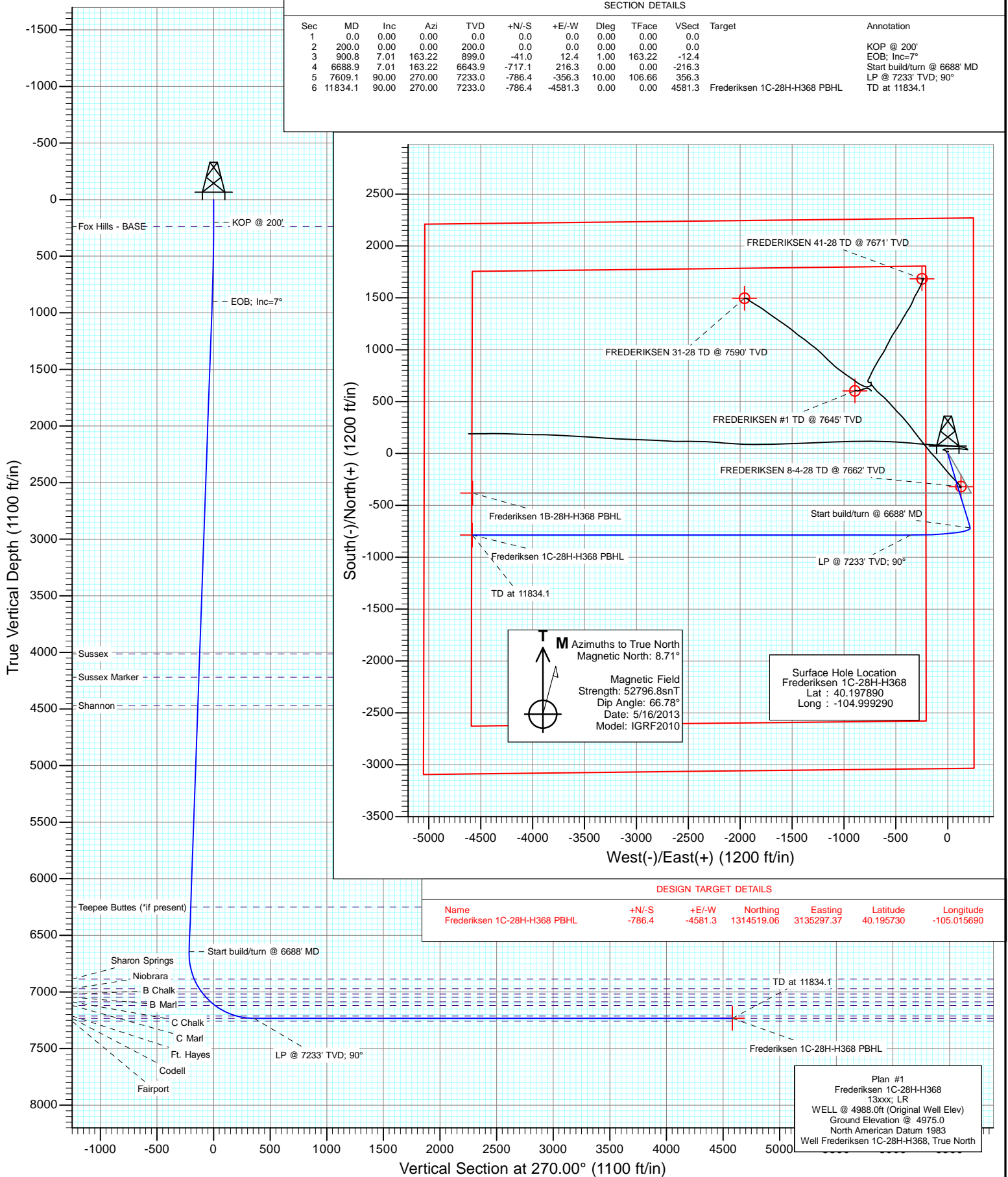




Project: DJ Wattenberg
Site: S28-T3N-R68W (Frederiksen)
Well: Frederiksen 1C-28H-H368
Wellbore: Hz
Design: Plan #1



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1C-28H-H368	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		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 1C-28H-H368					
Well Position	+N/-S	0.0 ft	Northing:	1,315,331.33 ft	Latitude:	40.197890
	+E/-W	0.0 ft	Easting:	3,139,874.20 ft	Longitude:	-104.999290
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,975.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/16/2013	8.71	66.78	52,797

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
900.8	7.01	163.22	899.0	-41.0	12.4	1.00	1.00	0.00	163.22	
6,688.9	7.01	163.22	6,643.9	-717.1	216.3	0.00	0.00	0.00	0.00	
7,609.1	90.00	270.00	7,233.0	-786.4	-356.3	10.00	9.02	11.60	106.66	
11,834.1	90.00	270.00	7,233.0	-786.4	-4,581.3	0.00	0.00	0.00	0.00	Frederiksen 1C-28H-H

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1C-28H-H368	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	KOP @ 200'
238.0	0.38	163.22	238.0	-0.1	0.0	0.0	1.00	1.00	Fox Hills - BASE
300.0	1.00	163.22	300.0	-0.8	0.3	-0.3	1.00	1.00	
400.0	2.00	163.22	400.0	-3.3	1.0	-1.0	1.00	1.00	
500.0	3.00	163.22	499.9	-7.5	2.3	-2.3	1.00	1.00	
600.0	4.00	163.22	599.7	-13.4	4.0	-4.0	1.00	1.00	
700.0	5.00	163.22	699.4	-20.9	6.3	-6.3	1.00	1.00	
800.0	6.00	163.22	798.9	-30.1	9.1	-9.1	1.00	1.00	
900.0	7.00	163.22	898.3	-40.9	12.3	-12.3	1.00	1.00	
900.8	7.01	163.22	899.0	-41.0	12.4	-12.4	1.00	1.00	EOB; Inc=7°
1,000.0	7.01	163.22	997.5	-52.6	15.9	-15.9	0.00	0.00	
1,100.0	7.01	163.22	1,096.8	-64.3	19.4	-19.4	0.00	0.00	
1,200.0	7.01	163.22	1,196.0	-75.9	22.9	-22.9	0.00	0.00	
1,300.0	7.01	163.22	1,295.3	-87.6	26.4	-26.4	0.00	0.00	
1,400.0	7.01	163.22	1,394.5	-99.3	29.9	-29.9	0.00	0.00	
1,500.0	7.01	163.22	1,493.8	-111.0	33.5	-33.5	0.00	0.00	
1,600.0	7.01	163.22	1,593.0	-122.7	37.0	-37.0	0.00	0.00	
1,700.0	7.01	163.22	1,692.3	-134.3	40.5	-40.5	0.00	0.00	
1,800.0	7.01	163.22	1,791.5	-146.0	44.0	-44.0	0.00	0.00	
1,900.0	7.01	163.22	1,890.8	-157.7	47.6	-47.6	0.00	0.00	
2,000.0	7.01	163.22	1,990.0	-169.4	51.1	-51.1	0.00	0.00	
2,100.0	7.01	163.22	2,089.3	-181.1	54.6	-54.6	0.00	0.00	
2,200.0	7.01	163.22	2,188.5	-192.7	58.1	-58.1	0.00	0.00	
2,300.0	7.01	163.22	2,287.8	-204.4	61.6	-61.6	0.00	0.00	
2,400.0	7.01	163.22	2,387.1	-216.1	65.2	-65.2	0.00	0.00	
2,500.0	7.01	163.22	2,486.3	-227.8	68.7	-68.7	0.00	0.00	
2,600.0	7.01	163.22	2,585.6	-239.5	72.2	-72.2	0.00	0.00	
2,700.0	7.01	163.22	2,684.8	-251.1	75.7	-75.7	0.00	0.00	
2,800.0	7.01	163.22	2,784.1	-262.8	79.3	-79.3	0.00	0.00	
2,900.0	7.01	163.22	2,883.3	-274.5	82.8	-82.8	0.00	0.00	
3,000.0	7.01	163.22	2,982.6	-286.2	86.3	-86.3	0.00	0.00	
3,100.0	7.01	163.22	3,081.8	-297.9	89.8	-89.8	0.00	0.00	
3,200.0	7.01	163.22	3,181.1	-309.6	93.4	-93.4	0.00	0.00	
3,300.0	7.01	163.22	3,280.3	-321.2	96.9	-96.9	0.00	0.00	
3,400.0	7.01	163.22	3,379.6	-332.9	100.4	-100.4	0.00	0.00	
3,500.0	7.01	163.22	3,478.8	-344.6	103.9	-103.9	0.00	0.00	
3,600.0	7.01	163.22	3,578.1	-356.3	107.4	-107.4	0.00	0.00	
3,700.0	7.01	163.22	3,677.3	-368.0	111.0	-111.0	0.00	0.00	
3,800.0	7.01	163.22	3,776.6	-379.6	114.5	-114.5	0.00	0.00	
3,900.0	7.01	163.22	3,875.8	-391.3	118.0	-118.0	0.00	0.00	
4,000.0	7.01	163.22	3,975.1	-403.0	121.5	-121.5	0.00	0.00	
4,039.2	7.01	163.22	4,014.0	-407.6	122.9	-122.9	0.00	0.00	Sussex
4,100.0	7.01	163.22	4,074.4	-414.7	125.1	-125.1	0.00	0.00	
4,200.0	7.01	163.22	4,173.6	-426.4	128.6	-128.6	0.00	0.00	
4,245.7	7.01	163.22	4,219.0	-431.7	130.2	-130.2	0.00	0.00	Sussex Marker
4,300.0	7.01	163.22	4,272.9	-438.0	132.1	-132.1	0.00	0.00	
4,400.0	7.01	163.22	4,372.1	-449.7	135.6	-135.6	0.00	0.00	
4,498.6	7.01	163.22	4,470.0	-461.2	139.1	-139.1	0.00	0.00	Shannon
4,500.0	7.01	163.22	4,471.4	-461.4	139.2	-139.2	0.00	0.00	
4,600.0	7.01	163.22	4,570.6	-473.1	142.7	-142.7	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1C-28H-H368	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
4,700.0	7.01	163.22	4,669.9	-484.8	146.2	-146.2	0.00	0.00	
4,800.0	7.01	163.22	4,769.1	-496.4	149.7	-149.7	0.00	0.00	
4,900.0	7.01	163.22	4,868.4	-508.1	153.2	-153.2	0.00	0.00	
5,000.0	7.01	163.22	4,967.6	-519.8	156.8	-156.8	0.00	0.00	
5,100.0	7.01	163.22	5,066.9	-531.5	160.3	-160.3	0.00	0.00	
5,200.0	7.01	163.22	5,166.1	-543.2	163.8	-163.8	0.00	0.00	
5,300.0	7.01	163.22	5,265.4	-554.9	167.3	-167.3	0.00	0.00	
5,400.0	7.01	163.22	5,364.6	-566.5	170.9	-170.9	0.00	0.00	
5,500.0	7.01	163.22	5,463.9	-578.2	174.4	-174.4	0.00	0.00	
5,600.0	7.01	163.22	5,563.1	-589.9	177.9	-177.9	0.00	0.00	
5,700.0	7.01	163.22	5,662.4	-601.6	181.4	-181.4	0.00	0.00	
5,800.0	7.01	163.22	5,761.7	-613.3	184.9	-184.9	0.00	0.00	
5,900.0	7.01	163.22	5,860.9	-624.9	188.5	-188.5	0.00	0.00	
6,000.0	7.01	163.22	5,960.2	-636.6	192.0	-192.0	0.00	0.00	
6,100.0	7.01	163.22	6,059.4	-648.3	195.5	-195.5	0.00	0.00	
6,200.0	7.01	163.22	6,158.7	-660.0	199.0	-199.0	0.00	0.00	
6,292.0	7.01	163.22	6,250.0	-670.7	202.3	-202.3	0.00	0.00	Teepee Buttes (*if present)
6,300.0	7.01	163.22	6,257.9	-671.7	202.6	-202.6	0.00	0.00	
6,400.0	7.01	163.22	6,357.2	-683.3	206.1	-206.1	0.00	0.00	
6,500.0	7.01	163.22	6,456.4	-695.0	209.6	-209.6	0.00	0.00	
6,600.0	7.01	163.22	6,555.7	-706.7	213.1	-213.1	0.00	0.00	
6,688.9	7.01	163.22	6,643.9	-717.1	216.3	-216.3	0.00	0.00	Start build/turn @ 6688' MD
6,700.0	6.77	172.26	6,654.9	-718.4	216.5	-216.5	10.00	-2.12	
6,800.0	11.28	233.85	6,753.9	-730.0	209.4	-209.4	10.00	4.51	
6,900.0	20.19	251.34	6,850.1	-741.4	185.1	-185.1	10.00	8.91	
6,938.8	23.88	254.58	6,886.0	-745.6	171.2	-171.2	10.00	9.50	Sharon Springs
7,000.0	29.79	258.14	6,940.6	-752.0	144.3	-144.3	10.00	9.65	
7,036.8	33.38	259.71	6,972.0	-755.7	125.4	-125.4	10.00	9.75	Niobrara
7,093.8	38.97	261.63	7,018.0	-761.1	92.2	-92.2	10.00	9.80	B Chalk
7,100.0	39.57	261.81	7,022.8	-761.7	88.4	-88.4	10.00	9.83	
7,132.2	42.74	262.68	7,047.0	-764.5	67.4	-67.4	10.00	9.84	B Marl
7,189.3	48.38	264.00	7,087.0	-769.2	26.9	-26.9	10.00	9.86	C Chalk
7,200.0	49.43	264.22	7,094.0	-770.1	18.9	-18.9	10.00	9.88	
7,240.1	53.39	264.98	7,119.0	-773.0	-12.3	12.3	10.00	9.89	C Marl
7,300.0	59.32	266.00	7,152.2	-776.9	-62.0	62.0	10.00	9.90	
7,400.0	69.24	267.44	7,195.5	-782.0	-151.9	151.9	10.00	9.92	
7,456.7	74.87	268.18	7,213.0	-784.1	-205.8	205.8	10.00	9.92	Ft. Hayes
7,500.0	79.17	268.71	7,222.7	-785.2	-247.9	247.9	10.00	9.93	
7,600.0	89.10	269.89	7,232.9	-786.4	-347.2	347.2	10.00	9.93	
7,609.0	89.99	270.00	7,233.0	-786.4	-356.3	356.3	10.00	9.93	Codell
7,609.1	90.00	270.00	7,233.0	-786.4	-356.3	356.3	10.00	9.93	LP @ 7233' TVD; 90°
7,700.0	90.00	270.00	7,233.0	-786.4	-447.2	447.2	0.00	0.00	
7,800.0	90.00	270.00	7,233.0	-786.4	-547.2	547.2	0.00	0.00	
7,900.0	90.00	270.00	7,233.0	-786.4	-647.2	647.2	0.00	0.00	
8,000.0	90.00	270.00	7,233.0	-786.4	-747.2	747.2	0.00	0.00	
8,100.0	90.00	270.00	7,233.0	-786.4	-847.2	847.2	0.00	0.00	
8,200.0	90.00	270.00	7,233.0	-786.4	-947.2	947.2	0.00	0.00	
8,300.0	90.00	270.00	7,233.0	-786.4	-1,047.2	1,047.2	0.00	0.00	
8,400.0	90.00	270.00	7,233.0	-786.4	-1,147.2	1,147.2	0.00	0.00	
8,500.0	90.00	270.00	7,233.0	-786.4	-1,247.2	1,247.2	0.00	0.00	
8,600.0	90.00	270.00	7,233.0	-786.4	-1,347.2	1,347.2	0.00	0.00	
8,700.0	90.00	270.00	7,233.0	-786.4	-1,447.2	1,447.2	0.00	0.00	

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1C-28H-H368	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
8,800.0	90.00	270.00	7,233.0	-786.4	-1,547.2	1,547.2	0.00	0.00	
8,900.0	90.00	270.00	7,233.0	-786.4	-1,647.2	1,647.2	0.00	0.00	
9,000.0	90.00	270.00	7,233.0	-786.4	-1,747.2	1,747.2	0.00	0.00	
9,100.0	90.00	270.00	7,233.0	-786.4	-1,847.2	1,847.2	0.00	0.00	
9,200.0	90.00	270.00	7,233.0	-786.4	-1,947.2	1,947.2	0.00	0.00	
9,300.0	90.00	270.00	7,233.0	-786.4	-2,047.2	2,047.2	0.00	0.00	
9,400.0	90.00	270.00	7,233.0	-786.4	-2,147.2	2,147.2	0.00	0.00	
9,500.0	90.00	270.00	7,233.0	-786.4	-2,247.2	2,247.2	0.00	0.00	
9,600.0	90.00	270.00	7,233.0	-786.4	-2,347.2	2,347.2	0.00	0.00	
9,700.0	90.00	270.00	7,233.0	-786.4	-2,447.2	2,447.2	0.00	0.00	
9,800.0	90.00	270.00	7,233.0	-786.4	-2,547.2	2,547.2	0.00	0.00	
9,900.0	90.00	270.00	7,233.0	-786.4	-2,647.2	2,647.2	0.00	0.00	
10,000.0	90.00	270.00	7,233.0	-786.4	-2,747.2	2,747.2	0.00	0.00	
10,100.0	90.00	270.00	7,233.0	-786.4	-2,847.2	2,847.2	0.00	0.00	
10,200.0	90.00	270.00	7,233.0	-786.4	-2,947.2	2,947.2	0.00	0.00	
10,300.0	90.00	270.00	7,233.0	-786.4	-3,047.2	3,047.2	0.00	0.00	
10,400.0	90.00	270.00	7,233.0	-786.4	-3,147.2	3,147.2	0.00	0.00	
10,500.0	90.00	270.00	7,233.0	-786.4	-3,247.2	3,247.2	0.00	0.00	
10,600.0	90.00	270.00	7,233.0	-786.4	-3,347.2	3,347.2	0.00	0.00	
10,700.0	90.00	270.00	7,233.0	-786.4	-3,447.2	3,447.2	0.00	0.00	
10,800.0	90.00	270.00	7,233.0	-786.4	-3,547.2	3,547.2	0.00	0.00	
10,900.0	90.00	270.00	7,233.0	-786.4	-3,647.2	3,647.2	0.00	0.00	
11,000.0	90.00	270.00	7,233.0	-786.4	-3,747.2	3,747.2	0.00	0.00	
11,100.0	90.00	270.00	7,233.0	-786.4	-3,847.2	3,847.2	0.00	0.00	
11,200.0	90.00	270.00	7,233.0	-786.4	-3,947.2	3,947.2	0.00	0.00	
11,300.0	90.00	270.00	7,233.0	-786.4	-4,047.2	4,047.2	0.00	0.00	
11,400.0	90.00	270.00	7,233.0	-786.4	-4,147.2	4,147.2	0.00	0.00	
11,500.0	90.00	270.00	7,233.0	-786.4	-4,247.2	4,247.2	0.00	0.00	
11,600.0	90.00	270.00	7,233.0	-786.4	-4,347.2	4,347.2	0.00	0.00	
11,700.0	90.00	270.00	7,233.0	-786.4	-4,447.2	4,447.2	0.00	0.00	
11,800.0	90.00	270.00	7,233.0	-786.4	-4,547.2	4,547.2	0.00	0.00	
11,834.1	90.00	270.00	7,233.0	-786.4	-4,581.3	4,581.3	0.00	0.00	TD at 11834.1 - Frederiksen 1C-28H-H368 PBI-

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Frederiksen 1C-28H-H368 - plan hits target center - Point	0.00	0.00	7,233.0	-786.4	-4,581.3	1,314,519.06	3,135,297.37	40.195730	-105.015690

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site:	S28-T3N-R68W (Frederiksen)	North Reference:	True
Well:	Frederiksen 1C-28H-H368	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
238.0	238.0	Fox Hills - BASE				
4,039.2	4,014.0	Sussex				
4,245.7	4,219.0	Sussex Marker				
4,498.6	4,470.0	Shannon				
6,292.0	6,250.0	Teepee Buttes (*if present)				
6,938.8	6,886.0	Sharon Springs				
7,036.8	6,972.0	Niobrara				
7,093.8	7,018.0	B Chalk				
7,132.2	7,047.0	B Marl				
7,189.3	7,087.0	C Chalk				
7,240.1	7,119.0	C Marl				
7,456.7	7,213.0	Ft. Hayes				
7,609.0	7,233.0	Codell				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP @ 200'	
900.8	899.0	-41.0	12.4	EOB; Inc=7°	
6,688.9	6,643.9	-717.1	216.3	Start build/turn @ 6688' MD	
7,609.1	7,233.0	-786.4	-356.3	LP @ 7233' TVD; 90°	
11,834.1	7,233.0	-786.4	-4,581.3	TD at 11834.1	

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S28-T3N-R68W (Frederiksen)

Frederiksen 1C-28H-H368

Hz

Plan #1

Anticollision Report

17 May, 2013

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1C-28H-H368	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	5/17/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,834.1	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						
S28-T3N-R68W (Frederiksen)						
Frederiksen #1 (Existing) - DD - GYRO						Out of range
Frederiksen 1A-28H - Hz - Hz	200.0	200.0	18.4	17.8	27.480	CC, ES
Frederiksen 1A-28H - Hz - Hz	500.0	499.9	25.7	24.0	15.043	SF
Frederiksen 1B-28H-H368 - Hz - Plan #1	200.0	200.0	10.9	10.3	16.742	CC, ES
Frederiksen 1B-28H-H368 - Hz - Plan #1	11,834.1	11,626.8	451.1	241.7	2.154	SF
Frederiksen 31-28 (Existing) - DD - GYRO						Out of range
Frederiksen 41-28 (Existing) - DD - GYRO						Out of range
Frederiksen 8-4-28 (Existing) - DD - GYRO	5,199.7	5,369.6	252.7	236.5	15.591	CC
Frederiksen 8-4-28 (Existing) - DD - GYRO	5,200.0	5,369.9	252.7	236.5	15.590	ES
Frederiksen 8-4-28 (Existing) - DD - GYRO	5,400.0	5,560.3	256.3	239.4	15.133	SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1C-28H-H368	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 S28-T3N-R68W (Frederiksen) - Frederiksen 1A-28H - Hz - Hz														Offset Site Error:	0.0 ft
Survey Program: 835-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	8.72	18.2	2.8	18.4						
100.0	100.0	100.0	100.0	0.2	0.2	8.72	18.2	2.8	18.4	18.1	0.32	56.884			
200.0	200.0	200.0	200.0	0.3	0.3	8.72	18.2	2.8	18.4	17.8	0.67	27.480 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-155.61	18.2	2.8	19.2	18.2	1.02	18.892			
400.0	400.0	400.0	400.0	0.7	0.7	-158.47	18.2	2.8	21.6	20.3	1.36	15.855			
500.0	499.9	499.9	499.9	0.9	0.9	-162.02	18.2	2.8	25.7	24.0	1.71	15.043 SF			
600.0	599.7	599.7	599.7	1.1	1.0	-165.43	18.2	2.8	31.6	29.5	2.06	15.363			
700.0	699.4	699.4	699.4	1.3	1.2	-168.29	18.2	2.8	39.2	36.8	2.40	16.339			
800.0	798.9	798.9	798.9	1.5	1.4	-170.57	18.2	2.8	48.7	45.9	2.75	17.727			
900.0	898.3	897.8	897.8	1.8	1.5	-172.37	18.4	2.7	60.1	57.0	3.09	19.456			
1,000.0	997.5	998.4	998.4	2.0	1.7	-173.31	18.4	3.2	72.1	68.7	3.44	20.978			
1,100.0	1,096.8	1,095.3	1,095.3	2.3	1.9	-174.07	18.6	3.4	84.4	80.6	3.78	22.308			
1,200.0	1,196.0	1,194.5	1,194.5	2.6	2.1	-174.73	20.3	3.2	98.3	94.1	4.13	23.800			
1,300.0	1,295.3	1,296.8	1,296.8	2.8	2.2	-174.64	20.3	4.6	110.1	105.7	4.48	24.570			
1,400.0	1,394.5	1,394.9	1,394.8	3.1	2.4	-176.13	19.2	2.7	121.6	116.7	4.83	25.193			
1,500.0	1,493.8	1,494.2	1,494.1	3.4	2.6	-177.07	18.7	1.4	133.6	128.4	5.17	25.826			
1,600.0	1,593.0	1,594.5	1,594.4	3.6	2.8	-177.72	17.9	0.6	145.2	139.7	5.52	26.309			
1,700.0	1,692.3	1,693.0	1,692.9	3.9	2.9	-178.43	16.4	-0.5	156.2	150.4	5.87	26.631			
1,800.0	1,791.5	1,789.4	1,789.3	4.2	3.1	-179.12	16.8	-2.4	169.3	163.1	6.21	27.264			
1,900.0	1,890.8	1,890.0	1,889.9	4.4	3.3	-179.23	17.8	-2.8	182.6	176.0	6.56	27.836			
2,000.0	1,990.0	1,991.5	1,991.4	4.7	3.5	-179.19	17.7	-2.5	194.6	187.6	6.91	28.159			
2,100.0	2,089.3	2,091.2	2,091.0	5.0	3.6	-179.37	16.7	-2.7	205.9	198.6	7.26	28.366			
2,200.0	2,188.5	2,189.0	2,188.8	5.3	3.8	-179.68	15.9	-3.5	217.5	209.9	7.60	28.611			
2,300.0	2,287.8	2,291.1	2,290.9	5.5	4.0	-179.58	15.6	-3.0	229.4	221.4	7.95	28.838			
2,400.0	2,387.1	2,388.7	2,388.5	5.8	4.1	-179.46	14.5	-2.0	240.2	231.9	8.30	28.939			
2,500.0	2,486.3	2,484.4	2,484.2	6.1	4.3	-179.23	14.9	-1.0	252.5	243.9	8.64	29.231			
2,600.0	2,585.6	2,584.8	2,584.6	6.4	4.5	-179.29	15.7	-1.3	265.5	256.6	8.99	29.541			
2,700.0	2,684.8	2,679.6	2,679.4	6.6	4.7	-179.70	16.0	-3.3	278.6	269.3	9.33	29.869			
2,800.0	2,784.1	2,784.4	2,784.2	6.9	4.8	-179.73	17.4	-3.8	292.2	282.6	9.68	30.176			
2,900.0	2,883.3	2,889.1	2,888.8	7.2	5.0	-179.91	16.1	-4.3	303.5	293.4	10.04	30.216			
3,000.0	2,982.6	2,977.8	2,977.5	7.5	5.2	179.70	15.4	-6.4	315.5	305.2	10.37	30.422			
3,100.0	3,081.8	3,081.4	3,081.1	7.7	5.4	179.85	16.7	-6.0	328.9	318.2	10.73	30.662			
3,200.0	3,181.1	3,176.0	3,175.7	8.0	5.5	179.74	16.8	-6.7	341.3	330.3	11.07	30.843			
3,300.0	3,280.3	3,271.0	3,270.6	8.3	5.7	179.37	17.8	-9.4	355.5	344.0	11.41	31.160			
3,400.0	3,379.6	3,385.2	3,384.8	8.6	5.9	179.31	17.9	-10.0	367.9	356.1	11.78	31.226			
3,500.0	3,478.8	3,473.1	3,472.7	8.8	6.0	179.14	18.0	-11.3	380.5	368.4	12.11	31.423			
3,600.0	3,578.1	3,582.6	3,582.1	9.1	6.2	179.12	17.5	-11.5	392.3	379.8	12.47	31.446			
3,700.0	3,677.3	3,675.5	3,675.0	9.4	6.4	179.04	17.4	-12.3	404.6	391.8	12.81	31.583			
3,800.0	3,776.6	3,779.5	3,779.1	9.7	6.6	179.08	17.2	-12.1	416.6	403.4	13.17	31.638			
3,900.0	3,875.8	3,878.5	3,878.1	9.9	6.8	178.93	16.3	-13.2	428.2	414.7	13.51	31.688			
4,000.0	3,975.1	3,972.6	3,972.1	10.2	6.9	178.94	16.0	-13.2	440.1	426.3	13.85	31.772			
4,100.0	4,074.4	4,060.3	4,059.8	10.5	7.1	178.98	17.8	-13.7	454.5	440.3	14.18	32.052			
4,200.0	4,173.6	4,155.8	4,155.3	10.7	7.2	178.94	20.9	-15.3	470.2	455.7	14.52	32.383			
4,300.0	4,272.9	4,253.3	4,252.7	11.0	7.4	178.79	24.3	-17.9	486.5	471.6	14.87	32.724			

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1C-28H-H368	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 S28-T3N-R68W (Frederiksen) - Frederiksen 1B-28H-H368 - 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							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
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 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-164.44	10.9	0.0	11.8	10.8	1.00	11.746		
400.0	400.0	400.2	400.2	0.7	0.7	-165.63	10.2	0.4	13.5	12.2	1.35	10.009		
500.0	499.9	500.4	500.3	0.9	0.9	-165.14	7.9	1.8	15.4	13.7	1.70	9.064		
600.0	599.7	600.6	600.5	1.1	1.0	-163.52	4.1	3.9	17.5	15.4	2.06	8.503		
700.0	699.4	700.9	700.5	1.3	1.2	-161.17	-1.2	7.0	19.7	17.3	2.42	8.156		
800.0	798.9	801.1	800.5	1.5	1.5	-158.37	-8.0	11.0	22.1	19.4	2.79	7.939		
900.0	898.3	901.4	900.3	1.8	1.7	-155.31	-16.4	15.8	24.8	21.6	3.18	7.802		
1,000.0	997.5	1,001.7	1,000.0	2.0	1.9	-151.33	-26.2	21.5	27.0	23.4	3.61	7.488		
1,100.0	1,096.8	1,102.0	1,099.4	2.3	2.2	-145.42	-37.6	28.0	28.1	24.0	4.10	6.870		
1,200.0	1,196.0	1,202.2	1,198.5	2.6	2.5	-137.19	-50.5	35.4	28.5	23.8	4.67	6.100		
1,300.0	1,295.3	1,302.3	1,297.2	2.8	2.8	-126.21	-64.8	43.7	28.7	23.3	5.36	5.351		
1,400.0	1,394.5	1,402.1	1,395.5	3.1	3.1	-114.22	-79.8	52.4	29.7	23.6	6.09	4.879		
1,500.0	1,493.8	1,501.9	1,493.8	3.4	3.5	-103.47	-94.8	61.1	32.0	25.2	6.78	4.713		
1,600.0	1,593.0	1,601.8	1,592.1	3.6	3.8	-94.39	-109.8	69.7	35.2	27.8	7.40	4.753		
1,700.0	1,692.3	1,701.6	1,690.4	3.9	4.1	-86.97	-124.8	78.4	39.1	31.1	7.95	4.918		
1,800.0	1,791.5	1,801.4	1,788.7	4.2	4.5	-80.98	-139.9	87.1	43.6	35.1	8.45	5.153		
1,900.0	1,890.8	1,901.2	1,887.0	4.4	4.8	-76.15	-154.9	95.7	48.4	39.5	8.92	5.423		
2,000.0	1,990.0	2,001.0	1,985.3	4.7	5.2	-72.21	-169.9	104.4	53.5	44.1	9.38	5.706		
2,100.0	2,089.3	2,100.8	2,083.6	5.0	5.5	-68.98	-184.9	113.1	58.9	49.0	9.82	5.992		
2,200.0	2,188.5	2,200.6	2,181.9	5.3	5.8	-66.29	-199.9	121.7	64.3	54.1	10.26	6.272		
2,300.0	2,287.8	2,300.4	2,280.1	5.5	6.2	-64.02	-214.9	130.4	69.9	59.3	10.69	6.542		
2,400.0	2,387.1	2,400.2	2,378.4	5.8	6.5	-62.10	-229.9	139.0	75.6	64.5	11.12	6.800		
2,500.0	2,486.3	2,500.0	2,476.7	6.1	6.9	-60.44	-244.9	147.7	81.4	69.9	11.55	7.046		
2,600.0	2,585.6	2,599.8	2,575.0	6.4	7.2	-59.01	-259.9	156.4	87.3	75.3	11.99	7.280		
2,700.0	2,684.8	2,699.6	2,673.3	6.6	7.6	-57.75	-274.9	165.0	93.1	80.7	12.42	7.500		
2,800.0	2,784.1	2,799.4	2,771.6	6.9	7.9	-56.65	-289.9	173.7	99.1	86.2	12.85	7.709		
2,900.0	2,883.3	2,899.3	2,869.9	7.2	8.3	-55.67	-305.0	182.4	105.0	91.7	13.28	7.906		
3,000.0	2,982.6	3,000.4	2,969.6	7.5	8.6	-55.04	-319.5	190.8	110.4	96.7	13.73	8.044		
3,100.0	3,081.8	3,101.8	3,069.9	7.7	8.9	-55.06	-332.6	198.3	114.6	100.3	14.22	8.057		
3,200.0	3,181.1	3,203.3	3,170.5	8.0	9.2	-55.67	-344.2	205.0	117.4	102.6	14.75	7.956		
3,300.0	3,280.3	3,304.7	3,271.3	8.3	9.4	-56.84	-354.2	210.8	118.9	103.6	15.34	7.755		
3,400.0	3,379.6	3,406.2	3,372.3	8.6	9.7	-58.58	-362.6	215.7	119.3	103.3	15.96	7.471		
3,500.0	3,478.8	3,507.5	3,473.3	8.8	9.9	-60.95	-369.5	219.7	118.5	101.9	16.64	7.121		
3,600.0	3,578.1	3,608.7	3,574.2	9.1	10.0	-64.01	-374.9	222.7	116.9	99.5	17.37	6.727		
3,700.0	3,677.3	3,709.6	3,675.0	9.4	10.2	-67.86	-378.7	224.9	114.5	96.4	18.14	6.311		
3,800.0	3,776.6	3,810.2	3,775.6	9.7	10.3	-72.62	-380.9	226.2	111.8	92.8	18.94	5.901		
3,900.0	3,875.8	3,910.4	3,875.8	9.9	10.5	-78.39	-381.7	226.7	109.1	89.3	19.73	5.530		
4,000.0	3,975.1	4,009.7	3,975.1	10.2	10.6	-84.74	-381.7	226.7	107.3	86.8	20.44	5.248		
4,081.3	4,055.8	4,090.3	4,055.8	10.4	10.7	-90.00	-381.7	226.7	106.8	85.9	20.93	5.104		
4,100.0	4,074.4	4,108.9	4,074.4	10.5	10.7	-91.22	-381.7	226.7	106.8	85.8	21.02	5.081		
4,200.0	4,173.6	4,208.2	4,173.6	10.7	10.8	-97.67	-381.7	226.7	107.8	86.3	21.46	5.021		
4,300.0	4,272.9	4,307.4	4,272.9	11.0	10.9	-103.93	-381.7	226.7	110.1	88.3	21.76	5.059		
4,400.0	4,372.1	4,406.7	4,372.1	11.3	11.0	-109.87	-381.7	226.7	113.7	91.7	21.93	5.182		
4,500.0	4,471.4	4,505.9	4,471.4	11.6	11.2	-115.40	-381.7	226.7	118.4	96.4	22.01	5.380		
4,600.0	4,570.6	4,605.2	4,570.6	11.8	11.3	-120.46	-381.7	226.7	124.1	102.1	22.02	5.639		
4,700.0	4,669.9	4,704.4	4,669.9	12.1	11.4	-125.05	-381.7	226.7	130.8	108.8	21.99	5.947		
4,800.0	4,769.1	4,803.7	4,769.1	12.4	11.5	-129.18	-381.7	226.7	138.2	116.2	21.95	6.295		
4,900.0	4,868.4	4,902.9	4,868.4	12.7	11.7	-132.87	-381.7	226.7	146.2	124.3	21.92	6.671		
5,000.0	4,967.6	5,002.2	4,967.6	12.9	11.8	-136.17	-381.7	226.7	154.8	132.9	21.91	7.067		

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 1C-28H-H368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1C-28H-H368	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 S28-T3N-R68W (Frederiksen) - Frederiksen 1B-28H-H368 - 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		
5,100.0	5,066.9	5,101.5	5,066.9	13.2	11.9	-139.11	-381.7	226.7	163.9	142.0	21.92	7.478	
5,200.0	5,166.1	5,200.7	5,166.1	13.5	12.0	-141.75	-381.7	226.7	173.3	151.4	21.95	7.896	
5,300.0	5,265.4	5,300.0	5,265.4	13.8	12.2	-144.11	-381.7	226.7	183.1	161.1	22.01	8.318	
5,400.0	5,364.6	5,399.2	5,364.6	14.1	12.3	-146.22	-381.7	226.7	193.1	171.0	22.10	8.740	
5,500.0	5,463.9	5,498.5	5,463.9	14.3	12.4	-148.13	-381.7	226.7	203.4	181.2	22.21	9.158	
5,600.0	5,563.1	5,597.7	5,563.1	14.6	12.6	-149.85	-381.7	226.7	213.9	191.5	22.34	9.573	
5,700.0	5,662.4	5,697.0	5,662.4	14.9	12.7	-151.41	-381.7	226.7	224.5	202.0	22.50	9.980	
5,800.0	5,761.7	5,796.2	5,761.7	15.2	12.8	-152.83	-381.7	226.7	235.3	212.7	22.67	10.381	
5,900.0	5,860.9	5,895.5	5,860.9	15.4	13.0	-154.13	-381.7	226.7	246.3	223.4	22.86	10.773	
6,000.0	5,960.2	5,994.7	5,960.2	15.7	13.1	-155.31	-381.7	226.7	257.3	234.2	23.06	11.157	
6,100.0	6,059.4	6,094.0	6,059.4	16.0	13.3	-156.40	-381.7	226.7	268.5	245.2	23.28	11.531	
6,200.0	6,158.7	6,193.2	6,158.7	16.3	13.4	-157.40	-381.7	226.7	279.7	256.2	23.51	11.897	
6,300.0	6,257.9	6,292.5	6,257.9	16.5	13.5	-158.32	-381.7	226.7	291.0	267.3	23.75	12.253	
6,400.0	6,357.2	6,391.7	6,357.2	16.8	13.7	-159.17	-381.7	226.7	302.4	278.4	24.00	12.600	
6,500.0	6,456.4	6,491.0	6,456.4	17.1	13.8	-159.97	-381.7	226.7	313.8	289.6	24.26	12.938	
6,600.0	6,555.7	6,591.6	6,555.7	17.4	13.9	-162.16	-381.7	218.5	325.1	300.8	24.29	13.384	
6,700.0	6,654.9	6,685.6	6,647.5	17.6	13.9	-175.86	-381.7	195.1	337.5	313.5	24.04	14.039	
6,800.0	6,753.9	6,773.3	6,727.9	17.8	13.9	116.90	-381.7	160.2	352.8	329.0	23.83	14.803	
6,900.0	6,850.1	6,857.4	6,799.1	18.0	13.9	94.50	-381.7	115.6	369.9	345.9	23.99	15.420	
7,000.0	6,940.6	6,938.7	6,861.0	18.1	13.9	83.59	-381.7	63.0	387.4	363.0	24.44	15.855	
7,100.0	7,022.8	7,017.8	6,913.5	18.3	14.0	76.62	-381.7	3.9	404.3	379.3	25.03	16.150	
7,200.0	7,094.0	7,100.0	6,958.9	18.5	14.3	71.63	-381.7	-64.5	419.6	393.8	25.78	16.277	
7,300.0	7,152.2	7,171.3	6,990.0	18.7	14.7	68.23	-381.7	-128.6	432.4	405.8	26.55	16.285	
7,400.0	7,195.5	7,250.0	7,014.8	19.2	15.4	65.79	-381.7	-203.2	442.2	414.6	27.55	16.049	
7,500.0	7,222.7	7,321.1	7,028.3	19.8	16.2	64.35	-381.7	-273.0	448.6	419.9	28.75	15.604	
7,600.0	7,232.9	7,395.6	7,033.0	20.7	17.3	63.71	-381.7	-347.3	451.4	421.1	30.28	14.906	
7,700.0	7,233.0	7,495.6	7,033.0	21.9	19.0	63.70	-381.7	-447.3	451.4	418.1	33.36	13.533	
7,800.0	7,233.0	7,595.6	7,033.0	23.4	20.8	63.70	-381.7	-547.3	451.4	414.6	36.78	12.275	
7,900.0	7,233.0	7,695.6	7,033.0	25.0	22.8	63.70	-381.7	-647.3	451.4	411.0	40.40	11.175	
8,000.0	7,233.0	7,795.6	7,033.0	26.8	24.8	63.70	-381.7	-747.3	451.4	407.2	44.16	10.221	
8,100.0	7,233.0	7,895.6	7,033.0	28.8	27.0	63.70	-381.7	-847.3	451.4	403.4	48.05	9.395	
8,200.0	7,233.0	7,995.6	7,033.0	30.8	29.1	63.70	-381.8	-947.3	451.4	399.4	52.02	8.677	
8,300.0	7,233.0	8,095.6	7,033.0	32.9	31.4	63.70	-381.8	-1,047.3	451.4	395.3	56.06	8.052	
8,400.0	7,233.0	8,195.6	7,033.0	35.0	33.6	63.70	-381.8	-1,147.3	451.4	391.2	60.16	7.503	
8,500.0	7,233.0	8,295.6	7,033.0	37.2	35.9	63.70	-381.8	-1,247.3	451.4	387.1	64.30	7.019	
8,600.0	7,233.0	8,395.6	7,033.0	39.4	38.2	63.70	-381.8	-1,347.3	451.4	382.9	68.48	6.591	
8,700.0	7,233.0	8,495.6	7,033.0	41.7	40.6	63.70	-381.8	-1,447.3	451.4	378.7	72.70	6.209	
8,800.0	7,233.0	8,595.6	7,033.0	44.0	42.9	63.70	-381.8	-1,547.3	451.3	374.4	76.93	5.867	
8,900.0	7,233.0	8,695.6	7,033.0	46.3	45.3	63.70	-381.8	-1,647.3	451.3	370.1	81.19	5.559	
9,000.0	7,233.0	8,795.6	7,033.0	48.6	47.6	63.70	-381.8	-1,747.3	451.3	365.9	85.47	5.281	
9,100.0	7,233.0	8,895.6	7,033.0	50.9	50.0	63.70	-381.8	-1,847.3	451.3	361.6	89.76	5.028	
9,200.0	7,233.0	8,995.6	7,033.0	53.3	52.4	63.69	-381.8	-1,947.3	451.3	357.2	94.07	4.798	
9,300.0	7,233.0	9,095.6	7,033.0	55.6	54.8	63.69	-381.8	-2,047.3	451.3	352.9	98.39	4.587	
9,400.0	7,233.0	9,195.6	7,033.0	58.0	57.2	63.69	-381.9	-2,147.3	451.3	348.6	102.71	4.394	
9,500.0	7,233.0	9,295.6	7,033.0	60.4	59.6	63.69	-381.9	-2,247.3	451.3	344.2	107.05	4.216	
9,600.0	7,233.0	9,395.6	7,033.0	62.8	62.0	63.69	-381.9	-2,347.3	451.3	339.9	111.40	4.051	
9,700.0	7,233.0	9,495.6	7,033.0	65.2	64.5	63.69	-381.9	-2,447.3	451.3	335.5	115.75	3.899	
9,800.0	7,233.0	9,595.6	7,033.0	67.6	66.9	63.69	-381.9	-2,547.3	451.3	331.2	120.11	3.757	
9,900.0	7,233.0	9,695.6	7,033.0	70.0	69.3	63.69	-381.9	-2,647.3	451.3	326.8	124.47	3.625	
10,000.0	7,233.0	9,795.6	7,033.0	72.4	71.7	63.69	-381.9	-2,747.3	451.3	322.4	128.84	3.502	
10,100.0	7,233.0	9,895.6	7,033.0	74.8	74.2	63.69	-381.9	-2,847.3	451.2	318.0	133.22	3.387	
10,200.0	7,233.0	9,995.6	7,033.0	77.2	76.6	63.69	-381.9	-2,947.3	451.2	313.6	137.60	3.279	

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 1C-28H-H368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1C-28H-H368	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 S28-T3N-R68W (Frederiksen) - Frederiksen 1B-28H-H368 - 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		
10,300.0	7,233.0	10,095.6	7,033.0	79.6	79.1	63.69	-381.9	-3,047.3	451.2	309.3	141.98	3.178		
10,400.0	7,233.0	10,195.6	7,033.0	82.1	81.5	63.69	-381.9	-3,147.3	451.2	304.9	146.36	3.083		
10,500.0	7,233.0	10,295.6	7,033.0	84.5	83.9	63.69	-382.0	-3,247.3	451.2	300.5	150.75	2.993		
10,600.0	7,233.0	10,395.6	7,033.0	86.9	86.4	63.69	-382.0	-3,347.3	451.2	296.1	155.14	2.908		
10,700.0	7,233.0	10,495.6	7,033.0	89.3	88.8	63.69	-382.0	-3,447.3	451.2	291.7	159.54	2.828		
10,800.0	7,233.0	10,595.6	7,033.0	91.8	91.3	63.69	-382.0	-3,547.3	451.2	287.3	163.93	2.752		
10,900.0	7,233.0	10,695.6	7,033.0	94.2	93.7	63.69	-382.0	-3,647.3	451.2	282.9	168.33	2.680		
11,000.0	7,233.0	10,795.6	7,033.0	96.7	96.2	63.69	-382.0	-3,747.3	451.2	278.4	172.73	2.612		
11,100.0	7,233.0	10,895.6	7,033.0	99.1	98.6	63.69	-382.0	-3,847.3	451.2	274.0	177.14	2.547		
11,200.0	7,233.0	10,995.6	7,033.0	101.5	101.1	63.69	-382.0	-3,947.3	451.2	269.6	181.54	2.485		
11,300.0	7,233.0	11,095.6	7,033.0	104.0	103.5	63.68	-382.0	-4,047.3	451.2	265.2	185.95	2.426		
11,400.0	7,233.0	11,195.6	7,033.0	106.4	106.0	63.68	-382.0	-4,147.3	451.1	260.8	190.35	2.370		
11,500.0	7,233.0	11,295.6	7,033.0	108.9	108.4	63.68	-382.0	-4,247.3	451.1	256.4	194.76	2.316		
11,600.0	7,233.0	11,395.6	7,033.0	111.3	110.9	63.68	-382.0	-4,347.3	451.1	252.0	199.17	2.265		
11,700.0	7,233.0	11,495.6	7,033.0	113.8	113.4	63.68	-382.1	-4,447.3	451.1	247.5	203.58	2.216		
11,800.0	7,233.0	11,595.6	7,033.0	116.2	115.8	63.68	-382.1	-4,547.3	451.1	243.1	207.99	2.169		
11,826.9	7,233.0	11,622.5	7,033.0	116.9	116.5	63.68	-382.1	-4,574.2	451.1	241.9	209.18	2.157		
11,834.1	7,233.0	11,626.8	7,033.0	117.0	116.6	63.68	-382.1	-4,578.5	451.1	241.7	209.44	2.154 SF		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1C-28H-H368	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 S28-T3N-R68W (Frederiksen) - Frederiksen 8-4-28 (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		
3,500.0	3,478.8	3,735.1	3,619.3	8.8	8.2	160.03	27.6	-180.1	489.9	480.2	9.78	50.083		
3,600.0	3,578.1	3,836.7	3,716.2	9.1	8.5	160.71	4.1	-160.9	471.3	461.2	10.06	46.857		
3,700.0	3,677.3	3,933.0	3,807.9	9.4	8.7	161.63	-17.4	-141.0	452.2	441.8	10.33	43.762		
3,800.0	3,776.6	4,021.3	3,892.4	9.7	9.0	162.67	-35.5	-122.8	434.8	424.2	10.61	41.003		
3,900.0	3,875.8	4,114.1	3,981.8	9.9	9.2	163.67	-53.8	-105.7	419.6	408.7	10.89	38.549		
4,000.0	3,975.1	4,222.4	4,086.0	10.2	9.5	164.61	-76.9	-87.1	403.9	392.7	11.18	36.118		
4,100.0	4,074.4	4,330.2	4,188.8	10.5	9.8	165.74	-102.0	-66.5	385.4	373.9	11.50	33.518		
4,200.0	4,173.6	4,426.1	4,279.9	10.7	10.1	167.08	-124.2	-46.6	366.3	354.5	11.82	30.993		
4,300.0	4,272.9	4,520.2	4,369.7	11.0	10.3	168.36	-145.6	-28.5	348.5	336.4	12.15	28.695		
4,400.0	4,372.1	4,618.9	4,464.0	11.3	10.6	169.69	-168.2	-10.3	331.2	318.7	12.49	26.513		
4,500.0	4,471.4	4,715.7	4,565.5	11.6	10.8	171.10	-190.5	7.4	314.2	301.3	12.86	24.435		
4,600.0	4,570.6	4,809.2	4,646.1	11.8	11.1	172.84	-210.5	25.1	298.5	285.2	13.27	22.495		
4,700.0	4,669.9	4,905.1	4,738.3	12.1	11.3	175.04	-229.6	43.8	284.3	270.5	13.75	20.670		
4,800.0	4,769.1	5,000.0	4,829.9	12.4	11.5	177.25	-247.4	61.1	272.1	257.9	14.26	19.081		
4,900.0	4,868.4	5,087.8	4,915.3	12.7	11.7	179.16	-262.2	75.1	263.1	248.3	14.76	17.828		
5,000.0	4,967.6	5,181.7	5,007.2	12.9	11.9	-178.90	-275.8	88.3	257.2	241.9	15.28	16.833		
5,100.0	5,066.9	5,275.1	5,099.1	13.2	12.0	-177.24	-287.9	99.6	253.7	237.9	15.77	16.087		
5,199.7	5,165.8	5,369.6	5,192.6	13.5	12.2	-175.98	-298.5	108.5	252.7	236.5	16.21	15.591 CC		
5,200.0	5,166.1	5,369.9	5,192.9	13.5	12.2	-175.98	-298.5	108.5	252.7	236.5	16.21	15.590 ES		
5,300.0	5,265.4	5,465.4	5,287.7	13.8	12.3	-175.07	-308.0	115.7	253.6	237.0	16.60	15.280		
5,400.0	5,364.6	5,560.3	5,382.1	14.1	12.4	-174.45	-316.0	121.2	256.3	239.4	16.94	15.133 SF		
5,500.0	5,463.9	5,652.2	5,473.7	14.3	12.5	-174.08	-321.8	125.1	261.5	244.3	17.24	15.172		
5,600.0	5,563.1	5,744.1	5,565.5	14.6	12.5	-174.00	-324.7	127.3	270.0	252.6	17.48	15.448		
5,700.0	5,662.4	5,840.3	5,661.7	14.9	12.6	-174.31	-326.2	127.3	280.7	263.0	17.66	15.892		
5,800.0	5,761.7	5,939.3	5,760.7	15.2	12.6	-174.69	-327.5	126.8	291.6	273.8	17.83	16.355		
5,900.0	5,860.9	6,036.6	5,858.0	15.4	12.6	-175.09	-328.5	126.0	303.0	285.0	18.00	16.833		
6,000.0	5,960.2	6,132.9	5,954.3	15.7	12.7	-175.40	-328.4	125.3	315.4	297.2	18.18	17.343		
6,100.0	6,059.4	6,231.4	6,052.8	16.0	12.7	-175.72	-327.8	124.3	328.3	310.0	18.37	17.876		
6,200.0	6,158.7	6,331.3	6,152.7	16.3	12.7	-176.08	-327.5	122.9	341.1	322.5	18.54	18.394		
6,300.0	6,257.9	6,429.7	6,251.1	16.5	12.7	-176.44	-327.1	121.4	354.0	335.3	18.72	18.908		
6,400.0	6,357.2	6,529.9	6,351.3	16.8	12.8	-176.80	-326.8	119.8	366.9	348.0	18.90	19.408		
6,500.0	6,456.4	6,629.8	6,451.2	17.1	12.8	-177.07	-326.8	118.6	379.3	360.2	19.10	19.857		
6,600.0	6,555.7	6,726.4	6,547.7	17.4	12.8	-177.27	-326.2	117.7	392.3	373.0	19.31	20.316		
6,700.0	6,654.9	6,827.5	6,648.8	17.6	12.9	173.34	-325.8	116.1	405.3	385.8	19.49	20.792		
6,800.0	6,753.9	6,929.4	6,750.7	17.8	12.9	112.66	-325.9	115.3	415.0	395.1	19.80	20.954		
6,900.0	6,850.1	7,024.9	6,846.2	18.0	12.9	98.65	-326.0	115.9	421.1	400.7	20.44	20.601		
7,000.0	6,940.6	7,112.7	6,934.0	18.1	13.0	96.96	-325.6	117.1	427.3	406.1	21.26	20.098		
7,100.0	7,022.8	7,192.6	7,013.9	18.3	13.0	98.98	-324.9	118.2	437.8	415.8	22.05	19.860		
7,200.0	7,094.0	7,259.5	7,080.7	18.5	13.0	101.36	-324.0	119.3	457.3	434.7	22.62	20.216		
7,300.0	7,152.2	7,313.8	7,135.0	18.7	13.1	102.52	-323.0	120.5	489.4	466.3	23.11	21.179		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Frederiksen 1C-28H-H368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Reference Site:	S28-T3N-R68W (Frederiksen)	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Frederiksen 1C-28H-H368	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 @ 4988.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Frederiksen 1C-28H-H368

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.32°

