



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Billings 1F-34H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site:	S34-T2N-R68W (Billings)	North Reference:	True
Well:	Billings 1F-34H	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		S34-T2N-R68W (Billings)			
Site Position:		Northing:	1,280,284.39 ft	Latitude:	40.101620
From:	Lat/Long	Easting:	3,143,887.76 ft	Longitude:	-104.985650
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.33 °

Well	Billings 1F-34H					
Well Position	+N/-S	0.0 ft	Northing:	1,280,284.64 ft	Latitude:	40.101620
	+E/-W	0.0 ft	Easting:	3,143,938.12 ft	Longitude:	-104.985470
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,995.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/29/2013	8.74	66.72	52,778

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	180.00

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	
1,000.0	16.00	81.50	989.6	16.4	109.8	2.00	2.00	0.00	81.50	
5,400.0	16.00	81.50	5,219.2	195.7	1,309.2	0.00	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,008.8	212.1	1,419.0	2.00	-2.00	0.00	180.00	
6,860.0	0.00	0.00	6,668.8	212.1	1,419.0	0.00	0.00	0.00	0.00	
7,985.0	90.00	181.25	7,385.0	-504.0	1,403.4	8.00	8.00	0.00	181.25	
9,981.5	90.00	181.25	7,385.0	-2,500.0	1,360.0	0.00	0.00	0.00	0.00	Billings 1F-34H TGT
10,231.5	90.00	181.25	7,385.0	-2,749.9	1,354.6	0.00	0.00	0.00	0.00	
10,582.6	90.00	174.22	7,385.0	-3,100.6	1,368.4	2.00	0.00	-2.00	-90.00	
12,108.7	90.00	174.22	7,385.0	-4,619.0	1,522.1	0.00	0.00	0.00	0.00	Billings 1F-34H PBHL

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Project:	DJ Wattenberg	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site:	S34-T2N-R68W (Billings)	North Reference:	True
Well:	Billings 1F-34H	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'
300.0	2.00	81.50	300.0	0.3	1.7	-0.3	2.00	2.00	
358.1	3.16	81.50	358.0	0.6	4.3	-0.6	2.00	2.00	Fox Hills
400.0	4.00	81.50	399.8	1.0	6.9	-1.0	2.00	2.00	
500.0	6.00	81.50	499.5	2.3	15.5	-2.3	2.00	2.00	
600.0	8.00	81.50	598.7	4.1	27.6	-4.1	2.00	2.00	
700.0	10.00	81.50	697.5	6.4	43.0	-6.4	2.00	2.00	
800.0	12.00	81.50	795.6	9.3	61.9	-9.3	2.00	2.00	
900.0	14.00	81.50	893.1	12.6	84.2	-12.6	2.00	2.00	
1,000.0	16.00	81.50	989.6	16.4	109.8	-16.4	2.00	2.00	EOB; Inc=16°
1,100.0	16.00	81.50	1,085.8	20.5	137.0	-20.5	0.00	0.00	
1,200.0	16.00	81.50	1,181.9	24.6	164.3	-24.6	0.00	0.00	
1,300.0	16.00	81.50	1,278.0	28.6	191.5	-28.6	0.00	0.00	
1,400.0	16.00	81.50	1,374.1	32.7	218.8	-32.7	0.00	0.00	
1,500.0	16.00	81.50	1,470.3	36.8	246.1	-36.8	0.00	0.00	
1,600.0	16.00	81.50	1,566.4	40.8	273.3	-40.8	0.00	0.00	
1,700.0	16.00	81.50	1,662.5	44.9	300.6	-44.9	0.00	0.00	
1,800.0	16.00	81.50	1,758.7	49.0	327.8	-49.0	0.00	0.00	
1,900.0	16.00	81.50	1,854.8	53.1	355.1	-53.1	0.00	0.00	
2,000.0	16.00	81.50	1,950.9	57.1	382.4	-57.1	0.00	0.00	
2,100.0	16.00	81.50	2,047.0	61.2	409.6	-61.2	0.00	0.00	
2,200.0	16.00	81.50	2,143.2	65.3	436.9	-65.3	0.00	0.00	
2,300.0	16.00	81.50	2,239.3	69.4	464.2	-69.4	0.00	0.00	
2,400.0	16.00	81.50	2,335.4	73.4	491.4	-73.4	0.00	0.00	
2,500.0	16.00	81.50	2,431.5	77.5	518.7	-77.5	0.00	0.00	
2,600.0	16.00	81.50	2,527.7	81.6	545.9	-81.6	0.00	0.00	
2,700.0	16.00	81.50	2,623.8	85.7	573.2	-85.7	0.00	0.00	
2,800.0	16.00	81.50	2,719.9	89.7	600.5	-89.7	0.00	0.00	
2,900.0	16.00	81.50	2,816.0	93.8	627.7	-93.8	0.00	0.00	
3,000.0	16.00	81.50	2,912.2	97.9	655.0	-97.9	0.00	0.00	
3,100.0	16.00	81.50	3,008.3	102.0	682.2	-102.0	0.00	0.00	
3,200.0	16.00	81.50	3,104.4	106.0	709.5	-106.0	0.00	0.00	
3,300.0	16.00	81.50	3,200.5	110.1	736.8	-110.1	0.00	0.00	
3,400.0	16.00	81.50	3,296.7	114.2	764.0	-114.2	0.00	0.00	
3,500.0	16.00	81.50	3,392.8	118.3	791.3	-118.3	0.00	0.00	
3,600.0	16.00	81.50	3,488.9	122.3	818.5	-122.3	0.00	0.00	
3,700.0	16.00	81.50	3,585.0	126.4	845.8	-126.4	0.00	0.00	
3,800.0	16.00	81.50	3,681.2	130.5	873.1	-130.5	0.00	0.00	
3,900.0	16.00	81.50	3,777.3	134.6	900.3	-134.6	0.00	0.00	
4,000.0	16.00	81.50	3,873.4	138.6	927.6	-138.6	0.00	0.00	
4,100.0	16.00	81.50	3,969.6	142.7	954.8	-142.7	0.00	0.00	
4,200.0	16.00	81.50	4,065.7	146.8	982.1	-146.8	0.00	0.00	
4,300.0	16.00	81.50	4,161.8	150.9	1,009.4	-150.9	0.00	0.00	
4,400.0	16.00	81.50	4,257.9	154.9	1,036.6	-154.9	0.00	0.00	
4,500.0	16.00	81.50	4,354.1	159.0	1,063.9	-159.0	0.00	0.00	
4,593.6	16.00	81.50	4,444.0	162.8	1,089.4	-162.8	0.00	0.00	Sussex
4,600.0	16.00	81.50	4,450.2	163.1	1,091.2	-163.1	0.00	0.00	
4,700.0	16.00	81.50	4,546.3	167.1	1,118.4	-167.1	0.00	0.00	
4,800.0	16.00	81.50	4,642.4	171.2	1,145.7	-171.2	0.00	0.00	
4,874.4	16.00	81.50	4,714.0	174.3	1,166.0	-174.3	0.00	0.00	Sussex Marker

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Site:	S34-T2N-R68W (Billings)	North Reference:	True
Well:	Billings 1F-34H	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
4,900.0	16.00	81.50	4,738.6	175.3	1,172.9	-175.3	0.00	0.00	
5,000.0	16.00	81.50	4,834.7	179.4	1,200.2	-179.4	0.00	0.00	
5,100.0	16.00	81.50	4,930.8	183.4	1,227.5	-183.4	0.00	0.00	
5,170.9	16.00	81.50	4,999.0	186.3	1,246.8	-186.3	0.00	0.00	Shannon
5,200.0	16.00	81.50	5,026.9	187.5	1,254.7	-187.5	0.00	0.00	
5,300.0	16.00	81.50	5,123.1	191.6	1,282.0	-191.6	0.00	0.00	
5,400.0	16.00	81.50	5,219.2	195.7	1,309.2	-195.7	0.00	0.00	Start Drop -2.00
5,500.0	14.00	81.50	5,315.8	199.5	1,334.8	-199.5	2.00	-2.00	
5,600.0	12.00	81.50	5,413.2	202.8	1,357.1	-202.8	2.00	-2.00	
5,700.0	10.00	81.50	5,511.4	205.6	1,376.0	-205.6	2.00	-2.00	
5,800.0	8.00	81.50	5,610.1	207.9	1,391.4	-207.9	2.00	-2.00	
5,900.0	6.00	81.50	5,709.4	209.8	1,403.5	-209.8	2.00	-2.00	
6,000.0	4.00	81.50	5,809.0	211.0	1,412.1	-211.0	2.00	-2.00	
6,100.0	2.00	81.50	5,908.9	211.8	1,417.3	-211.8	2.00	-2.00	
6,200.0	0.00	0.00	6,008.8	212.1	1,419.0	-212.1	2.00	-2.00	EOD; Inc=0°
6,300.0	0.00	0.00	6,108.8	212.1	1,419.0	-212.1	0.00	0.00	
6,400.0	0.00	0.00	6,208.8	212.1	1,419.0	-212.1	0.00	0.00	
6,500.0	0.00	0.00	6,308.8	212.1	1,419.0	-212.1	0.00	0.00	
6,600.0	0.00	0.00	6,408.8	212.1	1,419.0	-212.1	0.00	0.00	
6,700.0	0.00	0.00	6,508.8	212.1	1,419.0	-212.1	0.00	0.00	
6,781.2	0.00	0.00	6,590.0	212.1	1,419.0	-212.1	0.00	0.00	Teepee Buttes
6,800.0	0.00	0.00	6,608.8	212.1	1,419.0	-212.1	0.00	0.00	
6,860.0	0.00	0.00	6,668.8	212.1	1,419.0	-212.1	0.00	0.00	Start Build 8.00
6,900.0	3.20	181.25	6,708.8	211.0	1,419.0	-211.0	8.00	8.00	
7,000.0	11.20	181.25	6,807.9	198.4	1,418.7	-198.4	8.00	8.00	
7,100.0	19.20	181.25	6,904.4	172.2	1,418.1	-172.2	8.00	8.00	
7,200.0	27.20	181.25	6,996.2	132.9	1,417.3	-132.9	8.00	8.00	
7,300.0	35.20	181.25	7,081.7	81.1	1,416.2	-81.1	8.00	8.00	
7,400.0	43.20	181.25	7,159.1	18.0	1,414.8	-18.0	8.00	8.00	
7,500.0	51.20	181.25	7,227.0	-55.3	1,413.2	55.3	8.00	8.00	
7,600.0	59.20	181.25	7,284.0	-137.3	1,411.4	137.3	8.00	8.00	
7,611.9	60.15	181.25	7,290.0	-147.6	1,411.2	147.6	8.00	8.00	Sharon Springs
7,700.0	67.20	181.25	7,329.1	-226.5	1,409.5	226.5	8.00	8.00	
7,800.0	75.20	181.25	7,361.2	-321.1	1,407.4	321.1	8.00	8.00	
7,815.3	76.43	181.25	7,365.0	-335.9	1,407.1	335.9	8.00	8.00	Niobrara
7,900.0	83.20	181.25	7,380.0	-419.2	1,405.3	419.2	8.00	8.00	
7,985.0	90.00	181.25	7,385.0	-504.0	1,403.4	504.0	8.00	8.00	LP @ 7385' TVD; 90°
8,000.0	90.00	181.25	7,385.0	-519.0	1,403.1	519.0	0.00	0.00	
8,100.0	90.00	181.25	7,385.0	-619.0	1,400.9	619.0	0.00	0.00	
8,200.0	90.00	181.25	7,385.0	-718.9	1,398.7	718.9	0.00	0.00	
8,300.0	90.00	181.25	7,385.0	-818.9	1,396.6	818.9	0.00	0.00	
8,400.0	90.00	181.25	7,385.0	-918.9	1,394.4	918.9	0.00	0.00	
8,500.0	90.00	181.25	7,385.0	-1,018.9	1,392.2	1,018.9	0.00	0.00	
8,600.0	90.00	181.25	7,385.0	-1,118.8	1,390.0	1,118.8	0.00	0.00	
8,700.0	90.00	181.25	7,385.0	-1,218.8	1,387.9	1,218.8	0.00	0.00	
8,800.0	90.00	181.25	7,385.0	-1,318.8	1,385.7	1,318.8	0.00	0.00	
8,900.0	90.00	181.25	7,385.0	-1,418.8	1,383.5	1,418.8	0.00	0.00	
9,000.0	90.00	181.25	7,385.0	-1,518.8	1,381.3	1,518.8	0.00	0.00	
9,100.0	90.00	181.25	7,385.0	-1,618.7	1,379.2	1,618.7	0.00	0.00	
9,200.0	90.00	181.25	7,385.0	-1,718.7	1,377.0	1,718.7	0.00	0.00	
9,300.0	90.00	181.25	7,385.0	-1,818.7	1,374.8	1,818.7	0.00	0.00	
9,400.0	90.00	181.25	7,385.0	-1,918.7	1,372.6	1,918.7	0.00	0.00	

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Project:	DJ Wattenberg	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site:	S34-T2N-R68W (Billings)	North Reference:	True
Well:	Billings 1F-34H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,500.0	90.00	181.25	7,385.0	-2,018.6	1,370.5	2,018.6	0.00	0.00	
9,600.0	90.00	181.25	7,385.0	-2,118.6	1,368.3	2,118.6	0.00	0.00	
9,700.0	90.00	181.25	7,385.0	-2,218.6	1,366.1	2,218.6	0.00	0.00	
9,800.0	90.00	181.25	7,385.0	-2,318.6	1,363.9	2,318.6	0.00	0.00	
9,900.0	90.00	181.25	7,385.0	-2,418.5	1,361.8	2,418.5	0.00	0.00	
9,981.5	90.00	181.25	7,385.0	-2,500.0	1,360.0	2,500.0	0.00	0.00	Billings 1F-34H TGT
10,000.0	90.00	181.25	7,385.0	-2,518.5	1,359.6	2,518.5	0.00	0.00	
10,100.0	90.00	181.25	7,385.0	-2,618.5	1,357.4	2,618.5	0.00	0.00	
10,200.0	90.00	181.25	7,385.0	-2,718.5	1,355.2	2,718.5	0.00	0.00	
10,231.5	90.00	181.25	7,385.0	-2,750.0	1,354.6	2,750.0	0.00	0.00	Start 2° turn @ 10231' MD
10,300.0	90.00	179.88	7,385.0	-2,818.5	1,353.9	2,818.5	2.00	0.00	
10,400.0	90.00	177.88	7,385.0	-2,918.4	1,355.9	2,918.4	2.00	0.00	
10,500.0	90.00	175.88	7,385.0	-3,018.3	1,361.3	3,018.3	2.00	0.00	
10,582.6	90.00	174.22	7,385.0	-3,100.6	1,368.4	3,100.6	2.00	0.00	End of turn @ 10582' MD
10,600.0	90.00	174.22	7,385.0	-3,117.9	1,370.2	3,117.9	0.01	0.00	
10,700.0	90.00	174.22	7,385.0	-3,217.4	1,380.2	3,217.4	0.00	0.00	
10,800.0	90.00	174.22	7,385.0	-3,316.9	1,390.3	3,316.9	0.00	0.00	
10,900.0	90.00	174.22	7,385.0	-3,416.4	1,400.4	3,416.4	0.00	0.00	
11,000.0	90.00	174.22	7,385.0	-3,515.8	1,410.4	3,515.8	0.00	0.00	
11,100.0	90.00	174.22	7,385.0	-3,615.3	1,420.5	3,615.3	0.00	0.00	
11,200.0	90.00	174.22	7,385.0	-3,714.8	1,430.6	3,714.8	0.00	0.00	
11,300.0	90.00	174.22	7,385.0	-3,814.3	1,440.6	3,814.3	0.00	0.00	
11,400.0	90.00	174.22	7,385.0	-3,913.8	1,450.7	3,913.8	0.00	0.00	
11,500.0	90.00	174.22	7,385.0	-4,013.3	1,460.8	4,013.3	0.00	0.00	
11,600.0	90.00	174.22	7,385.0	-4,112.8	1,470.8	4,112.8	0.00	0.00	
11,700.0	90.00	174.22	7,385.0	-4,212.3	1,480.9	4,212.3	0.00	0.00	
11,800.0	90.00	174.22	7,385.0	-4,311.8	1,491.0	4,311.8	0.00	0.00	
11,900.0	90.00	174.22	7,385.0	-4,411.3	1,501.0	4,411.3	0.00	0.00	
12,000.0	90.00	174.22	7,385.0	-4,510.8	1,511.1	4,510.8	0.00	0.00	
12,100.0	90.00	174.22	7,385.0	-4,610.3	1,521.2	4,610.3	0.00	0.00	
12,108.7	90.00	174.22	7,385.0	-4,618.9	1,522.0	4,618.9	0.00	0.00	TD at 12108.7 - Billings 1F-34H PBHL

Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Billings 1F-34H TGT	0.00	0.00	7,385.0	-2,500.0	1,360.0	1,277,792.57	3,145,312.60	40.094757	-104.980609
- plan hits target center									
- Point									
Billings 1F-34H PBHL	0.00	0.00	7,385.0	-4,619.0	1,522.1	1,275,674.59	3,145,486.94	40.088940	-104.980030
- plan hits target center									
- Point									

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Billings 1F-34H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site:	S34-T2N-R68W (Billings)	North Reference:	True
Well:	Billings 1F-34H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
358.1	358.0	Fox Hills				
4,593.6	4,444.0	Sussex				
4,874.4	4,714.0	Sussex Marker				
5,170.9	4,999.0	Shannon				
6,781.2	6,590.0	Teepee Buttes				
7,611.9	7,290.0	Sharon Springs				
7,815.3	7,365.0	Niobrara				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200'
1,000.0	989.6	16.4	109.8	EOB; Inc=16°
5,400.0	5,219.2	195.7	1,309.2	Start Drop -2.00
6,200.0	6,008.8	212.1	1,419.0	EOD; Inc=0°
6,860.0	6,668.8	212.1	1,419.0	Start Build 8.00
7,985.0	7,385.0	-504.0	1,403.4	LP @ 7385' TVD; 90°
10,231.5	7,385.0	-2,500.0	1,360.0	Start 2° turn @ 10231' MD
10,582.6	7,385.0	-2,749.9	1,354.6	End of turn @ 10582' MD
12,108.7	7,385.0	-3,100.6	1,368.4	TD at 12108.7

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S34-T2N-R68W (Billings)

Billings 1F-34H

Hz

Plan #1

Anticollision Report

30 January, 2013

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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	1/29/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,108.7	Plan #1 (Hz)	MWD	Geolink MWD

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
S34-T2N-R68W (Billings)						
ALEX DONES UNIT 1 (EXISTING) - Existing - NO SURV						Out of range
ALEX DONES UNIT 2 (EXISTING) - Existing - NO SURV						Out of range
BILLINGS 1 (EXISTING) - Existing - GYRO						Out of range
Billings 1A-34H - Hz - Plan #1	200.0	200.0	50.4	49.7	77.139	CC, ES
Billings 1A-34H - Hz - Plan #1	500.0	495.9	73.4	71.7	43.411	SF
Billings 1B-34H - Hz - Plan #1	200.0	200.0	39.2	38.5	59.997	CC, ES
Billings 1B-34H - Hz - Plan #1	500.0	499.3	54.9	53.2	32.350	SF
Billings 1C-34H - Hz - Plan #1	200.0	200.0	30.8	30.1	47.140	CC, ES
Billings 1C-34H - Hz - Plan #1	500.0	499.5	46.3	44.7	27.341	SF
Billings 1D-34H - Hz - Plan #1	200.0	200.0	19.6	18.9	29.998	CC, ES
Billings 1D-34H - Hz - Plan #1	400.0	399.8	26.5	25.2	19.644	SF
Billings 1E-34H - Hz - Plan #1	200.0	200.0	8.4	7.7	12.856	CC, ES
Billings 1E-34H - Hz - Plan #1	12,108.7	12,313.4	422.7	286.7	3.108	SF
BILLINGS 2-34 (EXISTING) - Existing - NO SURVEYS						Out of range
BILLINGS 31-34 (EXISTING) - Existing - SURVEYS						Out of range
BILLINGS 32-34 (EXISTING) - Existing - NO SURVEYS						Out of range
BILLINGS 41-34 (EXISTING) - Existing - SURVEYS	7,790.6	7,436.7	385.6	355.4	12.746	CC, ES
BILLINGS 41-34 (EXISTING) - Existing - SURVEYS	7,800.0	7,439.4	385.7	355.4	12.718	SF
BILLINGS 42-34 (EXISTING) - Existing - NO SURVEYS	9,364.3	7,359.0	403.6	354.2	8.168	CC, ES
BILLINGS 42-34 (EXISTING) - Existing - NO SURVEYS	9,400.0	7,359.0	405.2	355.2	8.104	SF
BILLINGS 8-4-34 (was Billings 7-4-34) - DD - Plan #1	10,155.5	7,764.8	154.6	85.0	2.222	CC, ES, SF
GARVER 34-3M (EXISTING) - Existing - NO SURVEYS						Out of range
GARVER U 34-5 JI (EXISTING) - Existing - NO SURVEY						Out of range
MORGAN UNIT A 1 (EXISTING) - Existing - NO SURVEY						Out of range
MORGAN UNIT A 3 (EXISTING) - Existing - NO SURVEY						Out of range
PURITAN 1 (EXISTING) - Existing - NO SURVEYS						Out of range
PURITAN 2 (EXISTING) - Existing - NO SURVEYS						Out of range
PURITAN 3 (EXISTING) - Existing - NO SURVEYS						Out of range
PURITAN 33-34 (EXISTING) - Existing - GYRO						Out of range
PURITAN 34-34 (EXISTING) - Existing - SURVEYS						Out of range
PURITAN 4 (EXISTING) - Existing - NO SURVEYS						Out of range
PURITAN 44-34 (EXISTING) - Existing - SURVEYS	12,007.3	7,385.9	473.4	374.9	4.808	CC, ES, SF
PURITAN 4-4-34 (EXISTING) - Existing - SURVEYS						Out of range
PURITAN 4-6-34 (EXISTING) - Existing - SURVEYS						Out of range
PURITAN 6-4-34 (EXISTING) - Existing - SURVEYS						Out of range
PURITAN 6-8-34 - DD - Plan #1						Out of range
RODGERS 1 (EXISTING) - Existing - NO SURVEYS						Out of range
RODGERS UNIT 2 (EXISTING) - Existing - NO SURVEY						Out of range
WOOLLEY 1 (EXISTING) - Existing - NO SURVEYS						Out of range
WOOLLEY 2 (EXISTING) - Existing - NO SURVEYS						Out of range
WOOLLEY 34-14JI (EXISTING) - Existing - NO SURVEY						Out of range
WOOLLEY U 34-13JI (EXISTING) - Existing - NO SURV						Out of range

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - Billings 1A-34H - 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	-89.95	0.0	-50.4	50.4					
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-50.4	50.4	50.0	0.30	165.804		
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-50.4	50.4	49.7	0.65	77.139	CC, ES	
300.0	300.0	299.1	299.1	0.5	0.5	-171.50	0.2	-51.2	52.9	51.9	1.00	52.917		
400.0	399.8	397.8	397.8	0.7	0.7	-171.61	0.9	-53.7	60.6	59.3	1.35	45.020		
500.0	499.5	495.9	495.8	0.9	0.9	-171.75	1.9	-57.8	73.4	71.7	1.69	43.411	SF	
600.0	598.7	593.0	592.7	1.2	1.1	-171.86	3.3	-63.4	91.2	89.2	2.03	44.884		
700.0	697.5	688.7	688.1	1.5	1.3	-171.95	5.1	-70.6	114.0	111.6	2.37	48.098		
800.0	795.6	782.7	781.7	1.9	1.5	-172.00	7.2	-79.1	141.7	139.0	2.70	52.394		
900.0	893.1	874.8	873.3	2.3	1.7	-172.02	9.6	-88.9	174.2	171.1	3.03	57.410		
1,000.0	989.6	964.7	962.5	2.8	1.9	-172.01	12.4	-99.8	211.3	208.0	3.36	62.929		
1,100.0	1,085.8	1,052.9	1,049.7	3.3	2.2	-172.06	15.4	-111.8	251.5	247.8	3.70	68.006		
1,200.0	1,181.9	1,139.9	1,135.7	3.8	2.5	-172.01	18.6	-125.0	293.0	289.0	4.04	72.564		
1,300.0	1,278.0	1,227.2	1,221.7	4.3	2.8	-171.92	22.2	-139.4	335.8	331.4	4.38	76.666		
1,400.0	1,374.1	1,317.4	1,310.5	4.9	3.1	-171.83	26.0	-154.6	378.8	374.1	4.73	80.143		
1,500.0	1,470.3	1,407.6	1,399.4	5.4	3.4	-171.76	29.8	-169.8	421.9	416.8	5.08	83.133		
1,600.0	1,566.4	1,497.9	1,488.3	5.9	3.7	-171.70	33.6	-185.0	465.0	459.6	5.42	85.730		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - Billings 1B-34H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													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)				
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-39.2	39.2					
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-39.2	39.2	38.9	0.30	128.959		
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-39.2	39.2	38.5	0.65	59.997 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-171.81	0.0	-39.2	40.9	39.9	1.00	40.828		
400.0	399.8	399.8	399.8	0.7	0.7	-172.72	0.0	-39.2	46.1	44.7	1.35	34.148		
500.0	499.5	499.3	499.3	0.9	0.8	-172.96	0.9	-39.3	54.9	53.2	1.70	32.350 SF		
600.0	598.7	598.3	598.3	1.2	1.0	-172.02	3.4	-39.8	67.4	65.3	2.04	32.960		
700.0	697.5	696.7	696.6	1.5	1.2	-170.55	7.6	-40.6	83.6	81.2	2.40	34.876		
800.0	795.6	794.3	794.0	1.9	1.4	-168.95	13.4	-41.7	103.7	100.9	2.76	37.526		
900.0	893.1	891.0	890.4	2.3	1.6	-167.42	20.7	-43.0	127.5	124.3	3.14	40.568		
1,000.0	989.6	986.4	985.4	2.8	1.8	-166.02	29.5	-44.7	155.0	151.5	3.54	43.776		
1,100.0	1,085.8	1,081.1	1,079.5	3.3	2.0	-164.80	39.8	-46.6	184.7	180.8	3.98	46.415		
1,200.0	1,181.9	1,175.3	1,173.0	3.8	2.3	-163.49	51.5	-48.8	215.0	210.5	4.45	48.343		
1,300.0	1,278.0	1,270.1	1,266.8	4.3	2.5	-162.24	64.4	-51.2	245.6	240.7	4.93	49.784		
1,400.0	1,374.1	1,365.1	1,360.9	4.9	2.8	-161.25	77.4	-53.6	276.4	271.0	5.43	50.887		
1,500.0	1,470.3	1,460.2	1,455.0	5.4	3.1	-160.46	90.4	-56.1	307.2	301.3	5.94	51.755		
1,600.0	1,566.4	1,555.2	1,549.2	5.9	3.3	-159.82	103.4	-58.5	338.1	331.7	6.45	52.450		
1,700.0	1,662.5	1,650.3	1,643.3	6.4	3.6	-159.28	116.4	-60.9	369.0	362.1	6.96	53.018		
1,800.0	1,758.7	1,745.3	1,737.4	6.9	3.9	-158.82	129.4	-63.4	400.0	392.5	7.48	53.487		
1,900.0	1,854.8	1,840.4	1,831.6	7.5	4.1	-158.43	142.4	-65.8	430.9	422.9	8.00	53.881		
2,000.0	1,950.9	1,935.9	1,926.2	8.0	4.4	-158.10	155.5	-68.3	461.9	453.4	8.52	54.220		
2,100.0	2,047.0	2,034.4	2,023.8	8.5	4.7	-157.92	167.9	-70.6	492.5	483.4	9.03	54.561		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - Billings 1C-34H - Hz - Plan #1													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	-89.95	0.0	-30.8	30.8					
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-30.8	30.8	30.5	0.30	101.325		
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-30.8	30.8	30.1	0.65	47.140 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-171.91	0.0	-30.8	32.5	31.5	1.00	32.449		
400.0	399.8	399.8	399.8	0.7	0.7	-173.01	0.0	-30.8	37.7	36.3	1.35	27.931		
500.0	499.5	499.5	499.5	0.9	0.8	-174.31	0.0	-30.8	46.3	44.7	1.70	27.341 SF		
600.0	598.7	598.7	598.7	1.2	1.0	-175.47	0.0	-30.8	58.5	56.4	2.04	28.692		
700.0	697.5	698.6	698.6	1.5	1.2	-176.13	0.5	-30.0	73.3	71.0	2.38	30.805		
800.0	795.6	798.5	798.4	1.9	1.4	-176.21	1.8	-27.8	90.1	87.4	2.72	33.101		
900.0	893.1	898.3	898.1	2.3	1.6	-175.98	4.0	-24.1	108.7	105.6	3.06	35.511		
1,000.0	989.6	998.0	997.7	2.8	1.7	-175.57	7.0	-18.9	129.2	125.8	3.40	37.991		
1,100.0	1,085.8	1,098.0	1,097.4	3.3	1.9	-175.05	11.0	-12.1	149.9	146.1	3.76	39.844		
1,200.0	1,181.9	1,198.6	1,197.5	3.8	2.2	-174.38	15.9	-3.8	169.1	164.9	4.13	40.919		
1,300.0	1,278.0	1,299.8	1,298.1	4.3	2.4	-173.59	21.7	6.0	186.7	182.2	4.51	41.378		
1,400.0	1,374.1	1,401.5	1,398.9	4.9	2.7	-172.68	28.4	17.5	202.9	198.0	4.91	41.331		
1,500.0	1,470.3	1,503.6	1,499.9	5.4	2.9	-171.67	36.1	30.5	217.6	212.3	5.32	40.863		
1,600.0	1,566.4	1,605.9	1,600.7	5.9	3.3	-170.56	44.7	45.1	230.8	225.0	5.76	40.043		
1,700.0	1,662.5	1,705.0	1,698.3	6.4	3.6	-169.50	53.5	59.9	243.4	237.2	6.21	39.181		
1,800.0	1,758.7	1,804.1	1,795.9	6.9	3.9	-168.54	62.2	74.8	256.1	249.5	6.68	38.371		
1,900.0	1,854.8	1,903.2	1,893.5	7.5	4.2	-167.68	70.9	89.6	268.9	261.8	7.15	37.613		
2,000.0	1,950.9	2,002.3	1,991.1	8.0	4.5	-166.90	79.7	104.4	281.7	274.1	7.63	36.905		
2,100.0	2,047.0	2,101.4	2,088.7	8.5	4.9	-166.18	88.4	119.2	294.6	286.5	8.13	36.246		
2,200.0	2,143.2	2,200.5	2,186.3	9.0	5.2	-165.52	97.1	134.1	307.5	298.9	8.63	35.633		
2,300.0	2,239.3	2,299.6	2,283.9	9.6	5.5	-164.92	105.9	148.9	320.5	311.3	9.14	35.063		
2,400.0	2,335.4	2,398.7	2,381.5	10.1	5.9	-164.36	114.6	163.7	333.5	323.8	9.66	34.533		
2,500.0	2,431.5	2,497.8	2,479.1	10.6	6.2	-163.84	123.3	178.6	346.5	336.3	10.18	34.040		
2,600.0	2,527.7	2,596.9	2,576.7	11.1	6.5	-163.37	132.1	193.4	359.5	348.8	10.71	33.581		
2,700.0	2,623.8	2,696.0	2,674.3	11.7	6.9	-162.92	140.8	208.2	372.6	361.3	11.24	33.154		
2,800.0	2,719.9	2,795.1	2,771.9	12.2	7.2	-162.51	149.5	223.0	385.6	373.9	11.77	32.755		
2,900.0	2,816.0	2,894.2	2,869.5	12.7	7.6	-162.12	158.3	237.9	398.7	386.4	12.31	32.382		
3,000.0	2,912.2	2,991.3	2,965.1	13.3	7.9	-161.77	166.8	252.3	411.9	399.1	12.85	32.066		
3,100.0	3,008.3	3,085.0	3,057.7	13.8	8.2	-161.57	174.3	265.2	426.2	412.8	13.34	31.946		
3,200.0	3,104.4	3,178.4	3,150.1	14.3	8.5	-161.51	181.1	276.7	441.6	427.8	13.80	32.003		
3,300.0	3,200.5	3,271.4	3,242.3	14.8	8.7	-161.58	187.1	286.9	458.3	444.1	14.23	32.219		
3,400.0	3,296.7	3,364.0	3,334.3	15.4	8.9	-161.76	192.3	295.7	476.3	461.6	14.62	32.582		
3,500.0	3,392.8	3,456.1	3,426.0	15.9	9.2	-162.03	196.8	303.3	495.4	480.4	14.98	33.080		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - Billings 1D-34H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)				Between Ellipses (ft)	
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-19.6	19.6					
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-19.6	19.6	19.3	0.30	64.479		
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-19.6	19.6	18.9	0.65	29.998 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-172.14	0.0	-19.6	21.3	20.3	1.00	21.277		
400.0	399.8	399.8	399.8	0.7	0.7	-173.68	0.0	-19.6	26.5	25.2	1.35	19.644 SF		
500.0	499.5	499.5	499.5	0.9	0.8	-175.23	0.0	-19.6	35.2	33.5	1.69	20.755		
600.0	598.7	598.7	598.7	1.2	1.0	-176.44	0.0	-19.6	47.3	45.3	2.04	23.225		
700.0	697.5	698.5	698.5	1.5	1.2	-177.18	0.2	-18.8	62.1	59.7	2.38	26.107		
800.0	795.6	798.3	798.3	1.9	1.4	-177.53	0.9	-16.3	78.7	76.0	2.72	28.935		
900.0	893.1	898.2	898.0	2.3	1.6	-177.66	2.1	-12.1	97.0	93.9	3.06	31.729		
1,000.0	989.6	998.0	997.7	2.8	1.7	-177.67	3.8	-6.3	117.0	113.6	3.39	34.506		
1,100.0	1,085.8	1,098.1	1,097.5	3.3	1.9	-177.60	5.9	1.3	137.1	133.3	3.74	36.622		
1,200.0	1,181.9	1,199.0	1,197.9	3.8	2.2	-177.44	8.5	10.5	155.4	151.3	4.10	37.936		
1,300.0	1,278.0	1,300.4	1,298.7	4.3	2.4	-177.21	11.6	21.6	172.1	167.6	4.45	38.631		
1,400.0	1,374.1	1,402.5	1,399.8	4.9	2.7	-176.92	15.2	34.4	187.0	182.2	4.81	38.837		
1,500.0	1,470.3	1,505.0	1,501.2	5.4	3.0	-176.58	19.3	49.1	200.2	195.0	5.18	38.649		
1,600.0	1,566.4	1,607.7	1,602.5	5.9	3.3	-176.19	23.9	65.5	211.6	206.1	5.55	38.144		
1,700.0	1,662.5	1,707.1	1,700.4	6.4	3.6	-175.81	28.6	82.1	222.3	216.4	5.91	37.596		
1,800.0	1,758.7	1,806.5	1,798.3	6.9	3.9	-175.47	33.3	98.7	233.0	226.8	6.28	37.101		
1,900.0	1,854.8	1,905.9	1,896.2	7.5	4.2	-175.15	37.9	115.4	243.8	237.1	6.65	36.651		
2,000.0	1,950.9	2,005.3	1,994.1	8.0	4.5	-174.87	42.6	132.0	254.5	247.5	7.02	36.240		
2,100.0	2,047.0	2,104.7	2,092.0	8.5	4.9	-174.60	47.3	148.6	265.2	257.9	7.40	35.862		
2,200.0	2,143.2	2,204.2	2,189.9	9.0	5.2	-174.36	52.0	165.2	276.0	268.2	7.77	35.514		
2,300.0	2,239.3	2,303.6	2,287.8	9.6	5.5	-174.13	56.6	181.8	286.7	278.6	8.15	35.192		
2,400.0	2,335.4	2,403.0	2,385.7	10.1	5.9	-173.93	61.3	198.5	297.5	289.0	8.53	34.893		
2,500.0	2,431.5	2,502.4	2,483.6	10.6	6.2	-173.73	66.0	215.1	308.3	299.3	8.91	34.614		
2,600.0	2,527.7	2,601.8	2,581.5	11.1	6.6	-173.55	70.6	231.7	319.0	309.7	9.29	34.355		
2,700.0	2,623.8	2,701.2	2,679.4	11.7	6.9	-173.38	75.3	248.3	329.8	320.1	9.67	34.112		
2,800.0	2,719.9	2,800.6	2,777.3	12.2	7.2	-173.22	80.0	264.9	340.5	330.5	10.05	33.884		
2,900.0	2,816.0	2,900.1	2,875.2	12.7	7.6	-173.07	84.7	281.5	351.3	340.9	10.43	33.671		
3,000.0	2,912.2	2,999.5	2,973.1	13.3	7.9	-172.93	89.3	298.2	362.1	351.3	10.82	33.469		
3,100.0	3,008.3	3,098.9	3,071.0	13.8	8.3	-172.80	94.0	314.8	372.9	361.7	11.20	33.280		
3,200.0	3,104.4	3,198.3	3,169.0	14.3	8.6	-172.68	98.7	331.4	383.6	372.0	11.59	33.101		
3,300.0	3,200.5	3,297.7	3,266.9	14.8	9.0	-172.56	103.3	348.0	394.4	382.4	11.98	32.931		
3,400.0	3,296.7	3,397.1	3,364.8	15.4	9.3	-172.45	108.0	364.6	405.2	392.8	12.36	32.771		
3,500.0	3,392.8	3,496.5	3,462.7	15.9	9.7	-172.34	112.7	381.3	416.0	403.2	12.75	32.618		
3,600.0	3,488.9	3,596.0	3,560.6	16.4	10.0	-172.24	117.4	397.9	426.7	413.6	13.14	32.474		
3,700.0	3,585.0	3,695.4	3,658.5	16.9	10.4	-172.15	122.0	414.5	437.5	424.0	13.53	32.336		
3,800.0	3,681.2	3,794.8	3,756.4	17.5	10.7	-172.06	126.7	431.1	448.3	434.4	13.92	32.205		
3,900.0	3,777.3	3,894.2	3,854.3	18.0	11.0	-171.97	131.4	447.7	459.1	444.8	14.31	32.080		
4,000.0	3,873.4	3,993.6	3,952.2	18.5	11.4	-171.89	136.0	464.4	469.9	455.2	14.70	31.961		
4,100.0	3,969.6	4,093.0	4,050.1	19.1	11.7	-171.81	140.7	481.0	480.7	465.6	15.09	31.847		
4,200.0	4,065.7	4,192.4	4,148.0	19.6	12.1	-171.73	145.4	497.6	491.5	476.0	15.48	31.738		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - Billings 1E-34H - Hz - Plan #1													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	-89.94	0.0	-8.4	8.4					
100.0	100.0	100.0	100.0	0.2	0.2	-89.94	0.0	-8.4	8.4	8.1	0.30	27.634		
200.0	200.0	200.0	200.0	0.3	0.3	-89.94	0.0	-8.4	8.4	7.7	0.65	12.856 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-172.91	0.0	-8.4	10.1	9.1	1.00	10.106		
400.0	399.8	399.8	399.8	0.7	0.7	-175.32	0.0	-8.4	15.3	14.0	1.35	11.362		
500.0	499.5	500.2	500.2	0.9	0.9	-176.62	0.3	-6.7	22.3	20.6	1.70	13.142		
600.0	598.7	600.9	600.7	1.2	1.0	-177.06	1.3	-1.5	29.3	27.2	2.04	14.320		
700.0	697.5	701.8	701.3	1.5	1.3	-177.14	2.9	7.2	36.2	33.8	2.39	15.153		
800.0	795.6	803.0	801.6	1.9	1.5	-177.02	5.2	19.4	43.1	40.4	2.73	15.766		
900.0	893.1	904.4	901.8	2.3	1.8	-176.79	8.1	35.2	50.0	46.9	3.08	16.231		
1,000.0	989.6	1,006.0	1,001.5	2.8	2.2	-176.48	11.6	54.4	56.8	53.4	3.43	16.585		
1,100.0	1,085.8	1,108.0	1,100.8	3.3	2.6	-176.02	15.9	77.2	61.9	58.1	3.79	16.317		
1,200.0	1,181.9	1,208.9	1,198.3	3.8	3.1	-175.35	20.6	102.6	64.0	59.8	4.16	15.377		
1,300.0	1,278.0	1,308.9	1,294.9	4.3	3.5	-174.69	25.3	128.0	65.8	61.3	4.53	14.514		
1,400.0	1,374.1	1,408.9	1,391.5	4.9	4.0	-174.07	30.0	153.5	67.7	62.7	4.91	13.769		
1,500.0	1,470.3	1,508.8	1,488.1	5.4	4.5	-173.48	34.7	178.9	69.5	64.2	5.30	13.117		
1,600.0	1,566.4	1,608.8	1,584.6	5.9	4.9	-172.92	39.4	204.3	71.4	65.7	5.69	12.542		
1,700.0	1,662.5	1,708.8	1,681.2	6.4	5.4	-172.38	44.2	229.8	73.2	67.1	6.09	12.029		
1,800.0	1,758.7	1,808.8	1,777.8	6.9	5.9	-171.88	48.9	255.2	75.1	68.6	6.49	11.569		
1,900.0	1,854.8	1,908.8	1,874.4	7.5	6.4	-171.40	53.6	280.7	77.0	70.1	6.90	11.154		
2,000.0	1,950.9	2,008.7	1,970.9	8.0	6.9	-170.94	58.3	306.1	78.8	71.5	7.32	10.777		
2,100.0	2,047.0	2,108.7	2,067.5	8.5	7.4	-170.50	63.0	331.6	80.7	73.0	7.74	10.434		
2,200.0	2,143.2	2,208.7	2,164.1	9.0	7.9	-170.09	67.7	357.0	82.6	74.4	8.16	10.119		
2,300.0	2,239.3	2,308.7	2,260.7	9.6	8.4	-169.69	72.4	382.5	84.5	75.9	8.60	9.830		
2,400.0	2,335.4	2,408.7	2,357.2	10.1	8.9	-169.31	77.2	407.9	86.4	77.4	9.03	9.563		
2,500.0	2,431.5	2,508.6	2,453.8	10.6	9.4	-168.95	81.9	433.3	88.3	78.8	9.48	9.316		
2,600.0	2,527.7	2,608.6	2,550.4	11.1	9.9	-168.60	86.6	458.8	90.2	80.3	9.93	9.088		
2,700.0	2,623.8	2,708.6	2,647.0	11.7	10.3	-168.26	91.3	484.2	92.1	81.7	10.38	8.875		
2,800.0	2,719.9	2,808.6	2,743.5	12.2	10.8	-167.94	96.0	509.7	94.0	83.2	10.84	8.677		
2,900.0	2,816.0	2,908.6	2,840.1	12.7	11.3	-167.63	100.7	535.1	95.9	84.6	11.30	8.491		
3,000.0	2,912.2	3,008.5	2,936.7	13.3	11.8	-167.34	105.5	560.6	97.8	86.1	11.76	8.318		
3,100.0	3,008.3	3,108.5	3,033.2	13.8	12.3	-167.05	110.2	586.0	99.8	87.5	12.23	8.155		
3,200.0	3,104.4	3,208.5	3,129.8	14.3	12.8	-166.78	114.9	611.4	101.7	89.0	12.71	8.003		
3,300.0	3,200.5	3,308.5	3,226.4	14.8	13.3	-166.52	119.6	636.9	103.6	90.4	13.18	7.859		
3,400.0	3,296.7	3,408.5	3,323.0	15.4	13.8	-166.26	124.3	662.3	105.5	91.9	13.66	7.723		
3,500.0	3,392.8	3,508.4	3,419.5	15.9	14.3	-166.02	129.0	687.8	107.4	93.3	14.15	7.595		
3,600.0	3,488.9	3,608.4	3,516.1	16.4	14.8	-165.78	133.8	713.2	109.4	94.7	14.63	7.474		
3,700.0	3,585.0	3,708.4	3,612.7	16.9	15.3	-165.55	138.5	738.7	111.3	96.2	15.12	7.360		
3,800.0	3,681.2	3,808.4	3,709.3	17.5	15.8	-165.33	143.2	764.1	113.2	97.6	15.62	7.252		
3,900.0	3,777.3	3,908.4	3,805.8	18.0	16.3	-165.12	147.9	789.6	115.2	99.1	16.11	7.149		
4,000.0	3,873.4	4,008.3	3,902.4	18.5	16.8	-164.91	152.6	815.0	117.1	100.5	16.61	7.051		
4,100.0	3,969.6	4,108.3	3,999.0	19.1	17.3	-164.71	157.3	840.4	119.0	101.9	17.11	6.958		
4,200.0	4,065.7	4,208.3	4,095.6	19.6	17.8	-164.52	162.0	865.9	121.0	103.4	17.61	6.869		
4,300.0	4,161.8	4,308.3	4,192.1	20.1	18.3	-164.33	166.8	891.3	122.9	104.8	18.12	6.785		
4,400.0	4,257.9	4,408.3	4,288.7	20.6	18.8	-164.15	171.5	916.8	124.9	106.2	18.62	6.704		
4,500.0	4,354.1	4,508.2	4,385.3	21.2	19.3	-163.98	176.2	942.2	126.8	107.7	19.13	6.627		
4,600.0	4,450.2	4,608.2	4,481.9	21.7	19.8	-163.81	180.9	967.7	128.7	109.1	19.64	6.553		
4,700.0	4,546.3	4,708.2	4,578.4	22.2	20.3	-163.64	185.6	993.1	130.7	110.5	20.16	6.483		
4,800.0	4,642.4	4,808.2	4,675.0	22.7	20.8	-163.48	190.3	1,018.5	132.6	111.9	20.67	6.416		
4,900.0	4,738.6	4,905.2	4,768.9	23.3	21.2	-163.44	194.8	1,042.5	135.3	114.2	21.13	6.405		
5,000.0	4,834.7	5,000.0	4,861.4	23.8	21.6	-163.79	198.6	1,063.0	141.1	119.7	21.41	6.589		
5,100.0	4,930.8	5,095.6	4,955.3	24.3	21.9	-164.49	201.8	1,080.6	150.0	128.5	21.54	6.963		

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 Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - Billings 1E-34H - 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		
5,200.0	5,026.9	5,189.9	5,048.5	24.9	22.2	-165.42	204.5	1,095.0	162.1	140.5	21.56	7.517		
5,300.0	5,123.1	5,283.4	5,141.2	25.4	22.4	-166.50	206.6	1,106.2	177.3	155.8	21.53	8.239		
5,400.0	5,219.2	5,375.8	5,233.2	25.9	22.6	-167.63	208.1	1,114.4	195.8	174.3	21.47	9.117		
5,500.0	5,315.8	5,467.3	5,324.6	26.4	22.7	-168.74	209.1	1,119.6	215.6	194.2	21.44	10.057		
5,600.0	5,413.2	5,558.3	5,415.6	26.8	22.8	-169.67	209.5	1,122.0	235.2	213.8	21.46	10.960		
5,700.0	5,511.4	5,654.1	5,511.4	27.1	22.9	-170.48	209.5	1,122.1	253.9	232.3	21.53	11.790		
5,800.0	5,610.1	5,752.9	5,610.1	27.4	22.9	-171.08	209.5	1,122.1	269.3	247.7	21.67	12.431		
5,900.0	5,709.4	5,852.1	5,709.4	27.7	23.0	-171.50	209.5	1,122.1	281.4	259.5	21.84	12.883		
6,000.0	5,809.0	5,951.7	5,809.0	27.8	23.1	-171.78	209.5	1,122.1	290.0	267.9	22.04	13.157		
6,100.0	5,908.9	6,051.6	5,908.9	28.0	23.2	-171.94	209.5	1,122.1	295.2	272.9	22.26	13.261		
6,200.0	6,008.8	6,151.6	6,008.8	28.0	23.3	-90.49	209.5	1,122.1	296.9	274.7	22.19	13.382		
6,300.0	6,108.8	6,251.6	6,108.8	28.1	23.3	-90.49	209.5	1,122.1	296.9	274.4	22.53	13.181		
6,400.0	6,208.8	6,351.6	6,208.8	28.2	23.4	-90.49	209.5	1,122.1	296.9	274.0	22.86	12.985		
6,500.0	6,308.8	6,451.6	6,308.8	28.2	23.5	-90.49	209.5	1,122.1	296.9	273.7	23.20	12.795		
6,600.0	6,408.8	6,551.6	6,408.8	28.3	23.6	-90.49	209.5	1,122.1	296.9	273.4	23.54	12.611		
6,700.0	6,508.8	6,651.6	6,508.8	28.4	23.7	-90.49	209.5	1,122.1	296.9	273.0	23.88	12.431		
6,800.0	6,608.8	6,751.6	6,608.8	28.4	23.8	-90.49	209.5	1,122.1	296.9	272.7	24.22	12.257		
6,900.0	6,708.8	6,851.6	6,708.8	28.5	23.8	88.48	209.5	1,122.1	296.9	272.0	24.87	11.936		
6,973.6	6,781.9	6,924.7	6,781.9	28.5	23.9	90.00	209.5	1,122.1	296.8	271.3	25.44	11.666		
7,000.0	6,807.9	6,950.7	6,807.9	28.6	23.9	90.88	209.5	1,122.1	296.8	271.1	25.74	11.529		
7,100.0	6,904.4	7,047.1	6,904.4	28.6	24.0	95.61	209.5	1,122.1	298.4	271.0	27.32	10.922		
7,200.0	6,996.2	7,146.8	7,003.9	28.6	24.1	101.96	206.0	1,122.2	304.1	274.8	29.31	10.378		
7,300.0	7,081.7	7,254.4	7,109.8	28.6	24.1	108.28	187.3	1,122.4	313.6	282.9	30.65	10.230		
7,400.0	7,159.1	7,369.3	7,218.4	28.6	24.2	114.18	150.1	1,123.0	325.8	294.9	30.92	10.538		
7,500.0	7,227.0	7,492.3	7,326.4	28.7	24.2	119.52	91.7	1,123.8	339.5	309.4	30.07	11.290		
7,600.0	7,284.0	7,624.1	7,429.3	28.8	24.3	124.20	9.6	1,125.0	353.1	324.7	28.39	12.439		
7,700.0	7,329.1	7,764.8	7,520.5	29.0	24.5	128.12	-97.2	1,126.5	365.2	338.6	26.59	13.737		
7,800.0	7,361.2	7,913.5	7,592.3	29.3	25.0	131.18	-227.2	1,128.4	374.2	348.7	25.52	14.663		
7,900.0	7,380.0	8,068.4	7,636.9	29.8	25.7	133.29	-375.3	1,130.6	378.7	352.5	26.18	14.465		
8,000.0	7,385.0	8,216.9	7,649.0	30.3	26.6	134.33	-522.9	1,132.7	377.9	349.3	28.64	13.194		
8,100.0	7,385.0	8,316.8	7,649.0	30.9	27.4	134.72	-622.8	1,134.1	375.3	345.3	30.09	12.473		
8,200.0	7,385.0	8,416.7	7,649.0	31.6	28.2	135.11	-722.7	1,135.6	372.8	341.1	31.64	11.783		
8,300.0	7,385.0	8,516.7	7,649.0	32.4	29.2	135.50	-822.7	1,137.0	370.2	337.0	33.26	11.131		
8,400.0	7,385.0	8,616.6	7,649.0	33.2	30.2	135.91	-922.6	1,138.5	367.7	332.8	34.94	10.523		
8,500.0	7,385.0	8,716.5	7,649.0	34.1	31.3	136.31	-1,022.5	1,139.9	365.2	328.5	36.67	9.960		
8,600.0	7,385.0	8,816.5	7,649.0	35.1	32.4	136.73	-1,122.4	1,141.4	362.7	324.3	38.42	9.440		
8,700.0	7,385.0	8,916.4	7,649.0	36.2	33.6	137.15	-1,222.4	1,142.8	360.2	320.0	40.19	8.963		
8,800.0	7,385.0	9,016.3	7,649.0	37.3	34.8	137.57	-1,322.3	1,144.3	357.8	315.8	41.97	8.524		
8,900.0	7,385.0	9,116.3	7,649.0	38.4	36.1	138.00	-1,422.2	1,145.7	355.3	311.6	43.75	8.122		
9,000.0	7,385.0	9,216.2	7,649.0	39.6	37.4	138.44	-1,522.1	1,147.1	352.9	307.4	45.52	7.753		
9,100.0	7,385.0	9,316.1	7,649.0	40.9	38.8	138.88	-1,622.1	1,148.6	350.5	303.3	47.28	7.414		
9,200.0	7,385.0	9,416.1	7,649.0	42.1	40.2	139.33	-1,722.0	1,150.0	348.2	299.1	49.03	7.102		
9,300.0	7,385.0	9,516.0	7,649.0	43.4	41.6	139.78	-1,821.9	1,151.5	345.8	295.1	50.74	6.815		
9,400.0	7,385.0	9,615.9	7,649.0	44.8	43.0	140.24	-1,921.8	1,152.9	343.5	291.1	52.44	6.551		
9,500.0	7,385.0	9,715.9	7,649.0	46.2	44.5	140.71	-2,021.8	1,154.4	341.2	287.1	54.10	6.307		
9,600.0	7,385.0	9,815.8	7,649.0	47.5	46.0	141.19	-2,121.7	1,155.8	338.9	283.2	55.72	6.082		
9,700.0	7,385.0	9,915.7	7,649.0	49.0	47.5	141.67	-2,221.6	1,157.3	336.6	279.3	57.31	5.874		
9,800.0	7,385.0	10,015.7	7,649.0	50.4	49.0	142.15	-2,321.5	1,158.7	334.4	275.6	58.86	5.681		
9,900.0	7,385.0	10,115.6	7,649.0	51.9	50.5	142.64	-2,421.5	1,160.1	332.2	271.8	60.37	5.503		
10,000.0	7,385.0	10,215.5	7,649.0	53.4	52.1	143.14	-2,521.4	1,161.6	330.0	268.2	61.83	5.338		
10,100.0	7,385.0	10,315.5	7,649.0	54.8	53.6	143.65	-2,621.3	1,163.0	327.9	264.6	63.24	5.184		
10,200.0	7,385.0	10,415.4	7,649.0	56.4	55.2	144.16	-2,721.2	1,164.5	325.7	261.1	64.60	5.042		

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 Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - Billings 1E-34H - 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	7,385.0	10,515.4	7,649.0	57.9	56.8	144.55	-2,821.2	1,165.9	324.1	257.5	66.60	4.867		
10,335.2	7,385.0	10,550.6	7,649.0	58.5	57.4	144.58	-2,856.4	1,166.4	324.0	256.5	67.50	4.799		
10,400.0	7,385.0	10,615.4	7,649.0	59.5	58.4	144.48	-2,921.2	1,167.4	324.4	255.0	69.35	4.677		
10,500.0	7,385.0	10,715.3	7,649.0	61.1	60.0	143.94	-3,021.1	1,168.8	326.7	254.0	72.73	4.492		
10,600.0	7,385.0	10,815.0	7,649.0	62.7	61.6	142.96	-3,120.8	1,170.2	331.2	254.5	76.67	4.319		
10,700.0	7,385.0	10,914.6	7,649.0	64.4	63.2	141.79	-3,220.4	1,171.7	336.5	256.0	80.49	4.180		
10,800.0	7,385.0	11,014.3	7,649.0	66.0	64.8	140.66	-3,320.0	1,173.1	341.9	257.5	84.34	4.054		
10,900.0	7,385.0	11,113.9	7,649.0	67.7	66.5	139.56	-3,419.6	1,174.6	347.4	259.2	88.22	3.938		
11,000.0	7,385.0	11,213.5	7,649.0	69.3	68.1	138.50	-3,519.2	1,176.0	353.1	261.0	92.12	3.833		
11,100.0	7,385.0	11,313.1	7,649.0	71.0	69.7	137.47	-3,618.9	1,177.4	358.9	262.8	96.05	3.736		
11,200.0	7,385.0	11,412.8	7,649.0	72.7	71.4	136.47	-3,718.5	1,178.9	364.8	264.8	99.99	3.648		
11,300.0	7,385.0	11,512.4	7,649.0	74.4	73.0	135.51	-3,818.1	1,180.3	370.8	266.8	103.95	3.567		
11,400.0	7,385.0	11,612.0	7,649.0	76.0	74.7	134.57	-3,917.7	1,181.8	376.9	269.0	107.91	3.492		
11,500.0	7,385.0	11,711.6	7,649.0	77.7	76.3	133.67	-4,017.3	1,183.2	383.1	271.2	111.89	3.424		
11,600.0	7,385.0	11,811.3	7,649.0	79.4	78.0	132.79	-4,116.9	1,184.6	389.4	273.5	115.87	3.360		
11,700.0	7,385.0	11,910.9	7,649.0	81.1	79.7	131.95	-4,216.6	1,186.1	395.8	275.9	119.86	3.302		
11,800.0	7,385.0	12,010.5	7,649.0	82.8	81.3	131.13	-4,316.2	1,187.5	402.2	278.4	123.84	3.248		
11,900.0	7,385.0	12,110.2	7,649.0	84.5	83.0	130.33	-4,415.8	1,189.0	408.8	281.0	127.83	3.198		
12,000.0	7,385.0	12,209.8	7,649.0	86.2	84.7	129.56	-4,515.4	1,190.4	415.4	283.6	131.81	3.151		
12,100.0	7,385.0	12,309.4	7,649.0	87.9	86.4	128.82	-4,615.0	1,191.8	422.1	286.3	135.80	3.108		
12,108.7	7,385.0	12,313.4	7,649.0	88.0	86.4	128.79	-4,619.0	1,191.9	422.7	286.7	136.02	3.108 SF		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - BILLINGS 41-34 (EXISTING) - Existing - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 123-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
7,500.0	7,227.0	7,306.4	7,230.6	28.7	17.9	67.94	-302.8	1,021.1	463.7	436.3	27.42	16.909	
7,600.0	7,284.0	7,361.9	7,286.2	28.8	18.0	77.44	-302.3	1,021.3	423.5	395.2	28.35	14.941	
7,700.0	7,329.1	7,407.6	7,331.8	29.0	18.1	85.66	-302.6	1,021.8	395.1	365.6	29.42	13.427	
7,790.6	7,358.8	7,436.7	7,360.9	29.3	18.1	90.48	-302.8	1,022.1	385.6	355.4	30.25	12.746	CC, ES
7,800.0	7,361.2	7,439.4	7,363.6	29.3	18.1	90.86	-302.8	1,022.1	385.7	355.4	30.33	12.718	SF
7,900.0	7,380.0	7,457.4	7,381.6	29.8	18.1	92.29	-302.8	1,022.3	400.3	369.0	31.26	12.806	
8,000.0	7,385.0	7,461.9	7,386.1	30.3	18.1	90.31	-302.8	1,022.3	437.9	405.6	32.28	13.567	
8,100.0	7,385.0	7,461.6	7,385.8	30.9	18.1	90.27	-302.8	1,022.3	493.3	459.9	33.42	14.761	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - BILLINGS 42-34 (EXISTING) - Existing - NO SURVEYS												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
9,100.0	7,385.0	7,359.0	7,359.0	40.9	12.8	90.00	-1,874.2	969.9	482.4	437.3	45.11	10.693	
9,200.0	7,385.0	7,359.0	7,359.0	42.1	12.8	90.00	-1,874.2	969.9	435.7	389.0	46.73	9.325	
9,300.0	7,385.0	7,359.0	7,359.0	43.4	12.8	90.00	-1,874.2	969.9	408.7	360.3	48.36	8.451	
9,364.3	7,385.0	7,359.0	7,359.0	44.3	12.8	90.00	-1,874.2	969.9	403.6	354.2	49.41	8.168	CC, ES
9,400.0	7,385.0	7,359.0	7,359.0	44.8	12.8	90.00	-1,874.2	969.9	405.2	355.2	50.00	8.104	SF
9,500.0	7,385.0	7,359.0	7,359.0	46.2	12.8	90.00	-1,874.2	969.9	425.8	374.2	51.65	8.245	
9,600.0	7,385.0	7,359.0	7,359.0	47.5	12.8	90.00	-1,874.2	969.9	467.4	414.1	53.31	8.768	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - BILLINGS 8-4-34 (was Billings 7-4-34) - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
9,700.0	7,385.0	7,764.8	7,402.0	49.0	39.5	-90.00	-2,677.4	1,510.7	481.0	419.1	61.90	7.771	
9,800.0	7,385.0	7,764.8	7,402.0	50.4	39.5	-90.00	-2,677.4	1,510.7	387.7	324.1	63.58	6.098	
9,900.0	7,385.0	7,764.8	7,402.0	51.9	39.5	-90.00	-2,677.4	1,510.7	298.6	233.4	65.26	4.576	
10,000.0	7,385.0	7,764.8	7,402.0	53.4	39.5	-90.00	-2,677.4	1,510.7	219.3	152.3	66.94	3.276	
10,100.0	7,385.0	7,764.8	7,402.0	54.8	39.5	-90.00	-2,677.4	1,510.7	164.2	95.6	68.63	2.393	
10,155.5	7,385.0	7,764.8	7,402.0	55.7	39.5	-90.00	-2,677.4	1,510.7	154.6	85.0	69.57	2.222	CC, ES, SF
10,200.0	7,385.0	7,764.8	7,402.0	56.4	39.5	-90.00	-2,677.4	1,510.7	160.8	90.5	70.32	2.287	
10,300.0	7,385.0	7,764.8	7,402.0	57.9	39.5	-90.00	-2,677.4	1,510.7	211.0	137.8	73.18	2.883	
10,400.0	7,385.0	7,764.8	7,402.0	59.5	39.5	-90.00	-2,677.4	1,510.7	286.5	210.0	76.54	3.744	
10,500.0	7,385.0	7,764.8	7,402.0	61.1	39.5	-90.00	-2,677.4	1,510.7	372.2	292.4	79.85	4.661	
10,600.0	7,385.0	7,764.8	7,402.0	62.7	39.5	-90.00	-2,677.4	1,510.7	462.4	379.5	82.86	5.581	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 S34-T2N-R68W (Billings) - PURITAN 44-34 (EXISTING) - Existing - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 708-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	
11,900.0	7,385.0	7,387.5	7,355.0	84.5	14.3	89.76	-4,565.7	1,040.9	485.4	388.8	96.58	5.025	
12,000.0	7,385.0	7,386.0	7,353.5	86.2	14.3	89.57	-4,565.7	1,040.9	473.4	375.1	98.32	4.815	
12,007.3	7,385.0	7,385.9	7,353.3	86.3	14.3	89.56	-4,565.7	1,040.9	473.4	374.9	98.44	4.808 CC, ES, SF	
12,100.0	7,385.0	7,384.4	7,351.9	87.9	14.3	89.38	-4,565.7	1,040.9	482.3	382.3	100.05	4.821	
12,108.7	7,385.0	7,384.3	7,351.8	88.0	14.3	89.37	-4,565.7	1,040.9	484.1	383.9	100.20	4.831	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 1F-34H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5008.0ft (Original Well Elev)
Reference Site:	S34-T2N-R68W (Billings)	MD Reference:	WELL @ 5008.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Billings 1F-34H	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 @ 5008.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Billings 1F-34H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.33°

