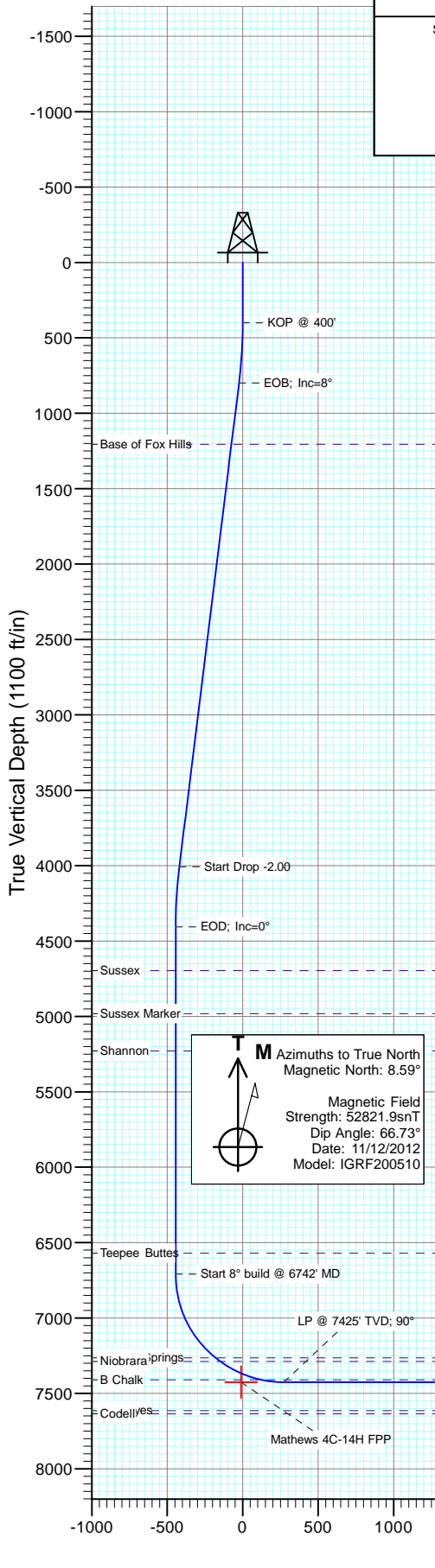
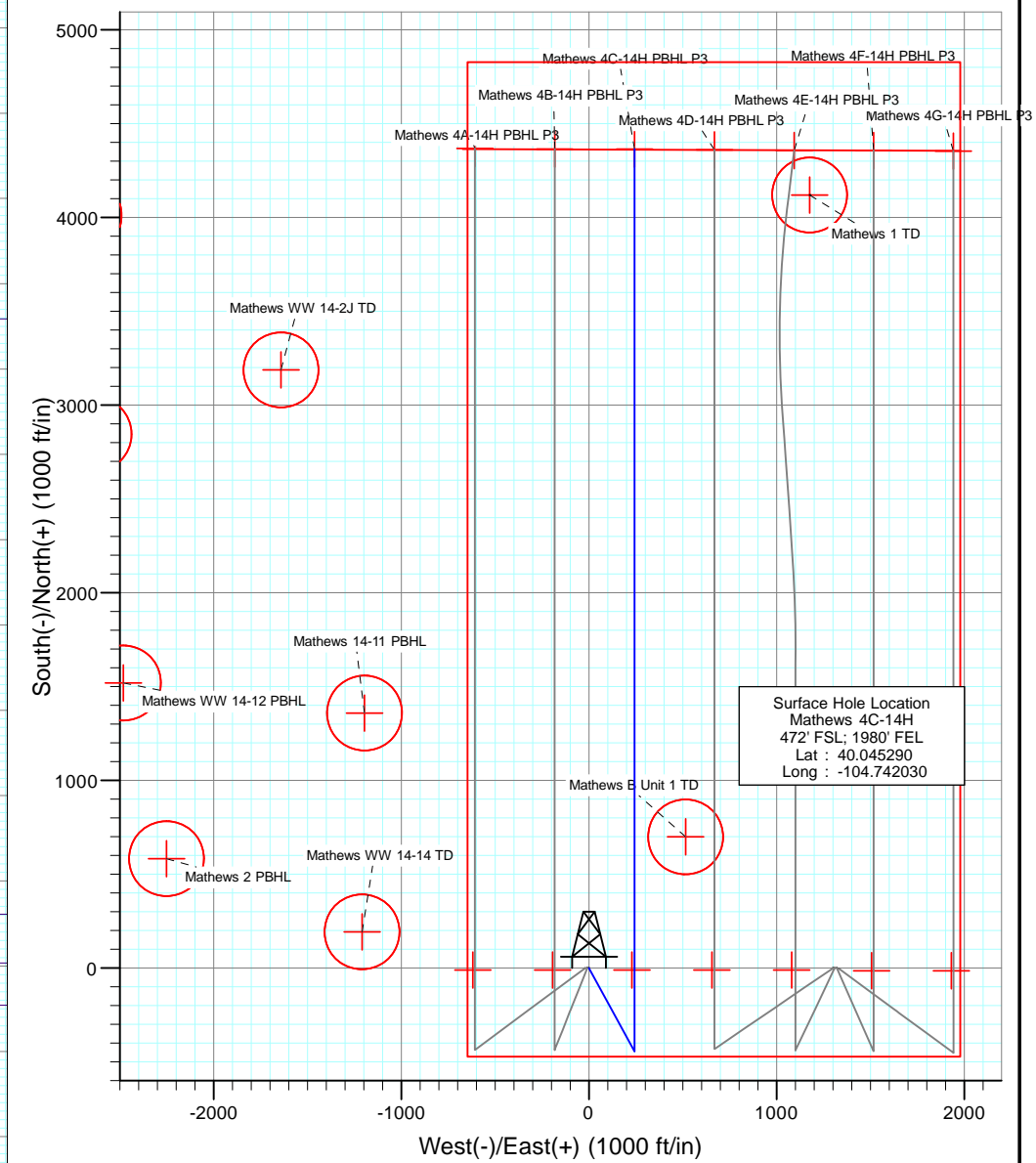




Project: DJ Wattenberg
Site: SWSE S14 T1N-R66W (Mathews)
Well: Mathews 4C-14H
Wellbore: HZ
Design: Plan #3



SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		KOP @ 400'
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0		EOB, Inc=8°
3	800.0	8.00	151.30	798.7	-24.5	13.4	2.00	151.30	-24.5		Start Drop -2.00
4	4040.0	8.00	151.30	4007.2	-420.0	228.9	0.00	0.00	-420.0		EOD, Inc=0°
5	4440.0	0.00	0.00	4405.9	-444.4	243.3	2.00	180.00	-444.4		Start 8° build @ 6742' MD
6	6742.9	0.00	0.00	6708.8	-444.4	243.3	0.00	0.00	-444.4		LP @ 7425' TVD; 90°
7	7867.9	90.00	0.00	7425.0	271.8	243.4	8.00	0.00	271.8		
8	11960.2	90.00	0.00	7425.0	4364.0	243.5	0.00	0.00	4364.0	Mathews 4C-14H PBHL P3	PBHL @ 11960' MD



DESIGN TARGET DETAILS					
Name	+N/-S	+E/-W	Northing	Easting	Latitude
Mathews 4C-14H FPP	-10.9	229.6	1260245.33	3212440.50	40.045260
Mathews 4C-14H PBHL P3	4364.0	243.5	1264620.25	3212417.06	40.057270
					-104.741160

Plan #3
Mathews 4C-14H
Well @ 5131.0ft (Ensign)
Ground Elevation @ 5118.0
North American Datum 1983
Well Mathews 4C-14H, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4C-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5131.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5131.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4C-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 4C-14H					
Well Position	+N/-S	0.0 ft	Northing:	1,260,254.28 ft	Latitude:	40.045290
	+E/-W	0.0 ft	Easting:	3,212,210.84 ft	Longitude:	-104.742030
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,118.0 ft

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

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	8.00	151.30	798.7	-24.5	13.4	2.00	2.00	0.00	151.30	
4,040.0	8.00	151.30	4,007.2	-420.0	229.9	0.00	0.00	0.00	0.00	
4,440.0	0.00	0.00	4,405.9	-444.4	243.3	2.00	-2.00	0.00	180.00	
6,742.9	0.00	0.00	6,708.8	-444.4	243.3	0.00	0.00	0.00	0.00	
7,867.9	90.00	0.00	7,425.0	271.8	243.4	8.00	8.00	0.00	0.00	
11,960.2	90.00	0.00	7,425.0	4,364.0	243.5	0.00	0.00	0.00	0.00	Mathews 4C-14H PBI

Cathedral Energy Services

Planning Report

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

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
500.0	2.00	151.30	500.0	-1.5	0.8	-1.5	2.00	2.00	
600.0	4.00	151.30	599.8	-6.1	3.4	-6.1	2.00	2.00	
700.0	6.00	151.30	699.5	-13.8	7.5	-13.8	2.00	2.00	
800.0	8.00	151.30	798.7	-24.5	13.4	-24.5	2.00	2.00	EOB; Inc=8°
900.0	8.00	151.30	897.7	-36.7	20.1	-36.7	0.00	0.00	
1,000.0	8.00	151.30	996.8	-48.9	26.8	-48.9	0.00	0.00	
1,100.0	8.00	151.30	1,095.8	-61.1	33.4	-61.1	0.00	0.00	
1,200.0	8.00	151.30	1,194.8	-73.3	40.1	-73.3	0.00	0.00	
1,211.3	8.00	151.30	1,206.0	-74.7	40.9	-74.7	0.00	0.00	Base of Fox Hills
1,300.0	8.00	151.30	1,293.8	-85.5	46.8	-85.5	0.00	0.00	
1,400.0	8.00	151.30	1,392.9	-97.7	53.5	-97.7	0.00	0.00	
1,500.0	8.00	151.30	1,491.9	-109.9	60.2	-109.9	0.00	0.00	
1,600.0	8.00	151.30	1,590.9	-122.1	66.9	-122.1	0.00	0.00	
1,700.0	8.00	151.30	1,689.9	-134.3	73.5	-134.3	0.00	0.00	
1,800.0	8.00	151.30	1,789.0	-146.5	80.2	-146.5	0.00	0.00	
1,900.0	8.00	151.30	1,888.0	-158.7	86.9	-158.7	0.00	0.00	
2,000.0	8.00	151.30	1,987.0	-170.9	93.6	-170.9	0.00	0.00	
2,100.0	8.00	151.30	2,086.1	-183.2	100.3	-183.2	0.00	0.00	
2,200.0	8.00	151.30	2,185.1	-195.4	107.0	-195.4	0.00	0.00	
2,300.0	8.00	151.30	2,284.1	-207.6	113.6	-207.6	0.00	0.00	
2,400.0	8.00	151.30	2,383.1	-219.8	120.3	-219.8	0.00	0.00	
2,500.0	8.00	151.30	2,482.2	-232.0	127.0	-232.0	0.00	0.00	
2,600.0	8.00	151.30	2,581.2	-244.2	133.7	-244.2	0.00	0.00	
2,700.0	8.00	151.30	2,680.2	-256.4	140.4	-256.4	0.00	0.00	
2,800.0	8.00	151.30	2,779.2	-268.6	147.1	-268.6	0.00	0.00	
2,900.0	8.00	151.30	2,878.3	-280.8	153.7	-280.8	0.00	0.00	
3,000.0	8.00	151.30	2,977.3	-293.0	160.4	-293.0	0.00	0.00	
3,100.0	8.00	151.30	3,076.3	-305.2	167.1	-305.2	0.00	0.00	
3,200.0	8.00	151.30	3,175.3	-317.4	173.8	-317.4	0.00	0.00	
3,300.0	8.00	151.30	3,274.4	-329.6	180.5	-329.6	0.00	0.00	
3,400.0	8.00	151.30	3,373.4	-341.9	187.2	-341.9	0.00	0.00	
3,500.0	8.00	151.30	3,472.4	-354.1	193.8	-354.1	0.00	0.00	
3,600.0	8.00	151.30	3,571.5	-366.3	200.5	-366.3	0.00	0.00	
3,700.0	8.00	151.30	3,670.5	-378.5	207.2	-378.5	0.00	0.00	
3,800.0	8.00	151.30	3,769.5	-390.7	213.9	-390.7	0.00	0.00	
3,900.0	8.00	151.30	3,868.5	-402.9	220.6	-402.9	0.00	0.00	
4,000.0	8.00	151.30	3,967.6	-415.1	227.3	-415.1	0.00	0.00	
4,040.0	8.00	151.30	4,007.2	-420.0	229.9	-420.0	0.00	0.00	Start Drop -2.00
4,100.0	6.80	151.30	4,066.7	-426.8	233.6	-426.8	2.00	-2.00	
4,200.0	4.80	151.30	4,166.2	-435.6	238.5	-435.6	2.00	-2.00	
4,300.0	2.80	151.30	4,265.9	-441.4	241.7	-441.4	2.00	-2.00	
4,400.0	0.80	151.30	4,365.9	-444.2	243.2	-444.2	2.00	-2.00	
4,440.0	0.00	0.00	4,405.9	-444.4	243.3	-444.4	2.00	-2.00	EOD; Inc=0°
4,500.0	0.00	0.00	4,465.9	-444.4	243.3	-444.4	0.00	0.00	
4,600.0	0.00	0.00	4,565.9	-444.4	243.3	-444.4	0.00	0.00	
4,700.0	0.00	0.00	4,665.9	-444.4	243.3	-444.4	0.00	0.00	
4,730.1	0.00	0.00	4,696.0	-444.4	243.3	-444.4	0.00	0.00	Sussex

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4C-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5131.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5131.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4C-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	4,765.9	-444.4	243.3	-444.4	0.00	0.00	
4,900.0	0.00	0.00	4,865.9	-444.4	243.3	-444.4	0.00	0.00	
5,000.0	0.00	0.00	4,965.9	-444.4	243.3	-444.4	0.00	0.00	
5,016.1	0.00	0.00	4,982.0	-444.4	243.3	-444.4	0.00	0.00	Sussex Marker
5,100.0	0.00	0.00	5,065.9	-444.4	243.3	-444.4	0.00	0.00	
5,200.0	0.00	0.00	5,165.9	-444.4	243.3	-444.4	0.00	0.00	
5,263.1	0.00	0.00	5,229.0	-444.4	243.3	-444.4	0.00	0.00	Shannon
5,300.0	0.00	0.00	5,265.9	-444.4	243.3	-444.4	0.00	0.00	
5,400.0	0.00	0.00	5,365.9	-444.4	243.3	-444.4	0.00	0.00	
5,500.0	0.00	0.00	5,465.9	-444.4	243.3	-444.4	0.00	0.00	
5,600.0	0.00	0.00	5,565.9	-444.4	243.3	-444.4	0.00	0.00	
5,700.0	0.00	0.00	5,665.9	-444.4	243.3	-444.4	0.00	0.00	
5,800.0	0.00	0.00	5,765.9	-444.4	243.3	-444.4	0.00	0.00	
5,900.0	0.00	0.00	5,865.9	-444.4	243.3	-444.4	0.00	0.00	
6,000.0	0.00	0.00	5,965.9	-444.4	243.3	-444.4	0.00	0.00	
6,100.0	0.00	0.00	6,065.9	-444.4	243.3	-444.4	0.00	0.00	
6,200.0	0.00	0.00	6,165.9	-444.4	243.3	-444.4	0.00	0.00	
6,300.0	0.00	0.00	6,265.9	-444.4	243.3	-444.4	0.00	0.00	
6,400.0	0.00	0.00	6,365.9	-444.4	243.3	-444.4	0.00	0.00	
6,500.0	0.00	0.00	6,465.9	-444.4	243.3	-444.4	0.00	0.00	
6,600.0	0.00	0.00	6,565.9	-444.4	243.3	-444.4	0.00	0.00	
6,604.1	0.00	0.00	6,570.0	-444.4	243.3	-444.4	0.00	0.00	Teepee Buttes
6,700.0	0.00	0.00	6,665.9	-444.4	243.3	-444.4	0.00	0.00	
6,742.9	0.00	0.00	6,708.8	-444.4	243.3	-444.4	0.00	0.00	Start 8° build @ 6742' MD
6,800.0	4.57	0.00	6,765.8	-442.2	243.3	-442.2	8.00	8.00	
6,900.0	12.57	0.00	6,864.6	-427.3	243.3	-427.3	8.00	8.00	
7,000.0	20.57	0.00	6,960.4	-398.8	243.3	-398.8	8.00	8.00	
7,100.0	28.57	0.00	7,051.3	-357.3	243.3	-357.3	8.00	8.00	
7,200.0	36.57	0.00	7,135.5	-303.5	243.3	-303.5	8.00	8.00	
7,300.0	44.57	0.00	7,211.4	-238.5	243.3	-238.5	8.00	8.00	
7,378.2	50.82	0.00	7,264.0	-180.7	243.3	-180.7	8.00	8.00	Sharon Springs
7,400.0	52.57	0.00	7,277.5	-163.6	243.3	-163.6	8.00	8.00	
7,415.9	53.83	0.00	7,287.0	-150.9	243.3	-150.9	8.00	8.00	Niobrara
7,500.0	60.57	0.00	7,332.6	-80.2	243.3	-80.2	8.00	8.00	
7,600.0	68.57	0.00	7,375.5	10.0	243.3	10.0	8.00	8.00	
7,700.0	76.57	0.00	7,405.4	105.4	243.3	105.4	8.00	8.00	
7,721.1	78.25	0.00	7,410.0	126.0	243.3	126.0	8.00	8.00	B Chalk
7,800.0	84.57	0.00	7,421.8	203.9	243.3	203.9	8.00	8.00	
7,867.9	90.00	0.00	7,425.0	271.8	243.4	271.8	8.00	8.00	LP @ 7425' TVD; 90°
7,900.0	90.00	0.00	7,425.0	303.8	243.4	303.8	0.00	0.00	
8,000.0	90.00	0.00	7,425.0	403.8	243.4	403.8	0.00	0.00	
8,100.0	90.00	0.00	7,425.0	503.8	243.4	503.8	0.00	0.00	
8,200.0	90.00	0.00	7,425.0	603.8	243.4	603.8	0.00	0.00	
8,300.0	90.00	0.00	7,425.0	703.8	243.4	703.8	0.00	0.00	
8,400.0	90.00	0.00	7,425.0	803.8	243.4	803.8	0.00	0.00	
8,500.0	90.00	0.00	7,425.0	903.8	243.4	903.8	0.00	0.00	
8,600.0	90.00	0.00	7,425.0	1,003.8	243.4	1,003.8	0.00	0.00	
8,700.0	90.00	0.00	7,425.0	1,103.8	243.4	1,103.8	0.00	0.00	
8,800.0	90.00	0.00	7,425.0	1,203.8	243.4	1,203.8	0.00	0.00	
8,900.0	90.00	0.00	7,425.0	1,303.8	243.4	1,303.8	0.00	0.00	
9,000.0	90.00	0.00	7,425.0	1,403.8	243.4	1,403.8	0.00	0.00	
9,100.0	90.00	0.00	7,425.0	1,503.8	243.4	1,503.8	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Mathews 4C-14H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	Well @ 5131.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	Well @ 5131.0ft (Ensign)
Site:	SWSE S14 T1N-R66W (Mathews)	North Reference:	True
Well:	Mathews 4C-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
9,200.0	90.00	0.00	7,425.0	1,603.8	243.4	1,603.8	0.00	0.00	
9,300.0	90.00	0.00	7,425.0	1,703.8	243.4	1,703.8	0.00	0.00	
9,400.0	90.00	0.00	7,425.0	1,803.8	243.4	1,803.8	0.00	0.00	
9,500.0	90.00	0.00	7,425.0	1,903.8	243.4	1,903.8	0.00	0.00	
9,600.0	90.00	0.00	7,425.0	2,003.8	243.4	2,003.8	0.00	0.00	
9,700.0	90.00	0.00	7,425.0	2,103.8	243.4	2,103.8	0.00	0.00	
9,800.0	90.00	0.00	7,425.0	2,203.8	243.4	2,203.8	0.00	0.00	
9,900.0	90.00	0.00	7,425.0	2,303.8	243.4	2,303.8	0.00	0.00	
10,000.0	90.00	0.00	7,425.0	2,403.8	243.4	2,403.8	0.00	0.00	
10,100.0	90.00	0.00	7,425.0	2,503.8	243.4	2,503.8	0.00	0.00	
10,200.0	90.00	0.00	7,425.0	2,603.8	243.5	2,603.8	0.00	0.00	
10,300.0	90.00	0.00	7,425.0	2,703.8	243.5	2,703.8	0.00	0.00	
10,400.0	90.00	0.00	7,425.0	2,803.8	243.5	2,803.8	0.00	0.00	
10,500.0	90.00	0.00	7,425.0	2,903.8	243.5	2,903.8	0.00	0.00	
10,600.0	90.00	0.00	7,425.0	3,003.8	243.5	3,003.8	0.00	0.00	
10,700.0	90.00	0.00	7,425.0	3,103.8	243.5	3,103.8	0.00	0.00	
10,800.0	90.00	0.00	7,425.0	3,203.8	243.5	3,203.8	0.00	0.00	
10,900.0	90.00	0.00	7,425.0	3,303.8	243.5	3,303.8	0.00	0.00	
11,000.0	90.00	0.00	7,425.0	3,403.8	243.5	3,403.8	0.00	0.00	
11,100.0	90.00	0.00	7,425.0	3,503.8	243.5	3,503.8	0.00	0.00	
11,200.0	90.00	0.00	7,425.0	3,603.8	243.5	3,603.8	0.00	0.00	
11,300.0	90.00	0.00	7,425.0	3,703.8	243.5	3,703.8	0.00	0.00	
11,400.0	90.00	0.00	7,425.0	3,803.8	243.5	3,803.8	0.00	0.00	
11,500.0	90.00	0.00	7,425.0	3,903.8	243.5	3,903.8	0.00	0.00	
11,600.0	90.00	0.00	7,425.0	4,003.8	243.5	4,003.8	0.00	0.00	
11,700.0	90.00	0.00	7,425.0	4,103.8	243.5	4,103.8	0.00	0.00	
11,800.0	90.00	0.00	7,425.0	4,203.8	243.5	4,203.8	0.00	0.00	
11,900.0	90.00	0.00	7,425.0	4,303.8	243.5	4,303.8	0.00	0.00	
11,960.2	90.00	0.00	7,425.0	4,364.0	243.5	4,364.0	0.00	0.00	PBHL @ 11960' 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 4C-14H PBHL	0.00	0.00	7,425.0	7,026.9	249.1	1,267,283.06	3,212,399.87	40.064580	-104.741140
- plan misses target center by 2662.9ft at 11960.2ft MD (7425.0 TVD, 4364.0 N, 243.5 E)									
- Point									
Mathews 4C-14H FPP	0.00	0.00	7,425.0	-10.9	229.6	1,260,245.33	3,212,440.50	40.045260	-104.741210
- plan misses target center by 55.5ft at 7600.0ft MD (7375.5 TVD, 10.0 N, 243.3 E)									
- Point									
Mathews 4C-14H PBHL	0.00	0.00	7,425.0	4,364.0	243.5	1,264,620.25	3,212,417.06	40.057270	-104.741160
- plan hits target center									
- Point									

Cathedral Energy Services

Planning Report

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

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,211.3	1,206.0	Base of Fox Hills		0.00	
4,730.1	4,696.0	Sussex		0.00	
5,016.1	4,982.0	Sussex Marker		0.00	
5,263.1	5,229.0	Shannon		0.00	
6,604.1	6,570.0	Teepee Buttes		0.00	
7,378.2	7,264.0	Sharon Springs		0.00	
7,415.9	7,287.0	Niobrara		0.00	
7,721.1	7,410.0	B Chalk		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	KOP @ 400'
800.0	798.7	-24.5	13.4	EOB; Inc=8°
4,040.0	4,007.2	-420.0	229.9	Start Drop -2.00
4,440.0	4,405.9	-444.4	243.3	EOD; Inc=0°
6,742.9	6,708.8	-444.4	243.3	Start 8° build @ 6742' MD
7,867.9	7,425.0	271.8	243.4	LP @ 7425' TVD; 90°
11,960.2	7,425.0	4,364.0	243.5	PBHL @ 11960' MD

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

SWSE S14 T1N-R66W (Mathews)

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

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

Survey Tool Program		Date	12/27/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,960.2	Plan #3 (HZ)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SWSE S14 T1N-R66W (Mathews)						
05-123-07177, Mathews 1 (Exisitng) - VT (Existing) - Exis	11,715.8	7,413.0	932.7	844.6	10.591	CC, ES
05-123-07177, Mathews 1 (Exisitng) - VT (Existing) - Exis	11,900.0	7,413.0	950.7	859.5	10.419	SF
Mathews 4A-14H - HZ - Plan #3	200.0	200.0	19.6	18.9	30.023	CC, ES
Mathews 4A-14H - HZ - Plan #3	11,961.1	11,991.7	851.0	692.2	5.359	SF
Mathews 4B-14H - HZ - Plan #3	300.0	300.0	8.4	7.4	8.384	CC, ES
Mathews 4B-14H - HZ - Plan #3	11,961.1	12,170.4	479.0	336.9	3.370	SF
Mathews 4D-14H - HZ - Plan #3	6,880.3	6,893.2	426.3	398.0	15.058	CC
Mathews 4D-14H - HZ - Plan #3	11,961.1	12,177.2	479.0	336.9	3.370	ES, SF
Mathews 4E-14H - HZ - Plan #3	10,970.5	10,951.9	773.1	648.4	6.203	CC
Mathews 4E-14H - HZ - Plan #3	11,200.0	11,153.9	777.1	645.1	5.885	ES
Mathews 4E-14H - HZ - Plan #3	11,961.1	11,841.7	845.5	688.5	5.385	SF
Mathews 4F-14H - HZ - Plan #3	6,777.9	6,767.0	1,273.8	1,245.6	45.124	CC
Mathews 4F-14H - HZ - Plan #3	11,961.1	12,161.4	1,292.5	1,136.0	8.257	ES, SF
Mathews 4G-14H - HZ - Plan #3	200.0	186.0	1,332.7	1,332.0	2,120.982	CC, ES
Mathews 4G-14H - HZ - Plan #3	11,961.1	11,970.0	1,699.1	1,540.5	10.710	SF

Cathedral Energy Services

Anticollision Report

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

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	15.94	4,119.6	1,176.2	4,284.3					
100.0	100.0	88.0	88.0	0.2	0.1	15.94	4,119.6	1,176.2	4,284.3	4,284.0	0.29	N/A		
200.0	200.0	188.0	188.0	0.3	0.3	15.94	4,119.6	1,176.2	4,284.3	4,283.6	0.63	6,780.935		
300.0	300.0	288.0	288.0	0.5	0.5	15.94	4,119.6	1,176.2	4,284.3	4,283.3	0.98	4,367.792		
400.0	400.0	388.0	388.0	0.7	0.7	15.94	4,119.6	1,176.2	4,284.3	4,282.9	1.33	3,221.390		
500.0	500.0	488.0	488.0	0.9	0.8	-135.36	4,119.6	1,176.2	4,285.5	4,283.8	1.68	2,551.314		
600.0	599.8	587.8	587.8	1.0	1.0	-135.36	4,119.6	1,176.2	4,289.2	4,287.2	2.03	2,108.393		
700.0	699.5	687.5	687.5	1.3	1.2	-135.35	4,119.6	1,176.2	4,295.4	4,293.0	2.40	1,789.919		
800.0	798.7	786.7	786.7	1.5	1.4	-135.35	4,119.6	1,176.2	4,304.1	4,301.4	2.78	1,547.060		
900.0	897.7	885.7	885.7	1.8	1.5	-135.47	4,119.6	1,176.2	4,314.1	4,310.9	3.18	1,358.514		
1,000.0	996.8	984.8	984.8	2.0	1.7	-135.60	4,119.6	1,176.2	4,324.1	4,320.5	3.57	1,209.779		
1,100.0	1,095.8	1,083.8	1,083.8	2.3	1.9	-135.73	4,119.6	1,176.2	4,334.1	4,330.1	3.98	1,089.980		
1,200.0	1,194.8	1,182.8	1,182.8	2.6	2.0	-135.86	4,119.6	1,176.2	4,344.1	4,339.7	4.38	991.688		
1,300.0	1,293.8	1,281.8	1,281.8	2.9	2.2	-135.99	4,119.6	1,176.2	4,354.2	4,349.4	4.79	909.732		
1,400.0	1,392.9	1,380.9	1,380.9	3.2	2.4	-136.11	4,119.6	1,176.2	4,364.2	4,359.0	5.19	840.432		
1,500.0	1,491.9	1,479.9	1,479.9	3.5	2.6	-136.24	4,119.6	1,176.2	4,374.3	4,368.7	5.60	781.115		
1,600.0	1,590.9	1,578.9	1,578.9	3.8	2.7	-136.36	4,119.6	1,176.2	4,384.4	4,378.4	6.01	729.800		
1,700.0	1,689.9	1,677.9	1,677.9	4.1	2.9	-136.49	4,119.6	1,176.2	4,394.5	4,388.1	6.42	684.989		
1,800.0	1,789.0	1,777.0	1,777.0	4.4	3.1	-136.61	4,119.6	1,176.2	4,404.7	4,397.9	6.82	645.533		
1,900.0	1,888.0	1,876.0	1,876.0	4.7	3.3	-136.74	4,119.6	1,176.2	4,414.9	4,407.6	7.23	610.534		
2,000.0	1,987.0	1,975.0	1,975.0	4.9	3.4	-136.86	4,119.6	1,176.2	4,425.1	4,417.4	7.64	579.284		
2,100.0	2,086.1	2,074.1	2,074.1	5.2	3.6	-136.98	4,119.6	1,176.2	4,435.3	4,427.2	8.05	551.215		
2,200.0	2,185.1	2,173.1	2,173.1	5.5	3.8	-137.10	4,119.6	1,176.2	4,445.5	4,437.0	8.45	525.870		
2,300.0	2,284.1	2,272.1	2,272.1	5.8	3.9	-137.22	4,119.6	1,176.2	4,455.8	4,446.9	8.86	502.872		
2,400.0	2,383.1	2,371.1	2,371.1	6.1	4.1	-137.34	4,119.6	1,176.2	4,466.0	4,456.8	9.27	481.912		
2,500.0	2,482.2	2,470.2	2,470.2	6.4	4.3	-137.47	4,119.6	1,176.2	4,476.3	4,466.6	9.67	462.731		
2,600.0	2,581.2	2,569.2	2,569.2	6.7	4.5	-137.58	4,119.6	1,176.2	4,486.6	4,476.5	10.08	445.115		
2,700.0	2,680.2	2,668.2	2,668.2	7.0	4.6	-137.70	4,119.6	1,176.2	4,497.0	4,486.5	10.49	428.879		
2,800.0	2,779.2	2,767.2	2,767.2	7.3	4.8	-137.82	4,119.6	1,176.2	4,507.3	4,496.4	10.89	413.869		
2,900.0	2,878.3	2,866.3	2,866.3	7.6	5.0	-137.94	4,119.6	1,176.2	4,517.7	4,506.4	11.30	399.951		
3,000.0	2,977.3	2,965.3	2,965.3	7.9	5.2	-138.06	4,119.6	1,176.2	4,528.1	4,516.4	11.70	387.011		
3,100.0	3,076.3	3,064.3	3,064.3	8.2	5.3	-138.17	4,119.6	1,176.2	4,538.5	4,526.4	12.10	374.949		
3,200.0	3,175.3	3,163.3	3,163.3	8.5	5.5	-138.29	4,119.6	1,176.2	4,548.9	4,536.4	12.51	363.681		
3,300.0	3,274.4	3,262.4	3,262.4	8.8	5.7	-138.41	4,119.6	1,176.2	4,559.3	4,546.4	12.91	353.130		
3,400.0	3,373.4	3,361.4	3,361.4	9.1	5.8	-138.52	4,119.6	1,176.2	4,569.8	4,556.5	13.31	343.230		
3,500.0	3,472.4	3,460.4	3,460.4	9.4	6.0	-138.64	4,119.6	1,176.2	4,580.3	4,566.6	13.72	333.923		
3,600.0	3,571.5	3,559.5	3,559.5	9.7	6.2	-138.75	4,119.6	1,176.2	4,590.8	4,576.7	14.12	325.157		
3,700.0	3,670.5	3,658.5	3,658.5	10.0	6.4	-138.87	4,119.6	1,176.2	4,601.3	4,586.8	14.52	316.888		
3,800.0	3,769.5	3,757.5	3,757.5	10.3	6.5	-138.98	4,119.6	1,176.2	4,611.8	4,596.9	14.92	309.073		
3,900.0	3,868.5	3,856.5	3,856.5	10.6	6.7	-139.09	4,119.6	1,176.2	4,622.4	4,607.1	15.32	301.677		
4,000.0	3,967.6	3,955.6	3,955.6	10.9	6.9	-139.20	4,119.6	1,176.2	4,633.0	4,617.2	15.72	294.668		
4,040.0	4,007.2	3,995.2	3,995.2	11.0	7.0	-139.25	4,119.6	1,176.2	4,637.2	4,621.3	15.88	291.965		
4,100.0	4,066.7	4,054.7	4,054.7	11.2	7.1	-139.39	4,119.6	1,176.2	4,643.1	4,627.0	16.12	288.093		
4,200.0	4,166.2	4,154.2	4,154.2	11.4	7.2	-139.57	4,119.6	1,176.2	4,650.8	4,634.3	16.48	282.184		
4,300.0	4,265.9	4,253.9	4,253.9	11.6	7.4	-139.69	4,119.6	1,176.2	4,655.8	4,639.0	16.82	276.783		
4,400.0	4,365.9	4,353.9	4,353.9	11.7	7.6	-139.74	4,119.6	1,176.2	4,658.2	4,641.1	17.14	271.831		
4,440.0	4,405.9	4,393.9	4,393.9	11.8	7.6	11.55	4,119.6	1,176.2	4,658.4	4,641.2	17.26	269.922		
4,500.0	4,465.9	4,453.9	4,453.9	11.8	7.8	11.55	4,119.6	1,176.2	4,658.4	4,641.0	17.45	266.997		
4,600.0	4,565.9	4,553.9	4,553.9	12.0	7.9	11.55	4,119.6	1,176.2	4,658.4	4,640.7	17.76	262.247		
4,700.0	4,665.9	4,653.9	4,653.9	12.1	8.1	11.55	4,119.6	1,176.2	4,658.4	4,640.4	18.08	257.648		
4,800.0	4,765.9	4,753.9	4,753.9	12.2	8.3	11.55	4,119.6	1,176.2	4,658.4	4,640.0	18.40	253.194		
4,900.0	4,865.9	4,853.9	4,853.9	12.3	8.4	11.55	4,119.6	1,176.2	4,658.4	4,639.7	18.72	248.878		

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

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
5,000.0	4,965.9	4,953.9	4,953.9	12.4	8.6	11.55	4,119.6	1,176.2	4,658.4	4,639.4	19.04	244.695			
5,100.0	5,065.9	5,053.9	5,053.9	12.6	8.8	11.55	4,119.6	1,176.2	4,658.4	4,639.1	19.36	240.640			
5,200.0	5,165.9	5,153.9	5,153.9	12.7	9.0	11.55	4,119.6	1,176.2	4,658.4	4,638.8	19.68	236.706			
5,300.0	5,265.9	5,253.9	5,253.9	12.8	9.1	11.55	4,119.6	1,176.2	4,658.4	4,638.4	20.00	232.890			
5,400.0	5,365.9	5,353.9	5,353.9	12.9	9.3	11.55	4,119.6	1,176.2	4,658.4	4,638.1	20.33	229.186			
5,500.0	5,465.9	5,453.9	5,453.9	13.1	9.5	11.55	4,119.6	1,176.2	4,658.4	4,637.8	20.65	225.590			
5,600.0	5,565.9	5,553.9	5,553.9	13.2	9.7	11.55	4,119.6	1,176.2	4,658.4	4,637.5	20.97	222.097			
5,700.0	5,665.9	5,653.9	5,653.9	13.3	9.8	11.55	4,119.6	1,176.2	4,658.4	4,637.1	21.30	218.704			
5,800.0	5,765.9	5,753.9	5,753.9	13.4	10.0	11.55	4,119.6	1,176.2	4,658.4	4,636.8	21.63	215.406			
5,900.0	5,865.9	5,853.9	5,853.9	13.6	10.2	11.55	4,119.6	1,176.2	4,658.4	4,636.5	21.95	212.200			
6,000.0	5,965.9	5,953.9	5,953.9	13.7	10.4	11.55	4,119.6	1,176.2	4,658.4	4,636.2	22.28	209.083			
6,100.0	6,065.9	6,053.9	6,053.9	13.8	10.5	11.55	4,119.6	1,176.2	4,658.4	4,635.8	22.61	206.050			
6,200.0	6,165.9	6,153.9	6,153.9	14.0	10.7	11.55	4,119.6	1,176.2	4,658.4	4,635.5	22.94	203.099			
6,300.0	6,265.9	6,253.9	6,253.9	14.1	10.9	11.55	4,119.6	1,176.2	4,658.4	4,635.2	23.27	200.227			
6,400.0	6,365.9	6,353.9	6,353.9	14.2	11.1	11.55	4,119.6	1,176.2	4,658.4	4,634.8	23.60	197.430			
6,500.0	6,465.9	6,453.9	6,453.9	14.4	11.2	11.55	4,119.6	1,176.2	4,658.4	4,634.5	23.93	194.706			
6,600.0	6,565.9	6,553.9	6,553.9	14.5	11.4	11.55	4,119.6	1,176.2	4,658.4	4,634.2	24.26	192.053			
6,700.0	6,665.9	6,653.9	6,653.9	14.7	11.6	11.55	4,119.6	1,176.2	4,658.4	4,633.8	24.59	189.467			
6,742.9	6,708.8	6,696.8	6,696.8	14.7	11.7	11.55	4,119.6	1,176.2	4,658.4	4,633.7	24.73	188.377			
6,750.0	6,715.9	6,703.9	6,703.9	14.7	11.7	11.55	4,119.6	1,176.2	4,658.4	4,633.7	24.75	188.233			
6,800.0	6,765.8	6,753.8	6,753.8	14.8	11.8	11.59	4,119.6	1,176.2	4,656.2	4,631.4	24.83	187.512			
6,850.0	6,815.5	6,803.5	6,803.5	14.8	11.9	11.70	4,119.6	1,176.2	4,650.6	4,625.8	24.83	187.265			
6,900.0	6,864.6	6,852.6	6,852.6	14.7	11.9	11.87	4,119.6	1,176.2	4,641.6	4,616.9	24.76	187.486			
6,950.0	6,913.0	6,901.0	6,901.0	14.7	12.0	12.11	4,119.6	1,176.2	4,629.3	4,604.7	24.60	188.168			
7,000.0	6,960.4	6,948.4	6,948.4	14.6	12.1	12.43	4,119.6	1,176.2	4,613.7	4,589.4	24.37	189.306			
7,050.0	7,006.5	6,994.5	6,994.5	14.5	12.2	12.84	4,119.6	1,176.2	4,594.9	4,570.9	24.07	190.894			
7,100.0	7,051.3	7,039.3	7,039.3	14.4	12.3	13.34	4,119.6	1,176.2	4,573.1	4,549.3	23.70	192.919			
7,150.0	7,094.3	7,082.3	7,082.3	14.3	12.3	13.96	4,119.6	1,176.2	4,548.2	4,524.9	23.28	195.356			
7,200.0	7,135.5	7,123.5	7,123.5	14.2	12.4	14.71	4,119.6	1,176.2	4,520.4	4,497.6	22.81	198.165			
7,250.0	7,174.6	7,162.6	7,162.6	14.1	12.5	15.62	4,119.6	1,176.2	4,489.9	4,467.6	22.31	201.276			
7,300.0	7,211.4	7,199.4	7,199.4	14.0	12.5	16.72	4,119.6	1,176.2	4,456.9	4,435.1	21.79	204.570			
7,350.0	7,245.7	7,233.7	7,233.7	13.9	12.6	18.06	4,119.6	1,176.2	4,421.4	4,400.1	21.27	207.858			
7,400.0	7,277.5	7,265.5	7,265.5	13.8	12.7	19.71	4,119.6	1,176.2	4,383.6	4,362.8	20.79	210.846			
7,450.0	7,306.5	7,294.5	7,294.5	13.8	12.7	21.75	4,119.6	1,176.2	4,343.8	4,323.5	20.39	213.089			
7,500.0	7,332.6	7,320.6	7,320.6	13.8	12.8	24.32	4,119.6	1,176.2	4,302.2	4,282.1	20.11	213.947			
7,550.0	7,355.6	7,343.6	7,343.6	13.8	12.8	27.59	4,119.6	1,176.2	4,258.9	4,238.9	20.04	212.564			
7,600.0	7,375.5	7,363.5	7,363.5	13.9	12.8	31.84	4,119.6	1,176.2	4,214.1	4,193.9	20.27	207.944			
7,650.0	7,392.1	7,380.1	7,380.1	14.1	12.9	37.46	4,119.6	1,176.2	4,168.2	4,147.3	20.92	199.219			
7,700.0	7,405.4	7,393.4	7,393.4	14.3	12.9	45.00	4,119.6	1,176.2	4,121.2	4,099.1	22.13	186.259			
7,750.0	7,415.3	7,403.3	7,403.3	14.5	12.9	55.13	4,119.6	1,176.2	4,073.5	4,049.6	23.89	170.494			
7,800.0	7,421.8	7,409.8	7,409.8	14.8	12.9	68.32	4,119.6	1,176.2	4,025.3	3,999.4	25.91	155.378			
7,850.0	7,424.8	7,412.8	7,412.8	15.1	12.9	84.08	4,119.6	1,176.2	3,976.8	3,949.4	27.36	145.354			
7,867.9	7,425.0	7,413.0	7,413.0	15.3	12.9	90.00	4,119.6	1,176.2	3,959.3	3,931.8	27.57	143.615			
7,900.0	7,425.0	7,413.0	7,413.0	15.5	12.9	90.00	4,119.6	1,176.2	3,928.2	3,900.4	27.83	141.164			
8,000.0	7,425.0	7,413.0	7,413.0	16.4	12.9	90.00	4,119.6	1,176.2	3,831.1	3,802.4	28.73	133.335			
8,100.0	7,425.0	7,413.0	7,413.0	17.4	12.9	90.00	4,119.6	1,176.2	3,734.2	3,704.4	29.77	125.421			
8,200.0	7,425.0	7,413.0	7,413.0	18.5	12.9	90.00	4,119.6	1,176.2	3,637.5	3,606.5	30.92	117.622			
8,300.0	7,425.0	7,413.0	7,413.0	19.7	12.9	90.00	4,119.6	1,176.2	3,540.9	3,508.7	32.17	110.077			
8,400.0	7,425.0	7,413.0	7,413.0	21.0	12.9	90.00	4,119.6	1,176.2	3,444.5	3,411.0	33.48	102.869			
8,500.0	7,425.0	7,413.0	7,413.0	22.4	12.9	90.00	4,119.6	1,176.2	3,348.4	3,313.5	34.86	96.043			
8,600.0	7,425.0	7,413.0	7,413.0	23.8	12.9	90.00	4,119.6	1,176.2	3,252.4	3,216.2	36.29	89.619			
8,700.0	7,425.0	7,413.0	7,413.0	25.2	12.9	90.00	4,119.6	1,176.2	3,156.8	3,119.0	37.76	83.596			

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

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
8,800.0	7,425.0	7,413.0	7,413.0	26.7	12.9	90.00	4,119.6	1,176.2	3,061.4	3,022.1	39.27	77.962		
8,900.0	7,425.0	7,413.0	7,413.0	28.2	12.9	90.00	4,119.6	1,176.2	2,966.3	2,925.5	40.80	72.700		
9,000.0	7,425.0	7,413.0	7,413.0	29.8	12.9	90.00	4,119.6	1,176.2	2,871.5	2,829.2	42.36	67.787		
9,100.0	7,425.0	7,413.0	7,413.0	31.3	12.9	90.00	4,119.6	1,176.2	2,777.2	2,733.2	43.94	63.202		
9,200.0	7,425.0	7,413.0	7,413.0	32.9	12.9	90.00	4,119.6	1,176.2	2,683.2	2,637.6	45.54	58.921		
9,300.0	7,425.0	7,413.0	7,413.0	34.5	12.9	90.00	4,119.6	1,176.2	2,589.6	2,542.5	47.15	54.922		
9,400.0	7,425.0	7,413.0	7,413.0	36.1	12.9	90.00	4,119.6	1,176.2	2,496.6	2,447.8	48.78	51.184		
9,500.0	7,425.0	7,413.0	7,413.0	37.7	12.9	90.00	4,119.6	1,176.2	2,404.1	2,353.7	50.41	47.687		
9,600.0	7,425.0	7,413.0	7,413.0	39.4	12.9	90.00	4,119.6	1,176.2	2,312.3	2,260.2	52.06	44.414		
9,700.0	7,425.0	7,413.0	7,413.0	41.0	12.9	90.00	4,119.6	1,176.2	2,221.2	2,167.4	53.72	41.348		
9,800.0	7,425.0	7,413.0	7,413.0	42.7	12.9	90.00	4,119.6	1,176.2	2,130.8	2,075.4	55.38	38.474		
9,900.0	7,425.0	7,413.0	7,413.0	44.3	12.9	90.00	4,119.6	1,176.2	2,041.4	1,984.3	57.05	35.779		
10,000.0	7,425.0	7,413.0	7,413.0	46.0	12.9	90.00	4,119.6	1,176.2	1,953.0	1,894.2	58.73	33.252		
10,100.0	7,425.0	7,413.0	7,413.0	47.7	12.9	90.00	4,119.6	1,176.2	1,865.7	1,805.3	60.42	30.881		
10,200.0	7,425.0	7,413.0	7,413.0	49.4	12.9	90.00	4,119.6	1,176.2	1,779.8	1,717.7	62.10	28.659		
10,300.0	7,425.0	7,413.0	7,413.0	51.1	12.9	90.00	4,119.6	1,176.2	1,695.5	1,631.7	63.80	26.576		
10,400.0	7,425.0	7,413.0	7,413.0	52.7	12.9	90.00	4,119.6	1,176.2	1,612.9	1,547.4	65.49	24.627		
10,500.0	7,425.0	7,413.0	7,413.0	54.4	12.9	90.00	4,119.6	1,176.2	1,532.4	1,465.2	67.19	22.806		
10,600.0	7,425.0	7,413.0	7,413.0	56.1	12.9	90.00	4,119.6	1,176.2	1,454.3	1,385.4	68.90	21.109		
10,700.0	7,425.0	7,413.0	7,413.0	57.8	12.9	90.00	4,119.6	1,176.2	1,379.1	1,308.5	70.60	19.533		
10,800.0	7,425.0	7,413.0	7,413.0	59.5	12.9	90.00	4,119.6	1,176.2	1,307.2	1,234.9	72.31	18.077		
10,900.0	7,425.0	7,413.0	7,413.0	61.3	12.9	90.00	4,119.6	1,176.2	1,239.2	1,165.1	74.02	16.740		
11,000.0	7,425.0	7,413.0	7,413.0	63.0	12.9	90.00	4,119.6	1,176.2	1,175.7	1,100.0	75.74	15.524		
11,100.0	7,425.0	7,413.0	7,413.0	64.7	12.9	90.00	4,119.6	1,176.2	1,117.7	1,040.2	77.45	14.430		
11,200.0	7,425.0	7,413.0	7,413.0	66.4	12.9	90.00	4,119.6	1,176.2	1,065.9	986.7	79.17	13.462		
11,300.0	7,425.0	7,413.0	7,413.0	68.1	12.9	90.00	4,119.6	1,176.2	1,021.2	940.3	80.89	12.624		
11,400.0	7,425.0	7,413.0	7,413.0	69.8	12.9	90.00	4,119.6	1,176.2	984.7	902.1	82.61	11.920		
11,500.0	7,425.0	7,413.0	7,413.0	71.5	12.9	90.00	4,119.6	1,176.2	957.4	873.0	84.34	11.351		
11,600.0	7,425.0	7,413.0	7,413.0	73.3	12.9	90.00	4,119.6	1,176.2	939.9	853.8	86.06	10.921		
11,700.0	7,425.0	7,413.0	7,413.0	75.0	12.9	90.00	4,119.6	1,176.2	932.8	845.1	87.79	10.626		
11,715.8	7,425.0	7,413.0	7,413.0	75.3	12.9	90.00	4,119.6	1,176.2	932.7	844.6	88.06	10.591	CC, ES	
11,800.0	7,425.0	7,413.0	7,413.0	76.7	12.9	90.00	4,119.6	1,176.2	936.5	847.0	89.52	10.462		
11,900.0	7,425.0	7,413.0	7,413.0	78.4	12.9	90.00	4,119.6	1,176.2	950.7	859.5	91.25	10.419	SF	
11,960.2	7,425.0	7,413.0	7,413.0	79.5	12.9	90.00	4,119.6	1,176.2	964.2	871.9	92.29	10.448		
11,961.1	7,425.0	7,413.0	7,413.0	79.5	12.9	90.00	4,119.6	1,176.2	964.4	872.1	92.30	10.448		

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

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4A-14H - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.01	0.0	-19.6	19.6					
100.0	100.0	100.0	100.0	0.2	0.2	-90.01	0.0	-19.6	19.6	19.3	0.30	64.533		
200.0	200.0	200.0	200.0	0.3	0.3	-90.01	0.0	-19.6	19.6	18.9	0.65	30.023 CC, ES		
300.0	300.0	299.4	299.4	0.5	0.5	-92.82	-1.0	-21.0	21.0	20.0	1.00	20.939		
400.0	400.0	398.6	398.4	0.7	0.7	-99.28	-4.1	-25.1	25.5	24.1	1.37	18.683		
500.0	500.0	497.3	496.8	0.9	0.9	105.36	-9.2	-32.0	33.8	32.1	1.71	19.803		
600.0	599.8	595.3	594.0	1.0	1.2	105.45	-16.2	-41.5	46.3	44.2	2.08	22.234		
700.0	699.5	692.2	689.8	1.3	1.5	107.14	-25.2	-53.5	62.8	60.3	2.49	25.213		
800.0	798.7	787.8	783.7	1.5	1.8	109.16	-35.8	-67.8	83.4	80.4	2.95	28.279		
900.0	897.7	884.8	878.6	1.8	2.2	111.01	-47.8	-84.0	106.4	103.0	3.44	30.955		
1,000.0	996.8	982.0	973.7	2.0	2.6	112.19	-59.9	-100.2	129.5	125.6	3.94	32.862		
1,100.0	1,095.8	1,079.3	1,068.8	2.3	3.0	113.02	-72.0	-116.5	152.7	148.3	4.46	34.273		
1,200.0	1,194.8	1,176.6	1,164.0	2.6	3.4	113.63	-84.0	-132.7	175.9	170.9	4.98	35.352		
1,300.0	1,293.8	1,273.8	1,259.1	2.9	3.7	114.10	-96.1	-148.9	199.1	193.6	5.50	36.199		
1,400.0	1,392.9	1,371.1	1,354.2	3.2	4.1	114.47	-108.1	-165.2	222.3	216.3	6.03	36.880		
1,500.0	1,491.9	1,468.3	1,449.4	3.5	4.5	114.77	-120.2	-181.4	245.5	239.0	6.56	37.438		
1,600.0	1,590.9	1,565.6	1,544.5	3.8	4.9	115.02	-132.2	-197.6	268.7	261.6	7.09	37.902		
1,700.0	1,689.9	1,662.9	1,639.6	4.1	5.3	115.22	-144.3	-213.9	292.0	284.3	7.62	38.295		
1,800.0	1,789.0	1,760.1	1,734.8	4.4	5.7	115.40	-156.3	-230.1	315.2	307.0	8.16	38.630		
1,900.0	1,888.0	1,857.4	1,829.9	4.7	6.1	115.56	-168.4	-246.4	338.4	329.7	8.70	38.921		
2,000.0	1,987.0	1,954.6	1,925.0	4.9	6.5	115.69	-180.5	-262.6	361.7	352.4	9.23	39.174		
2,100.0	2,086.1	2,051.9	2,020.2	5.2	6.9	115.81	-192.5	-278.8	384.9	375.1	9.77	39.396		
2,200.0	2,185.1	2,149.2	2,115.3	5.5	7.3	115.91	-204.6	-295.1	408.1	397.8	10.31	39.594		
2,300.0	2,284.1	2,246.4	2,210.4	5.8	7.7	116.00	-216.6	-311.3	431.4	420.5	10.85	39.770		
2,400.0	2,383.1	2,343.7	2,305.6	6.1	8.1	116.09	-228.7	-327.5	454.6	443.2	11.39	39.928		
2,500.0	2,482.2	2,440.9	2,400.7	6.4	8.5	116.16	-240.7	-343.8	477.8	465.9	11.92	40.070		
2,600.0	2,581.2	2,538.2	2,495.8	6.7	8.9	116.23	-252.8	-360.0	501.1	488.6	12.46	40.200		
2,700.0	2,680.2	2,635.5	2,591.0	7.0	9.2	116.29	-264.9	-376.2	524.3	511.3	13.00	40.317		
2,800.0	2,779.2	2,732.7	2,686.1	7.3	9.6	116.35	-276.9	-392.5	547.6	534.0	13.55	40.425		
2,900.0	2,878.3	2,830.0	2,781.3	7.6	10.0	116.40	-289.0	-408.7	570.8	556.7	14.09	40.524		
3,000.0	2,977.3	2,927.3	2,876.4	7.9	10.4	116.45	-301.0	-424.9	594.0	579.4	14.63	40.615		
3,100.0	3,076.3	3,024.5	2,971.5	8.2	10.8	116.50	-313.1	-441.2	617.3	602.1	15.17	40.699		
3,200.0	3,175.3	3,121.8	3,066.7	8.5	11.2	116.54	-325.1	-457.4	640.5	624.8	15.71	40.776		
3,300.0	3,274.4	3,219.0	3,161.8	8.8	11.6	116.58	-337.2	-473.6	663.8	647.5	16.25	40.849		
3,400.0	3,373.4	3,316.3	3,256.9	9.1	12.0	116.61	-349.3	-489.9	687.0	670.2	16.79	40.916		
3,500.0	3,472.4	3,413.6	3,352.1	9.4	12.4	116.65	-361.3	-506.1	710.2	692.9	17.33	40.979		
3,600.0	3,571.5	3,510.8	3,447.2	9.7	12.8	116.68	-373.4	-522.3	733.5	715.6	17.87	41.038		
3,700.0	3,670.5	3,608.1	3,542.3	10.0	13.2	116.71	-385.4	-538.6	756.7	738.3	18.42	41.093		
3,800.0	3,769.5	3,705.3	3,637.5	10.3	13.6	116.73	-397.5	-554.8	780.0	761.0	18.96	41.145		
3,900.0	3,868.5	3,827.0	3,756.8	10.6	14.0	116.85	-411.4	-573.5	802.0	782.4	19.54	41.036		
4,000.0	3,967.6	3,954.5	3,882.9	10.9	14.4	117.19	-422.7	-588.8	820.5	800.4	20.12	40.779		
4,040.0	4,007.2	4,005.9	3,934.0	11.0	14.5	117.39	-426.4	-593.7	826.9	806.6	20.35	40.637		
4,100.0	4,066.7	4,083.4	4,011.1	11.2	14.7	117.85	-430.8	-599.7	835.2	814.5	20.69	40.364		
4,200.0	4,166.2	4,213.5	4,140.9	11.4	14.9	118.50	-435.4	-605.9	844.8	823.6	21.18	39.890		
4,300.0	4,265.9	4,338.5	4,265.9	11.6	15.0	119.00	-436.6	-607.5	849.2	827.6	21.57	39.378		
4,400.0	4,365.9	4,438.4	4,365.9	11.7	15.1	119.21	-436.6	-607.5	850.7	828.9	21.85	38.931		
4,440.0	4,405.9	4,478.4	4,405.9	11.8	15.1	-89.47	-436.6	-607.5	850.9	828.9	21.95	38.756		
4,500.0	4,465.9	4,538.4	4,465.9	11.8	15.2	-89.47	-436.6	-607.5	850.9	828.8	22.10	38.496		
4,600.0	4,565.9	4,638.4	4,565.9	12.0	15.3	-89.47	-436.6	-607.5	850.9	828.5	22.35	38.066		
4,700.0	4,665.9	4,738.4	4,665.9	12.1	15.4	-89.47	-436.6	-607.5	850.9	828.3	22.60	37.641		
4,800.0	4,765.9	4,838.4	4,765.9	12.2	15.4	-89.47	-436.6	-607.5	850.9	828.0	22.86	37.221		
4,900.0	4,865.9	4,938.4	4,865.9	12.3	15.5	-89.47	-436.6	-607.5	850.9	827.7	23.12	36.806		

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

Offset Design													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,965.9	5,038.4	4,965.9	12.4	15.6	-89.47	-436.6	-607.5	850.9	827.5	23.38	36.397		
5,100.0	5,065.9	5,138.4	5,065.9	12.6	15.7	-89.47	-436.6	-607.5	850.9	827.2	23.64	35.994		
5,200.0	5,165.9	5,238.4	5,165.9	12.7	15.8	-89.47	-436.6	-607.5	850.9	827.0	23.90	35.596		
5,300.0	5,265.9	5,338.4	5,265.9	12.8	15.9	-89.47	-436.6	-607.5	850.9	826.7	24.17	35.203		
5,400.0	5,365.9	5,438.4	5,365.9	12.9	16.0	-89.47	-436.6	-607.5	850.9	826.4	24.44	34.817		
5,500.0	5,465.9	5,538.4	5,465.9	13.1	16.1	-89.47	-436.6	-607.5	850.9	826.2	24.71	34.435		
5,600.0	5,565.9	5,638.4	5,565.9	13.2	16.3	-89.47	-436.6	-607.5	850.9	825.9	24.98	34.060		
5,700.0	5,665.9	5,738.4	5,665.9	13.3	16.4	-89.47	-436.6	-607.5	850.9	825.6	25.26	33.690		
5,800.0	5,765.9	5,838.4	5,765.9	13.4	16.5	-89.47	-436.6	-607.5	850.9	825.3	25.53	33.325		
5,900.0	5,865.9	5,938.4	5,865.9	13.6	16.6	-89.47	-436.6	-607.5	850.9	825.1	25.81	32.966		
6,000.0	5,965.9	6,038.4	5,965.9	13.7	16.7	-89.47	-436.6	-607.5	850.9	824.8	26.09	32.613		
6,100.0	6,065.9	6,138.4	6,065.9	13.8	16.8	-89.47	-436.6	-607.5	850.9	824.5	26.37	32.265		
6,200.0	6,165.9	6,238.4	6,165.9	14.0	16.9	-89.47	-436.6	-607.5	850.9	824.2	26.65	31.923		
6,300.0	6,265.9	6,338.4	6,265.9	14.1	17.0	-89.47	-436.6	-607.5	850.9	823.9	26.94	31.586		
6,400.0	6,365.9	6,438.4	6,365.9	14.2	17.1	-89.47	-436.6	-607.5	850.9	823.6	27.22	31.254		
6,500.0	6,465.9	6,538.4	6,465.9	14.4	17.2	-89.47	-436.6	-607.5	850.9	823.4	27.51	30.927		
6,600.0	6,565.9	6,638.4	6,565.9	14.5	17.4	-89.47	-436.6	-607.5	850.9	823.1	27.80	30.606		
6,700.0	6,665.9	6,738.4	6,665.9	14.7	17.5	-89.47	-436.6	-607.5	850.9	822.8	28.09	30.290		
6,728.6	6,694.5	6,767.1	6,694.5	14.7	17.5	-89.47	-436.6	-607.5	850.9	822.7	28.17	30.200		
6,742.9	6,708.8	6,781.4	6,708.8	14.7	17.5	-89.47	-436.6	-607.5	850.9	822.6	28.22	30.156		
6,750.0	6,715.9	6,788.4	6,715.8	14.7	17.5	-89.48	-436.6	-607.5	850.9	822.6	28.23	30.136		
6,800.0	6,765.8	6,837.8	6,765.2	14.8	17.6	-89.48	-434.4	-607.5	850.9	822.6	28.30	30.061		
6,850.0	6,815.5	6,887.3	6,814.3	14.8	17.6	-89.48	-428.8	-607.5	850.9	822.5	28.31	30.053		
6,900.0	6,864.6	6,936.8	6,863.0	14.7	17.5	-89.49	-419.8	-607.5	850.9	822.6	28.26	30.106		
6,950.0	6,913.0	6,986.2	6,910.9	14.7	17.5	-89.50	-407.5	-607.5	850.9	822.7	28.16	30.217		
7,000.0	6,960.4	7,035.7	6,957.8	14.6	17.5	-89.51	-391.9	-607.5	850.9	822.9	28.01	30.379		
7,050.0	7,006.5	7,085.2	7,003.6	14.5	17.4	-89.52	-373.1	-607.5	850.9	823.0	27.82	30.585		
7,100.0	7,051.3	7,134.7	7,048.0	14.4	17.3	-89.54	-351.2	-607.5	850.9	823.3	27.60	30.825		
7,150.0	7,094.3	7,184.3	7,090.8	14.3	17.2	-89.56	-326.2	-607.5	850.9	823.5	27.37	31.089		
7,200.0	7,135.5	7,233.8	7,131.8	14.2	17.1	-89.58	-298.4	-607.5	850.9	823.7	27.13	31.365		
7,250.0	7,174.6	7,283.4	7,170.7	14.1	17.0	-89.60	-267.8	-607.5	850.9	824.0	26.89	31.638		
7,300.0	7,211.4	7,333.0	7,207.5	14.0	16.9	-89.63	-234.5	-607.5	850.9	824.2	26.68	31.890		
7,350.0	7,245.7	7,382.6	7,241.9	13.9	16.9	-89.65	-198.7	-607.5	850.8	824.3	26.50	32.104		
7,400.0	7,277.5	7,432.3	7,273.7	13.8	16.8	-89.68	-160.6	-607.5	850.8	824.5	26.37	32.260		
7,450.0	7,306.5	7,482.0	7,302.9	13.8	16.8	-89.71	-120.4	-607.5	850.8	824.5	26.31	32.339		
7,500.0	7,332.6	7,531.7	7,329.2	13.8	16.8	-89.74	-78.3	-607.5	850.8	824.5	26.32	32.325		
7,550.0	7,355.6	7,581.4	7,352.5	13.8	16.8	-89.77	-34.3	-607.5	850.8	824.4	26.42	32.205		
7,600.0	7,375.5	7,631.2	7,372.8	13.9	16.9	-89.81	11.1	-607.5	850.8	824.2	26.61	31.970		
7,650.0	7,392.1	7,681.0	7,389.8	14.1	17.0	-89.84	57.9	-607.5	850.8	823.9	26.91	31.619		
7,680.4	7,400.6	7,711.3	7,398.6	14.2	17.1	-89.86	86.9	-607.5	850.8	823.7	27.14	31.345		
7,700.0	7,405.4	7,730.9	7,403.6	14.3	17.1	-89.88	105.8	-607.5	850.8	823.5	27.31	31.156		
7,750.0	7,415.3	7,780.8	7,414.0	14.5	17.3	-89.91	154.6	-607.5	850.8	823.0	27.81	30.591		
7,800.0	7,421.8	7,830.7	7,421.0	14.8	17.6	-89.95	204.0	-607.5	850.8	822.4	28.42	29.939		
7,850.0	7,424.8	7,880.6	7,424.5	15.1	17.8	-89.98	253.9	-607.5	850.8	821.7	29.12	29.220		
7,867.9	7,425.0	7,898.6	7,425.0	15.3	18.0	-90.00	271.8	-607.5	850.8	821.5	29.39	28.953		
7,900.0	7,425.0	7,930.6	7,425.0	15.5	18.2	-90.00	303.8	-607.5	850.8	820.9	29.91	28.443		
8,000.0	7,425.0	8,030.6	7,425.0	16.4	18.9	-90.00	403.8	-607.5	850.8	819.1	31.72	26.821		
8,100.0	7,425.0	8,130.6	7,425.0	17.4	19.8	-90.00	503.8	-607.5	850.9	817.1	33.80	25.174		
8,200.0	7,425.0	8,230.6	7,425.0	18.5	20.8	-90.00	603.8	-607.5	850.9	814.8	36.10	23.572		
8,300.0	7,425.0	8,330.6	7,425.0	19.7	21.9	-90.00	703.8	-607.5	850.9	812.3	38.58	22.057		
8,400.0	7,425.0	8,430.6	7,425.0	21.0	23.0	-90.00	803.8	-607.5	850.9	809.7	41.21	20.649		
8,500.0	7,425.0	8,530.6	7,425.0	22.4	24.3	-90.00	903.8	-607.5	850.9	806.9	43.96	19.356		

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 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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		
8,600.0	7,425.0	8,630.6	7,425.0	23.8	25.6	-90.00	1,003.8	-607.5	850.9	804.1	46.81	18.176		
8,700.0	7,425.0	8,730.6	7,425.0	25.2	26.9	-90.00	1,103.8	-607.5	850.9	801.1	49.75	17.103		
8,800.0	7,425.0	8,830.6	7,425.0	26.7	28.3	-90.00	1,203.8	-607.5	850.9	798.1	52.76	16.128		
8,900.0	7,425.0	8,930.6	7,425.0	28.2	29.8	-90.00	1,303.8	-607.5	850.9	795.1	55.82	15.242		
9,000.0	7,425.0	9,030.6	7,425.0	29.8	31.2	-90.00	1,403.8	-607.5	850.9	791.9	58.94	14.437		
9,100.0	7,425.0	9,130.6	7,425.0	31.3	32.7	-90.00	1,503.8	-607.5	850.9	788.8	62.10	13.703		
9,200.0	7,425.0	9,230.6	7,425.0	32.9	34.2	-90.00	1,603.8	-607.5	850.9	785.6	65.29	13.033		
9,300.0	7,425.0	9,330.6	7,425.0	34.5	35.8	-90.00	1,703.8	-607.5	850.9	782.4	68.51	12.419		
9,400.0	7,425.0	9,430.6	7,425.0	36.1	37.3	-90.00	1,803.8	-607.5	850.9	779.1	71.76	11.857		
9,500.0	7,425.0	9,530.6	7,425.0	37.7	38.9	-90.00	1,903.8	-607.5	850.9	775.9	75.04	11.340		
9,600.0	7,425.0	9,630.6	7,425.0	39.4	40.5	-90.00	2,003.8	-607.5	850.9	772.6	78.33	10.863		
9,700.0	7,425.0	9,730.6	7,425.0	41.0	42.1	-90.00	2,103.8	-607.5	850.9	769.3	81.64	10.422		
9,800.0	7,425.0	9,830.6	7,425.0	42.7	43.7	-90.00	2,203.8	-607.5	850.9	765.9	84.97	10.014		
9,900.0	7,425.0	9,930.6	7,425.0	44.3	45.3	-90.00	2,303.8	-607.5	850.9	762.6	88.31	9.635		
10,000.0	7,425.0	10,030.6	7,425.0	46.0	47.0	-90.00	2,403.8	-607.5	850.9	759.2	91.67	9.283		
10,100.0	7,425.0	10,130.6	7,425.0	47.7	48.6	-90.00	2,503.8	-607.5	850.9	755.9	95.03	8.954		
10,200.0	7,425.0	10,230.6	7,425.0	49.4	50.3	-90.00	2,603.8	-607.5	850.9	752.5	98.41	8.647		
10,300.0	7,425.0	10,330.6	7,425.0	51.1	51.9	-90.00	2,703.8	-607.5	850.9	749.1	101.79	8.359		
10,400.0	7,425.0	10,430.6	7,425.0	52.7	53.6	-90.00	2,803.8	-607.5	850.9	745.7	105.18	8.090		
10,500.0	7,425.0	10,530.6	7,425.0	54.4	55.3	-90.00	2,903.8	-607.4	850.9	742.3	108.58	7.836		
10,600.0	7,425.0	10,630.6	7,425.0	56.1	56.9	-90.00	3,003.8	-607.4	850.9	738.9	111.99	7.598		
10,700.0	7,425.0	10,730.6	7,425.0	57.8	58.6	-90.00	3,103.8	-607.4	850.9	735.5	115.40	7.373		
10,800.0	7,425.0	10,830.6	7,425.0	59.5	60.3	-90.00	3,203.8	-607.4	850.9	732.1	118.82	7.161		
10,900.0	7,425.0	10,930.6	7,425.0	61.3	62.0	-90.00	3,303.8	-607.4	850.9	728.7	122.24	6.961		
11,000.0	7,425.0	11,030.6	7,425.0	63.0	63.7	-90.00	3,403.8	-607.4	850.9	725.3	125.67	6.771		
11,100.0	7,425.0	11,130.6	7,425.0	64.7	65.4	-90.00	3,503.8	-607.4	850.9	721.8	129.10	6.591		
11,200.0	7,425.0	11,230.6	7,425.0	66.4	67.1	-90.00	3,603.8	-607.4	850.9	718.4	132.54	6.420		
11,300.0	7,425.0	11,330.6	7,425.0	68.1	68.8	-90.00	3,703.8	-607.4	850.9	715.0	135.98	6.258		
11,400.0	7,425.0	11,430.6	7,425.0	69.8	70.5	-90.00	3,803.8	-607.4	850.9	711.5	139.42	6.103		
11,500.0	7,425.0	11,530.6	7,425.0	71.5	72.2	-90.00	3,903.8	-607.4	850.9	708.1	142.87	5.956		
11,600.0	7,425.0	11,630.6	7,425.0	73.3	73.9	-90.00	4,003.8	-607.4	850.9	704.6	146.32	5.816		
11,700.0	7,425.0	11,730.6	7,425.0	75.0	75.6	-90.00	4,103.8	-607.4	850.9	701.2	149.77	5.682		
11,800.0	7,425.0	11,830.6	7,425.0	76.7	77.3	-90.00	4,203.8	-607.4	850.9	697.7	153.23	5.554		
11,900.0	7,425.0	11,930.6	7,425.0	78.4	79.0	-90.00	4,303.8	-607.4	851.0	694.3	156.68	5.431		
11,960.2	7,425.0	11,990.8	7,425.0	79.5	80.1	-90.00	4,364.1	-607.4	851.0	692.2	158.76	5.360		
11,961.1	7,425.0	11,991.7	7,425.0	79.5	80.1	-90.00	4,364.9	-607.4	851.0	692.2	158.79	5.359 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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	0.0	0.0	0.0	0.0	-90.00	0.0	-8.4	8.4					
100.0	100.0	100.0	100.0	0.2	0.2	-90.00	0.0	-8.4	8.4	8.1	0.30	27.657		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-8.4	8.4	7.7	0.65	12.867		
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	0.0	-8.4	8.4	7.4	1.00	8.384 CC, ES		
400.0	400.0	399.9	399.8	0.7	0.7	-100.14	-1.6	-9.0	9.2	7.8	1.35	6.789		
500.0	500.0	499.5	499.4	0.9	0.9	95.97	-6.5	-11.0	12.8	11.1	1.71	7.483		
600.0	599.8	598.9	598.3	1.0	1.1	92.88	-14.5	-14.2	19.5	17.4	2.09	9.300		
700.0	699.5	697.8	696.6	1.3	1.3	93.66	-25.6	-18.6	28.8	26.3	2.52	11.455		
800.0	798.7	797.2	794.9	1.5	1.6	97.17	-38.5	-23.7	39.8	36.8	3.00	13.277		
900.0	897.7	896.5	893.3	1.8	1.9	101.22	-51.3	-28.8	51.2	47.7	3.51	14.580		
1,000.0	996.8	995.8	991.6	2.0	2.2	103.79	-64.2	-33.9	62.8	58.7	4.04	15.539		
1,100.0	1,095.8	1,095.1	1,089.9	2.3	2.5	105.56	-77.0	-39.0	74.4	69.9	4.58	16.268		
1,200.0	1,194.8	1,194.4	1,188.3	2.6	2.7	106.85	-89.8	-44.1	86.1	81.0	5.12	16.836		
1,300.0	1,293.8	1,293.7	1,286.6	2.9	3.0	107.83	-102.7	-49.3	97.9	92.2	5.66	17.290		
1,400.0	1,392.9	1,393.0	1,384.9	3.2	3.3	108.60	-115.5	-54.4	109.6	103.4	6.21	17.661		
1,500.0	1,491.9	1,492.3	1,483.3	3.5	3.6	109.22	-128.4	-59.5	121.4	114.6	6.75	17.968		
1,600.0	1,590.9	1,591.6	1,581.6	3.8	3.9	109.73	-141.2	-64.6	133.1	125.8	7.31	18.226		
1,700.0	1,689.9	1,690.9	1,679.9	4.1	4.2	110.16	-154.0	-69.7	144.9	137.1	7.86	18.447		
1,800.0	1,789.0	1,790.2	1,778.3	4.4	4.5	110.52	-166.9	-74.8	156.7	148.3	8.41	18.637		
1,900.0	1,888.0	1,889.5	1,876.6	4.7	4.8	110.84	-179.7	-79.9	168.5	159.6	8.96	18.803		
2,000.0	1,987.0	1,988.8	1,974.9	4.9	5.1	111.11	-192.6	-85.0	180.3	170.8	9.52	18.949		
2,100.0	2,086.1	2,088.1	2,073.3	5.2	5.4	111.35	-205.4	-90.1	192.1	182.1	10.07	19.077		
2,200.0	2,185.1	2,187.4	2,171.6	5.5	5.7	111.56	-218.2	-95.2	203.9	193.3	10.63	19.192		
2,300.0	2,284.1	2,286.7	2,269.9	5.8	6.0	111.75	-231.1	-100.4	215.7	204.6	11.18	19.295		
2,400.0	2,383.1	2,386.0	2,368.2	6.1	6.3	111.91	-243.9	-105.5	227.6	215.8	11.74	19.388		
2,500.0	2,482.2	2,485.2	2,466.6	6.4	6.6	112.07	-256.8	-110.6	239.4	227.1	12.29	19.472		
2,600.0	2,581.2	2,584.5	2,564.9	6.7	6.9	112.20	-269.6	-115.7	251.2	238.3	12.85	19.549		
2,700.0	2,680.2	2,683.8	2,663.2	7.0	7.2	112.33	-282.4	-120.8	263.0	249.6	13.41	19.619		
2,800.0	2,779.2	2,783.1	2,761.6	7.3	7.5	112.44	-295.3	-125.9	274.8	260.9	13.96	19.683		
2,900.0	2,878.3	2,882.4	2,859.9	7.6	7.8	112.55	-308.1	-131.0	286.6	272.1	14.52	19.742		
3,000.0	2,977.3	2,981.7	2,958.2	7.9	8.0	112.64	-321.0	-136.1	298.5	283.4	15.08	19.797		
3,100.0	3,076.3	3,081.0	3,056.6	8.2	8.3	112.73	-333.8	-141.2	310.3	294.7	15.63	19.847		
3,200.0	3,175.3	3,180.3	3,154.9	8.5	8.6	112.82	-346.6	-146.3	322.1	305.9	16.19	19.894		
3,300.0	3,274.4	3,279.6	3,253.2	8.8	8.9	112.89	-359.5	-151.5	333.9	317.2	16.75	19.938		
3,400.0	3,373.4	3,378.9	3,351.6	9.1	9.2	112.96	-372.3	-156.6	345.8	328.5	17.31	19.979		
3,500.0	3,472.4	3,478.2	3,449.9	9.4	9.5	113.03	-385.2	-161.7	357.6	339.7	17.86	20.017		
3,600.0	3,571.5	3,577.5	3,548.2	9.7	9.8	113.09	-398.0	-166.8	369.4	351.0	18.42	20.053		
3,700.0	3,670.5	3,676.8	3,646.6	10.0	10.1	113.15	-410.8	-171.9	381.2	362.3	18.98	20.087		
3,800.0	3,769.5	3,782.4	3,751.3	10.3	10.4	113.45	-422.8	-176.7	392.3	372.8	19.51	20.102		
3,900.0	3,868.5	3,888.3	3,856.8	10.6	10.6	114.23	-431.2	-180.0	401.7	381.7	20.01	20.079		
4,000.0	3,967.6	3,994.0	3,962.4	10.9	10.8	115.47	-436.0	-181.9	409.7	389.3	20.45	20.033		
4,040.0	4,007.2	4,036.2	4,004.6	11.0	10.8	116.09	-436.8	-182.2	412.5	391.9	20.61	20.012		
4,100.0	4,066.7	4,098.3	4,066.7	11.2	10.9	117.10	-437.2	-182.4	416.1	395.3	20.84	19.967		
4,200.0	4,166.2	4,197.8	4,166.2	11.4	11.0	118.41	-437.2	-182.4	420.9	399.7	21.17	19.879		
4,300.0	4,265.9	4,297.5	4,265.9	11.6	11.1	119.25	-437.2	-182.4	424.1	402.6	21.46	19.759		
4,400.0	4,365.9	4,397.5	4,365.9	11.7	11.2	119.64	-437.2	-182.4	425.6	403.9	21.72	19.597		
4,440.0	4,405.9	4,437.5	4,405.9	11.8	11.3	-89.02	-437.2	-182.4	425.7	403.9	21.82	19.516		
4,500.0	4,465.9	4,497.5	4,465.9	11.8	11.4	-89.02	-437.2	-182.4	425.7	403.8	21.96	19.383		
4,600.0	4,565.9	4,597.5	4,565.9	12.0	11.5	-89.02	-437.2	-182.4	425.7	403.5	22.21	19.165		
4,700.0	4,665.9	4,697.5	4,665.9	12.1	11.6	-89.02	-437.2	-182.4	425.7	403.3	22.47	18.949		
4,800.0	4,765.9	4,797.5	4,765.9	12.2	11.7	-89.02	-437.2	-182.4	425.7	403.0	22.72	18.737		
4,900.0	4,865.9	4,897.5	4,865.9	12.3	11.9	-89.02	-437.2	-182.4	425.7	402.8	22.98	18.526		

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 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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	4,965.9	4,997.5	4,965.9	12.4	12.0	-89.02	-437.2	-182.4	425.7	402.5	23.24	18.319	
5,100.0	5,065.9	5,097.5	5,065.9	12.6	12.1	-89.02	-437.2	-182.4	425.7	402.2	23.50	18.114	
5,200.0	5,165.9	5,197.5	5,165.9	12.7	12.2	-89.02	-437.2	-182.4	425.7	402.0	23.77	17.912	
5,300.0	5,265.9	5,297.5	5,265.9	12.8	12.4	-89.02	-437.2	-182.4	425.7	401.7	24.04	17.714	
5,400.0	5,365.9	5,397.5	5,365.9	12.9	12.5	-89.02	-437.2	-182.4	425.7	401.4	24.30	17.517	
5,500.0	5,465.9	5,497.5	5,465.9	13.1	12.6	-89.02	-437.2	-182.4	425.7	401.2	24.58	17.324	
5,600.0	5,565.9	5,597.5	5,565.9	13.2	12.8	-89.02	-437.2	-182.4	425.7	400.9	24.85	17.134	
5,700.0	5,665.9	5,697.5	5,665.9	13.3	12.9	-89.02	-437.2	-182.4	425.7	400.6	25.12	16.947	
5,800.0	5,765.9	5,797.5	5,765.9	13.4	13.0	-89.02	-437.2	-182.4	425.7	400.3	25.40	16.762	
5,900.0	5,865.9	5,897.5	5,865.9	13.6	13.2	-89.02	-437.2	-182.4	425.7	400.1	25.68	16.580	
6,000.0	5,965.9	5,997.5	5,965.9	13.7	13.3	-89.02	-437.2	-182.4	425.7	399.8	25.96	16.401	
6,100.0	6,065.9	6,097.5	6,065.9	13.8	13.4	-89.02	-437.2	-182.4	425.7	399.5	26.24	16.225	
6,200.0	6,165.9	6,197.5	6,165.9	14.0	13.6	-89.02	-437.2	-182.4	425.7	399.2	26.52	16.052	
6,300.0	6,265.9	6,297.5	6,265.9	14.1	13.7	-89.02	-437.2	-182.4	425.7	398.9	26.81	15.881	
6,400.0	6,365.9	6,397.5	6,365.9	14.2	13.9	-89.02	-437.2	-182.4	425.7	398.7	27.09	15.713	
6,500.0	6,465.9	6,497.5	6,465.9	14.4	14.0	-89.02	-437.2	-182.4	425.7	398.4	27.38	15.548	
6,600.0	6,565.9	6,597.5	6,565.9	14.5	14.1	-89.02	-437.2	-182.4	425.7	398.1	27.67	15.386	
6,700.0	6,665.9	6,697.5	6,665.9	14.7	14.3	-89.02	-437.2	-182.4	425.7	397.8	27.96	15.226	
6,742.9	6,708.8	6,740.4	6,708.8	14.7	14.3	-89.02	-437.2	-182.4	425.7	397.7	28.09	15.158	
6,750.0	6,715.9	6,747.5	6,715.9	14.7	14.3	-89.03	-437.2	-182.4	425.7	397.6	28.11	15.147	
6,800.0	6,765.8	6,797.4	6,765.8	14.8	14.4	-89.33	-437.2	-182.4	425.7	397.5	28.22	15.085	
6,845.0	6,810.5	6,842.1	6,810.5	14.8	14.5	-90.00	-437.2	-182.4	425.7	397.4	28.30	15.043	
6,850.0	6,815.5	6,847.1	6,815.5	14.8	14.5	-90.10	-437.2	-182.4	425.7	397.4	28.31	15.039	
6,900.0	6,864.6	6,896.2	6,864.6	14.7	14.6	-91.30	-437.2	-182.4	425.8	397.4	28.36	15.013	
6,950.0	6,913.0	6,944.6	6,913.0	14.7	14.6	-92.90	-437.2	-182.4	426.3	397.9	28.39	15.017	
7,000.0	6,960.4	6,993.8	6,962.1	14.6	14.7	-94.81	-436.4	-182.4	427.3	399.0	28.36	15.070	
7,050.0	7,006.5	7,044.6	7,012.8	14.5	14.7	-96.76	-432.2	-182.4	429.0	400.7	28.26	15.181	
7,100.0	7,051.3	7,096.6	7,064.2	14.4	14.7	-98.68	-424.2	-182.4	431.1	403.0	28.09	15.346	
7,150.0	7,094.3	7,149.9	7,116.1	14.3	14.7	-100.58	-412.2	-182.4	433.8	405.9	27.87	15.563	
7,200.0	7,135.5	7,204.6	7,168.3	14.2	14.6	-102.43	-395.9	-182.4	436.8	409.2	27.60	15.829	
7,250.0	7,174.6	7,260.7	7,220.4	14.1	14.5	-104.23	-375.1	-182.4	440.3	413.0	27.28	16.139	
7,300.0	7,211.4	7,318.4	7,272.0	14.0	14.4	-105.96	-349.5	-182.4	444.1	417.2	26.94	16.483	
7,350.0	7,245.7	7,377.5	7,322.8	13.9	14.3	-107.61	-319.1	-182.4	448.1	421.5	26.59	16.852	
7,400.0	7,277.5	7,438.3	7,372.0	13.8	14.1	-109.17	-283.5	-182.4	452.2	426.0	26.25	17.230	
7,450.0	7,306.5	7,500.7	7,419.3	13.8	14.0	-110.63	-242.8	-182.3	456.4	430.5	25.93	17.600	
7,500.0	7,332.6	7,564.7	7,463.9	13.8	13.9	-111.98	-197.0	-182.3	460.5	434.9	25.68	17.935	
7,550.0	7,355.6	7,630.2	7,505.1	13.8	13.8	-113.20	-146.1	-182.3	464.5	439.0	25.50	18.215	
7,600.0	7,375.5	7,697.2	7,542.3	13.9	13.8	-114.28	-90.4	-182.3	468.1	442.7	25.42	18.413	
7,650.0	7,392.1	7,765.6	7,574.8	14.1	13.9	-115.22	-30.2	-182.3	471.4	445.9	25.48	18.497	
7,700.0	7,405.4	7,835.2	7,601.7	14.3	14.0	-116.00	33.9	-182.3	474.2	448.5	25.68	18.464	
7,750.0	7,415.3	7,905.8	7,622.6	14.5	14.3	-116.60	101.3	-182.3	476.4	450.4	26.04	18.293	
7,800.0	7,421.8	7,977.2	7,636.8	14.8	14.6	-117.03	171.2	-182.3	478.0	451.4	26.58	17.986	
7,850.0	7,424.8	8,049.1	7,644.1	15.1	15.1	-117.28	242.7	-182.3	479.0	451.7	27.27	17.564	
7,867.9	7,425.0	8,074.9	7,644.9	15.3	15.3	-117.32	268.6	-182.3	479.1	451.6	27.56	17.385	
7,900.0	7,425.0	8,110.2	7,645.0	15.5	15.6	-117.33	303.9	-182.3	479.1	451.1	28.04	17.086	
8,000.0	7,425.0	8,210.2	7,645.0	16.4	16.4	-117.33	403.9	-182.3	479.1	449.5	29.64	16.164	
8,100.0	7,425.0	8,310.2	7,645.0	17.4	17.4	-117.33	503.9	-182.3	479.1	447.7	31.47	15.224	
8,200.0	7,425.0	8,410.2	7,645.0	18.5	18.6	-117.33	603.9	-182.3	479.1	445.6	33.49	14.305	
8,300.0	7,425.0	8,510.2	7,645.0	19.7	19.8	-117.33	703.9	-182.3	479.1	443.5	35.67	13.431	
8,400.0	7,425.0	8,610.2	7,645.0	21.0	21.1	-117.33	803.9	-182.3	479.1	441.1	37.98	12.614	
8,500.0	7,425.0	8,710.2	7,645.0	22.4	22.4	-117.33	903.9	-182.2	479.1	438.7	40.41	11.858	
8,600.0	7,425.0	8,810.2	7,645.0	23.8	23.8	-117.33	1,003.9	-182.2	479.1	436.2	42.92	11.164	

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 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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	7,425.0	8,910.2	7,645.0	25.2	25.3	-117.33	1,103.9	-182.2	479.1	433.6	45.50	10.529	
8,800.0	7,425.0	9,010.2	7,645.0	26.7	26.7	-117.33	1,203.9	-182.2	479.1	431.0	48.15	9.950	
8,900.0	7,425.0	9,110.2	7,645.0	28.2	28.3	-117.33	1,303.9	-182.2	479.1	428.2	50.86	9.421	
9,000.0	7,425.0	9,210.2	7,645.0	29.8	29.8	-117.33	1,403.9	-182.2	479.1	425.5	53.61	8.937	
9,100.0	7,425.0	9,310.2	7,645.0	31.3	31.4	-117.34	1,503.9	-182.2	479.1	422.7	56.39	8.496	
9,200.0	7,425.0	9,410.2	7,645.0	32.9	32.9	-117.34	1,603.9	-182.2	479.1	419.9	59.22	8.091	
9,300.0	7,425.0	9,510.2	7,645.0	34.5	34.5	-117.34	1,703.9	-182.2	479.1	417.0	62.07	7.719	
9,400.0	7,425.0	9,610.2	7,645.0	36.1	36.2	-117.34	1,803.9	-182.2	479.1	414.1	64.94	7.377	
9,500.0	7,425.0	9,710.2	7,645.0	37.7	37.8	-117.34	1,903.9	-182.2	479.1	411.2	67.84	7.062	
9,600.0	7,425.0	9,810.2	7,645.0	39.4	39.4	-117.34	2,003.9	-182.2	479.1	408.3	70.75	6.771	
9,700.0	7,425.0	9,910.2	7,645.0	41.0	41.1	-117.34	2,103.9	-182.1	479.1	405.4	73.69	6.502	
9,800.0	7,425.0	10,010.2	7,645.0	42.7	42.7	-117.34	2,203.9	-182.1	479.1	402.4	76.63	6.251	
9,900.0	7,425.0	10,110.2	7,645.0	44.3	44.4	-117.34	2,303.9	-182.1	479.1	399.5	79.59	6.019	
10,000.0	7,425.0	10,210.2	7,645.0	46.0	46.1	-117.34	2,403.9	-182.1	479.1	396.5	82.57	5.802	
10,100.0	7,425.0	10,310.2	7,645.0	47.7	47.7	-117.34	2,503.9	-182.1	479.1	393.5	85.55	5.600	
10,200.0	7,425.0	10,410.2	7,645.0	49.4	49.4	-117.34	2,603.9	-182.1	479.1	390.5	88.54	5.410	
10,300.0	7,425.0	10,510.2	7,645.0	51.1	51.1	-117.34	2,703.9	-182.1	479.1	387.5	91.54	5.233	
10,400.0	7,425.0	10,610.2	7,645.0	52.7	52.8	-117.34	2,803.9	-182.1	479.0	384.5	94.55	5.066	
10,500.0	7,425.0	10,710.2	7,645.0	54.4	54.5	-117.34	2,903.9	-182.1	479.0	381.5	97.57	4.910	
10,600.0	7,425.0	10,810.2	7,645.0	56.1	56.2	-117.34	3,003.9	-182.1	479.0	378.4	100.59	4.762	
10,700.0	7,425.0	10,910.2	7,645.0	57.8	57.9	-117.34	3,103.9	-182.1	479.0	375.4	103.62	4.623	
10,800.0	7,425.0	11,010.2	7,645.0	59.5	59.6	-117.34	3,203.9	-182.0	479.0	372.4	106.65	4.492	
10,900.0	7,425.0	11,110.2	7,645.0	61.3	61.3	-117.34	3,303.9	-182.0	479.0	369.3	109.69	4.367	
11,000.0	7,425.0	11,210.2	7,645.0	63.0	63.0	-117.34	3,403.9	-182.0	479.0	366.3	112.73	4.249	
11,100.0	7,425.0	11,310.2	7,645.0	64.7	64.7	-117.34	3,503.9	-182.0	479.0	363.2	115.78	4.137	
11,200.0	7,425.0	11,410.2	7,645.0	66.4	66.4	-117.34	3,603.9	-182.0	479.0	360.2	118.83	4.031	
11,300.0	7,425.0	11,510.2	7,645.0	68.1	68.2	-117.34	3,703.9	-182.0	479.0	357.1	121.89	3.930	
11,400.0	7,425.0	11,610.2	7,645.0	69.8	69.9	-117.34	3,803.9	-182.0	479.0	354.1	124.95	3.834	
11,500.0	7,425.0	11,710.2	7,645.0	71.5	71.6	-117.34	3,903.9	-182.0	479.0	351.0	128.01	3.742	
11,600.0	7,425.0	11,810.2	7,645.0	73.3	73.3	-117.34	4,003.9	-182.0	479.0	347.9	131.07	3.655	
11,700.0	7,425.0	11,910.2	7,645.0	75.0	75.0	-117.34	4,103.9	-182.0	479.0	344.9	134.14	3.571	
11,800.0	7,425.0	12,010.2	7,645.0	76.7	76.8	-117.34	4,203.9	-182.0	479.0	341.8	137.21	3.491	
11,900.0	7,425.0	12,110.2	7,645.0	78.4	78.5	-117.34	4,303.9	-182.0	479.0	338.7	140.28	3.415	
11,951.6	7,425.0	12,161.8	7,645.0	79.3	79.4	-117.34	4,355.5	-181.9	479.0	337.1	141.86	3.376	
11,960.2	7,425.0	12,170.4	7,645.0	79.5	79.5	-117.34	4,364.0	-181.9	479.0	336.9	142.13	3.370	
11,961.1	7,425.0	12,170.4	7,645.0	79.5	79.5	-117.34	4,364.0	-181.9	479.0	336.9	142.14	3.370 SF	

Cathedral Energy Services

Anticollision Report

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

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	1,301.9	1,301.9					
100.0	100.0	86.0	86.0	0.2	0.1	90.00	0.0	1,301.9	1,301.9	1,301.6	0.28	4,609.475		
200.0	200.0	186.0	186.0	0.3	0.3	90.00	0.0	1,301.9	1,301.9	1,301.2	0.63	2,071.960		
300.0	300.0	286.0	286.0	0.5	0.5	90.00	0.0	1,301.9	1,301.9	1,300.9	0.98	1,331.975		
400.0	400.0	386.0	386.0	0.7	0.7	90.00	0.0	1,301.9	1,301.9	1,300.5	1.33	981.455		
500.0	500.0	486.0	486.0	0.9	0.8	-61.38	0.0	1,301.9	1,301.0	1,299.3	1.68	775.792		
600.0	599.8	605.7	605.7	1.0	1.0	-61.66	-0.5	1,301.0	1,297.9	1,295.8	2.07	626.684		
700.0	699.5	728.3	728.2	1.3	1.3	-62.10	-2.5	1,298.1	1,291.3	1,288.8	2.49	518.567		
800.0	798.7	850.3	850.0	1.5	1.5	-62.72	-6.0	1,293.0	1,281.4	1,278.5	2.94	435.836		
900.0	897.7	971.7	971.2	1.8	1.7	-63.19	-10.9	1,285.8	1,269.0	1,265.6	3.41	372.286		
1,000.0	996.8	1,092.9	1,091.8	2.0	2.0	-63.60	-17.2	1,276.5	1,254.9	1,251.0	3.89	322.503		
1,100.0	1,095.8	1,213.6	1,211.7	2.3	2.3	-63.96	-25.0	1,265.2	1,239.1	1,234.7	4.39	282.479		
1,200.0	1,194.8	1,333.7	1,330.7	2.6	2.6	-64.27	-34.1	1,251.8	1,221.6	1,216.7	4.89	249.619		
1,300.0	1,293.8	1,453.1	1,448.7	2.9	2.9	-64.52	-44.5	1,236.5	1,202.3	1,196.9	5.41	222.158		
1,400.0	1,392.9	1,559.2	1,553.2	3.2	3.3	-64.70	-54.8	1,221.5	1,181.7	1,175.8	5.91	199.930		
1,500.0	1,491.9	1,657.0	1,649.5	3.5	3.6	-64.88	-64.4	1,207.4	1,160.9	1,154.5	6.40	181.534		
1,600.0	1,590.9	1,754.7	1,745.8	3.8	3.9	-65.05	-74.0	1,193.4	1,140.2	1,133.3	6.88	165.659		
1,700.0	1,689.9	1,852.5	1,842.1	4.1	4.2	-65.24	-83.5	1,179.4	1,119.4	1,112.0	7.37	151.839		
1,800.0	1,789.0	1,950.2	1,938.3	4.4	4.6	-65.43	-93.1	1,165.4	1,098.7	1,090.8	7.86	139.713		
1,900.0	1,888.0	2,048.0	2,034.6	4.7	4.9	-65.63	-102.7	1,151.3	1,077.9	1,069.6	8.36	128.994		
2,000.0	1,987.0	2,145.8	2,130.9	4.9	5.2	-65.84	-112.2	1,137.3	1,057.2	1,048.4	8.85	119.459		
2,100.0	2,086.1	2,243.5	2,227.2	5.2	5.5	-66.05	-121.8	1,123.3	1,036.5	1,027.2	9.34	110.925		
2,200.0	2,185.1	2,341.3	2,323.4	5.5	5.9	-66.28	-131.4	1,109.3	1,015.8	1,006.0	9.84	103.246		
2,300.0	2,284.1	2,439.0	2,419.7	5.8	6.2	-66.51	-140.9	1,095.2	995.2	984.8	10.33	96.302		
2,400.0	2,383.1	2,536.8	2,516.0	6.1	6.6	-66.75	-150.5	1,081.2	974.5	963.7	10.83	89.994		
2,500.0	2,482.2	2,634.6	2,612.3	6.4	6.9	-67.01	-160.1	1,067.2	953.9	942.6	11.32	84.241		
2,600.0	2,581.2	2,732.3	2,708.5	6.7	7.2	-67.27	-169.6	1,053.2	933.3	921.5	11.82	78.972		
2,700.0	2,680.2	2,830.1	2,804.8	7.0	7.6	-67.55	-179.2	1,039.2	912.7	900.4	12.31	74.132		
2,800.0	2,779.2	2,927.8	2,901.1	7.3	7.9	-67.84	-188.8	1,025.1	892.1	879.3	12.80	69.670		
2,900.0	2,878.3	3,025.6	2,997.3	7.6	8.2	-68.14	-198.3	1,011.1	871.5	858.2	13.30	65.544		
3,000.0	2,977.3	3,123.3	3,093.6	7.9	8.6	-68.46	-207.9	997.1	851.0	837.2	13.79	61.719		
3,100.0	3,076.3	3,221.1	3,189.9	8.2	8.9	-68.79	-217.5	983.1	830.5	816.2	14.28	58.163		
3,200.0	3,175.3	3,318.9	3,286.2	8.5	9.3	-69.14	-227.0	969.0	810.0	795.3	14.77	54.849		
3,300.0	3,274.4	3,416.6	3,382.4	8.8	9.6	-69.51	-236.6	955.0	789.6	774.3	15.26	51.755		
3,400.0	3,373.4	3,514.4	3,478.7	9.1	9.9	-69.90	-246.2	941.0	769.2	753.5	15.74	48.859		
3,500.0	3,472.4	3,612.1	3,575.0	9.4	10.3	-70.31	-255.7	927.0	748.8	732.6	16.23	46.144		
3,600.0	3,571.5	3,709.9	3,671.3	9.7	10.6	-70.74	-265.3	912.9	728.5	711.8	16.71	43.593		
3,700.0	3,670.5	3,807.7	3,767.5	10.0	11.0	-71.20	-274.9	898.9	708.2	691.0	17.19	41.193		
3,800.0	3,769.5	3,905.4	3,863.8	10.3	11.3	-71.68	-284.4	884.9	687.9	670.3	17.67	38.931		
3,900.0	3,868.5	4,003.2	3,960.1	10.6	11.7	-72.20	-294.0	870.9	667.8	649.6	18.15	36.797		
4,000.0	3,967.6	4,100.9	4,056.3	10.9	12.0	-72.74	-303.6	856.9	647.6	629.0	18.62	34.779		
4,040.0	4,007.2	4,140.0	4,094.9	11.0	12.1	-72.97	-307.4	851.2	639.6	620.8	18.81	34.003		
4,100.0	4,066.7	4,198.8	4,152.7	11.2	12.3	-73.03	-313.1	842.8	627.7	608.6	19.09	32.873		
4,200.0	4,166.2	4,296.9	4,249.3	11.4	12.7	-72.93	-322.7	828.7	608.8	589.2	19.53	31.163		
4,300.0	4,265.9	4,395.3	4,346.2	11.6	13.0	-72.53	-332.4	814.6	590.8	570.9	19.94	29.625		
4,400.0	4,365.9	4,493.8	4,443.2	11.7	13.4	-71.81	-342.0	800.5	573.9	553.6	20.33	28.237		
4,440.0	4,405.9	4,533.2	4,482.0	11.8	13.5	79.87	-345.9	794.9	567.5	547.0	20.48	27.713		
4,500.0	4,465.9	4,592.2	4,540.2	11.8	13.7	80.30	-351.6	786.4	558.0	537.3	20.70	26.959		
4,600.0	4,565.9	4,690.7	4,637.2	12.0	14.1	81.07	-361.3	772.3	542.2	521.1	21.07	25.732		
4,700.0	4,665.9	4,789.2	4,734.2	12.1	14.4	81.87	-370.9	758.1	526.5	505.0	21.45	24.543		
4,800.0	4,765.9	4,887.7	4,831.1	12.2	14.8	82.73	-380.6	744.0	510.9	489.1	21.84	23.390		
4,900.0	4,865.9	4,980.4	4,922.5	12.3	15.1	83.56	-389.4	731.1	495.9	473.7	22.22	22.318		

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 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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	4,965.9	5,072.3	5,013.3	12.4	15.3	84.34	-397.3	719.5	482.5	459.9	22.59	21.353		
5,100.0	5,065.9	5,164.6	5,104.8	12.6	15.6	85.09	-404.4	709.1	470.5	447.5	22.96	20.488		
5,200.0	5,165.9	5,257.3	5,196.8	12.7	15.8	85.77	-410.7	699.8	459.9	436.6	23.32	19.720		
5,300.0	5,265.9	5,350.4	5,289.4	12.8	16.1	86.40	-416.2	691.8	450.9	427.2	23.68	19.044		
5,400.0	5,365.9	5,443.7	5,382.4	12.9	16.3	86.94	-420.9	684.9	443.3	419.3	24.02	18.456		
5,500.0	5,465.9	5,537.3	5,475.7	13.1	16.4	87.40	-424.7	679.4	437.1	412.8	24.35	17.951		
5,600.0	5,565.9	5,631.1	5,569.4	13.2	16.6	87.77	-427.6	675.0	432.4	407.7	24.67	17.527		
5,700.0	5,665.9	5,725.1	5,663.3	13.3	16.7	88.03	-429.7	671.9	429.0	404.1	24.97	17.180		
5,800.0	5,765.9	5,819.1	5,757.3	13.4	16.9	88.19	-430.9	670.1	427.1	401.8	25.26	16.906		
5,900.0	5,865.9	5,913.7	5,851.9	13.6	17.0	88.24	-431.3	669.6	426.5	401.0	25.54	16.701		
6,000.0	5,965.9	6,013.7	5,951.9	13.7	17.1	88.24	-431.3	669.6	426.5	400.7	25.82	16.518		
6,100.0	6,065.9	6,113.7	6,051.9	13.8	17.2	88.24	-431.3	669.6	426.5	400.4	26.10	16.339		
6,200.0	6,165.9	6,213.7	6,151.9	14.0	17.3	88.24	-431.3	669.6	426.5	400.1	26.39	16.162		
6,300.0	6,265.9	6,313.7	6,251.9	14.1	17.4	88.24	-431.3	669.6	426.5	399.8	26.68	15.988		
6,400.0	6,365.9	6,413.7	6,351.9	14.2	17.5	88.24	-431.3	669.6	426.5	399.5	26.96	15.817		
6,500.0	6,465.9	6,513.7	6,451.9	14.4	17.6	88.24	-431.3	669.6	426.5	399.2	27.25	15.649		
6,600.0	6,565.9	6,613.7	6,551.9	14.5	17.7	88.24	-431.3	669.6	426.5	398.9	27.54	15.484		
6,700.0	6,665.9	6,713.7	6,651.9	14.7	17.8	88.24	-431.3	669.6	426.5	398.7	27.84	15.321		
6,742.9	6,708.8	6,756.7	6,694.8	14.7	17.9	88.24	-431.3	669.6	426.5	398.5	27.96	15.252		
6,750.0	6,715.9	6,763.7	6,701.9	14.7	17.9	88.24	-431.3	669.6	426.5	398.5	27.98	15.241		
6,800.0	6,765.8	6,813.7	6,751.8	14.8	18.0	88.54	-431.3	669.6	426.4	398.3	28.11	15.169		
6,850.0	6,815.5	6,863.3	6,801.5	14.8	18.0	89.32	-431.3	669.6	426.3	398.1	28.24	15.097		
6,880.3	6,845.4	6,893.2	6,831.4	14.8	18.0	90.00	-431.3	669.6	426.3	398.0	28.31	15.058 CC		
6,900.0	6,864.6	6,912.5	6,850.6	14.7	18.1	90.53	-431.3	669.6	426.3	397.9	28.36	15.031		
6,950.0	6,913.0	6,960.9	6,899.0	14.7	18.1	92.14	-431.3	669.6	426.6	398.1	28.48	14.978		
7,000.0	6,960.4	7,009.7	6,947.9	14.6	18.2	94.06	-430.5	669.6	427.5	398.9	28.58	14.958		
7,050.0	7,006.5	7,060.1	6,998.0	14.5	18.2	96.01	-426.5	669.6	428.9	400.3	28.61	14.993		
7,100.0	7,051.3	7,111.6	7,049.0	14.4	18.2	97.94	-418.6	669.6	430.8	402.3	28.57	15.081		
7,150.0	7,094.3	7,164.5	7,100.4	14.3	18.2	99.85	-406.8	669.6	433.3	404.8	28.46	15.223		
7,200.0	7,135.5	7,218.6	7,152.2	14.2	18.1	101.72	-390.8	669.6	436.2	407.9	28.29	15.418		
7,250.0	7,174.6	7,274.2	7,203.8	14.1	18.0	103.54	-370.4	669.6	439.6	411.5	28.06	15.663		
7,300.0	7,211.4	7,331.3	7,255.1	14.0	17.9	105.30	-345.3	669.6	443.2	415.4	27.78	15.953		
7,350.0	7,245.7	7,389.9	7,305.4	13.9	17.8	106.98	-315.4	669.6	447.2	419.7	27.46	16.284		
7,400.0	7,277.5	7,450.0	7,354.4	13.8	17.7	108.58	-280.5	669.6	451.3	424.1	27.11	16.643		
7,450.0	7,306.5	7,511.8	7,401.5	13.8	17.6	110.08	-240.5	669.6	455.4	428.7	26.76	17.018		
7,500.0	7,332.6	7,575.2	7,446.1	13.8	17.6	111.47	-195.4	669.6	459.6	433.2	26.43	17.387		
7,550.0	7,355.6	7,640.2	7,487.4	13.8	17.5	112.74	-145.3	669.6	463.6	437.4	26.15	17.725		
7,600.0	7,375.5	7,706.7	7,524.8	13.9	17.5	113.88	-90.4	669.6	467.4	441.4	25.96	18.002		
7,650.0	7,392.1	7,774.6	7,557.6	14.1	17.5	114.88	-31.0	669.6	470.8	444.9	25.88	18.193		
7,700.0	7,405.4	7,843.7	7,585.1	14.3	17.6	115.72	32.5	669.6	473.8	447.8	25.99	18.229		
7,750.0	7,415.3	7,914.0	7,606.6	14.5	17.8	116.39	99.4	669.5	476.2	450.0	26.27	18.130		
7,800.0	7,421.8	7,985.2	7,621.5	14.8	18.1	116.89	168.9	669.5	478.1	451.3	26.75	17.873		
7,850.0	7,424.8	8,057.0	7,629.6	15.1	18.5	117.21	240.2	669.5	479.3	451.8	27.44	17.468		
7,867.9	7,425.0	8,082.8	7,630.8	15.3	18.6	117.28	266.0	669.5	479.5	451.8	27.74	17.289		
7,900.0	7,425.0	8,120.7	7,631.0	15.5	18.9	117.30	303.9	669.5	479.6	451.4	28.23	16.988		
8,000.0	7,425.0	8,220.7	7,631.0	16.4	19.6	117.31	403.9	669.5	479.6	449.8	29.82	16.080		
8,100.0	7,425.0	8,320.7	7,631.0	17.4	20.4	117.31	503.9	669.5	479.6	447.9	31.65	15.154		
8,200.0	7,425.0	8,420.7	7,631.0	18.5	21.4	117.31	603.9	669.5	479.6	445.9	33.66	14.248		
8,300.0	7,425.0	8,520.7	7,631.0	19.7	22.5	117.31	703.9	669.5	479.5	443.7	35.83	13.384		
8,400.0	7,425.0	8,620.7	7,631.0	21.0	23.6	117.31	803.9	669.5	479.5	441.4	38.13	12.574		
8,500.0	7,425.0	8,720.7	7,631.0	22.4	24.8	117.31	903.9	669.4	479.5	439.0	40.55	11.826		
8,600.0	7,425.0	8,820.7	7,631.0	23.8	26.1	117.31	1,003.9	669.4	479.5	436.4	43.05	11.137		

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 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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	7,425.0	8,920.7	7,631.0	25.2	27.4	117.31	1,103.9	669.4	479.5	433.8	45.63	10.507	
8,800.0	7,425.0	9,020.7	7,631.0	26.7	28.8	117.31	1,203.9	669.4	479.5	431.2	48.28	9.931	
8,900.0	7,425.0	9,120.7	7,631.0	28.2	30.2	117.31	1,303.9	669.4	479.4	428.5	50.98	9.405	
9,000.0	7,425.0	9,220.7	7,631.0	29.8	31.7	117.31	1,403.9	669.4	479.4	425.7	53.72	8.924	
9,100.0	7,425.0	9,320.7	7,631.0	31.3	33.1	117.32	1,503.9	669.4	479.4	422.9	56.51	8.484	
9,200.0	7,425.0	9,420.7	7,631.0	32.9	34.6	117.32	1,603.9	669.4	479.4	420.1	59.32	8.081	
9,300.0	7,425.0	9,520.7	7,631.0	34.5	36.2	117.32	1,703.9	669.3	479.4	417.2	62.17	7.711	
9,400.0	7,425.0	9,620.7	7,631.0	36.1	37.7	117.32	1,803.9	669.3	479.4	414.3	65.04	7.370	
9,500.0	7,425.0	9,720.7	7,631.0	37.7	39.3	117.32	1,903.9	669.3	479.4	411.4	67.94	7.056	
9,600.0	7,425.0	9,820.7	7,631.0	39.4	40.8	117.32	2,003.9	669.3	479.3	408.5	70.85	6.766	
9,700.0	7,425.0	9,920.7	7,631.0	41.0	42.4	117.32	2,103.9	669.3	479.3	405.6	73.78	6.497	
9,800.0	7,425.0	10,020.7	7,631.0	42.7	44.0	117.32	2,203.9	669.3	479.3	402.6	76.72	6.247	
9,900.0	7,425.0	10,120.7	7,631.0	44.3	45.7	117.32	2,303.9	669.3	479.3	399.6	79.68	6.015	
10,000.0	7,425.0	10,220.7	7,631.0	46.0	47.3	117.32	2,403.9	669.3	479.3	396.6	82.65	5.799	
10,100.0	7,425.0	10,320.7	7,631.0	47.7	48.9	117.32	2,503.9	669.2	479.3	393.6	85.63	5.597	
10,200.0	7,425.0	10,420.7	7,631.0	49.4	50.6	117.33	2,603.9	669.2	479.3	390.6	88.62	5.408	
10,300.0	7,425.0	10,520.7	7,631.0	51.1	52.2	117.33	2,703.9	669.2	479.2	387.6	91.62	5.231	
10,400.0	7,425.0	10,620.7	7,631.0	52.7	53.9	117.33	2,803.9	669.2	479.2	384.6	94.63	5.064	
10,500.0	7,425.0	10,720.7	7,631.0	54.4	55.5	117.33	2,903.9	669.2	479.2	381.6	97.64	4.908	
10,600.0	7,425.0	10,820.7	7,631.0	56.1	57.2	117.33	3,003.9	669.2	479.2	378.5	100.66	4.760	
10,700.0	7,425.0	10,920.7	7,631.0	57.8	58.9	117.33	3,103.9	669.2	479.2	375.5	103.69	4.621	
10,800.0	7,425.0	11,020.7	7,631.0	59.5	60.5	117.33	3,203.9	669.2	479.2	372.4	106.72	4.490	
10,900.0	7,425.0	11,120.7	7,631.0	61.3	62.2	117.33	3,303.9	669.1	479.1	369.4	109.76	4.365	
11,000.0	7,425.0	11,220.7	7,631.0	63.0	63.9	117.33	3,403.9	669.1	479.1	366.3	112.80	4.248	
11,100.0	7,425.0	11,320.7	7,631.0	64.7	65.6	117.33	3,503.9	669.1	479.1	363.3	115.85	4.136	
11,200.0	7,425.0	11,420.7	7,631.0	66.4	67.3	117.33	3,603.9	669.1	479.1	360.2	118.90	4.030	
11,300.0	7,425.0	11,520.7	7,631.0	68.1	69.0	117.34	3,703.9	669.1	479.1	357.1	121.95	3.929	
11,400.0	7,425.0	11,620.7	7,631.0	69.8	70.7	117.34	3,803.9	669.1	479.1	354.1	125.01	3.832	
11,500.0	7,425.0	11,720.7	7,631.0	71.5	72.4	117.34	3,903.9	669.1	479.1	351.0	128.06	3.741	
11,600.0	7,425.0	11,820.7	7,631.0	73.3	74.1	117.34	4,003.9	669.1	479.0	347.9	131.13	3.653	
11,700.0	7,425.0	11,920.7	7,631.0	75.0	75.8	117.34	4,103.9	669.0	479.0	344.8	134.19	3.570	
11,800.0	7,425.0	12,020.7	7,631.0	76.7	77.5	117.34	4,203.9	669.0	479.0	341.8	137.26	3.490	
11,900.0	7,425.0	12,120.7	7,631.0	78.4	79.2	117.34	4,303.9	669.0	479.0	338.7	140.33	3.413	
11,944.5	7,425.0	12,165.1	7,631.0	79.2	80.0	117.34	4,348.4	669.0	479.0	337.3	141.69	3.380	
11,960.2	7,425.0	12,177.2	7,631.0	79.5	80.2	117.34	4,360.4	669.0	479.0	336.9	142.12	3.370	
11,961.1	7,425.0	12,177.2	7,631.0	79.5	80.2	117.34	4,360.4	669.0	479.0	336.9	142.13	3.370 ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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: O-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	1,310.3	1,310.3					
100.0	100.0	86.0	86.0	0.2	0.1	90.00	0.0	1,310.3	1,310.3	1,310.0	0.28	4,639.213		
200.0	200.0	186.0	186.0	0.3	0.3	90.00	0.0	1,310.3	1,310.3	1,309.6	0.63	2,085.328		
300.0	300.0	286.0	286.0	0.5	0.5	90.00	0.0	1,310.3	1,310.3	1,309.3	0.98	1,340.568		
400.0	400.0	386.0	386.0	0.7	0.7	90.00	0.0	1,310.3	1,310.3	1,308.9	1.33	987.787		
500.0	500.0	495.4	495.4	0.9	0.8	-61.36	-0.7	1,309.9	1,309.1	1,307.4	1.69	772.864		
600.0	599.8	606.2	606.2	1.0	1.0	-61.54	-3.3	1,308.7	1,305.5	1,303.4	2.08	629.004		
700.0	699.5	716.9	716.7	1.3	1.2	-61.82	-7.9	1,306.5	1,299.3	1,296.9	2.48	523.497		
800.0	798.7	827.3	826.9	1.5	1.5	-62.21	-14.3	1,303.4	1,290.7	1,287.8	2.93	441.004		
900.0	897.7	937.5	936.7	1.8	1.7	-62.45	-22.7	1,299.4	1,280.5	1,277.1	3.40	376.656		
1,000.0	996.8	1,047.7	1,046.3	2.0	2.0	-62.61	-33.0	1,294.5	1,269.4	1,265.5	3.90	325.713		
1,100.0	1,095.8	1,157.8	1,155.6	2.3	2.2	-62.68	-45.1	1,288.7	1,257.5	1,253.1	4.42	284.525		
1,200.0	1,194.8	1,261.1	1,257.9	2.6	2.5	-62.68	-58.0	1,282.6	1,244.9	1,240.0	4.94	251.905		
1,300.0	1,293.8	1,360.3	1,356.1	2.9	2.8	-62.67	-70.4	1,276.6	1,232.3	1,226.8	5.46	225.600		
1,400.0	1,392.9	1,459.5	1,454.4	3.2	3.1	-62.67	-82.9	1,270.7	1,219.6	1,213.7	5.99	203.668		
1,500.0	1,491.9	1,558.7	1,552.6	3.5	3.3	-62.66	-95.4	1,264.8	1,207.0	1,200.5	6.52	185.151		
1,600.0	1,590.9	1,657.9	1,650.8	3.8	3.6	-62.66	-107.8	1,258.8	1,194.3	1,187.3	7.05	169.338		
1,700.0	1,689.9	1,757.1	1,749.1	4.1	3.9	-62.65	-120.3	1,252.9	1,181.7	1,174.1	7.59	155.695		
1,800.0	1,789.0	1,856.3	1,847.3	4.4	4.2	-62.65	-132.7	1,246.9	1,169.0	1,160.9	8.13	143.815		
1,900.0	1,888.0	1,955.5	1,945.5	4.7	4.5	-62.64	-145.2	1,241.0	1,156.4	1,147.7	8.67	133.386		
2,000.0	1,987.0	2,054.7	2,043.8	4.9	4.8	-62.64	-157.7	1,235.0	1,143.7	1,134.5	9.21	124.161		
2,100.0	2,086.1	2,153.9	2,142.0	5.2	5.1	-62.63	-170.1	1,229.1	1,131.1	1,121.3	9.76	115.947		
2,200.0	2,185.1	2,253.1	2,240.2	5.5	5.4	-62.63	-182.6	1,223.2	1,118.4	1,108.1	10.30	108.590		
2,300.0	2,284.1	2,352.3	2,338.5	5.8	5.6	-62.62	-195.0	1,217.2	1,105.8	1,094.9	10.84	101.963		
2,400.0	2,383.1	2,451.5	2,436.7	6.1	5.9	-62.62	-207.5	1,211.3	1,093.1	1,081.7	11.39	95.964		
2,500.0	2,482.2	2,550.7	2,534.9	6.4	6.2	-62.61	-220.0	1,205.3	1,080.5	1,068.5	11.94	90.509		
2,600.0	2,581.2	2,649.9	2,633.1	6.7	6.5	-62.60	-232.4	1,199.4	1,067.8	1,055.3	12.48	85.528		
2,700.0	2,680.2	2,749.1	2,731.4	7.0	6.8	-62.60	-244.9	1,193.4	1,055.1	1,042.1	13.03	80.963		
2,800.0	2,779.2	2,848.2	2,829.6	7.3	7.1	-62.59	-257.3	1,187.5	1,042.5	1,028.9	13.58	76.763		
2,900.0	2,878.3	2,947.4	2,927.8	7.6	7.4	-62.58	-269.8	1,181.6	1,029.8	1,015.7	14.13	72.887		
3,000.0	2,977.3	3,046.6	3,026.1	7.9	7.7	-62.58	-282.3	1,175.6	1,017.2	1,002.5	14.68	69.300		
3,100.0	3,076.3	3,145.8	3,124.3	8.2	8.0	-62.57	-294.7	1,169.7	1,004.5	989.3	15.23	65.970		
3,200.0	3,175.3	3,245.0	3,222.5	8.5	8.3	-62.56	-307.2	1,163.7	991.9	976.1	15.78	62.870		
3,300.0	3,274.4	3,344.2	3,320.8	8.8	8.6	-62.56	-319.7	1,157.8	979.2	962.9	16.33	59.978		
3,400.0	3,373.4	3,443.4	3,419.0	9.1	8.9	-62.55	-332.1	1,151.8	966.6	949.7	16.88	57.274		
3,500.0	3,472.4	3,542.6	3,517.2	9.4	9.2	-62.54	-344.6	1,145.9	953.9	936.5	17.43	54.740		
3,600.0	3,571.5	3,641.8	3,615.5	9.7	9.5	-62.53	-357.0	1,140.0	941.3	923.3	17.98	52.361		
3,700.0	3,670.5	3,741.0	3,713.7	10.0	9.8	-62.52	-369.5	1,134.0	928.6	910.1	18.53	50.122		
3,800.0	3,769.5	3,840.2	3,811.9	10.3	10.1	-62.52	-382.0	1,128.1	916.0	896.9	19.08	48.012		
3,900.0	3,868.5	3,936.8	3,907.6	10.6	10.3	-62.51	-394.0	1,122.3	903.4	883.8	19.61	46.057		
4,000.0	3,967.6	4,029.7	3,999.7	10.9	10.6	-62.59	-404.4	1,117.4	891.4	871.2	20.12	44.292		
4,040.0	4,007.2	4,066.8	4,036.6	11.0	10.7	-62.64	-408.3	1,115.5	886.7	866.4	20.32	43.631		
4,100.0	4,066.7	4,122.6	4,092.1	11.2	10.8	-62.60	-413.6	1,113.0	880.3	859.7	20.61	42.707		
4,200.0	4,166.2	4,215.9	4,185.0	11.4	11.0	-62.48	-421.3	1,109.3	871.5	850.5	21.04	41.422		
4,300.0	4,265.9	4,309.3	4,278.2	11.6	11.2	-62.31	-427.8	1,106.2	865.1	843.6	21.41	40.408		
4,400.0	4,365.9	4,400.0	4,368.7	11.7	11.4	-62.08	-432.7	1,103.9	860.9	839.2	21.71	39.653		
4,440.0	4,405.9	4,440.4	4,409.1	11.8	11.5	89.34	-434.5	1,103.0	859.9	838.1	21.83	39.400		
4,500.0	4,465.9	4,496.7	4,465.2	11.8	11.5	89.47	-436.5	1,102.0	858.9	836.9	21.99	39.057		
4,600.0	4,565.9	4,590.5	4,559.0	12.0	11.7	89.63	-438.9	1,100.9	857.7	835.4	22.25	38.547		
4,700.0	4,665.9	4,684.4	4,652.9	12.1	11.8	89.69	-439.8	1,100.5	857.2	834.7	22.50	38.105		
4,740.0	4,705.9	4,723.3	4,691.9	12.1	11.8	89.69	-439.8	1,100.5	857.2	834.6	22.60	37.935		
4,800.0	4,765.9	4,783.3	4,751.9	12.2	11.9	89.69	-439.8	1,100.5	857.2	834.4	22.75	37.680		

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 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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	4,865.9	4,883.3	4,851.9	12.3	12.0	89.69	-439.8	1,100.5	857.2	834.2	23.01	37.259	
5,000.0	4,965.9	4,983.3	4,951.9	12.4	12.2	89.69	-439.8	1,100.5	857.2	833.9	23.27	36.843	
5,100.0	5,065.9	5,083.3	5,051.9	12.6	12.3	89.69	-439.8	1,100.5	857.2	833.7	23.53	36.433	
5,200.0	5,165.9	5,183.3	5,151.9	12.7	12.4	89.69	-439.8	1,100.5	857.2	833.4	23.79	36.029	
5,300.0	5,265.9	5,283.3	5,251.9	12.8	12.5	89.69	-439.8	1,100.5	857.2	833.1	24.06	35.630	
5,400.0	5,365.9	5,383.3	5,351.9	12.9	12.7	89.69	-439.8	1,100.5	857.2	832.9	24.33	35.237	
5,500.0	5,465.9	5,483.3	5,451.9	13.1	12.8	89.69	-439.8	1,100.5	857.2	832.6	24.60	34.849	
5,600.0	5,565.9	5,583.3	5,551.9	13.2	12.9	89.69	-439.8	1,100.5	857.2	832.3	24.87	34.468	
5,700.0	5,665.9	5,683.3	5,651.9	13.3	13.1	89.69	-439.8	1,100.5	857.2	832.0	25.14	34.092	
5,800.0	5,765.9	5,783.3	5,751.9	13.4	13.2	89.69	-439.8	1,100.5	857.2	831.8	25.42	33.721	
5,900.0	5,865.9	5,883.3	5,851.9	13.6	13.3	89.69	-439.8	1,100.5	857.2	831.5	25.70	33.357	
6,000.0	5,965.9	5,983.3	5,951.9	13.7	13.5	89.69	-439.8	1,100.5	857.2	831.2	25.98	32.998	
6,100.0	6,065.9	6,083.3	6,051.9	13.8	13.6	89.69	-439.8	1,100.5	857.2	830.9	26.26	32.644	
6,200.0	6,165.9	6,183.3	6,151.9	14.0	13.7	89.69	-439.8	1,100.5	857.2	830.6	26.54	32.296	
6,300.0	6,265.9	6,283.3	6,251.9	14.1	13.9	89.69	-439.8	1,100.5	857.2	830.4	26.83	31.954	
6,400.0	6,365.9	6,383.3	6,351.9	14.2	14.0	89.69	-439.8	1,100.5	857.2	830.1	27.11	31.617	
6,500.0	6,465.9	6,483.3	6,451.9	14.4	14.1	89.69	-439.8	1,100.5	857.2	829.8	27.40	31.285	
6,600.0	6,565.9	6,583.3	6,551.9	14.5	14.3	89.69	-439.8	1,100.5	857.2	829.5	27.69	30.959	
6,700.0	6,665.9	6,683.3	6,651.9	14.7	14.4	89.69	-439.8	1,100.5	857.2	829.2	27.98	30.638	
6,742.9	6,708.8	6,726.3	6,694.8	14.7	14.5	89.69	-439.8	1,100.5	857.2	829.1	28.10	30.502	
6,750.0	6,715.9	6,733.3	6,701.8	14.7	14.5	89.69	-439.8	1,100.5	857.2	829.1	28.12	30.482	
6,800.0	6,765.8	6,783.0	6,751.4	14.8	14.5	89.69	-437.6	1,100.5	857.2	829.0	28.19	30.406	
6,850.0	6,815.5	6,832.7	6,800.8	14.8	14.5	89.69	-431.9	1,100.5	857.2	829.0	28.20	30.398	
6,900.0	6,864.6	6,882.4	6,849.6	14.7	14.5	89.70	-422.9	1,100.5	857.2	829.0	28.15	30.454	
6,950.0	6,913.0	6,932.0	6,897.8	14.7	14.5	89.70	-410.4	1,100.5	857.2	829.1	28.04	30.567	
7,000.0	6,960.4	6,981.7	6,944.9	14.6	14.4	89.71	-394.7	1,100.5	857.2	829.3	27.89	30.732	
7,050.0	7,006.5	7,031.4	6,990.8	14.5	14.3	89.72	-375.8	1,100.5	857.2	829.5	27.70	30.942	
7,100.0	7,051.3	7,081.2	7,035.4	14.4	14.2	89.73	-353.7	1,100.5	857.2	829.7	27.48	31.188	
7,150.0	7,094.3	7,130.9	7,078.2	14.3	14.1	89.74	-328.5	1,100.5	857.2	829.9	27.25	31.458	
7,200.0	7,135.5	7,180.6	7,119.3	14.2	14.0	89.75	-300.5	1,100.5	857.2	830.2	27.01	31.740	
7,250.0	7,174.6	7,230.4	7,158.3	14.1	13.9	89.76	-269.6	1,100.5	857.2	830.4	26.77	32.018	
7,300.0	7,211.4	7,280.1	7,195.1	14.0	13.8	89.78	-236.1	1,100.5	857.2	830.6	26.56	32.276	
7,350.0	7,245.7	7,329.9	7,229.5	13.9	13.7	89.79	-200.1	1,100.5	857.2	830.8	26.38	32.495	
7,400.0	7,277.5	7,379.7	7,261.3	13.8	13.6	89.81	-161.8	1,100.5	857.1	830.9	26.25	32.654	
7,450.0	7,306.5	7,429.5	7,290.4	13.8	13.6	89.83	-121.4	1,100.5	857.1	831.0	26.18	32.735	
7,500.0	7,332.6	7,479.4	7,316.6	13.8	13.6	89.85	-79.0	1,100.5	857.1	830.9	26.20	32.721	
7,550.0	7,355.6	7,529.2	7,339.8	13.8	13.6	89.87	-34.9	1,100.5	857.1	830.8	26.29	32.597	
7,600.0	7,375.5	7,579.1	7,359.9	13.9	13.7	89.89	10.7	1,100.5	857.1	830.6	26.49	32.358	
7,650.0	7,392.1	7,629.0	7,376.8	14.1	13.9	89.91	57.6	1,100.5	857.1	830.3	26.79	31.999	
7,700.0	7,405.4	7,678.9	7,390.4	14.3	14.1	89.93	105.7	1,100.5	857.1	829.9	27.19	31.525	
7,750.0	7,415.3	7,728.8	7,400.6	14.5	14.3	89.95	154.5	1,100.5	857.1	829.4	27.70	30.948	
7,800.0	7,421.8	7,778.8	7,407.4	14.8	14.6	89.97	204.0	1,100.5	857.1	828.8	28.30	30.283	
7,850.0	7,424.8	7,828.8	7,410.7	15.1	14.9	89.99	253.9	1,100.5	857.1	828.1	29.01	29.549	
7,867.9	7,425.0	7,846.7	7,411.0	15.3	15.1	90.00	271.8	1,100.5	857.1	827.8	29.28	29.277	
7,900.0	7,425.0	7,878.8	7,411.0	15.5	15.3	90.00	303.9	1,100.5	857.1	827.3	29.80	28.766	
8,000.0	7,425.0	7,978.8	7,411.0	16.4	16.2	90.00	403.9	1,100.4	857.1	825.5	31.62	27.109	
8,100.0	7,425.0	8,078.8	7,411.0	17.4	17.2	90.00	503.9	1,100.4	857.1	823.4	33.70	25.434	
8,200.0	7,425.0	8,178.8	7,411.0	18.5	18.4	90.00	603.9	1,100.4	857.1	821.1	36.00	23.807	
8,300.0	7,425.0	8,278.8	7,411.0	19.7	19.6	90.00	703.9	1,100.4	857.1	818.6	38.49	22.269	
8,400.0	7,425.0	8,378.8	7,411.0	21.0	20.9	90.00	803.9	1,100.4	857.1	815.9	41.12	20.841	
8,500.0	7,425.0	8,478.8	7,411.0	22.4	22.2	90.00	903.9	1,100.4	857.0	813.2	43.88	19.531	
8,600.0	7,425.0	8,578.8	7,411.0	23.8	23.6	90.00	1,003.9	1,100.4	857.0	810.3	46.74	18.337	

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

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
8,700.0	7,425.0	8,678.8	7,411.0	25.2	25.1	90.00	1,103.9	1,100.4	857.0	807.3	49.68	17.251		
8,800.0	7,425.0	8,778.8	7,411.0	26.7	26.6	90.00	1,203.9	1,100.4	857.0	804.3	52.69	16.265		
8,900.0	7,425.0	8,878.8	7,411.0	28.2	28.1	90.00	1,303.9	1,100.4	857.0	801.2	55.76	15.369		
9,000.0	7,425.0	8,978.8	7,411.0	29.8	29.7	90.00	1,403.9	1,100.4	857.0	798.1	58.88	14.555		
9,100.0	7,425.0	9,078.8	7,411.0	31.3	31.2	90.00	1,503.9	1,100.4	857.0	794.9	62.04	13.813		
9,200.0	7,425.0	9,178.8	7,411.0	32.9	32.8	90.00	1,603.9	1,100.4	857.0	791.7	65.24	13.137		
9,300.0	7,425.0	9,278.8	7,411.0	34.5	34.4	90.00	1,703.9	1,100.4	857.0	788.5	68.46	12.517		
9,400.0	7,425.0	9,383.6	7,411.0	36.1	36.1	90.00	1,808.7	1,100.3	856.9	785.1	71.79	11.935		
9,500.0	7,425.0	9,501.2	7,411.0	37.7	38.0	90.00	1,926.2	1,098.4	855.3	779.9	75.36	11.350		
9,600.0	7,425.0	9,618.6	7,411.0	39.4	40.0	90.00	2,043.6	1,094.1	851.6	772.7	78.94	10.788		
9,700.0	7,425.0	9,735.8	7,411.0	41.0	41.9	90.00	2,160.6	1,087.5	845.9	763.4	82.54	10.249		
9,800.0	7,425.0	9,837.8	7,411.0	42.7	43.6	90.00	2,262.4	1,080.4	839.0	753.1	85.90	9.766		
9,900.0	7,425.0	9,937.6	7,411.0	44.3	45.3	90.00	2,361.9	1,073.4	832.0	742.7	89.24	9.323		
10,000.0	7,425.0	10,037.4	7,411.0	46.0	47.0	90.00	2,461.4	1,066.4	825.0	732.4	92.59	8.910		
10,100.0	7,425.0	10,137.1	7,411.0	47.7	48.7	90.00	2,560.9	1,059.5	818.0	722.1	95.96	8.525		
10,200.0	7,425.0	10,236.9	7,411.0	49.4	50.3	90.00	2,660.5	1,052.5	811.0	711.7	99.33	8.165		
10,300.0	7,425.0	10,336.6	7,411.0	51.1	52.0	90.00	2,760.0	1,045.5	804.0	701.3	102.71	7.828		
10,400.0	7,425.0	10,436.4	7,411.0	52.7	53.7	90.00	2,859.5	1,038.6	797.1	691.0	106.10	7.513		
10,500.0	7,425.0	10,536.1	7,411.0	54.4	55.4	90.00	2,959.0	1,031.6	790.1	680.6	109.49	7.216		
10,600.0	7,425.0	10,625.7	7,411.0	56.1	57.0	90.00	3,048.4	1,025.8	783.6	670.9	112.72	6.952		
10,700.0	7,425.0	10,713.6	7,411.0	57.8	58.5	90.00	3,136.2	1,021.5	778.7	662.8	115.93	6.717		
10,800.0	7,425.0	10,800.0	7,411.0	59.5	59.9	90.00	3,222.5	1,018.6	775.3	656.2	119.12	6.509		
10,900.0	7,425.0	10,889.7	7,411.0	61.3	61.5	90.00	3,312.2	1,016.9	773.5	651.1	122.36	6.321		
10,970.5	7,425.0	10,951.9	7,411.0	62.5	62.5	90.00	3,374.3	1,016.6	773.1	648.4	124.64	6.203 CC		
11,000.0	7,425.0	10,977.8	7,411.0	63.0	63.0	90.00	3,400.3	1,016.6	773.2	647.6	125.59	6.156		
11,100.0	7,425.0	11,065.9	7,411.0	64.7	64.5	90.00	3,488.4	1,017.7	774.4	645.6	128.82	6.011		
11,200.0	7,425.0	11,153.9	7,411.0	66.4	66.0	90.00	3,576.4	1,020.1	777.1	645.1	132.05	5.885 ES		
11,300.0	7,425.0	11,241.9	7,411.0	68.1	67.5	90.00	3,664.3	1,023.9	781.4	646.1	135.28	5.776		
11,400.0	7,425.0	11,329.7	7,411.0	69.8	69.0	90.00	3,751.9	1,029.0	787.3	648.7	138.51	5.684		
11,500.0	7,425.0	11,417.3	7,411.0	71.5	70.5	90.00	3,839.3	1,035.5	794.6	652.9	141.74	5.606		
11,600.0	7,425.0	11,500.0	7,411.0	73.3	71.9	90.00	3,921.7	1,042.8	803.5	658.6	144.89	5.546		
11,700.0	7,425.0	11,591.9	7,411.0	75.0	73.5	90.00	4,013.1	1,052.3	813.9	665.7	148.19	5.492		
11,800.0	7,425.0	11,681.9	7,411.0	76.7	75.0	90.00	4,102.4	1,063.0	825.7	674.3	151.47	5.452		
11,900.0	7,425.0	11,781.1	7,411.0	78.4	76.7	90.00	4,200.9	1,075.2	838.0	683.1	154.90	5.410		
11,960.2	7,425.0	11,840.9	7,411.0	79.5	77.7	90.00	4,260.2	1,082.5	845.4	688.4	156.97	5.386		
11,961.1	7,425.0	11,841.7	7,411.0	79.5	77.7	90.00	4,261.0	1,082.6	845.5	688.5	157.00	5.385 SF		

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

Cathedral Energy Services

Anticollision Report

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

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4F-14H - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	1,321.4	1,321.5					
100.0	100.0	86.0	86.0	0.2	0.1	90.00	0.0	1,321.4	1,321.4	1,321.2	0.28	4,678.865		
200.0	200.0	186.0	186.0	0.3	0.3	90.00	0.0	1,321.4	1,321.4	1,320.8	0.63	2,103.151		
300.0	300.0	286.0	286.0	0.5	0.5	90.00	0.0	1,321.4	1,321.4	1,320.5	0.98	1,352.026		
400.0	400.0	378.7	378.7	0.7	0.6	90.02	-0.5	1,321.7	1,321.7	1,320.4	1.31	1,005.935		
500.0	500.0	470.1	470.1	0.9	0.8	-61.26	-2.3	1,322.5	1,321.7	1,320.1	1.65	799.868		
600.0	599.8	561.6	561.5	1.0	1.0	-61.32	-5.4	1,323.9	1,320.7	1,318.7	2.00	659.099		
700.0	699.5	653.1	652.8	1.3	1.1	-61.47	-9.9	1,325.8	1,318.7	1,316.3	2.38	553.979		
800.0	798.7	744.5	744.1	1.5	1.3	-61.70	-15.7	1,328.4	1,315.7	1,312.9	2.79	470.829		
900.0	897.7	836.0	835.2	1.8	1.5	-61.87	-22.9	1,331.6	1,312.5	1,309.2	3.23	405.829		
1,000.0	996.8	927.7	926.4	2.0	1.7	-61.99	-31.4	1,335.3	1,309.9	1,306.2	3.70	354.492		
1,100.0	1,095.8	1,019.4	1,017.5	2.3	2.0	-62.05	-41.2	1,339.7	1,307.9	1,303.8	4.18	313.186		
1,200.0	1,194.8	1,111.2	1,108.5	2.6	2.2	-62.06	-52.4	1,344.6	1,306.6	1,302.0	4.68	279.381		
1,300.0	1,293.8	1,200.0	1,196.3	2.9	2.5	-62.00	-64.5	1,349.9	1,306.0	1,300.8	5.19	251.735		
1,364.5	1,357.7	1,262.1	1,257.6	3.1	2.7	-61.93	-73.7	1,354.0	1,305.8	1,300.3	5.55	235.499		
1,400.0	1,392.9	1,294.7	1,289.7	3.2	2.8	-61.88	-78.8	1,356.2	1,305.9	1,300.2	5.74	227.651		
1,500.0	1,491.9	1,394.1	1,387.6	3.5	3.1	-61.72	-94.6	1,363.2	1,306.2	1,299.9	6.31	207.165		
1,600.0	1,590.9	1,494.1	1,486.0	3.8	3.4	-61.56	-110.4	1,370.2	1,306.5	1,299.7	6.88	189.898		
1,700.0	1,689.9	1,594.0	1,584.5	4.1	3.8	-61.39	-126.3	1,377.2	1,306.9	1,299.4	7.46	175.217		
1,800.0	1,789.0	1,693.9	1,682.9	4.4	4.1	-61.23	-142.2	1,384.2	1,307.2	1,299.2	8.04	162.603		
1,900.0	1,888.0	1,793.9	1,781.3	4.7	4.4	-61.07	-158.1	1,391.2	1,307.6	1,299.0	8.62	151.663		
2,000.0	1,987.0	1,893.8	1,879.7	4.9	4.8	-60.90	-173.9	1,398.2	1,307.9	1,298.7	9.20	142.092		
2,100.0	2,086.1	1,993.7	1,978.1	5.2	5.1	-60.74	-189.8	1,405.2	1,308.3	1,298.5	9.79	133.654		
2,200.0	2,185.1	2,093.6	2,076.5	5.5	5.5	-60.58	-205.7	1,412.2	1,308.7	1,298.3	10.37	126.165		
2,300.0	2,284.1	2,193.6	2,174.9	5.8	5.8	-60.42	-221.6	1,419.2	1,309.1	1,298.1	10.96	119.474		
2,400.0	2,383.1	2,293.5	2,273.3	6.1	6.2	-60.25	-237.5	1,426.2	1,309.5	1,298.0	11.54	113.463		
2,500.0	2,482.2	2,393.4	2,371.8	6.4	6.5	-60.09	-253.3	1,433.2	1,309.9	1,297.8	12.13	108.035		
2,600.0	2,581.2	2,493.4	2,470.2	6.7	6.8	-59.93	-269.2	1,440.2	1,310.4	1,297.7	12.71	103.110		
2,700.0	2,680.2	2,593.3	2,568.6	7.0	7.2	-59.77	-285.1	1,447.2	1,310.8	1,297.5	13.29	98.622		
2,800.0	2,779.2	2,693.2	2,667.0	7.3	7.5	-59.61	-301.0	1,454.2	1,311.3	1,297.4	13.87	94.517		
2,900.0	2,878.3	2,793.2	2,765.4	7.6	7.9	-59.44	-316.8	1,461.2	1,311.7	1,297.3	14.45	90.747		
3,000.0	2,977.3	2,893.1	2,863.8	7.9	8.2	-59.28	-332.7	1,468.2	1,312.2	1,297.1	15.04	87.274		
3,100.0	3,076.3	2,993.0	2,962.2	8.2	8.6	-59.12	-348.6	1,475.2	1,312.7	1,297.1	15.61	84.065		
3,200.0	3,175.3	3,093.3	3,061.0	8.5	8.9	-58.96	-364.5	1,482.3	1,313.2	1,297.0	16.19	81.086		
3,300.0	3,274.4	3,204.5	3,170.7	8.8	9.3	-58.82	-381.2	1,489.6	1,313.2	1,296.4	16.79	78.231		
3,400.0	3,373.4	3,315.8	3,280.9	9.1	9.6	-58.77	-395.9	1,496.1	1,312.4	1,295.0	17.36	75.609		
3,500.0	3,472.4	3,427.1	3,391.3	9.4	9.9	-58.81	-408.6	1,501.7	1,310.7	1,292.8	17.91	73.179		
3,600.0	3,571.5	3,538.3	3,501.9	9.7	10.2	-58.93	-419.4	1,506.5	1,308.2	1,289.7	18.45	70.915		
3,700.0	3,670.5	3,649.3	3,612.4	10.0	10.4	-59.13	-428.1	1,510.3	1,304.8	1,285.8	18.97	68.794		
3,800.0	3,769.5	3,760.1	3,722.9	10.3	10.6	-59.42	-434.9	1,513.3	1,300.6	1,281.1	19.47	66.800		
3,900.0	3,868.5	3,870.5	3,833.2	10.6	10.8	-59.80	-439.8	1,515.5	1,295.6	1,275.6	19.96	64.916		
4,000.0	3,967.6	3,980.5	3,943.1	10.9	10.9	-60.26	-442.7	1,516.7	1,289.8	1,269.4	20.43	63.132		
4,040.0	4,007.2	4,024.3	3,987.0	11.0	11.0	-60.47	-443.3	1,517.0	1,287.3	1,266.7	20.62	62.443		
4,100.0	4,066.7	4,090.0	4,052.7	11.2	11.1	-60.72	-443.6	1,517.2	1,283.6	1,262.8	20.87	61.508		
4,200.0	4,166.2	4,189.5	4,152.2	11.4	11.2	-61.03	-443.6	1,517.2	1,278.7	1,257.5	21.23	60.228		
4,300.0	4,265.9	4,289.3	4,251.9	11.6	11.3	-61.23	-443.6	1,517.2	1,275.5	1,253.9	21.54	59.204		
4,400.0	4,365.9	4,389.2	4,351.9	11.7	11.4	-61.33	-443.6	1,517.2	1,274.0	1,252.2	21.81	58.418		
4,440.0	4,405.9	4,429.2	4,391.9	11.8	11.5	89.96	-443.6	1,517.2	1,273.8	1,251.9	21.90	58.153		
4,500.0	4,465.9	4,489.2	4,451.9	11.8	11.5	89.96	-443.6	1,517.2	1,273.8	1,251.8	22.05	57.763		
4,600.0	4,565.9	4,589.2	4,551.9	12.0	11.7	89.96	-443.6	1,517.2	1,273.8	1,251.5	22.30	57.118		
4,700.0	4,665.9	4,689.2	4,651.9	12.1	11.8	89.96	-443.6	1,517.2	1,273.8	1,251.3	22.55	56.481		
4,800.0	4,765.9	4,789.2	4,751.9	12.2	11.9	89.96	-443.6	1,517.2	1,273.8	1,251.0	22.81	55.851		

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 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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	4,865.9	4,889.2	4,851.9	12.3	12.0	89.96	-443.6	1,517.2	1,273.8	1,250.8	23.06	55.230		
5,000.0	4,965.9	4,989.2	4,951.9	12.4	12.1	89.96	-443.6	1,517.2	1,273.8	1,250.5	23.32	54.616		
5,100.0	5,065.9	5,089.2	5,051.9	12.6	12.3	89.96	-443.6	1,517.2	1,273.8	1,250.3	23.58	54.011		
5,200.0	5,165.9	5,189.2	5,151.9	12.7	12.4	89.96	-443.6	1,517.2	1,273.8	1,250.0	23.85	53.414		
5,300.0	5,265.9	5,289.2	5,251.9	12.8	12.5	89.96	-443.6	1,517.2	1,273.8	1,249.7	24.11	52.825		
5,400.0	5,365.9	5,389.2	5,351.9	12.9	12.6	89.96	-443.6	1,517.2	1,273.8	1,249.5	24.38	52.245		
5,500.0	5,465.9	5,489.2	5,451.9	13.1	12.8	89.96	-443.6	1,517.2	1,273.8	1,249.2	24.65	51.672		
5,600.0	5,565.9	5,589.2	5,551.9	13.2	12.9	89.96	-443.6	1,517.2	1,273.8	1,248.9	24.92	51.109		
5,700.0	5,665.9	5,689.2	5,651.9	13.3	13.0	89.96	-443.6	1,517.2	1,273.8	1,248.6	25.20	50.553		
5,800.0	5,765.9	5,789.2	5,751.9	13.4	13.2	89.96	-443.6	1,517.2	1,273.8	1,248.4	25.47	50.006		
5,900.0	5,865.9	5,889.2	5,851.9	13.6	13.3	89.96	-443.6	1,517.2	1,273.8	1,248.1	25.75	49.468		
6,000.0	5,965.9	5,989.2	5,951.9	13.7	13.4	89.96	-443.6	1,517.2	1,273.8	1,247.8	26.03	48.937		
6,100.0	6,065.9	6,089.2	6,051.9	13.8	13.6	89.96	-443.6	1,517.2	1,273.8	1,247.5	26.31	48.415		
6,200.0	6,165.9	6,189.2	6,151.9	14.0	13.7	89.96	-443.6	1,517.2	1,273.8	1,247.2	26.59	47.901		
6,300.0	6,265.9	6,289.2	6,251.9	14.1	13.9	89.96	-443.6	1,517.2	1,273.8	1,247.0	26.88	47.394		
6,400.0	6,365.9	6,389.2	6,351.9	14.2	14.0	89.96	-443.6	1,517.2	1,273.8	1,246.7	27.16	46.896		
6,500.0	6,465.9	6,489.2	6,451.9	14.4	14.1	89.96	-443.6	1,517.2	1,273.8	1,246.4	27.45	46.406		
6,600.0	6,565.9	6,589.2	6,551.9	14.5	14.3	89.96	-443.6	1,517.2	1,273.8	1,246.1	27.74	45.923		
6,700.0	6,665.9	6,689.2	6,651.9	14.7	14.4	89.96	-443.6	1,517.2	1,273.8	1,245.8	28.03	45.449		
6,742.9	6,708.8	6,732.1	6,694.8	14.7	14.5	89.96	-443.6	1,517.2	1,273.8	1,245.7	28.15	45.247		
6,750.0	6,715.9	6,739.2	6,701.9	14.7	14.5	89.96	-443.6	1,517.2	1,273.8	1,245.7	28.17	45.216		
6,777.9	6,743.7	6,767.0	6,729.7	14.8	14.5	90.00	-443.6	1,517.2	1,273.8	1,245.6	28.23	45.124 CC		
6,800.0	6,765.8	6,789.1	6,751.8	14.8	14.6	90.06	-443.6	1,517.2	1,273.8	1,245.6	28.27	45.055		
6,850.0	6,815.5	6,838.8	6,801.5	14.8	14.6	90.32	-443.6	1,517.2	1,273.9	1,245.5	28.33	44.965		
6,900.0	6,864.6	6,887.9	6,850.6	14.7	14.7	90.72	-443.6	1,517.2	1,273.9	1,245.6	28.35	44.941		
6,950.0	6,913.0	6,936.3	6,899.0	14.7	14.8	91.24	-443.6	1,517.2	1,274.2	1,245.8	28.33	44.979		
7,000.0	6,960.4	6,985.8	6,948.5	14.6	14.8	91.89	-442.8	1,517.2	1,274.6	1,246.3	28.26	45.102		
7,050.0	7,006.5	7,031.1	6,999.6	14.5	14.8	92.54	-438.6	1,517.2	1,275.2	1,247.1	28.14	45.310		
7,100.0	7,051.3	7,089.7	7,051.5	14.4	14.8	93.19	-430.5	1,517.2	1,276.0	1,248.0	27.99	45.593		
7,150.0	7,094.3	7,143.6	7,104.0	14.3	14.8	93.84	-418.2	1,517.2	1,277.0	1,249.2	27.80	45.942		
7,200.0	7,135.5	7,198.8	7,156.7	14.2	14.7	94.48	-401.6	1,517.2	1,278.1	1,250.5	27.58	46.345		
7,250.0	7,174.6	7,255.6	7,209.3	14.1	14.6	95.10	-380.3	1,517.2	1,279.3	1,252.0	27.34	46.791		
7,300.0	7,211.4	7,313.9	7,261.4	14.0	14.5	95.71	-354.2	1,517.2	1,280.7	1,253.6	27.10	47.255		
7,350.0	7,245.7	7,373.7	7,312.5	13.9	14.4	96.29	-323.1	1,517.2	1,282.1	1,255.2	26.87	47.713		
7,400.0	7,277.5	7,435.2	7,362.0	13.8	14.2	96.85	-286.8	1,517.2	1,283.6	1,256.9	26.67	48.134		
7,450.0	7,306.5	7,498.2	7,409.5	13.8	14.1	97.39	-245.3	1,517.2	1,285.0	1,258.5	26.50	48.484		
7,500.0	7,332.6	7,562.8	7,454.1	13.8	14.0	97.88	-198.7	1,517.2	1,286.5	1,260.1	26.41	48.714		
7,550.0	7,355.6	7,629.0	7,495.3	13.8	13.9	98.33	-146.9	1,517.2	1,287.9	1,261.5	26.40	48.789		
7,600.0	7,375.5	7,696.6	7,532.3	13.9	13.9	98.73	-90.3	1,517.2	1,289.1	1,262.6	26.48	48.676		
7,650.0	7,392.1	7,765.5	7,564.3	14.1	14.0	99.08	-29.4	1,517.2	1,290.3	1,263.6	26.70	48.319		
7,700.0	7,405.4	7,835.5	7,590.6	14.3	14.1	99.36	35.5	1,517.2	1,291.2	1,264.1	27.05	47.729		
7,750.0	7,415.3	7,906.4	7,610.8	14.5	14.4	99.58	103.5	1,517.2	1,291.9	1,264.4	27.55	46.897		
7,800.0	7,421.8	7,978.1	7,624.2	14.8	14.7	99.72	173.8	1,517.2	1,292.4	1,264.2	28.20	45.836		
7,850.0	7,424.8	8,050.1	7,630.5	15.1	15.2	99.79	245.5	1,517.2	1,292.6	1,263.7	28.98	44.610		
7,867.9	7,425.0	8,076.0	7,631.0	15.3	15.4	99.80	271.4	1,517.2	1,292.7	1,263.4	29.29	44.132		
7,900.0	7,425.0	8,108.4	7,631.0	15.5	15.6	99.80	303.8	1,517.2	1,292.7	1,262.9	29.80	43.371		
8,000.0	7,425.0	8,208.4	7,631.0	16.4	16.5	99.80	403.8	1,517.2	1,292.7	1,261.1	31.58	40.932		
8,100.0	7,425.0	8,308.4	7,631.0	17.4	17.5	99.80	503.8	1,517.2	1,292.7	1,259.0	33.62	38.450		
8,200.0	7,425.0	8,408.4	7,631.0	18.5	18.6	99.80	603.8	1,517.2	1,292.7	1,256.8	35.88	36.032		
8,300.0	7,425.0	8,508.4	7,631.0	19.7	19.8	99.80	703.8	1,517.2	1,292.6	1,254.3	38.31	33.740		
8,400.0	7,425.0	8,608.4	7,631.0	21.0	21.1	99.80	803.8	1,517.2	1,292.6	1,251.7	40.90	31.609		
8,500.0	7,425.0	8,708.4	7,631.0	22.4	22.5	99.80	903.8	1,517.2	1,292.6	1,249.0	43.60	29.648		

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mathews 4C-14H
Project:	DJ Wattenberg	TVD Reference:	Well @ 5131.0ft (Ensign)
Reference Site:	SWSE S14 T1N-R66W (Mathews)	MD Reference:	Well @ 5131.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Mathews 4C-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			
8,600.0	7,425.0	8,808.4	7,631.0	23.8	23.9	99.80	1,003.8	1,517.2	1,292.6	1,246.2	46.41	27.855		
8,700.0	7,425.0	8,908.4	7,631.0	25.2	25.3	99.80	1,103.8	1,517.2	1,292.6	1,243.3	49.29	26.223		
8,800.0	7,425.0	9,008.4	7,631.0	26.7	26.8	99.80	1,203.8	1,517.2	1,292.6	1,240.4	52.25	24.739		
8,900.0	7,425.0	9,108.4	7,631.0	28.2	28.3	99.80	1,303.8	1,517.2	1,292.6	1,237.4	55.27	23.389		
9,000.0	7,425.0	9,208.4	7,631.0	29.8	29.8	99.80	1,403.8	1,517.2	1,292.6	1,234.3	58.33	22.160		
9,100.0	7,425.0	9,308.4	7,631.0	31.3	31.4	99.80	1,503.8	1,517.2	1,292.6	1,231.2	61.44	21.040		
9,200.0	7,425.0	9,408.4	7,631.0	32.9	33.0	99.80	1,603.8	1,517.2	1,292.6	1,228.0	64.58	20.016		
9,300.0	7,425.0	9,508.4	7,631.0	34.5	34.6	99.80	1,703.8	1,517.2	1,292.6	1,224.9	67.75	19.079		
9,400.0	7,425.0	9,608.4	7,631.0	36.1	36.2	99.80	1,803.8	1,517.2	1,292.6	1,221.7	70.95	18.218		
9,500.0	7,425.0	9,708.4	7,631.0	37.7	37.8	99.80	1,903.8	1,517.2	1,292.6	1,218.4	74.17	17.427		
9,600.0	7,425.0	9,808.4	7,631.0	39.4	39.5	99.80	2,003.8	1,517.2	1,292.6	1,215.2	77.42	16.697		
9,700.0	7,425.0	9,908.4	7,631.0	41.0	41.1	99.80	2,103.8	1,517.2	1,292.6	1,211.9	80.68	16.022		
9,800.0	7,425.0	10,008.4	7,631.0	42.7	42.8	99.80	2,203.8	1,517.2	1,292.6	1,208.6	83.95	15.397		
9,900.0	7,425.0	10,108.4	7,631.0	44.3	44.4	99.80	2,303.8	1,517.2	1,292.6	1,205.3	87.24	14.816		
10,000.0	7,425.0	10,208.4	7,631.0	46.0	46.1	99.80	2,403.8	1,517.2	1,292.6	1,202.0	90.55	14.275		
10,100.0	7,425.0	10,308.4	7,631.0	47.7	47.8	99.80	2,503.8	1,517.2	1,292.6	1,198.7	93.86	13.771		
10,200.0	7,425.0	10,408.4	7,631.0	49.4	49.5	99.80	2,603.8	1,517.2	1,292.6	1,195.4	97.18	13.300		
10,300.0	7,425.0	10,508.4	7,631.0	51.1	51.1	99.80	2,703.8	1,517.2	1,292.6	1,192.0	100.52	12.859		
10,400.0	7,425.0	10,608.4	7,631.0	52.7	52.8	99.80	2,803.8	1,517.2	1,292.6	1,188.7	103.86	12.446		
10,500.0	7,425.0	10,708.4	7,631.0	54.4	54.5	99.80	2,903.8	1,517.2	1,292.6	1,185.3	107.21	12.057		
10,600.0	7,425.0	10,808.4	7,631.0	56.1	56.2	99.80	3,003.8	1,517.2	1,292.6	1,182.0	110.56	11.691		
10,700.0	7,425.0	10,908.4	7,631.0	57.8	57.9	99.80	3,103.8	1,517.2	1,292.5	1,178.6	113.92	11.346		
10,800.0	7,425.0	11,008.4	7,631.0	59.5	59.6	99.80	3,203.8	1,517.2	1,292.5	1,175.3	117.29	11.020		
10,900.0	7,425.0	11,108.4	7,631.0	61.3	61.3	99.80	3,303.8	1,517.2	1,292.5	1,171.9	120.66	10.712		
11,000.0	7,425.0	11,208.4	7,631.0	63.0	63.0	99.80	3,403.8	1,517.2	1,292.5	1,168.5	124.04	10.420		
11,100.0	7,425.0	11,308.4	7,631.0	64.7	64.8	99.80	3,503.8	1,517.2	1,292.5	1,165.1	127.42	10.144		
11,200.0	7,425.0	11,408.4	7,631.0	66.4	66.5	99.80	3,603.8	1,517.2	1,292.5	1,161.7	130.80	9.881		
11,300.0	7,425.0	11,508.4	7,631.0	68.1	68.2	99.80	3,703.8	1,517.2	1,292.5	1,158.3	134.19	9.632		
11,400.0	7,425.0	11,608.4	7,631.0	69.8	69.9	99.80	3,803.8	1,517.2	1,292.5	1,154.9	137.59	9.394		
11,500.0	7,425.0	11,708.4	7,631.0	71.5	71.6	99.80	3,903.8	1,517.2	1,292.5	1,151.5	140.98	9.168		
11,600.0	7,425.0	11,808.4	7,631.0	73.3	73.3	99.80	4,003.8	1,517.2	1,292.5	1,148.1	144.38	8.952		
11,700.0	7,425.0	11,908.4	7,631.0	75.0	75.1	99.80	4,103.8	1,517.2	1,292.5	1,144.7	147.78	8.746		
11,800.0	7,425.0	12,008.4	7,631.0	76.7	76.8	99.80	4,203.8	1,517.2	1,292.5	1,141.3	151.18	8.549		
11,900.0	7,425.0	12,108.4	7,631.0	78.4	78.5	99.80	4,303.8	1,517.2	1,292.5	1,137.9	154.59	8.361		
11,942.7	7,425.0	12,151.1	7,631.0	79.2	79.3	99.80	4,346.5	1,517.2	1,292.5	1,136.4	156.04	8.283		
11,960.2	7,425.0	12,161.4	7,631.0	79.5	79.4	99.80	4,356.8	1,517.2	1,292.5	1,136.0	156.52	8.258		
11,961.1	7,425.0	12,161.4	7,631.0	79.5	79.4	99.80	4,356.8	1,517.2	1,292.5	1,136.0	156.53	8.257 ES, SF		

Cathedral Energy Services

Anticollision Report

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

Offset Design SWSE S14 T1N-R66W (Mathews) - Mathews 4G-14H - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.16	-3.6	1,332.6	1,332.7					
100.0	100.0	86.0	86.0	0.2	0.1	90.16	-3.6	1,332.6	1,332.7	1,332.4	0.28	4,718.534		
200.0	200.0	186.0	186.0	0.3	0.3	90.16	-3.6	1,332.6	1,332.7	1,332.0	0.63	2,120.982	CC, ES	
300.0	300.0	272.4	272.4	0.5	0.5	90.17	-3.9	1,333.0	1,333.1	1,332.1	0.95	1,397.796		
400.0	400.0	356.5	356.5	0.7	0.6	90.21	-4.9	1,334.4	1,334.7	1,333.4	1.28	1,046.604		
500.0	500.0	440.7	440.6	0.9	0.8	-61.04	-6.6	1,336.7	1,336.7	1,335.1	1.60	834.356		
600.0	599.8	524.8	524.6	1.0	0.9	-61.07	-9.1	1,340.1	1,338.1	1,336.2	1.94	690.196		
700.0	699.5	608.8	608.5	1.3	1.1	-61.20	-12.2	1,344.4	1,339.1	1,336.8	2.30	582.942		
800.0	798.7	700.0	699.4	1.5	1.3	-61.43	-16.5	1,350.2	1,339.6	1,336.9	2.70	495.798		
803.9	802.5	700.0	699.4	1.5	1.3	-61.43	-16.5	1,350.2	1,339.6	1,336.9	2.71	494.054		
900.0	897.7	776.9	775.9	1.8	1.5	-61.65	-20.8	1,356.0	1,340.4	1,337.3	3.10	432.441		
1,000.0	996.8	861.0	859.5	2.0	1.7	-61.85	-26.1	1,363.3	1,342.4	1,338.9	3.53	380.790		
1,100.0	1,095.8	945.1	943.0	2.3	1.9	-62.03	-32.2	1,371.6	1,345.7	1,341.7	3.96	339.523		
1,200.0	1,194.8	1,029.2	1,026.3	2.6	2.1	-62.18	-39.1	1,380.9	1,350.1	1,345.7	4.41	305.977		
1,300.0	1,293.8	1,113.2	1,109.4	2.9	2.4	-62.29	-46.6	1,391.2	1,355.7	1,350.8	4.87	278.284		
1,400.0	1,392.9	1,200.0	1,194.9	3.2	2.7	-62.37	-55.1	1,402.8	1,362.5	1,357.1	5.35	254.783		
1,500.0	1,491.9	1,296.4	1,289.9	3.5	3.0	-62.44	-65.0	1,416.3	1,369.8	1,364.0	5.85	234.102		
1,600.0	1,590.9	1,396.1	1,388.0	3.8	3.3	-62.51	-75.3	1,430.2	1,377.2	1,370.8	6.37	216.283		
1,700.0	1,689.9	1,495.8	1,486.2	4.1	3.7	-62.58	-85.5	1,444.2	1,384.6	1,377.7	6.89	201.036		
1,800.0	1,789.0	1,595.5	1,584.4	4.4	4.0	-62.65	-95.8	1,458.2	1,392.0	1,384.6	7.41	187.856		
1,900.0	1,888.0	1,695.2	1,682.6	4.7	4.3	-62.72	-106.0	1,472.1	1,399.4	1,391.4	7.93	176.360		
2,000.0	1,987.0	1,794.9	1,780.8	4.9	4.7	-62.79	-116.3	1,486.1	1,406.7	1,398.3	8.46	166.250		
2,100.0	2,086.1	1,894.7	1,879.0	5.2	5.0	-62.86	-126.5	1,500.0	1,414.1	1,405.1	8.99	157.294		
2,200.0	2,185.1	1,994.4	1,977.2	5.5	5.4	-62.93	-136.8	1,514.0	1,421.5	1,412.0	9.52	149.310		
2,300.0	2,284.1	2,094.1	2,075.4	5.8	5.7	-62.99	-147.0	1,527.9	1,428.9	1,418.9	10.05	142.148		
2,400.0	2,383.1	2,193.8	2,173.6	6.1	6.1	-63.06	-157.3	1,541.9	1,436.3	1,425.7	10.59	135.689		
2,500.0	2,482.2	2,293.5	2,271.8	6.4	6.4	-63.12	-167.5	1,555.8	1,443.7	1,432.6	11.12	129.837		
2,600.0	2,581.2	2,393.2	2,370.0	6.7	6.8	-63.19	-177.8	1,569.8	1,451.1	1,439.4	11.65	124.509		
2,700.0	2,680.2	2,492.9	2,468.2	7.0	7.1	-63.25	-188.0	1,583.8	1,458.5	1,446.3	12.19	119.640		
2,800.0	2,779.2	2,592.6	2,566.4	7.3	7.5	-63.32	-198.3	1,597.7	1,465.9	1,453.2	12.73	115.173		
2,900.0	2,878.3	2,692.4	2,664.6	7.6	7.8	-63.38	-208.5	1,611.7	1,473.3	1,460.0	13.27	111.061		
3,000.0	2,977.3	2,792.1	2,762.8	7.9	8.2	-63.44	-218.8	1,625.6	1,480.7	1,466.9	13.80	107.263		
3,100.0	3,076.3	2,891.8	2,861.0	8.2	8.5	-63.50	-229.0	1,639.6	1,488.1	1,473.8	14.34	103.745		
3,200.0	3,175.3	2,991.5	2,959.2	8.5	8.8	-63.57	-239.3	1,653.5	1,495.5	1,480.6	14.88	100.477		
3,300.0	3,274.4	3,091.2	3,057.4	8.8	9.2	-63.63	-249.5	1,667.5	1,502.9	1,487.5	15.43	97.434		
3,400.0	3,373.4	3,190.9	3,155.6	9.1	9.5	-63.69	-259.8	1,681.4	1,510.3	1,494.4	15.97	94.593		
3,500.0	3,472.4	3,290.6	3,253.8	9.4	9.9	-63.74	-270.0	1,695.4	1,517.8	1,501.3	16.51	91.935		
3,600.0	3,571.5	3,390.3	3,352.0	9.7	10.2	-63.80	-280.3	1,709.4	1,525.2	1,508.1	17.05	89.443		
3,700.0	3,670.5	3,490.1	3,450.2	10.0	10.6	-63.86	-290.5	1,723.3	1,532.6	1,515.0	17.60	87.101		
3,800.0	3,769.5	3,589.8	3,548.4	10.3	10.9	-63.92	-300.8	1,737.3	1,540.0	1,521.9	18.14	84.898		
3,900.0	3,868.5	3,689.5	3,646.6	10.6	11.3	-63.98	-311.0	1,751.2	1,547.4	1,528.7	18.68	82.820		
4,000.0	3,967.6	3,789.2	3,744.8	10.9	11.6	-64.03	-321.3	1,765.2	1,554.8	1,535.6	19.23	80.858		
4,040.0	4,007.2	3,829.1	3,784.1	11.0	11.8	-64.05	-325.4	1,770.8	1,557.8	1,538.4	19.45	80.103		
4,100.0	4,066.7	3,888.9	3,843.0	11.2	12.0	-64.15	-331.5	1,779.1	1,562.5	1,542.8	19.76	79.058		
4,200.0	4,166.2	3,988.5	3,941.0	11.4	12.3	-64.25	-341.8	1,793.1	1,571.6	1,551.4	20.24	77.638		
4,300.0	4,265.9	4,087.8	4,038.8	11.6	12.7	-64.25	-352.0	1,807.0	1,582.2	1,561.6	20.67	76.553		
4,400.0	4,365.9	4,186.7	4,136.2	11.7	13.0	-64.18	-362.1	1,820.8	1,594.4	1,573.4	21.04	75.773		
4,440.0	4,405.9	4,226.1	4,175.1	11.8	13.2	87.17	-366.2	1,826.3	1,599.7	1,578.5	21.18	75.523		
4,500.0	4,465.9	4,285.2	4,233.3	11.8	13.4	87.40	-372.3	1,834.6	1,607.8	1,586.5	21.37	75.231		
4,600.0	4,565.9	4,383.7	4,330.2	12.0	13.7	87.79	-382.4	1,848.4	1,621.5	1,599.8	21.69	74.757		
4,700.0	4,665.9	4,482.2	4,427.2	12.1	14.1	88.16	-392.5	1,862.2	1,635.2	1,613.2	22.01	74.299		
4,800.0	4,765.9	4,586.8	4,530.3	12.2	14.4	88.56	-403.2	1,876.7	1,648.9	1,626.6	22.34	73.819		

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

Offset Design												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis		Separation Factor
4,900.0	4,865.9	4,715.0	4,656.9	12.3	14.8	88.99	-415.2	1,893.1	1,661.5	1,638.8	22.70	73.203	
5,000.0	4,965.9	4,844.2	4,784.9	12.4	15.2	89.35	-425.6	1,907.2	1,672.4	1,649.3	23.05	72.561	
5,100.0	5,065.9	4,974.0	4,913.9	12.6	15.5	89.65	-434.3	1,919.1	1,681.5	1,658.1	23.39	71.885	
5,200.0	5,165.9	5,104.5	5,043.8	12.7	15.8	89.89	-441.3	1,928.6	1,688.8	1,665.0	23.73	71.176	
5,300.0	5,265.9	5,235.5	5,174.5	12.8	16.1	90.07	-446.6	1,935.8	1,694.2	1,670.2	24.05	70.438	
5,400.0	5,365.9	5,366.8	5,305.6	12.9	16.3	90.19	-450.1	1,940.6	1,697.9	1,673.5	24.37	69.662	
5,500.0	5,465.9	5,498.2	5,437.1	13.1	16.4	90.25	-451.9	1,942.9	1,699.7	1,675.0	24.69	68.846	
5,600.0	5,565.9	5,613.1	5,551.9	13.2	16.5	90.26	-452.1	1,943.2	1,699.9	1,674.9	24.98	68.053	
5,700.0	5,665.9	5,713.1	5,651.9	13.3	16.6	90.26	-452.1	1,943.2	1,699.9	1,674.6	25.25	67.315	
5,800.0	5,765.9	5,813.1	5,751.9	13.4	16.7	90.26	-452.1	1,943.2	1,699.9	1,674.4	25.53	66.588	
5,900.0	5,865.9	5,913.1	5,851.9	13.6	16.9	90.26	-452.1	1,943.2	1,699.9	1,674.1	25.81	65.872	
6,000.0	5,965.9	6,013.1	5,951.9	13.7	17.0	90.26	-452.1	1,943.2	1,699.9	1,673.8	26.09	65.168	
6,100.0	6,065.9	6,113.1	6,051.9	13.8	17.1	90.26	-452.1	1,943.2	1,699.9	1,673.5	26.37	64.473	
6,200.0	6,165.9	6,213.1	6,151.9	14.0	17.2	90.26	-452.1	1,943.2	1,699.9	1,673.3	26.65	63.790	
6,300.0	6,265.9	6,313.1	6,251.9	14.1	17.3	90.26	-452.1	1,943.2	1,699.9	1,673.0	26.93	63.118	
6,400.0	6,365.9	6,413.1	6,351.9	14.2	17.4	90.26	-452.1	1,943.2	1,699.9	1,672.7	27.22	62.456	
6,500.0	6,465.9	6,513.1	6,451.9	14.4	17.5	90.26	-452.1	1,943.2	1,699.9	1,672.4	27.50	61.804	
6,600.0	6,565.9	6,613.1	6,551.9	14.5	17.6	90.26	-452.1	1,943.2	1,699.9	1,672.1	27.79	61.163	
6,700.0	6,665.9	6,713.1	6,651.9	14.7	17.7	90.26	-452.1	1,943.2	1,699.9	1,671.8	28.08	60.532	
6,742.9	6,708.8	6,756.0	6,694.8	14.7	17.8	90.26	-452.1	1,943.2	1,699.9	1,671.7	28.21	60.264	
6,750.0	6,715.9	6,763.1	6,701.9	14.7	17.8	90.25	-452.0	1,943.2	1,699.9	1,671.7	28.22	60.231	
6,800.0	6,765.8	6,813.7	6,752.4	14.8	17.8	90.25	-449.7	1,943.2	1,699.9	1,671.6	28.29	60.082	
6,850.0	6,815.5	6,864.2	6,802.6	14.8	17.8	90.25	-443.9	1,943.2	1,699.9	1,671.6	28.30	60.068	
6,900.0	6,864.6	6,914.8	6,852.3	14.7	17.8	90.25	-434.5	1,943.2	1,699.9	1,671.6	28.25	60.180	
6,950.0	6,913.0	6,965.3	6,901.2	14.7	17.8	90.24	-421.7	1,943.2	1,699.9	1,671.8	28.14	60.409	
7,000.0	6,960.4	7,015.8	6,949.0	14.6	17.7	90.24	-405.4	1,943.2	1,699.9	1,671.9	27.99	60.741	
7,050.0	7,006.5	7,066.3	6,995.5	14.5	17.6	90.23	-385.9	1,943.2	1,699.9	1,672.1	27.79	61.161	
7,100.0	7,051.3	7,116.8	7,040.6	14.4	17.5	90.22	-363.1	1,943.2	1,699.9	1,672.3	27.57	61.652	
7,150.0	7,094.3	7,167.3	7,083.9	14.3	17.4	90.21	-337.2	1,943.2	1,699.9	1,672.5	27.33	62.191	
7,200.0	7,135.5	7,217.8	7,125.2	14.2	17.3	90.20	-308.3	1,943.2	1,699.9	1,672.8	27.09	62.753	
7,250.0	7,174.6	7,268.2	7,164.4	14.1	17.2	90.19	-276.6	1,943.2	1,699.9	1,673.0	26.85	63.307	
7,300.0	7,211.4	7,318.6	7,201.3	14.0	17.1	90.18	-242.2	1,943.2	1,699.9	1,673.2	26.64	63.819	
7,350.0	7,245.7	7,369.0	7,235.6	13.9	17.1	90.17	-205.4	1,943.2	1,699.8	1,673.4	26.46	64.251	
7,400.0	7,277.5	7,419.3	7,267.3	13.8	17.0	90.15	-166.2	1,943.2	1,699.8	1,673.5	26.33	64.564	
7,450.0	7,306.5	7,469.6	7,296.1	13.8	17.0	90.14	-125.0	1,943.2	1,699.8	1,673.6	26.26	64.721	
7,500.0	7,332.6	7,519.9	7,321.9	13.8	17.0	90.12	-81.8	1,943.2	1,699.8	1,673.5	26.28	64.688	
7,550.0	7,355.6	7,570.2	7,344.6	13.8	17.0	90.11	-37.0	1,943.2	1,699.8	1,673.4	26.38	64.438	
7,600.0	7,375.5	7,620.4	7,364.1	13.9	17.1	90.09	9.2	1,943.1	1,699.8	1,673.2	26.58	63.957	
7,650.0	7,392.1	7,670.5	7,380.3	14.1	17.2	90.07	56.7	1,943.1	1,699.8	1,672.9	26.88	63.240	
7,700.0	7,405.4	7,720.7	7,393.1	14.3	17.4	90.06	105.2	1,943.1	1,699.8	1,672.5	27.28	62.299	
7,750.0	7,415.3	7,770.8	7,402.5	14.5	17.6	90.04	154.4	1,943.1	1,699.8	1,672.0	27.79	61.155	
7,800.0	7,421.8	7,820.8	7,408.5	14.8	17.8	90.02	204.1	1,943.1	1,699.8	1,671.4	28.41	59.839	
7,850.0	7,424.8	7,870.9	7,410.9	15.1	18.1	90.00	254.0	1,943.1	1,699.8	1,670.7	29.11	58.396	
7,867.9	7,425.0	7,888.8	7,411.0	15.3	18.2	90.00	272.0	1,943.1	1,699.8	1,670.4	29.38	57.852	
7,900.0	7,425.0	7,920.9	7,411.0	15.5	18.4	90.00	304.0	1,943.1	1,699.8	1,669.9	29.91	56.828	
8,000.0	7,425.0	8,020.9	7,411.0	16.4	19.1	90.00	404.0	1,943.1	1,699.7	1,668.0	31.72	53.578	
8,100.0	7,425.0	8,120.9	7,411.0	17.4	20.0	90.00	504.0	1,943.1	1,699.7	1,665.9	33.81	50.277	
8,200.0	7,425.0	8,220.9	7,411.0	18.5	21.0	90.00	604.0	1,943.1	1,699.7	1,663.6	36.11	47.070	
8,300.0	7,425.0	8,320.9	7,411.0	19.7	22.1	90.00	704.0	1,943.1	1,699.7	1,661.1	38.60	44.038	
8,400.0	7,425.0	8,420.9	7,411.0	21.0	23.2	90.00	804.0	1,943.1	1,699.7	1,658.4	41.23	41.224	
8,500.0	7,425.0	8,520.9	7,411.0	22.4	24.5	90.00	904.0	1,943.0	1,699.7	1,655.7	43.99	38.640	
8,600.0	7,425.0	8,620.9	7,411.0	23.8	25.8	90.00	1,004.0	1,943.0	1,699.6	1,652.8	46.85	36.282	

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

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
8,700.0	7,425.0	8,720.9	7,411.0	25.2	27.1	90.00	1,104.0	1,943.0	1,699.6	1,649.8	49.79	34.139	
8,800.0	7,425.0	8,820.9	7,411.0	26.7	28.5	90.00	1,204.0	1,943.0	1,699.6	1,646.8	52.80	32.192	
8,900.0	7,425.0	8,920.9	7,411.0	28.2	29.9	90.00	1,304.0	1,943.0	1,699.6	1,643.7	55.86	30.424	
9,000.0	7,425.0	9,020.9	7,411.0	29.8	31.4	90.00	1,404.0	1,943.0	1,699.6	1,640.6	58.98	28.815	
9,100.0	7,425.0	9,120.9	7,411.0	31.3	32.9	90.00	1,504.0	1,943.0	1,699.6	1,637.4	62.14	27.350	
9,200.0	7,425.0	9,220.9	7,411.0	32.9	34.4	90.00	1,604.0	1,943.0	1,699.6	1,634.2	65.34	26.013	
9,300.0	7,425.0	9,320.9	7,411.0	34.5	35.9	90.00	1,704.0	1,942.9	1,699.5	1,631.0	68.56	24.789	
9,400.0	7,425.0	9,420.9	7,411.0	36.1	37.5	90.00	1,804.0	1,942.9	1,699.5	1,627.7	71.81	23.666	
9,500.0	7,425.0	9,520.9	7,411.0	37.7	39.1	90.00	1,904.0	1,942.9	1,699.5	1,624.4	75.09	22.634	
9,600.0	7,425.0	9,620.9	7,411.0	39.4	40.7	90.00	2,004.0	1,942.9	1,699.5	1,621.1	78.38	21.682	
9,700.0	7,425.0	9,720.9	7,411.0	41.0	42.3	90.00	2,104.0	1,942.9	1,699.5	1,617.8	81.70	20.802	
9,800.0	7,425.0	9,820.9	7,411.0	42.7	43.9	90.00	2,204.0	1,942.9	1,699.5	1,614.4	85.02	19.988	
9,900.0	7,425.0	9,920.9	7,411.0	44.3	45.5	90.00	2,304.0	1,942.9	1,699.4	1,611.1	88.37	19.232	
10,000.0	7,425.0	10,020.9	7,411.0	46.0	47.1	90.00	2,404.0	1,942.9	1,699.4	1,607.7	91.72	18.528	
10,100.0	7,425.0	10,120.9	7,411.0	47.7	48.8	90.00	2,504.0	1,942.9	1,699.4	1,604.3	95.09	17.872	
10,200.0	7,425.0	10,220.9	7,411.0	49.4	50.4	90.00	2,604.0	1,942.8	1,699.4	1,600.9	98.46	17.259	
10,300.0	7,425.0	10,320.9	7,411.0	51.1	52.1	90.00	2,704.0	1,942.8	1,699.4	1,597.5	101.85	16.685	
10,400.0	7,425.0	10,420.9	7,411.0	52.7	53.7	90.00	2,804.0	1,942.8	1,699.4	1,594.1	105.24	16.147	
10,500.0	7,425.0	10,520.9	7,411.0	54.4	55.4	90.00	2,904.0	1,942.8	1,699.3	1,590.7	108.64	15.642	
10,600.0	7,425.0	10,620.9	7,411.0	56.1	57.1	90.00	3,004.0	1,942.8	1,699.3	1,587.3	112.05	15.166	
10,700.0	7,425.0	10,720.9	7,411.0	57.8	58.8	90.00	3,104.0	1,942.8	1,699.3	1,583.8	115.46	14.718	
10,800.0	7,425.0	10,820.9	7,411.0	59.5	60.4	90.00	3,204.0	1,942.8	1,699.3	1,580.4	118.88	14.294	
10,900.0	7,425.0	10,920.9	7,411.0	61.3	62.1	90.00	3,304.0	1,942.8	1,699.3	1,577.0	122.30	13.894	
11,000.0	7,425.0	11,020.9	7,411.0	63.0	63.8	90.00	3,404.0	1,942.7	1,699.3	1,573.5	125.73	13.515	
11,100.0	7,425.0	11,120.9	7,411.0	64.7	65.5	90.00	3,504.0	1,942.7	1,699.2	1,570.1	129.16	13.156	
11,200.0	7,425.0	11,220.9	7,411.0	66.4	67.2	90.00	3,604.0	1,942.7	1,699.2	1,566.6	132.60	12.815	
11,300.0	7,425.0	11,320.9	7,411.0	68.1	68.9	90.00	3,704.0	1,942.7	1,699.2	1,563.2	136.04	12.491	
11,400.0	7,425.0	11,420.9	7,411.0	69.8	70.6	90.00	3,804.0	1,942.7	1,699.2	1,559.7	139.48	12.182	
11,500.0	7,425.0	11,520.9	7,411.0	71.5	72.3	90.00	3,904.0	1,942.7	1,699.2	1,556.3	142.93	11.888	
11,600.0	7,425.0	11,620.9	7,411.0	73.3	74.0	90.00	4,004.0	1,942.7	1,699.2	1,552.8	146.38	11.608	
11,700.0	7,425.0	11,720.9	7,411.0	75.0	75.7	90.00	4,104.0	1,942.7	1,699.1	1,549.3	149.83	11.340	
11,800.0	7,425.0	11,820.9	7,411.0	76.7	77.4	90.00	4,204.0	1,942.7	1,699.1	1,545.8	153.29	11.085	
11,900.0	7,425.0	11,920.9	7,411.0	78.4	79.1	90.00	4,304.0	1,942.6	1,699.1	1,542.4	156.74	10.840	
11,941.6	7,425.0	11,962.5	7,411.0	79.2	79.9	90.00	4,345.7	1,942.6	1,699.1	1,540.9	158.18	10.741	
11,960.2	7,425.0	11,970.0	7,411.0	79.5	80.0	90.00	4,353.2	1,942.6	1,699.1	1,540.5	158.64	10.711	
11,961.1	7,425.0	11,970.0	7,411.0	79.5	80.0	90.00	4,353.2	1,942.6	1,699.1	1,540.5	158.65	10.710 SF	

Cathedral Energy Services

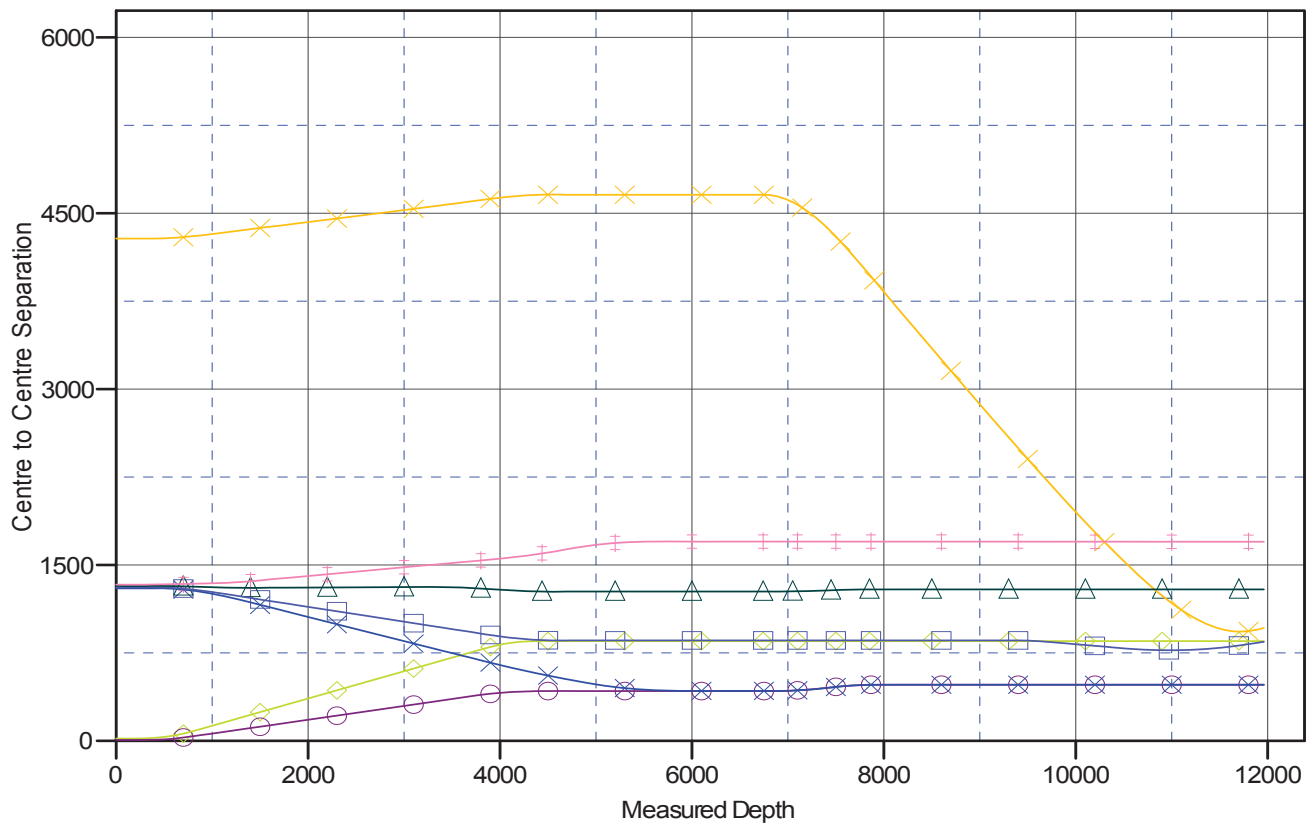
Anticollision Report

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

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

Coordinates are relative to: Mathews 4C-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
 Mathews4F-14H, HZ, Plan #3 V0

Mathews4G-14H, HZ, Plan #3 V0