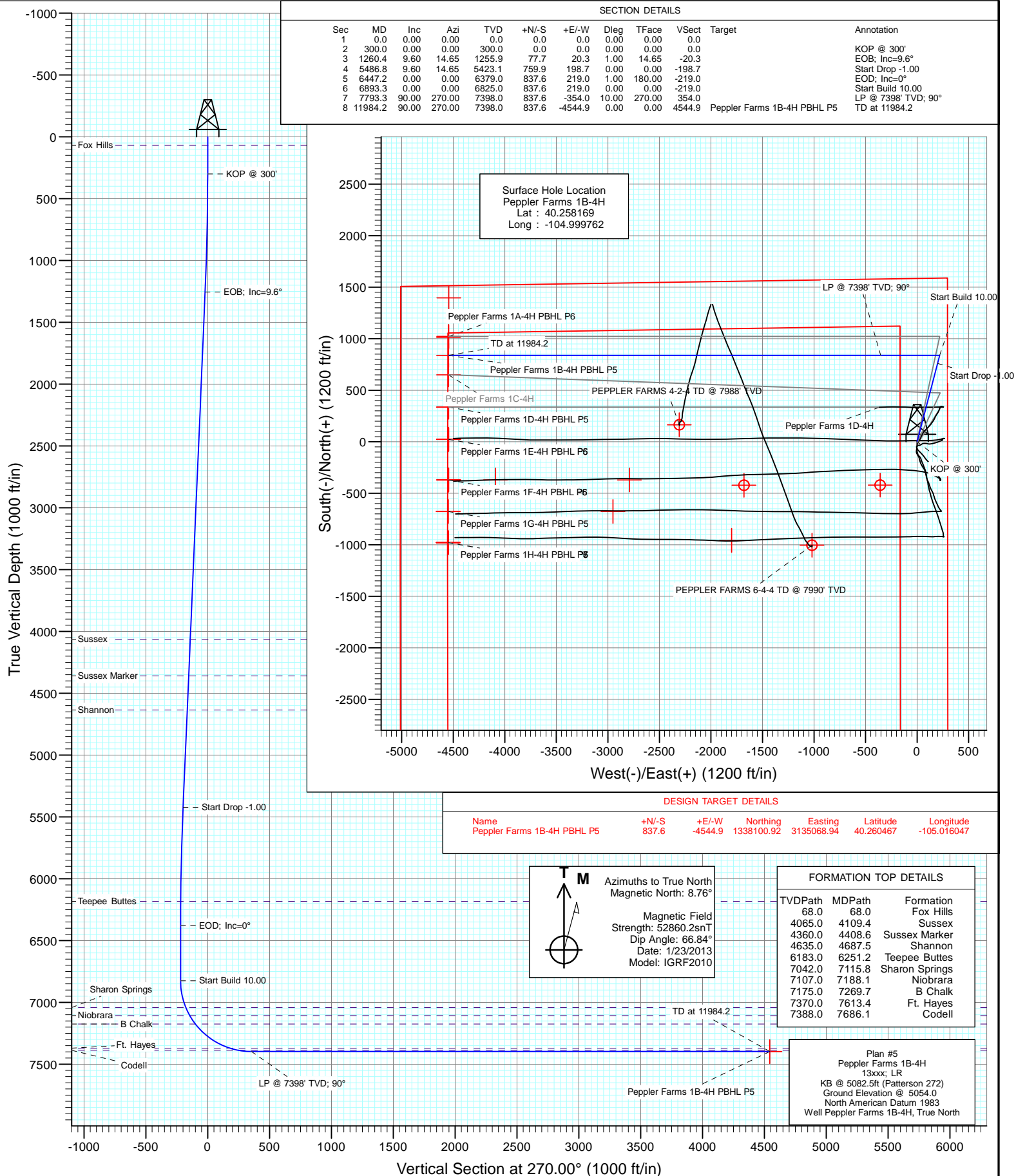




Project: DJ Wattenberg
Site: S4-T3N-R68W (Peppler Farms)
Well: Peppler Farms 1B-4H
Wellbore: Hz
Design: Plan #5



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Project:	DJ Wattenberg	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site:	S4-T3N-R68W (Peppler Farms)	North Reference:	True
Well:	Peppler Farms 1B-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #5		

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		S4-T3N-R68W (Peppler Farms)			
Site Position:		Northing:	1,337,296.89 ft	Latitude:	40.258190
From:	Lat/Long	Easting:	3,139,658.06 ft	Longitude:	-104.999620
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.32 °

Well	Peppler Farms 1B-4H					
Well Position	+N/-S	0.0 ft	Northing:	1,337,289.01 ft	Latitude:	40.258169
	+E/-W	0.0 ft	Easting:	3,139,618.47 ft	Longitude:	-104.999762
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,054.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/23/2013	8.76	66.84	52,860

Design	Plan #5			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	270.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,260.4	9.60	14.65	1,255.9	77.7	20.3	1.00	1.00	0.00	14.65	
5,486.8	9.60	14.65	5,423.1	759.9	198.7	0.00	0.00	0.00	0.00	
6,447.2	0.00	0.00	6,379.0	837.6	219.0	1.00	-1.00	0.00	180.00	
6,893.3	0.00	0.00	6,825.0	837.6	219.0	0.00	0.00	0.00	0.00	
7,793.3	90.00	270.00	7,398.0	837.6	-354.0	10.00	10.00	0.00	270.00	
11,984.2	90.00	270.00	7,398.0	837.6	-4,544.9	0.00	0.00	0.00	0.00	Peppler Farms 1B-4H

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Project:	DJ Wattenberg	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site:	S4-T3N-R68W (Peppler Farms)	North Reference:	True
Well:	Peppler Farms 1B-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #5		

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	
68.0	0.00	0.00	68.0	0.0	0.0	0.0	0.00	0.00	Fox Hills
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300'
400.0	1.00	14.65	400.0	0.8	0.2	-0.2	1.00	1.00	
500.0	2.00	14.65	500.0	3.4	0.9	-0.9	1.00	1.00	
600.0	3.00	14.65	599.9	7.6	2.0	-2.0	1.00	1.00	
700.0	4.00	14.65	699.7	13.5	3.5	-3.5	1.00	1.00	
800.0	5.00	14.65	799.4	21.1	5.5	-5.5	1.00	1.00	
900.0	6.00	14.65	898.9	30.4	7.9	-7.9	1.00	1.00	
1,000.0	7.00	14.65	998.3	41.3	10.8	-10.8	1.00	1.00	
1,100.0	8.00	14.65	1,097.4	53.9	14.1	-14.1	1.00	1.00	
1,200.0	9.00	14.65	1,196.3	68.2	17.8	-17.8	1.00	1.00	
1,260.4	9.60	14.65	1,255.9	77.7	20.3	-20.3	1.00	1.00	EOB; Inc=9.6°
1,300.0	9.60	14.65	1,295.0	84.1	22.0	-22.0	0.00	0.00	
1,400.0	9.60	14.65	1,393.6	100.2	26.2	-26.2	0.00	0.00	
1,500.0	9.60	14.65	1,492.2	116.4	30.4	-30.4	0.00	0.00	
1,600.0	9.60	14.65	1,590.7	132.5	34.6	-34.6	0.00	0.00	
1,700.0	9.60	14.65	1,689.3	148.7	38.9	-38.9	0.00	0.00	
1,800.0	9.60	14.65	1,787.9	164.8	43.1	-43.1	0.00	0.00	
1,900.0	9.60	14.65	1,886.5	180.9	47.3	-47.3	0.00	0.00	
2,000.0	9.60	14.65	1,985.1	197.1	51.5	-51.5	0.00	0.00	
2,100.0	9.60	14.65	2,083.7	213.2	55.7	-55.7	0.00	0.00	
2,200.0	9.60	14.65	2,182.3	229.4	60.0	-60.0	0.00	0.00	
2,300.0	9.60	14.65	2,280.9	245.5	64.2	-64.2	0.00	0.00	
2,400.0	9.60	14.65	2,379.5	261.6	68.4	-68.4	0.00	0.00	
2,500.0	9.60	14.65	2,478.1	277.8	72.6	-72.6	0.00	0.00	
2,600.0	9.60	14.65	2,576.7	293.9	76.9	-76.9	0.00	0.00	
2,700.0	9.60	14.65	2,675.3	310.1	81.1	-81.1	0.00	0.00	
2,800.0	9.60	14.65	2,773.9	326.2	85.3	-85.3	0.00	0.00	
2,900.0	9.60	14.65	2,872.5	342.4	89.5	-89.5	0.00	0.00	
3,000.0	9.60	14.65	2,971.1	358.5	93.7	-93.7	0.00	0.00	
3,100.0	9.60	14.65	3,069.7	374.6	98.0	-98.0	0.00	0.00	
3,200.0	9.60	14.65	3,168.3	390.8	102.2	-102.2	0.00	0.00	
3,300.0	9.60	14.65	3,266.9	406.9	106.4	-106.4	0.00	0.00	
3,400.0	9.60	14.65	3,365.5	423.1	110.6	-110.6	0.00	0.00	
3,500.0	9.60	14.65	3,464.1	439.2	114.8	-114.8	0.00	0.00	
3,600.0	9.60	14.65	3,562.7	455.3	119.1	-119.1	0.00	0.00	
3,700.0	9.60	14.65	3,661.3	471.5	123.3	-123.3	0.00	0.00	
3,800.0	9.60	14.65	3,759.9	487.6	127.5	-127.5	0.00	0.00	
3,900.0	9.60	14.65	3,858.5	503.8	131.7	-131.7	0.00	0.00	
4,000.0	9.60	14.65	3,957.1	519.9	135.9	-135.9	0.00	0.00	
4,100.0	9.60	14.65	4,055.7	536.1	140.2	-140.2	0.00	0.00	
4,109.4	9.60	14.65	4,065.0	537.6	140.6	-140.6	0.00	0.00	Sussex
4,200.0	9.60	14.65	4,154.3	552.2	144.4	-144.4	0.00	0.00	
4,300.0	9.60	14.65	4,252.9	568.3	148.6	-148.6	0.00	0.00	
4,400.0	9.60	14.65	4,351.5	584.5	152.8	-152.8	0.00	0.00	
4,408.6	9.60	14.65	4,360.0	585.9	153.2	-153.2	0.00	0.00	Sussex Marker
4,500.0	9.60	14.65	4,450.1	600.6	157.0	-157.0	0.00	0.00	
4,600.0	9.60	14.65	4,548.7	616.8	161.3	-161.3	0.00	0.00	
4,687.5	9.60	14.65	4,635.0	630.9	165.0	-165.0	0.00	0.00	Shannon

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Project:	DJ Wattenberg	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site:	S4-T3N-R68W (Peppler Farms)	North Reference:	True
Well:	Peppler Farms 1B-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #5		

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
4,700.0	9.60	14.65	4,647.3	632.9	165.5	-165.5	0.00	0.00	
4,800.0	9.60	14.65	4,745.9	649.0	169.7	-169.7	0.00	0.00	
4,900.0	9.60	14.65	4,844.5	665.2	173.9	-173.9	0.00	0.00	
5,000.0	9.60	14.65	4,943.1	681.3	178.1	-178.1	0.00	0.00	
5,100.0	9.60	14.65	5,041.7	697.5	182.4	-182.4	0.00	0.00	
5,200.0	9.60	14.65	5,140.3	713.6	186.6	-186.6	0.00	0.00	
5,300.0	9.60	14.65	5,238.9	729.8	190.8	-190.8	0.00	0.00	
5,400.0	9.60	14.65	5,337.5	745.9	195.0	-195.0	0.00	0.00	
5,486.8	9.60	14.65	5,423.1	759.9	198.7	-198.7	0.00	0.00	Start Drop -1.00
5,500.0	9.47	14.65	5,436.1	762.0	199.2	-199.2	1.00	-1.00	
5,600.0	8.47	14.65	5,534.9	777.1	203.2	-203.2	1.00	-1.00	
5,700.0	7.47	14.65	5,633.9	790.5	206.7	-206.7	1.00	-1.00	
5,800.0	6.47	14.65	5,733.2	802.3	209.8	-209.8	1.00	-1.00	
5,900.0	5.47	14.65	5,832.6	812.3	212.4	-212.4	1.00	-1.00	
6,000.0	4.47	14.65	5,932.2	820.7	214.6	-214.6	1.00	-1.00	
6,100.0	3.47	14.65	6,032.0	827.4	216.3	-216.3	1.00	-1.00	
6,200.0	2.47	14.65	6,131.9	832.4	217.7	-217.7	1.00	-1.00	
6,251.2	1.96	14.65	6,183.0	834.4	218.2	-218.2	1.00	-1.00	Teepee Buttes
6,300.0	1.47	14.65	6,231.8	835.8	218.5	-218.5	1.00	-1.00	
6,400.0	0.47	14.65	6,331.8	837.4	219.0	-219.0	1.00	-1.00	
6,447.2	0.00	0.00	6,379.0	837.6	219.0	-219.0	1.00	-1.00	EOD; Inc=0°
6,500.0	0.00	0.00	6,431.8	837.6	219.0	-219.0	0.00	0.00	
6,600.0	0.00	0.00	6,531.8	837.6	219.0	-219.0	0.00	0.00	
6,700.0	0.00	0.00	6,631.8	837.6	219.0	-219.0	0.00	0.00	
6,800.0	0.00	0.00	6,731.8	837.6	219.0	-219.0	0.00	0.00	
6,893.3	0.00	0.00	6,825.0	837.6	219.0	-219.0	0.00	0.00	Start Build 10.00
6,900.0	0.67	270.00	6,831.8	837.6	219.0	-219.0	10.00	10.00	
7,000.0	10.67	270.00	6,931.2	837.6	209.1	-209.1	10.00	10.00	
7,100.0	20.67	270.00	7,027.3	837.6	182.1	-182.1	10.00	10.00	
7,115.8	22.25	270.00	7,042.0	837.6	176.3	-176.3	10.00	10.00	Sharon Springs
7,188.1	29.48	270.00	7,107.0	837.6	144.8	-144.8	10.00	10.00	Niobrara
7,200.0	30.67	270.00	7,117.3	837.6	138.8	-138.8	10.00	10.00	
7,269.7	37.65	270.00	7,175.0	837.6	99.7	-99.7	10.00	10.00	B Chalk
7,300.0	40.67	270.00	7,198.5	837.6	80.6	-80.6	10.00	10.00	
7,400.0	50.67	270.00	7,268.3	837.6	9.1	-9.1	10.00	10.00	
7,500.0	60.67	270.00	7,324.6	837.6	-73.3	73.3	10.00	10.00	
7,600.0	70.67	270.00	7,365.7	837.6	-164.3	164.3	10.00	10.00	
7,613.4	72.01	270.00	7,370.0	837.6	-177.0	177.0	10.00	10.00	Ft. Hayes
7,686.1	79.28	270.00	7,388.0	837.6	-247.4	247.4	10.00	10.00	Codell
7,700.0	80.67	270.00	7,390.4	837.6	-261.1	261.1	10.00	10.00	
7,793.3	90.00	270.00	7,398.0	837.6	-354.0	354.0	10.00	10.00	LP @ 7398' TVD; 90°
7,800.0	90.00	270.00	7,398.0	837.6	-360.7	360.7	0.00	0.00	
7,900.0	90.00	270.00	7,398.0	837.6	-460.7	460.7	0.00	0.00	
8,000.0	90.00	270.00	7,398.0	837.6	-560.7	560.7	0.00	0.00	
8,100.0	90.00	270.00	7,398.0	837.6	-660.7	660.7	0.00	0.00	
8,200.0	90.00	270.00	7,398.0	837.6	-760.7	760.7	0.00	0.00	
8,300.0	90.00	270.00	7,398.0	837.6	-860.7	860.7	0.00	0.00	
8,400.0	90.00	270.00	7,398.0	837.6	-960.7	960.7	0.00	0.00	
8,500.0	90.00	270.00	7,398.0	837.6	-1,060.7	1,060.7	0.00	0.00	
8,600.0	90.00	270.00	7,398.0	837.6	-1,160.7	1,160.7	0.00	0.00	
8,700.0	90.00	270.00	7,398.0	837.6	-1,260.7	1,260.7	0.00	0.00	
8,800.0	90.00	270.00	7,398.0	837.6	-1,360.7	1,360.7	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Project:	DJ Wattenberg	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site:	S4-T3N-R68W (Peppler Farms)	North Reference:	True
Well:	Peppler Farms 1B-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #5		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,900.0	90.00	270.00	7,398.0	837.6	-1,460.7	1,460.7	0.00	0.00	
9,000.0	90.00	270.00	7,398.0	837.6	-1,560.7	1,560.7	0.00	0.00	
9,100.0	90.00	270.00	7,398.0	837.6	-1,660.7	1,660.7	0.00	0.00	
9,200.0	90.00	270.00	7,398.0	837.6	-1,760.7	1,760.7	0.00	0.00	
9,300.0	90.00	270.00	7,398.0	837.6	-1,860.7	1,860.7	0.00	0.00	
9,400.0	90.00	270.00	7,398.0	837.6	-1,960.7	1,960.7	0.00	0.00	
9,500.0	90.00	270.00	7,398.0	837.6	-2,060.7	2,060.7	0.00	0.00	
9,600.0	90.00	270.00	7,398.0	837.6	-2,160.7	2,160.7	0.00	0.00	
9,700.0	90.00	270.00	7,398.0	837.6	-2,260.7	2,260.7	0.00	0.00	
9,800.0	90.00	270.00	7,398.0	837.6	-2,360.7	2,360.7	0.00	0.00	
9,900.0	90.00	270.00	7,398.0	837.6	-2,460.7	2,460.7	0.00	0.00	
10,000.0	90.00	270.00	7,398.0	837.6	-2,560.7	2,560.7	0.00	0.00	
10,100.0	90.00	270.00	7,398.0	837.6	-2,660.7	2,660.7	0.00	0.00	
10,200.0	90.00	270.00	7,398.0	837.6	-2,760.7	2,760.7	0.00	0.00	
10,300.0	90.00	270.00	7,398.0	837.6	-2,860.7	2,860.7	0.00	0.00	
10,400.0	90.00	270.00	7,398.0	837.6	-2,960.7	2,960.7	0.00	0.00	
10,500.0	90.00	270.00	7,398.0	837.6	-3,060.7	3,060.7	0.00	0.00	
10,600.0	90.00	270.00	7,398.0	837.6	-3,160.7	3,160.7	0.00	0.00	
10,700.0	90.00	270.00	7,398.0	837.6	-3,260.7	3,260.7	0.00	0.00	
10,800.0	90.00	270.00	7,398.0	837.6	-3,360.7	3,360.7	0.00	0.00	
10,900.0	90.00	270.00	7,398.0	837.6	-3,460.7	3,460.7	0.00	0.00	
11,000.0	90.00	270.00	7,398.0	837.6	-3,560.7	3,560.7	0.00	0.00	
11,100.0	90.00	270.00	7,398.0	837.6	-3,660.7	3,660.7	0.00	0.00	
11,200.0	90.00	270.00	7,398.0	837.6	-3,760.7	3,760.7	0.00	0.00	
11,300.0	90.00	270.00	7,398.0	837.6	-3,860.7	3,860.7	0.00	0.00	
11,400.0	90.00	270.00	7,398.0	837.6	-3,960.7	3,960.7	0.00	0.00	
11,500.0	90.00	270.00	7,398.0	837.6	-4,060.7	4,060.7	0.00	0.00	
11,600.0	90.00	270.00	7,398.0	837.6	-4,160.7	4,160.7	0.00	0.00	
11,700.0	90.00	270.00	7,398.0	837.6	-4,260.7	4,260.7	0.00	0.00	
11,800.0	90.00	270.00	7,398.0	837.6	-4,360.7	4,360.7	0.00	0.00	
11,900.0	90.00	270.00	7,398.0	837.6	-4,460.7	4,460.7	0.00	0.00	
11,984.2	90.00	270.00	7,398.0	837.6	-4,544.9	4,544.9	0.00	0.00	TD at 11984.2 - Peppler Farms 1B-4H PBHL - F

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Peppler Farms 1B-4H PI - plan misses target center by 176.6ft at 11984.2ft MD (7398.0 TVD, 837.6 N, -4544.9 E) - Point	0.00	0.00	7,413.5	1,013.5	-4,545.7	1,338,276.86	3,135,067.14	40.260950	-105.016050
Peppler Farms 1B-4H PI - plan hits target center - Point	0.00	0.00	7,398.0	837.6	-4,544.9	1,338,100.92	3,135,068.94	40.260467	-105.016047

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Project:	DJ Wattenberg	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site:	S4-T3N-R68W (Peppler Farms)	North Reference:	True
Well:	Peppler Farms 1B-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #5		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
68.0	68.0	Fox Hills			
4,109.4	4,065.0	Sussex			
4,408.6	4,360.0	Sussex Marker			
4,687.5	4,635.0	Shannon			
6,251.2	6,183.0	Teepee Buttes			
7,115.8	7,042.0	Sharon Springs			
7,188.1	7,107.0	Niobrara			
7,269.7	7,175.0	B Chalk			
7,613.4	7,370.0	Ft. Hayes			
7,686.1	7,388.0	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300'
1,260.4	1,255.9	77.7	20.3	EOB; Inc=9.6°
5,486.8	5,423.1	759.9	198.7	Start Drop -1.00
6,447.2	6,379.0	837.6	219.0	EOD; Inc=0°
6,893.3	6,825.0	837.6	219.0	Start Build 10.00
7,793.3	7,398.0	837.6	-354.0	LP @ 7398' TVD; 90°
11,984.2	7,398.0	837.6	-4,544.9	TD at 11984.2

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S4-T3N-R68W (Peppler Farms)

Peppler Farms 1B-4H

Hz

Plan #5

Anticollision Report

27 January, 2014

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Reference	Plan #5		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	1/27/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,984.2	Plan #5 (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
S4-T3N-R68W (Peppler Farms)						
Peppler Farms 1A-4H - Hz - Plan #6	200.0	185.5	12.0	11.4	20.023	CC, ES
Peppler Farms 1A-4H - Hz - Plan #6	11,984.2	11,741.2	322.8	186.5	2.369	SF
Peppler Farms 1C-4H - Hz - Plan #5	300.0	300.0	10.6	9.6	11.180	CC, ES
Peppler Farms 1C-4H - Hz - Plan #5	11,984.2	11,676.8	336.6	203.8	2.535	SF
Peppler Farms 1D-4H - Hz - Plan #5	300.0	300.0	25.2	24.2	26.560	CC, ES
Peppler Farms 1D-4H - Hz - Plan #5	3,200.0	3,203.7	144.6	128.2	8.797	SF
Peppler Farms 1D-4H - Hz - SURVEYS	372.0	372.3	23.0	21.8	19.174	CC
Peppler Farms 1D-4H - Hz - SURVEYS	400.0	400.4	23.1	21.8	17.757	ES
Peppler Farms 1D-4H - Hz - SURVEYS	3,200.0	3,203.1	147.5	131.0	8.925	SF
Peppler Farms 1E-4H - Hz - FINAL	352.1	351.5	35.3	34.2	31.268	CC, ES
Peppler Farms 1E-4H - Hz - FINAL	700.0	698.1	47.6	45.2	20.208	SF
Peppler Farms 1F-4H - HZ - FINAL	311.3	310.4	46.8	45.8	47.428	CC, ES
Peppler Farms 1F-4H - HZ - FINAL	600.0	597.6	54.5	52.5	27.314	SF
Peppler Farms 1G-4H - Hz - FINAL	352.1	351.7	60.7	59.6	53.775	CC, ES
Peppler Farms 1G-4H - Hz - FINAL	600.0	594.5	73.9	71.9	37.182	SF
Peppler Farms 1H-4H - Hz - FINAL	155.5	154.5	72.1	71.7	163.395	CC, ES
Peppler Farms 1H-4H - Hz - FINAL	700.0	688.9	115.6	113.3	49.757	SF
PEPPLER FARMS 32-4 (PROPOSED) - Existing - Plan #						Out of range
PEPPLER FARMS 4-2-4 (EXISTING) - ENCANA WELL -						Out of range
PEPPLER FARMS 42-4 (PROPOSED) - Existing - Plan #						Out of range
PEPPLER FARMS 6-4-4 (EXISTING) - ENCANA WELL -						Out of range

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1A-4H - Hz - Plan #6													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	0.00	12.0	0.0	18.8					
100.0	100.0	85.5	85.5	0.1	0.1	0.00	12.0	0.0	12.0	11.8	0.25	47.214		
200.0	200.0	185.5	185.5	0.3	0.3	0.00	12.0	0.0	12.0	11.4	0.60	20.023 CC, ES		
300.0	300.0	285.1	285.1	0.5	0.5	1.16	13.3	0.3	13.3	12.3	0.95	13.973		
400.0	400.0	384.5	384.4	0.6	0.7	-11.15	17.8	1.3	17.1	15.8	1.30	13.142		
500.0	500.0	483.7	483.2	0.8	0.9	-9.29	25.7	3.0	22.6	20.9	1.65	13.715		
600.0	599.9	582.5	581.4	1.0	1.1	-7.97	36.9	5.4	29.8	27.8	1.99	14.956		
700.0	699.7	681.0	678.7	1.2	1.4	-7.07	51.4	8.5	38.8	36.4	2.34	16.560		
800.0	799.4	778.9	775.0	1.4	1.8	-6.45	69.0	12.3	49.4	46.7	2.69	18.380		
900.0	898.9	877.9	871.8	1.6	2.2	-6.07	89.1	16.7	60.7	57.6	3.04	19.994		
1,000.0	998.3	977.4	969.1	1.9	2.6	-5.94	109.4	21.1	70.4	67.0	3.38	20.786		
1,100.0	1,097.4	1,077.1	1,066.6	2.2	2.9	-5.98	129.7	25.5	78.3	74.6	3.73	20.961		
1,200.0	1,196.3	1,176.9	1,164.2	2.5	3.3	-6.13	150.0	29.9	84.5	80.4	4.09	20.678		
1,300.0	1,295.0	1,276.8	1,261.9	2.8	3.7	-6.38	170.4	34.3	89.1	84.7	4.44	20.068		
1,400.0	1,393.6	1,376.7	1,359.6	3.1	4.1	-6.63	190.7	38.7	93.4	88.6	4.80	19.470		
1,500.0	1,492.2	1,476.6	1,457.3	3.4	4.5	-6.86	211.1	43.1	97.7	92.5	5.16	18.953		
1,600.0	1,590.7	1,576.5	1,555.1	3.7	4.9	-7.07	231.4	47.6	102.0	96.5	5.51	18.501		
1,700.0	1,689.3	1,676.4	1,652.8	4.1	5.3	-7.26	251.8	52.0	106.3	100.4	5.87	18.102		
1,800.0	1,787.9	1,776.3	1,750.5	4.4	5.7	-7.44	272.2	56.4	110.6	104.4	6.23	17.747		
1,900.0	1,886.5	1,876.2	1,848.2	4.7	6.1	-7.60	292.5	60.8	114.9	108.3	6.59	17.430		
2,000.0	1,985.1	1,976.1	1,945.9	5.1	6.5	-7.75	312.9	65.2	119.2	112.3	6.95	17.145		
2,100.0	2,083.7	2,076.0	2,043.6	5.4	6.9	-7.90	333.2	69.6	123.5	116.2	7.31	16.887		
2,200.0	2,182.3	2,175.9	2,141.3	5.7	7.3	-8.03	353.6	74.0	127.8	120.1	7.68	16.652		
2,300.0	2,280.9	2,275.8	2,239.0	6.1	7.7	-8.15	374.0	78.4	132.1	124.1	8.04	16.437		
2,400.0	2,379.5	2,375.8	2,336.7	6.4	8.1	-8.27	394.3	82.8	136.4	128.0	8.40	16.240		
2,500.0	2,478.1	2,475.7	2,434.4	6.7	8.5	-8.37	414.7	87.3	140.7	132.0	8.76	16.059		
2,600.0	2,576.7	2,575.6	2,532.2	7.1	8.9	-8.48	435.0	91.7	145.0	135.9	9.13	15.892		
2,700.0	2,675.3	2,675.5	2,629.9	7.4	9.3	-8.57	455.4	96.1	149.4	139.9	9.49	15.737		
2,800.0	2,773.9	2,775.4	2,727.6	7.7	9.7	-8.66	475.8	100.5	153.7	143.8	9.85	15.593		
2,900.0	2,872.5	2,875.3	2,825.3	8.1	10.2	-8.75	496.1	104.9	158.0	147.8	10.22	15.459		
3,000.0	2,971.1	2,975.2	2,923.0	8.4	10.6	-8.83	516.5	109.3	162.3	151.7	10.58	15.334		
3,100.0	3,069.7	3,075.1	3,020.7	8.7	11.0	-8.91	536.8	113.7	166.6	155.6	10.95	15.217		
3,200.0	3,168.3	3,175.0	3,118.4	9.1	11.4	-8.98	557.2	118.1	170.9	159.6	11.31	15.107		
3,300.0	3,266.9	3,274.9	3,216.1	9.4	11.8	-9.05	577.6	122.6	175.2	163.5	11.68	15.004		
3,400.0	3,365.5	3,374.8	3,313.8	9.8	12.2	-9.11	597.9	127.0	179.5	167.5	12.04	14.907		
3,500.0	3,464.1	3,474.7	3,411.6	10.1	12.6	-9.18	618.3	131.4	183.8	171.4	12.41	14.815		
3,600.0	3,562.7	3,574.6	3,509.3	10.4	13.0	-9.24	638.6	135.8	188.1	175.4	12.77	14.728		
3,700.0	3,661.3	3,674.5	3,607.0	10.8	13.4	-9.30	659.0	140.2	192.5	179.3	13.14	14.646		
3,800.0	3,759.9	3,774.4	3,704.7	11.1	13.8	-9.35	679.4	144.6	196.8	183.3	13.51	14.569		
3,900.0	3,858.5	3,874.4	3,802.4	11.4	14.2	-9.40	699.7	149.0	201.1	187.2	13.87	14.495		
4,000.0	3,957.1	3,974.3	3,900.1	11.8	14.6	-9.45	720.1	153.4	205.4	191.2	14.24	14.425		
4,100.0	4,055.7	4,074.2	3,997.8	12.1	15.0	-9.50	740.4	157.9	209.7	195.1	14.61	14.358		
4,200.0	4,154.3	4,174.1	4,095.5	12.5	15.4	-9.55	760.8	162.3	214.0	199.0	14.97	14.294		
4,300.0	4,252.9	4,274.0	4,193.2	12.8	15.8	-9.59	781.2	166.7	218.3	203.0	15.34	14.234		
4,400.0	4,351.5	4,373.9	4,290.9	13.1	16.2	-9.64	801.5	171.1	222.6	206.9	15.71	14.176		
4,500.0	4,450.1	4,473.8	4,388.7	13.5	16.6	-9.68	821.9	175.5	226.9	210.9	16.07	14.121		
4,600.0	4,548.7	4,573.7	4,486.4	13.8	17.0	-9.72	842.2	179.9	231.3	214.8	16.44	14.068		
4,700.0	4,647.3	4,673.6	4,584.1	14.2	17.4	-9.75	862.6	184.3	235.6	218.8	16.81	14.017		
4,800.0	4,745.9	4,773.5	4,681.8	14.5	17.8	-9.79	883.0	188.7	239.9	222.7	17.17	13.968		
4,900.0	4,844.5	4,873.4	4,779.5	14.8	18.2	-9.83	903.3	193.1	244.2	226.7	17.54	13.922		
5,000.0	4,943.1	4,973.3	4,877.2	15.2	18.6	-9.86	923.7	197.6	248.5	230.6	17.91	13.877		
5,100.0	5,041.7	5,073.2	4,974.9	15.5	19.0	-9.89	944.1	202.0	252.8	234.5	18.28	13.834		

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 Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1A-4H - Hz - Plan #6													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		
5,200.0	5,140.3	5,174.7	5,074.2	15.8	19.4	-9.93	964.7	206.4	257.1	238.4	18.65	13.787		
5,300.0	5,238.9	5,284.5	5,182.1	16.2	19.8	-10.04	984.4	210.7	258.9	239.8	19.04	13.597		
5,400.0	5,337.5	5,394.3	5,290.7	16.5	20.1	-10.28	1,000.0	214.1	256.9	237.4	19.45	13.208		
5,500.0	5,436.1	5,503.7	5,399.5	16.9	20.3	-10.66	1,011.6	216.6	251.1	231.2	19.87	12.635		
5,600.0	5,534.9	5,612.6	5,508.1	17.2	20.5	-11.13	1,019.0	218.2	242.7	222.3	20.31	11.948		
5,700.0	5,633.9	5,720.9	5,616.4	17.5	20.6	-11.70	1,022.4	218.9	232.2	211.4	20.75	11.188		
5,800.0	5,733.2	5,823.2	5,718.7	17.7	20.7	-12.33	1,022.6	219.0	220.5	199.3	21.20	10.405		
5,900.0	5,832.6	5,922.7	5,818.1	18.0	20.8	-12.91	1,022.6	219.0	210.4	188.8	21.62	9.730		
6,000.0	5,932.2	6,022.3	5,917.7	18.2	20.9	-13.44	1,022.6	219.0	201.9	179.9	22.04	9.162		
6,100.0	6,032.0	6,122.1	6,017.5	18.4	21.0	-13.90	1,022.6	219.0	195.2	172.8	22.44	8.699		
6,200.0	6,131.9	6,221.9	6,117.4	18.5	21.1	-14.26	1,022.6	219.0	190.2	167.4	22.82	8.334		
6,300.0	6,231.8	6,321.9	6,217.3	18.7	21.2	-14.51	1,022.6	219.0	186.9	163.7	23.18	8.063		
6,400.0	6,331.8	6,421.8	6,317.3	18.8	21.3	-14.64	1,022.6	219.0	185.2	161.7	23.50	7.881		
6,468.2	6,399.9	6,490.0	6,385.4	18.8	21.3	-14.67	1,022.6	219.0	184.9	161.1	23.72	7.793		
6,500.0	6,431.8	6,521.8	6,417.3	18.9	21.4	0.00	1,022.6	219.0	185.0	145.5	39.49	4.686		
6,600.0	6,531.8	6,621.8	6,517.3	19.0	21.4	0.00	1,022.6	219.0	185.0	145.3	39.69	4.662		
6,642.6	6,574.3	6,664.4	6,559.8	19.0	21.5	-0.05	1,022.6	218.8	185.0	145.3	39.77	4.652		
6,700.0	6,631.8	6,721.5	6,616.7	19.1	21.5	-1.36	1,022.6	214.6	185.1	145.3	39.74	4.657		
6,800.0	6,731.8	6,817.0	6,710.1	19.2	21.5	-7.39	1,022.6	195.0	186.7	147.6	39.15	4.769		
6,900.0	6,831.8	6,903.9	6,791.2	19.3	21.5	73.34	1,022.6	163.9	194.8	166.3	28.52	6.830		
7,000.0	6,931.2	6,984.2	6,861.1	19.4	21.5	63.24	1,022.6	124.6	210.9	179.8	31.02	6.797		
7,100.0	7,027.3	7,061.1	6,922.3	19.4	21.6	55.07	1,022.6	78.1	230.7	198.6	32.12	7.184		
7,200.0	7,117.3	7,135.5	6,975.1	19.4	21.6	48.72	1,022.6	25.8	251.7	220.0	31.66	7.948		
7,300.0	7,198.5	7,208.0	7,019.6	19.4	21.7	43.93	1,022.6	-31.4	271.7	241.6	30.01	9.052		
7,400.0	7,268.3	7,279.0	7,055.8	19.5	21.9	40.39	1,022.6	-92.4	289.4	261.8	27.58	10.493		
7,500.0	7,324.6	7,350.0	7,084.2	19.7	22.1	37.85	1,022.6	-157.4	303.8	278.8	25.04	12.134		
7,600.0	7,365.7	7,418.1	7,103.7	20.1	22.4	36.20	1,022.6	-222.6	314.4	291.2	23.28	13.506		
7,700.0	7,390.4	7,486.8	7,115.4	20.6	22.8	35.25	1,022.6	-290.2	320.8	297.7	23.16	13.855		
7,800.0	7,398.0	7,557.3	7,119.0	21.5	23.4	34.97	1,022.6	-360.7	322.8	297.7	25.04	12.890		
7,900.0	7,398.0	7,657.3	7,119.0	22.7	24.3	34.97	1,022.6	-460.7	322.8	295.9	26.90	12.000		
8,000.0	7,398.0	7,757.3	7,119.0	24.1	25.5	34.97	1,022.6	-560.7	322.8	293.9	28.91	11.165		
8,100.0	7,398.0	7,857.3	7,119.0	25.7	27.0	34.97	1,022.6	-660.7	322.8	291.7	31.05	10.395		
8,200.0	7,398.0	7,957.3	7,119.0	27.5	28.6	34.97	1,022.6	-760.7	322.8	289.5	33.30	9.692		
8,300.0	7,398.0	8,057.3	7,119.0	29.4	30.4	34.97	1,022.6	-860.7	322.8	287.2	35.64	9.056		
8,400.0	7,398.0	8,157.3	7,119.0	31.4	32.3	34.97	1,022.6	-960.7	322.8	284.7	38.05	8.483		
8,500.0	7,398.0	8,257.3	7,119.0	33.4	34.2	34.97	1,022.6	-1,060.7	322.8	282.3	40.52	7.967		
8,600.0	7,398.0	8,357.3	7,119.0	35.6	36.3	34.97	1,022.6	-1,160.7	322.8	279.8	43.03	7.501		
8,700.0	7,398.0	8,457.3	7,119.0	37.8	38.4	34.97	1,022.6	-1,260.7	322.8	277.2	45.59	7.081		
8,800.0	7,398.0	8,557.3	7,119.0	40.0	40.6	34.97	1,022.6	-1,360.7	322.8	274.6	48.18	6.700		
8,900.0	7,398.0	8,657.3	7,119.0	42.2	42.8	34.97	1,022.6	-1,460.7	322.8	272.0	50.79	6.355		
9,000.0	7,398.0	8,757.3	7,119.0	44.5	45.0	34.98	1,022.6	-1,560.7	322.8	269.4	53.43	6.041		
9,100.0	7,398.0	8,857.3	7,119.0	46.8	47.3	34.98	1,022.6	-1,660.7	322.8	266.7	56.10	5.754		
9,200.0	7,398.0	8,957.3	7,119.0	49.1	49.6	34.98	1,022.6	-1,760.7	322.8	264.0	58.78	5.492		
9,300.0	7,398.0	9,057.3	7,119.0	51.4	51.9	34.98	1,022.6	-1,860.7	322.8	261.3	61.47	5.251		
9,400.0	7,398.0	9,157.3	7,119.0	53.8	54.2	34.98	1,022.6	-1,960.7	322.8	258.6	64.18	5.029		
9,500.0	7,398.0	9,257.3	7,119.0	56.1	56.5	34.98	1,022.6	-2,060.7	322.8	255.9	66.91	4.825		
9,600.0	7,398.0	9,357.3	7,119.0	58.5	58.9	34.98	1,022.6	-2,160.7	322.8	253.2	69.64	4.635		
9,700.0	7,398.0	9,457.3	7,119.0	60.9	61.2	34.98	1,022.6	-2,260.7	322.8	250.4	72.38	4.460		
9,800.0	7,398.0	9,557.3	7,119.0	63.3	63.6	34.98	1,022.6	-2,360.7	322.8	247.7	75.13	4.296		
9,900.0	7,398.0	9,657.3	7,119.0	65.6	66.0	34.98	1,022.6	-2,460.7	322.8	244.9	77.89	4.144		
10,000.0	7,398.0	9,757.3	7,119.0	68.0	68.3	34.98	1,022.6	-2,560.7	322.8	242.1	80.65	4.002		
10,100.0	7,398.0	9,857.3	7,119.0	70.4	70.7	34.98	1,022.6	-2,660.7	322.8	239.4	83.43	3.869		

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 Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1A-4H - Hz - Plan #6												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis		Separation Factor
10,200.0	7,398.0	9,957.3	7,119.0	72.8	73.1	34.98	1,022.6	-2,760.7	322.8	236.6	86.20	3.745	
10,300.0	7,398.0	10,057.3	7,119.0	75.3	75.5	34.98	1,022.6	-2,860.7	322.8	233.8	88.98	3.628	
10,400.0	7,398.0	10,157.3	7,119.0	77.7	77.9	34.98	1,022.6	-2,960.7	322.8	231.0	91.77	3.518	
10,500.0	7,398.0	10,257.3	7,119.0	80.1	80.3	34.98	1,022.6	-3,060.7	322.8	228.2	94.56	3.414	
10,600.0	7,398.0	10,357.3	7,119.0	82.5	82.7	34.98	1,022.6	-3,160.7	322.8	225.4	97.35	3.316	
10,700.0	7,398.0	10,457.3	7,119.0	84.9	85.2	34.98	1,022.6	-3,260.7	322.8	222.7	100.15	3.223	
10,800.0	7,398.0	10,557.3	7,119.0	87.4	87.6	34.98	1,022.6	-3,360.7	322.8	219.9	102.95	3.136	
10,900.0	7,398.0	10,657.3	7,119.0	89.8	90.0	34.98	1,022.6	-3,460.7	322.8	217.0	105.75	3.052	
11,000.0	7,398.0	10,757.3	7,119.0	92.2	92.4	34.98	1,022.6	-3,560.7	322.8	214.2	108.56	2.973	
11,100.0	7,398.0	10,857.3	7,119.0	94.7	94.9	34.98	1,022.6	-3,660.7	322.8	211.4	111.37	2.899	
11,200.0	7,398.0	10,957.3	7,119.0	97.1	97.3	34.98	1,022.6	-3,760.7	322.8	208.6	114.18	2.827	
11,300.0	7,398.0	11,057.3	7,119.0	99.5	99.7	34.98	1,022.6	-3,860.7	322.8	205.8	116.99	2.759	
11,400.0	7,398.0	11,157.3	7,119.0	102.0	102.2	34.98	1,022.6	-3,960.7	322.8	203.0	119.81	2.694	
11,500.0	7,398.0	11,257.3	7,119.0	104.4	104.6	34.98	1,022.6	-4,060.7	322.8	200.2	122.63	2.632	
11,600.0	7,398.0	11,357.3	7,119.0	106.9	107.0	34.98	1,022.6	-4,160.7	322.8	197.4	125.44	2.573	
11,700.0	7,398.0	11,457.3	7,119.0	109.3	109.5	34.98	1,022.6	-4,260.7	322.8	194.5	128.27	2.517	
11,800.0	7,398.0	11,557.3	7,119.0	111.8	111.9	34.98	1,022.6	-4,360.7	322.8	191.7	131.09	2.463	
11,900.0	7,398.0	11,657.3	7,119.0	114.2	114.4	34.98	1,022.6	-4,460.7	322.8	188.9	133.91	2.411	
11,950.3	7,398.0	11,707.6	7,119.0	115.4	115.6	34.98	1,022.6	-4,511.0	322.8	187.5	135.33	2.385	
11,984.2	7,398.0	11,741.2	7,119.0	116.3	116.4	34.98	1,022.6	-4,544.6	322.8	186.5	136.28	2.369 SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1C-4H - Hz - Plan #5													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	176.98	-10.6	0.6	10.6					
100.0	100.0	100.0	100.0	0.1	0.1	176.98	-10.6	0.6	10.6	10.3	0.25	42.453		
200.0	200.0	200.0	200.0	0.3	0.3	176.98	-10.6	0.6	10.6	10.0	0.60	17.699		
300.0	300.0	300.0	300.0	0.5	0.5	176.98	-10.6	0.6	10.6	9.6	0.95	11.180	CC, ES	
400.0	400.0	400.1	400.1	0.6	0.6	163.16	-10.4	0.6	11.2	9.9	1.30	8.663		
500.0	500.0	500.3	500.2	0.8	0.8	163.01	-8.8	1.4	12.2	10.5	1.65	7.398		
600.0	599.9	600.5	600.4	1.0	1.0	161.64	-5.6	2.8	13.2	11.2	2.00	6.627		
700.0	699.7	700.7	700.4	1.2	1.2	159.37	-0.8	5.0	14.4	12.1	2.35	6.132		
800.0	799.4	800.9	800.4	1.4	1.4	156.45	5.5	8.0	15.8	13.1	2.72	5.806		
900.0	898.9	901.1	900.2	1.6	1.6	153.13	13.5	11.6	17.3	14.2	3.10	5.589		
1,000.0	998.3	1,001.3	999.9	1.9	1.9	149.60	23.0	16.0	19.1	15.6	3.51	5.443		
1,100.0	1,097.4	1,101.4	1,099.3	2.2	2.1	146.32	34.0	21.0	21.2	17.3	3.94	5.380		
1,200.0	1,196.3	1,201.4	1,198.5	2.5	2.4	145.56	45.2	26.2	24.6	20.2	4.38	5.620		
1,300.0	1,295.0	1,301.3	1,297.6	2.8	2.6	146.79	56.4	31.3	29.4	24.6	4.80	6.114		
1,400.0	1,393.6	1,401.1	1,396.7	3.1	2.9	147.97	67.6	36.5	34.4	29.2	5.22	6.584		
1,500.0	1,492.2	1,501.0	1,495.8	3.4	3.1	148.85	78.8	41.6	39.4	33.8	5.64	6.985		
1,600.0	1,590.7	1,600.9	1,594.9	3.7	3.4	149.54	90.0	46.8	44.4	38.4	6.06	7.330		
1,700.0	1,689.3	1,700.7	1,694.0	4.1	3.7	150.08	101.1	51.9	49.5	43.0	6.49	7.630		
1,800.0	1,787.9	1,800.6	1,793.1	4.4	4.0	150.52	112.3	57.1	54.5	47.6	6.91	7.893		
1,900.0	1,886.5	1,900.5	1,892.3	4.7	4.2	150.89	123.5	62.2	59.6	52.2	7.33	8.125		
2,000.0	1,985.1	2,000.4	1,991.4	5.1	4.5	151.20	134.7	67.4	64.6	56.9	7.76	8.332		
2,100.0	2,083.7	2,100.2	2,090.5	5.4	4.8	151.46	145.9	72.5	69.7	61.5	8.18	8.517		
2,200.0	2,182.3	2,200.1	2,189.6	5.7	5.0	151.69	157.1	77.7	74.7	66.1	8.61	8.683		
2,300.0	2,280.9	2,300.0	2,288.7	6.1	5.3	151.89	168.3	82.8	79.8	70.8	9.03	8.834		
2,400.0	2,379.5	2,399.8	2,387.8	6.4	5.6	152.07	179.5	88.0	84.8	75.4	9.46	8.971		
2,500.0	2,478.1	2,499.7	2,486.9	6.7	5.9	152.23	190.7	93.1	89.9	80.0	9.88	9.096		
2,600.0	2,576.7	2,599.6	2,586.0	7.1	6.1	152.37	201.9	98.2	95.0	84.6	10.31	9.210		
2,700.0	2,675.3	2,699.5	2,685.1	7.4	6.4	152.49	213.1	103.4	100.0	89.3	10.74	9.316		
2,800.0	2,773.9	2,799.3	2,784.2	7.7	6.7	152.61	224.3	108.5	105.1	93.9	11.16	9.413		
2,900.0	2,872.5	2,899.2	2,883.3	8.1	7.0	152.71	235.5	113.7	110.1	98.5	11.59	9.503		
3,000.0	2,971.1	2,999.1	2,982.5	8.4	7.2	152.80	246.7	118.8	115.2	103.2	12.01	9.587		
3,100.0	3,069.7	3,098.9	3,081.6	8.7	7.5	152.89	257.8	124.0	120.2	107.8	12.44	9.664		
3,200.0	3,168.3	3,198.8	3,180.7	9.1	7.8	152.97	269.0	129.1	125.3	112.4	12.87	9.737		
3,300.0	3,266.9	3,298.7	3,279.8	9.4	8.1	153.04	280.2	134.3	130.4	117.1	13.30	9.805		
3,400.0	3,365.5	3,398.6	3,378.9	9.8	8.3	153.11	291.4	139.4	135.4	121.7	13.72	9.868		
3,500.0	3,464.1	3,498.4	3,478.0	10.1	8.6	153.17	302.6	144.6	140.5	126.3	14.15	9.928		
3,600.0	3,562.7	3,598.3	3,577.1	10.4	8.9	153.23	313.8	149.7	145.5	131.0	14.58	9.984		
3,700.0	3,661.3	3,698.2	3,676.2	10.8	9.2	153.29	325.0	154.9	150.6	135.6	15.00	10.037		
3,800.0	3,759.9	3,798.1	3,775.3	11.1	9.4	153.34	336.2	160.0	155.6	140.2	15.43	10.087		
3,900.0	3,858.5	3,897.9	3,874.4	11.4	9.7	153.38	347.4	165.1	160.7	144.8	15.86	10.134		
4,000.0	3,957.1	3,997.8	3,973.5	11.8	10.0	153.43	358.6	170.3	165.8	149.5	16.28	10.179		
4,100.0	4,055.7	4,097.7	4,072.7	12.1	10.3	153.47	369.8	175.4	170.8	154.1	16.71	10.221		
4,200.0	4,154.3	4,197.5	4,171.8	12.5	10.5	153.51	381.0	180.6	175.9	158.7	17.14	10.262		
4,300.0	4,252.9	4,297.4	4,270.9	12.8	10.8	153.55	392.2	185.7	180.9	163.4	17.57	10.300		
4,400.0	4,351.5	4,397.3	4,370.0	13.1	11.1	153.58	403.4	190.9	186.0	168.0	17.99	10.337		
4,500.0	4,450.1	4,497.2	4,469.1	13.5	11.4	153.62	414.5	196.0	191.1	172.6	18.42	10.371		
4,600.0	4,548.7	4,597.0	4,568.2	13.8	11.6	153.65	425.7	201.2	196.1	177.3	18.85	10.405		
4,700.0	4,647.3	4,696.3	4,666.8	14.2	11.9	153.69	436.8	206.3	201.2	181.9	19.27	10.439		
4,800.0	4,745.9	4,793.4	4,763.2	14.5	12.2	153.90	446.7	210.8	207.2	187.6	19.65	10.544		
4,900.0	4,844.5	4,890.2	4,859.6	14.8	12.4	154.36	455.0	214.6	214.6	194.6	19.98	10.741		
5,000.0	4,943.1	4,986.8	4,955.8	15.2	12.6	155.04	461.8	217.8	223.4	203.1	20.26	11.027		
5,100.0	5,041.7	5,083.0	5,051.9	15.5	12.8	155.88	467.2	220.2	233.6	213.1	20.50	11.396		

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 Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1C-4H - Hz - Plan #5													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		
5,200.0	5,140.3	5,178.9	5,147.7	15.8	12.9	156.86	471.0	222.0	245.3	224.5	20.70	11.846		
5,300.0	5,238.9	5,274.4	5,243.1	16.2	13.1	157.94	473.4	223.1	258.4	237.5	20.88	12.373		
5,400.0	5,337.5	5,369.4	5,338.1	16.5	13.2	159.09	474.4	223.5	273.0	251.9	21.04	12.973		
5,500.0	5,436.1	5,467.3	5,436.1	16.9	13.3	160.27	474.4	223.6	288.6	267.4	21.21	13.611		
5,600.0	5,534.9	5,566.1	5,534.9	17.2	13.4	161.31	474.4	223.6	303.4	282.0	21.40	14.178		
5,700.0	5,633.9	5,665.1	5,633.9	17.5	13.6	162.15	474.4	223.6	316.6	294.9	21.62	14.644		
5,800.0	5,733.2	5,764.4	5,733.2	17.7	13.7	162.83	474.4	223.6	328.1	306.3	21.86	15.014		
5,900.0	5,832.6	5,863.8	5,832.6	18.0	13.8	163.38	474.4	223.6	338.1	316.0	22.11	15.290		
6,000.0	5,932.2	5,963.5	5,932.2	18.2	13.9	163.82	474.4	223.6	346.4	324.0	22.38	15.478		
6,100.0	6,032.0	6,063.2	6,032.0	18.4	14.1	164.15	474.4	223.6	353.1	330.4	22.66	15.581		
6,200.0	6,131.9	6,163.1	6,131.9	18.5	14.2	164.39	474.4	223.6	358.1	335.1	22.95	15.604		
6,300.0	6,231.8	6,263.0	6,231.8	18.7	14.3	164.54	474.4	223.6	361.4	338.1	23.24	15.550		
6,400.0	6,331.8	6,363.0	6,331.8	18.8	14.5	164.62	474.4	223.6	363.0	339.5	23.54	15.422		
6,500.0	6,431.8	6,463.0	6,431.8	18.9	14.6	179.28	474.4	223.6	363.2	330.7	32.48	11.183		
6,600.0	6,531.8	6,563.0	6,531.8	19.0	14.7	179.28	474.4	223.6	363.2	330.5	32.73	11.098		
6,700.0	6,631.8	6,665.1	6,633.5	19.1	14.8	-179.66	474.7	216.8	362.9	329.9	33.08	10.971		
6,756.2	6,688.0	6,720.7	6,688.0	19.1	14.9	-177.90	475.1	205.7	362.8	329.4	33.37	10.871		
6,800.0	6,731.8	6,762.3	6,727.8	19.2	14.9	-176.05	475.5	194.0	363.0	329.4	33.61	10.801		
6,900.0	6,831.8	6,850.0	6,808.6	19.3	14.9	-80.66	476.8	159.9	366.4	342.4	23.99	15.275		
7,000.0	6,931.2	6,929.7	6,876.6	19.4	14.9	-74.60	478.3	118.6	374.5	350.4	24.11	15.537		
7,100.0	7,027.3	7,006.1	6,935.9	19.4	14.9	-69.09	480.0	70.5	385.6	361.0	24.56	15.697		
7,200.0	7,117.3	7,079.9	6,986.6	19.4	15.0	-64.26	482.0	17.0	398.0	372.9	25.12	15.845		
7,300.0	7,198.5	7,150.0	7,028.0	19.4	15.2	-60.24	484.1	-39.5	410.4	384.8	25.62	16.019		
7,400.0	7,268.3	7,221.7	7,062.9	19.5	15.5	-56.87	486.4	-102.0	421.8	395.8	25.97	16.240		
7,500.0	7,324.6	7,290.6	7,088.9	19.7	15.9	-54.29	488.7	-165.8	431.1	404.9	26.18	16.468		
7,600.0	7,365.7	7,358.8	7,106.8	20.1	16.6	-52.43	491.1	-231.4	437.7	411.3	26.41	16.575		
7,700.0	7,390.4	7,426.3	7,116.7	20.6	17.4	-51.26	493.5	-298.1	441.2	414.3	26.86	16.428		
7,800.0	7,398.0	7,501.5	7,119.0	21.5	18.5	-50.74	496.3	-373.2	441.0	413.2	27.84	15.839		
7,900.0	7,398.0	7,601.4	7,119.0	22.7	20.1	-50.43	500.0	-473.1	438.2	407.7	30.49	14.371		
8,000.0	7,398.0	7,701.4	7,119.0	24.1	21.9	-50.13	503.6	-572.9	435.4	402.0	33.32	13.065		
8,100.0	7,398.0	7,801.3	7,119.0	25.7	23.9	-49.81	507.3	-672.8	432.6	396.3	36.29	11.920		
8,200.0	7,398.0	7,901.2	7,119.0	27.5	25.9	-49.50	510.9	-772.7	429.8	390.4	39.34	10.924		
8,300.0	7,398.0	8,001.2	7,119.0	29.4	28.1	-49.18	514.6	-872.5	427.0	384.5	42.46	10.057		
8,400.0	7,398.0	8,101.1	7,119.0	31.4	30.2	-48.86	518.3	-972.4	424.2	378.6	45.61	9.301		
8,500.0	7,398.0	8,201.0	7,119.0	33.4	32.4	-48.53	521.9	-1,072.3	421.5	372.7	48.78	8.639		
8,600.0	7,398.0	8,300.9	7,119.0	35.6	34.7	-48.20	525.6	-1,172.1	418.7	366.8	51.97	8.058		
8,700.0	7,398.0	8,400.9	7,119.0	37.8	37.0	-47.86	529.2	-1,272.0	416.0	360.8	55.15	7.544		
8,800.0	7,398.0	8,500.8	7,119.0	40.0	39.3	-47.52	532.9	-1,371.9	413.3	355.0	58.31	7.087		
8,900.0	7,398.0	8,600.7	7,119.0	42.2	41.6	-47.18	536.6	-1,471.7	410.6	349.1	61.47	6.680		
9,000.0	7,398.0	8,700.7	7,119.0	44.5	43.9	-46.83	540.2	-1,571.6	407.9	343.3	64.60	6.315		
9,100.0	7,398.0	8,800.6	7,119.0	46.8	46.3	-46.47	543.9	-1,671.5	405.2	337.5	67.70	5.986		
9,200.0	7,398.0	8,900.5	7,119.0	49.1	48.7	-46.11	547.5	-1,771.3	402.6	331.8	70.77	5.689		
9,300.0	7,398.0	9,000.5	7,119.0	51.4	51.0	-45.75	551.2	-1,871.2	400.0	326.2	73.80	5.420		
9,400.0	7,398.0	9,100.4	7,119.0	53.8	53.4	-45.38	554.9	-1,971.1	397.3	320.6	76.79	5.174		
9,500.0	7,398.0	9,200.3	7,119.0	56.1	55.8	-45.01	558.5	-2,070.9	394.7	315.0	79.75	4.950		
9,600.0	7,398.0	9,300.3	7,119.0	58.5	58.2	-44.63	562.2	-2,170.8	392.2	309.5	82.65	4.745		
9,700.0	7,398.0	9,400.2	7,119.0	60.9	60.6	-44.25	565.8	-2,270.7	389.6	304.1	85.51	4.556		
9,800.0	7,398.0	9,500.1	7,119.0	63.3	63.0	-43.86	569.5	-2,370.5	387.0	298.7	88.32	4.382		
9,900.0	7,398.0	9,600.1	7,119.0	65.6	65.4	-43.46	573.2	-2,470.4	384.5	293.4	91.08	4.222		
10,000.0	7,398.0	9,700.0	7,119.0	68.0	67.9	-43.06	576.8	-2,570.3	382.0	288.2	93.78	4.073		
10,100.0	7,398.0	9,799.9	7,119.0	70.4	70.3	-42.66	580.5	-2,670.1	379.5	283.1	96.43	3.936		
10,200.0	7,398.0	9,899.9	7,119.0	72.8	72.7	-42.25	584.1	-2,770.0	377.0	278.0	99.02	3.808		

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 Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1C-4H - Hz - Plan #5													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		
10,300.0	7,398.0	9,999.8	7,119.0	75.3	75.1	-41.84	587.8	-2,869.8	374.6	273.0	101.54	3.689		
10,400.0	7,398.0	10,099.7	7,119.0	77.7	77.6	-41.42	591.5	-2,969.7	372.2	268.1	104.00	3.578		
10,500.0	7,398.0	10,199.7	7,119.0	80.1	80.0	-40.99	595.1	-3,069.6	369.7	263.3	106.40	3.475		
10,600.0	7,398.0	10,299.6	7,119.0	82.5	82.4	-40.56	598.8	-3,169.4	367.3	258.6	108.72	3.379		
10,700.0	7,398.0	10,399.5	7,119.0	84.9	84.9	-40.12	602.4	-3,269.3	365.0	254.0	110.98	3.289		
10,800.0	7,398.0	10,499.5	7,119.0	87.4	87.3	-39.68	606.1	-3,369.2	362.6	249.5	113.17	3.204		
10,900.0	7,398.0	10,599.4	7,119.0	89.8	89.8	-39.23	609.8	-3,469.0	360.3	245.0	115.28	3.125		
11,000.0	7,398.0	10,699.3	7,119.0	92.2	92.2	-38.78	613.4	-3,568.9	358.0	240.7	117.31	3.052		
11,100.0	7,398.0	10,799.3	7,119.0	94.7	94.6	-38.32	617.1	-3,668.8	355.7	236.4	119.27	2.982		
11,200.0	7,398.0	10,899.2	7,119.0	97.1	97.1	-37.85	620.7	-3,768.6	353.4	232.3	121.14	2.918		
11,300.0	7,398.0	10,999.1	7,119.0	99.5	99.5	-37.38	624.4	-3,868.5	351.2	228.3	122.93	2.857		
11,400.0	7,398.0	11,099.1	7,119.0	102.0	102.0	-36.90	628.1	-3,968.4	349.0	224.3	124.64	2.800		
11,500.0	7,398.0	11,199.0	7,119.0	104.4	104.4	-36.42	631.7	-4,068.2	346.8	220.5	126.26	2.747		
11,600.0	7,398.0	11,298.9	7,119.0	106.9	106.9	-35.93	635.4	-4,168.1	344.6	216.8	127.79	2.697		
11,700.0	7,398.0	11,398.9	7,119.0	109.3	109.3	-35.43	639.0	-4,268.0	342.5	213.3	129.23	2.650		
11,800.0	7,398.0	11,498.8	7,119.0	111.8	111.8	-34.93	642.7	-4,367.8	340.4	209.8	130.57	2.607		
11,900.0	7,398.0	11,598.7	7,119.0	114.2	114.2	-34.42	646.4	-4,467.7	338.3	206.5	131.82	2.566		
11,984.2	7,398.0	11,676.8	7,119.0	116.3	116.2	-34.02	649.2	-4,545.8	336.6	203.8	132.81	2.535 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1D-4H - Hz - Plan #5													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	178.73	-25.2	0.6	25.2					
100.0	100.0	100.0	100.0	0.1	0.1	178.73	-25.2	0.6	25.2	24.9	0.25	100.852		
200.0	200.0	200.0	200.0	0.3	0.3	178.73	-25.2	0.6	25.2	24.6	0.60	42.046		
300.0	300.0	300.0	300.0	0.5	0.5	178.73	-25.2	0.6	25.2	24.2	0.95	26.560 CC, ES		
400.0	400.0	400.0	400.0	0.6	0.6	164.60	-25.2	0.6	26.0	24.7	1.30	20.059		
500.0	500.0	500.0	500.0	0.8	0.8	165.99	-25.2	0.6	28.5	26.9	1.65	17.346		
600.0	599.9	599.9	599.9	1.0	1.0	167.83	-25.2	0.6	32.8	30.8	1.99	16.445		
700.0	699.7	700.3	700.3	1.2	1.2	169.10	-24.4	1.0	38.0	35.7	2.34	16.224		
800.0	799.4	800.7	800.7	1.4	1.4	169.38	-22.2	2.5	43.4	40.7	2.69	16.124		
900.0	898.9	901.3	901.2	1.6	1.5	168.99	-18.5	4.8	49.0	46.0	3.05	16.095		
1,000.0	998.3	1,001.9	1,001.6	1.9	1.7	168.13	-13.3	8.2	54.8	51.4	3.40	16.108		
1,100.0	1,097.4	1,102.6	1,102.0	2.2	1.9	166.95	-6.6	12.4	60.7	57.0	3.76	16.143		
1,200.0	1,196.3	1,203.4	1,202.3	2.5	2.2	165.54	1.6	17.7	66.9	62.8	4.14	16.186		
1,300.0	1,295.0	1,304.2	1,302.4	2.8	2.4	163.94	11.2	23.8	73.2	68.7	4.53	16.186		
1,400.0	1,393.6	1,405.1	1,402.5	3.1	2.6	161.94	22.4	31.0	78.5	73.5	4.94	15.882		
1,500.0	1,492.2	1,506.1	1,502.3	3.4	2.9	159.43	35.1	39.1	82.4	77.0	5.39	15.286		
1,600.0	1,590.7	1,607.0	1,601.8	3.7	3.2	156.38	49.2	48.1	85.1	79.2	5.89	14.464		
1,700.0	1,689.3	1,706.9	1,700.2	4.1	3.5	153.21	63.8	57.5	87.5	81.1	6.42	13.637		
1,800.0	1,787.9	1,806.7	1,798.5	4.4	3.9	150.21	78.4	66.8	90.2	83.2	6.99	12.913		
1,900.0	1,886.5	1,906.6	1,896.9	4.7	4.2	147.40	93.0	76.1	93.1	85.5	7.58	12.280		
2,000.0	1,985.1	2,006.4	1,995.2	5.1	4.5	144.76	107.6	85.5	96.2	88.0	8.20	11.730		
2,100.0	2,083.7	2,106.3	2,093.5	5.4	4.8	142.30	122.2	94.8	99.5	90.7	8.84	11.251		
2,200.0	2,182.3	2,206.2	2,191.9	5.7	5.2	139.99	136.8	104.2	103.0	93.5	9.50	10.835		
2,300.0	2,280.9	2,306.0	2,290.2	6.1	5.5	137.84	151.5	113.5	106.6	96.4	10.18	10.474		
2,400.0	2,379.5	2,405.9	2,388.6	6.4	5.9	135.83	166.1	122.9	110.4	99.5	10.86	10.160		
2,500.0	2,478.1	2,505.7	2,486.9	6.7	6.2	133.96	180.7	132.2	114.3	102.7	11.56	9.887		
2,600.0	2,576.7	2,605.6	2,585.2	7.1	6.5	132.21	195.3	141.5	118.3	106.0	12.26	9.649		
2,700.0	2,675.3	2,705.4	2,683.6	7.4	6.9	130.57	209.9	150.9	122.4	109.4	12.96	9.441		
2,800.0	2,773.9	2,805.3	2,781.9	7.7	7.2	129.05	224.5	160.2	126.6	112.9	13.67	9.259		
2,900.0	2,872.5	2,905.2	2,880.3	8.1	7.6	127.62	239.1	169.6	130.9	116.5	14.38	9.099		
3,000.0	2,971.1	3,005.0	2,978.6	8.4	7.9	126.29	253.7	178.9	135.2	120.1	15.10	8.957		
3,100.0	3,069.7	3,104.6	3,076.7	8.7	8.2	125.09	268.2	188.1	139.7	123.9	15.80	8.840		
3,200.0	3,168.3	3,203.7	3,174.6	9.1	8.5	124.51	281.4	196.6	144.6	128.2	16.44	8.797 SF		
3,300.0	3,266.9	3,302.8	3,272.7	9.4	8.8	124.60	293.2	204.1	150.1	133.1	17.01	8.824		
3,400.0	3,365.5	3,401.9	3,371.0	9.8	9.1	125.28	303.5	210.8	156.0	138.5	17.50	8.914		
3,500.0	3,464.1	3,500.7	3,469.3	10.1	9.3	126.49	312.4	216.5	162.6	144.6	17.93	9.069		
3,600.0	3,562.7	3,599.4	3,567.5	10.4	9.6	128.14	319.9	221.2	169.7	151.5	18.27	9.290		
3,700.0	3,661.3	3,697.8	3,665.7	10.8	9.8	130.16	325.9	225.1	177.7	159.2	18.54	9.584		
3,800.0	3,759.9	3,795.9	3,763.6	11.1	9.9	132.48	330.5	228.0	186.6	167.8	18.74	9.957		
3,900.0	3,858.5	3,893.6	3,861.2	11.4	10.1	135.01	333.7	230.0	196.5	177.6	18.86	10.416		
4,000.0	3,957.1	3,990.8	3,958.5	11.8	10.2	137.69	335.4	231.2	207.6	188.7	18.93	10.968		
4,100.0	4,055.7	4,088.1	4,055.7	12.1	10.3	140.45	335.8	231.4	220.1	201.1	18.95	11.611		
4,200.0	4,154.3	4,186.7	4,154.3	12.5	10.4	143.05	335.8	231.4	233.2	214.3	18.98	12.290		
4,300.0	4,252.9	4,285.3	4,252.9	12.8	10.6	145.37	335.8	231.4	246.8	227.8	19.03	12.973		
4,400.0	4,351.5	4,383.9	4,351.5	13.1	10.7	147.44	335.8	231.4	260.8	241.7	19.10	13.654		
4,500.0	4,450.1	4,482.5	4,450.1	13.5	10.8	149.31	335.8	231.4	275.1	255.9	19.20	14.328		
4,600.0	4,548.7	4,581.1	4,548.7	13.8	10.9	150.99	335.8	231.4	289.6	270.3	19.31	14.992		
4,700.0	4,647.3	4,679.7	4,647.3	14.2	11.1	152.50	335.8	231.4	304.3	284.9	19.45	15.643		
4,800.0	4,745.9	4,778.3	4,745.9	14.5	11.2	153.88	335.8	231.4	319.3	299.6	19.61	16.279		
4,900.0	4,844.5	4,876.9	4,844.5	14.8	11.3	155.14	335.8	231.4	334.4	314.6	19.79	16.899		
5,000.0	4,943.1	4,975.5	4,943.1	15.2	11.4	156.29	335.8	231.4	349.6	329.6	19.97	17.502		
5,100.0	5,041.7	5,074.1	5,041.7	15.5	11.6	157.34	335.8	231.4	365.0	344.8	20.18	18.088		

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 Peppler Farms 1B-4H
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Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design												S4-T3N-R68W (Peppler Farms) - Peppler Farms 1D-4H - Hz - Plan #5		Offset Site Error:		0.0 ft	
Survey Program:												0-MWD		Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
5,200.0	5,140.3	5,172.7	5,140.3	15.8	11.7	158.30	335.8	231.4	380.4	360.1	20.39	18.657					
5,300.0	5,238.9	5,271.3	5,238.9	16.2	11.8	159.19	335.8	231.4	396.0	375.4	20.62	19.209					
5,400.0	5,337.5	5,369.9	5,337.5	16.5	12.0	160.02	335.8	231.4	411.7	390.8	20.85	19.743					
5,500.0	5,436.1	5,468.5	5,436.1	16.9	12.1	160.79	335.8	231.4	427.4	406.3	21.10	20.260					
5,600.0	5,534.9	5,567.3	5,534.9	17.2	12.2	161.50	335.8	231.4	442.2	420.8	21.36	20.706					
5,700.0	5,633.9	5,666.3	5,633.9	17.5	12.4	162.09	335.8	231.4	455.4	433.8	21.63	21.057					
5,800.0	5,733.2	5,765.5	5,733.2	17.7	12.5	162.59	335.8	231.4	467.0	445.1	21.90	21.318					
5,900.0	5,832.6	5,865.0	5,832.6	18.0	12.7	162.99	335.8	231.4	476.9	454.7	22.19	21.492					
6,000.0	5,932.2	5,964.6	5,932.2	18.2	12.8	163.31	335.8	231.4	485.2	462.7	22.48	21.583					
6,100.0	6,032.0	6,064.4	6,032.0	18.4	12.9	163.56	335.8	231.4	491.8	469.1	22.78	21.595					
6,200.0	6,131.9	6,164.2	6,131.9	18.5	13.1	163.75	335.8	231.4	496.8	473.7	23.07	21.532					

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1D-4H - Hz - SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 159-Geolink MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	178.73	-25.2	0.6	25.2					
100.0	100.0	100.1	100.1	0.1	0.1	179.12	-25.0	0.4	25.0	24.7	0.27	93.018		
200.0	200.0	200.2	200.2	0.3	0.3	-179.73	-24.3	-0.1	24.3	23.7	0.60	40.582		
300.0	300.0	300.2	300.2	0.5	0.5	-178.22	-23.3	-0.7	23.3	22.4	0.95	24.597		
372.0	372.0	372.3	372.3	0.6	0.6	168.52	-22.5	-1.2	23.0	21.8	1.20	19.174 CC		
400.0	400.0	400.4	400.3	0.6	0.7	168.91	-22.2	-1.2	23.1	21.8	1.30	17.757 ES		
500.0	500.0	500.5	500.5	0.8	0.8	169.25	-20.3	-0.7	23.7	22.1	1.65	14.411		
600.0	599.9	600.7	600.6	1.0	1.0	168.63	-17.9	0.5	25.6	23.6	2.00	12.804		
700.0	699.7	700.8	700.6	1.2	1.2	166.92	-14.9	2.8	28.4	26.0	2.35	12.099		
800.0	799.4	800.7	800.5	1.4	1.4	165.91	-11.5	5.2	32.6	29.9	2.70	12.075		
900.0	898.9	900.7	900.4	1.6	1.6	166.27	-7.8	7.3	38.2	35.2	3.05	12.535		
1,000.0	998.3	1,001.8	1,001.3	1.9	1.8	166.40	-2.7	10.0	44.1	40.7	3.41	12.937		
1,100.0	1,097.4	1,102.1	1,101.2	2.2	2.0	164.78	4.7	14.6	49.4	45.6	3.78	13.062		
1,200.0	1,196.3	1,202.9	1,201.5	2.5	2.2	162.36	13.6	20.7	55.0	50.8	4.17	13.187		
1,300.0	1,295.0	1,303.8	1,301.6	2.8	2.5	160.48	24.3	27.2	60.4	55.8	4.58	13.197		
1,400.0	1,393.6	1,405.0	1,401.8	3.1	2.8	158.71	36.9	33.8	64.3	59.3	5.00	12.846		
1,500.0	1,492.2	1,506.8	1,502.1	3.4	3.1	156.64	52.3	40.6	65.6	60.1	5.46	12.007		
1,598.9	1,589.6	1,605.8	1,599.4	3.7	3.4	153.72	69.3	47.9	65.2	59.2	5.97	10.919		
1,600.0	1,590.7	1,606.9	1,600.5	3.7	3.4	153.69	69.5	48.0	65.2	59.2	5.97	10.908		
1,700.0	1,689.3	1,705.2	1,697.2	4.1	3.7	150.04	85.0	56.6	66.5	60.0	6.55	10.157		
1,800.0	1,787.9	1,803.7	1,794.1	4.4	4.1	145.11	99.0	67.5	70.5	63.2	7.24	9.738		
1,900.0	1,886.5	1,903.2	1,892.0	4.7	4.4	140.65	111.9	79.1	76.2	68.3	7.95	9.588		
2,000.0	1,985.1	2,001.8	1,989.2	5.1	4.7	137.63	124.2	89.7	82.3	73.7	8.63	9.538		
2,100.0	2,083.7	2,100.5	2,086.7	5.4	5.0	135.10	134.7	101.2	90.8	81.5	9.30	9.755		
2,200.0	2,182.3	2,200.4	2,185.6	5.7	5.3	133.73	144.8	111.7	99.2	89.3	9.92	9.998		
2,300.0	2,280.9	2,301.8	2,285.9	6.1	5.6	132.80	155.4	121.5	107.0	96.4	10.55	10.138		
2,400.0	2,379.5	2,402.5	2,385.3	6.4	5.9	131.38	167.9	131.5	113.2	102.0	11.20	10.107		
2,500.0	2,478.1	2,502.6	2,484.2	6.7	6.2	130.20	180.6	141.0	119.0	107.1	11.87	10.025		
2,600.0	2,576.7	2,603.4	2,583.4	7.1	6.6	128.32	194.8	151.7	124.4	111.8	12.59	9.879		
2,700.0	2,675.3	2,704.0	2,682.6	7.4	6.9	127.24	208.6	160.8	129.2	116.0	13.25	9.753		
2,800.0	2,773.9	2,807.4	2,784.8	7.7	7.2	126.88	223.3	167.8	132.3	118.4	13.87	9.540		
2,900.0	2,872.5	2,907.5	2,883.2	8.1	7.6	125.87	239.7	174.8	133.9	119.3	14.56	9.193		
3,000.0	2,971.1	3,003.2	2,977.3	8.4	7.9	124.45	254.6	183.6	137.5	122.2	15.27	9.002		
3,100.0	3,069.7	3,103.0	3,075.8	8.7	8.2	123.77	268.0	192.4	142.6	126.6	15.92	8.954		
3,200.0	3,168.3	3,203.1	3,174.8	9.1	8.6	123.56	280.8	200.3	147.5	131.0	16.53	8.925 SF		
3,300.0	3,266.9	3,303.1	3,273.9	9.4	8.8	124.06	292.5	206.8	152.4	135.4	17.05	8.937		
3,400.0	3,365.5	3,402.8	3,372.9	9.8	9.1	125.34	302.8	211.5	157.2	139.7	17.48	8.993		
3,500.0	3,464.1	3,501.7	3,471.5	10.1	9.3	127.33	311.2	214.8	162.6	144.8	17.80	9.135		
3,600.0	3,562.7	3,601.1	3,570.6	10.4	9.5	130.00	318.0	216.3	168.5	150.5	17.99	9.363		
3,700.0	3,661.3	3,699.4	3,668.7	10.8	9.7	132.82	324.0	217.0	174.9	156.8	18.15	9.637		
3,800.0	3,759.9	3,795.3	3,764.3	11.1	9.9	134.66	329.8	220.2	183.1	164.7	18.41	9.944		
3,900.0	3,858.5	3,891.3	3,860.1	11.4	10.0	136.16	334.2	225.1	193.6	174.9	18.68	10.363		
4,000.0	3,957.1	3,986.2	3,955.0	11.8	10.2	138.19	336.1	228.4	205.8	187.0	18.84	10.924		
4,100.0	4,055.7	4,085.0	4,053.7	12.1	10.3	140.60	335.4	230.7	220.1	201.2	18.92	11.633		
4,200.0	4,154.3	4,186.0	4,154.7	12.5	10.4	142.93	335.8	231.9	233.4	214.4	19.00	12.286		
4,300.0	4,252.9	4,284.6	4,253.4	12.8	10.6	145.13	336.2	232.4	246.7	227.7	19.07	12.941		
4,400.0	4,351.5	4,384.2	4,352.9	13.1	10.7	147.22	336.6	232.4	260.4	241.2	19.14	13.604		
4,500.0	4,450.1	4,483.2	4,452.0	13.5	10.8	149.16	337.1	231.9	273.9	254.7	19.22	14.251		
4,600.0	4,548.7	4,583.4	4,552.1	13.8	11.0	150.98	337.8	231.2	287.6	268.3	19.32	14.888		
4,700.0	4,647.3	4,683.4	4,652.1	14.2	11.1	152.64	339.1	230.3	300.9	281.5	19.43	15.488		
4,800.0	4,745.9	4,784.9	4,753.6	14.5	11.2	154.07	341.1	229.9	313.9	294.3	19.59	16.022		
4,900.0	4,844.5	4,877.3	4,845.9	14.8	11.4	155.04	342.6	230.9	327.6	307.7	19.81	16.532		

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 Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1D-4H - Hz - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 159-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,943.1	4,976.0	4,944.7	15.2	11.5	155.89	343.3	232.7	342.4	322.3	20.06	17.064		
5,100.0	5,041.7	5,066.8	5,035.4	15.5	11.6	156.61	343.1	234.6	358.3	338.0	20.32	17.636		
5,200.0	5,140.3	5,167.8	5,136.4	15.8	11.8	157.37	341.8	236.5	375.1	354.6	20.57	18.233		
5,300.0	5,238.9	5,268.3	5,236.9	16.2	11.9	158.14	341.2	237.9	391.4	370.5	20.83	18.791		
5,400.0	5,337.5	5,368.4	5,337.0	16.5	12.1	158.90	341.0	238.8	407.2	386.1	21.08	19.321		
5,500.0	5,436.1	5,467.0	5,435.6	16.9	12.2	159.63	341.0	239.5	422.9	401.6	21.33	19.826		
5,600.0	5,534.9	5,563.7	5,532.3	17.2	12.3	160.24	340.8	240.5	437.9	416.3	21.61	20.266		
5,700.0	5,633.9	5,659.7	5,628.3	17.5	12.5	160.68	340.0	242.0	452.0	430.1	21.90	20.637		
5,800.0	5,733.2	5,759.7	5,728.2	17.7	12.6	161.13	338.9	242.9	464.6	442.4	22.19	20.942		
5,900.0	5,832.6	5,860.3	5,828.9	18.0	12.7	161.56	338.0	243.1	475.4	452.9	22.47	21.160		
6,000.0	5,932.2	5,960.5	5,929.1	18.2	12.9	161.86	337.3	243.6	484.3	461.5	22.76	21.278		
6,100.0	6,032.0	6,061.3	6,029.9	18.4	13.0	162.07	336.7	244.1	491.5	468.4	23.07	21.307		
6,200.0	6,131.9	6,163.8	6,132.4	18.5	13.2	161.99	336.7	246.6	496.6	473.1	23.42	21.202		
6,300.0	6,231.8	6,265.2	6,233.7	18.7	13.3	161.85	337.1	248.9	499.6	475.8	23.77	21.015		
6,900.0	6,831.8	6,869.1	6,837.2	19.3	14.2	-93.37	339.2	248.3	499.3	473.6	25.64	19.471		
6,941.3	6,873.0	6,909.3	6,876.6	19.3	14.2	-92.74	339.2	240.7	499.0	473.4	25.61	19.488		
7,000.0	6,931.2	6,960.0	6,925.7	19.4	14.2	-92.01	338.3	227.9	499.7	474.1	25.57	19.544		
7,661.3	7,382.9	7,638.4	7,393.5	20.4	15.9	-91.25	338.6	-220.6	499.1	468.8	30.30	16.475		
7,700.0	7,390.4	7,669.0	7,401.8	20.6	16.3	-91.49	338.3	-250.1	499.5	468.4	31.18	16.023		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1E-4H - Hz - FINAL													Offset Site Error:	0.0 ft
Survey Program: 162-Geolink 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	179.11	-36.1	0.6	36.1					
100.0	100.0	99.1	99.1	0.1	0.1	179.22	-36.0	0.5	36.0	35.7	0.27	134.720		
200.0	200.0	199.1	199.1	0.3	0.3	179.39	-35.8	0.4	35.8	35.2	0.60	59.908		
300.0	300.0	299.2	299.2	0.5	0.5	178.04	-35.4	1.2	35.5	34.5	0.95	37.448		
352.1	352.1	351.5	351.5	0.6	0.6	162.46	-35.0	1.8	35.3	34.2	1.13	31.268 CC, ES		
400.0	400.0	399.3	399.3	0.6	0.6	161.58	-34.6	2.6	35.5	34.2	1.30	27.373		
500.0	500.0	499.3	499.2	0.8	0.8	159.75	-33.7	4.5	37.2	35.6	1.65	22.574		
600.0	599.9	598.8	598.7	1.0	1.0	158.95	-33.1	6.5	40.9	38.9	2.00	20.437		
700.0	699.7	698.1	698.0	1.2	1.2	158.69	-33.8	9.0	47.6	45.2	2.36	20.208 SF		
800.0	799.4	797.9	797.8	1.4	1.4	158.49	-34.7	12.1	56.2	53.5	2.72	20.699		
900.0	898.9	897.7	897.5	1.6	1.6	157.51	-35.0	16.8	65.9	62.9	3.08	21.380		
1,000.0	998.3	998.0	997.5	1.9	1.8	156.35	-34.3	22.6	76.6	73.1	3.47	22.067		
1,100.0	1,097.4	1,098.2	1,097.4	2.2	2.0	154.34	-32.1	30.6	87.7	83.8	3.88	22.613		
1,200.0	1,196.3	1,199.0	1,197.8	2.5	2.2	152.98	-28.6	38.8	99.1	94.8	4.29	23.083		
1,300.0	1,295.0	1,299.8	1,298.3	2.8	2.4	152.74	-23.5	45.7	110.3	105.6	4.71	23.413		
1,400.0	1,393.6	1,397.1	1,395.2	3.1	2.6	152.61	-18.9	52.6	122.1	116.9	5.13	23.784		
1,500.0	1,492.2	1,493.2	1,490.9	3.4	2.8	151.98	-16.0	61.1	135.9	130.3	5.57	24.383		
1,600.0	1,590.7	1,588.6	1,585.8	3.7	3.0	151.20	-15.2	70.6	152.1	146.1	6.02	25.262		
1,700.0	1,689.3	1,685.2	1,681.8	4.1	3.3	150.43	-15.7	81.0	169.8	163.3	6.48	26.191		
1,800.0	1,787.9	1,780.6	1,776.5	4.4	3.5	149.56	-17.5	92.5	189.1	182.2	6.96	27.190		
1,900.0	1,886.5	1,879.5	1,874.7	4.7	3.8	148.83	-19.7	104.5	208.9	201.5	7.44	28.095		
2,000.0	1,985.1	1,980.5	1,974.9	5.1	4.0	148.28	-21.1	116.2	227.8	219.8	7.92	28.742		
2,100.0	2,083.7	2,081.4	2,075.1	5.4	4.3	147.52	-21.0	128.7	245.4	237.0	8.44	29.086		
2,200.0	2,182.3	2,183.2	2,176.0	5.7	4.6	146.50	-19.4	142.6	262.2	253.2	8.98	29.198		
2,300.0	2,280.9	2,285.2	2,277.0	6.1	4.9	145.56	-16.3	156.1	277.5	267.9	9.51	29.162		
2,400.0	2,379.5	2,384.9	2,376.0	6.4	5.1	145.08	-13.2	167.5	292.2	282.1	10.03	29.124		
2,500.0	2,478.1	2,485.1	2,475.2	6.7	5.4	144.36	-9.3	180.4	306.6	296.1	10.59	28.968		
2,600.0	2,576.7	2,585.0	2,574.0	7.1	5.7	143.40	-4.4	194.5	320.7	309.6	11.15	28.750		
2,700.0	2,675.3	2,685.2	2,673.3	7.4	6.0	142.76	0.3	207.4	334.6	322.9	11.69	28.609		
2,800.0	2,773.9	2,784.1	2,771.6	7.7	6.2	142.68	4.0	217.2	348.2	336.0	12.17	28.604		
2,900.0	2,872.5	2,884.3	2,871.5	8.1	6.4	142.94	7.0	225.2	361.8	349.1	12.64	28.625		
3,000.0	2,971.1	2,984.9	2,971.7	8.4	6.7	143.29	10.1	232.3	375.0	361.9	13.07	28.679		
3,100.0	3,069.7	3,083.1	3,069.8	8.7	6.8	143.88	12.6	237.6	388.1	374.6	13.48	28.785		
3,200.0	3,168.3	3,182.5	3,169.1	9.1	7.0	144.58	14.6	242.1	401.3	387.5	13.87	28.938		
3,300.0	3,266.9	3,281.3	3,267.8	9.4	7.2	145.40	16.3	245.5	414.6	400.4	14.23	29.135		
3,400.0	3,365.5	3,381.1	3,367.6	9.8	7.3	146.40	17.5	247.2	427.9	413.4	14.56	29.393		
3,500.0	3,464.1	3,479.9	3,466.4	10.1	7.5	147.54	18.3	247.4	441.3	426.4	14.86	29.700		
3,600.0	3,562.7	3,578.6	3,565.0	10.4	7.6	148.77	18.9	246.3	454.7	439.5	15.13	30.044		
3,700.0	3,661.3	3,673.4	3,659.9	10.8	7.7	149.93	18.8	245.1	468.7	453.3	15.40	30.433		
3,800.0	3,759.9	3,769.2	3,755.6	11.1	7.8	151.09	18.0	243.6	483.8	468.1	15.66	30.892		
3,900.0	3,858.5	3,871.6	3,858.0	11.4	8.0	152.34	16.9	241.2	499.0	483.1	15.91	31.357		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1F-4H - HZ - FINAL													Offset Site Error:	0.0 ft
Survey Program: 162-Geolink 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	179.32	-47.0	0.6	47.0					
100.0	100.0	99.0	99.0	0.1	0.1	179.58	-47.0	0.3	47.0	46.7	0.27	175.722		
200.0	200.0	199.0	199.0	0.3	0.3	-179.68	-47.0	-0.3	47.0	46.4	0.60	78.615		
300.0	300.0	299.1	299.1	0.5	0.5	-178.83	-46.8	-1.0	46.8	45.9	0.95	49.430		
311.3	311.3	310.4	310.4	0.5	0.5	166.63	-46.8	-1.0	46.8	45.8	0.99	47.428 CC, ES		
400.0	400.0	399.2	399.1	0.6	0.6	167.84	-46.6	-1.8	47.4	46.2	1.30	36.572		
500.0	500.0	499.2	499.1	0.8	0.8	169.91	-46.1	-3.1	49.6	48.0	1.65	30.130		
600.0	599.9	597.6	597.6	1.0	1.0	171.96	-46.5	-4.3	54.5	52.5	1.99	27.314 SF		
700.0	699.7	695.4	695.3	1.2	1.2	173.42	-50.4	-5.6	64.6	62.3	2.34	27.640		
800.0	799.4	793.6	793.3	1.4	1.4	173.05	-56.4	-5.1	78.4	75.7	2.68	29.262		
900.0	898.9	891.3	890.7	1.6	1.5	171.27	-63.6	-2.0	94.8	91.8	3.02	31.379		
1,000.0	998.3	988.9	987.8	1.9	1.8	169.41	-71.9	2.4	113.9	110.5	3.37	33.813		
1,100.0	1,097.4	1,086.9	1,085.3	2.2	2.0	167.55	-80.4	8.3	134.9	131.2	3.72	36.241		
1,200.0	1,196.3	1,184.8	1,182.6	2.5	2.2	166.03	-88.6	15.0	157.4	153.3	4.09	38.494		
1,300.0	1,295.0	1,283.8	1,281.0	2.8	2.4	164.61	-96.2	23.1	180.8	176.3	4.46	40.504		
1,400.0	1,393.6	1,382.0	1,378.7	3.1	2.6	163.70	-102.9	30.6	203.6	198.8	4.85	42.026		
1,500.0	1,492.2	1,476.3	1,472.5	3.4	2.9	163.03	-109.8	37.8	227.0	221.8	5.22	43.466		
1,600.0	1,590.7	1,566.9	1,562.4	3.7	3.1	162.42	-118.1	45.1	252.3	246.7	5.60	45.038		
1,700.0	1,689.3	1,662.6	1,657.2	4.1	3.4	161.74	-128.3	53.5	279.1	273.1	5.99	46.561		
1,800.0	1,787.9	1,754.3	1,747.9	4.4	3.6	161.13	-138.7	62.0	306.6	300.2	6.39	48.010		
1,900.0	1,886.5	1,845.0	1,837.3	4.7	3.9	160.56	-150.4	70.9	335.6	328.9	6.77	49.546		
2,000.0	1,985.1	1,936.7	1,927.7	5.1	4.2	159.99	-163.3	80.4	366.0	358.8	7.18	50.965		
2,100.0	2,083.7	2,040.2	2,029.4	5.4	4.6	159.12	-177.3	93.3	395.9	388.3	7.63	51.918		
2,200.0	2,182.3	2,126.5	2,114.2	5.7	4.9	158.49	-188.8	104.1	425.8	417.7	8.03	53.042		
2,300.0	2,280.9	2,229.0	2,214.9	6.1	5.2	157.85	-203.0	116.8	456.2	447.7	8.47	53.840		
2,400.0	2,379.5	2,320.0	2,304.4	6.4	5.5	157.36	-215.0	128.0	486.1	477.2	8.89	54.692		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1G-4H - Hz - FINAL													Offset Site Error:	0.0 ft
Survey Program: 162-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	179.48	-61.6	0.6	61.6					
100.0	100.0	99.1	99.1	0.1	0.1	179.51	-61.5	0.5	61.5	61.3	0.27	230.276		
200.0	200.0	199.2	199.2	0.3	0.3	179.63	-61.4	0.4	61.4	60.8	0.60	102.807		
300.0	300.0	299.4	299.4	0.5	0.5	-179.93	-60.9	-0.1	60.9	60.0	0.95	64.349		
352.1	352.1	351.7	351.7	0.6	0.6	165.83	-60.5	-0.4	60.7	59.6	1.13	53.775	CC, ES	
400.0	400.0	398.9	398.9	0.6	0.6	166.34	-60.3	-0.8	61.2	59.9	1.30	47.204		
500.0	500.0	497.1	497.1	0.8	0.8	167.70	-61.6	-1.8	65.1	63.4	1.64	39.617		
600.0	599.9	594.5	594.3	1.0	1.0	169.19	-66.0	-3.0	73.9	71.9	1.99	37.182	SF	
700.0	699.7	691.2	690.8	1.2	1.2	170.56	-73.2	-4.5	87.4	85.1	2.33	37.550		
800.0	799.4	787.6	786.7	1.4	1.4	171.60	-82.9	-6.1	105.3	102.6	2.67	39.452		
900.0	898.9	884.4	882.8	1.6	1.6	172.02	-94.1	-6.9	126.2	123.2	3.01	41.982		
1,000.0	998.3	981.9	979.5	1.9	1.9	171.66	-106.0	-6.0	149.4	146.0	3.35	44.626		
1,100.0	1,097.4	1,085.0	1,081.9	2.2	2.1	170.37	-117.4	-1.6	172.7	169.0	3.70	46.657		
1,200.0	1,196.3	1,186.9	1,183.3	2.5	2.3	168.93	-125.1	4.9	194.2	190.1	4.06	47.829		
1,300.0	1,295.0	1,280.7	1,276.7	2.8	2.6	167.74	-131.9	11.7	217.0	212.5	4.42	49.139		
1,400.0	1,393.6	1,373.3	1,368.5	3.1	2.8	166.36	-140.5	20.2	242.0	237.2	4.79	50.560		
1,500.0	1,492.2	1,464.9	1,459.1	3.4	3.1	165.08	-150.6	29.4	268.9	263.8	5.16	52.139		
1,600.0	1,590.7	1,554.8	1,548.0	3.7	3.3	164.53	-162.2	35.9	297.7	292.2	5.51	53.995		
1,700.0	1,689.3	1,640.8	1,632.9	4.1	3.6	164.53	-175.4	39.8	328.8	323.0	5.86	56.128		
1,800.0	1,787.9	1,729.1	1,719.6	4.4	3.9	164.46	-191.2	44.3	362.3	356.1	6.22	58.283		
1,900.0	1,886.5	1,824.2	1,812.7	4.7	4.3	163.97	-208.9	51.9	396.6	390.0	6.60	60.096		
2,000.0	1,985.1	1,912.2	1,898.8	5.1	4.6	163.48	-225.2	59.6	430.9	423.9	6.97	61.844		
2,100.0	2,083.7	2,006.3	1,990.7	5.4	5.0	163.12	-244.1	67.3	466.6	459.2	7.35	63.489		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Peppler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Peppler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peppler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Offset Design S4-T3N-R68W (Peppler Farms) - Peppler Farms 1H-4H - Hz - FINAL													Offset Site Error:	0.0 ft
Survey Program: 131-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	179.56	-72.5	0.6	72.5					
100.0	100.0	99.3	99.3	0.1	0.1	179.61	-72.3	0.5	72.3	72.1	0.26	277.791		
155.5	155.5	154.5	154.5	0.2	0.2	179.66	-72.1	0.4	72.1	71.7	0.44	163.395 CC, ES		
200.0	200.0	197.9	197.9	0.3	0.3	179.67	-72.4	0.4	72.4	71.8	0.60	121.706		
300.0	300.0	296.2	296.1	0.5	0.5	-179.92	-75.4	-0.1	75.5	74.5	0.94	80.045		
400.0	400.0	395.3	395.1	0.6	0.7	166.48	-79.6	-1.4	80.5	79.2	1.29	62.447		
500.0	500.0	493.3	493.0	0.8	0.9	167.11	-85.1	-1.9	88.7	87.1	1.63	54.312		
600.0	599.9	590.9	590.3	1.0	1.1	166.63	-92.7	-0.4	100.6	98.7	1.98	50.890		
700.0	699.7	688.9	687.8	1.2	1.3	165.85	-101.6	2.3	115.6	113.3	2.32	49.757 SF		
800.0	799.4	786.3	784.7	1.4	1.5	165.56	-111.1	4.6	132.9	130.2	2.67	49.817		
900.0	898.9	882.2	880.1	1.6	1.8	165.63	-121.6	6.5	153.1	150.0	3.01	50.832		
1,000.0	998.3	981.0	978.1	1.9	2.0	165.60	-133.2	9.2	175.6	172.2	3.36	52.209		
1,100.0	1,097.4	1,080.4	1,076.9	2.2	2.3	165.04	-143.4	14.0	198.3	194.6	3.72	53.320		
1,200.0	1,196.3	1,175.9	1,171.8	2.5	2.5	164.84	-152.9	18.2	222.4	218.4	4.07	54.691		
1,300.0	1,295.0	1,268.0	1,263.3	2.8	2.8	165.00	-163.4	21.3	249.4	245.0	4.41	56.521		
1,400.0	1,393.6	1,357.2	1,351.6	3.1	3.0	165.17	-175.4	24.4	278.6	273.9	4.76	58.566		
1,500.0	1,492.2	1,441.2	1,434.3	3.4	3.3	165.15	-189.1	28.0	310.7	305.6	5.10	60.921		
1,600.0	1,590.7	1,529.3	1,520.6	3.7	3.7	164.77	-206.5	33.8	346.0	340.5	5.46	63.357		
1,700.0	1,689.3	1,626.8	1,615.7	4.1	4.1	163.96	-225.5	43.2	381.2	375.3	5.85	65.143		
1,800.0	1,787.9	1,727.0	1,713.6	4.4	4.4	163.04	-243.6	54.4	415.0	408.8	6.25	66.358		
1,900.0	1,886.5	1,821.8	1,806.5	4.7	4.8	162.36	-259.7	64.5	448.0	441.3	6.64	67.429		
2,000.0	1,985.1	1,910.3	1,893.2	5.1	5.1	161.98	-275.4	72.6	481.6	474.5	7.01	68.664		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Pepler Farms 1B-4H
Project:	DJ Wattenberg	TVD Reference:	KB @ 5082.5ft (Patterson 272)
Reference Site:	S4-T3N-R68W (Pepler Farms)	MD Reference:	KB @ 5082.5ft (Patterson 272)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Pepler Farms 1B-4H	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 #5	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 5082.5ft (Patterson 272)

Offset Depths are relative to Offset Datum

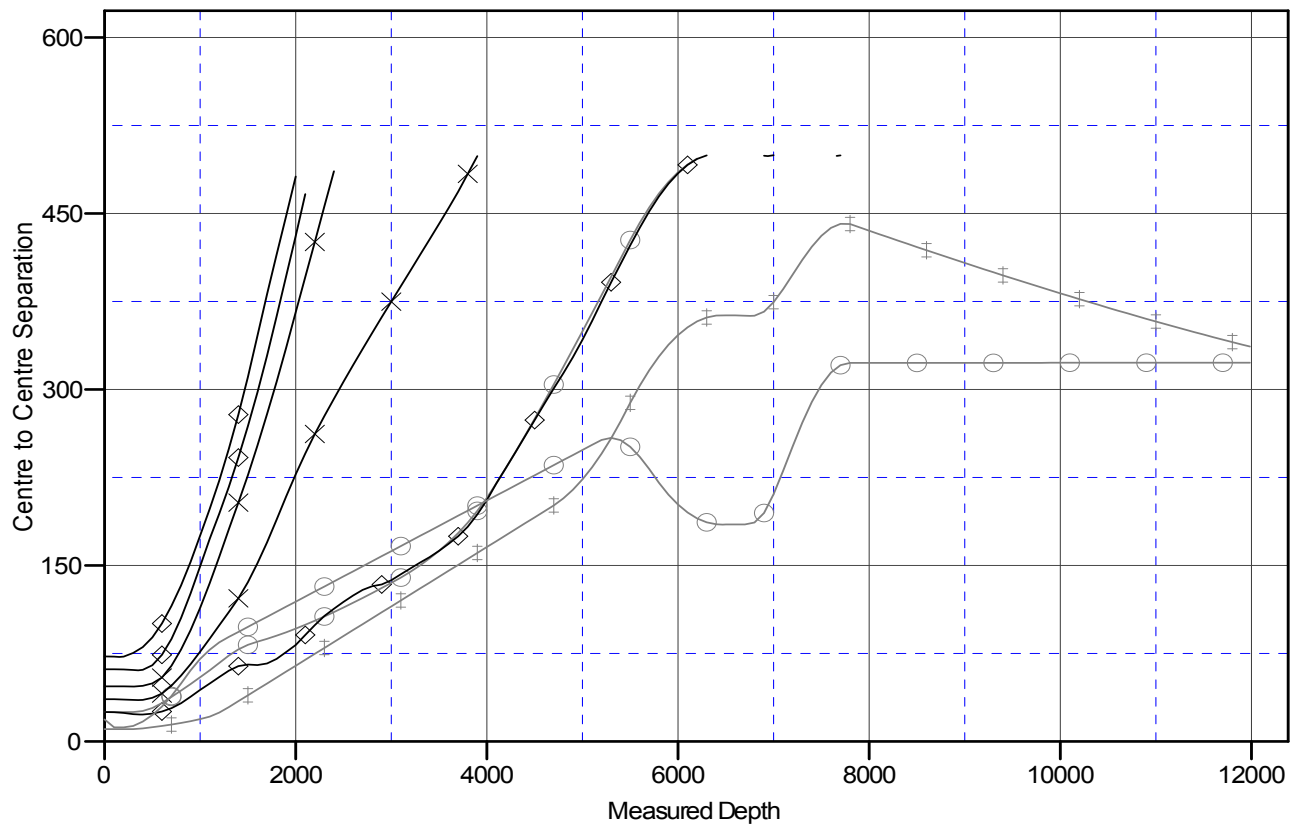
Central Meridian is -105.500000 °

Coordinates are relative to: Pepler Farms 1B-4H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.32°

Ladder Plot



LEGEND

- Pepler Farms 1D-4H, Hz, Plan #5 V0
- ◇ Pepler Farms 1D-4H, Hz, SURVEYS V0
- ✕ Pepler Farms 1E-4H, Hz, FINAL V0
- Pepler Farms 1A-4H, Hz, Plan #6 V0
- ◆ Pepler Farms 1H-4H, Hz, FINAL V0
- ⊕ Pepler Farms 1C-4H, Hz, Plan #5 V0
- ⊗ Pepler Farms 1G-4H, Hz, FINAL V0