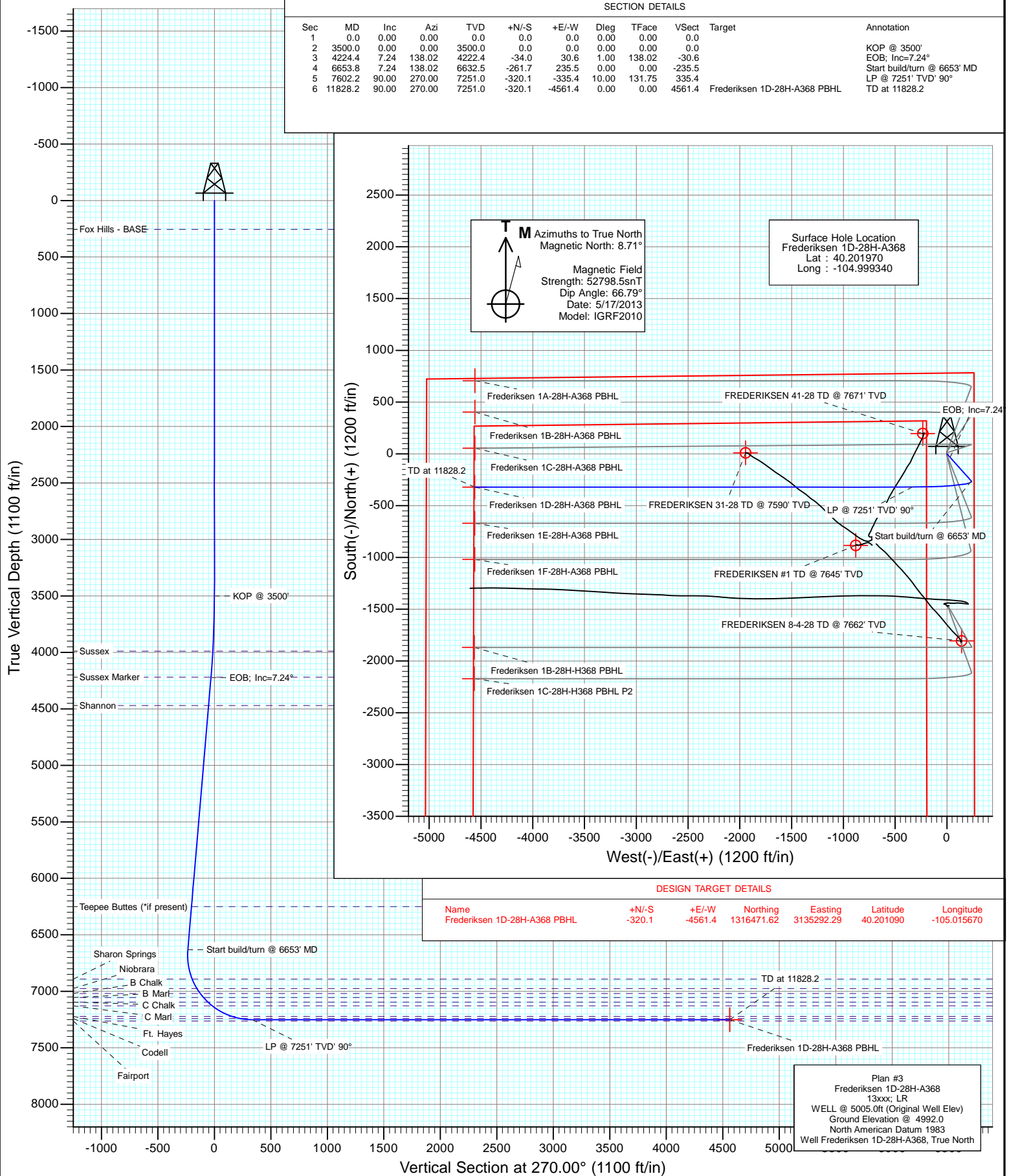




Project: DJ Wattenberg
Site: S28-T3N-R68W (Frederiksen)
Well: Frederiksen 1D-28H-A368
Wellbore: Hz
Design: Plan #3



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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

Site		S28-T3N-R68W (Frederiksen)			
Site Position:		Northing:	1,315,349.57 ft	Latitude:	40.197940
From:	Lat/Long	Easting:	3,139,876.89 ft	Longitude:	-104.999280
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.32 °

Well	Frederiksen 1D-28H-A368					
Well Position	+N/-S	0.0 ft	Northing:	1,316,817.51 ft	Latitude:	40.201970
	+E/-W	0.0 ft	Easting:	3,139,851.84 ft	Longitude:	-104.999340
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,992.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/17/2013	8.71	66.79	52,798

Design	Plan #3				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	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	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,224.4	7.24	138.02	4,222.4	-34.0	30.6	1.00	1.00	0.00	138.02	
6,653.8	7.24	138.02	6,632.5	-261.7	235.5	0.00	0.00	0.00	0.00	
7,602.2	90.00	270.00	7,251.0	-320.1	-335.4	10.00	8.73	13.92	131.75	
11,828.2	90.00	270.00	7,251.0	-320.1	-4,561.4	0.00	0.00	0.00	0.00	Frederiksen 1D-28H-4

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
255.0	0.00	0.00	255.0	0.0	0.0	0.0	0.00	0.00	Fox Hills - BASE
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 3500'
3,600.0	1.00	138.02	3,600.0	-0.6	0.6	-0.6	1.00	1.00	
3,700.0	2.00	138.02	3,700.0	-2.6	2.3	-2.3	1.00	1.00	
3,800.0	3.00	138.02	3,799.9	-5.8	5.3	-5.3	1.00	1.00	
3,900.0	4.00	138.02	3,899.7	-10.4	9.3	-9.3	1.00	1.00	
3,989.6	4.90	138.02	3,989.0	-15.5	14.0	-14.0	1.00	1.00	Sussex
4,000.0	5.00	138.02	3,999.4	-16.2	14.6	-14.6	1.00	1.00	
4,100.0	6.00	138.02	4,098.9	-23.3	21.0	-21.0	1.00	1.00	
4,200.0	7.00	138.02	4,198.3	-31.7	28.6	-28.6	1.00	1.00	
4,220.9	7.21	138.02	4,219.0	-33.7	30.3	-30.3	1.00	1.00	Sussex Marker
4,224.4	7.24	138.02	4,222.4	-34.0	30.6	-30.6	1.00	1.00	EOB; Inc=7.24°
4,300.0	7.24	138.02	4,297.5	-41.1	37.0	-37.0	0.00	0.00	
4,400.0	7.24	138.02	4,396.7	-50.5	45.4	-45.4	0.00	0.00	
4,473.9	7.24	138.02	4,470.0	-57.4	51.6	-51.6	0.00	0.00	Shannon
4,500.0	7.24	138.02	4,495.9	-59.8	53.8	-53.8	0.00	0.00	
4,600.0	7.24	138.02	4,595.1	-69.2	62.3	-62.3	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,700.0	7.24	138.02	4,694.3	-78.6	70.7	-70.7	0.00	0.00	
4,800.0	7.24	138.02	4,793.5	-87.9	79.1	-79.1	0.00	0.00	
4,900.0	7.24	138.02	4,892.7	-97.3	87.6	-87.6	0.00	0.00	
5,000.0	7.24	138.02	4,991.9	-106.7	96.0	-96.0	0.00	0.00	
5,100.0	7.24	138.02	5,091.1	-116.1	104.4	-104.4	0.00	0.00	
5,200.0	7.24	138.02	5,190.3	-125.4	112.9	-112.9	0.00	0.00	
5,300.0	7.24	138.02	5,289.5	-134.8	121.3	-121.3	0.00	0.00	
5,400.0	7.24	138.02	5,388.7	-144.2	129.7	-129.7	0.00	0.00	
5,500.0	7.24	138.02	5,487.9	-153.6	138.2	-138.2	0.00	0.00	
5,600.0	7.24	138.02	5,587.1	-162.9	146.6	-146.6	0.00	0.00	
5,700.0	7.24	138.02	5,686.3	-172.3	155.0	-155.0	0.00	0.00	
5,800.0	7.24	138.02	5,785.5	-181.7	163.5	-163.5	0.00	0.00	
5,900.0	7.24	138.02	5,884.7	-191.0	171.9	-171.9	0.00	0.00	
6,000.0	7.24	138.02	5,983.9	-200.4	180.3	-180.3	0.00	0.00	
6,100.0	7.24	138.02	6,083.1	-209.8	188.8	-188.8	0.00	0.00	
6,200.0	7.24	138.02	6,182.3	-219.2	197.2	-197.2	0.00	0.00	
6,268.2	7.24	138.02	6,250.0	-225.6	203.0	-203.0	0.00	0.00	Teepee Buttes (*if present)
6,300.0	7.24	138.02	6,281.5	-228.5	205.6	-205.6	0.00	0.00	
6,400.0	7.24	138.02	6,380.7	-237.9	214.1	-214.1	0.00	0.00	
6,500.0	7.24	138.02	6,479.9	-247.3	222.5	-222.5	0.00	0.00	
6,600.0	7.24	138.02	6,579.1	-256.7	231.0	-231.0	0.00	0.00	
6,653.8	7.24	138.02	6,632.5	-261.7	235.5	-235.5	0.00	0.00	Start build/turn @ 6653' MD
6,700.0	5.40	177.69	6,678.4	-266.0	237.5	-237.5	10.00	-3.99	
6,800.0	11.16	241.39	6,777.5	-275.4	229.2	-229.2	10.00	5.76	
6,900.0	20.48	255.34	6,873.6	-284.5	203.7	-203.7	10.00	9.32	
6,919.7	22.38	256.74	6,892.0	-286.2	196.7	-196.7	10.00	9.66	Sharon Springs
7,000.0	30.22	260.67	6,963.9	-293.0	161.9	-161.9	10.00	9.77	
7,012.9	31.49	261.13	6,975.0	-294.1	155.3	-155.3	10.00	9.83	Niobrara
7,066.1	36.73	262.73	7,019.0	-298.2	125.8	-125.8	10.00	9.86	B Chalk
7,100.0	40.09	263.55	7,045.6	-300.7	104.9	-104.9	10.00	9.88	
7,112.4	41.32	263.83	7,055.0	-301.6	96.8	-96.8	10.00	9.90	B Marl
7,168.1	46.83	264.92	7,095.0	-305.4	58.3	-58.3	10.00	9.91	C Chalk
7,200.0	50.00	265.45	7,116.2	-307.4	34.5	-34.5	10.00	9.92	
7,218.8	51.86	265.75	7,128.0	-308.5	20.0	-20.0	10.00	9.93	C Marl
7,300.0	59.93	266.86	7,173.5	-312.8	-47.1	47.1	10.00	9.94	
7,400.0	69.88	268.02	7,215.9	-316.8	-137.4	137.4	10.00	9.95	
7,418.7	71.74	268.21	7,222.0	-317.4	-155.1	155.1	10.00	9.95	Ft. Hayes
7,494.7	79.30	268.98	7,241.0	-319.2	-228.6	228.6	10.00	9.95	Codell
7,500.0	79.83	269.03	7,242.0	-319.3	-233.8	233.8	10.00	9.95	
7,600.0	89.78	269.98	7,251.0	-320.1	-333.3	333.3	10.00	9.96	
7,602.2	90.00	270.00	7,251.0	-320.1	-335.4	335.4	10.00	9.96	LP @ 7251' TVD' 90°
7,700.0	90.00	270.00	7,251.0	-320.1	-433.3	433.3	0.00	0.00	
7,800.0	90.00	270.00	7,251.0	-320.1	-533.3	533.3	0.00	0.00	
7,900.0	90.00	270.00	7,251.0	-320.1	-633.3	633.3	0.00	0.00	
8,000.0	90.00	270.00	7,251.0	-320.1	-733.3	733.3	0.00	0.00	
8,100.0	90.00	270.00	7,251.0	-320.1	-833.3	833.3	0.00	0.00	
8,200.0	90.00	270.00	7,251.0	-320.1	-933.3	933.3	0.00	0.00	
8,300.0	90.00	270.00	7,251.0	-320.1	-1,033.3	1,033.3	0.00	0.00	
8,400.0	90.00	270.00	7,251.0	-320.1	-1,133.3	1,133.3	0.00	0.00	
8,500.0	90.00	270.00	7,251.0	-320.1	-1,233.3	1,233.3	0.00	0.00	
8,600.0	90.00	270.00	7,251.0	-320.1	-1,333.3	1,333.3	0.00	0.00	
8,700.0	90.00	270.00	7,251.0	-320.1	-1,433.3	1,433.3	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,800.0	90.00	270.00	7,251.0	-320.1	-1,533.3	1,533.3	0.00	0.00	
8,900.0	90.00	270.00	7,251.0	-320.1	-1,633.3	1,633.3	0.00	0.00	
9,000.0	90.00	270.00	7,251.0	-320.1	-1,733.3	1,733.3	0.00	0.00	
9,100.0	90.00	270.00	7,251.0	-320.1	-1,833.3	1,833.3	0.00	0.00	
9,200.0	90.00	270.00	7,251.0	-320.1	-1,933.3	1,933.3	0.00	0.00	
9,300.0	90.00	270.00	7,251.0	-320.1	-2,033.3	2,033.3	0.00	0.00	
9,400.0	90.00	270.00	7,251.0	-320.1	-2,133.3	2,133.3	0.00	0.00	
9,500.0	90.00	270.00	7,251.0	-320.1	-2,233.3	2,233.3	0.00	0.00	
9,600.0	90.00	270.00	7,251.0	-320.1	-2,333.3	2,333.3	0.00	0.00	
9,700.0	90.00	270.00	7,251.0	-320.1	-2,433.3	2,433.3	0.00	0.00	
9,800.0	90.00	270.00	7,251.0	-320.1	-2,533.3	2,533.3	0.00	0.00	
9,900.0	90.00	270.00	7,251.0	-320.1	-2,633.3	2,633.3	0.00	0.00	
10,000.0	90.00	270.00	7,251.0	-320.1	-2,733.3	2,733.3	0.00	0.00	
10,100.0	90.00	270.00	7,251.0	-320.1	-2,833.3	2,833.3	0.00	0.00	
10,200.0	90.00	270.00	7,251.0	-320.1	-2,933.3	2,933.3	0.00	0.00	
10,300.0	90.00	270.00	7,251.0	-320.1	-3,033.3	3,033.3	0.00	0.00	
10,400.0	90.00	270.00	7,251.0	-320.1	-3,133.3	3,133.3	0.00	0.00	
10,500.0	90.00	270.00	7,251.0	-320.1	-3,233.3	3,233.3	0.00	0.00	
10,600.0	90.00	270.00	7,251.0	-320.1	-3,333.3	3,333.3	0.00	0.00	
10,700.0	90.00	270.00	7,251.0	-320.1	-3,433.3	3,433.3	0.00	0.00	
10,800.0	90.00	270.00	7,251.0	-320.1	-3,533.3	3,533.3	0.00	0.00	
10,900.0	90.00	270.00	7,251.0	-320.1	-3,633.3	3,633.3	0.00	0.00	
11,000.0	90.00	270.00	7,251.0	-320.1	-3,733.3	3,733.3	0.00	0.00	
11,100.0	90.00	270.00	7,251.0	-320.1	-3,833.3	3,833.3	0.00	0.00	
11,200.0	90.00	270.00	7,251.0	-320.1	-3,933.3	3,933.3	0.00	0.00	
11,300.0	90.00	270.00	7,251.0	-320.1	-4,033.3	4,033.3	0.00	0.00	
11,400.0	90.00	270.00	7,251.0	-320.1	-4,133.3	4,133.3	0.00	0.00	
11,500.0	90.00	270.00	7,251.0	-320.1	-4,233.3	4,233.3	0.00	0.00	
11,600.0	90.00	270.00	7,251.0	-320.1	-4,333.3	4,333.3	0.00	0.00	
11,700.0	90.00	270.00	7,251.0	-320.1	-4,433.3	4,433.3	0.00	0.00	
11,800.0	90.00	270.00	7,251.0	-320.1	-4,533.3	4,533.3	0.00	0.00	
11,828.2	90.00	270.00	7,251.0	-320.1	-4,561.4	4,561.4	0.00	0.00	TD at 11828.2

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Frederiksen 1D-28H-A368	0.00	0.00	7,251.0	-320.1	-4,561.4	1,316,471.62	3,135,292.29	40.201090	-105.015670
- plan hits target center									
- Point									

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
255.0	255.0	Fox Hills - BASE				
3,989.6	3,989.0	Sussex				
4,220.9	4,219.0	Sussex Marker				
4,473.9	4,470.0	Shannon				
6,268.2	6,250.0	Teepee Buttes (*if present)				
6,919.7	6,892.0	Sharon Springs				
7,012.9	6,975.0	Niobrara				
7,066.1	7,019.0	B Chalk				
7,112.4	7,055.0	B Marl				
7,168.1	7,095.0	C Chalk				
7,218.8	7,128.0	C Marl				
7,418.7	7,222.0	Ft. Hayes				
7,494.7	7,241.0	Codell				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,500.0	3,500.0	0.0	0.0	KOP @ 3500'	
4,224.4	4,222.4	-34.0	30.6	EOB; Inc=7.24°	
6,653.8	6,632.5	-261.7	235.5	Start build/turn @ 6653' MD	
7,602.2	7,251.0	-320.1	-335.4	LP @ 7251' TVD' 90°	
11,828.2	7,251.0	-320.1	-4,561.4	TD at 11828.2	

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S28-T3N-R68W (Frederiksen)

Frederiksen 1D-28H-A368

Hz

Plan #3

Anticollision Report

16 September, 2013

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	9/16/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,828.2	Plan #3 (Hz)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S28-T3N-R68W (Frederiksen)						
FREDERIKSEN #1 (Existing) - DD - GYRO						Out of range
FREDERIKSEN 1A-28H (Existing) - Hz - Hz						Out of range
Frederiksen 1A-28H-A368 - Hz - Plan #3	200.0	200.0	29.3	28.6	44.850	CC, ES
Frederiksen 1A-28H-A368 - Hz - Plan #3	600.0	597.4	42.8	40.8	20.823	SF
Frederiksen 1B-28H-A368 - Hz - Plan #3	300.0	300.0	21.9	20.9	21.817	CC, ES
Frederiksen 1B-28H-A368 - Hz - Plan #3	600.0	598.8	28.7	26.6	14.007	SF
Frederiksen 1B-28H-H368 - Hz - Plan #1						Out of range
Frederiksen 1C-28H-A368 - Hz - Plan #3	400.0	400.0	10.9	9.6	8.090	CC
Frederiksen 1C-28H-A368 - Hz - Plan #3	500.0	499.9	11.2	9.5	6.608	ES
Frederiksen 1C-28H-A368 - Hz - Plan #3	11,828.2	11,589.3	433.5	231.5	2.146	SF
Frederiksen 1C-28H-H368 - Hz - Plan #2						Out of range
Frederiksen 1E-28H-A368 - Hz - Plan #3	400.0	400.0	10.9	9.6	8.090	CC, ES
Frederiksen 1E-28H-A368 - Hz - Plan #3	11,828.2	11,624.4	411.6	213.0	2.073	SF
Frederiksen 1F-28H-A368 - Hz - Plan #3	200.0	199.0	18.2	17.6	27.978	CC, ES
Frederiksen 1F-28H-A368 - Hz - Plan #3	500.0	497.8	25.8	24.1	15.116	SF
FREDERIKSEN 31-28 (Existing) - DD - GYRO	9,195.4	7,438.6	330.1	265.9	5.138	CC
FREDERIKSEN 31-28 (Existing) - DD - GYRO	9,200.0	7,438.7	330.2	265.8	5.129	ES, SF
FREDERIKSEN 41-28 (Existing) - DD - GYRO	4,647.6	4,771.3	399.5	383.1	24.393	CC, ES
FREDERIKSEN 41-28 (Existing) - DD - GYRO	5,000.0	5,114.3	415.7	397.4	22.703	SF
FREDERIKSEN 8-4-28 (Existing) - DD - GYRO						Out of range

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1A-28H-A368 - Hz - Plan #3														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
0.0	0.0	0.0	0.0	0.0	0.0	5.47	29.1	2.8	29.3						
100.0	100.0	100.0	100.0	0.2	0.2	5.47	29.1	2.8	29.3	29.0	0.30	96.403			
200.0	200.0	200.0	200.0	0.3	0.3	5.47	29.1	2.8	29.3	28.6	0.65	44.850 CC, ES			
300.0	300.0	299.5	299.5	0.5	0.5	5.90	30.0	3.1	30.1	29.1	1.00	30.081			
400.0	400.0	398.9	398.9	0.7	0.7	7.05	32.4	4.0	32.6	31.3	1.35	24.171			
500.0	500.0	498.3	498.1	0.8	0.9	8.62	36.4	5.5	36.9	35.2	1.70	21.667			
600.0	600.0	597.4	597.1	1.0	1.1	10.29	42.0	7.6	42.8	40.8	2.06	20.823 SF			
700.0	700.0	696.3	695.7	1.2	1.3	11.86	49.3	10.3	50.5	48.1	2.42	20.899			
800.0	800.0	794.9	793.8	1.4	1.5	13.22	58.0	13.6	59.9	57.1	2.78	21.524			
900.0	900.0	893.9	892.2	1.5	1.7	14.35	68.1	17.4	70.8	67.6	3.16	22.406			
1,000.0	1,000.0	993.3	991.0	1.7	2.0	15.18	78.4	21.3	81.8	78.2	3.54	23.117			
1,100.0	1,100.0	1,092.7	1,089.8	1.9	2.2	15.82	88.7	25.1	92.8	88.8	3.92	23.681			
1,200.0	1,200.0	1,192.1	1,188.6	2.1	2.5	16.33	99.0	29.0	103.8	99.5	4.30	24.137			
1,300.0	1,300.0	1,291.4	1,287.4	2.2	2.7	16.74	109.3	32.9	114.8	110.1	4.68	24.513			
1,400.0	1,400.0	1,390.8	1,386.1	2.4	3.0	17.07	119.5	36.7	125.8	120.7	5.07	24.828			
1,500.0	1,500.0	1,490.2	1,484.9	2.6	3.2	17.35	129.8	40.6	136.8	131.4	5.45	25.096			
1,600.0	1,600.0	1,589.6	1,583.7	2.8	3.5	17.59	140.1	44.4	147.9	142.0	5.84	25.326			
1,700.0	1,700.0	1,689.0	1,682.5	2.9	3.8	17.80	150.4	48.3	158.9	152.7	6.22	25.526			
1,800.0	1,800.0	1,788.4	1,781.3	3.1	4.0	17.98	160.6	52.1	169.9	163.3	6.61	25.701			
1,900.0	1,900.0	1,887.8	1,880.0	3.3	4.3	18.14	170.9	56.0	181.0	174.0	7.00	25.855			
2,000.0	2,000.0	1,987.2	1,978.8	3.5	4.5	18.28	181.2	59.8	192.0	184.6	7.39	25.993			
2,100.0	2,100.0	2,086.5	2,077.6	3.6	4.8	18.40	191.5	63.7	203.0	195.3	7.77	26.116			
2,200.0	2,200.0	2,185.9	2,176.4	3.8	5.0	18.51	201.7	67.6	214.1	205.9	8.16	26.227			
2,300.0	2,300.0	2,285.3	2,275.2	4.0	5.3	18.61	212.0	71.4	225.1	216.6	8.55	26.327			
2,400.0	2,400.0	2,384.7	2,373.9	4.2	5.5	18.71	222.3	75.3	236.1	227.2	8.94	26.418			
2,500.0	2,500.0	2,484.1	2,472.7	4.3	5.8	18.79	232.6	79.1	247.2	237.9	9.33	26.501			
2,600.0	2,600.0	2,583.5	2,571.5	4.5	6.1	18.87	242.9	83.0	258.2	248.5	9.72	26.577			
2,700.0	2,700.0	2,682.9	2,670.3	4.7	6.3	18.93	253.1	86.8	269.3	259.2	10.10	26.647			
2,800.0	2,800.0	2,782.3	2,769.1	4.9	6.6	19.00	263.4	90.7	280.3	269.8	10.49	26.712			
2,900.0	2,900.0	2,881.7	2,867.8	5.0	6.8	19.06	273.7	94.6	291.3	280.5	10.88	26.772			
3,000.0	3,000.0	2,981.0	2,966.6	5.2	7.1	19.11	284.0	98.4	302.4	291.1	11.27	26.827			
3,100.0	3,100.0	3,080.4	3,065.4	5.4	7.4	19.16	294.2	102.3	313.4	301.8	11.66	26.879			
3,200.0	3,200.0	3,179.8	3,164.2	5.6	7.6	19.21	304.5	106.1	324.5	312.4	12.05	26.927			
3,300.0	3,300.0	3,279.2	3,263.0	5.7	7.9	19.26	314.8	110.0	335.5	323.1	12.44	26.972			
3,400.0	3,400.0	3,378.6	3,361.7	5.9	8.1	19.30	325.1	113.8	346.5	333.7	12.83	27.015			
3,500.0	3,500.0	3,478.0	3,460.5	6.1	8.4	19.34	335.4	117.7	357.6	344.4	13.22	27.054			
3,600.0	3,600.0	3,577.3	3,559.2	6.3	8.6	-118.66	345.6	121.5	369.0	356.6	12.47	29.600			
3,700.0	3,700.0	3,676.5	3,657.9	6.4	8.9	-118.86	355.9	125.4	381.3	368.5	12.81	29.765			
3,800.0	3,799.9	3,775.6	3,756.3	6.6	9.2	-119.26	366.1	129.2	394.5	381.3	13.16	29.986			
3,900.0	3,899.7	3,874.5	3,854.6	6.8	9.4	-119.83	376.4	133.1	408.5	395.0	13.50	30.259			
4,000.0	3,999.4	3,973.2	3,952.7	7.0	9.7	-120.55	386.6	136.9	423.5	409.7	13.85	30.580			
4,100.0	4,098.9	4,071.6	4,050.5	7.2	9.9	-121.40	396.7	140.7	439.5	425.3	14.20	30.946			
4,200.0	4,198.3	4,169.8	4,148.1	7.4	10.2	-122.36	406.9	144.5	456.5	441.9	14.56	31.354			
4,224.4	4,222.4	4,193.7	4,171.8	7.4	10.2	-122.61	409.4	145.5	460.8	446.1	14.65	31.461			
4,300.0	4,297.5	4,267.8	4,245.5	7.6	10.4	-123.47	417.0	148.3	474.3	459.4	14.93	31.770			
4,400.0	4,396.7	4,365.7	4,342.8	7.8	10.7	-124.55	427.1	152.1	492.3	477.0	15.31	32.162			

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1B-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	21.9	0.0	21.9					
100.0	100.0	100.0	100.0	0.2	0.2	0.00	21.9	0.0	21.9	21.6	0.30	71.972		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	21.9	0.0	21.9	21.2	0.65	33.484		
300.0	300.0	300.0	300.0	0.5	0.5	0.00	21.9	0.0	21.9	20.9	1.00	21.817 CC, ES		
400.0	400.0	399.7	399.7	0.7	0.7	1.22	22.6	0.5	22.6	21.2	1.35	16.725		
500.0	500.0	499.3	499.2	0.8	0.9	4.46	24.7	1.9	24.8	23.1	1.70	14.610		
600.0	600.0	598.8	598.6	1.0	1.0	8.70	28.3	4.3	28.7	26.6	2.05	14.007 SF		
700.0	700.0	698.1	697.8	1.2	1.2	13.00	33.3	7.7	34.3	31.9	2.40	14.287		
800.0	800.0	797.9	797.4	1.4	1.4	16.40	39.0	11.5	40.7	38.0	2.75	14.784		
900.0	900.0	897.7	896.9	1.5	1.6	18.87	44.6	15.3	47.3	44.2	3.11	15.191		
1,000.0	1,000.0	997.4	996.4	1.7	1.8	20.74	50.3	19.0	53.9	50.4	3.47	15.526		
1,100.0	1,100.0	1,097.2	1,096.0	1.9	2.0	22.20	55.9	22.8	60.5	56.7	3.83	15.805		
1,200.0	1,200.0	1,197.0	1,195.5	2.1	2.3	23.37	61.5	26.6	67.2	63.0	4.19	16.039		
1,300.0	1,300.0	1,296.7	1,295.0	2.2	2.5	24.33	67.2	30.4	73.9	69.4	4.55	16.239		
1,400.0	1,400.0	1,396.5	1,394.6	2.4	2.7	25.13	72.8	34.2	80.6	75.7	4.91	16.410		
1,500.0	1,500.0	1,496.3	1,494.1	2.6	2.9	25.80	78.5	37.9	87.4	82.1	5.28	16.559		
1,600.0	1,600.0	1,596.1	1,593.6	2.8	3.1	26.38	84.1	41.7	94.1	88.5	5.64	16.690		
1,700.0	1,700.0	1,695.8	1,693.2	2.9	3.3	26.88	89.8	45.5	100.9	94.9	6.00	16.805		
1,800.0	1,800.0	1,795.6	1,792.7	3.1	3.5	27.32	95.4	49.3	107.6	101.3	6.37	16.907		
1,900.0	1,900.0	1,895.4	1,892.3	3.3	3.7	27.71	101.0	53.1	114.4	107.7	6.73	16.999		
2,000.0	2,000.0	1,995.1	1,991.8	3.5	3.9	28.05	106.7	56.8	121.2	114.1	7.09	17.081		
2,100.0	2,100.0	2,094.9	2,091.3	3.6	4.1	28.36	112.3	60.6	127.9	120.5	7.46	17.155		
2,200.0	2,200.0	2,194.7	2,190.9	3.8	4.3	28.63	118.0	64.4	134.7	126.9	7.82	17.223		
2,300.0	2,300.0	2,294.4	2,290.4	4.0	4.5	28.88	123.6	68.2	141.5	133.3	8.19	17.284		
2,400.0	2,400.0	2,394.2	2,389.9	4.2	4.8	29.11	129.3	72.0	148.3	139.7	8.55	17.341		
2,500.0	2,500.0	2,494.0	2,489.5	4.3	5.0	29.31	134.9	75.7	155.1	146.1	8.92	17.392		
2,600.0	2,600.0	2,593.7	2,589.0	4.5	5.2	29.50	140.5	79.5	161.8	152.6	9.28	17.440		
2,700.0	2,700.0	2,693.5	2,688.6	4.7	5.4	29.68	146.2	83.3	168.6	159.0	9.65	17.484		
2,800.0	2,800.0	2,793.3	2,788.1	4.9	5.6	29.84	151.8	87.1	175.4	165.4	10.01	17.525		
2,900.0	2,900.0	2,893.0	2,887.6	5.0	5.8	29.99	157.5	90.9	182.2	171.8	10.37	17.563		
3,000.0	3,000.0	2,992.8	2,987.2	5.2	6.0	30.13	163.1	94.6	189.0	178.3	10.74	17.599		
3,100.0	3,100.0	3,092.6	3,086.7	5.4	6.2	30.25	168.7	98.4	195.8	184.7	11.11	17.632		
3,200.0	3,200.0	3,192.3	3,186.2	5.6	6.4	30.37	174.4	102.2	202.6	191.1	11.47	17.663		
3,300.0	3,300.0	3,292.1	3,285.8	5.7	6.6	30.49	180.0	106.0	209.4	197.6	11.84	17.692		
3,400.0	3,400.0	3,391.9	3,385.3	5.9	6.9	30.59	185.7	109.8	216.2	204.0	12.20	17.720		
3,500.0	3,500.0	3,491.6	3,484.8	6.1	7.1	30.69	191.3	113.6	223.0	210.4	12.57	17.746		
3,600.0	3,600.0	3,591.4	3,584.4	6.3	7.3	-107.37	197.0	117.3	230.0	217.5	12.50	18.398		
3,700.0	3,700.0	3,691.1	3,683.8	6.4	7.5	-107.81	202.6	121.1	237.6	224.8	12.85	18.490		
3,800.0	3,799.9	3,790.7	3,783.2	6.6	7.7	-108.60	208.2	124.9	245.8	232.6	13.20	18.617		
3,900.0	3,899.7	3,890.2	3,882.4	6.8	7.9	-109.70	213.8	128.7	254.6	241.0	13.55	18.781		
4,000.0	3,999.4	3,989.5	3,981.5	7.0	8.1	-111.06	219.5	132.4	264.1	250.2	13.91	18.983		
4,100.0	4,098.9	4,088.6	4,080.4	7.2	8.3	-112.66	225.1	136.2	274.4	260.2	14.27	19.224		
4,200.0	4,198.3	4,187.6	4,179.2	7.4	8.5	-114.43	230.7	139.9	285.7	271.1	14.65	19.508		
4,224.4	4,222.4	4,211.6	4,203.2	7.4	8.6	-114.89	232.0	140.8	288.6	273.9	14.74	19.585		
4,300.0	4,297.5	4,286.3	4,277.7	7.6	8.7	-116.36	236.3	143.7	297.8	282.8	15.03	19.819		
4,400.0	4,396.7	4,385.1	4,376.2	7.8	9.0	-118.16	241.8	147.4	310.3	294.8	15.41	20.128		
4,500.0	4,495.9	4,483.9	4,474.8	8.0	9.2	-119.83	247.4	151.1	323.0	307.2	15.81	20.435		
4,600.0	4,595.1	4,582.6	4,573.3	8.2	9.4	-121.37	253.0	154.9	336.0	319.8	16.20	20.738		
4,700.0	4,694.3	4,681.4	4,671.8	8.4	9.6	-122.80	258.6	158.6	349.2	332.6	16.60	21.037		
4,800.0	4,793.5	4,780.1	4,770.4	8.6	9.8	-124.12	264.2	162.4	362.6	345.6	17.00	21.332		
4,900.0	4,892.7	4,878.9	4,868.9	8.9	10.0	-125.35	269.8	166.1	376.1	358.7	17.40	21.622		
5,000.0	4,991.9	4,977.7	4,967.4	9.1	10.2	-126.49	275.3	169.9	389.9	372.1	17.80	21.907		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													S28-T3N-R68W (Frederiksen) - Frederiksen 1B-28H-A368 - Hz - Plan #3		Offset Site Error:		0.0 ft	
Survey Program: 0-MWD															Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor						
							+N/-S (ft)	+E/-W (ft)										
5,100.0	5,091.1	5,076.4	5,066.0	9.3	10.4	-127.55	280.9	173.6	403.8	385.6	18.20	22.185						
5,200.0	5,190.3	5,175.2	5,164.5	9.6	10.6	-128.55	286.5	177.3	417.8	399.2	18.60	22.459						
5,300.0	5,289.5	5,274.0	5,263.0	9.8	10.8	-129.48	292.1	181.1	431.9	412.9	19.00	22.726						
5,400.0	5,388.7	5,372.7	5,361.6	10.0	11.0	-130.35	297.7	184.8	446.1	426.7	19.41	22.987						
5,500.0	5,487.9	5,471.5	5,460.1	10.3	11.2	-131.16	303.3	188.6	460.4	440.6	19.81	23.243						
5,600.0	5,587.1	5,570.2	5,558.6	10.5	11.5	-131.93	308.9	192.3	474.8	454.6	20.21	23.492						
5,700.0	5,686.3	5,669.0	5,657.1	10.8	11.7	-132.65	314.4	196.1	489.3	468.7	20.62	23.736						

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1C-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	0.00	10.9	0.0	10.9					
100.0	100.0	100.0	100.0	0.2	0.2	0.00	10.9	0.0	10.9	10.6	0.30	35.986		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	10.9	0.0	10.9	10.3	0.65	16.742		
300.0	300.0	300.0	300.0	0.5	0.5	0.00	10.9	0.0	10.9	9.9	1.00	10.909		
400.0	400.0	400.0	400.0	0.7	0.7	0.00	10.9	0.0	10.9	9.6	1.35	8.090 CC		
500.0	500.0	499.9	499.9	0.8	0.9	4.22	11.2	0.8	11.2	9.5	1.70	6.608 ES		
600.0	600.0	599.8	599.8	1.0	1.0	15.38	12.0	3.3	12.5	10.4	2.05	6.087		
700.0	700.0	699.7	699.5	1.2	1.2	28.29	13.3	7.2	15.1	12.7	2.40	6.301		
800.0	800.0	799.6	799.4	1.4	1.4	37.34	14.6	11.2	18.4	15.6	2.75	6.697		
900.0	900.0	899.5	899.2	1.5	1.6	43.54	15.9	15.1	22.0	18.9	3.10	7.104		
1,000.0	1,000.0	999.4	999.0	1.7	1.8	47.96	17.3	19.1	25.8	22.3	3.45	7.480		
1,100.0	1,100.0	1,099.3	1,098.8	1.9	2.0	51.23	18.6	23.1	29.7	25.9	3.80	7.814		
1,200.0	1,200.0	1,199.2	1,198.7	2.1	2.1	53.74	19.9	27.1	33.7	29.5	4.15	8.108		
1,300.0	1,300.0	1,299.1	1,298.5	2.2	2.3	55.71	21.2	31.1	37.7	33.2	4.51	8.367		
1,400.0	1,400.0	1,399.0	1,398.3	2.4	2.5	57.31	22.5	35.1	41.8	36.9	4.86	8.594		
1,500.0	1,500.0	1,499.0	1,498.1	2.6	2.7	58.61	23.9	39.1	45.9	40.6	5.21	8.796		
1,600.0	1,600.0	1,598.9	1,597.9	2.8	2.9	59.71	25.2	43.1	50.0	44.4	5.57	8.975		
1,700.0	1,700.0	1,698.8	1,697.8	2.9	3.1	60.63	26.5	47.1	54.1	48.2	5.92	9.135		
1,800.0	1,800.0	1,798.7	1,797.6	3.1	3.3	61.43	27.8	51.1	58.2	52.0	6.28	9.278		
1,900.0	1,900.0	1,898.6	1,897.4	3.3	3.5	62.12	29.1	55.1	62.4	55.8	6.63	9.407		
2,000.0	2,000.0	1,998.5	1,997.2	3.5	3.6	62.72	30.5	59.1	66.5	59.6	6.99	9.525		
2,100.0	2,100.0	2,098.4	2,097.1	3.6	3.8	63.26	31.8	63.1	70.7	63.4	7.34	9.631		
2,200.0	2,200.0	2,198.3	2,196.9	3.8	4.0	63.73	33.1	67.1	74.9	67.2	7.70	9.729		
2,300.0	2,300.0	2,298.2	2,296.7	4.0	4.2	64.15	34.4	71.1	79.0	71.0	8.05	9.818		
2,400.0	2,400.0	2,398.2	2,396.5	4.2	4.4	64.53	35.8	75.1	83.2	74.8	8.41	9.900		
2,500.0	2,500.0	2,498.1	2,496.3	4.3	4.6	64.88	37.1	79.1	87.4	78.6	8.76	9.976		
2,600.0	2,600.0	2,598.0	2,596.2	4.5	4.8	65.19	38.4	83.1	91.6	82.5	9.12	10.047		
2,700.0	2,700.0	2,697.9	2,696.0	4.7	5.0	65.48	39.7	87.1	95.8	86.3	9.47	10.112		
2,800.0	2,800.0	2,797.8	2,795.8	4.9	5.2	65.74	41.0	91.1	100.0	90.1	9.83	10.172		
2,900.0	2,900.0	2,897.7	2,895.6	5.0	5.3	65.98	42.4	95.0	104.1	94.0	10.18	10.229		
3,000.0	3,000.0	2,997.6	2,995.5	5.2	5.5	66.20	43.7	99.0	108.3	97.8	10.54	10.282		
3,100.0	3,100.0	3,097.5	3,095.3	5.4	5.7	66.41	45.0	103.0	112.5	101.6	10.89	10.331		
3,200.0	3,200.0	3,197.4	3,195.1	5.6	5.9	66.60	46.3	107.0	116.7	105.5	11.25	10.378		
3,300.0	3,300.0	3,297.4	3,294.9	5.7	6.1	66.77	47.6	111.0	120.9	109.3	11.60	10.422		
3,400.0	3,400.0	3,397.3	3,394.7	5.9	6.3	66.94	49.0	115.0	125.1	113.2	11.96	10.463		
3,500.0	3,500.0	3,497.2	3,494.6	6.1	6.5	67.10	50.3	119.0	129.3	117.0	12.31	10.502		
3,600.0	3,600.0	3,597.1	3,594.4	6.3	6.7	-71.10	51.6	123.0	133.2	120.7	12.52	10.643		
3,700.0	3,700.0	3,697.0	3,694.2	6.4	6.9	-71.95	52.9	127.0	136.6	123.7	12.87	10.614		
3,800.0	3,799.9	3,796.9	3,794.0	6.6	7.0	-73.46	54.2	131.0	139.5	126.3	13.22	10.549		
3,900.0	3,899.7	3,896.7	3,893.8	6.8	7.2	-75.58	55.6	135.0	142.0	128.4	13.58	10.458		
4,000.0	3,999.4	3,996.5	3,993.4	7.0	7.4	-78.30	56.9	139.0	144.4	130.5	13.95	10.354		
4,100.0	4,098.9	4,096.1	4,092.9	7.2	7.6	-81.58	58.2	143.0	146.8	132.5	14.32	10.252		
4,200.0	4,198.3	4,195.5	4,192.3	7.4	7.8	-85.41	59.5	146.9	149.6	134.9	14.71	10.168		
4,224.4	4,222.4	4,219.8	4,216.5	7.4	7.8	-86.41	59.8	147.9	150.3	135.5	14.81	10.153		
4,300.0	4,297.5	4,294.9	4,291.6	7.6	8.0	-89.55	60.8	150.9	153.0	137.9	15.11	10.123		
4,400.0	4,396.7	4,394.2	4,390.8	7.8	8.2	-93.52	62.1	154.9	157.2	141.6	15.52	10.126		
4,500.0	4,495.9	4,493.5	4,490.0	8.0	8.4	-97.27	63.5	158.9	162.1	146.1	15.93	10.170		
4,600.0	4,595.1	4,592.9	4,589.3	8.2	8.5	-100.79	64.8	162.8	167.6	151.3	16.35	10.250		
4,700.0	4,694.3	4,692.2	4,688.5	8.4	8.7	-104.08	66.1	166.8	173.8	157.0	16.77	10.361		
4,800.0	4,793.5	4,791.5	4,787.8	8.6	8.9	-107.13	67.4	170.8	180.4	163.3	17.19	10.497		
4,900.0	4,892.7	4,890.8	4,887.0	8.9	9.1	-109.96	68.7	174.7	187.6	170.0	17.61	10.655		
5,000.0	4,991.9	4,990.2	4,986.2	9.1	9.3	-112.58	70.0	178.7	195.2	177.2	18.02	10.829		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1C-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
5,100.0	5,091.1	5,089.5	5,085.5	9.3	9.5	-115.00	71.3	182.7	203.2	184.7	18.44	11.018		
5,200.0	5,190.3	5,188.8	5,184.7	9.6	9.7	-117.23	72.7	186.7	211.5	192.6	18.85	11.217		
5,300.0	5,289.5	5,288.1	5,283.9	9.8	9.9	-119.29	74.0	190.6	220.1	200.8	19.26	11.424		
5,400.0	5,388.7	5,387.5	5,383.2	10.0	10.1	-121.20	75.3	194.6	228.9	209.2	19.67	11.638		
5,500.0	5,487.9	5,486.8	5,482.4	10.3	10.2	-122.96	76.6	198.6	238.0	217.9	20.08	11.855		
5,600.0	5,587.1	5,586.1	5,581.7	10.5	10.4	-124.60	77.9	202.5	247.3	226.8	20.48	12.076		
5,700.0	5,686.3	5,685.5	5,680.9	10.8	10.6	-126.11	79.2	206.5	256.8	235.9	20.88	12.298		
5,800.0	5,785.5	5,784.8	5,780.1	11.0	10.8	-127.52	80.5	210.5	266.4	245.2	21.28	12.521		
5,900.0	5,884.7	5,884.1	5,879.4	11.3	11.0	-128.82	81.8	214.5	276.2	254.6	21.68	12.743		
6,000.0	5,983.9	5,983.4	5,978.6	11.5	11.2	-130.04	83.2	218.4	286.2	264.1	22.07	12.965		
6,100.0	6,083.1	6,082.8	6,077.9	11.8	11.4	-131.18	84.5	222.4	296.2	273.8	22.47	13.184		
6,200.0	6,182.3	6,182.1	6,177.1	12.0	11.6	-132.24	85.8	226.4	306.4	283.5	22.86	13.402		
6,300.0	6,281.5	6,281.4	6,276.3	12.3	11.7	-133.23	87.1	230.3	316.6	293.4	23.25	13.617		
6,400.0	6,380.7	6,380.7	6,375.6	12.5	11.9	-134.16	88.4	234.3	327.0	303.3	23.64	13.830		
6,500.0	6,479.9	6,481.3	6,476.0	12.8	12.1	-135.26	89.7	237.1	337.4	313.3	24.01	14.049		
6,600.0	6,579.1	6,580.2	6,574.2	13.0	12.2	-138.54	90.9	226.0	347.6	323.4	24.24	14.340		
6,653.8	6,632.5	6,630.0	6,622.5	13.2	12.2	-141.14	91.4	214.0	353.9	329.6	24.31	14.560		
6,700.0	6,678.4	6,670.9	6,661.4	13.3	12.2	176.46	91.8	201.1	360.1	335.8	24.32	14.806		
6,750.0	6,728.1	6,714.2	6,701.3	13.4	12.2	129.70	92.2	184.4	367.5	343.2	24.32	15.109		
6,800.0	6,777.5	6,756.6	6,739.1	13.4	12.2	107.34	92.5	165.3	375.4	351.1	24.32	15.438		
6,850.0	6,826.1	6,800.0	6,776.2	13.5	12.2	95.80	92.8	142.8	383.7	359.4	24.30	15.785		
6,900.0	6,873.6	6,838.8	6,807.9	13.5	12.2	88.65	93.0	120.4	392.1	367.8	24.30	16.134		
6,950.0	6,919.7	6,878.9	6,838.9	13.5	12.2	83.44	93.2	95.0	400.6	376.3	24.31	16.480		
7,000.0	6,963.9	6,918.4	6,867.7	13.5	12.2	79.37	93.3	67.9	409.1	384.7	24.33	16.811		
7,050.0	7,006.0	6,957.4	6,894.2	13.5	12.3	76.07	93.4	39.3	417.2	392.9	24.38	17.117		
7,100.0	7,045.6	7,000.0	6,920.8	13.6	12.4	73.21	93.4	6.1	425.1	400.6	24.46	17.375		
7,150.0	7,082.4	7,034.1	6,940.4	13.6	12.6	70.98	93.5	-21.8	432.4	407.8	24.59	17.582		
7,200.0	7,116.2	7,072.0	6,960.0	13.7	12.9	69.01	93.4	-54.1	439.2	414.4	24.79	17.717		
7,250.0	7,146.6	7,109.5	6,977.4	13.8	13.1	67.34	93.4	-87.4	445.4	420.3	25.06	17.772		
7,300.0	7,173.5	7,150.0	6,993.7	14.0	13.5	65.90	93.2	-124.5	450.8	425.4	25.45	17.717		
7,350.0	7,196.6	7,183.8	7,005.2	14.3	13.9	64.80	93.1	-156.3	455.5	429.5	25.91	17.578		
7,400.0	7,215.9	7,220.7	7,015.6	14.7	14.3	63.87	92.9	-191.7	459.3	432.8	26.51	17.326		
7,450.0	7,231.0	7,257.4	7,023.7	15.2	14.8	63.16	92.7	-227.5	462.3	435.0	27.23	16.979		
7,500.0	7,242.0	7,300.0	7,030.2	15.8	15.4	62.62	92.5	-269.6	464.4	436.2	28.14	16.501		
7,550.0	7,248.6	7,330.6	7,032.9	16.5	15.9	62.34	92.2	-300.1	465.5	436.4	29.05	16.024		
7,602.2	7,251.0	7,369.6	7,034.0	17.2	16.5	62.23	91.9	-339.0	465.7	435.5	30.19	15.424		
7,700.0	7,251.0	7,467.4	7,034.0	18.9	18.3	62.18	91.0	-436.8	464.9	431.8	33.19	14.009		
7,800.0	7,251.0	7,567.4	7,034.0	20.7	20.2	62.13	90.2	-536.8	464.2	427.7	36.50	12.718		
7,900.0	7,251.0	7,667.4	7,034.0	22.6	22.2	62.08	89.3	-636.8	463.4	423.4	40.01	11.583		
8,000.0	7,251.0	7,767.4	7,034.0	24.7	24.3	62.03	88.4	-736.8	462.6	419.0	43.67	10.594		
8,100.0	7,251.0	7,867.4	7,034.0	26.8	26.4	61.98	87.5	-836.8	461.9	414.4	47.44	9.735		
8,200.0	7,251.0	7,967.4	7,034.0	29.0	28.7	61.92	86.7	-936.8	461.1	409.8	51.31	8.987		
8,300.0	7,251.0	8,067.4	7,034.0	31.2	30.9	61.87	85.8	-1,036.8	460.3	405.1	55.24	8.333		
8,400.0	7,251.0	8,167.4	7,034.0	33.5	33.2	61.82	84.9	-1,136.8	459.5	400.3	59.23	7.759		
8,500.0	7,251.0	8,267.4	7,034.0	35.7	35.5	61.77	84.1	-1,236.8	458.8	395.5	63.26	7.252		
8,600.0	7,251.0	8,367.4	7,034.0	38.1	37.8	61.72	83.2	-1,336.8	458.0	390.7	67.33	6.803		
8,700.0	7,251.0	8,467.4	7,034.0	40.4	40.2	61.67	82.3	-1,436.8	457.2	385.8	71.42	6.402		
8,800.0	7,251.0	8,567.4	7,034.0	42.7	42.6	61.61	81.4	-1,536.8	456.5	380.9	75.53	6.043		
8,900.0	7,251.0	8,667.4	7,034.0	45.1	44.9	61.56	80.6	-1,636.8	455.7	376.0	79.67	5.720		
9,000.0	7,251.0	8,767.4	7,034.0	47.5	47.3	61.51	79.7	-1,736.7	454.9	371.1	83.81	5.428		
9,100.0	7,251.0	8,867.4	7,034.0	49.8	49.7	61.46	78.8	-1,836.7	454.2	366.2	87.97	5.163		
9,200.0	7,251.0	8,967.4	7,034.0	52.2	52.1	61.41	78.0	-1,936.7	453.4	361.3	92.14	4.921		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1C-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
9,300.0	7,251.0	9,067.4	7,034.0	54.6	54.5	61.35	77.1	-2,036.7	452.6	356.3	96.32	4.699		
9,400.0	7,251.0	9,167.4	7,034.0	57.0	56.9	61.30	76.2	-2,136.7	451.9	351.4	100.51	4.496		
9,500.0	7,251.0	9,267.4	7,034.0	59.4	59.4	61.25	75.3	-2,236.7	451.1	346.4	104.70	4.309		
9,600.0	7,251.0	9,367.4	7,034.0	61.8	61.8	61.19	74.5	-2,336.7	450.3	341.5	108.89	4.136		
9,700.0	7,251.0	9,467.4	7,034.0	64.3	64.2	61.14	73.6	-2,436.7	449.6	336.5	113.08	3.976		
9,800.0	7,251.0	9,567.4	7,034.0	66.7	66.6	61.09	72.7	-2,536.7	448.8	331.5	117.28	3.827		
9,900.0	7,251.0	9,667.4	7,034.0	69.1	69.1	61.03	71.8	-2,636.7	448.1	326.6	121.48	3.688		
10,000.0	7,251.0	9,767.4	7,034.0	71.5	71.5	60.98	71.0	-2,736.7	447.3	321.6	125.68	3.559		
10,100.0	7,251.0	9,867.3	7,034.0	74.0	74.0	60.92	70.1	-2,836.7	446.5	316.7	129.88	3.438		
10,200.0	7,251.0	9,967.3	7,034.0	76.4	76.4	60.87	69.2	-2,936.7	445.8	311.7	134.07	3.325		
10,300.0	7,251.0	10,067.3	7,034.0	78.8	78.8	60.81	68.4	-3,036.6	445.0	306.7	138.27	3.218		
10,400.0	7,251.0	10,167.3	7,034.0	81.3	81.3	60.76	67.5	-3,136.6	444.2	301.8	142.47	3.118		
10,500.0	7,251.0	10,267.3	7,034.0	83.7	83.7	60.70	66.6	-3,236.6	443.5	296.8	146.66	3.024		
10,600.0	7,251.0	10,367.3	7,034.0	86.2	86.2	60.65	65.7	-3,336.6	442.7	291.9	150.85	2.935		
10,700.0	7,251.0	10,467.3	7,034.0	88.6	88.6	60.59	64.9	-3,436.6	442.0	286.9	155.04	2.851		
10,800.0	7,251.0	10,567.3	7,034.0	91.1	91.1	60.54	64.0	-3,536.6	441.2	282.0	159.23	2.771		
10,900.0	7,251.0	10,667.3	7,034.0	93.5	93.5	60.48	63.1	-3,636.6	440.4	277.0	163.42	2.695		
11,000.0	7,251.0	10,767.3	7,034.0	96.0	96.0	60.43	62.2	-3,736.6	439.7	272.1	167.60	2.623		
11,100.0	7,251.0	10,867.3	7,034.0	98.4	98.4	60.37	61.4	-3,836.6	438.9	267.1	171.78	2.555		
11,200.0	7,251.0	10,967.3	7,034.0	100.9	100.9	60.31	60.5	-3,936.6	438.2	262.2	175.95	2.490		
11,300.0	7,251.0	11,067.3	7,034.0	103.3	103.4	60.26	59.6	-4,036.6	437.4	257.3	180.12	2.428		
11,400.0	7,251.0	11,167.3	7,034.0	105.8	105.8	60.20	58.8	-4,136.6	436.6	252.4	184.29	2.369		
11,500.0	7,251.0	11,267.3	7,034.0	108.2	108.3	60.14	57.9	-4,236.6	435.9	247.4	188.45	2.313		
11,600.0	7,251.0	11,367.3	7,034.0	110.7	110.7	60.09	57.0	-4,336.5	435.1	242.5	192.61	2.259		
11,700.0	7,251.0	11,467.3	7,034.0	113.1	113.2	60.03	56.1	-4,436.5	434.4	237.6	196.77	2.208		
11,800.0	7,251.0	11,567.3	7,034.0	115.6	115.6	59.97	55.3	-4,536.5	433.6	232.7	200.92	2.158		
11,825.3	7,251.0	11,589.3	7,034.0	116.2	116.2	59.96	55.1	-4,558.6	433.4	231.5	201.90	2.147		
11,828.2	7,251.0	11,589.3	7,034.0	116.3	116.2	59.96	55.1	-4,558.6	433.5	231.5	201.96	2.146 SF		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1E-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-10.9	0.0	10.9					
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-10.9	0.0	10.9	10.6	0.30	35.986		
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-10.9	0.0	10.9	10.3	0.65	16.742		
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-10.9	0.0	10.9	9.9	1.00	10.909		
400.0	400.0	400.0	400.0	0.7	0.7	180.00	-10.9	0.0	10.9	9.6	1.35	8.090 CC, ES		
500.0	500.0	499.8	499.8	0.8	0.9	178.44	-11.7	0.3	11.7	10.0	1.70	6.907		
600.0	600.0	599.6	599.5	1.0	1.0	174.85	-14.2	1.3	14.2	12.2	2.05	6.935		
700.0	700.0	699.2	699.1	1.2	1.2	171.03	-18.2	2.9	18.4	16.0	2.41	7.665		
800.0	800.0	798.6	798.3	1.4	1.4	167.92	-23.8	5.1	24.4	21.7	2.77	8.830		
900.0	900.0	897.9	897.2	1.5	1.6	165.64	-31.0	7.9	32.2	29.0	3.13	10.272		
1,000.0	1,000.0	996.8	995.7	1.7	1.8	164.00	-39.8	11.4	41.6	38.1	3.50	11.888		
1,100.0	1,100.0	1,095.8	1,094.2	1.9	2.1	162.84	-49.9	15.4	52.6	48.7	3.88	13.554		
1,200.0	1,200.0	1,195.2	1,192.9	2.1	2.3	162.07	-60.2	19.5	63.7	59.4	4.26	14.955		
1,300.0	1,300.0	1,294.6	1,291.7	2.2	2.5	161.53	-70.5	23.6	74.8	70.2	4.64	16.122		
1,400.0	1,400.0	1,394.0	1,390.4	2.4	2.8	161.13	-80.8	27.6	86.0	81.0	5.03	17.108		
1,500.0	1,500.0	1,493.3	1,489.2	2.6	3.0	160.82	-91.2	31.7	97.1	91.7	5.41	17.951		
1,600.0	1,600.0	1,592.7	1,587.9	2.8	3.3	160.57	-101.5	35.8	108.3	102.5	5.80	18.679		
1,700.0	1,700.0	1,692.1	1,686.7	2.9	3.5	160.37	-111.8	39.9	119.4	113.2	6.18	19.315		
1,800.0	1,800.0	1,791.5	1,785.4	3.1	3.8	160.21	-122.1	43.9	130.6	124.0	6.57	19.875		
1,900.0	1,900.0	1,890.8	1,884.2	3.3	4.0	160.07	-132.4	48.0	141.7	134.7	6.96	20.371		
2,000.0	2,000.0	1,990.2	1,983.0	3.5	4.3	159.95	-142.7	52.1	152.9	145.5	7.34	20.814		
2,100.0	2,100.0	2,089.6	2,081.7	3.6	4.6	159.84	-153.0	56.2	164.0	156.3	7.73	21.211		
2,200.0	2,200.0	2,189.0	2,180.5	3.8	4.8	159.75	-163.3	60.2	175.1	167.0	8.12	21.570		
2,300.0	2,300.0	2,288.3	2,279.2	4.0	5.1	159.68	-173.6	64.3	186.3	177.8	8.51	21.896		
2,400.0	2,400.0	2,387.7	2,378.0	4.2	5.3	159.61	-183.9	68.4	197.4	188.6	8.90	22.192		
2,500.0	2,500.0	2,487.1	2,476.7	4.3	5.6	159.54	-194.2	72.5	208.6	199.3	9.29	22.463		
2,600.0	2,600.0	2,586.5	2,575.5	4.5	5.8	159.49	-204.5	76.5	219.7	210.1	9.68	22.713		
2,700.0	2,700.0	2,685.9	2,674.3	4.7	6.1	159.44	-214.8	80.6	230.9	220.8	10.06	22.942		
2,800.0	2,800.0	2,785.2	2,773.0	4.9	6.4	159.39	-225.1	84.7	242.1	231.6	10.45	23.155		
2,900.0	2,900.0	2,884.6	2,871.8	5.0	6.6	159.35	-235.5	88.7	253.2	242.4	10.84	23.351		
3,000.0	3,000.0	2,984.0	2,970.5	5.2	6.9	159.31	-245.8	92.8	264.4	253.1	11.23	23.534		
3,100.0	3,100.0	3,083.4	3,069.3	5.4	7.1	159.27	-256.1	96.9	275.5	263.9	11.62	23.705		
3,200.0	3,200.0	3,182.7	3,168.0	5.6	7.4	159.24	-266.4	101.0	286.7	274.6	12.01	23.864		
3,300.0	3,300.0	3,282.1	3,266.8	5.7	7.6	159.21	-276.7	105.0	297.8	285.4	12.40	24.013		
3,400.0	3,400.0	3,381.5	3,365.5	5.9	7.9	159.18	-287.0	109.1	309.0	296.2	12.79	24.153		
3,500.0	3,500.0	3,480.9	3,464.3	6.1	8.2	159.16	-297.3	113.2	320.1	306.9	13.18	24.285		
3,600.0	3,600.0	3,580.3	3,563.1	6.3	8.4	21.13	-307.6	117.3	330.5	318.0	12.48	26.475		
3,700.0	3,700.0	3,679.9	3,662.1	6.4	8.7	21.23	-317.9	121.4	339.2	326.3	12.83	26.430		
3,800.0	3,799.9	3,779.7	3,761.3	6.6	8.9	21.44	-328.3	125.4	346.3	333.1	13.18	26.267		
3,900.0	3,899.7	3,879.5	3,860.5	6.8	9.2	21.75	-338.6	129.5	351.8	338.2	13.53	25.996		
4,000.0	3,999.4	3,979.4	3,959.7	7.0	9.5	22.16	-349.0	133.6	355.7	341.8	13.88	25.624		
4,100.0	4,098.9	4,079.3	4,059.0	7.2	9.7	22.68	-359.4	137.7	358.0	343.7	14.23	25.159		
4,200.0	4,198.3	4,179.2	4,158.3	7.4	10.0	23.30	-369.7	141.8	358.7	344.1	14.58	24.607		
4,224.4	4,222.4	4,203.6	4,182.5	7.4	10.0	23.47	-372.3	142.8	358.6	344.0	14.66	24.459		
4,300.0	4,297.5	4,279.1	4,257.6	7.6	10.2	24.01	-380.1	145.9	358.3	343.4	14.93	23.992		
4,400.0	4,396.7	4,379.0	4,356.9	7.8	10.5	24.71	-390.5	150.0	357.9	342.6	15.30	23.399		
4,500.0	4,495.9	4,478.9	4,456.1	8.0	10.8	25.43	-400.8	154.1	357.6	342.0	15.66	22.832		
4,600.0	4,595.1	4,578.8	4,555.4	8.2	11.0	26.14	-411.2	158.2	357.4	341.3	16.03	22.291		
4,700.0	4,694.3	4,678.7	4,654.7	8.4	11.3	26.85	-421.5	162.3	357.2	340.8	16.41	21.773		
4,800.0	4,793.5	4,778.6	4,754.0	8.6	11.5	27.56	-431.9	166.4	357.0	340.3	16.78	21.276		
4,900.0	4,892.7	4,878.5	4,853.3	8.9	11.8	28.28	-442.3	170.5	356.9	339.8	17.16	20.801		
5,000.0	4,991.9	4,978.4	4,952.5	9.1	12.1	28.99	-452.6	174.6	356.9	339.4	17.54	20.344		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1E-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,009.9	5,001.7	4,988.4	4,962.4	9.1	12.1	29.06	-453.6	175.0	356.9	339.3	17.58	20.300		
5,100.0	5,091.1	5,078.3	5,051.8	9.3	12.3	29.70	-463.0	178.7	356.9	339.0	17.93	19.906		
5,200.0	5,190.3	5,178.2	5,151.1	9.6	12.6	30.42	-473.3	182.8	357.0	338.7	18.32	19.486		
5,300.0	5,289.5	5,278.1	5,250.4	9.8	12.8	31.13	-483.7	186.9	357.1	338.4	18.72	19.081		
5,400.0	5,388.7	5,378.0	5,349.6	10.0	13.1	31.84	-494.1	191.0	357.3	338.2	19.12	18.692		
5,500.0	5,487.9	5,477.9	5,448.9	10.3	13.4	32.55	-504.4	195.1	357.6	338.1	19.52	18.317		
5,600.0	5,587.1	5,577.8	5,548.2	10.5	13.6	33.26	-514.8	199.2	357.9	338.0	19.93	17.957		
5,700.0	5,686.3	5,677.7	5,647.5	10.8	13.9	33.97	-525.1	203.3	358.2	337.9	20.34	17.609		
5,800.0	5,785.5	5,777.6	5,746.8	11.0	14.1	34.68	-535.5	207.4	358.6	337.9	20.76	17.274		
5,900.0	5,884.7	5,877.5	5,846.0	11.3	14.4	35.39	-545.9	211.4	359.1	337.9	21.18	16.952		
6,000.0	5,983.9	5,977.4	5,945.3	11.5	14.7	36.09	-556.2	215.5	359.6	338.0	21.61	16.640		
6,100.0	6,083.1	6,077.3	6,044.6	11.8	14.9	36.79	-566.6	219.6	360.2	338.2	22.04	16.340		
6,200.0	6,182.3	6,177.2	6,143.9	12.0	15.2	37.49	-577.0	223.7	360.8	338.3	22.48	16.050		
6,300.0	6,281.5	6,277.1	6,243.1	12.3	15.5	38.19	-587.3	227.8	361.5	338.6	22.92	15.770		
6,400.0	6,380.7	6,377.0	6,342.4	12.5	15.7	38.88	-597.7	231.9	362.2	338.9	23.37	15.500		
6,500.0	6,479.9	6,477.0	6,441.7	12.8	16.0	39.58	-608.0	236.0	363.0	339.2	23.82	15.239		
6,600.0	6,579.1	6,577.4	6,541.4	13.0	16.2	41.67	-618.4	231.2	363.7	339.4	24.33	14.951		
6,653.8	6,632.5	6,628.7	6,591.6	13.2	16.3	43.79	-623.7	222.0	364.5	339.9	24.65	14.787		
6,700.0	6,678.4	6,671.2	6,632.4	13.3	16.3	6.46	-627.9	210.9	365.8	340.9	24.92	14.679		
6,750.0	6,728.1	6,716.2	6,674.6	13.4	16.3	-35.01	-632.3	196.0	367.7	342.5	25.15	14.621		
6,800.0	6,777.5	6,760.3	6,714.7	13.4	16.4	-52.33	-636.5	178.1	370.1	344.8	25.31	14.622		
6,850.0	6,826.1	6,803.6	6,752.6	13.5	16.4	-59.01	-640.5	157.7	372.9	347.5	25.40	14.682		
6,900.0	6,873.6	6,846.1	6,788.2	13.5	16.5	-61.75	-644.2	134.8	376.1	350.7	25.42	14.797		
6,950.0	6,919.7	6,887.9	6,821.5	13.5	16.5	-62.78	-647.7	109.8	379.5	354.1	25.37	14.961		
7,000.0	6,963.9	6,929.2	6,852.5	13.5	16.5	-62.97	-650.9	82.8	383.1	357.8	25.26	15.168		
7,050.0	7,006.0	6,969.9	6,881.1	13.5	16.6	-62.72	-653.9	54.0	386.7	361.6	25.10	15.408		
7,100.0	7,045.6	7,010.1	6,907.4	13.6	16.7	-62.24	-656.6	23.6	390.4	365.4	24.96	15.637		
7,150.0	7,082.4	7,050.0	6,931.2	13.6	16.8	-61.65	-659.1	-8.3	393.9	369.1	24.80	15.882		
7,200.0	7,116.2	7,089.3	6,952.5	13.7	16.9	-61.04	-661.4	-41.2	397.2	372.5	24.72	16.072		
7,250.0	7,146.6	7,128.5	6,971.4	13.8	17.0	-60.43	-663.3	-75.4	400.4	375.6	24.72	16.198		
7,300.0	7,173.5	7,167.3	6,987.8	14.0	17.2	-59.87	-665.0	-110.6	403.2	378.3	24.85	16.228		
7,350.0	7,196.6	7,205.9	7,001.8	14.3	17.4	-59.37	-666.5	-146.6	405.7	380.5	25.14	16.137		
7,400.0	7,215.9	7,250.0	7,014.7	14.7	17.7	-58.89	-667.8	-188.7	407.8	382.1	25.67	15.886		
7,450.0	7,231.0	7,282.7	7,022.2	15.2	18.0	-58.61	-668.6	-220.5	409.4	383.1	26.36	15.534		
7,500.0	7,242.0	7,320.9	7,028.6	15.8	18.3	-58.37	-669.3	-258.1	410.6	383.3	27.29	15.044		
7,550.0	7,248.6	7,359.0	7,032.6	16.5	18.7	-58.22	-669.7	-296.0	411.3	382.9	28.45	14.460		
7,602.2	7,251.0	7,399.5	7,034.0	17.2	19.2	-58.18	-669.9	-336.5	411.6	381.7	29.87	13.777		
7,630.1	7,251.0	7,426.4	7,034.0	17.7	19.5	-58.18	-669.9	-363.4	411.6	380.9	30.66	13.423		
7,700.0	7,251.0	7,496.3	7,034.0	18.9	20.5	-58.18	-669.9	-433.3	411.6	378.9	32.67	12.596		
7,800.0	7,251.0	7,596.3	7,034.0	20.7	22.1	-58.18	-669.9	-533.3	411.6	375.8	35.81	11.493		
7,900.0	7,251.0	7,696.3	7,034.0	22.6	23.9	-58.18	-669.9	-633.3	411.6	372.4	39.15	10.513		
8,000.0	7,251.0	7,796.3	7,034.0	24.7	25.8	-58.18	-669.9	-733.3	411.6	368.9	42.64	9.652		
8,100.0	7,251.0	7,896.3	7,034.0	26.8	27.8	-58.18	-669.9	-833.3	411.6	365.3	46.26	8.898		
8,200.0	7,251.0	7,996.3	7,034.0	29.0	29.9	-58.18	-669.9	-933.3	411.6	361.6	49.96	8.238		
8,300.0	7,251.0	8,096.3	7,034.0	31.2	32.1	-58.18	-669.9	-1,033.3	411.6	357.8	53.74	7.658		
8,400.0	7,251.0	8,196.3	7,034.0	33.5	34.3	-58.18	-669.9	-1,133.3	411.6	354.0	57.58	7.147		
8,500.0	7,251.0	8,296.3	7,034.0	35.7	36.5	-58.18	-669.9	-1,233.3	411.6	350.1	61.47	6.695		
8,600.0	7,251.0	8,396.3	7,034.0	38.1	38.8	-58.18	-669.9	-1,333.3	411.6	346.2	65.40	6.293		
8,700.0	7,251.0	8,496.3	7,034.0	40.4	41.1	-58.18	-669.9	-1,433.3	411.6	342.2	69.36	5.934		
8,800.0	7,251.0	8,596.3	7,034.0	42.7	43.4	-58.18	-669.9	-1,533.3	411.6	338.2	73.35	5.611		
8,900.0	7,251.0	8,696.3	7,034.0	45.1	45.7	-58.18	-669.9	-1,633.3	411.6	334.2	77.36	5.320		
9,000.0	7,251.0	8,796.3	7,034.0	47.5	48.0	-58.18	-669.9	-1,733.3	411.6	330.2	81.40	5.056		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1E-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
9,100.0	7,251.0	8,896.3	7,034.0	49.8	50.4	-58.18	-669.9	-1,833.3	411.6	326.1	85.45	4.817		
9,200.0	7,251.0	8,996.3	7,034.0	52.2	52.8	-58.18	-669.9	-1,933.3	411.6	322.1	89.51	4.598		
9,300.0	7,251.0	9,096.3	7,034.0	54.6	55.1	-58.18	-669.9	-2,033.3	411.6	318.0	93.59	4.398		
9,400.0	7,251.0	9,196.3	7,034.0	57.0	57.5	-58.18	-669.9	-2,133.3	411.6	313.9	97.68	4.214		
9,500.0	7,251.0	9,296.3	7,034.0	59.4	59.9	-58.18	-669.9	-2,233.3	411.6	309.8	101.78	4.044		
9,600.0	7,251.0	9,396.3	7,034.0	61.8	62.3	-58.18	-669.9	-2,333.3	411.6	305.7	105.88	3.887		
9,700.0	7,251.0	9,496.3	7,034.0	64.3	64.7	-58.18	-669.9	-2,433.3	411.6	301.6	110.00	3.742		
9,800.0	7,251.0	9,596.3	7,034.0	66.7	67.1	-58.18	-669.9	-2,533.3	411.6	297.4	114.12	3.606		
9,900.0	7,251.0	9,696.3	7,034.0	69.1	69.5	-58.18	-669.9	-2,633.3	411.6	293.3	118.25	3.481		
10,000.0	7,251.0	9,796.3	7,034.0	71.5	72.0	-58.18	-669.9	-2,733.3	411.6	289.2	122.38	3.363		
10,100.0	7,251.0	9,896.3	7,034.0	74.0	74.4	-58.18	-669.9	-2,833.3	411.6	285.0	126.52	3.253		
10,200.0	7,251.0	9,996.3	7,034.0	76.4	76.8	-58.18	-669.9	-2,933.3	411.6	280.9	130.67	3.150		
10,300.0	7,251.0	10,096.3	7,034.0	78.8	79.2	-58.18	-669.9	-3,033.3	411.6	276.8	134.81	3.053		
10,400.0	7,251.0	10,196.3	7,034.0	81.3	81.7	-58.18	-669.9	-3,133.3	411.6	272.6	138.97	2.962		
10,500.0	7,251.0	10,296.3	7,034.0	83.7	84.1	-58.18	-669.9	-3,233.3	411.6	268.5	143.12	2.876		
10,600.0	7,251.0	10,396.3	7,034.0	86.2	86.5	-58.18	-669.9	-3,333.3	411.6	264.3	147.28	2.795		
10,700.0	7,251.0	10,496.3	7,034.0	88.6	89.0	-58.18	-669.9	-3,433.3	411.6	260.1	151.44	2.718		
10,800.0	7,251.0	10,596.3	7,034.0	91.1	91.4	-58.18	-669.9	-3,533.3	411.6	256.0	155.60	2.645		
10,900.0	7,251.0	10,696.3	7,034.0	93.5	93.9	-58.18	-669.9	-3,633.3	411.6	251.8	159.77	2.576		
11,000.0	7,251.0	10,796.3	7,034.0	96.0	96.3	-58.18	-669.9	-3,733.3	411.6	247.6	163.94	2.511		
11,100.0	7,251.0	10,896.3	7,034.0	98.4	98.7	-58.18	-669.9	-3,833.3	411.6	243.5	168.11	2.448		
11,200.0	7,251.0	10,996.3	7,034.0	100.9	101.2	-58.18	-669.9	-3,933.3	411.6	239.3	172.28	2.389		
11,300.0	7,251.0	11,096.3	7,034.0	103.3	103.6	-58.18	-669.9	-4,033.3	411.6	235.1	176.45	2.332		
11,400.0	7,251.0	11,196.3	7,034.0	105.8	106.1	-58.18	-669.9	-4,133.3	411.6	230.9	180.63	2.279		
11,500.0	7,251.0	11,296.3	7,034.0	108.2	108.5	-58.18	-669.9	-4,233.3	411.6	226.8	184.81	2.227		
11,600.0	7,251.0	11,396.3	7,034.0	110.7	111.0	-58.18	-669.9	-4,333.3	411.6	222.6	188.98	2.178		
11,700.0	7,251.0	11,496.3	7,034.0	113.1	113.4	-58.18	-669.9	-4,433.3	411.6	218.4	193.16	2.131		
11,800.0	7,251.0	11,596.3	7,034.0	115.6	115.9	-58.18	-669.9	-4,533.3	411.6	214.2	197.35	2.086		
11,828.2	7,251.0	11,624.4	7,034.0	116.3	116.6	-58.18	-669.9	-4,561.4	411.6	213.0	198.52	2.073 SF		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - Frederiksen 1F-28H-A368 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-18.2	0.0	18.2					
100.0	100.0	99.0	99.0	0.2	0.2	-180.00	-18.2	0.0	18.2	17.9	0.30	60.278		
200.0	200.0	199.0	199.0	0.3	0.3	-180.00	-18.2	0.0	18.2	17.6	0.65	27.978 CC, ES		
300.0	300.0	298.7	298.7	0.5	0.5	179.37	-19.0	0.2	19.0	18.0	1.00	19.039		
400.0	400.0	398.3	398.3	0.7	0.7	177.76	-21.5	0.8	21.6	20.2	1.35	15.955		
500.0	500.0	497.8	497.7	0.8	0.9	175.78	-25.7	1.9	25.8	24.1	1.71	15.116 SF		
600.0	600.0	597.1	596.8	1.0	1.1	173.89	-31.6	3.4	31.8	29.7	2.07	15.367		
700.0	700.0	696.2	695.6	1.2	1.3	172.31	-39.0	5.3	39.5	37.1	2.44	16.213		
800.0	800.0	795.0	793.9	1.4	1.5	171.05	-48.1	7.6	49.0	46.2	2.81	17.406		
900.0	900.0	893.4	891.8	1.5	1.8	170.08	-58.8	10.3	60.2	57.0	3.20	18.807		
1,000.0	1,000.0	991.5	989.0	1.7	2.0	169.33	-71.1	13.4	73.1	69.5	3.59	20.329		
1,100.0	1,100.0	1,089.0	1,085.5	1.9	2.3	168.75	-84.9	16.9	87.7	83.7	4.00	21.924		
1,200.0	1,200.0	1,187.8	1,183.1	2.1	2.6	168.31	-99.7	20.6	103.1	98.7	4.41	23.383		
1,300.0	1,300.0	1,286.6	1,280.7	2.2	2.9	167.98	-114.5	24.4	118.5	113.7	4.82	24.584		
1,400.0	1,400.0	1,385.4	1,378.3	2.4	3.2	167.73	-129.3	28.1	134.0	128.7	5.24	25.587		
1,500.0	1,500.0	1,484.2	1,475.9	2.6	3.5	167.53	-144.1	31.9	149.4	143.8	5.65	26.438		
1,600.0	1,600.0	1,583.0	1,573.5	2.8	3.8	167.36	-158.9	35.6	164.9	158.8	6.07	27.168		
1,700.0	1,700.0	1,681.8	1,671.2	2.9	4.1	167.23	-173.7	39.4	180.3	173.8	6.49	27.801		
1,800.0	1,800.0	1,780.6	1,768.8	3.1	4.4	167.12	-188.5	43.1	195.7	188.8	6.90	28.355		
1,900.0	1,900.0	1,879.4	1,866.4	3.3	4.8	167.02	-203.3	46.9	211.2	203.9	7.32	28.844		
2,000.0	2,000.0	1,978.2	1,964.0	3.5	5.1	166.93	-218.1	50.6	226.6	218.9	7.74	29.278		
2,100.0	2,100.0	2,077.0	2,061.6	3.6	5.4	166.86	-232.9	54.4	242.1	233.9	8.16	29.667		
2,200.0	2,200.0	2,175.8	2,159.2	3.8	5.7	166.80	-247.7	58.1	257.5	248.9	8.58	30.016		
2,300.0	2,300.0	2,274.6	2,256.8	4.0	6.0	166.74	-262.5	61.9	273.0	264.0	9.00	30.332		
2,400.0	2,400.0	2,373.4	2,354.4	4.2	6.3	166.69	-277.3	65.6	288.4	279.0	9.42	30.620		
2,500.0	2,500.0	2,472.2	2,452.1	4.3	6.6	166.64	-292.1	69.4	303.9	294.0	9.84	30.882		
2,600.0	2,600.0	2,571.0	2,549.7	4.5	7.0	166.60	-306.9	73.1	319.3	309.1	10.26	31.122		
2,700.0	2,700.0	2,669.8	2,647.3	4.7	7.3	166.57	-321.7	76.8	334.8	324.1	10.68	31.342		
2,800.0	2,800.0	2,768.6	2,744.9	4.9	7.6	166.53	-336.5	80.6	350.2	339.1	11.10	31.546		
2,900.0	2,900.0	2,867.4	2,842.5	5.0	7.9	166.50	-351.3	84.3	365.7	354.1	11.52	31.735		
3,000.0	3,000.0	2,966.2	2,940.1	5.2	8.2	166.47	-366.1	88.1	381.1	369.2	11.94	31.910		
3,100.0	3,100.0	3,065.0	3,037.7	5.4	8.5	166.44	-380.9	91.8	396.6	384.2	12.36	32.072		
3,200.0	3,200.0	3,163.8	3,135.3	5.6	8.8	166.42	-395.7	95.6	412.0	399.2	12.79	32.224		
3,300.0	3,300.0	3,262.6	3,233.0	5.7	9.2	166.40	-410.5	99.3	427.5	414.3	13.21	32.366		
3,400.0	3,400.0	3,361.4	3,330.6	5.9	9.5	166.38	-425.3	103.1	442.9	429.3	13.63	32.499		
3,500.0	3,500.0	3,460.2	3,428.2	6.1	9.8	166.36	-440.1	106.8	458.4	444.3	14.05	32.624		
3,600.0	3,600.0	3,559.1	3,525.9	6.3	10.1	28.30	-454.9	110.6	473.0	460.6	12.44	38.036		
3,700.0	3,700.0	3,658.3	3,623.8	6.4	10.4	28.37	-469.7	114.3	486.2	473.4	12.79	38.017		
3,800.0	3,799.9	3,757.6	3,722.0	6.6	10.8	28.53	-484.6	118.1	497.9	484.7	13.14	37.885		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design													S28-T3N-R68W (Frederiksen) - FREDERIKSEN 31-28 (Existing) - DD - GYRO		Offset Site Error:		0.0 ft
Survey Program: 200-Gyro													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor					
8,900.0	7,251.0	7,429.9	7,221.1	45.1	14.3	88.46	10.0	-1,928.4	442.9	385.7	57.17	7.746					
9,000.0	7,251.0	7,432.7	7,223.9	47.5	14.3	88.95	10.0	-1,928.4	383.6	324.0	59.57	6.439					
9,100.0	7,251.0	7,435.7	7,226.9	49.8	14.3	89.46	10.0	-1,928.5	343.6	281.7	61.97	5.545					
9,195.4	7,251.0	7,438.6	7,229.8	52.1	14.3	89.96	10.0	-1,928.6	330.1	265.9	64.26	5.138 CC					
9,200.0	7,251.0	7,438.7	7,229.9	52.2	14.3	89.98	10.0	-1,928.6	330.2	265.8	64.37	5.129 ES, SF					
9,300.0	7,251.0	7,441.8	7,233.0	54.6	14.3	90.53	10.0	-1,928.7	346.3	279.5	66.78	5.186					
9,400.0	7,251.0	7,445.1	7,236.3	57.0	14.3	91.09	10.0	-1,928.8	388.4	319.2	69.19	5.613					
9,500.0	7,251.0	7,448.5	7,239.7	59.4	14.3	91.67	10.0	-1,928.9	449.1	377.5	71.59	6.273					

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1D-28H-A368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5005.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 5005.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Offset Design S28-T3N-R68W (Frederiksen) - FREDERIKSEN 41-28 (Existing) - DD - GYRO													Offset Site Error:	0.0 ft
Survey Program: 200-Gyro													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
3,900.0	3,899.7	4,063.6	3,982.8	6.8	6.8	108.15	-213.4	-434.0	498.7	486.8	11.91	41.881		
4,000.0	3,999.4	4,169.9	4,085.2	7.0	7.1	111.40	-188.3	-420.7	480.1	467.6	12.45	38.547		
4,100.0	4,098.9	4,273.3	4,184.1	7.2	7.3	115.12	-162.2	-405.4	460.8	447.8	13.04	35.326		
4,200.0	4,198.3	4,366.1	4,272.6	7.4	7.6	118.91	-138.2	-391.0	443.3	429.6	13.63	32.524		
4,224.4	4,222.4	4,388.2	4,293.7	7.4	7.6	119.87	-132.6	-387.7	439.5	425.8	13.77	31.913		
4,300.0	4,297.5	4,465.4	4,367.5	7.6	7.8	123.17	-113.3	-375.5	428.5	414.3	14.26	30.051		
4,400.0	4,396.7	4,558.2	4,455.9	7.8	8.1	127.32	-90.0	-359.7	414.9	400.0	14.88	27.885		
4,500.0	4,495.9	4,645.1	4,538.8	8.0	8.3	131.53	-67.4	-346.2	405.2	389.7	15.49	26.158		
4,600.0	4,595.1	4,730.9	4,620.4	8.2	8.6	136.01	-43.8	-334.3	400.1	384.0	16.10	24.853		
4,647.6	4,642.3	4,771.3	4,658.8	8.3	8.7	138.14	-32.5	-329.3	399.5	383.1	16.38	24.393 CC, ES		
4,700.0	4,694.3	4,818.0	4,703.4	8.4	8.8	140.59	-19.7	-323.9	400.2	383.5	16.69	23.983		
4,800.0	4,793.5	4,915.2	4,796.0	8.6	9.1	145.71	7.5	-312.4	403.7	386.4	17.28	23.359		
4,900.0	4,892.7	5,016.9	4,892.6	8.9	9.4	151.02	36.0	-298.4	408.9	391.0	17.84	22.918		
5,000.0	4,991.9	5,114.3	4,985.6	9.1	9.6	155.76	61.2	-284.0	415.7	397.4	18.31	22.703 SF		
5,100.0	5,091.1	5,203.0	5,070.8	9.3	9.8	159.65	82.5	-272.0	425.6	406.9	18.70	22.757		
5,200.0	5,190.3	5,295.4	5,160.1	9.6	10.1	163.33	103.8	-260.9	438.5	419.5	19.06	23.011		
5,300.0	5,289.5	5,386.4	5,248.2	9.8	10.3	166.62	124.1	-251.0	454.0	434.6	19.38	23.426		
5,400.0	5,388.7	5,482.2	5,341.4	10.0	10.5	169.67	144.5	-242.0	471.4	451.7	19.67	23.966		
5,500.0	5,487.9	5,581.4	5,438.5	10.3	10.6	172.23	163.0	-234.2	489.5	469.6	19.93	24.558		

Anticollision Report

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Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1D-28H-A368	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5005.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Frederiksen 1D-28H-A368
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.32°

