.6	19.6					
100.0	100.0	100.0	100.0	0.2	0.2	-90.02	0.0	-19.6	19.6	19.3	0.30	64.533		
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-19.6	19.6	18.9	0.65	30.023		
300.0	300.0	300.0	300.0	0.5	0.5	-90.02	0.0	-19.6	19.6	18.6	1.00	19.562 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	116.06	0.0	-19.6	20.0	18.6	1.35	14.774		
500.0	500.0	500.0	500.0	0.9	0.8	122.41	0.0	-19.6	21.2	19.5	1.70	12.474		
600.0	599.9	599.6	599.6	1.0	1.0	129.63	-0.5	-20.3	24.4	22.4	2.06	11.867		
700.0	699.7	699.1	699.1	1.2	1.2	134.73	-2.0	-22.5	30.1	27.7	2.42	12.456		
800.0	799.4	798.5	798.3	1.4	1.4	137.68	-4.4	-26.0	38.1	35.4	2.78	13.703		
900.0	898.9	897.5	897.2	1.7	1.6	139.14	-7.8	-31.0	48.4	45.3	3.16	15.311		
1,000.0	998.3	996.3	995.7	1.9	1.8	139.69	-12.1	-37.3	60.9	57.4	3.56	17.111		
1,100.0	1,097.4	1,094.6	1,093.6	2.2	2.0	139.73	-17.4	-45.1	75.6	71.6	3.98	18.997		
1,200.0	1,196.3	1,192.5	1,190.8	2.5	2.2	139.49	-23.6	-54.1	92.4	87.9	4.42	20.898		
1,300.0	1,294.9	1,289.8	1,287.3	2.8	2.5	139.11	-30.6	-64.5	111.3	106.4	4.89	22.767		
1,400.0	1,393.4	1,386.7	1,383.2	3.1	2.7	138.55	-38.6	-76.2	131.7	126.3	5.38	24.464		
1,500.0	1,491.9	1,483.2	1,478.3	3.5	3.0	137.60	-47.4	-89.1	152.9	147.0	5.90	25.915		
1,600.0	1,590.4	1,580.5	1,574.2	3.8	3.3	136.57	-56.9	-103.0	174.8	168.4	6.44	27.162		
1,700.0	1,688.9	1,678.0	1,670.2	4.1	3.7	135.76	-66.5	-117.0	196.7	189.8	6.98	28.197		
1,800.0	1,787.3	1,775.5	1,766.3	4.5	4.0	135.11	-76.0	-131.0	218.7	211.2	7.52	29.068		
1,900.0	1,885.8	1,873.1	1,862.3	4.8	4.3	134.58	-85.6	-145.0	240.7	232.6	8.07	29.810		
2,000.0	1,984.3	1,970.6	1,958.4	5.1	4.6	134.14	-95.1	-159.0	262.6	254.0	8.63	30.448		
2,100.0	2,082.8	2,068.1	2,054.4	5.5	5.0	133.77	-104.7	-173.0	284.6	275.5	9.18	31.001		
2,200.0	2,181.3	2,165.7	2,150.5	5.8	5.3	133.45	-114.2	-187.0	306.7	296.9	9.74	31.486		
2,300.0	2,279.7	2,263.2	2,246.5	6.2	5.6	133.17	-123.7	-201.0	328.7	318.4	10.30	31.913		
2,400.0	2,378.2	2,360.7	2,342.6	6.5	5.9	132.93	-133.3	-215.0	350.7	339.8	10.86	32.293		
2,500.0	2,476.7	2,458.3	2,438.6	6.9	6.3	132.71	-142.8	-229.0	372.7	361.3	11.42	32.632		
2,600.0	2,575.2	2,555.8	2,534.7	7.2	6.6	132.52	-152.4	-243.0	394.8	382.8	11.99	32.936		
2,700.0	2,673.7	2,653.3	2,630.8	7.6	7.0	132.35	-161.9	-257.0	416.8	404.3	12.55	33.211		
2,800.0	2,772.1	2,750.9	2,726.8	7.9	7.3	132.20	-171.5	-270.9	438.9	425.7	13.12	33.461		
2,900.0	2,870.6	2,848.4	2,822.9	8.3	7.6	132.06	-181.0	-284.9	460.9	447.2	13.68	33.688		
3,000.0	2,969.1	2,945.9	2,918.9	8.6	8.0	131.94	-190.6	-298.9	482.9	468.7	14.25	33.896		
3,090.0	3,057.7	3,033.7	3,005.4	8.9	8.3	131.83	-199.1	-311.5	502.8	488.0	14.76	34.069		
3,100.0	3,067.6	3,043.5	3,015.0	8.9	8.3	131.84	-200.1	-312.9	505.0	490.2	14.82	34.084		
3,200.0	3,166.2	3,141.2	3,111.2	9.3	8.6	131.81	-209.7	-326.9	526.4	511.0	15.38	34.222		
3,300.0	3,265.2	3,239.0	3,207.6	9.6	9.0	131.65	-219.2	-341.0	546.6	530.7	15.93	34.311		
3,400.0	3,364.3	3,337.1	3,304.1	9.8	9.3	131.37	-228.8	-355.0	565.7	549.3	16.47	34.357		
3,500.0	3,463.7	3,435.3	3,400.9	10.1	9.7	130.97	-238.4	-369.1	583.8	566.8	16.99	34.369		
3,600.0	3,563.3	3,533.7	3,497.7	10.3	10.0	130.47	-248.1	-383.2	600.7	583.2	17.49	34.354		
3,700.0	3,663.0	3,632.1	3,594.6	10.5	10.4	129.88	-257.7	-397.4	616.7	598.7	17.97	34.318		
3,800.0	3,762.8	3,730.6	3,691.6	10.7	10.7	129.19	-267.3	-411.5	631.6	613.2	18.43	34.269		
3,900.0	3,862.7	3,829.1	3,788.7	10.8	11.0	128.41	-277.0	-425.6	645.6	626.7	18.87	34.212		
4,000.0	3,962.7	3,927.6	3,885.7	11.0	11.4	127.55	-286.6	-439.8	658.6	639.4	19.29	34.153		
4,090.0	4,052.7	4,016.3	3,973.0	11.1	11.7	-77.10	-295.3	-452.5	669.7	650.0	19.64	34.102		
4,100.0	4,062.7	4,026.1	3,982.7	11.1	11.7	-77.21	-296.3	-453.9	670.9	651.2	19.68	34.095		
4,200.0	4,162.7	4,124.6	4,079.7	11.2	12.1	-78.27	-305.9	-468.0	682.9	662.9	20.06	34.048		
4,300.0	4,262.7	4,223.1	4,176.7	11.3	12.4	-79.29	-315.5	-482.1	695.2	674.7	20.43	34.026		
4,400.0	4,362.7	4,321.6	4,273.7	11.4	12.8	-80.28	-325.2	-496.3	707.6	686.9	20.80	34.026		
4,500.0	4,462.7	4,420.1	4,370.6	11.5	13.1	-81.23	-334.8	-510.4	720.3	699.2	21.16	34.044		
4,600.0	4,562.7	4,518.5	4,467.6	11.7	13.5	-82.15	-344.4	-524.5	733.2	711.7	21.51	34.081		
4,700.0	4,662.7	4,617.0	4,564.6	11.8	13.8	-83.04	-354.1	-538.6	746.3	724.4	21.86	34.132		
4,800.0	4,762.7	4,715.5	4,661.6	11.9	14.1	-83.90	-363.7	-552.8	759.5	737.3	22.21	34.196		
4,900.0	4,862.7	4,814.0	4,758.6	12.0	14.5	-84.73	-373.4	-566.9	772.9	750.3	22.55	34.273		

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 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													SWSE S14 T1N-R66W (Mathews) - Mathews 4D-14H - HZ - Plan #3		Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
5,000.0	4,962.7	4,913.4	4,856.4	12.2	14.8	-85.54	-383.1	-581.2	786.4	763.5	22.89	34.358				
5,100.0	5,062.7	5,024.1	4,965.7	12.3	15.2	-86.35	-393.2	-596.0	799.2	776.0	23.23	34.399				
5,200.0	5,162.7	5,135.5	5,076.0	12.4	15.5	-87.05	-402.2	-609.2	810.6	787.1	23.57	34.393				
5,300.0	5,262.7	5,247.5	5,187.1	12.5	15.8	-87.64	-410.1	-620.7	820.6	796.7	23.90	34.339				
5,400.0	5,362.7	5,360.1	5,299.0	12.7	16.1	-88.13	-416.7	-630.5	829.0	804.8	24.22	34.234				
5,500.0	5,462.7	5,473.0	5,411.5	12.8	16.3	-88.52	-422.1	-638.4	835.9	811.4	24.53	34.078				
5,600.0	5,562.7	5,586.3	5,524.6	12.9	16.5	-88.82	-426.3	-644.5	841.3	816.4	24.84	33.869				
5,700.0	5,662.7	5,699.8	5,638.0	13.1	16.7	-89.02	-429.2	-648.8	845.0	819.9	25.14	33.609				
5,800.0	5,762.7	5,813.5	5,751.6	13.2	16.9	-89.14	-430.9	-651.3	847.1	821.7	25.44	33.299				
5,900.0	5,862.7	5,924.5	5,862.7	13.3	17.0	-89.16	-431.3	-651.9	847.6	821.9	25.73	32.942				
6,000.0	5,962.7	6,024.5	5,962.7	13.5	17.1	-89.16	-431.3	-651.9	847.6	821.6	26.01	32.587				
6,100.0	6,062.7	6,124.5	6,062.7	13.6	17.2	-89.16	-431.3	-651.9	847.6	821.3	26.29	32.238				
6,200.0	6,162.7	6,224.5	6,162.7	13.7	17.3	-89.16	-431.3	-651.9	847.6	821.1	26.58	31.894				
6,300.0	6,262.7	6,324.5	6,262.7	13.9	17.4	-89.16	-431.3	-651.9	847.6	820.8	26.86	31.556				
6,400.0	6,362.7	6,424.5	6,362.7	14.0	17.5	-89.16	-431.3	-651.9	847.6	820.5	27.15	31.223				
6,500.0	6,462.7	6,524.5	6,462.7	14.1	17.6	-89.16	-431.3	-651.9	847.6	820.2	27.44	30.895				
6,600.0	6,562.7	6,624.5	6,562.7	14.3	17.7	-89.16	-431.3	-651.9	847.6	819.9	27.73	30.573				
6,700.0	6,662.7	6,724.5	6,662.7	14.4	17.9	-89.16	-431.3	-651.9	847.6	819.6	28.02	30.256				
6,800.0	6,762.7	6,824.5	6,762.7	14.6	18.0	-89.16	-431.3	-651.9	847.6	819.3	28.31	29.944				
6,900.0	6,862.7	6,924.5	6,862.7	14.7	18.1	-89.16	-431.3	-651.9	847.6	819.0	28.60	29.636				
6,934.8	6,897.4	6,959.3	6,897.4	14.8	18.1	-89.16	-431.3	-651.9	847.6	818.9	28.70	29.531				
6,952.1	6,914.8	6,976.7	6,914.8	14.8	18.1	-89.16	-431.3	-651.9	847.6	818.9	28.75	29.478				
7,000.0	6,962.6	7,023.7	6,961.8	14.8	18.2	-89.17	-429.8	-651.9	847.6	818.8	28.84	29.395				
7,050.0	7,012.4	7,072.9	7,010.7	14.8	18.2	-89.17	-424.9	-651.9	847.6	818.8	28.86	29.371				
7,100.0	7,061.6	7,122.0	7,059.2	14.8	18.2	-89.18	-416.6	-651.9	847.6	818.8	28.83	29.406				
7,150.0	7,110.2	7,171.2	7,106.9	14.8	18.1	-89.20	-405.1	-651.9	847.6	818.9	28.74	29.495				
7,200.0	7,157.7	7,220.4	7,153.8	14.7	18.1	-89.22	-390.2	-651.9	847.6	819.0	28.61	29.632				
7,250.0	7,204.2	7,269.6	7,199.6	14.6	18.0	-89.24	-372.2	-651.9	847.6	819.2	28.43	29.811				
7,300.0	7,249.2	7,318.8	7,244.1	14.5	18.0	-89.26	-351.1	-651.9	847.6	819.4	28.23	30.024				
7,350.0	7,292.5	7,368.1	7,287.0	14.4	17.9	-89.29	-327.0	-651.9	847.6	819.6	28.01	30.260				
7,400.0	7,334.0	7,417.4	7,328.2	14.3	17.8	-89.32	-300.0	-651.9	847.6	819.8	27.78	30.509				
7,450.0	7,373.5	7,466.7	7,367.5	14.2	17.7	-89.36	-270.1	-651.9	847.6	820.1	27.56	30.757				
7,500.0	7,410.8	7,516.0	7,404.6	14.1	17.6	-89.40	-237.6	-651.9	847.6	820.3	27.35	30.988				
7,550.0	7,445.6	7,565.4	7,439.5	14.0	17.6	-89.44	-202.6	-651.9	847.6	820.4	27.18	31.186				
7,600.0	7,477.9	7,614.9	7,471.8	13.9	17.5	-89.48	-165.3	-651.9	847.6	820.6	27.05	31.334				
7,650.0	7,507.4	7,664.3	7,501.6	13.9	17.5	-89.53	-125.8	-651.9	847.6	820.6	26.98	31.413				
7,700.0	7,534.0	7,713.9	7,528.6	13.9	17.5	-89.58	-84.2	-651.9	847.6	820.6	26.99	31.410				
7,708.3	7,538.1	7,722.1	7,532.8	13.9	17.5	-89.58	-77.1	-651.9	847.6	820.6	27.00	31.395				
7,750.0	7,557.6	7,763.5	7,552.6	13.9	17.5	-89.63	-40.9	-651.9	847.6	820.5	27.07	31.310				
7,800.0	7,578.0	7,813.1	7,573.6	14.0	17.6	-89.68	4.1	-651.9	847.6	820.4	27.25	31.105				
7,850.0	7,595.3	7,862.8	7,591.5	14.2	17.7	-89.73	50.4	-651.9	847.6	820.1	27.53	30.793				
7,900.0	7,609.2	7,912.5	7,606.2	14.3	17.8	-89.79	97.9	-651.9	847.6	819.7	27.90	30.376				
7,950.0	7,619.7	7,962.3	7,617.5	14.6	18.0	-89.85	146.4	-651.9	847.6	819.2	28.38	29.862				
8,000.0	7,626.9	8,012.2	7,625.4	14.9	18.2	-89.90	195.6	-651.9	847.6	818.7	28.96	29.264				
8,050.0	7,630.5	8,062.1	7,629.9	15.2	18.5	-89.96	245.4	-651.9	847.6	818.0	29.64	28.599				
8,077.1	7,631.0	8,089.2	7,630.9	15.4	18.7	-89.99	272.5	-651.9	847.6	817.6	30.04	28.215				
8,100.0	7,631.0	8,112.1	7,631.0	15.6	18.8	-90.00	295.3	-651.9	847.6	817.2	30.40	27.880				
8,200.0	7,631.0	8,212.1	7,631.0	16.4	19.5	-90.00	395.3	-651.9	847.7	815.5	32.16	26.357				
8,300.0	7,631.0	8,312.1	7,631.0	17.4	20.4	-90.00	495.3	-651.9	847.7	813.5	34.19	24.794				
8,400.0	7,631.0	8,412.1	7,631.0	18.5	21.3	-90.00	595.3	-651.9	847.7	811.2	36.44	23.262				
8,500.0	7,631.0	8,512.1	7,631.0	19.7	22.4	-90.00	695.3	-651.9	847.7	808.8	38.88	21.803				
8,600.0	7,631.0	8,612.1	7,631.0	21.0	23.5	-90.00	795.3	-652.0	847.7	806.2	41.47	20.440				

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 4F-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 4F-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		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
8,700.0	7,631.0	8,712.1	7,631.0	22.4	24.7	-90.00	895.3	-652.0	847.7	803.5	44.19	19.182		
8,800.0	7,631.0	8,812.1	7,631.0	23.7	26.0	-90.00	995.3	-652.0	847.7	800.7	47.02	18.030		
8,900.0	7,631.0	8,912.1	7,631.0	25.2	27.3	-90.00	1,095.3	-652.0	847.7	797.8	49.93	16.979		
9,000.0	7,631.0	9,012.1	7,631.0	26.7	28.7	-90.00	1,195.3	-652.0	847.8	794.8	52.91	16.022		
9,100.0	7,631.0	9,112.1	7,631.0	28.2	30.1	-90.00	1,295.3	-652.0	847.8	791.8	55.96	15.151		
9,200.0	7,631.0	9,212.1	7,631.0	29.7	31.5	-90.00	1,395.3	-652.0	847.8	788.7	59.05	14.356		
9,300.0	7,631.0	9,312.1	7,631.0	31.3	33.0	-90.00	1,495.3	-652.0	847.8	785.6	62.19	13.632		
9,400.0	7,631.0	9,412.1	7,631.0	32.9	34.5	-90.00	1,595.3	-652.0	847.8	782.4	65.37	12.969		
9,500.0	7,631.0	9,512.1	7,631.0	34.5	36.0	-90.00	1,695.3	-652.0	847.8	779.2	68.58	12.363		
9,600.0	7,631.0	9,612.1	7,631.0	36.1	37.6	-90.00	1,795.3	-652.0	847.8	776.0	71.82	11.806		
9,700.0	7,631.0	9,712.1	7,631.0	37.7	39.1	-90.00	1,895.3	-652.0	847.8	772.8	75.08	11.293		
9,800.0	7,631.0	9,812.1	7,631.0	39.3	40.7	-90.00	1,995.3	-652.0	847.9	769.5	78.36	10.820		
9,900.0	7,631.0	9,912.1	7,631.0	41.0	42.3	-90.00	2,095.3	-652.0	847.9	766.2	81.66	10.383		
10,000.0	7,631.0	10,012.1	7,631.0	42.6	43.9	-90.00	2,195.3	-652.1	847.9	762.9	84.98	9.977		
10,100.0	7,631.0	10,112.1	7,631.0	44.3	45.5	-90.00	2,295.3	-652.1	847.9	759.6	88.31	9.601		
10,200.0	7,631.0	10,212.1	7,631.0	46.0	47.1	-90.00	2,395.3	-652.1	847.9	756.2	91.66	9.251		
10,300.0	7,631.0	10,312.1	7,631.0	47.6	48.8	-90.00	2,495.3	-652.1	847.9	752.9	95.02	8.924		
10,400.0	7,631.0	10,412.1	7,631.0	49.3	50.4	-90.00	2,595.3	-652.1	847.9	749.5	98.39	8.618		
10,500.0	7,631.0	10,512.1	7,631.0	51.0	52.1	-90.00	2,695.3	-652.1	847.9	746.2	101.76	8.332		
10,600.0	7,631.0	10,612.1	7,631.0	52.7	53.7	-90.00	2,795.3	-652.1	848.0	742.8	105.15	8.064		
10,700.0	7,631.0	10,712.1	7,631.0	54.4	55.4	-90.00	2,895.3	-652.1	848.0	739.4	108.54	7.812		
10,800.0	7,631.0	10,812.1	7,631.0	56.1	57.1	-90.00	2,995.3	-652.1	848.0	736.0	111.94	7.575		
10,900.0	7,631.0	10,912.1	7,631.0	57.8	58.7	-90.00	3,095.3	-652.1	848.0	732.6	115.35	7.351		
11,000.0	7,631.0	11,012.1	7,631.0	59.5	60.4	-90.00	3,195.3	-652.1	848.0	729.2	118.77	7.140		
11,100.0	7,631.0	11,112.1	7,631.0	61.2	62.1	-90.00	3,295.3	-652.1	848.0	725.8	122.18	6.941		
11,200.0	7,631.0	11,212.1	7,631.0	62.9	63.8	-90.00	3,395.3	-652.1	848.0	722.4	125.61	6.751		
11,300.0	7,631.0	11,312.1	7,631.0	64.6	65.5	-90.00	3,495.3	-652.1	848.0	719.0	129.04	6.572		
11,400.0	7,631.0	11,412.1	7,631.0	66.3	67.2	-90.00	3,595.3	-652.2	848.1	715.6	132.47	6.402		
11,500.0	7,631.0	11,512.1	7,631.0	68.0	68.8	-90.00	3,695.3	-652.2	848.1	712.2	135.90	6.240		
11,600.0	7,631.0	11,612.1	7,631.0	69.8	70.5	-90.00	3,795.3	-652.2	848.1	708.7	139.34	6.086		
11,700.0	7,631.0	11,712.1	7,631.0	71.5	72.2	-90.00	3,895.3	-652.2	848.1	705.3	142.79	5.940		
11,800.0	7,631.0	11,812.1	7,631.0	73.2	74.0	-90.00	3,995.3	-652.2	848.1	701.9	146.23	5.800		
11,900.0	7,631.0	11,912.1	7,631.0	74.9	75.7	-90.00	4,095.3	-652.2	848.1	698.4	149.68	5.666		
12,000.0	7,631.0	12,012.1	7,631.0	76.6	77.4	-90.00	4,195.3	-652.2	848.1	695.0	153.13	5.538		
12,100.0	7,631.0	12,112.1	7,631.0	78.4	79.1	-90.00	4,295.3	-652.2	848.1	691.6	156.59	5.416		
12,161.4	7,631.0	12,173.5	7,631.0	79.4	80.1	-90.00	4,356.7	-652.2	848.2	689.4	158.71	5.344 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4E-14H - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.02	0.0	-11.2	11.2					
100.0	100.0	100.0	100.0	0.2	0.2	-90.02	0.0	-11.2	11.2	10.9	0.30	36.876		
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-11.2	11.2	10.5	0.65	17.156		
300.0	300.0	300.0	300.0	0.5	0.5	-90.02	0.0	-11.2	11.2	10.2	1.00	11.178	CC, ES	
400.0	400.0	400.0	400.0	0.7	0.7	117.73	0.0	-11.2	11.6	10.2	1.35	8.568		
500.0	500.0	499.9	499.9	0.9	0.9	124.26	-0.8	-11.6	13.2	11.5	1.70	7.751		
600.0	599.9	599.8	599.8	1.0	1.0	128.02	-3.1	-12.7	16.4	14.3	2.06	7.940		
700.0	699.7	699.6	699.5	1.2	1.2	129.45	-7.1	-14.6	21.0	18.6	2.43	8.630		
800.0	799.4	799.4	799.1	1.4	1.4	129.51	-12.6	-17.2	27.0	24.2	2.82	9.579		
900.0	898.9	899.0	898.4	1.7	1.6	128.92	-19.6	-20.5	34.4	31.2	3.23	10.657		
1,000.0	998.3	998.5	997.4	1.9	1.8	128.05	-28.2	-24.6	43.3	39.6	3.67	11.782		
1,100.0	1,097.4	1,097.8	1,096.1	2.2	2.1	127.11	-38.3	-29.5	53.5	49.4	4.15	12.904		
1,200.0	1,196.3	1,196.9	1,194.3	2.5	2.3	126.19	-49.9	-35.0	65.2	60.5	4.66	13.988		
1,300.0	1,294.9	1,296.0	1,292.5	2.8	2.6	125.90	-62.4	-41.0	78.1	72.9	5.19	15.027		
1,400.0	1,393.4	1,395.1	1,390.6	3.1	2.9	126.22	-74.8	-46.9	91.4	85.7	5.74	15.935		
1,500.0	1,491.9	1,494.2	1,488.8	3.5	3.2	126.45	-87.3	-52.8	104.8	98.5	6.29	16.665		
1,600.0	1,590.4	1,593.3	1,586.9	3.8	3.4	126.63	-99.7	-58.8	118.2	111.4	6.85	17.263		
1,700.0	1,688.9	1,692.4	1,685.1	4.1	3.7	126.78	-112.2	-64.7	131.6	124.2	7.41	17.760		
1,800.0	1,787.3	1,791.5	1,783.2	4.5	4.0	126.89	-124.6	-70.6	145.0	137.0	7.98	18.179		
1,900.0	1,885.8	1,890.6	1,881.3	4.8	4.3	126.99	-137.1	-76.6	158.4	149.9	8.55	18.536		
2,000.0	1,984.3	1,989.7	1,979.5	5.1	4.6	127.07	-149.5	-82.5	171.8	162.7	9.12	18.844		
2,100.0	2,082.8	2,088.8	2,077.6	5.5	4.9	127.14	-162.0	-88.5	185.2	175.5	9.69	19.112		
2,200.0	2,181.3	2,187.9	2,175.7	5.8	5.2	127.21	-174.4	-94.4	198.6	188.3	10.27	19.347		
2,300.0	2,279.7	2,287.0	2,273.9	6.2	5.5	127.26	-186.9	-100.3	212.0	201.2	10.84	19.554		
2,400.0	2,378.2	2,386.1	2,372.0	6.5	5.7	127.31	-199.3	-106.3	225.4	214.0	11.42	19.739		
2,500.0	2,476.7	2,485.2	2,470.1	6.9	6.0	127.35	-211.8	-112.2	238.8	226.8	12.00	19.904		
2,600.0	2,575.2	2,584.3	2,568.3	7.2	6.3	127.38	-224.2	-118.1	252.2	239.6	12.58	20.053		
2,700.0	2,673.7	2,683.4	2,666.4	7.6	6.6	127.42	-236.7	-124.1	265.6	252.4	13.16	20.188		
2,800.0	2,772.1	2,782.5	2,764.5	7.9	6.9	127.45	-249.1	-130.0	279.0	265.3	13.74	20.310		
2,900.0	2,870.6	2,881.6	2,862.7	8.3	7.2	127.48	-261.6	-136.0	292.4	278.1	14.32	20.421		
3,000.0	2,969.1	2,980.7	2,960.8	8.6	7.5	127.50	-274.0	-141.9	305.8	290.9	14.90	20.524		
3,090.0	3,057.7	3,069.9	3,049.1	8.9	7.8	127.52	-285.2	-147.2	317.8	302.4	15.42	20.608		
3,100.0	3,067.6	3,079.8	3,058.9	8.9	7.8	127.53	-286.5	-147.8	319.2	303.7	15.48	20.617		
3,200.0	3,166.2	3,179.0	3,157.1	9.3	8.1	127.51	-298.9	-153.8	332.0	315.9	16.06	20.674		
3,300.0	3,265.2	3,278.3	3,255.5	9.6	8.4	127.26	-311.4	-159.7	343.7	327.0	16.62	20.673		
3,400.0	3,364.3	3,377.7	3,353.9	9.8	8.7	126.79	-323.9	-165.7	354.4	337.2	17.18	20.623		
3,500.0	3,463.7	3,477.1	3,452.3	10.1	9.0	126.13	-336.4	-171.6	364.1	346.3	17.73	20.532		
3,600.0	3,563.3	3,576.5	3,550.8	10.3	9.3	125.28	-348.9	-177.6	372.8	354.5	18.27	20.407		
3,700.0	3,663.0	3,675.9	3,649.3	10.5	9.6	124.25	-361.3	-183.6	380.7	361.9	18.79	20.258		
3,800.0	3,762.8	3,775.3	3,747.7	10.7	9.9	123.05	-373.8	-189.5	387.7	368.4	19.30	20.093		
3,900.0	3,862.7	3,874.7	3,846.0	10.8	10.2	121.67	-386.3	-195.5	394.0	374.2	19.78	19.920		
4,000.0	3,962.7	3,975.6	3,946.1	11.0	10.4	120.16	-398.5	-201.3	399.5	379.3	20.23	19.750		
4,090.0	4,052.7	4,067.2	4,037.0	11.1	10.7	-84.97	-408.3	-206.0	403.5	382.9	20.59	19.595		
4,100.0	4,062.7	4,077.4	4,047.2	11.1	10.7	-85.12	-409.3	-206.4	403.9	383.3	20.63	19.577		
4,200.0	4,162.7	4,179.6	4,148.8	11.2	10.9	-86.46	-418.5	-210.8	407.5	386.5	21.00	19.404		
4,300.0	4,262.7	4,282.0	4,250.9	11.3	11.2	-87.54	-426.1	-214.4	410.7	389.3	21.34	19.240		
4,400.0	4,362.7	4,384.8	4,353.5	11.4	11.4	-88.38	-432.0	-217.2	413.2	391.5	21.66	19.076		
4,500.0	4,462.7	4,487.7	4,456.3	11.5	11.5	-88.98	-436.3	-219.3	415.1	393.1	21.96	18.905		
4,600.0	4,562.7	4,590.8	4,559.3	11.7	11.7	-89.34	-438.9	-220.5	416.3	394.0	22.23	18.723		
4,700.0	4,662.7	4,694.0	4,662.5	11.8	11.8	-89.47	-439.8	-221.0	416.7	394.2	22.49	18.527		
4,800.0	4,762.7	4,794.1	4,762.7	11.9	11.9	-89.47	-439.8	-221.0	416.7	393.9	22.75	18.319		
4,900.0	4,862.7	4,894.1	4,862.7	12.0	12.0	-89.47	-439.8	-221.0	416.7	393.7	23.00	18.114		

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 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
5,000.0	4,962.7	4,994.1	4,962.7	12.2	12.2	-89.47	-439.8	-221.0	416.7	393.4	23.26	17.912	
5,100.0	5,062.7	5,094.1	5,062.7	12.3	12.3	-89.47	-439.8	-221.0	416.7	393.2	23.53	17.712	
5,200.0	5,162.7	5,194.1	5,162.7	12.4	12.4	-89.47	-439.8	-221.0	416.7	392.9	23.79	17.515	
5,300.0	5,262.7	5,294.1	5,262.7	12.5	12.6	-89.47	-439.8	-221.0	416.7	392.6	24.06	17.321	
5,400.0	5,362.7	5,394.1	5,362.7	12.7	12.7	-89.47	-439.8	-221.0	416.7	392.4	24.33	17.130	
5,500.0	5,462.7	5,494.1	5,462.7	12.8	12.8	-89.47	-439.8	-221.0	416.7	392.1	24.60	16.941	
5,600.0	5,562.7	5,594.1	5,562.7	12.9	12.9	-89.47	-439.8	-221.0	416.7	391.8	24.87	16.756	
5,700.0	5,662.7	5,694.1	5,662.7	13.1	13.1	-89.47	-439.8	-221.0	416.7	391.5	25.14	16.573	
5,800.0	5,762.7	5,794.1	5,762.7	13.2	13.2	-89.47	-439.8	-221.0	416.7	391.3	25.42	16.392	
5,900.0	5,862.7	5,894.1	5,862.7	13.3	13.3	-89.47	-439.8	-221.0	416.7	391.0	25.70	16.215	
6,000.0	5,962.7	5,994.1	5,962.7	13.5	13.5	-89.47	-439.8	-221.0	416.7	390.7	25.98	16.040	
6,100.0	6,062.7	6,094.1	6,062.7	13.6	13.6	-89.47	-439.8	-221.0	416.7	390.4	26.26	15.868	
6,200.0	6,162.7	6,194.1	6,162.7	13.7	13.7	-89.47	-439.8	-221.0	416.7	390.1	26.54	15.699	
6,300.0	6,262.7	6,294.1	6,262.7	13.9	13.9	-89.47	-439.8	-221.0	416.7	389.9	26.83	15.533	
6,400.0	6,362.7	6,394.1	6,362.7	14.0	14.0	-89.47	-439.8	-221.0	416.7	389.6	27.11	15.369	
6,500.0	6,462.7	6,494.1	6,462.7	14.1	14.2	-89.47	-439.8	-221.0	416.7	389.3	27.40	15.207	
6,600.0	6,562.7	6,594.1	6,562.7	14.3	14.3	-89.47	-439.8	-221.0	416.7	389.0	27.69	15.049	
6,700.0	6,662.7	6,694.1	6,662.7	14.4	14.4	-89.47	-439.8	-221.0	416.7	388.7	27.98	14.892	
6,724.7	6,687.3	6,718.8	6,687.3	14.5	14.5	-89.47	-439.8	-221.0	416.7	388.6	28.05	14.854	
6,800.0	6,762.7	6,793.6	6,762.0	14.6	14.5	-89.04	-436.7	-221.0	416.7	388.5	28.22	14.767	
6,900.0	6,862.7	6,890.3	6,857.4	14.7	14.5	-86.90	-421.1	-221.0	417.3	389.0	28.33	14.731	
6,952.1	6,914.8	6,938.6	6,904.1	14.8	14.5	-85.18	-408.6	-221.0	418.3	389.9	28.34	14.762	
7,000.0	6,962.6	6,981.8	6,945.0	14.8	14.4	-83.37	-394.7	-221.0	419.7	391.4	28.29	14.839	
7,050.0	7,012.4	7,026.2	6,986.1	14.8	14.3	-81.53	-377.9	-221.0	421.7	393.5	28.18	14.962	
7,100.0	7,061.6	7,069.9	7,025.4	14.8	14.2	-79.74	-358.9	-221.0	424.0	395.9	28.03	15.126	
7,150.0	7,110.2	7,113.0	7,063.0	14.8	14.1	-78.01	-337.9	-221.0	426.6	398.8	27.84	15.324	
7,200.0	7,157.7	7,155.6	7,098.8	14.7	14.0	-76.36	-315.0	-221.0	429.6	401.9	27.62	15.555	
7,250.0	7,204.2	7,200.0	7,134.7	14.6	13.9	-74.72	-288.8	-221.0	432.7	405.4	27.36	15.817	
7,300.0	7,249.2	7,239.0	7,164.9	14.5	13.8	-73.30	-264.0	-221.0	436.0	408.9	27.10	16.089	
7,350.0	7,292.5	7,280.1	7,195.1	14.4	13.8	-71.90	-236.2	-221.0	439.4	412.6	26.82	16.382	
7,400.0	7,334.0	7,320.8	7,223.4	14.3	13.7	-70.59	-206.9	-221.0	442.8	416.3	26.55	16.682	
7,450.0	7,373.5	7,361.1	7,249.7	14.2	13.6	-69.37	-176.4	-221.0	446.3	420.0	26.28	16.983	
7,500.0	7,410.8	7,400.0	7,273.5	14.1	13.6	-68.26	-145.6	-221.0	449.6	423.6	26.03	17.274	
7,550.0	7,445.6	7,440.7	7,296.5	14.0	13.6	-67.21	-112.1	-221.0	452.9	427.1	25.81	17.549	
7,600.0	7,477.9	7,480.2	7,317.0	13.9	13.6	-66.27	-78.4	-221.0	456.0	430.4	25.63	17.794	
7,650.0	7,507.4	7,519.3	7,335.5	13.9	13.6	-65.43	-43.8	-221.0	458.9	433.4	25.48	18.008	
7,700.0	7,534.0	7,558.3	7,351.9	13.9	13.7	-64.69	-8.5	-221.0	461.5	436.1	25.42	18.154	
7,750.0	7,557.6	7,600.0	7,367.4	13.9	13.8	-64.01	30.2	-221.0	463.9	438.5	25.41	18.255	
7,800.0	7,578.0	7,635.8	7,378.8	14.0	13.9	-63.49	64.1	-221.0	466.0	440.5	25.49	18.284	
7,850.0	7,595.3	7,674.3	7,389.3	14.2	14.0	-63.04	101.2	-221.0	467.7	442.1	25.64	18.243	
7,900.0	7,609.2	7,712.7	7,397.7	14.3	14.2	-62.68	138.6	-221.0	469.2	443.3	25.88	18.128	
7,950.0	7,619.7	7,750.0	7,403.9	14.6	14.4	-62.42	175.4	-221.0	470.2	444.0	26.20	17.944	
8,000.0	7,626.9	7,789.3	7,408.3	14.9	14.7	-62.25	214.5	-221.0	470.9	444.3	26.64	17.678	
8,050.0	7,630.5	7,827.6	7,410.6	15.2	14.9	-62.17	252.7	-221.0	471.2	444.0	27.16	17.352	
8,077.1	7,631.0	7,851.3	7,411.0	15.4	15.1	-62.17	276.4	-221.0	471.2	443.7	27.49	17.142	
8,081.0	7,631.0	7,851.3	7,411.0	15.4	15.1	-62.17	276.4	-221.0	471.2	443.7	27.52	17.124	
8,100.0	7,631.0	7,870.3	7,411.0	15.6	15.3	-62.17	295.4	-221.0	471.2	443.4	27.79	16.956	
8,200.0	7,631.0	7,970.3	7,411.0	16.4	16.1	-62.17	395.4	-221.0	471.2	441.8	29.38	16.041	
8,300.0	7,631.0	8,070.3	7,411.0	17.4	17.1	-62.17	495.4	-221.0	471.2	440.0	31.18	15.112	
8,400.0	7,631.0	8,170.3	7,411.0	18.5	18.3	-62.17	595.4	-221.0	471.2	438.0	33.18	14.202	
8,500.0	7,631.0	8,270.3	7,411.0	19.7	19.5	-62.17	695.4	-221.0	471.2	435.9	35.34	13.334	
8,600.0	7,631.0	8,370.3	7,411.0	21.0	20.8	-62.17	795.4	-221.0	471.2	433.6	37.63	12.521	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
8,700.0	7,631.0	8,470.3	7,411.0	22.4	22.1	-62.17	895.4	-221.0	471.2	431.2	40.04	11.770	
8,800.0	7,631.0	8,570.3	7,411.0	23.7	23.5	-62.17	995.4	-221.0	471.2	428.7	42.53	11.080	
8,900.0	7,631.0	8,670.3	7,411.0	25.2	25.0	-62.17	1,095.4	-221.0	471.2	426.1	45.10	10.448	
9,000.0	7,631.0	8,770.3	7,411.0	26.7	26.5	-62.17	1,195.4	-221.0	471.2	423.5	47.74	9.872	
9,100.0	7,631.0	8,870.3	7,411.0	28.2	28.0	-62.17	1,295.4	-221.0	471.3	420.8	50.43	9.345	
9,200.0	7,631.0	8,970.3	7,411.0	29.7	29.5	-62.17	1,395.4	-221.0	471.3	418.1	53.16	8.865	
9,300.0	7,631.0	9,070.3	7,411.0	31.3	31.1	-62.17	1,495.4	-221.0	471.3	415.3	55.93	8.425	
9,400.0	7,631.0	9,170.3	7,411.0	32.9	32.7	-62.18	1,595.4	-221.0	471.3	412.5	58.74	8.023	
9,500.0	7,631.0	9,270.3	7,411.0	34.5	34.3	-62.18	1,695.4	-221.0	471.3	409.7	61.58	7.653	
9,552.1	7,631.0	9,322.4	7,411.0	35.3	35.1	-62.18	1,747.5	-221.0	471.3	408.2	63.07	7.473	
9,600.0	7,631.0	9,369.0	7,411.0	36.1	35.9	-62.18	1,794.1	-221.0	471.3	406.9	64.42	7.316	
9,700.0	7,631.0	9,462.2	7,411.0	37.7	37.4	-62.24	1,887.3	-222.1	472.3	405.1	67.24	7.024	
9,800.0	7,631.0	9,555.4	7,411.0	39.3	38.9	-62.38	1,980.4	-224.6	474.7	404.6	70.12	6.770	
9,900.0	7,631.0	9,648.4	7,411.0	41.0	40.5	-62.61	2,073.3	-228.7	478.6	405.6	73.07	6.550	
10,000.0	7,631.0	9,741.3	7,411.0	42.6	42.0	-62.91	2,166.1	-234.2	484.0	407.9	76.09	6.361	
10,100.0	7,631.0	9,840.3	7,411.0	44.3	43.7	-63.28	2,264.8	-241.1	490.2	410.9	79.26	6.184	
10,200.0	7,631.0	9,940.0	7,411.0	46.0	45.3	-63.64	2,364.3	-248.1	496.4	414.0	82.47	6.019	
10,300.0	7,631.0	10,039.8	7,411.0	47.6	47.0	-63.99	2,463.8	-255.1	502.7	417.0	85.70	5.865	
10,400.0	7,631.0	10,139.6	7,411.0	49.3	48.7	-64.34	2,563.4	-262.0	509.0	420.0	88.96	5.722	
10,500.0	7,631.0	10,239.3	7,411.0	51.0	50.4	-64.68	2,662.9	-269.0	515.3	423.1	92.23	5.587	
10,600.0	7,631.0	10,339.1	7,411.0	52.7	52.1	-65.00	2,762.4	-275.9	521.6	426.1	95.51	5.461	
10,700.0	7,631.0	10,438.8	7,411.0	54.4	53.8	-65.32	2,861.9	-282.9	527.9	429.1	98.81	5.343	
10,800.0	7,631.0	10,538.6	7,411.0	56.1	55.5	-65.64	2,961.4	-289.9	534.3	432.2	102.13	5.232	
10,900.0	7,631.0	10,646.5	7,411.0	57.8	57.3	-65.93	3,069.2	-296.6	540.0	434.4	105.58	5.115	
11,000.0	7,631.0	10,755.9	7,411.0	59.5	59.2	-66.14	3,178.4	-301.4	544.0	435.0	109.00	4.991	
11,100.0	7,631.0	10,865.4	7,411.0	61.2	61.1	-66.25	3,287.9	-304.1	546.2	433.9	112.37	4.861	
11,200.0	7,631.0	10,975.0	7,411.0	62.9	62.9	-66.28	3,397.4	-304.6	546.8	431.1	115.68	4.727	
11,300.0	7,631.0	11,084.5	7,411.0	64.6	64.8	-66.21	3,507.0	-303.2	545.5	426.6	118.91	4.587	
11,400.0	7,631.0	11,194.0	7,411.0	66.3	66.7	-66.06	3,616.4	-299.6	542.5	420.4	122.07	4.444	
11,500.0	7,631.0	11,303.2	7,411.0	68.0	68.5	-65.81	3,725.5	-293.9	537.8	412.6	125.14	4.298	
11,600.0	7,631.0	11,412.3	7,411.0	69.8	70.4	-65.47	3,834.2	-286.2	531.3	403.2	128.09	4.148	
11,700.0	7,631.0	11,520.9	7,411.0	71.5	72.2	-65.03	3,942.5	-276.4	523.2	392.2	130.92	3.996	
11,800.0	7,631.0	11,629.2	7,411.0	73.2	74.1	-64.47	4,050.1	-264.6	513.3	379.7	133.60	3.842	
11,900.0	7,631.0	11,730.7	7,411.0	74.9	75.8	-63.85	4,150.9	-252.2	502.3	366.2	136.07	3.692	
12,000.0	7,631.0	11,830.0	7,411.0	76.6	77.5	-63.22	4,249.4	-240.0	491.3	352.9	138.45	3.549	
12,100.0	7,631.0	11,929.2	7,411.0	78.4	79.2	-62.56	4,347.9	-227.8	480.4	339.6	140.74	3.413	
12,161.4	7,631.0	11,938.2	7,411.0	79.4	79.4	-62.50	4,356.8	-226.7	476.5	334.8	141.75	3.362	
12,161.4	7,631.0	11,938.2	7,411.0	79.4	79.4	-62.50	4,356.8	-226.7	476.5	334.8	141.75	3.362 SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor			
0.0	0.0	0.0	0.0	0.0	0.0	108.02	-3.6	11.2	11.8						
100.0	100.0	100.0	100.0	0.2	0.2	108.02	-3.6	11.2	11.8	11.5	0.30	38.778			
200.0	200.0	200.0	200.0	0.3	0.3	108.02	-3.6	11.2	11.8	11.1	0.65	18.041	CC, ES		
300.0	300.0	299.8	299.8	0.5	0.5	109.26	-4.2	11.9	12.6	11.6	1.00	12.588			
400.0	400.0	399.6	399.5	0.7	0.7	-46.42	-5.7	14.0	14.5	13.2	1.35	10.739			
500.0	500.0	499.3	499.1	0.9	0.9	-48.63	-8.3	17.5	16.9	15.2	1.70	9.915			
600.0	599.9	598.9	598.6	1.0	1.1	-52.41	-11.9	22.4	19.8	17.8	2.06	9.603			
700.0	699.7	698.5	697.9	1.2	1.3	-56.87	-16.5	28.7	23.4	21.0	2.44	9.590			
800.0	799.4	798.0	796.9	1.4	1.5	-61.43	-22.1	36.3	27.7	24.9	2.84	9.758			
900.0	898.9	897.4	895.7	1.7	1.8	-65.74	-28.7	45.4	32.9	29.6	3.28	10.029			
1,000.0	998.3	996.7	994.1	1.9	2.0	-69.64	-36.4	55.8	38.8	35.1	3.75	10.352			
1,100.0	1,097.4	1,095.9	1,092.2	2.2	2.3	-73.06	-45.0	67.5	45.7	41.4	4.28	10.693			
1,200.0	1,196.3	1,194.9	1,190.0	2.5	2.7	-76.04	-54.7	80.6	53.5	48.6	4.85	11.030			
1,300.0	1,294.9	1,294.5	1,288.0	2.8	3.0	-79.18	-64.9	94.6	61.6	56.2	5.47	11.263			
1,400.0	1,393.4	1,394.1	1,386.1	3.1	3.3	-82.35	-75.1	108.5	69.8	63.7	6.13	11.401			
1,500.0	1,491.9	1,493.7	1,484.2	3.5	3.6	-84.84	-85.4	122.5	78.2	71.4	6.79	11.522			
1,600.0	1,590.4	1,593.3	1,582.3	3.8	4.0	-86.86	-95.6	136.4	86.7	79.2	7.45	11.629			
1,700.0	1,688.9	1,692.9	1,680.4	4.1	4.3	-88.51	-105.8	150.3	95.2	87.1	8.12	11.723			
1,800.0	1,787.3	1,792.5	1,778.4	4.5	4.7	-89.89	-116.1	164.3	103.8	95.1	8.80	11.807			
1,900.0	1,885.8	1,892.1	1,876.5	4.8	5.0	-91.06	-126.3	178.2	112.5	103.1	9.47	11.881			
2,000.0	1,984.3	1,991.7	1,974.6	5.1	5.4	-92.06	-136.6	192.2	121.2	111.1	10.15	11.948			
2,100.0	2,082.8	2,091.3	2,072.7	5.5	5.7	-92.92	-146.8	206.1	130.0	119.2	10.82	12.009			
2,200.0	2,181.3	2,190.9	2,170.8	5.8	6.1	-93.68	-157.0	220.0	138.8	127.3	11.50	12.063			
2,300.0	2,279.7	2,290.5	2,268.9	6.2	6.4	-94.34	-167.3	234.0	147.6	135.4	12.18	12.113			
2,400.0	2,378.2	2,390.1	2,367.0	6.5	6.7	-94.94	-177.5	247.9	156.4	143.5	12.86	12.159			
2,500.0	2,476.7	2,489.7	2,465.0	6.9	7.1	-95.46	-187.8	261.8	165.2	151.7	13.54	12.200			
2,600.0	2,575.2	2,589.3	2,563.1	7.2	7.4	-95.94	-198.0	275.8	174.0	159.8	14.22	12.238			
2,700.0	2,673.7	2,688.9	2,661.2	7.6	7.8	-96.37	-208.2	289.7	182.9	168.0	14.90	12.273			
2,800.0	2,772.1	2,788.5	2,759.3	7.9	8.1	-96.76	-218.5	303.7	191.8	176.2	15.58	12.306			
2,900.0	2,870.6	2,888.1	2,857.4	8.3	8.5	-97.11	-228.7	317.6	200.6	184.4	16.26	12.336			
3,000.0	2,969.1	2,987.7	2,955.5	8.6	8.8	-97.44	-239.0	331.5	209.5	192.6	16.94	12.364			
3,090.0	3,057.7	3,077.3	3,043.8	8.9	9.1	-97.71	-248.2	344.1	217.5	199.9	17.56	12.387			
3,100.0	3,067.6	3,087.3	3,053.6	8.9	9.2	-97.74	-249.2	345.5	218.4	200.8	17.63	12.390			
3,200.0	3,166.2	3,186.9	3,151.7	9.3	9.5	-97.84	-259.4	359.4	227.1	208.8	18.28	12.426			
3,300.0	3,265.2	3,286.5	3,249.8	9.6	9.9	-97.51	-269.7	373.4	235.6	216.7	18.90	12.470			
3,400.0	3,364.3	3,386.1	3,347.9	9.8	10.2	-96.81	-279.9	387.3	243.9	224.5	19.48	12.526			
3,500.0	3,463.7	3,485.7	3,445.9	10.1	10.6	-95.76	-290.1	401.2	252.1	232.1	20.01	12.597			
3,600.0	3,563.3	3,585.1	3,543.8	10.3	10.9	-94.40	-300.4	415.1	260.3	239.7	20.51	12.691			
3,700.0	3,663.0	3,684.5	3,641.7	10.5	11.3	-92.75	-310.6	429.0	268.5	247.5	20.95	12.814			
3,800.0	3,762.8	3,783.7	3,739.4	10.7	11.6	-90.86	-320.8	442.9	276.9	255.5	21.34	12.976			
3,900.0	3,862.7	3,882.7	3,836.9	10.8	12.0	-88.74	-331.0	456.8	285.6	263.9	21.66	13.186			
4,000.0	3,962.7	3,981.5	3,934.2	11.0	12.3	-86.43	-341.1	470.6	294.9	272.9	21.92	13.453			
4,090.0	4,052.7	4,070.3	4,021.6	11.1	12.6	71.99	-350.2	483.0	303.8	281.7	22.09	13.749			
4,100.0	4,062.7	4,080.1	4,031.3	11.1	12.7	72.25	-351.3	484.4	304.8	282.7	22.11	13.785			
4,200.0	4,162.7	4,178.6	4,128.3	11.2	13.0	74.78	-361.4	498.2	315.4	293.1	22.26	14.167			
4,300.0	4,262.7	4,277.1	4,225.3	11.3	13.4	77.15	-371.5	512.0	326.6	304.2	22.40	14.577			
4,400.0	4,362.7	4,375.6	4,322.2	11.4	13.7	79.35	-381.6	525.8	338.3	315.7	22.54	15.011			
4,500.0	4,462.7	4,474.0	4,419.2	11.5	14.1	81.41	-391.8	539.5	350.5	327.8	22.66	15.464			
4,600.0	4,562.7	4,573.1	4,516.8	11.7	14.4	83.34	-401.9	553.4	363.0	340.3	22.79	15.931			
4,700.0	4,662.7	4,676.8	4,619.1	11.8	14.7	85.11	-411.9	567.0	375.2	352.3	22.92	16.371			
4,800.0	4,762.7	4,781.0	4,722.2	11.9	15.0	86.59	-420.8	579.1	386.2	363.2	23.06	16.747			
4,900.0	4,862.7	4,885.8	4,826.2	12.0	15.3	87.82	-428.7	589.8	396.1	372.9	23.23	17.053			

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 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
5,000.0	4,962.7	4,991.0	4,930.8	12.2	15.6	88.82	-435.4	599.0	404.6	381.2	23.41	17.286		
5,100.0	5,062.7	5,096.6	5,036.0	12.3	15.8	89.63	-441.0	606.6	411.8	388.2	23.61	17.445		
5,200.0	5,162.7	5,202.6	5,141.6	12.4	16.0	90.25	-445.5	612.7	417.6	393.8	23.82	17.529		
5,300.0	5,262.7	5,308.7	5,247.6	12.5	16.2	90.70	-448.9	617.3	421.9	397.8	24.06	17.538		
5,400.0	5,362.7	5,415.1	5,353.9	12.7	16.3	90.99	-451.0	620.3	424.7	400.4	24.30	17.475		
5,500.0	5,462.7	5,521.5	5,460.3	12.8	16.4	91.12	-452.0	621.6	426.0	401.5	24.57	17.340		
5,600.0	5,562.7	5,623.9	5,562.7	12.9	16.5	91.13	-452.1	621.7	426.1	401.3	24.84	17.152		
5,700.0	5,662.7	5,723.9	5,662.7	13.1	16.7	91.13	-452.1	621.7	426.1	401.0	25.12	16.964		
5,800.0	5,762.7	5,823.9	5,762.7	13.2	16.8	91.13	-452.1	621.7	426.1	400.7	25.40	16.778		
5,900.0	5,862.7	5,923.9	5,862.7	13.3	16.9	91.13	-452.1	621.7	426.1	400.4	25.68	16.596		
6,000.0	5,962.7	6,023.9	5,962.7	13.5	17.0	91.13	-452.1	621.7	426.1	400.2	25.96	16.416		
6,100.0	6,062.7	6,123.9	6,062.7	13.6	17.1	91.13	-452.1	621.7	426.1	399.9	26.24	16.240		
6,200.0	6,162.7	6,223.9	6,162.7	13.7	17.2	91.13	-452.1	621.7	426.1	399.6	26.52	16.066		
6,300.0	6,262.7	6,323.9	6,262.7	13.9	17.3	91.13	-452.1	621.7	426.1	399.3	26.81	15.895		
6,400.0	6,362.7	6,423.9	6,362.7	14.0	17.4	91.13	-452.1	621.7	426.1	399.0	27.10	15.726		
6,500.0	6,462.7	6,523.9	6,462.7	14.1	17.5	91.13	-452.1	621.7	426.1	398.7	27.38	15.561		
6,600.0	6,562.7	6,623.9	6,562.7	14.3	17.6	91.13	-452.1	621.7	426.1	398.5	27.67	15.398		
6,700.0	6,662.7	6,723.9	6,662.7	14.4	17.8	91.13	-452.1	621.7	426.1	398.2	27.97	15.237		
6,800.0	6,762.7	6,824.5	6,763.2	14.6	17.8	90.69	-448.9	621.7	426.1	397.8	28.26	15.075		
6,841.9	6,804.6	6,866.2	6,804.6	14.6	17.8	90.00	-443.7	621.7	426.0	397.6	28.42	14.991		
6,900.0	6,862.7	6,922.8	6,860.1	14.7	17.8	88.54	-432.8	621.7	426.2	397.5	28.66	14.869		
6,952.1	6,914.8	6,971.8	6,907.4	14.8	17.7	86.80	-419.8	621.7	426.8	397.9	28.90	14.768		
7,000.0	6,962.6	7,015.6	6,948.8	14.8	17.7	84.99	-405.6	621.7	427.8	398.7	29.08	14.710		
7,050.0	7,012.4	7,060.6	6,990.3	14.8	17.6	83.14	-388.3	621.7	429.4	400.2	29.20	14.702		
7,100.0	7,061.6	7,104.9	7,030.0	14.8	17.5	81.34	-368.8	621.7	431.3	402.1	29.25	14.746		
7,150.0	7,110.2	7,150.0	7,069.2	14.8	17.5	79.55	-346.4	621.7	433.7	404.5	29.23	14.839		
7,200.0	7,157.7	7,191.4	7,103.9	14.7	17.4	77.93	-323.8	621.7	436.3	407.2	29.13	14.981		
7,250.0	7,204.2	7,233.8	7,138.0	14.6	17.3	76.32	-298.6	621.7	439.3	410.3	28.96	15.168		
7,300.0	7,249.2	7,275.7	7,170.1	14.5	17.2	74.80	-271.7	621.7	442.4	413.6	28.73	15.396		
7,350.0	7,292.5	7,317.1	7,200.2	14.4	17.1	73.35	-243.3	621.7	445.6	417.2	28.45	15.662		
7,400.0	7,334.0	7,358.1	7,228.4	14.3	17.1	71.99	-213.6	621.7	449.0	420.9	28.13	15.961		
7,450.0	7,373.5	7,400.0	7,255.5	14.2	17.0	70.69	-181.6	621.7	452.4	424.6	27.78	16.286		
7,500.0	7,410.8	7,438.9	7,278.8	14.1	17.0	69.54	-150.5	621.7	455.7	428.3	27.41	16.623		
7,550.0	7,445.6	7,478.8	7,301.0	14.0	17.0	68.45	-117.3	621.7	459.0	431.9	27.05	16.966		
7,600.0	7,477.9	7,518.4	7,321.2	13.9	17.0	67.45	-83.2	621.7	462.1	435.4	26.71	17.302		
7,650.0	7,507.4	7,557.8	7,339.3	13.9	17.0	66.55	-48.3	621.7	465.1	438.7	26.40	17.622		
7,700.0	7,534.0	7,600.0	7,356.6	13.9	17.1	65.69	-9.8	621.7	467.9	441.8	26.18	17.877		
7,750.0	7,557.6	7,635.8	7,369.5	13.9	17.1	65.02	23.7	621.7	470.5	444.4	26.04	18.068		
7,800.0	7,578.0	7,674.6	7,381.5	14.0	17.2	64.41	60.5	621.7	472.8	446.8	25.98	18.196		
7,850.0	7,595.3	7,713.2	7,391.4	14.2	17.3	63.88	97.8	621.7	474.7	448.7	26.04	18.231		
7,900.0	7,609.2	7,750.0	7,399.1	14.3	17.5	63.46	133.8	621.7	476.4	450.2	26.22	18.169		
7,950.0	7,619.7	7,790.1	7,405.2	14.6	17.6	63.11	173.4	621.7	477.7	451.2	26.55	17.990		
8,000.0	7,626.9	7,828.4	7,409.1	14.9	17.8	62.87	211.6	621.7	478.7	451.7	27.02	17.715		
8,050.0	7,630.5	7,866.7	7,410.9	15.2	18.1	62.72	249.8	621.7	479.3	451.6	27.62	17.353		
8,077.1	7,631.0	7,889.5	7,411.0	15.4	18.2	62.68	272.5	621.7	479.4	451.4	28.01	17.114		
8,100.0	7,631.0	7,912.3	7,411.0	15.6	18.3	62.68	295.4	621.7	479.4	451.1	28.34	16.916		
8,200.0	7,631.0	8,012.3	7,411.0	16.4	19.1	62.68	395.4	621.7	479.4	449.5	29.91	16.029		
8,300.0	7,631.0	8,112.3	7,411.0	17.4	19.9	62.68	495.4	621.7	479.4	447.7	31.71	15.120		
8,400.0	7,631.0	8,212.3	7,411.0	18.5	20.9	62.68	595.4	621.7	479.4	445.7	33.70	14.227		
8,500.0	7,631.0	8,312.3	7,411.0	19.7	22.0	62.68	695.4	621.7	479.4	443.5	35.85	13.372		
8,600.0	7,631.0	8,412.3	7,411.0	21.0	23.1	62.68	795.4	621.6	479.4	441.2	38.14	12.570		
8,700.0	7,631.0	8,512.3	7,411.0	22.4	24.4	62.68	895.4	621.6	479.4	438.8	40.54	11.826		

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 4F-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 4F-14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
8,800.0	7,631.0	8,612.3	7,411.0	23.7	25.7	62.68	995.4	621.6	479.3	436.3	43.03	11.141		
8,900.0	7,631.0	8,712.3	7,411.0	25.2	27.0	62.68	1,095.4	621.6	479.3	433.7	45.60	10.513		
9,000.0	7,631.0	8,812.3	7,411.0	26.7	28.4	62.68	1,195.4	621.6	479.3	431.1	48.23	9.938		
9,100.0	7,631.0	8,912.3	7,411.0	28.2	29.8	62.68	1,295.4	621.6	479.3	428.4	50.92	9.413		
9,200.0	7,631.0	9,012.3	7,411.0	29.7	31.3	62.68	1,395.4	621.6	479.3	425.6	53.66	8.933		
9,300.0	7,631.0	9,112.3	7,411.0	31.3	32.8	62.68	1,495.4	621.6	479.3	422.9	56.43	8.493		
9,400.0	7,631.0	9,212.3	7,411.0	32.9	34.3	62.68	1,595.4	621.6	479.3	420.0	59.24	8.090		
9,500.0	7,631.0	9,312.3	7,411.0	34.5	35.8	62.68	1,695.4	621.6	479.3	417.2	62.08	7.720		
9,600.0	7,631.0	9,412.3	7,411.0	36.1	37.4	62.67	1,795.4	621.6	479.3	414.3	64.95	7.379		
9,700.0	7,631.0	9,512.3	7,411.0	37.7	38.9	62.67	1,895.4	621.6	479.2	411.4	67.84	7.064		
9,800.0	7,631.0	9,612.3	7,411.0	39.3	40.5	62.67	1,995.4	621.6	479.2	408.5	70.75	6.774		
9,900.0	7,631.0	9,712.3	7,411.0	41.0	42.1	62.67	2,095.4	621.6	479.2	405.6	73.67	6.505		
10,000.0	7,631.0	9,812.3	7,411.0	42.6	43.7	62.67	2,195.4	621.6	479.2	402.6	76.61	6.255		
10,100.0	7,631.0	9,912.3	7,411.0	44.3	45.4	62.67	2,295.4	621.6	479.2	399.6	79.57	6.022		
10,200.0	7,631.0	10,012.3	7,411.0	46.0	47.0	62.67	2,395.4	621.5	479.2	396.7	82.54	5.806		
10,300.0	7,631.0	10,112.3	7,411.0	47.6	48.6	62.67	2,495.4	621.5	479.2	393.7	85.51	5.604		
10,400.0	7,631.0	10,212.3	7,411.0	49.3	50.3	62.67	2,595.4	621.5	479.2	390.7	88.50	5.414		
10,500.0	7,631.0	10,312.3	7,411.0	51.0	51.9	62.67	2,695.4	621.5	479.2	387.7	91.50	5.237		
10,600.0	7,631.0	10,412.3	7,411.0	52.7	53.6	62.67	2,795.4	621.5	479.2	384.6	94.50	5.070		
10,700.0	7,631.0	10,512.3	7,411.0	54.4	55.3	62.67	2,895.4	621.5	479.1	381.6	97.52	4.913		
10,800.0	7,631.0	10,612.3	7,411.0	56.1	56.9	62.67	2,995.4	621.5	479.1	378.6	100.53	4.766		
10,900.0	7,631.0	10,712.3	7,411.0	57.8	58.6	62.67	3,095.4	621.5	479.1	375.6	103.56	4.627		
11,000.0	7,631.0	10,812.3	7,411.0	59.5	60.3	62.67	3,195.4	621.5	479.1	372.5	106.59	4.495		
11,100.0	7,631.0	10,912.3	7,411.0	61.2	62.0	62.66	3,295.4	621.5	479.1	369.5	109.63	4.370		
11,200.0	7,631.0	11,012.3	7,411.0	62.9	63.7	62.66	3,395.4	621.5	479.1	366.4	112.67	4.252		
11,300.0	7,631.0	11,112.3	7,411.0	64.6	65.4	62.66	3,495.4	621.5	479.1	363.4	115.71	4.140		
11,400.0	7,631.0	11,212.3	7,411.0	66.3	67.0	62.66	3,595.4	621.5	479.1	360.3	118.76	4.034		
11,500.0	7,631.0	11,312.3	7,411.0	68.0	68.7	62.66	3,695.4	621.5	479.1	357.2	121.81	3.933		
11,600.0	7,631.0	11,412.3	7,411.0	69.8	70.4	62.66	3,795.4	621.5	479.0	354.2	124.86	3.837		
11,700.0	7,631.0	11,512.3	7,411.0	71.5	72.2	62.66	3,895.4	621.4	479.0	351.1	127.92	3.745		
11,800.0	7,631.0	11,612.3	7,411.0	73.2	73.9	62.66	3,995.4	621.4	479.0	348.0	130.98	3.657		
11,900.0	7,631.0	11,712.3	7,411.0	74.9	75.6	62.66	4,095.4	621.4	479.0	345.0	134.05	3.573		
12,000.0	7,631.0	11,812.3	7,411.0	76.6	77.3	62.66	4,195.4	621.4	479.0	341.9	137.11	3.493		
12,100.0	7,631.0	11,912.3	7,411.0	78.4	79.0	62.66	4,295.4	621.4	479.0	338.8	140.18	3.417		
12,145.1	7,631.0	11,957.4	7,411.0	79.1	79.8	62.66	4,340.5	621.4	479.0	337.4	141.57	3.383		
12,161.4	7,631.0	11,970.0	7,411.0	79.4	80.0	62.66	4,353.1	621.4	479.0	337.0	142.01	3.373 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4F-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 4F-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

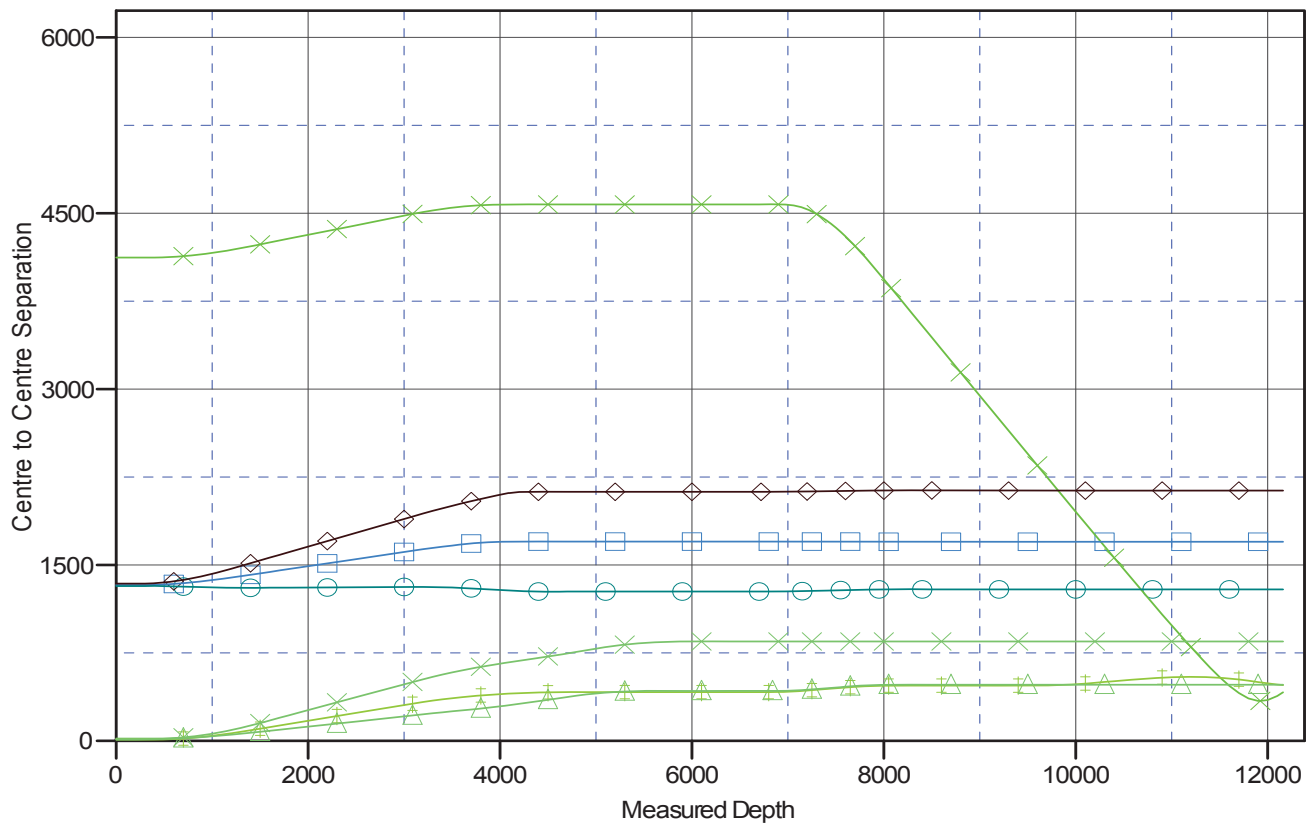
Central Meridian is -105.500000 °

Coordinates are relative to: Mathews 4F-14H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.49°

Ladder Plot



LEGEND

, Mathews 1 (Existing), VT (Existing), Existing V0
4H, HZ, Plan #3 V0
4H, HZ, Plan #3 V0

✕ Mathews4D-14H, HZ, Plan #3 V0
✕ Mathews4E-14H, HZ, Plan #3 V0
△ Mathews4G-14H, HZ, Plan #3 V0

◆ Mathews4A-14H, HZ, Plan #3 V0