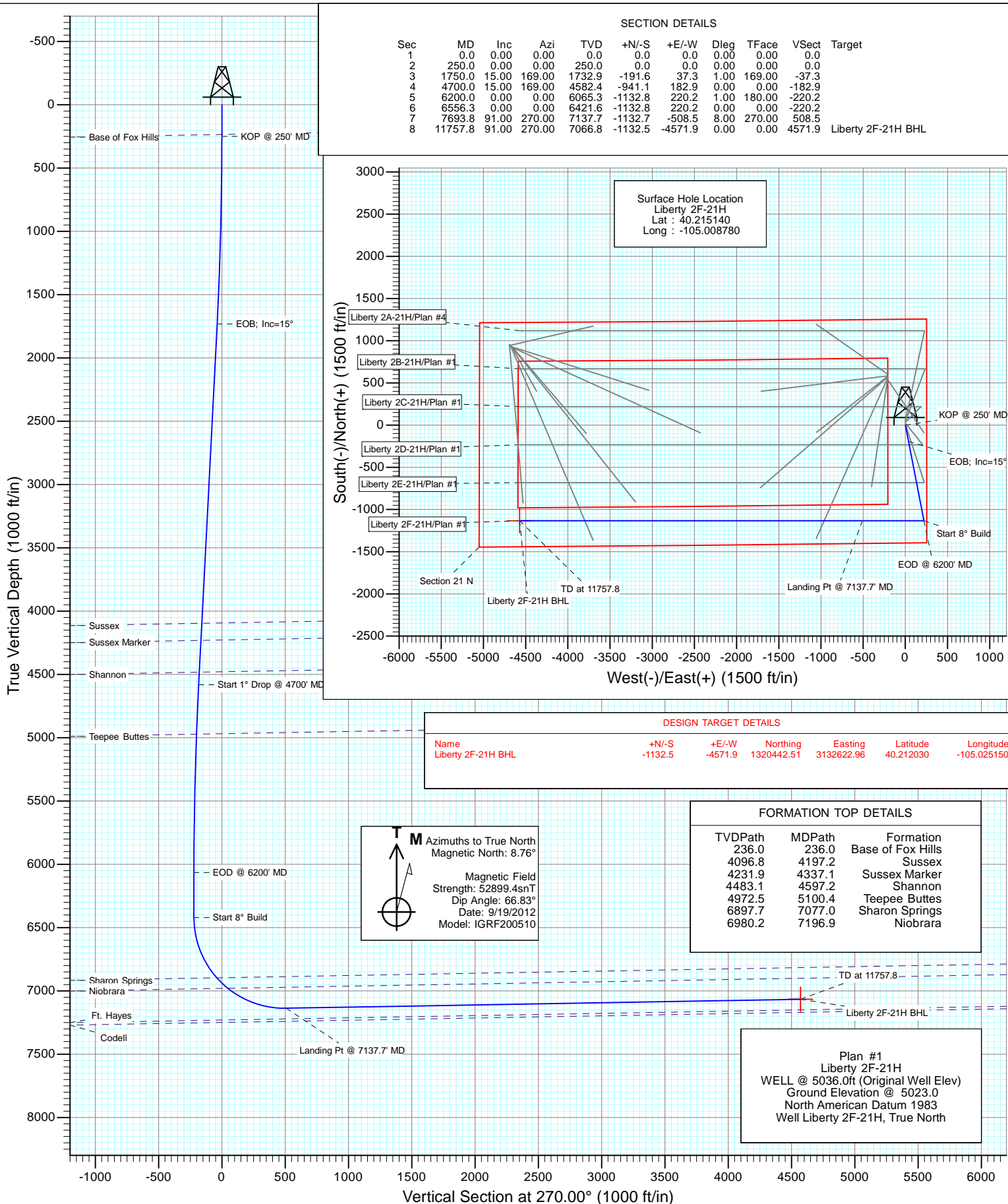




Project: DJ Wattenberg
Site: NENE S20-T3N-R68W (Liberty 2A-21H)
Well: Liberty 2F-21H
Wellbore: HZ
Design: Plan #1



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Liberty 2F-21H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	North Reference:	True
Well:	Liberty 2F-21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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		NENE S20-T3N-R68W (Liberty 2A-21H)			
Site Position:		Northing:	1,322,254.59 ft	Latitude:	40.216940
From:	Lat/Long	Easting:	3,136,925.14 ft	Longitude:	-105.009710
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.32 °

Well	Liberty 2F-21H					
Well Position	+N/-S	0.0 ft	Northing:	1,321,600.32 ft	Latitude:	40.215140
	+E/-W	0.0 ft	Easting:	3,137,188.48 ft	Longitude:	-105.008780
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,023.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/19/2012	8.76	66.83	52,899

Design	Plan #1			
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	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,750.0	15.00	169.00	1,732.9	-191.6	37.3	1.00	1.00	0.00	169.00	
4,700.0	15.00	169.00	4,582.4	-941.1	182.9	0.00	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,065.3	-1,132.8	220.2	1.00	-1.00	0.00	180.00	
6,556.3	0.00	0.00	6,421.6	-1,132.8	220.2	0.00	0.00	0.00	0.00	
7,693.8	91.00	270.00	7,137.7	-1,132.7	-508.5	8.00	8.00	0.00	270.00	
11,757.8	91.00	270.00	7,066.8	-1,132.5	-4,571.9	0.00	0.00	0.00	0.00	Liberty 2F-21H BHL

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Liberty 2F-21H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	North Reference:	True
Well:	Liberty 2F-21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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	
236.0	0.00	0.00	236.0	0.0	0.0	0.0	0.00	0.00	Base of Fox Hills
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	KOP @ 250' MD
300.0	0.50	169.00	300.0	-0.2	0.0	0.0	1.00	1.00	
400.0	1.50	169.00	400.0	-1.9	0.4	-0.4	1.00	1.00	
500.0	2.50	169.00	499.9	-5.4	1.0	-1.0	1.00	1.00	
600.0	3.50	169.00	599.8	-10.5	2.0	-2.0	1.00	1.00	
700.0	4.50	169.00	699.5	-17.3	3.4	-3.4	1.00	1.00	
800.0	5.50	169.00	799.2	-25.9	5.0	-5.0	1.00	1.00	
900.0	6.50	169.00	898.6	-36.2	7.0	-7.0	1.00	1.00	
1,000.0	7.50	169.00	997.9	-48.1	9.4	-9.4	1.00	1.00	
1,100.0	8.50	169.00	1,096.9	-61.8	12.0	-12.0	1.00	1.00	
1,200.0	9.50	169.00	1,195.7	-77.1	15.0	-15.0	1.00	1.00	
1,300.0	10.50	169.00	1,294.1	-94.2	18.3	-18.3	1.00	1.00	
1,400.0	11.50	169.00	1,392.3	-112.9	21.9	-21.9	1.00	1.00	
1,500.0	12.50	169.00	1,490.1	-133.3	25.9	-25.9	1.00	1.00	
1,600.0	13.50	169.00	1,587.5	-155.4	30.2	-30.2	1.00	1.00	
1,700.0	14.50	169.00	1,684.6	-179.1	34.8	-34.8	1.00	1.00	
1,750.0	15.00	169.00	1,732.9	-191.6	37.3	-37.3	1.00	1.00	EOB; Inc=15°
1,800.0	15.00	169.00	1,781.2	-204.3	39.7	-39.7	0.00	0.00	
1,900.0	15.00	169.00	1,877.8	-229.8	44.7	-44.7	0.00	0.00	
2,000.0	15.00	169.00	1,974.4	-255.2	49.6	-49.6	0.00	0.00	
2,100.0	15.00	169.00	2,071.0	-280.6	54.5	-54.5	0.00	0.00	
2,200.0	15.00	169.00	2,167.6	-306.0	59.5	-59.5	0.00	0.00	
2,300.0	15.00	169.00	2,264.2	-331.4	64.4	-64.4	0.00	0.00	
2,400.0	15.00	169.00	2,360.8	-356.8	69.4	-69.4	0.00	0.00	
2,500.0	15.00	169.00	2,457.4	-382.2	74.3	-74.3	0.00	0.00	
2,600.0	15.00	169.00	2,554.0	-407.6	79.2	-79.2	0.00	0.00	
2,700.0	15.00	169.00	2,650.6	-433.0	84.2	-84.2	0.00	0.00	
2,800.0	15.00	169.00	2,747.1	-458.4	89.1	-89.1	0.00	0.00	
2,900.0	15.00	169.00	2,843.7	-483.8	94.0	-94.0	0.00	0.00	
3,000.0	15.00	169.00	2,940.3	-509.2	99.0	-99.0	0.00	0.00	
3,100.0	15.00	169.00	3,036.9	-534.6	103.9	-103.9	0.00	0.00	
3,200.0	15.00	169.00	3,133.5	-560.0	108.9	-108.9	0.00	0.00	
3,300.0	15.00	169.00	3,230.1	-585.4	113.8	-113.8	0.00	0.00	
3,400.0	15.00	169.00	3,326.7	-610.8	118.7	-118.7	0.00	0.00	
3,500.0	15.00	169.00	3,423.3	-636.3	123.7	-123.7	0.00	0.00	
3,600.0	15.00	169.00	3,519.9	-661.7	128.6	-128.6	0.00	0.00	
3,700.0	15.00	169.00	3,616.5	-687.1	133.6	-133.6	0.00	0.00	
3,800.0	15.00	169.00	3,713.1	-712.5	138.5	-138.5	0.00	0.00	
3,900.0	15.00	169.00	3,809.7	-737.9	143.4	-143.4	0.00	0.00	
4,000.0	15.00	169.00	3,906.3	-763.3	148.4	-148.4	0.00	0.00	
4,100.0	15.00	169.00	4,002.8	-788.7	153.3	-153.3	0.00	0.00	
4,197.2	15.00	169.00	4,096.8	-813.4	158.1	-158.1	0.00	0.00	Sussex
4,200.0	15.00	169.00	4,099.4	-814.1	158.2	-158.2	0.00	0.00	
4,300.0	15.00	169.00	4,196.0	-839.5	163.2	-163.2	0.00	0.00	
4,337.1	15.00	169.00	4,231.9	-848.9	165.0	-165.0	0.00	0.00	Sussex Marker
4,400.0	15.00	169.00	4,292.6	-864.9	168.1	-168.1	0.00	0.00	
4,500.0	15.00	169.00	4,389.2	-890.3	173.1	-173.1	0.00	0.00	
4,597.2	15.00	169.00	4,483.1	-915.0	177.9	-177.9	0.00	0.00	Shannon

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Liberty 2F-21H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	North Reference:	True
Well:	Liberty 2F-21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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
4,600.0	15.00	169.00	4,485.8	-915.7	178.0	-178.0	0.00	0.00	
4,700.0	15.00	169.00	4,582.4	-941.1	182.9	-182.9	0.00	0.00	Start 1° Drop @ 4700' MD
4,800.0	14.00	169.00	4,679.2	-965.7	187.7	-187.7	1.00	-1.00	
4,900.0	13.00	169.00	4,776.5	-988.6	192.2	-192.2	1.00	-1.00	
5,000.0	12.00	169.00	4,874.1	-1,009.9	196.3	-196.3	1.00	-1.00	
5,100.0	11.00	169.00	4,972.1	-1,029.4	200.1	-200.1	1.00	-1.00	
5,100.4	11.00	169.00	4,972.5	-1,029.5	200.1	-200.1	1.00	-1.00	Teepee Buttes
5,200.0	10.00	169.00	5,070.4	-1,047.3	203.6	-203.6	1.00	-1.00	
5,300.0	9.00	169.00	5,169.0	-1,063.5	206.7	-206.7	1.00	-1.00	
5,400.0	8.00	169.00	5,267.9	-1,078.0	209.5	-209.5	1.00	-1.00	
5,500.0	7.00	169.00	5,367.1	-1,090.9	212.0	-212.0	1.00	-1.00	
5,600.0	6.00	169.00	5,466.4	-1,102.0	214.2	-214.2	1.00	-1.00	
5,700.0	5.00	169.00	5,566.0	-1,111.4	216.0	-216.0	1.00	-1.00	
5,800.0	4.00	169.00	5,665.7	-1,119.1	217.5	-217.5	1.00	-1.00	
5,900.0	3.00	169.00	5,765.5	-1,125.1	218.7	-218.7	1.00	-1.00	
6,000.0	2.00	169.00	5,865.4	-1,129.3	219.5	-219.5	1.00	-1.00	
6,100.0	1.00	169.00	5,965.3	-1,131.9	220.0	-220.0	1.00	-1.00	
6,200.0	0.00	0.00	6,065.3	-1,132.8	220.2	-220.2	1.00	-1.00	EOD @ 6200' MD
6,300.0	0.00	0.00	6,165.3	-1,132.8	220.2	-220.2	0.00	0.00	
6,400.0	0.00	0.00	6,265.3	-1,132.8	220.2	-220.2	0.00	0.00	
6,500.0	0.00	0.00	6,365.3	-1,132.8	220.2	-220.2	0.00	0.00	
6,556.3	0.00	0.00	6,421.6	-1,132.8	220.2	-220.2	0.00	0.00	Start 8° Build
6,600.0	3.50	270.00	6,465.3	-1,132.8	218.9	-218.9	8.00	8.00	
6,700.0	11.50	270.00	6,564.4	-1,132.8	205.8	-205.8	8.00	8.00	
6,800.0	19.50	270.00	6,660.7	-1,132.8	179.1	-179.1	8.00	8.00	
6,900.0	27.50	270.00	6,752.3	-1,132.8	139.3	-139.3	8.00	8.00	
7,000.0	35.50	270.00	6,837.5	-1,132.8	87.1	-87.1	8.00	8.00	
7,077.0	41.66	270.00	6,897.7	-1,132.8	39.1	-39.1	8.00	8.00	Sharon Springs
7,100.0	43.50	270.00	6,914.6	-1,132.8	23.5	-23.5	8.00	8.00	
7,196.9	51.25	270.00	6,980.2	-1,132.8	-47.7	47.7	8.00	8.00	Niobrara
7,200.0	51.50	270.00	6,982.1	-1,132.8	-50.1	50.1	8.00	8.00	
7,300.0	59.50	270.00	7,038.7	-1,132.8	-132.5	132.5	8.00	8.00	
7,400.0	67.50	270.00	7,083.3	-1,132.7	-221.9	221.9	8.00	8.00	
7,500.0	75.50	270.00	7,115.0	-1,132.7	-316.6	316.6	8.00	8.00	
7,600.0	83.50	270.00	7,133.2	-1,132.7	-414.9	414.9	8.00	8.00	
7,693.8	91.00	270.00	7,137.7	-1,132.7	-508.5	508.5	8.00	8.00	Landing Pt @ 7137.7' MD
7,700.0	91.00	270.00	7,137.6	-1,132.7	-514.7	514.7	0.00	0.00	
7,800.0	91.00	270.00	7,135.9	-1,132.7	-614.7	614.7	0.00	0.00	
7,900.0	91.00	270.00	7,134.1	-1,132.7	-714.7	714.7	0.00	0.00	
8,000.0	91.00	270.00	7,132.4	-1,132.7	-814.7	814.7	0.00	0.00	
8,100.0	91.00	270.00	7,130.6	-1,132.7	-914.7	914.7	0.00	0.00	
8,200.0	91.00	270.00	7,128.9	-1,132.7	-1,014.6	1,014.6	0.00	0.00	
8,300.0	91.00	270.00	7,127.1	-1,132.7	-1,114.6	1,114.6	0.00	0.00	
8,400.0	91.00	270.00	7,125.4	-1,132.7	-1,214.6	1,214.6	0.00	0.00	
8,500.0	91.00	270.00	7,123.6	-1,132.7	-1,314.6	1,314.6	0.00	0.00	
8,600.0	91.00	270.00	7,121.9	-1,132.7	-1,414.6	1,414.6	0.00	0.00	
8,700.0	91.00	270.00	7,120.2	-1,132.7	-1,514.6	1,514.6	0.00	0.00	
8,800.0	91.00	270.00	7,118.4	-1,132.7	-1,614.5	1,614.5	0.00	0.00	
8,900.0	91.00	270.00	7,116.7	-1,132.7	-1,714.5	1,714.5	0.00	0.00	
9,000.0	91.00	270.00	7,114.9	-1,132.7	-1,814.5	1,814.5	0.00	0.00	
9,100.0	91.00	270.00	7,113.2	-1,132.7	-1,914.5	1,914.5	0.00	0.00	
9,200.0	91.00	270.00	7,111.4	-1,132.6	-2,014.5	2,014.5	0.00	0.00	

Planning Report

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Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	North Reference:	True
Well:	Liberty 2F-21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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
9,300.0	91.00	270.00	7,109.7	-1,132.6	-2,114.5	2,114.5	0.00	0.00	
9,400.0	91.00	270.00	7,107.9	-1,132.6	-2,214.5	2,214.5	0.00	0.00	
9,500.0	91.00	270.00	7,106.2	-1,132.6	-2,314.4	2,314.4	0.00	0.00	
9,600.0	91.00	270.00	7,104.4	-1,132.6	-2,414.4	2,414.4	0.00	0.00	
9,700.0	91.00	270.00	7,102.7	-1,132.6	-2,514.4	2,514.4	0.00	0.00	
9,800.0	91.00	270.00	7,101.0	-1,132.6	-2,614.4	2,614.4	0.00	0.00	
9,900.0	91.00	270.00	7,099.2	-1,132.6	-2,714.4	2,714.4	0.00	0.00	
10,000.0	91.00	270.00	7,097.5	-1,132.6	-2,814.4	2,814.4	0.00	0.00	
10,100.0	91.00	270.00	7,095.7	-1,132.6	-2,914.3	2,914.3	0.00	0.00	
10,200.0	91.00	270.00	7,094.0	-1,132.6	-3,014.3	3,014.3	0.00	0.00	
10,300.0	91.00	270.00	7,092.2	-1,132.6	-3,114.3	3,114.3	0.00	0.00	
10,400.0	91.00	270.00	7,090.5	-1,132.6	-3,214.3	3,214.3	0.00	0.00	
10,500.0	91.00	270.00	7,088.7	-1,132.6	-3,314.3	3,314.3	0.00	0.00	
10,600.0	91.00	270.00	7,087.0	-1,132.6	-3,414.3	3,414.3	0.00	0.00	
10,700.0	91.00	270.00	7,085.2	-1,132.6	-3,514.3	3,514.3	0.00	0.00	
10,800.0	91.00	270.00	7,083.5	-1,132.6	-3,614.2	3,614.2	0.00	0.00	
10,900.0	91.00	270.00	7,081.8	-1,132.5	-3,714.2	3,714.2	0.00	0.00	
11,000.0	91.00	270.00	7,080.0	-1,132.5	-3,814.2	3,814.2	0.00	0.00	
11,100.0	91.00	270.00	7,078.3	-1,132.5	-3,914.2	3,914.2	0.00	0.00	
11,200.0	91.00	270.00	7,076.5	-1,132.5	-4,014.2	4,014.2	0.00	0.00	
11,300.0	91.00	270.00	7,074.8	-1,132.5	-4,114.2	4,114.2	0.00	0.00	
11,400.0	91.00	270.00	7,073.0	-1,132.5	-4,214.1	4,214.1	0.00	0.00	
11,500.0	91.00	270.00	7,071.3	-1,132.5	-4,314.1	4,314.1	0.00	0.00	
11,600.0	91.00	270.00	7,069.5	-1,132.5	-4,414.1	4,414.1	0.00	0.00	
11,700.0	91.00	270.00	7,067.8	-1,132.5	-4,514.1	4,514.1	0.00	0.00	
11,757.8	91.00	270.00	7,066.8	-1,132.5	-4,571.9	4,571.9	0.00	0.00	TD at 11757.8 - Liberty 2F-21H BHL

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Liberty 2F-21H BHL - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	7,066.8	-1,132.5	-4,571.9	1,320,442.51	3,132,622.96	40.212030	-105.025150

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
236.0	236.0	Base of Fox Hills		-1.00	270.00
4,197.2	4,094.0	Sussex		-1.00	270.00
4,337.1	4,229.0	Sussex Marker		-1.00	270.00
4,597.2	4,480.0	Shannon		-1.00	270.00
5,100.4	4,969.0	Teepee Buttes		-1.00	270.00
7,077.0	6,897.0	Sharon Springs		-1.00	270.00
7,196.9	6,981.0	Niobrara		-1.00	270.00

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Liberty 2F-21H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	North Reference:	True
Well:	Liberty 2F-21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
250.0	250.0	0.0	0.0	KOP @ 250' MD
1,750.0	1,732.9	-191.6	37.3	EOB; Inc=15°
4,700.0	4,582.4	-941.1	182.9	Start 1° Drop @ 4700' MD
6,200.0	6,065.3	-1,132.8	220.2	EOD @ 6200' MD
6,556.3	6,421.6	-1,132.8	220.2	Start 8° Build
7,693.8	7,137.7	-1,132.7	-508.5	Landing Pt @ 7137.7' MD
11,757.8	7,066.8	-1,132.5	-4,571.9	TD at 11757.8

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

NENE S20-T3N-R68W (Liberty 2A-21H)

Liberty 2F-21H

HZ

Plan #1

Anticollision Report

19 September, 2012

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
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	9/19/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,757.8	Plan #1 (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						
NENE S20-T3N-R68W (Liberty 2A-21H)						
Haley 1-20 (Proposed) - DD - Plan #1						Out of range
Haley 31-20 (Proposed) - DD - Plan #1						Out of range
Haley 32-20 (Proposed) - DD - Plan #1						Out of range
Haley 41-20 (Proposed) - DD - Plan #1						Out of range
Haley 42-20 (Proposed) - DD - Plan #1						Out of range
Haley 6-0-20 (Proposed) - DD - Plan #1						Out of range
Haley 6-4-20 (Proposed) - DD - Plan #1						Out of range
Haley 8-2-20 (Proposed) - DD - Plan #1						Out of range
Liberty 11-21 (Proposed) - DD - Plan #1						Out of range
Liberty 12-21 (Proposed) - DD - Plan #1						Out of range
Liberty 2-0-21 (Proposed) - DD - Plan #1						Out of range
Liberty 21-21 (Proposed) - DD - Plan #1						Out of range
Liberty 2-21 (Proposed) - DD - Plan #1						Out of range
Liberty 22-21 (Proposed) - DD - Plan #1	1,650.7	1,786.2	471.0	462.1	53.007	CC
Liberty 22-21 (Proposed) - DD - Plan #1	1,700.0	1,835.2	471.2	461.9	50.782	ES
Liberty 22-21 (Proposed) - DD - Plan #1	2,700.0	2,829.0	499.8	481.1	26.725	SF
Liberty 2-4-21 (Proposed) - DD - Plan #1						Out of range
Liberty 2A-21H - HZ - Plan #4	200.0	200.0	51.0	50.3	78.130	CC, ES
Liberty 2A-21H - HZ - Plan #4	600.0	595.0	75.0	72.9	36.747	SF
Liberty 2B-21H - HZ - Plan #1	200.0	200.0	40.1	39.4	61.388	CC
Liberty 2B-21H - HZ - Plan #1	300.0	300.0	40.3	39.3	40.213	ES
Liberty 2B-21H - HZ - Plan #1	600.0	597.1	57.9	55.8	28.295	SF
Liberty 2C-21H - HZ - Plan #1	200.0	200.0	32.8	32.1	50.227	CC
Liberty 2C-21H - HZ - Plan #1	300.0	300.0	33.0	32.0	32.941	ES
Liberty 2C-21H - HZ - Plan #1	600.0	598.7	45.7	43.7	22.330	SF
Liberty 2D-21H - HZ - Plan #1	200.0	200.0	21.9	21.2	33.478	CC
Liberty 2D-21H - HZ - Plan #1	300.0	300.0	22.1	21.1	22.028	ES
Liberty 2D-21H - HZ - Plan #1	900.0	901.7	41.6	38.4	13.194	SF
Liberty 2E-21H - HZ - Plan #1	200.0	200.0	10.9	10.3	16.742	CC
Liberty 2E-21H - HZ - Plan #1	300.0	300.0	11.1	10.1	11.123	ES
Liberty 2E-21H - HZ - Plan #1	11,757.8	11,793.6	464.3	238.3	2.054	SF
Liberty 4-2-21 (Proposed) - DD - Plan #1						Out of range

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 22-21 (Proposed) - DD - Plan #1													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		
1,200.0	1,195.7	1,340.1	1,313.3	2.6	4.6	158.66	-333.2	15.9	490.5	484.8	5.63	87.055		
1,300.0	1,294.1	1,438.8	1,407.1	2.9	5.2	157.02	-363.7	11.4	482.7	476.4	6.30	76.662		
1,400.0	1,392.3	1,537.6	1,501.0	3.3	5.8	155.40	-394.3	6.9	476.9	469.9	6.99	68.203		
1,500.0	1,490.1	1,636.7	1,595.0	3.6	6.3	153.83	-424.9	2.4	473.1	465.4	7.72	61.263		
1,600.0	1,587.5	1,735.9	1,689.2	4.1	6.9	152.32	-455.6	-2.2	471.2	462.7	8.49	55.535		
1,650.7	1,636.8	1,786.2	1,737.1	4.3	7.2	151.58	-471.2	-4.5	471.0	462.1	8.89	53.007 CC		
1,700.0	1,684.6	1,835.2	1,783.6	4.5	7.4	150.89	-486.3	-6.7	471.2	461.9	9.28	50.782 ES		
1,800.0	1,781.2	1,934.5	1,878.0	5.0	8.0	149.55	-517.1	-11.3	472.8	462.7	10.11	46.788		
1,900.0	1,877.8	2,033.9	1,972.3	5.4	8.6	148.24	-547.8	-15.8	474.8	463.9	10.96	43.305		
2,000.0	1,974.4	2,133.3	2,066.7	5.9	9.1	146.94	-578.6	-20.4	477.1	465.3	11.85	40.257		
2,100.0	2,071.0	2,232.7	2,161.1	6.4	9.7	145.65	-609.3	-24.9	479.7	466.9	12.77	37.576		
2,200.0	2,167.6	2,332.1	2,255.5	6.8	10.3	144.37	-640.1	-29.5	482.4	468.7	13.70	35.208		
2,300.0	2,264.2	2,431.4	2,349.9	7.3	10.8	143.12	-670.8	-34.0	485.5	470.8	14.66	33.108		
2,400.0	2,360.8	2,530.8	2,444.3	7.8	11.4	141.87	-701.5	-38.6	488.7	473.1	15.65	31.238		
2,500.0	2,457.4	2,630.2	2,538.7	8.3	12.0	140.65	-732.3	-43.1	492.2	475.6	16.65	29.568		
2,600.0	2,554.0	2,729.6	2,633.1	8.7	12.6	139.44	-763.0	-47.7	495.9	478.2	17.67	28.071		
2,700.0	2,650.6	2,829.0	2,727.5	9.2	13.1	138.25	-793.8	-52.2	499.8	481.1	18.70	26.725 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 2A-21H - HZ - Plan #4													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	0.00	-604.7	259.7	51.0					
100.0	100.0	100.0	100.0	0.2	0.2	0.00	-604.7	259.7	51.0	50.7	0.30	167.935		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	-604.7	259.7	51.0	50.3	0.65	78.130 CC, ES		
300.0	300.0	299.1	299.1	0.5	0.5	-168.85	-603.9	259.9	52.1	51.1	1.00	52.044		
400.0	400.0	398.1	398.1	0.7	0.7	-168.64	-601.4	260.4	56.3	55.0	1.35	41.786		
500.0	499.9	496.8	496.7	0.9	0.9	-168.46	-597.2	261.3	64.0	62.3	1.69	37.745		
600.0	599.8	595.0	594.7	1.1	1.1	-168.33	-591.4	262.6	75.0	72.9	2.04	36.747 SF		
700.0	699.5	692.6	692.0	1.3	1.3	-168.22	-584.0	264.1	89.4	87.0	2.39	37.459		
800.0	799.2	789.4	788.4	1.5	1.5	-168.15	-575.1	266.0	107.1	104.3	2.73	39.227		
900.0	898.6	885.3	883.6	1.7	1.7	-168.10	-564.7	268.2	128.1	125.0	3.07	41.690		
1,000.0	997.9	980.0	977.6	2.0	2.0	-168.06	-552.9	270.7	152.3	148.9	3.41	44.632		
1,100.0	1,096.9	1,073.5	1,070.1	2.3	2.3	-168.02	-539.7	273.5	179.8	176.0	3.75	47.916		
1,200.0	1,195.7	1,165.6	1,161.0	2.6	2.6	-167.99	-525.3	276.6	210.4	206.3	4.09	51.451		
1,300.0	1,294.1	1,256.2	1,250.3	2.9	2.9	-167.96	-509.8	279.9	244.1	239.7	4.42	55.175		
1,400.0	1,392.3	1,345.2	1,337.6	3.3	3.2	-167.92	-493.1	283.4	280.9	276.1	4.76	59.042		
1,500.0	1,490.1	1,432.5	1,423.0	3.6	3.5	-167.88	-475.5	287.2	320.6	315.5	5.09	63.019		
1,600.0	1,587.5	1,518.0	1,506.4	4.1	3.9	-167.84	-457.1	291.1	363.2	357.8	5.41	67.080		
1,700.0	1,684.6	1,600.0	1,586.1	4.5	4.2	-167.79	-438.2	295.1	408.7	402.9	5.74	71.239		
1,800.0	1,781.2	1,683.2	1,666.7	5.0	4.6	-167.79	-418.0	299.4	456.7	450.6	6.07	75.246		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 2B-21H - Hz - Plan #1													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	0.00	-615.6	259.7	40.1					
100.0	100.0	100.0	100.0	0.2	0.2	0.00	-615.6	259.7	40.1	39.8	0.30	131.949		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	-615.6	259.7	40.1	39.4	0.65	61.388 CC		
227.8	227.8	227.8	227.8	0.4	0.4	-169.01	-615.6	259.7	40.1	39.4	0.75	53.490		
300.0	300.0	300.0	300.0	0.5	0.5	-169.06	-615.6	259.7	40.3	39.3	1.00	40.213 ES		
400.0	400.0	399.3	399.3	0.7	0.7	-169.09	-614.8	260.0	42.8	41.5	1.35	31.722		
500.0	499.9	498.4	498.3	0.9	0.9	-168.79	-612.4	260.9	48.7	47.0	1.70	28.677		
600.0	599.8	597.1	597.0	1.1	1.0	-168.30	-608.4	262.4	57.9	55.8	2.04	28.295 SF		
700.0	699.5	695.3	695.0	1.3	1.2	-167.77	-602.9	264.5	70.3	68.0	2.39	29.409		
800.0	799.2	792.8	792.2	1.5	1.4	-167.28	-595.8	267.1	86.1	83.4	2.74	31.441		
900.0	898.6	889.4	888.4	1.7	1.7	-166.84	-587.3	270.3	105.2	102.1	3.09	34.073		
1,000.0	997.9	985.0	983.4	2.0	1.9	-166.47	-577.3	274.0	127.4	124.0	3.43	37.111		
1,100.0	1,096.9	1,079.5	1,077.1	2.3	2.1	-166.15	-566.0	278.2	152.9	149.1	3.78	40.433		
1,200.0	1,195.7	1,172.8	1,169.4	2.6	2.4	-165.88	-553.5	282.8	181.5	177.4	4.13	43.957		
1,300.0	1,294.1	1,264.6	1,260.1	2.9	2.7	-165.64	-539.7	288.0	213.2	208.7	4.48	47.623		
1,400.0	1,392.3	1,357.2	1,351.3	3.3	3.0	-165.45	-524.8	293.5	247.6	242.8	4.83	51.305		
1,500.0	1,490.1	1,450.4	1,443.1	3.6	3.3	-165.37	-509.6	299.2	283.7	278.5	5.18	54.791		
1,600.0	1,587.5	1,543.1	1,534.3	4.1	3.6	-165.36	-494.5	304.8	321.4	315.9	5.53	58.117		
1,700.0	1,684.6	1,635.0	1,624.9	4.5	3.9	-165.40	-479.5	310.3	360.7	354.8	5.88	61.314		
1,800.0	1,781.2	1,726.4	1,714.9	5.0	4.2	-165.52	-464.7	315.9	401.3	395.0	6.24	64.295		
1,900.0	1,877.8	1,817.7	1,804.8	5.4	4.5	-165.68	-449.8	321.4	442.1	435.5	6.61	66.895		
2,000.0	1,974.4	1,909.0	1,894.7	5.9	4.8	-165.81	-434.9	326.9	482.9	475.9	6.98	69.214		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 2C-21H - Hz - Plan #1													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	0.00	-622.9	259.7	32.8					
100.0	100.0	100.0	100.0	0.2	0.2	0.00	-622.9	259.7	32.8	32.5	0.30	107.958		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	-622.9	259.7	32.8	32.1	0.65	50.227 CC		
227.8	227.8	227.8	227.8	0.4	0.4	-169.01	-622.9	259.7	32.8	32.1	0.75	43.772		
300.0	300.0	300.0	300.0	0.5	0.5	-169.07	-622.9	259.7	33.0	32.0	1.00	32.941 ES		
400.0	400.0	400.0	400.0	0.7	0.7	-169.62	-622.9	259.7	34.7	33.4	1.35	25.702		
500.0	499.9	499.5	499.5	0.9	0.8	-169.62	-622.3	260.3	38.8	37.1	1.70	22.813		
600.0	599.8	598.7	598.7	1.1	1.0	-168.46	-620.5	262.2	45.7	43.7	2.05	22.330 SF		
700.0	699.5	697.6	697.4	1.3	1.2	-166.77	-617.5	265.2	55.7	53.3	2.40	23.200		
800.0	799.2	795.9	795.6	1.5	1.4	-164.98	-613.3	269.4	68.6	65.8	2.75	24.902		
900.0	898.6	893.6	893.0	1.7	1.6	-163.33	-607.9	274.7	84.5	81.4	3.11	27.137		
1,000.0	997.9	991.8	990.8	2.0	1.8	-162.14	-601.9	280.8	102.9	99.4	3.48	29.567		
1,100.0	1,096.9	1,089.8	1,088.4	2.3	2.0	-161.55	-595.8	286.8	122.9	119.1	3.85	31.943		
1,200.0	1,195.7	1,187.4	1,185.7	2.6	2.2	-161.33	-589.8	292.9	144.5	140.3	4.22	34.272		
1,300.0	1,294.1	1,284.7	1,282.6	2.9	2.5	-161.33	-583.8	298.8	167.8	163.2	4.59	36.563		
1,400.0	1,392.3	1,381.5	1,379.1	3.3	2.7	-161.49	-577.8	304.8	192.6	187.7	4.96	38.825		
1,500.0	1,490.1	1,478.0	1,475.1	3.6	2.9	-161.73	-571.9	310.8	219.1	213.8	5.34	41.065		
1,600.0	1,587.5	1,573.9	1,570.7	4.1	3.1	-162.03	-566.0	316.7	247.2	241.5	5.71	43.289		
1,700.0	1,684.6	1,669.4	1,665.8	4.5	3.3	-162.35	-560.1	322.6	276.8	270.7	6.08	45.504		
1,800.0	1,781.2	1,764.4	1,760.5	5.0	3.5	-162.74	-554.2	328.4	307.9	301.4	6.46	47.638		
1,900.0	1,877.8	1,859.4	1,855.1	5.4	3.8	-163.10	-548.4	334.3	339.2	332.3	6.85	49.515		
2,000.0	1,974.4	1,954.4	1,949.7	5.9	4.0	-163.40	-542.5	340.1	370.4	363.2	7.24	51.190		
2,100.0	2,071.0	2,049.3	2,044.3	6.4	4.2	-163.66	-536.7	346.0	401.7	394.1	7.62	52.694		
2,200.0	2,167.6	2,144.3	2,138.9	6.8	4.4	-163.87	-530.8	351.8	433.0	425.0	8.01	54.051		
2,300.0	2,264.2	2,239.3	2,233.5	7.3	4.6	-164.06	-525.0	357.7	464.3	455.9	8.40	55.282		
2,400.0	2,360.8	2,334.2	2,328.1	7.8	4.8	-164.23	-519.1	363.5	495.7	486.9	8.79	56.403		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 2D-21H - Hz - Plan #1													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	0.00	-633.9	259.7	21.9					
100.0	100.0	100.0	100.0	0.2	0.2	0.00	-633.9	259.7	21.9	21.5	0.30	71.959		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	-633.9	259.7	21.9	21.2	0.65	33.478 CC		
227.8	227.8	227.8	227.8	0.4	0.4	-169.02	-633.9	259.7	21.9	21.1	0.75	29.190		
300.0	300.0	300.0	300.0	0.5	0.5	-169.11	-633.9	259.7	22.1	21.1	1.00	22.028 ES		
400.0	400.0	400.0	400.0	0.7	0.7	-169.90	-633.9	259.7	23.8	22.4	1.35	17.609		
500.0	499.9	500.3	500.3	0.9	0.9	-170.05	-634.5	260.3	26.5	24.8	1.70	15.605		
600.0	599.8	600.6	600.6	1.1	1.0	-168.67	-636.6	261.9	29.6	27.6	2.05	14.443		
700.0	699.5	701.0	700.8	1.3	1.2	-166.22	-640.0	264.7	33.1	30.7	2.41	13.761		
800.0	799.2	801.3	801.0	1.5	1.4	-163.10	-644.8	268.6	37.1	34.3	2.77	13.379		
900.0	898.6	901.7	901.0	1.7	1.6	-159.60	-650.9	273.5	41.6	38.4	3.15	13.194 SF		
1,000.0	997.9	1,001.5	1,000.5	2.0	1.8	-156.84	-657.7	279.0	47.3	43.7	3.54	13.339		
1,100.0	1,096.9	1,101.2	1,099.8	2.3	2.0	-155.44	-664.4	284.5	54.6	50.7	3.95	13.851		
1,200.0	1,195.7	1,200.8	1,199.0	2.6	2.3	-155.04	-671.2	289.9	63.6	59.3	4.35	14.627		
1,300.0	1,294.1	1,300.2	1,298.1	2.9	2.5	-155.30	-677.9	295.4	74.1	69.4	4.75	15.604		
1,400.0	1,392.3	1,399.5	1,396.9	3.3	2.7	-155.97	-684.6	300.8	86.3	81.1	5.15	16.743		
1,500.0	1,490.1	1,498.5	1,495.6	3.6	2.9	-156.85	-691.4	306.3	100.0	94.4	5.55	18.020		
1,600.0	1,587.5	1,597.3	1,594.0	4.1	3.2	-157.84	-698.0	311.7	115.3	109.4	5.94	19.413		
1,700.0	1,684.6	1,695.8	1,692.2	4.5	3.4	-158.85	-704.7	317.1	132.3	126.0	6.33	20.907		
1,800.0	1,781.2	1,794.1	1,790.1	5.0	3.6	-159.86	-711.4	322.5	150.7	144.0	6.72	22.447		
1,900.0	1,877.8	1,892.3	1,887.9	5.4	3.8	-160.70	-718.0	327.9	169.4	162.3	7.11	23.837		
2,000.0	1,974.4	1,990.5	1,985.7	5.9	4.0	-161.37	-724.7	333.3	188.1	180.6	7.50	25.084		
2,100.0	2,071.0	2,088.7	2,083.6	6.4	4.3	-161.92	-731.3	338.6	206.8	198.9	7.89	26.207		
2,200.0	2,167.6	2,187.0	2,181.4	6.8	4.5	-162.38	-738.0	344.0	225.5	217.2	8.28	27.225		
2,300.0	2,264.2	2,285.2	2,279.3	7.3	4.7	-162.77	-744.6	349.4	244.2	235.6	8.68	28.151		
2,400.0	2,360.8	2,383.4	2,377.1	7.8	4.9	-163.10	-751.3	354.8	263.0	253.9	9.07	28.996		
2,500.0	2,457.4	2,481.6	2,475.0	8.3	5.2	-163.39	-757.9	360.2	281.7	272.3	9.46	29.771		
2,600.0	2,554.0	2,579.8	2,572.8	8.7	5.4	-163.64	-764.6	365.6	300.5	290.6	9.86	30.484		
2,700.0	2,650.6	2,678.0	2,670.6	9.2	5.6	-163.86	-771.2	371.0	319.3	309.0	10.25	31.143		
2,800.0	2,747.1	2,776.3	2,768.5	9.7	5.9	-164.06	-777.9	376.4	338.0	327.4	10.65	31.752		
2,900.0	2,843.7	2,874.5	2,866.3	10.2	6.1	-164.24	-784.5	381.7	356.8	345.8	11.04	32.318		
3,000.0	2,940.3	2,972.7	2,964.2	10.6	6.3	-164.40	-791.2	387.1	375.6	364.1	11.43	32.845		
3,100.0	3,036.9	3,070.9	3,062.0	11.1	6.5	-164.54	-797.9	392.5	394.4	382.5	11.83	33.336		
3,200.0	3,133.5	3,169.1	3,159.9	11.6	6.8	-164.67	-804.5	397.9	413.1	400.9	12.22	33.796		
3,300.0	3,230.1	3,267.3	3,257.7	12.1	7.0	-164.79	-811.2	403.3	431.9	419.3	12.62	34.227		
3,400.0	3,326.7	3,365.6	3,355.5	12.6	7.2	-164.90	-817.8	408.7	450.7	437.7	13.01	34.632		
3,500.0	3,423.3	3,463.8	3,453.4	13.0	7.4	-165.01	-824.5	414.1	469.5	456.1	13.41	35.013		
3,600.0	3,519.9	3,562.0	3,551.2	13.5	7.7	-165.10	-831.1	419.4	488.3	474.5	13.80	35.372		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 2E-21H - HZ - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	0.00	-644.8	259.7	10.9					
100.0	100.0	100.0	100.0	0.2	0.2	0.00	-644.8	259.7	10.9	10.6	0.30	35.986		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	-644.8	259.7	10.9	10.3	0.65	16.742 CC		
227.8	227.8	227.8	227.8	0.4	0.4	-169.03	-644.8	259.7	11.0	10.2	0.75	14.619		
300.0	300.0	300.0	300.0	0.5	0.5	-169.21	-644.8	259.7	11.1	10.1	1.00	11.123 ES		
400.0	400.0	400.0	400.0	0.7	0.7	-170.67	-644.8	259.7	12.9	11.5	1.35	9.522		
500.0	499.9	500.2	500.2	0.9	0.9	-171.85	-645.6	260.0	15.5	13.8	1.70	9.102		
600.0	599.8	600.4	600.4	1.1	1.0	-172.03	-648.1	260.8	18.1	16.1	2.05	8.844		
700.0	699.5	700.7	700.6	1.3	1.2	-171.58	-652.3	262.2	20.8	18.4	2.40	8.676		
800.0	799.2	801.1	800.7	1.5	1.4	-170.72	-658.1	264.1	23.5	20.8	2.75	8.560		
900.0	898.6	901.4	900.8	1.7	1.6	-169.58	-665.6	266.5	26.3	23.2	3.10	8.479		
1,000.0	997.9	1,001.9	1,000.8	2.0	1.8	-168.25	-674.8	269.5	29.2	25.7	3.46	8.419		
1,100.0	1,096.9	1,102.3	1,100.6	2.3	2.1	-166.79	-685.7	273.0	32.1	28.2	3.83	8.369		
1,200.0	1,195.7	1,202.8	1,200.2	2.6	2.4	-165.23	-698.2	277.1	35.0	30.8	4.21	8.324		
1,300.0	1,294.1	1,303.4	1,299.6	2.9	2.6	-163.61	-712.4	281.7	38.1	33.5	4.60	8.274		
1,400.0	1,392.3	1,403.9	1,398.8	3.3	3.0	-161.95	-728.2	286.8	41.2	36.2	5.02	8.216		
1,500.0	1,490.1	1,503.8	1,497.2	3.6	3.3	-160.81	-744.7	292.2	45.4	39.9	5.45	8.327		
1,600.0	1,587.5	1,603.7	1,595.5	4.1	3.6	-160.52	-761.2	297.5	51.1	45.2	5.87	8.714		
1,700.0	1,684.6	1,703.4	1,693.7	4.5	3.9	-160.87	-777.7	302.9	58.5	52.2	6.27	9.330		
1,800.0	1,781.2	1,803.0	1,791.8	5.0	4.3	-161.56	-794.1	308.2	67.4	60.7	6.67	10.103		
1,900.0	1,877.8	1,902.6	1,889.9	5.4	4.6	-162.15	-810.6	313.6	76.4	69.4	7.07	10.814		
2,000.0	1,974.4	2,002.2	1,987.9	5.9	4.9	-162.62	-827.0	318.9	85.5	78.0	7.47	11.447		
2,100.0	2,071.0	2,101.7	2,086.0	6.4	5.3	-162.99	-843.5	324.3	94.6	86.7	7.87	12.016		
2,200.0	2,167.6	2,201.3	2,184.1	6.8	5.6	-163.30	-859.9	329.6	103.6	95.4	8.27	12.528		
2,300.0	2,264.2	2,300.9	2,282.2	7.3	5.9	-163.56	-876.4	335.0	112.7	104.0	8.67	12.993		
2,400.0	2,360.8	2,400.5	2,380.2	7.8	6.3	-163.79	-892.8	340.3	121.8	112.7	9.08	13.415		
2,500.0	2,457.4	2,500.1	2,478.3	8.3	6.6	-163.98	-909.3	345.7	130.9	121.4	9.48	13.802		
2,600.0	2,554.0	2,599.7	2,576.4	8.7	7.0	-164.14	-925.7	351.0	139.9	130.1	9.89	14.156		
2,700.0	2,650.6	2,699.3	2,674.5	9.2	7.3	-164.29	-942.1	356.3	149.0	138.7	10.29	14.482		
2,800.0	2,747.1	2,798.8	2,772.5	9.7	7.7	-164.42	-958.6	361.7	158.1	147.4	10.70	14.783		
2,900.0	2,843.7	2,898.4	2,870.6	10.2	8.0	-164.53	-975.0	367.0	167.2	156.1	11.10	15.062		
3,000.0	2,940.3	2,998.0	2,968.7	10.6	8.3	-164.64	-991.5	372.4	176.3	164.8	11.51	15.321		
3,100.0	3,036.9	3,097.6	3,066.7	11.1	8.7	-164.73	-1,007.9	377.7	185.4	173.5	11.91	15.562		
3,200.0	3,133.5	3,197.2	3,164.8	11.6	9.0	-164.81	-1,024.4	383.1	194.5	182.1	12.32	15.787		
3,300.0	3,230.1	3,296.8	3,262.9	12.1	9.4	-164.89	-1,040.8	388.4	203.5	190.8	12.72	15.998		
3,400.0	3,326.7	3,396.4	3,361.0	12.6	9.7	-164.96	-1,057.3	393.7	212.6	199.5	13.13	16.195		
3,500.0	3,423.3	3,496.0	3,459.0	13.0	10.1	-165.03	-1,073.7	399.1	221.7	208.2	13.54	16.380		
3,600.0	3,519.9	3,595.5	3,557.1	13.5	10.4	-165.09	-1,090.2	404.4	230.8	216.9	13.94	16.555		
3,700.0	3,616.5	3,695.1	3,655.2	14.0	10.8	-165.14	-1,106.6	409.8	239.9	225.5	14.35	16.720		
3,800.0	3,713.1	3,794.7	3,753.3	14.5	11.1	-165.19	-1,123.1	415.1	249.0	234.2	14.75	16.875		
3,900.0	3,809.7	3,894.3	3,851.3	15.0	11.5	-165.24	-1,139.5	420.5	258.1	242.9	15.16	17.022		
4,000.0	3,906.3	3,993.9	3,949.4	15.5	11.8	-165.28	-1,156.0	425.8	267.2	251.6	15.57	17.161		
4,100.0	4,002.8	4,093.5	4,047.5	15.9	12.2	-165.32	-1,172.4	431.2	276.2	260.3	15.97	17.293		
4,200.0	4,099.4	4,193.1	4,145.6	16.4	12.5	-165.36	-1,188.8	436.5	285.3	269.0	16.38	17.419		
4,300.0	4,196.0	4,292.6	4,243.6	16.9	12.8	-165.40	-1,205.3	441.8	294.4	277.6	16.79	17.538		
4,400.0	4,292.6	4,392.2	4,341.7	17.4	13.2	-165.43	-1,221.7	447.2	303.5	286.3	17.19	17.652		
4,500.0	4,389.2	4,491.8	4,439.8	17.9	13.5	-165.47	-1,238.2	452.5	312.6	295.0	17.60	17.760		
4,600.0	4,485.8	4,591.1	4,537.5	18.4	13.9	-165.50	-1,254.6	457.9	321.7	303.7	18.01	17.864		
4,700.0	4,582.4	4,685.6	4,630.7	18.8	14.2	-165.58	-1,269.4	462.7	331.6	313.3	18.39	18.037		
4,800.0	4,679.2	4,779.8	4,723.9	19.3	14.5	-165.74	-1,282.6	467.0	342.3	323.5	18.75	18.250		
4,900.0	4,776.5	4,873.9	4,817.2	19.7	14.7	-165.92	-1,294.5	470.8	352.8	333.7	19.11	18.463		
5,000.0	4,874.1	4,967.9	4,910.6	20.1	15.0	-166.12	-1,304.8	474.2	363.1	343.7	19.44	18.674		

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:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 2E-21H - HZ - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: O-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
5,100.0	4,972.1	5,061.7	5,003.9	20.5	15.2	-166.33	-1,313.7	477.0	373.3	353.5	19.77	18.884				
5,200.0	5,070.4	5,155.4	5,097.3	20.9	15.4	-166.54	-1,321.1	479.5	383.3	363.2	20.07	19.093				
5,300.0	5,169.0	5,249.0	5,190.7	21.2	15.6	-166.78	-1,327.0	481.4	393.1	372.8	20.37	19.300				
5,400.0	5,267.9	5,342.4	5,284.0	21.5	15.7	-167.02	-1,331.5	482.8	402.8	382.2	20.65	19.505				
5,500.0	5,367.1	5,435.7	5,377.2	21.7	15.8	-167.27	-1,334.5	483.8	412.4	391.4	20.92	19.708				
5,600.0	5,466.4	5,528.8	5,470.3	22.0	15.9	-167.53	-1,336.1	484.3	421.7	400.5	21.18	19.908				
5,700.0	5,566.0	5,624.5	5,566.0	22.2	16.0	-167.80	-1,336.4	484.4	430.8	409.4	21.44	20.095				
5,800.0	5,665.7	5,724.2	5,665.7	22.4	16.2	-168.03	-1,336.4	484.4	438.5	416.8	21.71	20.202				
5,900.0	5,765.5	5,824.0	5,765.5	22.5	16.3	-168.21	-1,336.4	484.4	444.5	422.5	21.98	20.222				
6,000.0	5,865.4	5,923.9	5,865.4	22.7	16.4	-168.33	-1,336.4	484.4	448.7	426.5	22.26	20.158				
6,100.0	5,965.3	6,023.9	5,965.3	22.8	16.5	-168.40	-1,336.4	484.4	451.3	428.8	22.55	20.016				
6,200.0	6,065.3	6,123.9	6,065.3	22.9	16.6	0.57	-1,336.4	484.4	452.2	413.6	38.59	11.717				
6,300.0	6,165.3	6,223.9	6,165.3	22.9	16.7	0.57	-1,336.4	484.4	452.2	413.4	38.79	11.656				
6,400.0	6,265.3	6,323.9	6,265.3	23.0	16.8	0.57	-1,336.4	484.4	452.2	413.2	38.99	11.596				
6,500.0	6,365.3	6,423.9	6,365.3	23.1	16.9	0.57	-1,336.4	484.4	452.2	413.0	39.20	11.535				
6,540.1	6,405.4	6,463.9	6,405.4	23.1	17.0	90.63	-1,336.4	484.4	452.2	428.2	23.96	18.870				
6,600.0	6,465.3	6,523.8	6,465.3	23.2	17.0	90.74	-1,336.4	484.4	452.2	428.0	24.17	18.707				
6,700.0	6,564.4	6,623.8	6,565.3	23.2	17.2	92.25	-1,336.4	483.5	452.5	427.8	24.68	18.333				
6,800.0	6,660.7	6,726.4	6,667.0	23.2	17.2	94.10	-1,336.4	471.1	453.3	428.2	25.08	18.075				
6,900.0	6,752.3	6,831.2	6,768.0	23.3	17.2	95.89	-1,336.4	443.4	454.6	429.3	25.27	17.990				
7,000.0	6,837.5	6,938.4	6,866.0	23.3	17.2	97.57	-1,336.4	400.3	456.2	430.9	25.30	18.033				
7,100.0	6,914.6	7,047.8	6,958.3	23.3	17.3	99.10	-1,336.4	341.7	458.0	432.7	25.30	18.099				
7,200.0	6,982.1	7,159.5	7,042.1	23.5	17.4	100.45	-1,336.4	268.1	459.8	434.3	25.55	17.995				
7,300.0	7,038.7	7,273.1	7,114.7	23.7	17.6	101.58	-1,336.4	180.8	461.6	435.2	26.35	17.518				
7,400.0	7,083.3	7,388.4	7,173.2	24.1	18.1	102.45	-1,336.4	81.6	463.0	435.0	27.99	16.541				
7,500.0	7,115.0	7,505.0	7,215.5	24.6	18.9	103.05	-1,336.4	-26.9	464.1	433.5	30.64	15.148				
7,600.0	7,133.2	7,622.4	7,239.7	25.4	20.2	103.36	-1,336.4	-141.7	464.6	430.4	34.23	13.576				
7,700.0	7,137.6	7,737.8	7,245.1	26.3	21.9	103.37	-1,336.4	-256.9	464.7	426.2	38.43	12.090				
7,800.0	7,135.9	7,837.8	7,243.3	27.5	23.5	103.37	-1,336.4	-356.9	464.7	422.4	42.23	11.003				
7,900.0	7,134.1	7,937.8	7,241.6	28.9	25.4	103.38	-1,336.4	-456.9	464.7	418.4	46.21	10.055				
8,000.0	7,132.4	8,037.8	7,239.8	30.4	27.3	103.38	-1,336.4	-556.8	464.6	414.3	50.33	9.231				
8,100.0	7,130.6	8,137.8	7,238.1	32.1	29.3	103.38	-1,336.4	-656.8	464.6	410.1	54.57	8.514				
8,200.0	7,128.9	8,237.8	7,236.3	33.9	31.5	103.38	-1,336.4	-756.8	464.6	405.7	58.90	7.888				
8,300.0	7,127.1	8,337.8	7,234.6	35.9	33.6	103.38	-1,336.4	-856.8	464.6	401.3	63.30	7.340				
8,400.0	7,125.4	8,437.8	7,232.9	37.9	35.8	103.38	-1,336.4	-956.8	464.6	396.9	67.75	6.857				
8,500.0	7,123.6	8,537.8	7,231.1	40.0	38.1	103.38	-1,336.4	-1,056.8	464.6	392.4	72.25	6.430				
8,600.0	7,121.9	8,637.8	7,229.4	42.1	40.3	103.38	-1,336.4	-1,156.7	464.6	387.8	76.79	6.050				
8,700.0	7,120.2	8,737.8	7,227.6	44.3	42.6	103.38	-1,336.4	-1,256.7	464.6	383.2	81.36	5.710				
8,800.0	7,118.4	8,837.8	7,225.9	46.5	44.9	103.38	-1,336.4	-1,356.7	464.6	378.6	85.96	5.405				
8,900.0	7,116.7	8,937.8	7,224.1	48.7	47.3	103.38	-1,336.4	-1,456.7	464.6	374.0	90.58	5.129				
9,000.0	7,114.9	9,037.8	7,222.4	51.0	49.6	103.38	-1,336.4	-1,556.7	464.6	369.3	95.22	4.879				
9,100.0	7,113.2	9,137.8	7,220.6	53.2	52.0	103.38	-1,336.4	-1,656.7	464.6	364.7	99.87	4.651				
9,200.0	7,111.4	9,237.8	7,218.9	55.5	54.3	103.38	-1,336.4	-1,756.7	464.5	360.0	104.54	4.444				
9,300.0	7,109.7	9,337.8	7,217.1	57.8	56.7	103.38	-1,336.5	-1,856.6	464.5	355.3	109.23	4.253				
9,400.0	7,107.9	9,437.8	7,215.4	60.2	59.1	103.38	-1,336.5	-1,956.6	464.5	350.6	113.92	4.078				
9,500.0	7,106.2	9,537.8	7,213.7	62.5	61.5	103.38	-1,336.5	-2,056.6	464.5	345.9	118.62	3.916				
9,600.0	7,104.4	9,637.8	7,211.9	64.9	63.9	103.38	-1,336.5	-2,156.6	464.5	341.2	123.33	3.766				
9,700.0	7,102.7	9,737.8	7,210.2	67.2	66.3	103.38	-1,336.5	-2,256.6	464.5	336.4	128.05	3.627				
9,800.0	7,101.0	9,837.8	7,208.4	69.6	68.7	103.38	-1,336.5	-2,356.6	464.5	331.7	132.78	3.498				
9,900.0	7,099.2	9,937.8	7,206.7	72.0	71.1	103.38	-1,336.5	-2,456.5	464.5	327.0	137.51	3.378				
10,000.0	7,097.5	10,037.8	7,204.9	74.4	73.5	103.38	-1,336.5	-2,556.5	464.5	322.2	142.25	3.265				
10,100.0	7,095.7	10,137.8	7,203.2	76.8	76.0	103.38	-1,336.5	-2,656.5	464.5	317.5	146.99	3.160				

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:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S20-T3N-R68W (Liberty 2A-21H) - Liberty 2E-21H - HZ - Plan #1													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				
10,200.0	7,094.0	10,237.8	7,201.4	79.1	78.4	103.38	-1,336.5	-2,756.5	464.5	312.7	151.74	3.061				
10,300.0	7,092.2	10,337.8	7,199.7	81.5	80.8	103.38	-1,336.5	-2,856.5	464.4	308.0	156.49	2.968				
10,400.0	7,090.5	10,437.8	7,198.0	84.0	83.2	103.38	-1,336.5	-2,956.5	464.4	303.2	161.25	2.880				
10,500.0	7,088.7	10,537.8	7,196.2	86.4	85.7	103.38	-1,336.5	-3,056.5	464.4	298.4	166.00	2.798				
10,600.0	7,087.0	10,637.8	7,194.5	88.8	88.1	103.38	-1,336.5	-3,156.4	464.4	293.7	170.77	2.720				
10,700.0	7,085.2	10,737.8	7,192.7	91.2	90.5	103.38	-1,336.5	-3,256.4	464.4	288.9	175.53	2.646				
10,800.0	7,083.5	10,837.8	7,191.0	93.6	93.0	103.38	-1,336.5	-3,356.4	464.4	284.1	180.30	2.576				
10,900.0	7,081.8	10,937.8	7,189.2	96.0	95.4	103.38	-1,336.5	-3,456.4	464.4	279.3	185.07	2.509				
11,000.0	7,080.0	11,037.8	7,187.5	98.5	97.9	103.38	-1,336.5	-3,556.4	464.4	274.6	189.84	2.446				
11,100.0	7,078.3	11,137.8	7,185.7	100.9	100.3	103.38	-1,336.5	-3,656.4	464.4	269.8	194.61	2.386				
11,200.0	7,076.5	11,237.8	7,184.0	103.3	102.8	103.38	-1,336.5	-3,756.4	464.4	265.0	199.39	2.329				
11,300.0	7,074.8	11,337.8	7,182.2	105.7	105.2	103.38	-1,336.5	-3,856.3	464.4	260.2	204.17	2.274				
11,400.0	7,073.0	11,437.8	7,180.5	108.2	107.6	103.38	-1,336.5	-3,956.3	464.4	255.4	208.94	2.222				
11,500.0	7,071.3	11,537.8	7,178.8	110.6	110.1	103.38	-1,336.5	-4,056.3	464.3	250.6	213.72	2.173				
11,600.0	7,069.5	11,637.8	7,177.0	113.0	112.5	103.38	-1,336.5	-4,156.3	464.3	245.8	218.51	2.125				
11,700.0	7,067.8	11,737.8	7,175.3	115.5	115.0	103.38	-1,336.5	-4,256.3	464.3	241.0	223.29	2.079				
11,743.4	7,067.0	11,781.3	7,174.5	116.5	116.1	103.38	-1,336.5	-4,299.7	464.3	239.0	225.37	2.060				
11,757.8	7,066.8	11,793.6	7,174.3	116.9	116.4	103.38	-1,336.5	-4,312.1	464.3	238.3	226.01	2.054 SF				

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Site NENE S20-T3N-R68W (Liberty 2A-21H)
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Reference Site:	NENE S20-T3N-R68W (Liberty 2A-21H)	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Liberty 2F-21H	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 #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5036.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: NENE S20-T3N-R68W (Liberty 2A-21H)
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.32°

