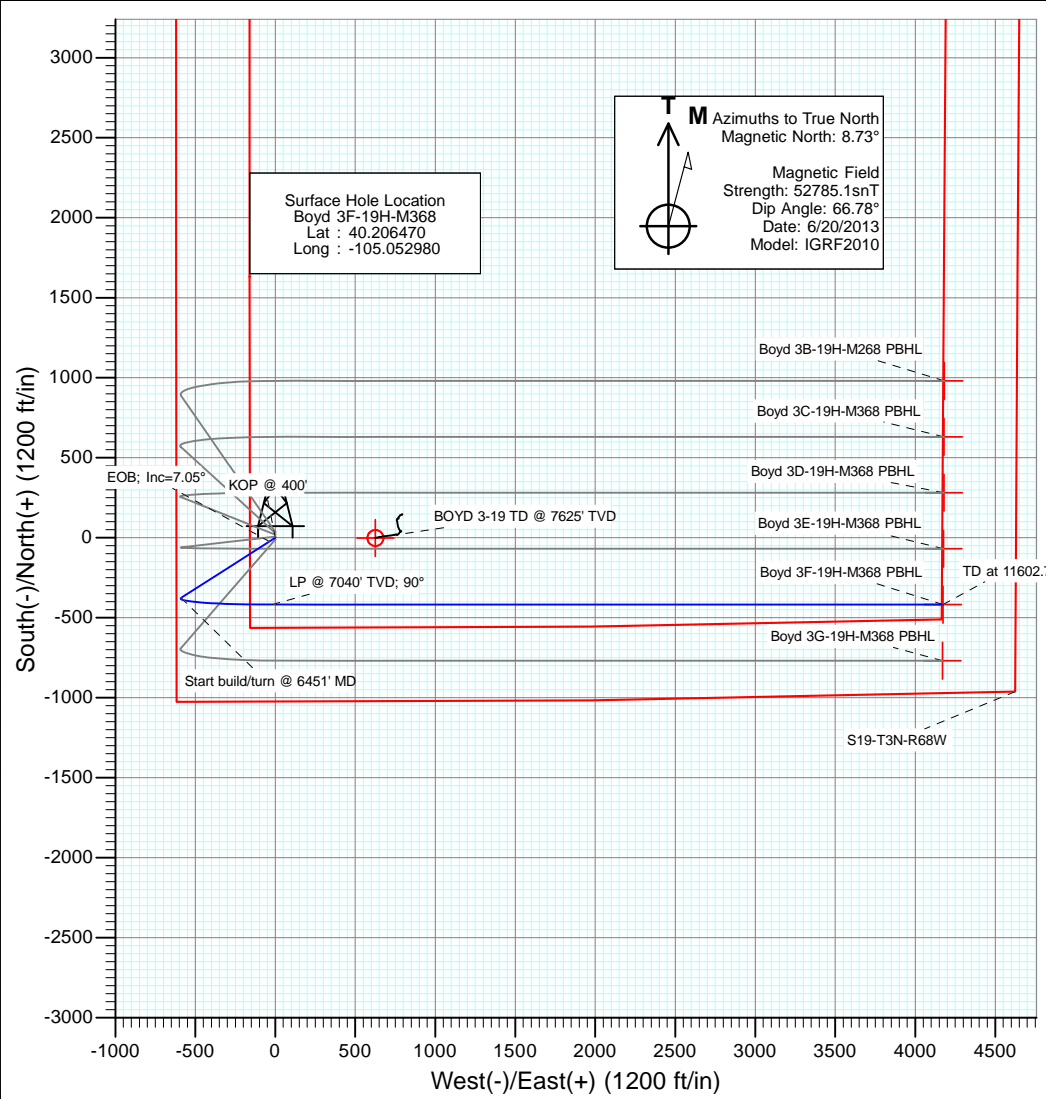
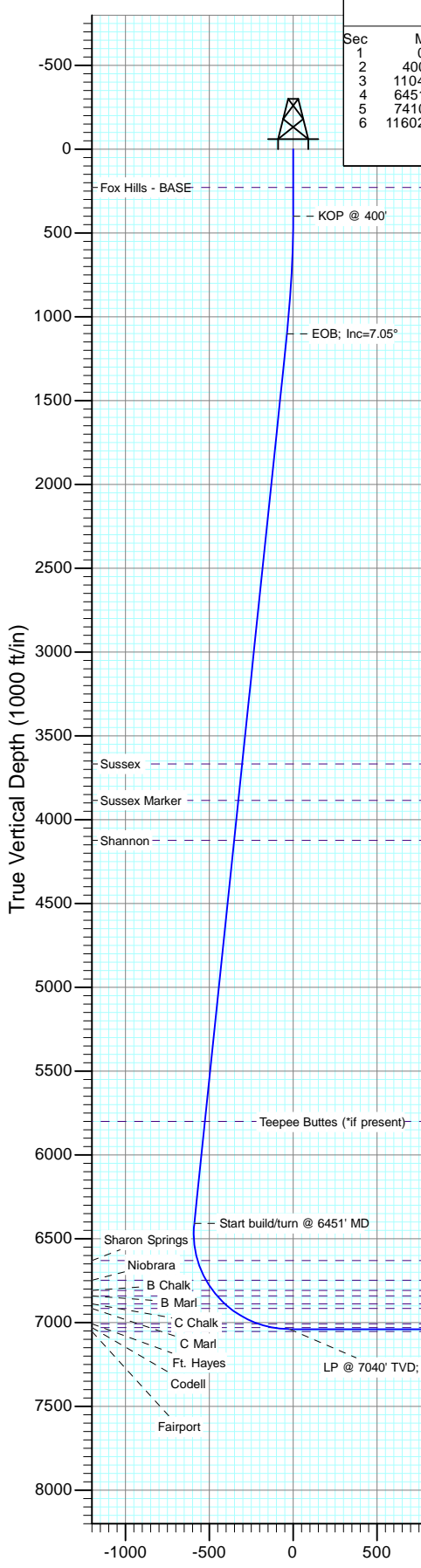




Project: DJ Wattenberg
 Site: S19-T3N-R68W (Boyd)
 Well: Boyd 3F-19H-M368
 Wellbore: Hz
 Design: Plan #1



SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0		KOP @ 400'
3	1104.5	7.05	237.41	1102.8	-23.3	-36.4	1.00	237.41	-36.4		EOB; Inc=7.05°
4	6451.4	7.05	237.41	6409.2	-376.6	-589.0	0.00	0.00	-589.0		Start build/turn @ 6451' MD
5	7410.7	90.00	90.00	7040.0	-418.6	-19.1	10.00	-147.21	-19.1		LP @ 7040' TVD; 90°
6	11602.7	90.00	90.00	7040.0	-418.6	4172.9	0.00	0.00	4172.9	Boyd 3F-19H-M368 PBHL	TD at 11602.7



DESIGN TARGET DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Boyd 3F-19H-M368 PBHL	-418.6	4172.9	1317979.18	3129035.78	40.205320	-105.038040

Plan #1
 Boyd 3F-19H-M368
 13xxx; LR
 WELL @ 5029.0ft (Original Well Elev)
 Ground Elevation @ 5004.0
 North American Datum 1983
 Well Boyd 3F-19H-M368, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	North Reference:	True
Well:	Boyd 3F-19H-M368	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	S19-T3N-R68W (Boyd)				
Site Position:		Northing:	1,318,413.14 ft	Latitude:	40.206570
From:	Lat/Long	Easting:	3,124,860.64 ft	Longitude:	-105.052980
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Boyd 3F-19H-M368					
Well Position	+N/-S	0.0 ft	Northing:	1,318,376.71 ft	Latitude:	40.206470
	+E/-W	0.0 ft	Easting:	3,124,860.82 ft	Longitude:	-105.052980
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,004.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	6/20/2013	8.73	66.78	52,785

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	90.00

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,104.5	7.05	237.41	1,102.8	-23.3	-36.4	1.00	1.00	0.00	237.41	
6,451.4	7.05	237.41	6,409.2	-376.6	-589.0	0.00	0.00	0.00	0.00	
7,410.7	90.00	90.00	7,040.0	-418.6	-19.1	10.00	8.65	-15.37	-147.21	
11,602.7	90.00	90.00	7,040.0	-418.6	4,172.9	0.00	0.00	0.00	0.00	Boyd 3F-19H-M368 P

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	North Reference:	True
Well:	Boyd 3F-19H-M368	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	
229.0	0.00	0.00	229.0	0.0	0.0	0.0	0.00	0.00	Fox Hills - BASE
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
500.0	1.00	237.41	500.0	-0.5	-0.7	-0.7	1.00	1.00	
600.0	2.00	237.41	600.0	-1.9	-2.9	-2.9	1.00	1.00	
700.0	3.00	237.41	699.9	-4.2	-6.6	-6.6	1.00	1.00	
800.0	4.00	237.41	799.7	-7.5	-11.8	-11.8	1.00	1.00	
900.0	5.00	237.41	899.4	-11.7	-18.4	-18.4	1.00	1.00	
1,000.0	6.00	237.41	998.9	-16.9	-26.4	-26.4	1.00	1.00	
1,100.0	7.00	237.41	1,098.3	-23.0	-36.0	-36.0	1.00	1.00	
1,104.5	7.05	237.41	1,102.8	-23.3	-36.4	-36.4	1.00	1.00	EOB; Inc=7.05°
1,200.0	7.05	237.41	1,197.5	-29.6	-46.3	-46.3	0.00	0.00	
1,300.0	7.05	237.41	1,296.7	-36.2	-56.6	-56.6	0.00	0.00	
1,400.0	7.05	237.41	1,396.0	-42.8	-67.0	-67.0	0.00	0.00	
1,500.0	7.05	237.41	1,495.2	-49.4	-77.3	-77.3	0.00	0.00	
1,600.0	7.05	237.41	1,594.5	-56.0	-87.6	-87.6	0.00	0.00	
1,700.0	7.05	237.41	1,693.7	-62.6	-98.0	-98.0	0.00	0.00	
1,800.0	7.05	237.41	1,793.0	-69.3	-108.3	-108.3	0.00	0.00	
1,900.0	7.05	237.41	1,892.2	-75.9	-118.7	-118.7	0.00	0.00	
2,000.0	7.05	237.41	1,991.5	-82.5	-129.0	-129.0	0.00	0.00	
2,100.0	7.05	237.41	2,090.7	-89.1	-139.3	-139.3	0.00	0.00	
2,200.0	7.05	237.41	2,190.0	-95.7	-149.7	-149.7	0.00	0.00	
2,300.0	7.05	237.41	2,289.2	-102.3	-160.0	-160.0	0.00	0.00	
2,400.0	7.05	237.41	2,388.4	-108.9	-170.3	-170.3	0.00	0.00	
2,500.0	7.05	237.41	2,487.7	-115.5	-180.7	-180.7	0.00	0.00	
2,600.0	7.05	237.41	2,586.9	-122.1	-191.0	-191.0	0.00	0.00	
2,700.0	7.05	237.41	2,686.2	-128.7	-201.3	-201.3	0.00	0.00	
2,800.0	7.05	237.41	2,785.4	-135.3	-211.7	-211.7	0.00	0.00	
2,900.0	7.05	237.41	2,884.7	-141.9	-222.0	-222.0	0.00	0.00	
3,000.0	7.05	237.41	2,983.9	-148.5	-232.3	-232.3	0.00	0.00	
3,100.0	7.05	237.41	3,083.2	-155.1	-242.7	-242.7	0.00	0.00	
3,200.0	7.05	237.41	3,182.4	-161.8	-253.0	-253.0	0.00	0.00	
3,300.0	7.05	237.41	3,281.6	-168.4	-263.3	-263.3	0.00	0.00	
3,400.0	7.05	237.41	3,380.9	-175.0	-273.7	-273.7	0.00	0.00	
3,500.0	7.05	237.41	3,480.1	-181.6	-284.0	-284.0	0.00	0.00	
3,600.0	7.05	237.41	3,579.4	-188.2	-294.3	-294.3	0.00	0.00	
3,689.3	7.05	237.41	3,668.0	-194.1	-303.6	-303.6	0.00	0.00	Sussex
3,700.0	7.05	237.41	3,678.6	-194.8	-304.7	-304.7	0.00	0.00	
3,800.0	7.05	237.41	3,777.9	-201.4	-315.0	-315.0	0.00	0.00	
3,900.0	7.05	237.41	3,877.1	-208.0	-325.3	-325.3	0.00	0.00	
3,907.9	7.05	237.41	3,885.0	-208.5	-326.2	-326.2	0.00	0.00	Sussex Marker
4,000.0	7.05	237.41	3,976.4	-214.6	-335.7	-335.7	0.00	0.00	
4,100.0	7.05	237.41	4,075.6	-221.2	-346.0	-346.0	0.00	0.00	
4,148.8	7.05	237.41	4,124.0	-224.4	-351.0	-351.0	0.00	0.00	Shannon
4,200.0	7.05	237.41	4,174.9	-227.8	-356.3	-356.3	0.00	0.00	
4,300.0	7.05	237.41	4,274.1	-234.4	-366.7	-366.7	0.00	0.00	
4,400.0	7.05	237.41	4,373.3	-241.0	-377.0	-377.0	0.00	0.00	
4,500.0	7.05	237.41	4,472.6	-247.6	-387.3	-387.3	0.00	0.00	
4,600.0	7.05	237.41	4,571.8	-254.3	-397.7	-397.7	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	North Reference:	True
Well:	Boyd 3F-19H-M368	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	7.05	237.41	4,671.1	-260.9	-408.0	-408.0	0.00	0.00	
4,800.0	7.05	237.41	4,770.3	-267.5	-418.3	-418.3	0.00	0.00	
4,900.0	7.05	237.41	4,869.6	-274.1	-428.7	-428.7	0.00	0.00	
5,000.0	7.05	237.41	4,968.8	-280.7	-439.0	-439.0	0.00	0.00	
5,100.0	7.05	237.41	5,068.1	-287.3	-449.3	-449.3	0.00	0.00	
5,200.0	7.05	237.41	5,167.3	-293.9	-459.7	-459.7	0.00	0.00	
5,300.0	7.05	237.41	5,266.5	-300.5	-470.0	-470.0	0.00	0.00	
5,400.0	7.05	237.41	5,365.8	-307.1	-480.3	-480.3	0.00	0.00	
5,500.0	7.05	237.41	5,465.0	-313.7	-490.7	-490.7	0.00	0.00	
5,600.0	7.05	237.41	5,564.3	-320.3	-501.0	-501.0	0.00	0.00	
5,700.0	7.05	237.41	5,663.5	-326.9	-511.3	-511.3	0.00	0.00	
5,800.0	7.05	237.41	5,762.8	-333.5	-521.7	-521.7	0.00	0.00	
5,837.5	7.05	237.41	5,800.0	-336.0	-525.6	-525.6	0.00	0.00	Teepee Buttes (*if present)
5,900.0	7.05	237.41	5,862.0	-340.1	-532.0	-532.0	0.00	0.00	
6,000.0	7.05	237.41	5,961.3	-346.8	-542.3	-542.3	0.00	0.00	
6,100.0	7.05	237.41	6,060.5	-353.4	-552.7	-552.7	0.00	0.00	
6,200.0	7.05	237.41	6,159.8	-360.0	-563.0	-563.0	0.00	0.00	
6,300.0	7.05	237.41	6,259.0	-366.6	-573.3	-573.3	0.00	0.00	
6,400.0	7.05	237.41	6,358.2	-373.2	-583.7	-583.7	0.00	0.00	
6,451.4	7.05	237.41	6,409.2	-376.6	-589.0	-589.0	0.00	0.00	Start build/turn @ 6451' MD
6,500.0	3.96	195.69	6,457.6	-379.8	-592.0	-592.0	10.00	-6.35	
6,600.0	9.70	112.91	6,557.1	-386.4	-585.1	-585.1	10.00	5.75	
6,675.0	16.85	102.70	6,630.0	-391.3	-568.7	-568.7	10.00	9.54	Sharon Springs
6,700.0	19.30	100.96	6,653.8	-392.9	-561.1	-561.1	10.00	9.77	
6,800.0	29.16	96.85	6,744.9	-398.9	-520.6	-520.6	10.00	9.86	
6,803.6	29.52	96.75	6,748.0	-399.1	-518.8	-518.8	10.00	9.91	Niobrara
6,876.5	36.75	95.11	6,809.0	-403.2	-479.2	-479.2	10.00	9.93	B Chalk
6,900.0	39.09	94.70	6,827.5	-404.4	-464.8	-464.8	10.00	9.94	
6,917.5	40.83	94.42	6,841.0	-405.3	-453.6	-453.6	10.00	9.95	B Marl
6,984.5	47.50	93.50	6,889.0	-408.5	-407.1	-407.1	10.00	9.95	C Chalk
7,000.0	49.04	93.31	6,899.3	-409.2	-395.5	-395.5	10.00	9.96	
7,026.1	51.65	93.02	6,916.0	-410.3	-375.4	-375.4	10.00	9.96	C Marl
7,100.0	59.01	92.29	6,958.0	-413.1	-314.8	-314.8	10.00	9.97	
7,200.0	68.98	91.47	7,001.8	-416.0	-225.1	-225.1	10.00	9.97	
7,218.1	70.78	91.33	7,008.0	-416.4	-208.1	-208.1	10.00	9.97	Ft. Hayes
7,300.0	78.96	90.74	7,029.4	-417.9	-129.1	-129.1	10.00	9.98	
7,303.4	79.29	90.72	7,030.0	-417.9	-125.8	-125.8	10.00	9.98	Codell
7,400.0	88.93	90.07	7,039.9	-418.6	-29.8	-29.8	10.00	9.98	
7,410.7	90.00	90.00	7,040.0	-418.6	-19.1	-19.1	10.00	9.98	LP @ 7040' TVD; 90°
7,500.0	90.00	90.00	7,040.0	-418.6	70.2	70.2	0.00	0.00	
7,600.0	90.00	90.00	7,040.0	-418.6	170.2	170.2	0.00	0.00	
7,700.0	90.00	90.00	7,040.0	-418.6	270.2	270.2	0.00	0.00	
7,800.0	90.00	90.00	7,040.0	-418.6	370.2	370.2	0.00	0.00	
7,900.0	90.00	90.00	7,040.0	-418.6	470.2	470.2	0.00	0.00	
8,000.0	90.00	90.00	7,040.0	-418.6	570.2	570.2	0.00	0.00	
8,100.0	90.00	90.00	7,040.0	-418.6	670.2	670.2	0.00	0.00	
8,200.0	90.00	90.00	7,040.0	-418.6	770.2	770.2	0.00	0.00	
8,300.0	90.00	90.00	7,040.0	-418.6	870.2	870.2	0.00	0.00	
8,400.0	90.00	90.00	7,040.0	-418.6	970.2	970.2	0.00	0.00	
8,500.0	90.00	90.00	7,040.0	-418.6	1,070.2	1,070.2	0.00	0.00	
8,600.0	90.00	90.00	7,040.0	-418.6	1,170.2	1,170.2	0.00	0.00	
8,700.0	90.00	90.00	7,040.0	-418.6	1,270.2	1,270.2	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	North Reference:	True
Well:	Boyd 3F-19H-M368	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	90.00	7,040.0	-418.6	1,370.2	1,370.2	0.00	0.00	
8,900.0	90.00	90.00	7,040.0	-418.6	1,470.2	1,470.2	0.00	0.00	
9,000.0	90.00	90.00	7,040.0	-418.6	1,570.2	1,570.2	0.00	0.00	
9,100.0	90.00	90.00	7,040.0	-418.6	1,670.2	1,670.2	0.00	0.00	
9,200.0	90.00	90.00	7,040.0	-418.6	1,770.2	1,770.2	0.00	0.00	
9,300.0	90.00	90.00	7,040.0	-418.6	1,870.2	1,870.2	0.00	0.00	
9,400.0	90.00	90.00	7,040.0	-418.6	1,970.2	1,970.2	0.00	0.00	
9,500.0	90.00	90.00	7,040.0	-418.6	2,070.2	2,070.2	0.00	0.00	
9,600.0	90.00	90.00	7,040.0	-418.6	2,170.2	2,170.2	0.00	0.00	
9,700.0	90.00	90.00	7,040.0	-418.6	2,270.2	2,270.2	0.00	0.00	
9,800.0	90.00	90.00	7,040.0	-418.6	2,370.2	2,370.2	0.00	0.00	
9,900.0	90.00	90.00	7,040.0	-418.6	2,470.2	2,470.2	0.00	0.00	
10,000.0	90.00	90.00	7,040.0	-418.6	2,570.2	2,570.2	0.00	0.00	
10,100.0	90.00	90.00	7,040.0	-418.6	2,670.2	2,670.2	0.00	0.00	
10,200.0	90.00	90.00	7,040.0	-418.6	2,770.2	2,770.2	0.00	0.00	
10,300.0	90.00	90.00	7,040.0	-418.6	2,870.2	2,870.2	0.00	0.00	
10,400.0	90.00	90.00	7,040.0	-418.6	2,970.2	2,970.2	0.00	0.00	
10,500.0	90.00	90.00	7,040.0	-418.6	3,070.2	3,070.2	0.00	0.00	
10,600.0	90.00	90.00	7,040.0	-418.6	3,170.2	3,170.2	0.00	0.00	
10,700.0	90.00	90.00	7,040.0	-418.6	3,270.2	3,270.2	0.00	0.00	
10,800.0	90.00	90.00	7,040.0	-418.6	3,370.2	3,370.2	0.00	0.00	
10,900.0	90.00	90.00	7,040.0	-418.6	3,470.2	3,470.2	0.00	0.00	
11,000.0	90.00	90.00	7,040.0	-418.6	3,570.2	3,570.2	0.00	0.00	
11,100.0	90.00	90.00	7,040.0	-418.6	3,670.2	3,670.2	0.00	0.00	
11,200.0	90.00	90.00	7,040.0	-418.6	3,770.2	3,770.2	0.00	0.00	
11,300.0	90.00	90.00	7,040.0	-418.6	3,870.2	3,870.2	0.00	0.00	
11,400.0	90.00	90.00	7,040.0	-418.6	3,970.2	3,970.2	0.00	0.00	
11,500.0	90.00	90.00	7,040.0	-418.6	4,070.2	4,070.2	0.00	0.00	
11,600.0	90.00	90.00	7,040.0	-418.6	4,170.2	4,170.2	0.00	0.00	
11,602.7	90.00	90.00	7,040.0	-418.6	4,172.9	4,172.9	0.00	0.00	TD at 11602.7

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Boyd 3F-19H-M368 PBI - hit/miss target - Shape - Point	0.00	0.00	7,040.0	-418.6	4,172.9	1,317,979.18	3,129,035.78	40.205320	-105.038040

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site:	S19-T3N-R68W (Boyd)	North Reference:	True
Well:	Boyd 3F-19H-M368	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
229.0	229.0	Fox Hills - BASE				
3,689.3	3,668.0	Sussex				
3,907.9	3,885.0	Sussex Marker				
4,148.8	4,124.0	Shannon				
5,837.5	5,800.0	Teepee Buttes (*if present)				
6,675.0	6,630.0	Sharon Springs				
6,803.6	6,748.0	Niobrara				
6,876.5	6,809.0	B Chalk				
6,917.5	6,841.0	B Marl				
6,984.5	6,889.0	C Chalk				
7,026.1	6,916.0	C Marl				
7,218.1	7,008.0	Ft. Hayes				
7,303.4	7,030.0	Codell				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
400.0	400.0	0.0	0.0	KOP @ 400'	
1,104.5	1,102.8	-23.3	-36.4	EOB; Inc=7.05°	
6,451.4	6,409.2	-376.6	-589.0	Start build/turn @ 6451' MD	
7,410.7	7,040.0	-418.6	-19.1	LP @ 7040' TVD; 90°	
11,602.7	7,040.0	-418.6	4,172.9	TD at 11602.7	

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S19-T3N-R68W (Boyd)

Boyd 3F-19H-M368

Hz

Plan #1

Anticollision Report

20 June, 2013

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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	6/20/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,602.7	Plan #1 (Hz)	Geolink MWD	Geolink MWD

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Summary						
Offset Well - Wellbore - Design						
S19-T3N-R68W (Boyd)						
BOYD 3-19 (EXISTING) - ENCANA WELL - SURVEYS	8,109.0	7,063.1	427.4	388.0	10.836	CC, ES
BOYD 3-19 (EXISTING) - ENCANA WELL - SURVEYS	8,200.0	7,049.4	436.8	395.4	10.555	SF
Boyd 3B-19H-M368 - Hz - Plan #1	200.0	200.0	36.4	35.8	59.641	CC, ES
Boyd 3B-19H-M368 - Hz - Plan #1	700.0	696.0	58.7	56.4	24.683	SF
Boyd 3C-19H-M368 - Hz - Plan #1	300.0	300.0	29.1	28.2	30.359	CC, ES
Boyd 3C-19H-M368 - Hz - Plan #1	700.0	698.0	42.9	40.5	18.014	SF
Boyd 3D-19H-M368 - Hz - Plan #1	400.0	400.0	18.2	16.9	13.915	CC, ES
Boyd 3D-19H-M368 - Hz - Plan #1	600.0	599.7	21.4	19.4	10.626	SF
Boyd 3E-19H-M368 - Hz - Plan #1	400.0	400.0	7.3	6.0	5.566	CC, ES
Boyd 3E-19H-M368 - Hz - Plan #1	11,602.7	11,370.5	413.7	225.9	2.202	SF
Boyd 3G-19H-M368 - Hz - Plan #1	300.0	300.0	10.9	10.0	11.385	CC, ES
Boyd 3G-19H-M368 - Hz - Plan #1	11,602.7	11,413.0	413.7	225.7	2.201	SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft
Survey Program: 75-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
7,900.0	7,040.0	7,091.1	7,081.7	23.1	12.8	-95.18	8.0	675.1	474.8	439.7	35.10	13.528		
8,000.0	7,040.0	7,078.3	7,069.0	25.1	12.8	-93.48	8.3	676.9	440.8	403.6	37.15	11.867		
8,100.0	7,040.0	7,064.4	7,055.3	27.2	12.7	-91.65	8.7	679.0	427.5	388.2	39.25	10.892		
8,109.0	7,040.0	7,063.1	7,054.0	27.4	12.7	-91.47	8.7	679.2	427.4	388.0	39.44	10.836 CC, ES		
8,200.0	7,040.0	7,049.4	7,040.4	29.3	12.7	-89.65	9.1	681.3	436.8	395.4	41.38	10.555 SF		
8,300.0	7,040.0	7,033.0	7,024.3	31.5	12.7	-87.50	9.5	684.0	467.2	423.7	43.51	10.738		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft
S19-T3N-R68W (Boyd) - Boyd 3B-19H-M368 - Hz - Plan #1													Survey Program:	0-Geolink MWD
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	36.4	0.0	36.4					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	36.4	0.0	36.4	36.2	0.26	139.162		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	36.4	0.0	36.4	35.8	0.61	59.641	CC, ES	
300.0	300.0	299.5	299.5	0.5	0.5	-0.76	37.1	-0.5	37.1	36.2	0.96	38.731		
400.0	400.0	398.9	398.8	0.7	0.7	-2.86	39.3	-2.0	39.3	38.0	1.31	30.068		
500.0	500.0	498.2	498.0	0.8	0.8	117.69	42.8	-4.4	43.5	41.8	1.66	26.191		
600.0	600.0	597.3	596.9	1.0	1.0	116.84	47.8	-7.8	50.0	47.9	2.02	24.785		
700.0	699.9	696.0	695.4	1.2	1.3	116.87	54.1	-12.2	58.7	56.4	2.38	24.683	SF	
800.0	799.7	794.5	793.4	1.4	1.5	117.45	61.8	-17.5	69.8	67.1	2.76	25.330		
900.0	899.4	892.4	890.7	1.6	1.7	118.29	70.8	-23.8	83.2	80.0	3.15	26.418		
1,000.0	998.9	989.9	987.4	1.8	2.0	119.22	81.1	-30.9	98.8	95.3	3.56	27.763		
1,100.0	1,098.3	1,086.7	1,083.1	2.1	2.3	120.13	92.7	-39.0	116.8	112.8	3.99	29.242		
1,200.0	1,197.5	1,182.9	1,178.1	2.3	2.6	120.87	105.6	-47.9	136.6	132.1	4.44	30.752		
1,300.0	1,296.7	1,279.7	1,273.4	2.6	2.9	121.14	119.6	-57.6	157.6	152.7	4.90	32.166		
1,400.0	1,396.0	1,377.5	1,369.5	2.8	3.2	121.31	134.0	-67.5	178.8	173.4	5.37	33.317		
1,500.0	1,495.2	1,475.2	1,465.7	3.1	3.6	121.45	148.4	-77.5	200.0	194.1	5.84	34.259		
1,600.0	1,594.5	1,572.9	1,561.9	3.4	3.9	121.56	162.7	-87.4	221.2	214.8	6.31	35.042		
1,700.0	1,693.7	1,670.6	1,658.0	3.6	4.3	121.65	177.1	-97.4	242.3	235.6	6.79	35.700		
1,800.0	1,793.0	1,768.4	1,754.2	3.9	4.6	121.73	191.4	-107.3	263.5	256.3	7.27	36.262		
1,900.0	1,892.2	1,866.1	1,850.3	4.2	4.9	121.80	205.8	-117.2	284.7	277.0	7.75	36.746		
2,000.0	1,991.5	1,963.8	1,946.5	4.4	5.3	121.85	220.1	-127.2	305.9	297.7	8.23	37.166		
2,100.0	2,090.7	2,061.6	2,042.7	4.7	5.6	121.90	234.5	-137.1	327.1	318.4	8.71	37.535		
2,200.0	2,190.0	2,159.3	2,138.8	5.0	6.0	121.94	248.8	-147.0	348.3	339.1	9.20	37.861		
2,300.0	2,289.2	2,257.0	2,235.0	5.3	6.3	121.98	263.2	-157.0	369.5	359.8	9.68	38.151		
2,400.0	2,388.4	2,354.8	2,331.1	5.5	6.7	122.02	277.5	-166.9	390.7	380.5	10.17	38.410		
2,500.0	2,487.7	2,452.5	2,427.3	5.8	7.0	122.05	291.9	-176.8	411.8	401.2	10.66	38.643		
2,600.0	2,586.9	2,550.2	2,523.4	6.1	7.4	122.07	306.2	-186.8	433.0	421.9	11.14	38.854		
2,700.0	2,686.2	2,647.9	2,619.6	6.3	7.7	122.10	320.6	-196.7	454.2	442.6	11.63	39.046		
2,800.0	2,785.4	2,745.7	2,715.8	6.6	8.1	122.12	334.9	-206.6	475.4	463.3	12.12	39.221		
2,900.0	2,884.7	2,843.4	2,811.9	6.9	8.4	122.14	349.3	-216.6	496.6	484.0	12.61	39.381		

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 Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft	
Survey Program: 0-Geolink MWD													Offset Well Error:		0.0 ft
Reference				Offset			Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	0.00	29.1	0.0	29.1						
100.0	100.0	100.0	100.0	0.1	0.1	0.00	29.1	0.0	29.1	28.9	0.26	111.317			
200.0	200.0	200.0	200.0	0.3	0.3	0.00	29.1	0.0	29.1	28.5	0.61	47.707			
300.0	300.0	300.0	300.0	0.5	0.5	0.00	29.1	0.0	29.1	28.2	0.96	30.359 CC, ES			
400.0	400.0	399.6	399.6	0.7	0.7	-1.23	29.7	-0.6	29.7	28.4	1.31	22.726			
500.0	500.0	499.2	499.2	0.8	0.8	119.30	31.5	-2.6	32.0	30.3	1.66	19.288			
600.0	600.0	598.7	598.6	1.0	1.0	118.08	34.4	-5.8	36.4	34.4	2.02	18.061			
700.0	699.9	698.0	697.7	1.2	1.2	117.61	38.5	-10.2	42.9	40.5	2.38	18.014 SF			
800.0	799.7	797.0	796.4	1.4	1.4	117.66	43.7	-15.9	51.5	48.7	2.76	18.642			
900.0	899.4	895.8	894.7	1.6	1.6	118.00	50.0	-22.9	62.1	58.9	3.16	19.664			
1,000.0	998.9	994.1	992.4	1.8	1.9	118.47	57.4	-31.0	74.8	71.2	3.58	20.909			
1,100.0	1,098.3	1,092.0	1,089.5	2.1	2.2	118.97	66.0	-40.4	89.5	85.5	4.02	22.264			
1,200.0	1,197.5	1,190.2	1,186.7	2.3	2.4	119.34	75.4	-50.8	105.7	101.2	4.48	23.596			
1,300.0	1,296.7	1,288.9	1,284.3	2.6	2.7	119.56	85.1	-61.3	122.0	117.1	4.95	24.655			
1,400.0	1,396.0	1,387.5	1,381.9	2.8	3.0	119.73	94.7	-71.9	138.3	132.9	5.42	25.503			
1,500.0	1,495.2	1,486.2	1,479.5	3.1	3.3	119.87	104.3	-82.4	154.6	148.7	5.90	26.195			
1,600.0	1,594.5	1,584.8	1,577.2	3.4	3.6	119.98	113.9	-93.0	170.9	164.6	6.39	26.768			
1,700.0	1,693.7	1,683.5	1,674.8	3.6	3.9	120.07	123.6	-103.5	187.2	180.4	6.87	27.251			
1,800.0	1,793.0	1,782.2	1,772.4	3.9	4.2	120.15	133.2	-114.1	203.6	196.2	7.36	27.661			
1,900.0	1,892.2	1,880.8	1,870.0	4.2	4.5	120.21	142.8	-124.6	219.9	212.0	7.85	28.014			
2,000.0	1,991.5	1,979.5	1,967.6	4.4	4.8	120.27	152.4	-135.2	236.2	227.8	8.34	28.320			
2,100.0	2,090.7	2,078.1	2,065.3	4.7	5.1	120.32	162.0	-145.8	252.5	243.7	8.83	28.589			
2,200.0	2,190.0	2,176.8	2,162.9	5.0	5.4	120.36	171.7	-156.3	268.8	259.5	9.32	28.826			
2,300.0	2,289.2	2,275.5	2,260.5	5.3	5.7	120.40	181.3	-166.9	285.1	275.3	9.82	29.036			
2,400.0	2,388.4	2,374.1	2,358.1	5.5	6.0	120.43	190.9	-177.4	301.4	291.1	10.31	29.225			
2,500.0	2,487.7	2,472.8	2,455.8	5.8	6.3	120.46	200.5	-188.0	317.7	306.9	10.81	29.394			
2,600.0	2,586.9	2,571.5	2,553.4	6.1	6.6	120.49	210.2	-198.5	334.0	322.7	11.31	29.547			
2,700.0	2,686.2	2,670.1	2,651.0	6.3	6.9	120.52	219.8	-209.1	350.3	338.5	11.80	29.686			
2,800.0	2,785.4	2,768.8	2,748.6	6.6	7.2	120.54	229.4	-219.6	366.7	354.4	12.30	29.813			
2,900.0	2,884.7	2,867.4	2,846.2	6.9	7.5	120.56	239.0	-230.2	383.0	370.2	12.80	29.928			
3,000.0	2,983.9	2,966.1	2,943.9	7.2	7.8	120.58	248.6	-240.7	399.3	386.0	13.29	30.035			
3,100.0	3,083.2	3,064.8	3,041.5	7.4	8.1	120.60	258.3	-251.3	415.6	401.8	13.79	30.133			
3,200.0	3,182.4	3,163.4	3,139.1	7.7	8.4	120.61	267.9	-261.8	431.9	417.6	14.29	30.224			
3,300.0	3,281.6	3,262.1	3,236.7	8.0	8.7	120.63	277.5	-272.4	448.2	433.4	14.79	30.308			
3,400.0	3,380.9	3,360.7	3,334.3	8.3	9.0	120.64	287.1	-282.9	464.5	449.2	15.29	30.386			
3,500.0	3,480.1	3,459.4	3,432.0	8.5	9.3	120.65	296.7	-293.5	480.8	465.0	15.79	30.459			
3,600.0	3,579.4	3,558.1	3,529.6	8.8	9.6	120.67	306.4	-304.0	497.1	480.9	16.29	30.527			

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 Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft	
Survey Program: 0-Geolink MWD													Offset Well Error:		0.0 ft
Reference				Offset			Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	0.00	18.2	0.0	18.2						
100.0	100.0	100.0	100.0	0.1	0.1	0.00	18.2	0.0	18.2	18.0	0.26	69.573			
200.0	200.0	200.0	200.0	0.3	0.3	0.00	18.2	0.0	18.2	17.6	0.61	29.817			
300.0	300.0	300.0	300.0	0.5	0.5	0.00	18.2	0.0	18.2	17.3	0.96	18.974			
400.0	400.0	400.0	400.0	0.7	0.7	0.00	18.2	0.0	18.2	16.9	1.31	13.915 CC, ES			
500.0	500.0	499.9	499.9	0.8	0.8	122.36	18.5	-0.8	19.0	17.3	1.66	11.460			
600.0	600.0	599.7	599.7	1.0	1.0	121.77	19.5	-3.2	21.4	19.4	2.01	10.626 SF			
700.0	699.9	699.5	699.3	1.2	1.2	121.04	21.1	-7.3	25.4	23.0	2.38	10.670			
800.0	799.7	799.1	798.8	1.4	1.4	120.31	23.4	-12.9	30.9	28.2	2.76	11.220			
900.0	899.4	898.6	898.0	1.6	1.6	119.68	26.3	-20.1	38.1	34.9	3.16	12.063			
1,000.0	998.9	997.9	996.8	1.8	1.8	119.16	29.8	-28.9	46.8	43.2	3.58	13.069			
1,100.0	1,098.3	1,097.3	1,095.6	2.1	2.0	119.01	33.8	-39.1	57.0	53.0	4.03	14.135			
1,200.0	1,197.5	1,196.7	1,194.4	2.3	2.3	119.55	37.9	-49.3	67.7	63.2	4.49	15.065			
1,300.0	1,296.7	1,296.1	1,293.2	2.6	2.5	119.95	42.0	-59.6	78.4	73.4	4.96	15.798			
1,400.0	1,396.0	1,395.5	1,392.0	2.8	2.8	120.25	46.1	-69.9	89.1	83.7	5.44	16.388			
1,500.0	1,495.2	1,495.0	1,490.8	3.1	3.0	120.49	50.3	-80.2	99.8	93.9	5.92	16.871			
1,600.0	1,594.5	1,594.4	1,589.6	3.4	3.3	120.68	54.4	-90.4	110.5	104.1	6.40	17.272			
1,700.0	1,693.7	1,693.8	1,688.4	3.6	3.5	120.84	58.5	-100.7	121.3	114.4	6.89	17.611			
1,800.0	1,793.0	1,793.2	1,787.2	3.9	3.8	120.97	62.6	-111.0	132.0	124.6	7.37	17.900			
1,900.0	1,892.2	1,892.7	1,886.0	4.2	4.0	121.09	66.7	-121.3	142.7	134.8	7.86	18.150			
2,000.0	1,991.5	1,992.1	1,984.8	4.4	4.3	121.18	70.8	-131.5	153.4	145.1	8.35	18.367			
2,100.0	2,090.7	2,091.5	2,083.6	4.7	4.5	121.27	74.9	-141.8	164.1	155.3	8.84	18.558			
2,200.0	2,190.0	2,190.9	2,182.4	5.0	4.8	121.34	79.0	-152.1	174.9	165.5	9.34	18.726			
2,300.0	2,289.2	2,290.3	2,281.2	5.3	5.1	121.41	83.1	-162.4	185.6	175.7	9.83	18.876			
2,400.0	2,388.4	2,389.8	2,380.1	5.5	5.3	121.46	87.2	-172.6	196.3	186.0	10.33	19.011			
2,500.0	2,487.7	2,489.2	2,478.9	5.8	5.6	121.52	91.3	-182.9	207.0	196.2	10.82	19.132			
2,600.0	2,586.9	2,588.6	2,577.7	6.1	5.8	121.56	95.4	-193.2	217.7	206.4	11.32	19.241			
2,700.0	2,686.2	2,688.0	2,676.5	6.3	6.1	121.61	99.5	-203.5	228.5	216.6	11.81	19.341			
2,800.0	2,785.4	2,787.5	2,775.3	6.6	6.3	121.64	103.6	-213.7	239.2	226.9	12.31	19.432			
2,900.0	2,884.7	2,886.9	2,874.1	6.9	6.6	121.68	107.7	-224.0	249.9	237.1	12.81	19.515			
3,000.0	2,983.9	2,986.3	2,972.9	7.2	6.9	121.71	111.8	-234.3	260.6	247.3	13.30	19.592			
3,100.0	3,083.2	3,085.7	3,071.7	7.4	7.1	121.74	116.0	-244.6	271.3	257.5	13.80	19.663			
3,200.0	3,182.4	3,185.2	3,170.5	7.7	7.4	121.77	120.1	-254.8	282.1	267.8	14.30	19.728			
3,300.0	3,281.6	3,284.6	3,269.3	8.0	7.6	121.80	124.2	-265.1	292.8	278.0	14.80	19.789			
3,400.0	3,380.9	3,384.0	3,368.1	8.3	7.9	121.82	128.3	-275.4	303.5	288.2	15.29	19.845			
3,500.0	3,480.1	3,483.4	3,466.9	8.5	8.2	121.84	132.4	-285.7	314.2	298.4	15.79	19.898			
3,600.0	3,579.4	3,582.8	3,565.7	8.8	8.4	121.86	136.5	-295.9	325.0	308.7	16.29	19.947			
3,700.0	3,678.6	3,682.3	3,664.5	9.1	8.7	121.88	140.6	-306.2	335.7	318.9	16.79	19.994			
3,800.0	3,777.9	3,781.7	3,763.3	9.4	8.9	121.90	144.7	-316.5	346.4	329.1	17.29	20.037			
3,900.0	3,877.1	3,881.1	3,862.1	9.6	9.2	121.92	148.8	-326.8	357.1	339.3	17.79	20.078			
4,000.0	3,976.4	3,980.5	3,960.9	9.9	9.5	121.93	152.9	-337.0	367.8	349.6	18.29	20.116			
4,100.0	4,075.6	4,080.0	4,059.8	10.2	9.7	121.95	157.0	-347.3	378.6	359.8	18.78	20.152			
4,200.0	4,174.9	4,179.4	4,158.6	10.5	10.0	121.96	161.1	-357.6	389.3	370.0	19.28	20.187			
4,300.0	4,274.1	4,278.8	4,257.4	10.8	10.2	121.98	165.2	-367.8	400.0	380.2	19.78	20.219			
4,400.0	4,373.3	4,378.2	4,356.2	11.0	10.5	121.99	169.3	-378.1	410.7	390.4	20.28	20.250			
4,500.0	4,472.6	4,477.7	4,455.0	11.3	10.8	122.00	173.4	-388.4	421.4	400.7	20.78	20.279			
4,600.0	4,571.8	4,577.1	4,553.8	11.6	11.0	122.01	177.5	-398.7	432.2	410.9	21.28	20.307			
4,700.0	4,671.1	4,676.5	4,652.6	11.9	11.3	122.03	181.6	-408.9	442.9	421.1	21.78	20.333			
4,800.0	4,770.3	4,775.9	4,751.4	12.1	11.5	122.04	185.8	-419.2	453.6	431.3	22.28	20.358			
4,900.0	4,869.6	4,875.4	4,850.2	12.4	11.8	122.05	189.9	-429.5	464.3	441.6	22.78	20.382			
5,000.0	4,968.8	4,974.8	4,949.0	12.7	12.1	122.06	194.0	-439.8	475.1	451.8	23.28	20.405			
5,100.0	5,068.1	5,074.2	5,047.8	13.0	12.3	122.06	198.1	-450.0	485.8	462.0	23.78	20.427			

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 Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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												Offset Site Error:	0.0 ft	
S19-T3N-R68W (Boyd) - Boyd 3D-19H-M368 - Hz - Plan #1												Offset Well Error:	0.0 ft	
Survey Program: 0-Geolink MWD														
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	
5,200.0	5,167.3	5,173.6	5,146.6	13.2	12.6	122.07	202.2	-460.3	496.5	472.2	24.28	20.448		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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 S19-T3N-R68W (Boyd) - Boyd 3E-19H-M368 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	0.00	7.3	0.0	7.3					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	7.3	0.0	7.3	7.0	0.26	27.829		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	7.3	0.0	7.3	6.7	0.61	11.927		
300.0	300.0	300.0	300.0	0.5	0.5	0.00	7.3	0.0	7.3	6.3	0.96	7.590		
400.0	400.0	400.0	400.0	0.7	0.7	0.00	7.3	0.0	7.3	6.0	1.31	5.566	CC, ES	
500.0	500.0	500.0	500.0	0.8	0.8	128.00	7.3	0.0	7.8	6.1	1.66	4.698		
600.0	600.0	600.0	600.0	1.0	1.0	135.47	7.2	-0.9	9.3	7.3	2.01	4.628		
700.0	699.9	700.1	700.0	1.2	1.2	138.39	6.9	-3.5	11.6	9.2	2.36	4.885		
800.0	799.7	800.1	800.0	1.4	1.4	138.45	6.4	-7.8	14.5	11.7	2.73	5.297		
900.0	899.4	900.1	899.8	1.6	1.6	137.03	5.7	-13.9	18.0	14.9	3.11	5.789		
1,000.0	998.9	1,000.2	999.5	1.8	1.8	134.96	4.8	-21.7	22.2	18.7	3.51	6.323		
1,100.0	1,098.3	1,100.2	1,099.1	2.1	2.0	132.70	3.7	-31.2	27.1	23.2	3.95	6.870		
1,200.0	1,197.5	1,200.1	1,198.4	2.3	2.2	130.17	2.4	-42.0	32.3	27.9	4.41	7.338		
1,300.0	1,296.7	1,299.9	1,297.6	2.6	2.5	128.23	1.2	-52.9	37.6	32.7	4.88	7.703		
1,400.0	1,396.0	1,399.8	1,396.9	2.8	2.7	126.77	-0.1	-63.8	42.9	37.5	5.36	7.996		
1,500.0	1,495.2	1,499.6	1,496.1	3.1	2.9	125.63	-1.3	-74.7	48.2	42.3	5.85	8.236		
1,600.0	1,594.5	1,599.5	1,595.4	3.4	3.2	124.72	-2.6	-85.6	53.5	47.1	6.34	8.434		
1,700.0	1,693.7	1,699.4	1,694.6	3.6	3.4	123.97	-3.9	-96.5	58.8	52.0	6.84	8.600		
1,800.0	1,793.0	1,799.2	1,793.9	3.9	3.7	123.35	-5.1	-107.3	64.1	56.8	7.34	8.741		
1,900.0	1,892.2	1,899.1	1,893.1	4.2	3.9	122.82	-6.4	-118.2	69.5	61.6	7.84	8.862		
2,000.0	1,991.5	1,998.9	1,992.4	4.4	4.2	122.37	-7.6	-129.1	74.8	66.5	8.35	8.966		
2,100.0	2,090.7	2,098.8	2,091.7	4.7	4.4	121.98	-8.9	-140.0	80.2	71.3	8.85	9.058		
2,200.0	2,190.0	2,198.6	2,190.9	5.0	4.7	121.63	-10.2	-150.9	85.5	76.2	9.36	9.139		
2,300.0	2,289.2	2,298.5	2,290.2	5.3	4.9	121.33	-11.4	-161.8	90.9	81.0	9.87	9.210		
2,400.0	2,388.4	2,398.3	2,389.4	5.5	5.2	121.06	-12.7	-172.7	96.3	85.9	10.38	9.274		
2,500.0	2,487.7	2,498.2	2,488.7	5.8	5.5	120.82	-13.9	-183.6	101.6	90.7	10.89	9.331		
2,600.0	2,586.9	2,598.1	2,587.9	6.1	5.7	120.61	-15.2	-194.4	107.0	95.6	11.40	9.382		
2,700.0	2,686.2	2,697.9	2,687.2	6.3	6.0	120.41	-16.5	-205.3	112.3	100.4	11.91	9.429		
2,800.0	2,785.4	2,797.8	2,786.4	6.6	6.2	120.23	-17.7	-216.2	117.7	105.3	12.43	9.472		
2,900.0	2,884.7	2,897.6	2,885.7	6.9	6.5	120.07	-19.0	-227.1	123.1	110.1	12.94	9.511		
3,000.0	2,983.9	2,997.5	2,984.9	7.2	6.7	119.92	-20.2	-238.0	128.4	115.0	13.45	9.546		
3,100.0	3,083.2	3,097.3	3,084.2	7.4	7.0	119.78	-21.5	-248.9	133.8	119.8	13.97	9.579		
3,200.0	3,182.4	3,197.2	3,183.4	7.7	7.3	119.66	-22.7	-259.8	139.2	124.7	14.48	9.609		
3,300.0	3,281.6	3,297.0	3,282.7	8.0	7.5	119.54	-24.0	-270.7	144.5	129.5	15.00	9.637		
3,400.0	3,380.9	3,396.9	3,381.9	8.3	7.8	119.43	-25.3	-281.6	149.9	134.4	15.51	9.663		
3,500.0	3,480.1	3,496.7	3,481.2	8.5	8.0	119.33	-26.5	-292.4	155.3	139.3	16.03	9.688		
3,600.0	3,579.4	3,596.6	3,580.4	8.8	8.3	119.24	-27.8	-303.3	160.7	144.1	16.54	9.710		
3,700.0	3,678.6	3,696.5	3,679.7	9.1	8.5	119.15	-29.0	-314.2	166.0	149.0	17.06	9.731		
3,800.0	3,777.9	3,796.3	3,778.9	9.4	8.8	119.07	-30.3	-325.1	171.4	153.8	17.58	9.751		
3,900.0	3,877.1	3,896.2	3,878.2	9.6	9.1	118.99	-31.6	-336.0	176.8	158.7	18.09	9.770		
4,000.0	3,976.4	3,996.0	3,977.4	9.9	9.3	118.91	-32.8	-346.9	182.1	163.5	18.61	9.787		
4,100.0	4,075.6	4,095.9	4,076.7	10.2	9.6	118.85	-34.1	-357.8	187.5	168.4	19.13	9.804		
4,200.0	4,174.9	4,195.7	4,175.9	10.5	9.8	118.78	-35.3	-368.7	192.9	173.2	19.64	9.820		
4,300.0	4,274.1	4,295.6	4,275.2	10.8	10.1	118.72	-36.6	-379.5	198.3	178.1	20.16	9.834		
4,400.0	4,373.3	4,395.4	4,374.4	11.0	10.3	118.66	-37.9	-390.4	203.6	183.0	20.68	9.848		
4,500.0	4,472.6	4,495.3	4,473.7	11.3	10.6	118.61	-39.1	-401.3	209.0	187.8	21.19	9.861		
4,600.0	4,571.8	4,595.2	4,572.9	11.6	10.9	118.55	-40.4	-412.2	214.4	192.7	21.71	9.874		
4,700.0	4,671.1	4,695.0	4,672.2	11.9	11.1	118.50	-41.6	-423.1	219.8	197.5	22.23	9.886		
4,800.0	4,770.3	4,794.9	4,771.5	12.1	11.4	118.46	-42.9	-434.0	225.1	202.4	22.75	9.897		
4,900.0	4,869.6	4,894.7	4,870.7	12.4	11.6	118.41	-44.1	-444.9	230.5	207.2	23.26	9.908		
5,000.0	4,968.8	4,994.6	4,970.0	12.7	11.9	118.37	-45.4	-455.8	235.9	212.1	23.78	9.919		
5,100.0	5,068.1	5,094.4	5,069.2	13.0	12.2	118.33	-46.7	-466.7	241.3	217.0	24.30	9.928		

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 Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft
S19-T3N-R68W (Boyd) - Boyd 3E-19H-M368 - Hz - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-Geolink MWD														
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	
5,200.0	5,167.3	5,194.3	5,168.5	13.2	12.4	118.29	-47.9	-477.5	246.6	221.8	24.82	9.938		
5,300.0	5,266.5	5,294.1	5,267.7	13.5	12.7	118.25	-49.2	-488.4	252.0	226.7	25.33	9.947		
5,400.0	5,365.8	5,394.0	5,367.0	13.8	12.9	118.21	-50.4	-499.3	257.4	231.5	25.85	9.956		
5,500.0	5,465.0	5,493.9	5,466.2	14.1	13.2	118.18	-51.7	-510.2	262.7	236.4	26.37	9.964		
5,600.0	5,564.3	5,593.7	5,565.5	14.3	13.5	118.14	-53.0	-521.1	268.1	241.2	26.89	9.972		
5,700.0	5,663.5	5,693.6	5,664.7	14.6	13.7	118.11	-54.2	-532.0	273.5	246.1	27.41	9.979		
5,800.0	5,762.8	5,793.4	5,764.0	14.9	14.0	118.08	-55.5	-542.9	278.9	250.9	27.92	9.987		
5,900.0	5,862.0	5,893.3	5,863.2	15.2	14.2	118.05	-56.7	-553.8	284.2	255.8	28.44	9.994		
6,000.0	5,961.3	5,993.1	5,962.5	15.5	14.5	118.02	-58.0	-564.6	289.6	260.7	28.96	10.001		
6,100.0	6,060.5	6,093.0	6,061.7	15.7	14.7	117.99	-59.2	-575.5	295.0	265.5	29.48	10.007		
6,200.0	6,159.8	6,192.8	6,161.0	16.0	15.0	117.97	-60.5	-586.4	300.4	270.4	30.00	10.014		
6,300.0	6,259.0	6,295.6	6,263.4	16.3	15.2	118.98	-61.8	-592.1	305.4	275.0	30.34	10.066		
6,400.0	6,358.2	6,394.5	6,361.5	16.6	15.1	123.03	-63.1	-580.6	310.2	280.0	30.18	10.278		
6,500.0	6,457.6	6,484.5	6,447.9	16.8	14.9	170.84	-64.1	-555.6	317.9	288.4	29.50	10.776		
6,600.0	6,557.1	6,569.4	6,524.8	16.8	14.6	-100.35	-65.1	-519.9	329.4	301.0	28.47	11.572		
6,700.0	6,653.8	6,650.0	6,592.3	16.7	14.2	-83.13	-66.0	-475.9	343.3	316.0	27.33	12.562		
6,800.0	6,744.9	6,729.3	6,651.9	16.4	13.8	-74.51	-66.7	-423.8	358.3	332.1	26.21	13.670		
6,900.0	6,827.5	6,805.7	6,702.1	16.0	13.4	-68.73	-67.4	-366.2	372.9	347.7	25.21	14.792		
7,000.0	6,899.3	6,880.5	6,743.4	15.6	13.2	-64.53	-67.9	-303.9	386.3	361.8	24.44	15.804		
7,100.0	6,958.0	6,950.0	6,774.2	15.2	13.2	-61.57	-68.3	-241.6	397.6	373.6	24.00	16.567		
7,200.0	7,001.8	7,026.8	6,799.1	15.0	13.3	-59.42	-68.6	-169.0	406.1	382.1	24.02	16.904		
7,300.0	7,029.4	7,100.0	6,813.7	14.8	13.7	-58.17	-68.8	-97.3	411.6	387.0	24.58	16.746		
7,400.0	7,039.9	7,170.7	6,819.0	15.0	14.3	-57.71	-68.9	-26.8	413.7	388.0	25.69	16.101		
7,500.0	7,040.0	7,267.8	6,819.0	16.2	15.5	-57.71	-68.9	70.2	413.7	386.1	27.64	14.970		
7,600.0	7,040.0	7,367.8	6,819.0	17.7	16.9	-57.71	-68.9	170.2	413.7	383.6	30.04	13.770		
7,700.0	7,040.0	7,467.8	6,819.0	19.3	18.6	-57.71	-68.9	270.2	413.7	380.9	32.81	12.609		
7,800.0	7,040.0	7,567.8	6,819.0	21.2	20.4	-57.71	-68.9	370.2	413.7	377.8	35.85	11.538		
7,900.0	7,040.0	7,667.8	6,819.0	23.1	22.4	-57.71	-68.9	470.2	413.7	374.6	39.11	10.577		
8,000.0	7,040.0	7,767.8	6,819.0	25.1	24.4	-57.71	-68.9	570.2	413.7	371.2	42.53	9.726		
8,100.0	7,040.0	7,867.8	6,819.0	27.2	26.5	-57.71	-68.9	670.2	413.7	367.6	46.08	8.977		
8,200.0	7,040.0	7,967.8	6,819.0	29.3	28.7	-57.71	-68.9	770.2	413.7	364.0	49.73	8.319		
8,300.0	7,040.0	8,067.8	6,819.0	31.5	30.9	-57.71	-68.9	870.2	413.7	360.2	53.46	7.739		
8,400.0	7,040.0	8,167.8	6,819.0	33.8	33.2	-57.71	-68.9	970.2	413.7	356.4	57.25	7.226		
8,500.0	7,040.0	8,267.8	6,819.0	36.0	35.5	-57.71	-68.9	1,070.2	413.7	352.6	61.09	6.772		
8,600.0	7,040.0	8,367.8	6,819.0	38.3	37.8	-57.71	-68.9	1,170.2	413.7	348.7	64.98	6.367		
8,700.0	7,040.0	8,467.8	6,819.0	40.6	40.1	-57.71	-68.9	1,270.2	413.7	344.8	68.90	6.004		
8,800.0	7,040.0	8,567.8	6,819.0	43.0	42.4	-57.71	-68.9	1,370.2	413.7	340.8	72.85	5.679		
8,900.0	7,040.0	8,667.8	6,819.0	45.3	44.8	-57.71	-68.9	1,470.2	413.7	336.9	76.83	5.385		
9,000.0	7,040.0	8,767.8	6,819.0	47.6	47.2	-57.71	-68.9	1,570.2	413.7	332.9	80.83	5.118		
9,100.0	7,040.0	8,867.8	6,819.0	50.0	49.6	-57.71	-68.9	1,670.2	413.7	328.8	84.84	4.876		
9,200.0	7,040.0	8,967.8	6,819.0	52.4	51.9	-57.71	-68.9	1,770.2	413.7	324.8	88.88	4.655		
9,300.0	7,040.0	9,067.8	6,819.0	54.8	54.3	-57.71	-68.9	1,870.2	413.7	320.8	92.92	4.452		
9,400.0	7,040.0	9,167.8	6,819.0	57.2	56.7	-57.71	-68.9	1,970.2	413.7	316.7	96.98	4.266		
9,500.0	7,040.0	9,267.8	6,819.0	59.6	59.2	-57.71	-68.9	2,070.2	413.7	312.6	101.05	4.094		
9,600.0	7,040.0	9,367.8	6,819.0	62.0	61.6	-57.71	-68.9	2,170.2	413.7	308.6	105.13	3.935		
9,700.0	7,040.0	9,467.8	6,819.0	64.4	64.0	-57.71	-68.9	2,270.2	413.7	304.5	109.21	3.788		
9,800.0	7,040.0	9,567.8	6,819.0	66.8	66.4	-57.71	-68.9	2,370.2	413.7	300.4	113.31	3.651		
9,900.0	7,040.0	9,667.8	6,819.0	69.2	68.8	-57.71	-68.9	2,470.2	413.7	296.3	117.41	3.524		
10,000.0	7,040.0	9,767.8	6,819.0	71.6	71.3	-57.71	-68.9	2,570.2	413.7	292.2	121.52	3.404		
10,100.0	7,040.0	9,867.8	6,819.0	74.0	73.7	-57.71	-68.9	2,670.2	413.7	288.1	125.63	3.293		
10,200.0	7,040.0	9,967.8	6,819.0	76.5	76.1	-57.71	-68.9	2,770.2	413.7	283.9	129.75	3.188		
10,300.0	7,040.0	10,067.8	6,819.0	78.9	78.6	-57.71	-68.9	2,870.2	413.7	279.8	133.87	3.090		

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 Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft
S19-T3N-R68W (Boyd) - Boyd 3E-19H-M368 - Hz - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-Geolink MWD														
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	
10,400.0	7,040.0	10,167.8	6,819.0	81.3	81.0	-57.71	-68.9	2,970.2	413.7	275.7	137.99	2.998		
10,500.0	7,040.0	10,267.8	6,819.0	83.8	83.5	-57.71	-68.9	3,070.2	413.7	271.6	142.12	2.911		
10,600.0	7,040.0	10,367.8	6,819.0	86.2	85.9	-57.71	-68.9	3,170.2	413.7	267.4	146.25	2.829		
10,700.0	7,040.0	10,467.8	6,819.0	88.7	88.4	-57.71	-68.9	3,270.2	413.7	263.3	150.39	2.751		
10,800.0	7,040.0	10,567.8	6,819.0	91.1	90.8	-57.71	-68.9	3,370.2	413.7	259.2	154.53	2.677		
10,900.0	7,040.0	10,667.8	6,819.0	93.5	93.3	-57.71	-68.9	3,470.2	413.7	255.0	158.67	2.607		
11,000.0	7,040.0	10,767.8	6,819.0	96.0	95.7	-57.71	-68.9	3,570.2	413.7	250.9	162.81	2.541		
11,100.0	7,040.0	10,867.8	6,819.0	98.4	98.2	-57.71	-68.9	3,670.2	413.7	246.7	166.96	2.478		
11,200.0	7,040.0	10,967.8	6,819.0	100.9	100.6	-57.71	-68.9	3,770.2	413.7	242.6	171.11	2.418		
11,300.0	7,040.0	11,067.8	6,819.0	103.3	103.1	-57.71	-68.9	3,870.2	413.7	238.4	175.26	2.360		
11,400.0	7,040.0	11,167.8	6,819.0	105.8	105.5	-57.71	-68.9	3,970.2	413.7	234.3	179.41	2.306		
11,500.0	7,040.0	11,267.8	6,819.0	108.2	108.0	-57.71	-68.9	4,070.2	413.7	230.1	183.56	2.254		
11,600.0	7,040.0	11,367.8	6,819.0	110.7	110.4	-57.71	-68.9	4,170.2	413.7	226.0	187.72	2.204		
11,602.7	7,040.0	11,370.5	6,819.0	110.8	110.5	-57.71	-68.9	4,172.9	413.7	225.9	187.83	2.202 SF		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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 S19-T3N-R68W (Boyd) - Boyd 3G-19H-M368 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-10.9	0.0	10.9					
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-10.9	0.0	10.9	10.7	0.26	41.744		
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-10.9	0.0	10.9	10.3	0.61	17.890		
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-10.9	0.0	10.9	10.0	0.96	11.385 CC, ES		
400.0	400.0	399.8	399.8	0.7	0.7	-177.18	-11.6	-0.6	11.6	10.3	1.31	8.859		
500.0	500.0	499.7	499.6	0.8	0.8	-50.65	-13.6	-2.3	13.2	11.5	1.66	7.943		
600.0	600.0	599.4	599.3	1.0	1.0	-49.03	-16.8	-5.1	15.1	13.1	2.01	7.514		
700.0	699.9	699.2	698.8	1.2	1.2	-49.04	-21.4	-9.1	17.4	15.0	2.37	7.331		
800.0	799.7	798.9	798.2	1.4	1.4	-50.13	-27.3	-14.2	20.0	17.3	2.75	7.283		
900.0	899.4	898.5	897.4	1.6	1.7	-51.87	-34.5	-20.5	22.9	19.8	3.14	7.313		
1,000.0	998.9	998.1	996.4	1.8	1.9	-53.98	-43.0	-27.9	26.2	22.7	3.55	7.386		
1,100.0	1,098.3	1,097.7	1,095.1	2.1	2.2	-56.26	-52.8	-36.4	29.9	25.9	4.00	7.477		
1,200.0	1,197.5	1,197.1	1,193.5	2.3	2.5	-57.48	-63.8	-46.0	34.5	30.0	4.47	7.705		
1,300.0	1,296.7	1,296.8	1,291.8	2.6	2.8	-57.01	-76.0	-56.5	40.1	35.2	4.94	8.122		
1,400.0	1,396.0	1,396.6	1,390.3	2.8	3.1	-56.51	-88.4	-67.3	45.9	40.5	5.41	8.487		
1,500.0	1,495.2	1,496.4	1,488.7	3.1	3.4	-56.12	-100.7	-78.0	51.7	45.8	5.88	8.789		
1,600.0	1,594.5	1,596.2	1,587.2	3.4	3.7	-55.81	-113.0	-88.7	57.5	51.1	6.35	9.043		
1,700.0	1,693.7	1,696.1	1,685.7	3.6	4.0	-55.56	-125.4	-99.4	63.2	56.4	6.83	9.259		
1,800.0	1,793.0	1,795.9	1,784.2	3.9	4.4	-55.35	-137.7	-110.1	69.0	61.7	7.31	9.445		
1,900.0	1,892.2	1,895.7	1,882.7	4.2	4.7	-55.17	-150.0	-120.8	74.8	67.0	7.79	9.606		
2,000.0	1,991.5	1,995.6	1,981.2	4.4	5.0	-55.02	-162.4	-131.6	80.6	72.3	8.27	9.747		
2,100.0	2,090.7	2,095.4	2,079.7	4.7	5.3	-54.88	-174.7	-142.3	86.4	77.6	8.75	9.871		
2,200.0	2,190.0	2,195.2	2,178.1	5.0	5.7	-54.77	-187.0	-153.0	92.2	82.9	9.23	9.982		
2,300.0	2,289.2	2,295.1	2,276.6	5.3	6.0	-54.67	-199.4	-163.7	98.0	88.2	9.72	10.081		
2,400.0	2,388.4	2,394.9	2,375.1	5.5	6.3	-54.58	-211.7	-174.4	103.7	93.5	10.20	10.170		
2,500.0	2,487.7	2,494.7	2,473.6	5.8	6.7	-54.50	-224.0	-185.1	109.5	98.9	10.69	10.251		
2,600.0	2,586.9	2,594.6	2,572.1	6.1	7.0	-54.42	-236.4	-195.9	115.3	104.2	11.17	10.324		
2,700.0	2,686.2	2,694.4	2,670.6	6.3	7.3	-54.36	-248.7	-206.6	121.1	109.5	11.66	10.391		
2,800.0	2,785.4	2,794.2	2,769.1	6.6	7.7	-54.30	-261.0	-217.3	126.9	114.8	12.14	10.452		
2,900.0	2,884.7	2,894.1	2,867.6	6.9	8.0	-54.24	-273.4	-228.0	132.7	120.1	12.63	10.508		
3,000.0	2,983.9	2,993.9	2,966.0	7.2	8.3	-54.19	-285.7	-238.7	138.5	125.4	13.11	10.560		
3,100.0	3,083.2	3,093.7	3,064.5	7.4	8.7	-54.15	-298.0	-249.4	144.3	130.7	13.60	10.607		
3,200.0	3,182.4	3,193.6	3,163.0	7.7	9.0	-54.11	-310.4	-260.2	150.1	136.0	14.09	10.652		
3,300.0	3,281.6	3,293.4	3,261.5	8.0	9.3	-54.07	-322.7	-270.9	155.9	141.3	14.57	10.693		
3,400.0	3,380.9	3,393.2	3,360.0	8.3	9.7	-54.03	-335.1	-281.6	161.6	146.6	15.06	10.732		
3,500.0	3,480.1	3,493.1	3,458.5	8.5	10.0	-54.00	-347.4	-292.3	167.4	151.9	15.55	10.768		
3,600.0	3,579.4	3,592.9	3,557.0	8.8	10.3	-53.96	-359.7	-303.0	173.2	157.2	16.04	10.801		
3,700.0	3,678.6	3,692.7	3,655.4	9.1	10.7	-53.93	-372.1	-313.7	179.0	162.5	16.52	10.833		
3,800.0	3,777.9	3,792.6	3,753.9	9.4	11.0	-53.91	-384.4	-324.5	184.8	167.8	17.01	10.863		
3,900.0	3,877.1	3,892.4	3,852.4	9.6	11.3	-53.88	-396.7	-335.2	190.6	173.1	17.50	10.891		
4,000.0	3,976.4	3,992.2	3,950.9	9.9	11.7	-53.86	-409.1	-345.9	196.4	178.4	17.99	10.917		
4,100.0	4,075.6	4,092.1	4,049.4	10.2	12.0	-53.83	-421.4	-356.6	202.2	183.7	18.48	10.942		
4,200.0	4,174.9	4,191.9	4,147.9	10.5	12.3	-53.81	-433.7	-367.3	208.0	189.0	18.96	10.966		
4,300.0	4,274.1	4,291.7	4,246.4	10.8	12.7	-53.79	-446.1	-378.0	213.8	194.3	19.45	10.988		
4,400.0	4,373.3	4,391.6	4,344.8	11.0	13.0	-53.77	-458.4	-388.8	219.5	199.6	19.94	11.010		
4,500.0	4,472.6	4,491.4	4,443.3	11.3	13.3	-53.75	-470.7	-399.5	225.3	204.9	20.43	11.030		
4,600.0	4,571.8	4,591.2	4,541.8	11.6	13.7	-53.73	-483.1	-410.2	231.1	210.2	20.92	11.049		
4,700.0	4,671.1	4,691.0	4,640.3	11.9	14.0	-53.72	-495.4	-420.9	236.9	215.5	21.41	11.068		
4,800.0	4,770.3	4,790.9	4,738.8	12.1	14.3	-53.70	-507.7	-431.6	242.7	220.8	21.89	11.085		
4,900.0	4,869.6	4,890.7	4,837.3	12.4	14.7	-53.69	-520.1	-442.3	248.5	226.1	22.38	11.102		
5,000.0	4,968.8	4,990.5	4,935.8	12.7	15.0	-53.67	-532.4	-453.1	254.3	231.4	22.87	11.118		
5,100.0	5,068.1	5,090.4	5,034.2	13.0	15.3	-53.66	-544.7	-463.8	260.1	236.7	23.36	11.133		

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 Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft	
Survey Program: 0-Geolink MWD													Offset Well Error:		0.0 ft
Reference				Offset			Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,200.0	5,167.3	5,190.2	5,132.7	13.2	15.7	-53.65	-557.1	-474.5	265.9	242.0	23.85	11.148			
5,300.0	5,266.5	5,290.0	5,231.2	13.5	16.0	-53.63	-569.4	-485.2	271.7	247.3	24.34	11.162			
5,400.0	5,365.8	5,389.9	5,329.7	13.8	16.4	-53.62	-581.8	-495.9	277.4	252.6	24.83	11.175			
5,500.0	5,465.0	5,489.7	5,428.2	14.1	16.7	-53.61	-594.1	-506.6	283.2	257.9	25.32	11.188			
5,600.0	5,564.3	5,589.5	5,526.7	14.3	17.0	-53.60	-606.4	-517.4	289.0	263.2	25.80	11.201			
5,700.0	5,663.5	5,689.4	5,625.2	14.6	17.4	-53.59	-618.8	-528.1	294.8	268.5	26.29	11.213			
5,800.0	5,762.8	5,789.2	5,723.6	14.9	17.7	-53.58	-631.1	-538.8	300.6	273.8	26.78	11.224			
5,900.0	5,862.0	5,889.0	5,822.1	15.2	18.0	-53.57	-643.4	-549.5	306.4	279.1	27.27	11.235			
6,000.0	5,961.3	5,988.9	5,920.6	15.5	18.4	-53.56	-655.8	-560.2	312.2	284.4	27.76	11.246			
6,100.0	6,060.5	6,088.7	6,019.1	15.7	18.7	-53.55	-668.1	-570.9	318.0	289.7	28.25	11.256			
6,200.0	6,159.8	6,188.5	6,117.6	16.0	19.0	-53.54	-680.4	-581.7	323.8	295.0	28.74	11.266			
6,300.0	6,259.0	6,289.3	6,217.0	16.3	19.4	-53.65	-692.9	-591.8	329.5	300.3	29.23	11.271			
6,400.0	6,358.2	6,390.4	6,317.2	16.6	19.5	-56.00	-705.4	-588.8	334.8	304.8	30.06	11.139			
6,500.0	6,457.6	6,484.9	6,409.0	16.8	19.5	-19.26	-716.9	-570.1	341.3	310.2	31.17	10.949			
6,600.0	6,557.1	6,574.7	6,492.2	16.8	19.4	58.10	-727.4	-538.4	350.2	318.3	31.87	10.989			
6,700.0	6,653.8	6,661.0	6,566.8	16.7	19.2	65.12	-736.7	-495.9	360.6	328.7	31.89	11.267			
6,800.0	6,744.9	6,744.7	6,632.1	16.4	19.0	64.86	-744.9	-444.5	371.7	340.5	31.25	11.896			
6,900.0	6,827.5	6,826.1	6,688.0	16.0	18.8	63.25	-751.9	-385.7	382.7	352.7	30.04	12.740			
7,000.0	6,899.3	6,905.9	6,734.1	15.6	18.6	61.48	-757.7	-321.0	392.8	364.3	28.49	13.784			
7,100.0	6,958.0	6,984.4	6,770.4	15.2	18.4	59.93	-762.2	-251.6	401.3	374.3	26.96	14.883			
7,200.0	7,001.8	7,061.9	6,796.7	15.0	18.3	58.75	-765.5	-178.8	407.8	382.0	25.88	15.761			
7,300.0	7,029.4	7,138.8	6,812.9	14.8	18.3	58.01	-767.5	-103.7	412.0	386.4	25.66	16.054			
7,400.0	7,039.9	7,215.4	6,818.9	15.0	18.4	57.71	-768.3	-27.5	413.7	387.1	26.58	15.563			
7,500.0	7,040.0	7,313.1	6,819.0	16.2	18.8	57.71	-768.3	70.2	413.7	385.2	28.48	14.527			
7,600.0	7,040.0	7,413.1	6,819.0	17.7	19.7	57.71	-768.3	170.2	413.7	382.9	30.83	13.419			
7,700.0	7,040.0	7,513.1	6,819.0	19.3	21.0	57.71	-768.3	270.2	413.7	380.2	33.54	12.334			
7,800.0	7,040.0	7,613.1	6,819.0	21.2	22.5	57.71	-768.3	370.2	413.7	377.2	36.53	11.324			
7,900.0	7,040.0	7,713.1	6,819.0	23.1	24.3	57.71	-768.3	470.2	413.7	374.0	39.74	10.410			
8,000.0	7,040.0	7,813.1	6,819.0	25.1	26.2	57.71	-768.3	570.2	413.7	370.6	43.12	9.594			
8,100.0	7,040.0	7,913.1	6,819.0	27.2	28.2	57.71	-768.3	670.2	413.7	367.1	46.63	8.872			
8,200.0	7,040.0	8,013.1	6,819.0	29.3	30.3	57.71	-768.3	770.2	413.7	363.5	50.24	8.234			
8,300.0	7,040.0	8,113.1	6,819.0	31.5	32.4	57.71	-768.3	870.2	413.7	359.8	53.94	7.670			
8,400.0	7,040.0	8,213.1	6,819.0	33.8	34.6	57.71	-768.3	970.2	413.7	356.0	57.70	7.169			
8,500.0	7,040.0	8,313.1	6,819.0	36.0	36.8	57.71	-768.3	1,070.2	413.7	352.2	61.52	6.724			
8,600.0	7,040.0	8,413.1	6,819.0	38.3	39.1	57.71	-768.3	1,170.2	413.7	348.3	65.39	6.327			
8,700.0	7,040.0	8,513.1	6,819.0	40.6	41.3	57.71	-768.3	1,270.2	413.7	344.4	69.29	5.971			
8,800.0	7,040.0	8,613.1	6,819.0	43.0	43.6	57.71	-768.3	1,370.2	413.7	340.5	73.22	5.650			
8,900.0	7,040.0	8,713.1	6,819.0	45.3	45.9	57.71	-768.3	1,470.2	413.7	336.5	77.18	5.360			
9,000.0	7,040.0	8,813.1	6,819.0	47.6	48.2	57.71	-768.3	1,570.2	413.7	332.5	81.17	5.097			
9,100.0	7,040.0	8,913.1	6,819.0	50.0	50.6	57.71	-768.3	1,670.2	413.7	328.5	85.17	4.857			
9,200.0	7,040.0	9,013.1	6,819.0	52.4	52.9	57.71	-768.3	1,770.2	413.7	324.5	89.19	4.638			
9,300.0	7,040.0	9,113.1	6,819.0	54.8	55.3	57.71	-768.3	1,870.2	413.7	320.5	93.22	4.438			
9,400.0	7,040.0	9,213.1	6,819.0	57.2	57.7	57.71	-768.3	1,970.2	413.7	316.4	97.27	4.253			
9,500.0	7,040.0	9,313.1	6,819.0	59.6	60.0	57.71	-768.3	2,070.2	413.7	312.4	101.33	4.083			
9,600.0	7,040.0	9,413.1	6,819.0	62.0	62.4	57.71	-768.3	2,170.2	413.7	308.3	105.40	3.925			
9,700.0	7,040.0	9,513.1	6,819.0	64.4	64.8	57.71	-768.3	2,270.2	413.7	304.2	109.48	3.779			
9,800.0	7,040.0	9,613.1	6,819.0	66.8	67.2	57.71	-768.3	2,370.2	413.7	300.1	113.57	3.643			
9,900.0	7,040.0	9,713.1	6,819.0	69.2	69.6	57.71	-768.3	2,470.2	413.7	296.0	117.66	3.516			
10,000.0	7,040.0	9,813.1	6,819.0	71.6	72.0	57.71	-768.3	2,570.2	413.7	291.9	121.76	3.398			
10,100.0	7,040.0	9,913.1	6,819.0	74.0	74.4	57.71	-768.3	2,670.2	413.7	287.8	125.87	3.287			
10,200.0	7,040.0	10,013.1	6,819.0	76.5	76.9	57.71	-768.3	2,770.2	413.7	283.7	129.98	3.183			
10,300.0	7,040.0	10,113.1	6,819.0	78.9	79.3	57.71	-768.3	2,870.2	413.7	279.6	134.09	3.085			

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 Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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													Offset Site Error:	0.0 ft	
Survey Program: 0-Geolink MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
10,400.0	7,040.0	10,213.1	6,819.0	81.3	81.7	57.71	-768.3	2,970.2	413.7	275.5	138.22	2.993			
10,500.0	7,040.0	10,313.1	6,819.0	83.8	84.1	57.71	-768.3	3,070.2	413.7	271.4	142.34	2.906			
10,600.0	7,040.0	10,413.1	6,819.0	86.2	86.6	57.71	-768.3	3,170.2	413.7	267.2	146.47	2.824			
10,700.0	7,040.0	10,513.1	6,819.0	88.7	89.0	57.71	-768.3	3,270.2	413.7	263.1	150.60	2.747			
10,800.0	7,040.0	10,613.1	6,819.0	91.1	91.4	57.71	-768.3	3,370.2	413.7	259.0	154.73	2.674			
10,900.0	7,040.0	10,713.1	6,819.0	93.5	93.9	57.71	-768.3	3,470.2	413.7	254.8	158.87	2.604			
11,000.0	7,040.0	10,813.1	6,819.0	96.0	96.3	57.71	-768.3	3,570.2	413.7	250.7	163.01	2.538			
11,100.0	7,040.0	10,913.1	6,819.0	98.4	98.7	57.71	-768.3	3,670.2	413.7	246.5	167.15	2.475			
11,200.0	7,040.0	11,013.1	6,819.0	100.9	101.2	57.71	-768.3	3,770.2	413.7	242.4	171.30	2.415			
11,300.0	7,040.0	11,113.1	6,819.0	103.3	103.6	57.71	-768.3	3,870.2	413.7	238.2	175.45	2.358			
11,400.0	7,040.0	11,213.1	6,819.0	105.8	106.1	57.71	-768.3	3,970.2	413.7	234.1	179.59	2.303			
11,500.0	7,040.0	11,313.1	6,819.0	108.2	108.5	57.71	-768.3	4,070.2	413.7	229.9	183.74	2.251			
11,566.7	7,040.0	11,379.7	6,819.0	109.9	110.1	57.71	-768.3	4,136.9	413.7	227.2	186.51	2.218			
11,600.0	7,040.0	11,413.0	6,819.0	110.7	110.9	57.71	-768.3	4,170.2	413.7	225.8	187.90	2.202			
11,602.7	7,040.0	11,413.0	6,819.0	110.8	110.9	57.71	-768.3	4,170.2	413.7	225.7	187.95	2.201 SF			

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3F-19H-M368
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5029.0ft (Original Well Elev)
Reference Site:	S19-T3N-R68W (Boyd)	MD Reference:	WELL @ 5029.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Boyd 3F-19H-M368	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 @ 5029.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Boyd 3F-19H-M368
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.29°

