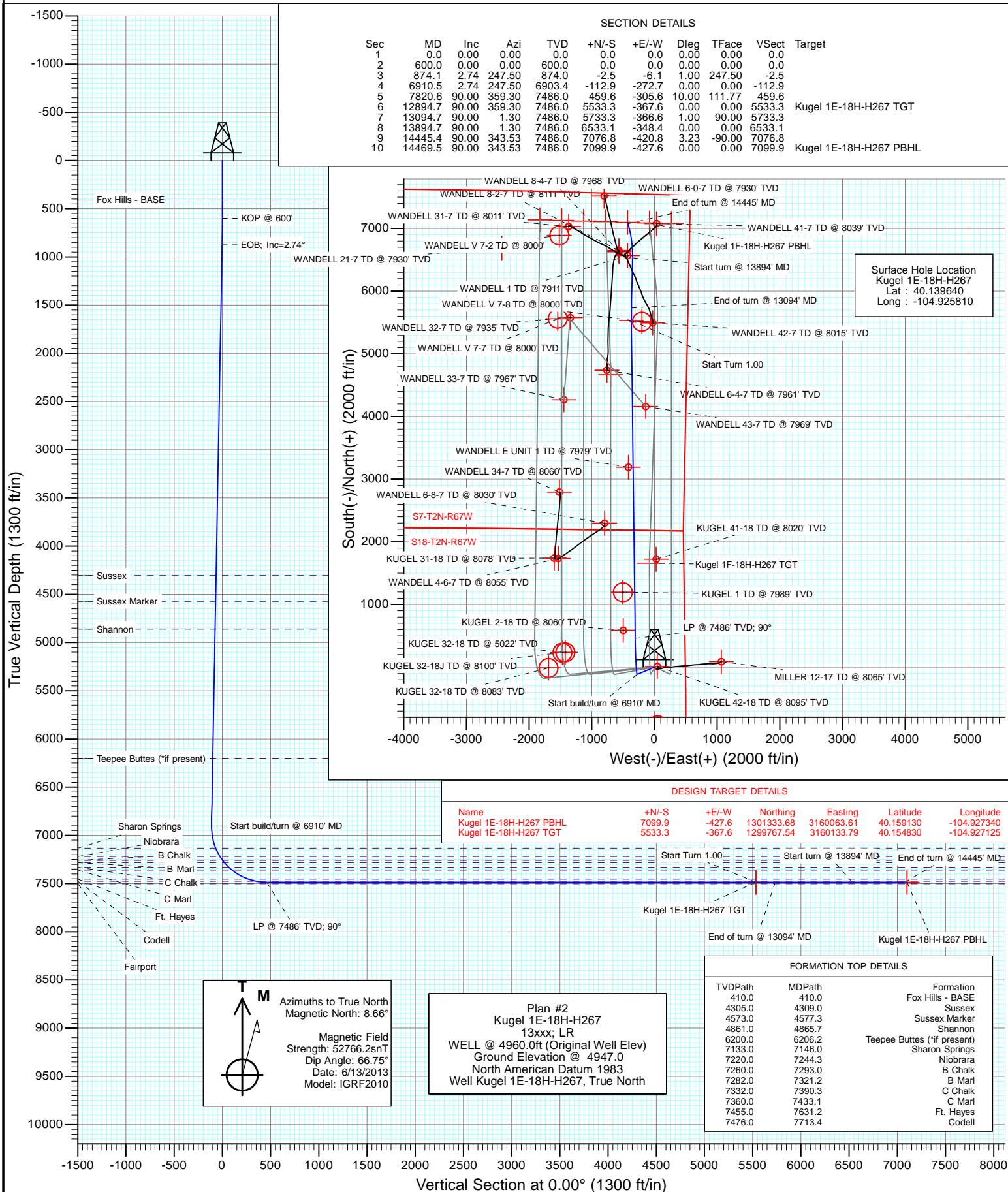




Project: DJ Wattenberg
Site: S18-T2N-R67W (Kugel)
Well: Kugel 1E-18H-H267
Wellbore: Hz
Design: Plan #2



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W (Kugel)	North Reference:	True
Well:	Kugel 1E-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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		S18-T2N-R67W (Kugel)			
Site Position:		Northing:	1,294,236.49 ft	Latitude:	40.139640
From:	Lat/Long	Easting:	3,160,498.07 ft	Longitude:	-104.925950
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.37 °

Well	Kugel 1E-18H-H267					
Well Position	+N/-S	0.0 ft	Northing:	1,294,236.72 ft	Latitude:	40.139640
	+E/-W	0.0 ft	Easting:	3,160,537.21 ft	Longitude:	-104.925810
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,947.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/13/2013	8.66	66.75	52,766

Design	Plan #2			
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	0.00

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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
874.1	2.74	247.50	874.0	-2.5	-6.1	1.00	1.00	0.00	247.50	
6,910.5	2.74	247.50	6,903.4	-112.9	-272.7	0.00	0.00	0.00	0.00	
7,820.6	90.00	359.30	7,486.0	459.6	-305.6	10.00	9.59	12.28	111.77	
12,894.7	90.00	359.30	7,486.0	5,533.3	-367.6	0.00	0.00	0.00	0.00	Kugel 1E-18H-H267 1
13,094.7	90.00	1.30	7,486.0	5,733.3	-366.6	1.00	0.00	1.00	90.00	
13,894.7	90.00	1.30	7,486.0	6,533.1	-348.4	0.00	0.00	0.00	0.00	
14,445.4	90.00	343.53	7,486.0	7,076.8	-420.8	3.23	0.00	-3.23	-90.00	
14,469.5	90.00	343.53	7,486.0	7,099.9	-427.6	0.00	0.00	0.00	0.00	Kugel 1E-18H-H267 F

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W (Kugel)	North Reference:	True
Well:	Kugel 1E-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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	
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	
410.0	0.00	0.00	410.0	0.0	0.0	0.0	0.00	0.00	Fox Hills - BASE
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600'
700.0	1.00	247.50	700.0	-0.3	-0.8	-0.3	1.00	1.00	
800.0	2.00	247.50	800.0	-1.3	-3.2	-1.3	1.00	1.00	
874.1	2.74	247.50	874.0	-2.5	-6.1	-2.5	1.00	1.00	EOB; Inc=2.74°
900.0	2.74	247.50	899.9	-3.0	-7.2	-3.0	0.00	0.00	
1,000.0	2.74	247.50	999.8	-4.8	-11.6	-4.8	0.00	0.00	
1,100.0	2.74	247.50	1,099.6	-6.6	-16.0	-6.6	0.00	0.00	
1,200.0	2.74	247.50	1,199.5	-8.5	-20.5	-8.5	0.00	0.00	
1,300.0	2.74	247.50	1,299.4	-10.3	-24.9	-10.3	0.00	0.00	
1,400.0	2.74	247.50	1,399.3	-12.1	-29.3	-12.1	0.00	0.00	
1,500.0	2.74	247.50	1,499.2	-14.0	-33.7	-14.0	0.00	0.00	
1,600.0	2.74	247.50	1,599.1	-15.8	-38.1	-15.8	0.00	0.00	
1,700.0	2.74	247.50	1,699.0	-17.6	-42.5	-17.6	0.00	0.00	
1,800.0	2.74	247.50	1,798.8	-19.4	-47.0	-19.4	0.00	0.00	
1,900.0	2.74	247.50	1,898.7	-21.3	-51.4	-21.3	0.00	0.00	
2,000.0	2.74	247.50	1,998.6	-23.1	-55.8	-23.1	0.00	0.00	
2,100.0	2.74	247.50	2,098.5	-24.9	-60.2	-24.9	0.00	0.00	
2,200.0	2.74	247.50	2,198.4	-26.8	-64.6	-26.8	0.00	0.00	
2,300.0	2.74	247.50	2,298.3	-28.6	-69.0	-28.6	0.00	0.00	
2,400.0	2.74	247.50	2,398.2	-30.4	-73.5	-30.4	0.00	0.00	
2,500.0	2.74	247.50	2,498.0	-32.3	-77.9	-32.3	0.00	0.00	
2,600.0	2.74	247.50	2,597.9	-34.1	-82.3	-34.1	0.00	0.00	
2,700.0	2.74	247.50	2,697.8	-35.9	-86.7	-35.9	0.00	0.00	
2,800.0	2.74	247.50	2,797.7	-37.7	-91.1	-37.7	0.00	0.00	
2,900.0	2.74	247.50	2,897.6	-39.6	-95.6	-39.6	0.00	0.00	
3,000.0	2.74	247.50	2,997.5	-41.4	-100.0	-41.4	0.00	0.00	
3,100.0	2.74	247.50	3,097.3	-43.2	-104.4	-43.2	0.00	0.00	
3,200.0	2.74	247.50	3,197.2	-45.1	-108.8	-45.1	0.00	0.00	
3,300.0	2.74	247.50	3,297.1	-46.9	-113.2	-46.9	0.00	0.00	
3,400.0	2.74	247.50	3,397.0	-48.7	-117.6	-48.7	0.00	0.00	
3,500.0	2.74	247.50	3,496.9	-50.5	-122.1	-50.5	0.00	0.00	
3,600.0	2.74	247.50	3,596.8	-52.4	-126.5	-52.4	0.00	0.00	
3,700.0	2.74	247.50	3,696.7	-54.2	-130.9	-54.2	0.00	0.00	
3,800.0	2.74	247.50	3,796.5	-56.0	-135.3	-56.0	0.00	0.00	
3,900.0	2.74	247.50	3,896.4	-57.9	-139.7	-57.9	0.00	0.00	
4,000.0	2.74	247.50	3,996.3	-59.7	-144.1	-59.7	0.00	0.00	
4,100.0	2.74	247.50	4,096.2	-61.5	-148.6	-61.5	0.00	0.00	
4,200.0	2.74	247.50	4,196.1	-63.4	-153.0	-63.4	0.00	0.00	
4,300.0	2.74	247.50	4,296.0	-65.2	-157.4	-65.2	0.00	0.00	
4,309.0	2.74	247.50	4,305.0	-65.3	-157.8	-65.3	0.00	0.00	Sussex
4,400.0	2.74	247.50	4,395.9	-67.0	-161.8	-67.0	0.00	0.00	
4,500.0	2.74	247.50	4,495.7	-68.8	-166.2	-68.8	0.00	0.00	
4,577.3	2.74	247.50	4,573.0	-70.3	-169.7	-70.3	0.00	0.00	Sussex Marker
4,600.0	2.74	247.50	4,595.6	-70.7	-170.7	-70.7	0.00	0.00	
4,700.0	2.74	247.50	4,695.5	-72.5	-175.1	-72.5	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W (Kugel)	North Reference:	True
Well:	Kugel 1E-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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
4,800.0	2.74	247.50	4,795.4	-74.3	-179.5	-74.3	0.00	0.00	
4,865.7	2.74	247.50	4,861.0	-75.5	-182.4	-75.5	0.00	0.00	Shannon
4,900.0	2.74	247.50	4,895.3	-76.2	-183.9	-76.2	0.00	0.00	
5,000.0	2.74	247.50	4,995.2	-78.0	-188.3	-78.0	0.00	0.00	
5,100.0	2.74	247.50	5,095.1	-79.8	-192.7	-79.8	0.00	0.00	
5,200.0	2.74	247.50	5,194.9	-81.6	-197.2	-81.6	0.00	0.00	
5,300.0	2.74	247.50	5,294.8	-83.5	-201.6	-83.5	0.00	0.00	
5,400.0	2.74	247.50	5,394.7	-85.3	-206.0	-85.3	0.00	0.00	
5,500.0	2.74	247.50	5,494.6	-87.1	-210.4	-87.1	0.00	0.00	
5,600.0	2.74	247.50	5,594.5	-89.0	-214.8	-89.0	0.00	0.00	
5,700.0	2.74	247.50	5,694.4	-90.8	-219.2	-90.8	0.00	0.00	
5,800.0	2.74	247.50	5,794.3	-92.6	-223.7	-92.6	0.00	0.00	
5,900.0	2.74	247.50	5,894.1	-94.5	-228.1	-94.5	0.00	0.00	
6,000.0	2.74	247.50	5,994.0	-96.3	-232.5	-96.3	0.00	0.00	
6,100.0	2.74	247.50	6,093.9	-98.1	-236.9	-98.1	0.00	0.00	
6,200.0	2.74	247.50	6,193.8	-99.9	-241.3	-99.9	0.00	0.00	
6,206.2	2.74	247.50	6,200.0	-100.1	-241.6	-100.1	0.00	0.00	Teepee Buttes (*if present)
6,300.0	2.74	247.50	6,293.7	-101.8	-245.8	-101.8	0.00	0.00	
6,400.0	2.74	247.50	6,393.6	-103.6	-250.2	-103.6	0.00	0.00	
6,500.0	2.74	247.50	6,493.5	-105.4	-254.6	-105.4	0.00	0.00	
6,600.0	2.74	247.50	6,593.3	-107.3	-259.0	-107.3	0.00	0.00	
6,700.0	2.74	247.50	6,693.2	-109.1	-263.4	-109.1	0.00	0.00	
6,800.0	2.74	247.50	6,793.1	-110.9	-267.8	-110.9	0.00	0.00	
6,900.0	2.74	247.50	6,893.0	-112.7	-272.3	-112.7	0.00	0.00	
6,910.5	2.74	247.50	6,903.4	-112.9	-272.7	-112.9	0.00	0.00	Start build/turn @ 6910' MD
7,000.0	8.33	341.63	6,992.6	-107.6	-276.8	-107.6	10.00	6.25	
7,100.0	18.11	351.49	7,089.9	-85.3	-281.3	-85.3	10.00	9.78	
7,146.0	22.67	353.19	7,133.0	-69.4	-283.5	-69.4	10.00	9.92	Sharon Springs
7,200.0	28.04	354.51	7,181.8	-46.4	-285.9	-46.4	10.00	9.95	
7,244.3	32.45	355.29	7,220.0	-24.2	-287.9	-24.2	10.00	9.96	Niobrara
7,293.0	37.32	355.96	7,260.0	3.6	-290.0	3.6	10.00	9.97	B Chalk
7,300.0	38.01	356.04	7,265.5	7.8	-290.3	7.8	10.00	9.97	
7,321.2	40.13	356.28	7,282.0	21.2	-291.2	21.2	10.00	9.98	B Marl
7,390.3	47.02	356.93	7,332.0	68.7	-294.0	68.7	10.00	9.98	C Chalk
7,400.0	47.99	357.01	7,338.6	75.8	-294.4	75.8	10.00	9.98	
7,433.1	51.29	357.26	7,360.0	101.0	-295.6	101.0	10.00	9.98	C Marl
7,500.0	57.97	357.71	7,398.7	155.5	-298.0	155.5	10.00	9.99	
7,600.0	67.96	358.27	7,444.1	244.4	-301.1	244.4	10.00	9.99	
7,631.2	71.08	358.43	7,455.0	273.6	-302.0	273.6	10.00	9.99	Ft. Hayes
7,700.0	77.95	358.76	7,473.4	339.8	-303.6	339.8	10.00	9.99	
7,713.4	79.29	358.82	7,476.0	353.0	-303.9	353.0	10.00	9.99	Codell
7,800.0	87.94	359.21	7,485.6	438.9	-305.3	438.9	10.00	9.99	
7,820.6	90.00	359.30	7,486.0	459.6	-305.6	459.6	10.00	9.99	LP @ 7486' TVD; 90°
7,900.0	90.00	359.30	7,486.0	538.9	-306.6	538.9	0.00	0.00	
8,000.0	90.00	359.30	7,486.0	638.9	-307.8	638.9	0.00	0.00	
8,100.0	90.00	359.30	7,486.0	738.9	-309.0	738.9	0.00	0.00	
8,200.0	90.00	359.30	7,486.0	838.9	-310.2	838.9	0.00	0.00	
8,300.0	90.00	359.30	7,486.0	938.9	-311.5	938.9	0.00	0.00	
8,400.0	90.00	359.30	7,486.0	1,038.9	-312.7	1,038.9	0.00	0.00	
8,500.0	90.00	359.30	7,486.0	1,138.9	-313.9	1,138.9	0.00	0.00	
8,600.0	90.00	359.30	7,486.0	1,238.9	-315.1	1,238.9	0.00	0.00	
8,700.0	90.00	359.30	7,486.0	1,338.9	-316.4	1,338.9	0.00	0.00	

Planning Report

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Project:	DJ Wattenberg	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W (Kugel)	North Reference:	True
Well:	Kugel 1E-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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	359.30	7,486.0	1,438.9	-317.6	1,438.9	0.00	0.00	
8,900.0	90.00	359.30	7,486.0	1,538.9	-318.8	1,538.9	0.00	0.00	
9,000.0	90.00	359.30	7,486.0	1,638.9	-320.0	1,638.9	0.00	0.00	
9,100.0	90.00	359.30	7,486.0	1,738.8	-321.2	1,738.8	0.00	0.00	
9,200.0	90.00	359.30	7,486.0	1,838.8	-322.5	1,838.8	0.00	0.00	
9,300.0	90.00	359.30	7,486.0	1,938.8	-323.7	1,938.8	0.00	0.00	
9,400.0	90.00	359.30	7,486.0	2,038.8	-324.9	2,038.8	0.00	0.00	
9,500.0	90.00	359.30	7,486.0	2,138.8	-326.1	2,138.8	0.00	0.00	
9,600.0	90.00	359.30	7,486.0	2,238.8	-327.3	2,238.8	0.00	0.00	
9,700.0	90.00	359.30	7,486.0	2,338.8	-328.6	2,338.8	0.00	0.00	
9,800.0	90.00	359.30	7,486.0	2,438.8	-329.8	2,438.8	0.00	0.00	
9,900.0	90.00	359.30	7,486.0	2,538.8	-331.0	2,538.8	0.00	0.00	
10,000.0	90.00	359.30	7,486.0	2,638.8	-332.2	2,638.8	0.00	0.00	
10,100.0	90.00	359.30	7,486.0	2,738.8	-333.5	2,738.8	0.00	0.00	
10,200.0	90.00	359.30	7,486.0	2,838.8	-334.7	2,838.8	0.00	0.00	
10,300.0	90.00	359.30	7,486.0	2,938.8	-335.9	2,938.8	0.00	0.00	
10,400.0	90.00	359.30	7,486.0	3,038.7	-337.1	3,038.7	0.00	0.00	
10,500.0	90.00	359.30	7,486.0	3,138.7	-338.3	3,138.7	0.00	0.00	
10,600.0	90.00	359.30	7,486.0	3,238.7	-339.6	3,238.7	0.00	0.00	
10,700.0	90.00	359.30	7,486.0	3,338.7	-340.8	3,338.7	0.00	0.00	
10,800.0	90.00	359.30	7,486.0	3,438.7	-342.0	3,438.7	0.00	0.00	
10,900.0	90.00	359.30	7,486.0	3,538.7	-343.2	3,538.7	0.00	0.00	
11,000.0	90.00	359.30	7,486.0	3,638.7	-344.5	3,638.7	0.00	0.00	
11,100.0	90.00	359.30	7,486.0	3,738.7	-345.7	3,738.7	0.00	0.00	
11,200.0	90.00	359.30	7,486.0	3,838.7	-346.9	3,838.7	0.00	0.00	
11,300.0	90.00	359.30	7,486.0	3,938.7	-348.1	3,938.7	0.00	0.00	
11,400.0	90.00	359.30	7,486.0	4,038.7	-349.3	4,038.7	0.00	0.00	
11,500.0	90.00	359.30	7,486.0	4,138.7	-350.6	4,138.7	0.00	0.00	
11,600.0	90.00	359.30	7,486.0	4,238.7	-351.8	4,238.7	0.00	0.00	
11,700.0	90.00	359.30	7,486.0	4,338.7	-353.0	4,338.7	0.00	0.00	
11,800.0	90.00	359.30	7,486.0	4,438.6	-354.2	4,438.6	0.00	0.00	
11,900.0	90.00	359.30	7,486.0	4,538.6	-355.4	4,538.6	0.00	0.00	
12,000.0	90.00	359.30	7,486.0	4,638.6	-356.7	4,638.6	0.00	0.00	
12,100.0	90.00	359.30	7,486.0	4,738.6	-357.9	4,738.6	0.00	0.00	
12,200.0	90.00	359.30	7,486.0	4,838.6	-359.1	4,838.6	0.00	0.00	
12,300.0	90.00	359.30	7,486.0	4,938.6	-360.3	4,938.6	0.00	0.00	
12,400.0	90.00	359.30	7,486.0	5,038.6	-361.6	5,038.6	0.00	0.00	
12,500.0	90.00	359.30	7,486.0	5,138.6	-362.8	5,138.6	0.00	0.00	
12,600.0	90.00	359.30	7,486.0	5,238.6	-364.0	5,238.6	0.00	0.00	
12,700.0	90.00	359.30	7,486.0	5,338.6	-365.2	5,338.6	0.00	0.00	
12,800.0	90.00	359.30	7,486.0	5,438.6	-366.4	5,438.6	0.00	0.00	
12,894.7	90.00	359.30	7,486.0	5,533.3	-367.6	5,533.3	0.00	0.00	Start Turn 1.00
12,900.0	90.00	359.35	7,486.0	5,538.6	-367.7	5,538.6	1.00	0.00	
13,000.0	90.00	0.35	7,486.0	5,638.6	-367.9	5,638.6	1.00	0.00	
13,094.7	90.00	1.30	7,486.0	5,733.3	-366.6	5,733.3	1.00	0.00	End of turn @ 13094' MD
13,100.0	90.00	1.30	7,486.0	5,738.5	-366.4	5,738.5	0.00	0.00	
13,200.0	90.00	1.30	7,486.0	5,838.5	-364.2	5,838.5	0.00	0.00	
13,300.0	90.00	1.30	7,486.0	5,938.5	-361.9	5,938.5	0.00	0.00	
13,400.0	90.00	1.30	7,486.0	6,038.5	-359.6	6,038.5	0.00	0.00	
13,500.0	90.00	1.30	7,486.0	6,138.4	-357.4	6,138.4	0.00	0.00	
13,600.0	90.00	1.30	7,486.0	6,238.4	-355.1	6,238.4	0.00	0.00	
13,700.0	90.00	1.30	7,486.0	6,338.4	-352.8	6,338.4	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W (Kugel)	North Reference:	True
Well:	Kugel 1E-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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
13,800.0	90.00	1.30	7,486.0	6,438.4	-350.6	6,438.4	0.00	0.00	
13,894.7	90.00	1.30	7,486.0	6,533.1	-348.4	6,533.1	0.00	0.00	Start turn @ 13894' MD
13,900.0	90.00	1.13	7,486.0	6,538.3	-348.3	6,538.3	3.23	0.00	
14,000.0	90.00	357.90	7,486.0	6,638.3	-349.1	6,638.3	3.23	0.00	
14,100.0	90.00	354.68	7,486.0	6,738.1	-355.6	6,738.1	3.23	0.00	
14,200.0	90.00	351.45	7,486.0	6,837.4	-367.7	6,837.4	3.23	0.00	
14,300.0	90.00	348.22	7,486.0	6,935.8	-385.3	6,935.8	3.23	0.00	
14,400.0	90.00	345.00	7,486.0	7,033.0	-408.5	7,033.0	3.23	0.00	
14,445.4	90.00	343.53	7,486.0	7,076.8	-420.8	7,076.8	3.23	0.00	End of turn @ 14445' MD
14,469.5	90.00	343.53	7,486.0	7,099.9	-427.6	7,099.9	0.00	0.00	TD at 14469.5

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Kugel 1E-18H-H267 TG` - plan hits target center - Point	0.00	0.00	7,486.0	5,533.3	-367.6	1,299,767.54	3,160,133.79	40.154830	-104.927125
Kugel 1E-18H-H267 PBI - plan hits target center - Point	0.00	0.00	7,486.0	7,099.9	-427.6	1,301,333.68	3,160,063.61	40.159130	-104.927340

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
410.0	410.0	Fox Hills - BASE			
4,309.0	4,305.0	Sussex			
4,577.3	4,573.0	Sussex Marker			
4,865.7	4,861.0	Shannon			
6,206.2	6,200.0	Teepee Buttes (*if present)			
7,146.0	7,133.0	Sharon Springs			
7,244.3	7,220.0	Niobrara			
7,293.0	7,260.0	B Chalk			
7,321.2	7,282.0	B Marl			
7,390.3	7,332.0	C Chalk			
7,433.1	7,360.0	C Marl			
7,631.2	7,455.0	Ft. Hayes			
7,713.4	7,476.0	Codell			

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W (Kugel)	North Reference:	True
Well:	Kugel 1E-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP @ 600'
874.1	874.0	-2.5	-6.1	EOB; Inc=2.74°
6,910.5	6,903.4	-112.9	-272.7	Start build/turn @ 6910' MD
7,820.6	7,486.0	459.6	-305.6	LP @ 7486' TVD; 90°
12,894.7	7,486.0	5,533.3	-367.6	Start Turn 1.00
13,094.7	7,486.0	5,733.3	-366.6	End of turn @ 13094' MD
13,894.7	7,486.0	6,533.1	-348.4	Start turn @ 13894' MD
14,445.4	7,486.0	7,076.8	-420.8	End of turn @ 14445' MD
14,469.5	7,486.0	7,099.9	-427.6	TD at 14469.5

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S18-T2N-R67W (Kugel)

Kugel 1E-18H-H267

Hz

Plan #2

Anticollision Report

25 June, 2013

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
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	6/25/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,469.0	Plan #2 (Hz)	Geolink MWD	Geolink MWD	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	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)		
S18-T2N-R67W (Kugel)						
BRETT 1 (EXISTING) - HS RESOURCES WELL - NO S						Out of range
BRETT 2 (EXISTING) - HS RESOURCES WELL - NO S						Out of range
BRETT 3 (EXISTING) - KERR-MCGEE WELL - NO SUR						Out of range
BRETT 4 (EXISTING) - KERR-MCGEE WELL - NO SUR						Out of range
DREW GAS UNIT TRUE 1 (EXISTING) - KERR-MCGEE						Out of range
FARNSWORTH 9-18A (EXISTING) - KERR-MCGEE WE						Out of range
HSR-OWEN 15-18A (EXISTING) - KERR-MCGEE WELL						Out of range
KUGEL 1 (EXISTING) - MACHII-ROSS WELL - NO SUR	8,559.7	7,471.0	187.8	148.6	4.798	CC, ES, SF
Kugel 1A-18H-H267 - Hz - Plan #1	166.3	167.3	39.1	38.6	72.893	CC
Kugel 1A-18H-H267 - Hz - Plan #1	200.0	201.0	39.1	38.5	59.804	ES
Kugel 1A-18H-H267 - Hz - Plan #1	900.0	893.6	74.2	71.1	24.030	SF
Kugel 1B-18H-H267 - Hz - Plan #1	266.3	267.3	28.0	27.1	31.554	CC
Kugel 1B-18H-H267 - Hz - Plan #1	300.0	301.0	28.0	27.0	27.859	ES
Kugel 1B-18H-H267 - Hz - Plan #1	900.0	896.6	52.0	48.9	16.801	SF
Kugel 1C-18H-H267 - Hz - Plan #1	366.3	367.3	19.6	18.3	15.845	CC
Kugel 1C-18H-H267 - Hz - Plan #1	400.0	401.0	19.6	18.2	14.469	ES
Kugel 1C-18H-H267 - Hz - Plan #1	900.0	898.6	34.0	31.0	10.998	SF
Kugel 1D-18H-H267 - Hz - Plan #1	500.0	500.0	8.4	6.7	4.934	CC, ES
Kugel 1D-18H-H267 - Hz - Plan #1	14,469.5	14,265.7	410.3	198.9	1.941	SF
Kugel 1F-18H-H267 - Hz - Plan #1	600.0	600.0	11.2	9.1	5.458	CC, ES
Kugel 1F-18H-H267 - Hz - Plan #1	14,200.0	14,017.9	381.2	178.7	1.883	SF
Kugel 1G-18H-H267 - Hz - Plan #1	500.0	500.0	22.4	20.7	13.157	CC, ES
Kugel 1G-18H-H267 - Hz - Plan #1	700.0	699.2	26.3	23.9	10.980	SF
KUGEL 2-18 (EXISTING) - ENCANA WELL - NO SURVE	7,952.1	7,476.0	189.9	159.3	6.200	CC, ES, SF
KUGEL 31-18 (EXISTING) - ENCANA WELL - NO SURV						Out of range
KUGEL 32-18 (EXISTING) - MACHII-ROSS WELL - NO						Out of range
KUGEL 32-18 (EXISTING) NARC - NORTH AMERICAN						Out of range
KUGEL 32-18J (EXISTING) - MACHII-ROSS WELL - NO						Out of range
KUGEL 41-18 (EXISTING) - ENCANA WELL - ENCANA	9,079.2	7,451.0	350.6	303.3	7.407	CC, ES
KUGEL 41-18 (EXISTING) - ENCANA WELL - ENCANA	9,100.0	7,451.0	351.3	303.6	7.367	SF
KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURV	600.0	588.0	48.4	46.4	23.602	CC, ES
KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURV	7,300.0	7,253.5	337.0	311.6	13.274	SF
MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEY	706.1	690.4	62.3	59.8	24.345	CC, ES
MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEY	1,800.0	1,781.9	84.3	78.0	13.272	SF
WANDELL 1 (EXISTING) - ENCANA WELL - NO SURVE	13,930.6	7,416.0	78.9	-51.7	0.604	Level 1, CC, ES, SF
WANDELL 21-7 (EXISTING) - ENCANA WELL - NO SUR						Out of range
WANDELL 31-7 (EXISTING) - ENCANA WELL - SURVE						Out of range
WANDELL 32-7 (EXISTING) - ENCANA WELL - NO SUR						Out of range
WANDELL 33-7 (EXISTING) - ENCANA WELL - PLAN O						Out of range
WANDELL 34-7 (EXISTING) - ENCANA WELL - SURVE						Out of range
WANDELL 41-7 (EXISTING) - ENCANA WELL - SURVE	14,336.6	7,489.3	443.3	305.6	3.219	CC, ES, SF
WANDELL 42-7 (EXISTING) - ENCANA WELL - SURVE	12,846.8	7,583.0	341.6	219.6	2.800	CC, ES, SF
WANDELL 43-7 (EXISTING) - ENCANA WELL - PLAN O	11,563.0	7,671.5	177.1	73.8	1.714	CC, ES, SF
WANDELL 4-6-7 (EXISTING) - ENCANA WELL - NO SU						Out of range
WANDELL 6-0-7 (EXISTING) - ENCANA WELL - SURVE						Out of range
WANDELL 6-4-7 (EXISTING) - ENCANA WELL - SURVE	12,105.7	7,805.5	399.2	277.5	3.280	CC, ES, SF
WANDELL 6-8-7 (EXISTING) - ENCANA WELL - SURVE	9,662.9	7,587.7	466.1	405.6	7.700	CC, ES
WANDELL 6-8-7 (EXISTING) - ENCANA WELL - SURVE	9,700.0	7,587.9	467.6	406.4	7.645	SF
WANDELL 8-2-7 (EXISTING) - ENCANA WELL - NO SU	14,022.4	7,418.0	217.6	85.2	1.644	CC, ES, SF
WANDELL 8-4-7 (EXISTING) - ENCANA WELL - NO SU	13,999.4	7,419.0	213.4	81.5	1.618	CC
WANDELL 8-4-7 (EXISTING) - ENCANA WELL - NO SU	14,000.0	7,419.0	213.4	81.5	1.618	ES, SF
WANDELL E UNIT 1 (EXISTING) - ENCANA WELL - NO	10,553.3	7,441.0	74.7	2.6	1.036	Level 2, CC, ES, SF
WANDELL V 7-2 (EXISTING) - GERRITY OIL WELL - NO						Out of range

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S18-T2N-R67W (Kugel)						
WANDELL V 7-7 (EXISTING) - GERRITY OIL WELL - NO						Out of range
WANDELL V 7-8 (EXISTING) - GERRITY OIL WELL - NO	12,873.3	7,425.0	167.7	55.5	1.495	Level 3, CC, ES, SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design		S18-T2N-R67W (Kugel) - KUGEL 1 (EXISTING) - MACHII-ROSS WELL - NO SURVEYS										Offset Site Error:		0.0 ft	
Survey Program:		7989-Geolink MWD										Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	(ft)	(ft)	(ft)	(ft)				
8,100.0	7,486.0	7,471.0	7,471.0	20.1	13.0	-90.00	1,196.3	-502.4	496.6	464.1	32.49	15.287			
8,200.0	7,486.0	7,471.0	7,471.0	21.5	13.0	-90.00	1,196.3	-502.4	405.8	371.9	33.85	11.989			
8,300.0	7,486.0	7,471.0	7,471.0	22.8	13.0	-90.00	1,196.3	-502.4	320.5	285.2	35.26	9.089			
8,400.0	7,486.0	7,471.0	7,471.0	24.3	13.0	-90.00	1,196.3	-502.4	246.5	209.8	36.72	6.713			
8,500.0	7,486.0	7,471.0	7,471.0	25.7	13.0	-90.00	1,196.3	-502.4	197.0	158.8	38.22	5.155			
8,559.7	7,486.0	7,471.0	7,471.0	26.6	13.0	-90.00	1,196.3	-502.4	187.8	148.6	39.13	4.798	CC, ES, SF		
8,600.0	7,486.0	7,471.0	7,471.0	27.2	13.0	-90.00	1,196.3	-502.4	192.0	152.3	39.75	4.831			
8,700.0	7,486.0	7,471.0	7,471.0	28.8	13.0	-90.00	1,196.3	-502.4	234.4	193.1	41.30	5.674			
8,800.0	7,486.0	7,471.0	7,471.0	30.3	13.0	-90.00	1,196.3	-502.4	304.9	262.0	42.88	7.111			
8,900.0	7,486.0	7,471.0	7,471.0	31.9	13.0	-90.00	1,196.3	-502.4	388.6	344.1	44.48	8.738			
9,000.0	7,486.0	7,471.0	7,471.0	33.5	13.0	-90.00	1,196.3	-502.4	478.6	432.5	46.09	10.385			

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1A-18H-H267 - 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	1.0	1.0	0.0	0.0	-89.95	0.0	-39.1	39.1					
100.0	100.0	101.0	101.0	0.2	0.2	-89.95	0.0	-39.1	39.1	38.8	0.31	128.150		
166.3	166.3	167.3	167.3	0.3	0.3	-89.95	0.0	-39.1	39.1	38.6	0.54	72.893 CC		
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-39.1	39.1	38.5	0.65	59.804 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-90.08	-0.1	-40.0	40.0	39.0	1.00	39.921		
400.0	400.0	399.6	399.5	0.7	0.7	-90.44	-0.3	-42.6	42.6	41.3	1.35	31.459		
500.0	500.0	498.7	498.6	0.8	0.9	-90.94	-0.8	-46.9	47.0	45.2	1.71	27.412		
600.0	600.0	597.7	597.3	1.0	1.1	-91.51	-1.4	-52.9	53.0	50.9	2.08	25.485		
700.0	700.0	696.4	695.8	1.2	1.3	20.69	-2.2	-60.5	60.0	57.6	2.39	25.065		
800.0	800.0	795.1	794.0	1.4	1.5	20.87	-3.2	-69.9	67.0	64.3	2.74	24.459		
900.0	899.9	893.6	891.9	1.6	1.8	21.38	-4.3	-80.9	74.2	71.1	3.09	24.030 SF		
1,000.0	999.8	991.9	989.4	1.7	2.0	21.82	-5.6	-93.5	82.7	79.2	3.44	24.050		
1,100.0	1,099.6	1,089.9	1,086.3	1.9	2.3	22.08	-7.1	-107.7	92.8	89.0	3.79	24.515		
1,200.0	1,199.5	1,187.5	1,182.7	2.1	2.6	22.20	-8.7	-123.6	104.7	100.5	4.14	25.312		
1,300.0	1,299.4	1,284.7	1,278.3	2.3	3.0	22.21	-10.5	-141.0	118.2	113.7	4.48	26.361		
1,400.0	1,399.3	1,381.5	1,373.1	2.5	3.3	22.14	-12.5	-159.9	133.4	128.6	4.83	27.609		
1,500.0	1,499.2	1,477.7	1,467.1	2.7	3.7	22.03	-14.6	-180.3	150.2	145.1	5.18	29.013		
1,600.0	1,599.1	1,573.3	1,560.2	2.9	4.1	21.89	-16.9	-202.1	168.7	163.2	5.52	30.543		
1,700.0	1,699.0	1,668.3	1,652.3	3.1	4.6	21.73	-19.3	-225.3	188.8	183.0	5.87	32.177		
1,800.0	1,798.8	1,762.6	1,743.3	3.3	5.0	21.57	-21.8	-249.8	210.6	204.3	6.21	33.897		
1,900.0	1,898.7	1,857.4	1,834.4	3.4	5.5	21.40	-24.5	-275.9	233.8	227.3	6.56	35.666		
2,000.0	1,998.6	1,954.6	1,927.7	3.6	6.0	21.25	-27.3	-302.9	257.4	250.5	6.90	37.293		
2,100.0	2,098.5	2,051.7	2,021.0	3.8	6.5	21.12	-30.2	-330.0	281.1	273.8	7.25	38.764		
2,200.0	2,198.4	2,148.9	2,114.2	4.0	7.0	21.02	-33.0	-357.1	304.7	297.1	7.60	40.102		
2,300.0	2,298.3	2,246.1	2,207.5	4.2	7.5	20.93	-35.8	-384.2	328.3	320.4	7.95	41.322		
2,400.0	2,398.2	2,343.2	2,300.8	4.4	8.0	20.85	-38.6	-411.3	352.0	343.7	8.29	42.441		
2,500.0	2,498.0	2,440.4	2,394.0	4.6	8.6	20.78	-41.4	-438.4	375.6	367.0	8.64	43.470		
2,600.0	2,597.9	2,537.6	2,487.3	4.8	9.1	20.72	-44.2	-465.5	399.3	390.3	8.99	44.419		
2,700.0	2,697.8	2,634.7	2,580.6	5.0	9.6	20.67	-47.0	-492.6	422.9	413.6	9.34	45.298		
2,800.0	2,797.7	2,731.9	2,673.8	5.2	10.1	20.62	-49.8	-519.7	446.5	436.8	9.68	46.114		
2,900.0	2,897.6	2,829.1	2,767.1	5.4	10.6	20.58	-52.6	-546.8	470.2	460.1	10.03	46.874		
3,000.0	2,997.5	2,926.2	2,860.4	5.6	11.1	20.54	-55.5	-573.9	493.8	483.4	10.38	47.583		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1B-18H-H267 - 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		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	1.0	1.0	0.0	0.0	-89.95	0.0	-28.0	28.0					
100.0	100.0	101.0	101.0	0.2	0.2	-89.95	0.0	-28.0	28.0	27.7	91.536			
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-28.0	28.0	27.3	0.65	42.717		
266.3	266.3	267.3	267.3	0.4	0.4	-89.95	0.0	-28.0	28.0	27.1	0.89	31.554 CC		
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-28.0	28.0	27.0	1.00	27.859 ES		
400.0	400.0	400.5	400.5	0.7	0.7	-90.10	-0.1	-28.8	28.8	27.5	1.35	21.327		
500.0	500.0	500.0	500.0	0.8	0.9	-90.50	-0.3	-31.4	31.5	29.8	1.70	18.461		
600.0	600.0	599.3	599.1	1.0	1.0	-91.03	-0.6	-35.7	35.8	33.7	2.06	17.372		
700.0	700.0	698.5	698.1	1.2	1.2	21.32	-1.2	-41.8	41.1	38.7	2.40	17.139		
800.0	800.0	797.6	796.9	1.4	1.4	21.85	-1.8	-49.5	46.4	43.7	2.74	16.921		
900.0	899.9	896.6	895.5	1.6	1.7	22.81	-2.6	-58.9	52.0	48.9	3.09	16.801 SF		
1,000.0	999.8	995.4	993.7	1.7	1.9	23.61	-3.6	-70.0	58.8	55.3	3.44	17.073		
1,100.0	1,099.6	1,093.9	1,091.4	1.9	2.2	24.07	-4.7	-82.7	67.3	63.5	3.79	17.745		
1,200.0	1,199.5	1,192.2	1,188.6	2.1	2.5	24.28	-5.9	-97.0	77.5	73.4	4.14	18.713		
1,300.0	1,299.4	1,290.1	1,285.1	2.3	2.8	24.31	-7.2	-113.0	89.5	85.0	4.49	19.908		
1,400.0	1,399.3	1,387.5	1,381.0	2.5	3.1	24.22	-8.7	-130.5	103.1	98.2	4.84	21.279		
1,500.0	1,499.2	1,484.5	1,476.0	2.7	3.5	24.06	-10.4	-149.5	118.3	113.2	5.19	22.791		
1,600.0	1,599.1	1,580.9	1,570.3	2.9	3.9	23.86	-12.1	-170.0	135.3	129.7	5.54	24.415		
1,700.0	1,699.0	1,678.6	1,665.5	3.1	4.3	23.65	-14.0	-192.0	153.4	147.5	5.89	26.043		
1,800.0	1,798.8	1,777.0	1,761.3	3.3	4.7	23.48	-15.9	-214.1	171.6	165.4	6.24	27.493		
1,900.0	1,898.7	1,875.3	1,857.0	3.4	5.1	23.35	-17.8	-236.3	189.8	183.2	6.59	28.789		
2,000.0	1,998.6	1,973.6	1,952.8	3.6	5.5	23.24	-19.7	-258.4	208.0	201.0	6.94	29.954		
2,100.0	2,098.5	2,072.0	2,048.6	3.8	5.9	23.14	-21.6	-280.6	226.2	218.9	7.29	31.007		
2,200.0	2,198.4	2,170.3	2,144.4	4.0	6.3	23.06	-23.5	-302.7	244.4	236.7	7.65	31.964		
2,300.0	2,298.3	2,268.6	2,240.2	4.2	6.8	22.99	-25.4	-324.9	262.6	254.6	8.00	32.836		
2,400.0	2,398.2	2,366.9	2,336.0	4.4	7.2	22.93	-27.3	-347.0	280.8	272.4	8.35	33.636		
2,500.0	2,498.0	2,465.3	2,431.8	4.6	7.6	22.88	-29.2	-369.2	299.0	290.3	8.70	34.371		
2,600.0	2,597.9	2,563.6	2,527.5	4.8	8.0	22.84	-31.1	-391.3	317.2	308.1	9.05	35.048		
2,700.0	2,697.8	2,661.9	2,623.3	5.0	8.5	22.79	-32.9	-413.4	335.3	325.9	9.40	35.676		
2,800.0	2,797.7	2,760.3	2,719.1	5.2	8.9	22.76	-34.8	-435.6	353.5	343.8	9.75	36.258		
2,900.0	2,897.6	2,858.6	2,814.9	5.4	9.3	22.72	-36.7	-457.7	371.7	361.6	10.10	36.799		
3,000.0	2,997.5	2,956.9	2,910.7	5.6	9.7	22.69	-38.6	-479.9	389.9	379.5	10.45	37.305		
3,100.0	3,097.3	3,055.3	3,006.5	5.8	10.2	22.67	-40.5	-502.0	408.1	397.3	10.80	37.777		
3,200.0	3,197.2	3,153.6	3,102.2	5.9	10.6	22.64	-42.4	-524.2	426.3	415.2	11.15	38.220		
3,300.0	3,297.1	3,251.9	3,198.0	6.1	11.0	22.62	-44.3	-546.3	444.5	433.0	11.51	38.636		
3,400.0	3,397.0	3,350.2	3,293.8	6.3	11.5	22.60	-46.2	-568.5	462.7	450.9	11.86	39.027		
3,500.0	3,496.9	3,448.6	3,389.6	6.5	11.9	22.58	-48.1	-590.6	480.9	468.7	12.21	39.395		
3,600.0	3,596.8	3,546.9	3,485.4	6.7	12.3	22.56	-50.0	-612.8	499.1	486.6	12.56	39.744		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1C-18H-H267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink 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	1.0	1.0	0.0	0.0	-89.95	0.0	-19.6	19.6					
100.0	100.0	101.0	101.0	0.2	0.2	-89.95	0.0	-19.6	19.6	19.3	0.31	64.075		
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-19.6	19.6	18.9	0.65	29.902		
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-19.6	19.6	18.6	1.00	19.501		
366.3	366.3	367.3	367.3	0.6	0.6	-89.95	0.0	-19.6	19.6	18.3	1.24	15.845 CC		
400.0	400.0	401.0	401.0	0.7	0.7	-89.95	0.0	-19.6	19.6	18.2	1.35	14.469 ES		
500.0	500.0	500.6	500.6	0.8	0.9	-90.23	-0.1	-20.4	20.5	18.8	1.70	12.020		
600.0	600.0	600.2	600.2	1.0	1.0	-90.92	-0.4	-23.0	23.1	21.0	2.05	11.237		
700.0	700.0	699.7	699.6	1.2	1.2	21.37	-0.9	-27.4	26.6	24.2	2.40	11.092		
800.0	800.0	799.2	798.9	1.4	1.4	22.10	-1.5	-33.4	30.2	27.5	2.75	11.010		
900.0	899.9	898.6	897.9	1.6	1.6	23.44	-2.4	-41.1	34.0	31.0	3.10	10.998 SF		
1,000.0	999.8	997.8	996.7	1.7	1.8	24.44	-3.4	-50.5	39.2	35.7	3.45	11.359		
1,100.0	1,099.6	1,096.8	1,095.1	1.9	2.1	24.86	-4.7	-61.6	46.0	42.2	3.80	12.103		
1,200.0	1,199.5	1,195.6	1,193.1	2.1	2.3	24.89	-6.1	-74.4	54.5	50.3	4.15	13.130		
1,300.0	1,299.4	1,294.1	1,290.5	2.3	2.6	24.69	-7.7	-88.8	64.7	60.2	4.50	14.374		
1,400.0	1,399.3	1,392.6	1,387.7	2.5	2.9	24.36	-9.5	-104.7	76.5	71.7	4.85	15.767		
1,500.0	1,499.2	1,491.9	1,485.5	2.7	3.2	24.08	-11.3	-121.2	88.7	83.5	5.21	17.039		
1,600.0	1,599.1	1,591.1	1,583.4	2.9	3.5	23.87	-13.1	-137.6	100.9	95.3	5.56	18.150		
1,700.0	1,699.0	1,690.4	1,681.3	3.1	3.9	23.70	-15.0	-154.0	113.1	107.2	5.91	19.129		
1,800.0	1,798.8	1,789.6	1,779.1	3.3	4.2	23.57	-16.8	-170.5	125.3	119.0	6.26	19.997		
1,900.0	1,898.7	1,888.9	1,877.0	3.4	4.5	23.46	-18.6	-186.9	137.5	130.8	6.62	20.773		
2,000.0	1,998.6	1,988.1	1,974.9	3.6	4.8	23.37	-20.4	-203.4	149.6	142.7	6.97	21.469		
2,100.0	2,098.5	2,087.4	2,072.7	3.8	5.2	23.29	-22.3	-219.8	161.8	154.5	7.32	22.099		
2,200.0	2,198.4	2,186.6	2,170.6	4.0	5.5	23.23	-24.1	-236.2	174.0	166.4	7.68	22.671		
2,300.0	2,298.3	2,285.9	2,268.5	4.2	5.8	23.17	-25.9	-252.7	186.2	178.2	8.03	23.192		
2,400.0	2,398.2	2,385.2	2,366.3	4.4	6.2	23.12	-27.8	-269.1	198.4	190.0	8.38	23.670		
2,500.0	2,498.0	2,484.4	2,464.2	4.6	6.5	23.07	-29.6	-285.6	210.6	201.9	8.74	24.109		
2,600.0	2,597.9	2,583.7	2,562.1	4.8	6.8	23.03	-31.4	-302.0	222.8	213.7	9.09	24.513		
2,700.0	2,697.8	2,682.9	2,659.9	5.0	7.2	23.00	-33.3	-318.4	235.0	225.5	9.44	24.888		
2,800.0	2,797.7	2,782.2	2,757.8	5.2	7.5	22.96	-35.1	-334.9	247.2	237.4	9.79	25.235		
2,900.0	2,897.6	2,881.4	2,855.7	5.4	7.8	22.94	-36.9	-351.3	259.4	249.2	10.15	25.558		
3,000.0	2,997.5	2,980.7	2,953.5	5.6	8.2	22.91	-38.7	-367.8	271.6	261.1	10.50	25.860		
3,100.0	3,097.3	3,079.9	3,051.4	5.8	8.5	22.88	-40.6	-384.2	283.7	272.9	10.85	26.142		
3,200.0	3,197.2	3,179.2	3,149.3	5.9	8.9	22.86	-42.4	-400.6	295.9	284.7	11.21	26.406		
3,300.0	3,297.1	3,278.4	3,247.1	6.1	9.2	22.84	-44.2	-417.1	308.1	296.6	11.56	26.654		
3,400.0	3,397.0	3,377.7	3,345.0	6.3	9.5	22.82	-46.1	-433.5	320.3	308.4	11.91	26.887		
3,500.0	3,496.9	3,476.9	3,442.9	6.5	9.9	22.80	-47.9	-450.0	332.5	320.2	12.27	27.107		
3,600.0	3,596.8	3,576.2	3,540.7	6.7	10.2	22.79	-49.7	-466.4	344.7	332.1	12.62	27.314		
3,700.0	3,696.7	3,675.5	3,638.6	6.9	10.5	22.77	-51.6	-482.9	356.9	343.9	12.97	27.510		
3,800.0	3,796.5	3,774.7	3,736.5	7.1	10.9	22.76	-53.4	-499.3	369.1	355.8	13.33	27.696		
3,900.0	3,896.4	3,874.0	3,834.3	7.3	11.2	22.74	-55.2	-515.7	381.3	367.6	13.68	27.872		
4,000.0	3,996.3	3,973.2	3,932.2	7.5	11.6	22.73	-57.0	-532.2	393.5	379.4	14.03	28.039		
4,100.0	4,096.2	4,072.5	4,030.1	7.7	11.9	22.72	-58.9	-548.6	405.7	391.3	14.39	28.198		
4,200.0	4,196.1	4,171.7	4,127.9	7.9	12.2	22.71	-60.7	-565.1	417.8	403.1	14.74	28.350		
4,300.0	4,296.0	4,271.0	4,225.8	8.1	12.6	22.70	-62.5	-581.5	430.0	414.9	15.09	28.494		
4,400.0	4,395.9	4,370.2	4,323.6	8.3	12.9	22.69	-64.4	-597.9	442.2	426.8	15.45	28.632		
4,500.0	4,495.7	4,469.5	4,421.5	8.5	13.2	22.68	-66.2	-614.4	454.4	438.6	15.80	28.763		
4,600.0	4,595.6	4,568.7	4,519.4	8.6	13.6	22.67	-68.0	-630.8	466.6	450.5	16.15	28.889		
4,700.0	4,695.5	4,668.0	4,617.2	8.8	13.9	22.66	-69.9	-647.3	478.8	462.3	16.51	29.009		
4,800.0	4,795.4	4,767.3	4,715.1	9.0	14.3	22.65	-71.7	-663.7	491.0	474.1	16.86	29.125		

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1D-18H-H267 - 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		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
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	27.619		
200.0	200.0	200.0	200.0	0.3	0.3	-89.94	0.0	-8.4	8.4	7.7	0.65	12.849		
300.0	300.0	300.0	300.0	0.5	0.5	-89.94	0.0	-8.4	8.4	7.4	1.00	8.372		
400.0	400.0	400.0	400.0	0.7	0.7	-89.94	0.0	-8.4	8.4	7.0	1.35	6.209		
500.0	500.0	500.0	500.0	0.8	0.8	-89.94	0.0	-8.4	8.4	6.7	1.70	4.934 CC, ES		
600.0	600.0	599.8	599.8	1.0	1.0	-90.92	-0.1	-9.2	9.2	7.2	2.05	4.512		
700.0	700.0	699.7	699.6	1.2	1.2	21.00	-0.6	-11.8	11.0	8.6	2.40	4.593		
800.0	800.0	799.4	799.3	1.4	1.4	22.16	-1.4	-16.1	12.9	10.1	2.75	4.688		
900.0	899.9	899.2	898.9	1.6	1.6	24.29	-2.5	-22.1	14.9	11.8	3.10	4.812		
1,000.0	999.8	998.8	998.2	1.7	1.8	25.26	-3.9	-29.7	18.2	14.8	3.45	5.277		
1,100.0	1,099.6	1,098.4	1,097.3	1.9	2.0	24.91	-5.6	-39.1	23.2	19.4	3.80	6.101		
1,200.0	1,199.5	1,198.1	1,196.4	2.1	2.2	24.17	-7.6	-49.6	29.3	25.2	4.15	7.064		
1,300.0	1,299.4	1,297.9	1,295.7	2.3	2.5	23.68	-9.5	-60.2	35.5	31.0	4.51	7.884		
1,400.0	1,399.3	1,397.7	1,394.9	2.5	2.7	23.34	-11.5	-70.8	41.7	36.9	4.86	8.584		
1,500.0	1,499.2	1,497.5	1,494.1	2.7	2.9	23.08	-13.4	-81.4	47.9	42.7	5.21	9.190		
1,600.0	1,599.1	1,597.3	1,593.3	2.9	3.2	22.88	-15.3	-91.9	54.1	48.5	5.57	9.719		
1,700.0	1,699.0	1,697.1	1,692.6	3.1	3.4	22.73	-17.3	-102.5	60.3	54.4	5.92	10.185		
1,800.0	1,798.8	1,796.9	1,791.8	3.3	3.7	22.60	-19.2	-113.1	66.5	60.2	6.27	10.598		
1,900.0	1,898.7	1,896.8	1,891.0	3.4	3.9	22.49	-21.2	-123.7	72.7	66.1	6.63	10.967		
2,000.0	1,998.6	1,996.6	1,990.2	3.6	4.2	22.40	-23.1	-134.2	78.9	71.9	6.98	11.299		
2,100.0	2,098.5	2,096.4	2,089.5	3.8	4.4	22.33	-25.1	-144.8	85.1	77.7	7.34	11.598		
2,200.0	2,198.4	2,196.2	2,188.7	4.0	4.7	22.26	-27.0	-155.4	91.3	83.6	7.69	11.870		
2,300.0	2,298.3	2,296.0	2,287.9	4.2	4.9	22.20	-28.9	-166.0	97.5	89.4	8.04	12.118		
2,400.0	2,398.2	2,395.8	2,387.2	4.4	5.2	22.15	-30.9	-176.5	103.7	95.3	8.40	12.345		
2,500.0	2,498.0	2,495.6	2,486.4	4.6	5.4	22.11	-32.8	-187.1	109.9	101.1	8.75	12.554		
2,600.0	2,597.9	2,595.4	2,585.6	4.8	5.7	22.07	-34.8	-197.7	116.0	106.9	9.10	12.747		
2,700.0	2,697.8	2,695.2	2,684.8	5.0	5.9	22.03	-36.7	-208.3	122.2	112.8	9.46	12.925		
2,800.0	2,797.7	2,795.0	2,784.1	5.2	6.2	22.00	-38.7	-218.8	128.4	118.6	9.81	13.090		
2,900.0	2,897.6	2,894.8	2,883.3	5.4	6.4	21.97	-40.6	-229.4	134.6	124.5	10.17	13.244		
3,000.0	2,997.5	2,994.6	2,982.5	5.6	6.7	21.94	-42.5	-240.0	140.8	130.3	10.52	13.387		
3,100.0	3,097.3	3,094.4	3,081.7	5.8	7.0	21.92	-44.5	-250.6	147.0	136.1	10.87	13.521		
3,200.0	3,197.2	3,194.3	3,181.0	5.9	7.2	21.90	-46.4	-261.1	153.2	142.0	11.23	13.646		
3,300.0	3,297.1	3,294.1	3,280.2	6.1	7.5	21.87	-48.4	-271.7	159.4	147.8	11.58	13.764		
3,400.0	3,397.0	3,393.9	3,379.4	6.3	7.7	21.85	-50.3	-282.3	165.6	153.7	11.94	13.875		
3,500.0	3,496.9	3,493.7	3,478.7	6.5	8.0	21.84	-52.3	-292.9	171.8	159.5	12.29	13.980		
3,600.0	3,596.8	3,593.5	3,577.9	6.7	8.2	21.82	-54.2	-303.5	178.0	165.4	12.64	14.078		
3,700.0	3,696.7	3,693.3	3,677.1	6.9	8.5	21.80	-56.1	-314.0	184.2	171.2	13.00	14.171		
3,800.0	3,796.5	3,793.1	3,776.3	7.1	8.7	21.79	-58.1	-324.6	190.4	177.0	13.35	14.260		
3,900.0	3,896.4	3,892.9	3,875.6	7.3	9.0	21.78	-60.0	-335.2	196.6	182.9	13.71	14.343		
4,000.0	3,996.3	3,992.7	3,974.8	7.5	9.3	21.76	-62.0	-345.8	202.8	188.7	14.06	14.423		
4,100.0	4,096.2	4,092.5	4,074.0	7.7	9.5	21.75	-63.9	-356.3	209.0	194.6	14.41	14.499		
4,200.0	4,196.1	4,192.3	4,173.2	7.9	9.8	21.74	-65.9	-366.9	215.2	200.4	14.77	14.571		
4,300.0	4,296.0	4,292.1	4,272.5	8.1	10.0	21.73	-67.8	-377.5	221.4	206.2	15.12	14.639		
4,400.0	4,395.9	4,391.9	4,371.7	8.3	10.3	21.72	-69.7	-388.1	227.6	212.1	15.47	14.705		
4,500.0	4,495.7	4,491.8	4,470.9	8.5	10.5	21.71	-71.7	-398.6	233.7	217.9	15.83	14.767		
4,600.0	4,595.6	4,591.6	4,570.1	8.6	10.8	21.70	-73.6	-409.2	239.9	223.8	16.18	14.827		
4,700.0	4,695.5	4,691.4	4,669.4	8.8	11.0	21.69	-75.6	-419.8	246.1	229.6	16.54	14.884		
4,800.0	4,795.4	4,791.2	4,768.6	9.0	11.3	21.68	-77.5	-430.4	252.3	235.4	16.89	14.939		
4,900.0	4,895.3	4,891.0	4,867.8	9.2	11.6	21.68	-79.5	-440.9	258.5	241.3	17.24	14.991		
5,000.0	4,995.2	4,990.8	4,967.1	9.4	11.8	21.67	-81.4	-451.5	264.7	247.1	17.60	15.042		
5,100.0	5,095.1	5,090.6	5,066.3	9.6	12.1	21.66	-83.3	-462.1	270.9	253.0	17.95	15.090		

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1D-18H-H267 - 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)				
5,200.0	5,194.9	5,190.4	5,165.5		9.8	12.3	21.65	-85.3	-472.7	277.1	258.8	18.31	15.137	
5,300.0	5,294.8	5,290.2	5,264.7		10.0	12.6	21.65	-87.2	-483.3	283.3	264.6	18.66	15.182	
5,400.0	5,394.7	5,390.0	5,364.0		10.2	12.8	21.64	-89.2	-493.8	289.5	270.5	19.01	15.225	
5,500.0	5,494.6	5,489.8	5,463.2		10.4	13.1	21.63	-91.1	-504.4	295.7	276.3	19.37	15.266	
5,600.0	5,594.5	5,589.6	5,562.4		10.6	13.3	21.63	-93.1	-515.0	301.9	282.2	19.72	15.306	
5,700.0	5,694.4	5,689.5	5,661.6		10.8	13.6	21.62	-95.0	-525.6	308.1	288.0	20.08	15.345	
5,800.0	5,794.3	5,789.3	5,760.9		11.0	13.9	21.62	-96.9	-536.1	314.3	293.8	20.43	15.382	
5,900.0	5,894.1	5,889.1	5,860.1		11.2	14.1	21.61	-98.9	-546.7	320.5	299.7	20.79	15.418	
6,000.0	5,994.0	5,988.9	5,959.3		11.4	14.4	21.61	-100.8	-557.3	326.7	305.5	21.14	15.453	
6,100.0	6,093.9	6,088.7	6,058.6		11.5	14.6	21.60	-102.8	-567.9	332.9	311.4	21.49	15.487	
6,200.0	6,193.8	6,188.5	6,157.8		11.7	14.9	21.60	-104.7	-578.4	339.1	317.2	21.85	15.520	
6,300.0	6,293.7	6,288.3	6,257.0		11.9	15.1	21.59	-106.7	-589.0	345.3	323.1	22.20	15.551	
6,400.0	6,393.6	6,388.1	6,356.2		12.1	15.4	21.59	-108.6	-599.6	351.4	328.9	22.56	15.582	
6,500.0	6,493.5	6,487.9	6,455.5		12.3	15.7	21.59	-110.5	-610.2	357.6	334.7	22.91	15.611	
6,600.0	6,593.3	6,587.7	6,554.7		12.5	15.9	21.58	-112.5	-620.7	363.8	340.6	23.26	15.640	
6,700.0	6,693.2	6,687.5	6,653.9		12.7	16.2	21.58	-114.4	-631.3	370.0	346.4	23.62	15.668	
6,800.0	6,793.1	6,787.7	6,753.4		12.9	16.4	22.13	-112.7	-641.9	376.2	352.2	23.98	15.688	
6,900.0	6,893.0	6,884.4	6,847.9		13.1	16.6	24.96	-95.7	-652.0	382.8	358.4	24.39	15.693	
7,000.0	6,992.6	6,974.9	6,932.7		13.3	16.8	-64.43	-65.4	-661.0	391.2	366.4	24.82	15.763	
7,100.0	7,089.9	7,062.1	7,008.8		13.4	17.0	-69.85	-23.9	-669.1	400.9	375.8	25.08	15.986	
7,200.0	7,181.8	7,146.4	7,075.7		13.5	17.2	-68.92	26.8	-676.3	411.1	385.9	25.19	16.320	
7,300.0	7,265.5	7,228.4	7,133.0		13.7	17.4	-67.02	85.1	-682.4	421.0	395.9	25.16	16.736	
7,400.0	7,338.6	7,308.7	7,180.5		14.0	17.7	-65.10	149.5	-687.5	430.0	404.9	25.13	17.115	
7,500.0	7,398.7	7,387.7	7,218.1		14.4	18.1	-63.47	218.8	-691.5	437.5	412.2	25.31	17.285	
7,600.0	7,444.1	7,465.6	7,245.5		15.0	18.6	-62.23	291.6	-694.4	443.1	417.1	25.93	17.085	
7,700.0	7,473.4	7,542.9	7,262.8		15.8	19.1	-61.44	366.8	-696.2	446.4	419.2	27.15	16.437	
7,800.0	7,485.6	7,619.7	7,269.8		16.7	19.7	-61.11	443.3	-697.0	447.2	418.1	29.03	15.404	
7,900.0	7,486.0	7,715.4	7,270.0		17.7	20.6	-61.04	538.9	-697.0	446.2	415.1	31.04	14.377	
8,000.0	7,486.0	7,815.4	7,270.0		18.9	21.6	-60.97	638.9	-697.0	445.1	412.0	33.12	13.440	
8,100.0	7,486.0	7,915.3	7,270.0		20.1	22.7	-60.89	738.9	-697.0	444.0	408.7	35.34	12.564	
8,200.0	7,486.0	8,015.3	7,270.0		21.5	23.8	-60.81	838.9	-697.0	443.0	405.3	37.68	11.757	
8,300.0	7,486.0	8,115.3	7,270.0		22.8	25.1	-60.74	938.9	-697.0	441.9	401.8	40.11	11.018	
8,400.0	7,486.0	8,215.3	7,270.0		24.3	26.4	-60.66	1,038.9	-697.0	440.8	398.2	42.61	10.346	
8,500.0	7,486.0	8,315.3	7,270.0		25.7	27.7	-60.58	1,138.9	-697.0	439.8	394.6	45.18	9.734	
8,600.0	7,486.0	8,415.3	7,270.0		27.2	29.1	-60.50	1,238.9	-697.0	438.7	390.9	47.80	9.179	
8,700.0	7,486.0	8,515.3	7,270.0		28.8	30.5	-60.42	1,338.9	-697.0	437.7	387.2	50.46	8.674	
8,800.0	7,486.0	8,615.3	7,270.0		30.3	32.0	-60.35	1,438.9	-697.0	436.6	383.4	53.15	8.214	
8,900.0	7,486.0	8,715.3	7,270.0		31.9	33.5	-60.27	1,538.9	-697.0	435.5	379.7	55.88	7.794	
9,000.0	7,486.0	8,815.3	7,270.0		33.5	35.0	-60.19	1,638.9	-697.0	434.5	375.8	58.63	7.411	
9,100.0	7,486.0	8,915.3	7,270.0		35.1	36.5	-60.11	1,738.8	-697.0	433.4	372.0	61.40	7.059	
9,200.0	7,486.0	9,015.3	7,270.0		36.7	38.1	-60.02	1,838.8	-697.0	432.3	368.2	64.18	6.736	
9,300.0	7,486.0	9,115.3	7,270.0		38.3	39.6	-59.94	1,938.8	-697.0	431.3	364.3	66.98	6.439	
9,400.0	7,486.0	9,215.3	7,270.0		40.0	41.2	-59.86	2,038.8	-697.0	430.2	360.4	69.79	6.164	
9,500.0	7,486.0	9,315.2	7,270.0		41.6	42.8	-59.78	2,138.8	-697.0	429.2	356.6	72.61	5.910	
9,600.0	7,486.0	9,415.2	7,270.0		43.3	44.4	-59.70	2,238.8	-697.0	428.1	352.7	75.44	5.675	
9,700.0	7,486.0	9,515.2	7,270.0		44.9	46.1	-59.62	2,338.8	-697.0	427.1	348.8	78.28	5.456	
9,800.0	7,486.0	9,615.2	7,270.0		46.6	47.7	-59.53	2,438.8	-697.0	426.0	344.9	81.12	5.252	
9,900.0	7,486.0	9,715.2	7,270.0		48.3	49.3	-59.45	2,538.8	-697.0	425.0	341.0	83.96	5.061	
10,000.0	7,486.0	9,815.2	7,270.0		50.0	51.0	-59.36	2,638.8	-697.0	423.9	337.1	86.81	4.883	
10,100.0	7,486.0	9,915.2	7,270.0		51.7	52.6	-59.28	2,738.8	-697.0	422.9	333.2	89.66	4.716	
10,200.0	7,486.0	10,015.2	7,270.0		53.4	54.3	-59.20	2,838.8	-697.0	421.8	329.3	92.51	4.560	
10,300.0	7,486.0	10,115.2	7,270.0		55.1	55.9	-59.11	2,938.8	-697.0	420.8	325.4	95.36	4.412	

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1D-18H-H267 - 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)			
10,400.0	7,486.0	10,215.2	7,270.0	56.8	57.6	-59.02	3,038.7	-697.0	419.7	321.5	98.21	4.274	
10,500.0	7,486.0	10,315.2	7,270.0	58.5	59.3	-58.94	3,138.7	-697.0	418.7	317.6	101.06	4.143	
10,600.0	7,486.0	10,415.2	7,270.0	60.2	61.0	-58.85	3,238.7	-697.0	417.6	313.7	103.90	4.019	
10,700.0	7,486.0	10,515.2	7,270.0	61.9	62.7	-58.77	3,338.7	-697.0	416.6	309.8	106.75	3.902	
10,800.0	7,486.0	10,615.1	7,270.0	63.6	64.3	-58.68	3,438.7	-697.0	415.5	305.9	109.60	3.791	
10,900.0	7,486.0	10,715.1	7,270.0	65.3	66.0	-58.59	3,538.7	-697.0	414.5	302.0	112.44	3.686	
11,000.0	7,486.0	10,815.1	7,270.0	67.0	67.7	-58.50	3,638.7	-697.0	413.4	298.2	115.28	3.587	
11,100.0	7,486.0	10,915.1	7,270.0	68.7	69.4	-58.41	3,738.7	-697.0	412.4	294.3	118.11	3.492	
11,200.0	7,486.0	11,015.1	7,270.0	70.5	71.1	-58.32	3,838.7	-697.0	411.4	290.4	120.94	3.401	
11,300.0	7,486.0	11,115.1	7,270.0	72.2	72.8	-58.23	3,938.7	-697.0	410.3	286.6	123.77	3.315	
11,400.0	7,486.0	11,215.1	7,270.0	73.9	74.5	-58.14	4,038.7	-697.0	409.3	282.7	126.60	3.233	
11,500.0	7,486.0	11,315.1	7,270.0	75.6	76.2	-58.05	4,138.7	-697.0	408.2	278.8	129.42	3.155	
11,600.0	7,486.0	11,415.1	7,270.0	77.3	77.9	-57.96	4,238.7	-697.0	407.2	275.0	132.23	3.079	
11,700.0	7,486.0	11,515.1	7,270.0	79.1	79.7	-57.87	4,338.7	-697.0	406.2	271.1	135.04	3.008	
11,800.0	7,486.0	11,615.1	7,270.0	80.8	81.4	-57.78	4,438.6	-697.0	405.1	267.3	137.85	2.939	
11,900.0	7,486.0	11,715.1	7,270.0	82.5	83.1	-57.69	4,538.6	-697.0	404.1	263.5	140.65	2.873	
12,000.0	7,486.0	11,815.1	7,270.0	84.3	84.8	-57.59	4,638.6	-697.0	403.1	259.6	143.45	2.810	
12,100.0	7,486.0	11,911.1	7,270.0	86.0	86.5	-57.53	4,734.7	-697.4	402.4	256.2	146.23	2.752	
12,103.3	7,486.0	11,914.2	7,270.0	86.0	86.5	-57.53	4,737.7	-697.4	402.4	256.1	146.32	2.750	
12,200.0	7,486.0	12,005.5	7,270.0	87.7	88.1	-57.59	4,829.0	-699.3	403.0	253.9	149.17	2.702	
12,300.0	7,486.0	12,103.4	7,270.0	89.5	89.8	-57.75	4,926.9	-702.5	404.8	252.5	152.31	2.658	
12,400.0	7,486.0	12,203.4	7,270.0	91.2	91.5	-57.91	5,026.9	-705.9	406.7	251.1	155.52	2.615	
12,500.0	7,486.0	12,303.4	7,270.0	92.9	93.2	-58.07	5,126.8	-709.3	408.5	249.8	158.73	2.574	
12,600.0	7,486.0	12,403.4	7,270.0	94.7	95.0	-58.23	5,226.7	-712.7	410.4	248.4	161.95	2.534	
12,700.0	7,486.0	12,503.3	7,270.0	96.4	96.7	-58.39	5,326.6	-716.1	412.2	247.1	165.18	2.496	
12,800.0	7,486.0	12,603.3	7,270.0	98.1	98.4	-58.55	5,426.5	-719.5	414.1	245.7	168.41	2.459	
12,900.0	7,486.0	12,703.3	7,270.0	99.9	100.2	-58.71	5,526.4	-723.0	416.0	244.3	171.64	2.423	
13,000.0	7,486.0	12,803.2	7,270.0	101.6	101.9	-58.92	5,626.3	-726.4	418.7	243.9	174.73	2.396	
13,100.0	7,486.0	12,903.1	7,270.0	103.3	103.6	-59.24	5,726.2	-729.8	422.9	244.9	177.99	2.376	
13,200.0	7,486.0	13,003.0	7,270.0	105.1	105.4	-59.63	5,825.9	-733.2	427.8	246.1	181.67	2.355	
13,300.0	7,486.0	13,102.8	7,270.0	106.8	107.1	-60.01	5,925.7	-736.6	432.7	247.3	185.34	2.334	
13,400.0	7,486.0	13,202.6	7,270.0	108.5	108.8	-60.38	6,025.5	-740.0	437.6	248.6	189.02	2.315	
13,500.0	7,486.0	13,302.5	7,270.0	110.3	110.6	-60.75	6,125.3	-743.4	442.5	249.8	192.70	2.296	
13,600.0	7,486.0	13,402.3	7,270.0	112.0	112.3	-61.10	6,225.1	-746.8	447.5	251.1	196.39	2.279	
13,700.0	7,486.0	13,502.2	7,270.0	113.8	114.0	-61.45	6,324.8	-750.2	452.5	252.4	200.07	2.262	
13,800.0	7,486.0	13,602.0	7,270.0	115.5	115.8	-61.79	6,424.6	-753.6	457.5	253.7	203.75	2.245	
13,900.0	7,486.0	13,701.8	7,270.0	117.2	117.5	-62.12	6,524.4	-757.0	462.5	255.0	207.49	2.229	
14,000.0	7,486.0	13,801.8	7,270.0	119.0	119.2	-62.31	6,624.3	-760.4	464.8	253.0	211.72	2.195	
14,100.0	7,486.0	13,901.7	7,270.0	120.7	121.0	-62.09	6,724.2	-763.8	462.0	247.5	214.56	2.153	
14,200.0	7,486.0	14,001.3	7,270.0	122.5	122.7	-61.46	6,823.7	-767.2	454.4	238.5	215.93	2.104	
14,300.0	7,486.0	14,100.3	7,270.0	124.2	124.4	-60.37	6,922.6	-770.6	441.9	226.2	215.65	2.049	
14,400.0	7,486.0	14,198.3	7,270.0	125.9	126.1	-58.77	7,020.6	-773.9	424.7	211.2	213.45	1.990	
14,469.5	7,486.0	14,265.7	7,270.0	127.1	127.3	-57.39	7,088.0	-776.2	410.3	198.9	211.41	1.941 SF	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1F-18H-H267 - 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		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	90.04	0.0	11.2	11.2					
100.0	100.0	100.0	100.0	0.2	0.2	90.04	0.0	11.2	11.2	10.9	0.30	36.825		
200.0	200.0	200.0	200.0	0.3	0.3	90.04	0.0	11.2	11.2	10.5	0.65	17.132		
300.0	300.0	300.0	300.0	0.5	0.5	90.04	0.0	11.2	11.2	10.2	1.00	11.163		
400.0	400.0	400.0	400.0	0.7	0.7	90.04	0.0	11.2	11.2	9.8	1.35	8.278		
500.0	500.0	500.0	500.0	0.8	0.8	90.04	0.0	11.2	11.2	9.5	1.70	6.579		
600.0	600.0	600.0	600.0	1.0	1.0	90.04	0.0	11.2	11.2	9.1	2.05	5.458 CC, ES		
700.0	700.0	700.0	700.0	1.2	1.2	-159.06	0.0	11.2	12.0	9.6	2.40	5.002		
800.0	800.0	800.0	800.0	1.4	1.4	-162.76	0.0	11.2	14.5	11.7	2.75	5.268		
900.0	899.9	899.9	899.9	1.6	1.5	-166.68	0.0	11.2	18.6	15.5	3.09	6.018		
1,000.0	999.8	999.8	999.8	1.7	1.7	-169.39	0.0	11.2	23.3	19.9	3.44	6.767		
1,100.0	1,099.6	1,099.6	1,099.6	1.9	1.9	-171.19	0.0	11.2	28.0	24.2	3.79	7.387		
1,200.0	1,199.5	1,199.5	1,199.5	2.1	2.1	-172.47	0.0	11.2	32.7	28.6	4.14	7.908		
1,300.0	1,299.4	1,299.4	1,299.4	2.3	2.2	-173.43	0.0	11.2	37.5	33.0	4.49	8.350		
1,400.0	1,399.3	1,399.3	1,399.3	2.5	2.4	-174.17	0.0	11.2	42.2	37.4	4.84	8.731		
1,500.0	1,499.2	1,499.2	1,499.2	2.7	2.6	-174.76	0.0	11.2	47.0	41.8	5.19	9.061		
1,600.0	1,599.1	1,599.1	1,599.1	2.9	2.8	-175.25	0.0	11.2	51.8	46.2	5.54	9.351		
1,700.0	1,699.0	1,699.0	1,699.0	3.1	2.9	-175.65	0.0	11.2	56.5	50.7	5.89	9.607		
1,800.0	1,798.8	1,798.8	1,798.8	3.3	3.1	-175.99	0.0	11.2	61.3	55.1	6.23	9.834		
1,900.0	1,898.7	1,898.7	1,898.7	3.4	3.3	-176.28	0.0	11.2	66.1	59.5	6.58	10.038		
2,000.0	1,998.6	1,998.6	1,998.6	3.6	3.5	-176.53	0.0	11.2	70.8	63.9	6.93	10.221		
2,100.0	2,098.5	2,098.5	2,098.5	3.8	3.6	-176.75	0.0	11.2	75.6	68.3	7.28	10.387		
2,200.0	2,198.4	2,198.4	2,198.4	4.0	3.8	-176.94	0.0	11.2	80.4	72.8	7.63	10.538		
2,300.0	2,298.3	2,298.3	2,298.3	4.2	4.0	-177.11	0.0	11.2	85.2	77.2	7.98	10.676		
2,400.0	2,398.2	2,398.2	2,398.2	4.4	4.2	-177.27	0.0	11.2	89.9	81.6	8.33	10.802		
2,500.0	2,498.0	2,498.0	2,498.0	4.6	4.3	-177.40	0.0	11.2	94.7	86.0	8.68	10.919		
2,600.0	2,597.9	2,597.9	2,597.9	4.8	4.5	-177.53	0.0	11.2	99.5	90.5	9.02	11.026		
2,700.0	2,697.8	2,697.8	2,697.8	5.0	4.7	-177.64	0.0	11.2	104.3	94.9	9.37	11.125		
2,800.0	2,797.7	2,797.7	2,797.7	5.2	4.9	-177.74	0.0	11.2	109.1	99.3	9.72	11.218		
2,900.0	2,897.6	2,897.6	2,897.6	5.4	5.0	-177.84	0.0	11.2	113.8	103.8	10.07	11.304		
3,000.0	2,997.5	2,997.5	2,997.5	5.6	5.2	-177.93	0.0	11.2	118.6	108.2	10.42	11.384		
3,100.0	3,097.3	3,097.3	3,097.3	5.8	5.4	-178.01	0.0	11.2	123.4	112.6	10.77	11.459		
3,200.0	3,197.2	3,197.2	3,197.2	5.9	5.6	-178.08	0.0	11.2	128.2	117.1	11.12	11.529		
3,300.0	3,297.1	3,297.1	3,297.1	6.1	5.7	-178.15	0.0	11.2	132.9	121.5	11.47	11.595		
3,400.0	3,397.0	3,397.0	3,397.0	6.3	5.9	-178.21	0.0	11.2	137.7	125.9	11.81	11.657		
3,500.0	3,496.9	3,496.9	3,496.9	6.5	6.1	-178.27	0.0	11.2	142.5	130.3	12.16	11.716		
3,600.0	3,596.8	3,596.8	3,596.8	6.7	6.3	-178.33	0.0	11.2	147.3	134.8	12.51	11.771		
3,700.0	3,696.7	3,696.7	3,696.7	6.9	6.4	-178.38	0.0	11.2	152.1	139.2	12.86	11.824		
3,800.0	3,796.5	3,796.5	3,796.5	7.1	6.6	-178.43	0.0	11.2	156.8	143.6	13.21	11.874		
3,900.0	3,896.4	3,896.4	3,896.4	7.3	6.8	-178.48	0.0	11.2	161.6	148.1	13.56	11.921		
4,000.0	3,996.3	3,996.3	3,996.3	7.5	7.0	-178.52	0.0	11.2	166.4	152.5	13.91	11.965		
4,100.0	4,096.2	4,096.2	4,096.2	7.7	7.1	-178.40	-0.7	10.7	170.5	156.3	14.26	11.958		
4,200.0	4,196.1	4,201.0	4,201.0	7.9	7.3	-177.92	-3.0	9.3	173.2	158.6	14.61	11.851		
4,300.0	4,296.0	4,303.4	4,303.3	8.1	7.5	-177.09	-6.8	6.8	174.5	159.5	14.97	11.655		
4,400.0	4,395.9	4,403.4	4,403.1	8.3	7.7	-176.11	-11.2	4.0	175.1	159.8	15.32	11.428		
4,500.0	4,495.7	4,503.3	4,502.9	8.5	7.8	-175.14	-15.6	1.1	175.7	160.1	15.67	11.213		
4,600.0	4,595.6	4,603.3	4,602.7	8.6	8.0	-174.18	-20.1	-1.8	176.5	160.4	16.03	11.010		
4,700.0	4,695.5	4,703.2	4,702.5	8.8	8.2	-173.23	-24.5	-4.6	177.2	160.8	16.38	10.818		
4,800.0	4,795.4	4,803.2	4,802.4	9.0	8.4	-172.28	-29.0	-7.5	178.0	161.3	16.74	10.637		
4,900.0	4,895.3	4,903.2	4,902.2	9.2	8.6	-171.34	-33.4	-10.3	178.9	161.8	17.09	10.465		
5,000.0	4,995.2	5,003.1	5,002.0	9.4	8.7	-170.42	-37.9	-13.2	179.8	162.3	17.45	10.303		
5,100.0	5,095.1	5,103.1	5,101.8	9.6	8.9	-169.50	-42.3	-16.1	180.7	162.9	17.81	10.149		

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1F-18H-H267 - 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)	
5,200.0	5,194.9	5,203.0	5,201.6		9.8	9.1	-168.59	-46.8	-18.9	181.7	163.6	18.17	10.003	
5,300.0	5,294.8	5,303.0	5,301.4	10.0	9.3	-167.69	-51.2	-21.8	182.8	164.2	18.53	9.864		
5,400.0	5,394.7	5,402.9	5,401.2	10.2	9.5	-166.80	-55.6	-24.7	183.9	165.0	18.89	9.733		
5,500.0	5,494.6	5,502.9	5,501.1	10.4	9.7	-165.93	-60.1	-27.5	185.0	165.7	19.25	9.608		
5,600.0	5,594.5	5,602.8	5,600.9	10.6	9.9	-165.06	-64.5	-30.4	186.2	166.5	19.62	9.489		
5,700.0	5,694.4	5,702.8	5,700.7	10.8	10.0	-164.20	-69.0	-33.2	187.4	167.4	19.98	9.377		
5,800.0	5,794.3	5,802.7	5,800.5	11.0	10.2	-163.36	-73.4	-36.1	188.6	168.3	20.35	9.269		
5,900.0	5,894.1	5,902.7	5,900.3	11.2	10.4	-162.53	-77.9	-39.0	189.9	169.2	20.72	9.168		
6,000.0	5,994.0	6,002.6	6,000.1	11.4	10.6	-161.70	-82.3	-41.8	191.3	170.2	21.09	9.071		
6,100.0	6,093.9	6,102.6	6,099.9	11.5	10.8	-160.90	-86.8	-44.7	192.6	171.2	21.46	8.979		
6,200.0	6,193.8	6,202.6	6,199.8	11.7	11.0	-160.10	-91.2	-47.6	194.1	172.2	21.83	8.891		
6,300.0	6,293.7	6,302.5	6,299.6	11.9	11.2	-159.31	-95.6	-50.4	195.5	173.3	22.20	8.807		
6,400.0	6,393.6	6,402.5	6,399.4	12.1	11.4	-158.54	-100.1	-53.3	197.0	174.4	22.57	8.728		
6,500.0	6,493.5	6,502.4	6,499.2	12.3	11.5	-157.77	-104.5	-56.1	198.5	175.6	22.95	8.652		
6,600.0	6,593.3	6,602.4	6,599.0	12.5	11.7	-157.02	-109.0	-59.0	200.1	176.8	23.32	8.580		
6,700.0	6,693.2	6,702.5	6,699.0	12.7	11.9	-156.46	-112.8	-61.9	201.7	178.0	23.69	8.513		
6,800.0	6,793.1	6,801.7	6,797.7	12.9	12.1	-155.48	-103.9	-64.7	203.3	179.4	23.95	8.488		
6,900.0	6,893.0	6,894.7	6,887.4	13.1	12.2	-166.48	-80.3	-67.3	207.6	183.5	24.14	8.601		
7,000.0	6,992.6	6,980.4	6,965.8	13.3	12.3	90.73	-45.9	-69.5	217.9	193.5	24.36	8.945		
7,100.0	7,089.9	7,062.4	7,035.3	13.4	12.4	73.43	-2.4	-71.5	232.1	207.5	24.61	9.431		
7,200.0	7,181.8	7,141.6	7,095.8	13.5	12.6	64.35	48.6	-73.3	248.3	223.5	24.80	10.011		
7,300.0	7,265.5	7,218.6	7,147.3	13.7	12.9	58.10	105.8	-74.7	264.6	239.8	24.85	10.651		
7,400.0	7,338.6	7,293.9	7,189.8	14.0	13.2	53.60	167.8	-76.0	279.8	255.0	24.75	11.306		
7,500.0	7,398.7	7,367.9	7,223.3	14.4	13.7	50.39	233.7	-76.9	292.8	268.2	24.61	11.899		
7,600.0	7,444.1	7,440.9	7,247.9	15.0	14.2	48.23	302.4	-77.6	303.0	278.5	24.56	12.338		
7,700.0	7,473.4	7,513.4	7,263.3	15.8	14.9	46.95	373.1	-78.1	310.0	285.2	24.76	12.520		
7,800.0	7,485.6	7,585.5	7,269.8	16.7	15.6	46.47	444.9	-78.3	313.4	288.0	25.33	12.373		
7,900.0	7,486.0	7,679.5	7,270.0	17.7	16.7	46.59	538.9	-78.3	314.3	287.5	26.84	11.710		
8,000.0	7,486.0	7,779.5	7,270.0	18.9	17.9	46.74	638.9	-78.3	315.2	286.5	28.66	10.998		
8,100.0	7,486.0	7,879.5	7,270.0	20.1	19.2	46.89	738.9	-78.3	316.1	285.5	30.60	10.331		
8,200.0	7,486.0	7,979.5	7,270.0	21.5	20.5	47.04	838.9	-78.3	317.0	284.3	32.64	9.712		
8,300.0	7,486.0	8,079.5	7,270.0	22.8	22.0	47.19	938.9	-78.3	317.9	283.1	34.77	9.142		
8,400.0	7,486.0	8,179.5	7,270.0	24.3	23.4	47.34	1,038.9	-78.3	318.8	281.8	36.97	8.622		
8,500.0	7,486.0	8,279.5	7,270.0	25.7	24.9	47.49	1,138.9	-78.3	319.7	280.4	39.24	8.146		
8,600.0	7,486.0	8,379.5	7,270.0	27.2	26.5	47.64	1,238.9	-78.3	320.6	279.0	41.57	7.712		
8,700.0	7,486.0	8,479.5	7,270.0	28.8	28.0	47.78	1,338.9	-78.3	321.5	277.5	43.94	7.316		
8,800.0	7,486.0	8,579.4	7,270.0	30.3	29.6	47.93	1,438.9	-78.3	322.4	276.0	46.36	6.954		
8,900.0	7,486.0	8,679.4	7,270.0	31.9	31.2	48.07	1,538.9	-78.3	323.3	274.5	48.81	6.623		
9,000.0	7,486.0	8,779.4	7,270.0	33.5	32.8	48.22	1,638.9	-78.3	324.2	272.9	51.30	6.319		
9,100.0	7,486.0	8,876.2	7,270.0	35.1	34.4	48.42	1,735.6	-77.7	325.5	271.7	53.82	6.048		
9,200.0	7,486.0	8,972.0	7,270.0	36.7	36.0	48.79	1,831.4	-75.7	328.1	271.6	56.49	5.807		
9,300.0	7,486.0	9,070.7	7,270.0	38.3	37.6	49.32	1,930.1	-72.3	331.6	272.2	59.34	5.587		
9,400.0	7,486.0	9,170.6	7,270.0	40.0	39.3	49.84	2,029.9	-68.8	335.1	272.9	62.26	5.383		
9,500.0	7,486.0	9,270.5	7,270.0	41.6	40.9	50.35	2,129.7	-65.3	338.8	273.5	65.22	5.194		
9,600.0	7,486.0	9,370.4	7,270.0	43.3	42.6	50.86	2,229.5	-61.8	342.4	274.2	68.22	5.019		
9,700.0	7,486.0	9,470.3	7,270.0	44.9	44.3	51.35	2,329.4	-58.3	346.1	274.8	71.25	4.857		
9,800.0	7,486.0	9,570.2	7,270.0	46.6	46.0	51.83	2,429.2	-54.9	349.8	275.4	74.31	4.707		
9,900.0	7,486.0	9,670.0	7,270.0	48.3	47.6	52.30	2,529.0	-51.4	353.5	276.1	77.41	4.567		
10,000.0	7,486.0	9,769.9	7,270.0	50.0	49.3	52.76	2,628.8	-47.9	357.2	276.7	80.53	4.436		
10,100.0	7,486.0	9,869.8	7,270.0	51.7	51.0	53.22	2,728.7	-44.4	361.0	277.3	83.67	4.314		
10,200.0	7,486.0	9,969.7	7,270.0	53.4	52.7	53.66	2,828.5	-40.9	364.8	277.9	86.85	4.200		
10,300.0	7,486.0	10,069.6	7,270.0	55.1	54.4	54.09	2,928.3	-37.4	368.6	278.5	90.04	4.093		

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1F-18H-H267 - 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							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
10,400.0	7,486.0	10,169.5	7,270.0	56.8	56.1	54.52	3,028.2	-33.9	372.4	279.1	93.26	3.993		
10,500.0	7,486.0	10,269.4	7,270.0	58.5	57.8	54.93	3,128.0	-30.5	376.3	279.8	96.49	3.899		
10,600.0	7,486.0	10,369.3	7,270.0	60.2	59.6	55.34	3,227.8	-27.0	380.1	280.4	99.75	3.811		
10,700.0	7,486.0	10,469.2	7,270.0	61.9	61.3	55.74	3,327.6	-23.5	384.0	281.0	103.02	3.727		
10,800.0	7,486.0	10,569.0	7,270.0	63.6	63.0	56.13	3,427.5	-20.0	387.9	281.6	106.31	3.649		
10,900.0	7,486.0	10,668.9	7,270.0	65.3	64.7	56.52	3,527.3	-16.5	391.8	282.2	109.62	3.575		
11,000.0	7,486.0	10,768.8	7,270.0	67.0	66.4	56.89	3,627.1	-13.0	395.8	282.8	112.94	3.504		
11,100.0	7,486.0	10,868.7	7,270.0	68.7	68.1	57.26	3,727.0	-9.5	399.7	283.4	116.27	3.438		
11,200.0	7,486.0	10,968.6	7,270.0	70.5	69.9	57.62	3,826.8	-6.1	403.7	284.1	119.62	3.375		
11,300.0	7,486.0	11,068.5	7,270.0	72.2	71.6	57.98	3,926.6	-2.6	407.7	284.7	122.98	3.315		
11,400.0	7,486.0	11,168.4	7,270.0	73.9	73.3	58.33	4,026.4	0.9	411.7	285.3	126.36	3.258		
11,500.0	7,486.0	11,268.3	7,270.0	75.6	75.1	58.67	4,126.3	4.4	415.7	286.0	129.74	3.204		
11,600.0	7,486.0	11,368.2	7,270.0	77.3	76.8	59.00	4,226.1	7.9	419.7	286.6	133.14	3.153		
11,700.0	7,486.0	11,468.0	7,270.0	79.1	78.5	59.33	4,325.9	11.4	423.8	287.2	136.54	3.104		
11,800.0	7,486.0	11,567.9	7,270.0	80.8	80.2	59.65	4,425.8	14.9	427.8	287.9	139.95	3.057		
11,900.0	7,486.0	11,667.8	7,270.0	82.5	82.0	59.97	4,525.6	18.3	431.9	288.5	143.38	3.012		
12,000.0	7,486.0	11,767.7	7,270.0	84.3	83.7	60.28	4,625.4	21.8	436.0	289.2	146.81	2.970		
12,100.0	7,486.0	11,867.6	7,270.0	86.0	85.4	60.58	4,725.2	25.3	440.1	289.8	150.25	2.929		
12,200.0	7,486.0	11,967.5	7,270.0	87.7	87.2	60.88	4,825.1	28.8	444.2	290.5	153.70	2.890		
12,300.0	7,486.0	12,067.4	7,270.0	89.5	88.9	61.17	4,924.9	32.3	448.3	291.2	157.15	2.853		
12,400.0	7,486.0	12,167.3	7,270.0	91.2	90.6	61.46	5,024.7	35.8	452.5	291.8	160.61	2.817		
12,500.0	7,486.0	12,267.2	7,270.0	92.9	92.4	61.74	5,124.6	39.3	456.6	292.5	164.08	2.783		
12,600.0	7,486.0	12,367.1	7,270.0	94.7	94.1	62.02	5,224.4	42.7	460.8	293.2	167.55	2.750		
12,700.0	7,486.0	12,466.9	7,270.0	96.4	95.9	62.29	5,324.2	46.2	464.9	293.9	171.03	2.718		
12,800.0	7,486.0	12,572.1	7,270.0	98.1	97.7	62.55	5,429.3	49.4	468.7	294.1	174.58	2.685		
12,900.0	7,486.0	12,679.9	7,270.0	99.9	99.6	62.70	5,537.1	50.8	471.0	292.9	178.02	2.646		
13,000.0	7,486.0	12,787.8	7,270.0	101.6	101.4	62.68	5,645.0	50.2	470.7	289.5	181.11	2.599		
13,100.0	7,486.0	12,895.5	7,270.0	103.3	103.3	62.42	5,752.7	47.5	467.1	283.4	183.78	2.542		
13,200.0	7,486.0	13,003.0	7,270.0	105.1	105.2	62.01	5,860.1	42.8	461.3	275.0	186.32	2.476		
13,300.0	7,486.0	13,110.2	7,270.0	106.8	107.0	61.47	5,967.1	36.2	453.8	265.2	188.59	2.406		
13,400.0	7,486.0	13,217.0	7,270.0	108.5	108.9	60.79	6,073.5	27.5	444.7	254.2	190.56	2.334		
13,500.0	7,486.0	13,321.7	7,270.0	110.3	110.7	59.96	6,177.7	17.2	434.2	242.0	192.17	2.259		
13,600.0	7,486.0	13,420.9	7,270.0	112.0	112.4	59.11	6,276.3	6.9	423.2	229.7	193.55	2.187		
13,700.0	7,486.0	13,520.1	7,270.0	113.8	114.2	58.20	6,375.0	-3.5	412.4	217.6	194.74	2.117		
13,800.0	7,486.0	13,619.3	7,270.0	115.5	115.9	57.25	6,473.6	-13.8	401.6	205.9	195.73	2.052		
13,900.0	7,486.0	13,718.5	7,270.0	117.2	117.6	56.26	6,572.3	-24.1	391.0	194.4	196.55	1.989		
14,000.0	7,486.0	13,818.0	7,270.0	119.0	119.4	55.61	6,671.3	-34.5	383.1	184.8	198.29	1.932		
14,100.0	7,486.0	13,917.9	7,270.0	120.7	121.1	55.34	6,770.6	-44.9	379.8	179.6	200.23	1.897		
14,120.3	7,486.0	13,938.2	7,270.0	121.1	121.5	55.33	6,790.9	-47.0	379.7	179.0	200.66	1.892		
14,200.0	7,486.0	14,017.9	7,270.0	122.5	122.8	55.45	6,870.1	-55.3	381.2	178.7	202.48	1.883 SF		
14,300.0	7,486.0	14,117.6	7,270.0	124.2	124.6	55.96	6,969.3	-65.7	387.2	182.2	204.99	1.889		
14,400.0	7,486.0	14,216.7	7,270.0	125.9	126.3	56.80	7,067.9	-76.1	398.0	190.3	207.64	1.917		
14,469.5	7,486.0	14,237.9	7,270.0	127.1	126.7	56.95	7,088.9	-78.3	410.9	202.8	208.10	1.975		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1G-18H-H267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-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	90.04	0.0	22.4	22.4					
100.0	100.0	100.0	100.0	0.2	0.2	90.04	0.0	22.4	22.4	22.1	0.30	73.650		
200.0	200.0	200.0	200.0	0.3	0.3	90.04	0.0	22.4	22.4	21.7	0.65	34.265		
300.0	300.0	300.0	300.0	0.5	0.5	90.04	0.0	22.4	22.4	21.4	1.00	22.326		
400.0	400.0	400.0	400.0	0.7	0.7	90.04	0.0	22.4	22.4	21.0	1.35	16.557		
500.0	500.0	500.0	500.0	0.8	0.8	90.04	0.0	22.4	22.4	20.7	1.70	13.157 CC, ES		
600.0	600.0	599.6	599.6	1.0	1.0	90.99	-0.4	23.1	23.1	21.1	2.05	11.299		
700.0	700.0	699.2	699.2	1.2	1.2	-154.84	-1.5	25.5	26.3	23.9	2.40	10.980 SF		
800.0	800.0	798.9	798.8	1.4	1.4	-154.00	-3.3	29.0	32.3	29.6	2.75	11.764		
900.0	899.9	898.6	898.4	1.6	1.6	-154.44	-5.1	32.6	39.9	36.8	3.10	12.883		
1,000.0	999.8	998.3	998.0	1.7	1.7	-155.01	-6.8	36.2	47.9	44.5	3.45	13.895		
1,100.0	1,099.6	1,097.9	1,097.6	1.9	1.9	-155.41	-8.6	39.8	55.9	52.1	3.80	14.719		
1,200.0	1,199.5	1,197.6	1,197.2	2.1	2.1	-155.71	-10.4	43.4	63.9	59.8	4.15	15.403		
1,300.0	1,299.4	1,297.3	1,296.8	2.3	2.3	-155.95	-12.2	47.0	72.0	67.5	4.50	15.979		
1,400.0	1,399.3	1,397.0	1,396.4	2.5	2.5	-156.14	-13.9	50.6	80.0	75.1	4.86	16.471		
1,500.0	1,499.2	1,496.6	1,496.0	2.7	2.7	-156.29	-15.7	54.2	88.0	82.8	5.21	16.896		
1,600.0	1,599.1	1,596.3	1,595.6	2.9	2.9	-156.42	-17.5	57.8	96.1	90.5	5.56	17.267		
1,700.0	1,699.0	1,696.0	1,695.2	3.1	3.0	-156.53	-19.3	61.5	104.1	98.2	5.92	17.593		
1,800.0	1,798.8	1,795.7	1,794.8	3.3	3.2	-156.62	-21.1	65.1	112.1	105.8	6.27	17.882		
1,900.0	1,898.7	1,895.4	1,894.3	3.4	3.4	-156.70	-22.8	68.7	120.1	113.5	6.62	18.140		
2,000.0	1,998.6	1,995.0	1,993.9	3.6	3.6	-156.77	-24.6	72.3	128.2	121.2	6.98	18.373		
2,100.0	2,098.5	2,094.7	2,093.5	3.8	3.8	-156.83	-26.4	75.9	136.2	128.9	7.33	18.582		
2,200.0	2,198.4	2,194.4	2,193.1	4.0	4.0	-156.89	-28.2	79.5	144.2	136.5	7.68	18.772		
2,300.0	2,298.3	2,294.1	2,292.7	4.2	4.2	-156.93	-29.9	83.1	152.2	144.2	8.04	18.946		
2,400.0	2,398.2	2,393.7	2,392.3	4.4	4.3	-156.98	-31.7	86.7	160.3	151.9	8.39	19.104		
2,500.0	2,498.0	2,493.4	2,491.9	4.6	4.5	-157.02	-33.5	90.3	168.3	159.6	8.74	19.250		
2,600.0	2,597.9	2,593.1	2,591.5	4.8	4.7	-157.06	-35.3	93.9	176.3	167.2	9.10	19.385		
2,700.0	2,697.8	2,692.8	2,691.1	5.0	4.9	-157.09	-37.0	97.5	184.4	174.9	9.45	19.509		
2,800.0	2,797.7	2,792.5	2,790.7	5.2	5.1	-157.12	-38.8	101.1	192.4	182.6	9.80	19.624		
2,900.0	2,897.6	2,892.1	2,890.3	5.4	5.3	-157.15	-40.6	104.7	200.4	190.3	10.16	19.732		
3,000.0	2,997.5	2,991.8	2,989.9	5.6	5.5	-157.17	-42.4	108.3	208.4	197.9	10.51	19.832		
3,100.0	3,097.3	3,091.5	3,089.5	5.8	5.7	-157.20	-44.2	111.9	216.5	205.6	10.86	19.925		
3,200.0	3,197.2	3,191.2	3,189.1	5.9	5.8	-157.22	-45.9	115.5	224.5	213.3	11.22	20.013		
3,300.0	3,297.1	3,290.8	3,288.7	6.1	6.0	-157.24	-47.7	119.2	232.5	221.0	11.57	20.095		
3,400.0	3,397.0	3,390.5	3,388.3	6.3	6.2	-157.26	-49.5	122.8	240.6	228.6	11.93	20.172		
3,500.0	3,496.9	3,490.2	3,487.9	6.5	6.4	-157.28	-51.3	126.4	248.6	236.3	12.28	20.245		
3,600.0	3,596.8	3,589.9	3,587.5	6.7	6.6	-157.29	-53.0	130.0	256.6	244.0	12.63	20.314		
3,700.0	3,696.7	3,689.5	3,687.1	6.9	6.8	-157.31	-54.8	133.6	264.6	251.7	12.99	20.379		
3,800.0	3,796.5	3,789.2	3,786.7	7.1	7.0	-157.32	-56.6	137.2	272.7	259.3	13.34	20.440		
3,900.0	3,896.4	3,888.9	3,886.3	7.3	7.2	-157.34	-58.4	140.8	280.7	267.0	13.69	20.499		
4,000.0	3,996.3	3,988.6	3,985.9	7.5	7.3	-157.35	-60.2	144.4	288.7	274.7	14.05	20.554		
4,100.0	4,096.2	4,088.3	4,085.5	7.7	7.5	-157.36	-61.9	148.0	296.8	282.4	14.40	20.607		
4,200.0	4,196.1	4,187.9	4,185.1	7.9	7.7	-157.38	-63.7	151.6	304.8	290.0	14.75	20.657		
4,300.0	4,296.0	4,287.6	4,284.7	8.1	7.9	-157.39	-65.5	155.2	312.8	297.7	15.11	20.705		
4,400.0	4,395.9	4,387.3	4,384.2	8.3	8.1	-157.40	-67.3	158.8	320.8	305.4	15.46	20.750		
4,500.0	4,495.7	4,487.0	4,483.8	8.5	8.3	-157.41	-69.0	162.4	328.9	313.1	15.82	20.794		
4,600.0	4,595.6	4,586.6	4,583.4	8.6	8.5	-157.42	-70.8	166.0	336.9	320.7	16.17	20.836		
4,700.0	4,695.5	4,686.3	4,683.0	8.8	8.7	-157.43	-72.6	169.6	344.9	328.4	16.52	20.875		
4,800.0	4,795.4	4,786.0	4,782.6	9.0	8.8	-157.44	-74.4	173.2	353.0	336.1	16.88	20.914		
4,900.0	4,895.3	4,885.7	4,882.2	9.2	9.0	-157.45	-76.1	176.8	361.0	343.8	17.23	20.950		
5,000.0	4,995.2	4,985.3	4,981.8	9.4	9.2	-157.45	-77.9	180.5	369.0	351.4	17.58	20.985		
5,100.0	5,095.1	5,085.0	5,081.4	9.6	9.4	-157.46	-79.7	184.1	377.0	359.1	17.94	21.019		

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - Kugel 1G-18H-H267 - 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		
5,200.0	5,194.9	5,184.7	5,181.0	9.8	9.6	-157.47	-81.5	187.7	385.1	366.8	18.29	21.052		
5,300.0	5,294.8	5,284.4	5,280.6	10.0	9.8	-157.48	-83.3	191.3	393.1	374.5	18.65	21.083		
5,400.0	5,394.7	5,384.1	5,380.2	10.2	10.0	-157.48	-85.0	194.9	401.1	382.1	19.00	21.113		
5,500.0	5,494.6	5,483.7	5,479.8	10.4	10.2	-157.49	-86.8	198.5	409.2	389.8	19.35	21.142		
5,600.0	5,594.5	5,583.4	5,579.4	10.6	10.3	-157.50	-88.6	202.1	417.2	397.5	19.71	21.170		
5,700.0	5,694.4	5,683.1	5,679.0	10.8	10.5	-157.50	-90.4	205.7	425.2	405.2	20.06	21.197		
5,800.0	5,794.3	5,782.8	5,778.6	11.0	10.7	-157.51	-92.1	209.3	433.3	412.8	20.41	21.223		
5,900.0	5,894.1	5,882.4	5,878.2	11.2	10.9	-157.51	-93.9	212.9	441.3	420.5	20.77	21.248		
6,000.0	5,994.0	5,982.1	5,977.8	11.4	11.1	-157.52	-95.7	216.5	449.3	428.2	21.12	21.272		
6,100.0	6,093.9	6,081.8	6,077.4	11.5	11.3	-157.52	-97.5	220.1	457.3	435.9	21.48	21.295		
6,200.0	6,193.8	6,181.5	6,177.0	11.7	11.5	-157.53	-99.2	223.7	465.4	443.5	21.83	21.318		
6,300.0	6,293.7	6,281.2	6,276.6	11.9	11.7	-157.53	-101.0	227.3	473.4	451.2	22.18	21.340		
6,400.0	6,393.6	6,380.8	6,376.2	12.1	11.8	-157.54	-102.8	230.9	481.4	458.9	22.54	21.361		
6,500.0	6,493.5	6,480.5	6,475.8	12.3	12.0	-157.54	-104.6	234.5	489.5	466.6	22.89	21.382		
6,600.0	6,593.3	6,580.2	6,575.4	12.5	12.2	-157.55	-106.4	238.2	497.5	474.2	23.24	21.402		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design		S18-T2N-R67W (Kugel) - KUGEL 2-18 (EXISTING) - ENCANA WELL - NO SURVEYS											Offset Site Error:		0.0 ft	
Survey Program:		8060-Geolink MWD											Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth 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				
7,500.0	7,398.7	7,388.7	7,388.7	14.4	12.9	-37.83	588.7	-497.1	476.8	454.8	21.99	21.685				
7,600.0	7,444.1	7,434.1	7,434.1	15.0	13.0	-54.69	588.7	-497.1	396.2	372.1	24.13	16.421				
7,700.0	7,473.4	7,463.4	7,463.4	15.8	13.0	-74.31	588.7	-497.1	315.2	288.0	27.19	11.594				
7,800.0	7,485.6	7,475.6	7,475.6	16.7	13.0	-88.34	588.7	-497.1	243.3	214.4	28.89	8.421				
7,900.0	7,486.0	7,476.0	7,476.0	17.7	13.0	-90.00	588.7	-497.1	196.9	166.9	30.00	6.564				
7,952.1	7,486.0	7,476.0	7,476.0	18.3	13.0	-90.00	588.7	-497.1	189.9	159.3	30.62	6.200	CC, ES, SF			
8,000.0	7,486.0	7,476.0	7,476.0	18.9	13.0	-90.00	588.7	-497.1	195.8	164.6	31.20	6.276				
8,100.0	7,486.0	7,476.0	7,476.0	20.1	13.0	-90.00	588.7	-497.1	240.7	208.2	32.49	7.407				
8,200.0	7,486.0	7,476.0	7,476.0	21.5	13.0	-90.00	588.7	-497.1	312.3	278.4	33.85	9.224				
8,300.0	7,486.0	7,476.0	7,476.0	22.8	13.0	-90.00	588.7	-497.1	396.3	361.1	35.27	11.238				
8,400.0	7,486.0	7,476.0	7,476.0	24.3	13.0	-90.00	588.7	-497.1	486.5	449.8	36.73	13.245				

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - KUGEL 41-18 (EXISTING) - ENCANA WELL - ENCANA WELL													Offset Site Error:	0.0 ft
Survey Program: 8020-Geolink MWD													Offset Well Error:	0.0 ft
Offset				Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
8,800.0	7,486.0	7,451.0	7,451.0	30.3	13.0	90.00	1,722.3	29.6	448.2	405.4	42.84	10.462		
8,900.0	7,486.0	7,451.0	7,451.0	31.9	13.0	90.00	1,722.3	29.6	393.8	349.3	44.44	8.861		
9,000.0	7,486.0	7,451.0	7,451.0	33.5	13.0	90.00	1,722.3	29.6	359.5	313.4	46.05	7.806		
9,079.2	7,486.0	7,451.0	7,451.0	34.7	13.0	90.00	1,722.3	29.6	350.6	303.3	47.34	7.407	CC, ES	
9,100.0	7,486.0	7,451.0	7,451.0	35.1	13.0	90.00	1,722.3	29.6	351.3	303.6	47.68	7.367	SF	
9,200.0	7,486.0	7,451.0	7,451.0	36.7	13.0	90.00	1,722.3	29.6	370.9	321.5	49.32	7.520		
9,300.0	7,486.0	7,451.0	7,451.0	38.3	13.0	90.00	1,722.3	29.6	414.4	363.4	50.96	8.130		
9,400.0	7,486.0	7,451.0	7,451.0	40.0	13.0	90.00	1,722.3	29.6	475.2	422.6	52.62	9.031		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURVEYS														Offset Site Error:	0.0 ft
Survey Program: 8095-Geolink 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	74.69	12.8	46.7	49.9						
100.0	100.0	88.0	88.0	0.2	0.2	74.69	12.8	46.7	48.4	48.1	0.31	158.385			
200.0	200.0	188.0	188.0	0.3	0.3	74.69	12.8	46.7	48.4	47.8	0.65	73.939			
300.0	300.0	288.0	288.0	0.5	0.5	74.69	12.8	46.7	48.4	47.4	1.00	48.226			
400.0	400.0	388.0	388.0	0.7	0.7	74.69	12.8	46.7	48.4	47.1	1.35	35.782			
500.0	500.0	488.0	488.0	0.8	0.9	74.69	12.8	46.7	48.4	46.7	1.70	28.443			
600.0	600.0	588.0	588.0	1.0	1.0	74.69	12.8	46.7	48.4	46.4	2.05	23.602 CC, ES			
700.0	700.0	688.0	688.0	1.2	1.2	-172.94	12.8	46.7	49.3	46.9	2.40	20.532			
800.0	800.0	788.0	788.0	1.4	1.4	-173.29	12.8	46.7	51.9	49.1	2.75	18.876			
900.0	899.9	887.9	887.9	1.6	1.5	-173.80	12.8	46.7	56.1	53.1	3.10	18.135			
1,000.0	999.8	987.8	987.8	1.7	1.7	-174.29	12.8	46.7	60.9	57.5	3.44	17.679			
1,100.0	1,099.6	1,087.6	1,087.6	1.9	1.9	-174.70	12.8	46.7	65.7	61.9	3.79	17.308			
1,200.0	1,199.5	1,187.5	1,187.5	2.1	2.1	-175.06	12.8	46.7	70.4	66.3	4.14	17.000			
1,300.0	1,299.4	1,287.4	1,287.4	2.3	2.2	-175.37	12.8	46.7	75.2	70.7	4.49	16.740			
1,400.0	1,399.3	1,387.3	1,387.3	2.5	2.4	-175.65	12.8	46.7	80.0	75.1	4.84	16.519			
1,500.0	1,499.2	1,487.2	1,487.2	2.7	2.6	-175.90	12.8	46.7	84.7	79.5	5.19	16.327			
1,600.0	1,599.1	1,587.1	1,587.1	2.9	2.8	-176.11	12.8	46.7	89.5	84.0	5.54	16.160			
1,700.0	1,699.0	1,687.0	1,687.0	3.1	2.9	-176.31	12.8	46.7	94.3	88.4	5.89	16.013			
1,800.0	1,798.8	1,786.8	1,786.8	3.3	3.1	-176.49	12.8	46.7	99.0	92.8	6.24	15.882			
1,900.0	1,898.7	1,886.7	1,886.7	3.4	3.3	-176.65	12.8	46.7	103.8	97.2	6.58	15.766			
2,000.0	1,998.6	1,986.6	1,986.6	3.6	3.5	-176.80	12.8	46.7	108.6	101.7	6.93	15.661			
2,100.0	2,098.5	2,086.5	2,086.5	3.8	3.6	-176.93	12.8	46.7	113.4	106.1	7.28	15.567			
2,200.0	2,198.4	2,186.4	2,186.4	4.0	3.8	-177.06	12.8	46.7	118.1	110.5	7.63	15.481			
2,300.0	2,298.3	2,286.3	2,286.3	4.2	4.0	-177.17	12.8	46.7	122.9	114.9	7.98	15.403			
2,400.0	2,398.2	2,386.2	2,386.2	4.4	4.2	-177.28	12.8	46.7	127.7	119.4	8.33	15.331			
2,500.0	2,498.0	2,486.0	2,486.0	4.6	4.3	-177.38	12.8	46.7	132.5	123.8	8.68	15.265			
2,600.0	2,597.9	2,585.9	2,585.9	4.8	4.5	-177.47	12.8	46.7	137.2	128.2	9.03	15.205			
2,700.0	2,697.8	2,685.8	2,685.8	5.0	4.7	-177.55	12.8	46.7	142.0	132.6	9.37	15.149			
2,800.0	2,797.7	2,785.7	2,785.7	5.2	4.9	-177.63	12.8	46.7	146.8	137.1	9.72	15.096			
2,900.0	2,897.6	2,885.6	2,885.6	5.4	5.0	-177.71	12.8	46.7	151.6	141.5	10.07	15.048			
3,000.0	2,997.5	2,985.5	2,985.5	5.6	5.2	-177.78	12.8	46.7	156.3	145.9	10.42	15.003			
3,100.0	3,097.3	3,085.3	3,085.3	5.8	5.4	-177.84	12.8	46.7	161.1	150.4	10.77	14.961			
3,200.0	3,197.2	3,185.2	3,185.2	5.9	5.6	-177.91	12.8	46.7	165.9	154.8	11.12	14.921			
3,300.0	3,297.1	3,285.1	3,285.1	6.1	5.7	-177.96	12.8	46.7	170.7	159.2	11.47	14.884			
3,400.0	3,397.0	3,385.0	3,385.0	6.3	5.9	-178.02	12.8	46.7	175.5	163.6	11.82	14.849			
3,500.0	3,496.9	3,484.9	3,484.9	6.5	6.1	-178.07	12.8	46.7	180.2	168.1	12.17	14.816			
3,600.0	3,596.8	3,584.8	3,584.8	6.7	6.3	-178.12	12.8	46.7	185.0	172.5	12.51	14.785			
3,700.0	3,696.7	3,684.7	3,684.7	6.9	6.4	-178.17	12.8	46.7	189.8	176.9	12.86	14.756			
3,800.0	3,796.5	3,784.5	3,784.5	7.1	6.6	-178.21	12.8	46.7	194.6	181.4	13.21	14.728			
3,900.0	3,896.4	3,884.4	3,884.4	7.3	6.8	-178.26	12.8	46.7	199.4	185.8	13.56	14.702			
4,000.0	3,996.3	3,984.3	3,984.3	7.5	7.0	-178.30	12.8	46.7	204.1	190.2	13.91	14.676			
4,100.0	4,096.2	4,084.2	4,084.2	7.7	7.1	-178.34	12.8	46.7	208.9	194.7	14.26	14.653			
4,200.0	4,196.1	4,184.1	4,184.1	7.9	7.3	-178.37	12.8	46.7	213.7	199.1	14.61	14.630			
4,300.0	4,296.0	4,284.0	4,284.0	8.1	7.5	-178.41	12.8	46.7	218.5	203.5	14.96	14.608			
4,400.0	4,395.9	4,383.9	4,383.9	8.3	7.7	-178.44	12.8	46.7	223.3	207.9	15.30	14.588			
4,500.0	4,495.7	4,483.7	4,483.7	8.5	7.8	-178.48	12.8	46.7	228.0	212.4	15.65	14.568			
4,600.0	4,595.6	4,583.6	4,583.6	8.6	8.0	-178.51	12.8	46.7	232.8	216.8	16.00	14.549			
4,700.0	4,695.5	4,683.5	4,683.5	8.8	8.2	-178.54	12.8	46.7	237.6	221.2	16.35	14.531			
4,800.0	4,795.4	4,783.4	4,783.4	9.0	8.3	-178.57	12.8	46.7	242.4	225.7	16.70	14.514			
4,900.0	4,895.3	4,883.3	4,883.3	9.2	8.5	-178.59	12.8	46.7	247.2	230.1	17.05	14.497			
5,000.0	4,995.2	4,983.2	4,983.2	9.4	8.7	-178.62	12.8	46.7	251.9	234.5	17.40	14.482			
5,100.0	5,095.1	5,083.1	5,083.1	9.6	8.9	-178.65	12.8	46.7	256.7	239.0	17.75	14.466			

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8095-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	5,194.9	5,182.9	5,182.9		9.8	9.0	-178.67	12.8	46.7	261.5	243.4	18.09	14.452	
5,300.0	5,294.8	5,282.8	5,282.8	10.0	9.2	-178.69		12.8	46.7	266.3	247.8	18.44	14.438	
5,400.0	5,394.7	5,382.7	5,382.7	10.2	9.4	-178.72		12.8	46.7	271.1	252.3	18.79	14.424	
5,500.0	5,494.6	5,482.6	5,482.6	10.4	9.6	-178.74		12.8	46.7	275.8	256.7	19.14	14.411	
5,600.0	5,594.5	5,582.5	5,582.5	10.6	9.7	-178.76		12.8	46.7	280.6	261.1	19.49	14.398	
5,700.0	5,694.4	5,682.4	5,682.4	10.8	9.9	-178.78		12.8	46.7	285.4	265.6	19.84	14.386	
5,800.0	5,794.3	5,782.3	5,782.3	11.0	10.1	-178.80		12.8	46.7	290.2	270.0	20.19	14.374	
5,900.0	5,894.1	5,882.1	5,882.1	11.2	10.3	-178.82		12.8	46.7	295.0	274.4	20.54	14.363	
6,000.0	5,994.0	5,982.0	5,982.0	11.4	10.4	-178.84		12.8	46.7	299.7	278.9	20.88	14.352	
6,100.0	6,093.9	6,081.9	6,081.9	11.5	10.6	-178.86		12.8	46.7	304.5	283.3	21.23	14.341	
6,200.0	6,193.8	6,181.8	6,181.8	11.7	10.8	-178.88		12.8	46.7	309.3	287.7	21.58	14.331	
6,300.0	6,293.7	6,281.7	6,281.7	11.9	11.0	-178.89		12.8	46.7	314.1	292.1	21.93	14.321	
6,400.0	6,393.6	6,381.6	6,381.6	12.1	11.1	-178.91		12.8	46.7	318.9	296.6	22.28	14.312	
6,500.0	6,493.5	6,481.5	6,481.5	12.3	11.3	-178.93		12.8	46.7	323.6	301.0	22.63	14.302	
6,600.0	6,593.3	6,581.3	6,581.3	12.5	11.5	-178.94		12.8	46.7	328.4	305.4	22.98	14.293	
6,700.0	6,693.2	6,681.2	6,681.2	12.7	11.7	-178.96		12.8	46.7	333.2	309.9	23.33	14.284	
6,800.0	6,793.1	6,781.1	6,781.1	12.9	11.8	-178.97		12.8	46.7	338.0	314.3	23.67	14.276	
6,900.0	6,893.0	6,881.0	6,881.0	13.1	12.0	-178.99		12.8	46.7	342.8	318.7	24.02	14.268	
7,000.0	6,992.6	6,980.6	6,980.6	13.3	12.2	87.97		12.8	46.7	345.1	320.7	24.37	14.160	
7,100.0	7,089.9	7,077.9	7,077.9	13.4	12.4	82.26		12.8	46.7	342.4	317.7	24.69	13.868	
7,200.0	7,181.8	7,169.8	7,169.8	13.5	12.5	85.93		12.8	46.7	337.8	312.8	25.03	13.495	
7,264.4	7,236.8	7,224.8	7,224.8	13.6	12.6	90.00		12.8	46.7	336.4	311.2	25.28	13.310	
7,300.0	7,265.5	7,253.5	7,253.5	13.7	12.7	92.46		12.8	46.7	337.0	311.6	25.39	13.274 SF	
7,400.0	7,338.6	7,326.6	7,326.6	14.0	12.8	99.11		12.8	46.7	346.8	321.2	25.67	13.513	
7,500.0	7,398.7	7,386.7	7,386.7	14.4	12.9	103.76		12.8	46.7	373.1	347.2	25.92	14.393	
7,600.0	7,444.1	7,432.1	7,432.1	15.0	13.0	104.93		12.8	46.7	417.9	391.4	26.44	15.803	
7,700.0	7,473.4	7,461.4	7,461.4	15.8	13.0	101.51		12.8	46.7	479.2	451.7	27.51	17.421	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEYS														Offset Site Error:	0.0 ft
Survey Program: 825-Geolink 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	84.79	6.2	68.2	70.6						
100.0	100.0	83.2	83.2	0.2	0.2	84.95	6.0	68.1	68.4	68.1	0.30	229.481			
200.0	200.0	183.4	183.4	0.3	0.4	85.57	5.2	67.7	67.9	67.3	0.65	104.780			
300.0	300.0	283.7	283.6	0.5	0.6	86.68	3.9	67.0	67.1	66.1	1.00	67.252			
400.0	400.0	383.9	383.8	0.7	0.8	88.32	1.9	66.0	66.0	64.7	1.35	49.000			
500.0	500.0	484.0	483.9	0.8	1.0	90.52	-0.6	64.7	64.7	63.0	1.70	38.129			
600.0	600.0	584.1	584.0	1.0	1.2	93.35	-3.7	63.0	63.2	61.1	2.04	30.885			
700.0	700.0	684.2	684.0	1.2	1.4	-151.02	-7.4	61.1	62.3	59.8	2.54	24.567			
706.1	706.1	690.4	690.1	1.2	1.4	-150.83	-7.6	61.0	62.3	59.8	2.56	24.345 CC, ES			
800.0	800.0	784.3	784.0	1.4	1.6	-148.07	-11.7	58.9	63.0	60.0	2.91	21.613			
900.0	899.9	884.2	883.7	1.6	1.8	-145.51	-16.5	56.4	65.0	61.7	3.29	19.754			
1,000.0	999.8	984.1	983.5	1.7	1.9	-143.64	-21.0	54.1	67.7	64.1	3.66	18.483			
1,100.0	1,099.6	1,084.0	1,083.3	1.9	2.1	-142.15	-25.3	52.0	70.6	66.5	4.04	17.477			
1,200.0	1,199.5	1,185.2	1,184.3	2.1	2.3	-141.24	-28.9	49.4	72.8	68.4	4.40	16.558			
1,300.0	1,299.4	1,286.7	1,285.7	2.3	2.5	-141.61	-30.3	45.2	73.0	68.2	4.75	15.377			
1,349.2	1,348.6	1,335.3	1,334.3	2.4	2.6	-142.30	-30.3	43.1	72.8	67.9	4.90	14.849			
1,400.0	1,399.3	1,385.4	1,384.4	2.5	2.6	-143.46	-29.9	41.5	73.0	68.0	5.06	14.435			
1,500.0	1,499.2	1,483.9	1,482.9	2.7	2.8	-146.95	-27.7	40.0	75.0	69.6	5.36	13.985			
1,600.0	1,599.1	1,584.6	1,583.5	2.9	2.9	-151.03	-24.6	39.4	78.1	72.4	5.68	13.742			
1,700.0	1,699.0	1,684.2	1,683.1	3.1	3.1	-153.83	-22.7	37.4	80.1	74.1	6.01	13.318			
1,800.0	1,798.8	1,781.9	1,780.8	3.3	3.3	-155.40	-22.5	37.3	84.3	78.0	6.35	13.272 SF			
1,900.0	1,898.7	1,880.3	1,879.2	3.4	3.4	-155.88	-23.8	39.6	91.1	84.4	6.70	13.591			
2,000.0	1,998.6	1,981.0	1,979.8	3.6	3.6	-156.26	-25.2	42.0	97.8	90.7	7.05	13.866			
2,100.0	2,098.5	2,082.2	2,081.0	3.8	3.8	-156.86	-26.1	43.2	103.4	96.0	7.40	13.973			
2,200.0	2,198.4	2,183.2	2,182.0	4.0	3.9	-157.77	-26.2	43.0	107.6	99.9	7.74	13.897			
2,300.0	2,298.3	2,282.2	2,281.0	4.2	4.1	-159.16	-25.3	42.8	111.9	103.8	8.07	13.861			
2,400.0	2,398.2	2,381.6	2,380.3	4.4	4.2	-161.03	-23.2	43.4	117.1	108.7	8.40	13.935			
2,500.0	2,498.0	2,481.7	2,480.4	4.6	4.4	-163.13	-20.2	44.0	122.5	113.8	8.74	14.023			
2,600.0	2,597.9	2,580.3	2,578.9	4.8	4.6	-165.07	-17.2	44.3	127.7	118.6	9.07	14.077			
2,700.0	2,697.8	2,676.1	2,674.7	5.0	4.7	-165.84	-16.2	47.1	135.4	126.0	9.41	14.382			
2,800.0	2,797.7	2,775.9	2,774.3	5.2	4.9	-165.85	-16.6	51.9	144.7	135.0	9.76	14.825			
2,900.0	2,897.6	2,876.7	2,875.1	5.4	5.1	-165.98	-16.9	56.0	153.3	143.2	10.11	15.162			
3,000.0	2,997.5	2,977.7	2,976.0	5.6	5.2	-166.34	-16.6	59.2	161.1	150.7	10.46	15.407			
3,100.0	3,097.3	3,078.7	3,077.0	5.8	5.4	-166.93	-15.6	61.5	168.2	157.4	10.81	15.565			
3,200.0	3,197.2	3,179.7	3,177.9	5.9	5.6	-167.72	-14.0	62.9	174.5	163.3	11.15	15.648			
3,300.0	3,297.1	3,280.2	3,278.5	6.1	5.8	-168.42	-12.7	63.8	180.3	168.8	11.50	15.677			
3,400.0	3,397.0	3,380.9	3,379.1	6.3	5.9	-168.89	-12.0	64.3	185.6	173.8	11.85	15.668			
3,500.0	3,496.9	3,481.5	3,479.8	6.5	6.1	-169.14	-12.1	64.6	190.6	178.4	12.20	15.624			
3,600.0	3,596.8	3,581.7	3,580.0	6.7	6.3	-169.25	-12.6	64.7	195.2	182.7	12.55	15.559			
3,700.0	3,696.7	3,681.9	3,680.2	6.9	6.5	-169.23	-13.6	64.7	199.8	186.9	12.90	15.485			
3,800.0	3,796.5	3,782.1	3,780.3	7.1	6.6	-169.12	-14.9	64.7	204.2	190.9	13.25	15.405			
3,900.0	3,896.4	3,882.2	3,880.5	7.3	6.8	-168.93	-16.5	64.5	208.4	194.8	13.61	15.317			
4,000.0	3,996.3	3,982.4	3,980.6	7.5	7.0	-168.72	-18.3	64.3	212.5	198.6	13.96	15.225			
4,100.0	4,096.2	4,082.6	4,080.8	7.7	7.2	-168.47	-20.3	64.0	216.5	202.2	14.31	15.129			
4,200.0	4,196.1	4,182.7	4,180.9	7.9	7.3	-168.26	-22.2	63.6	220.5	205.8	14.66	15.034			
4,300.0	4,296.0	4,282.8	4,281.0	8.1	7.5	-168.18	-23.6	63.0	224.3	209.3	15.01	14.939			
4,400.0	4,395.9	4,382.9	4,381.1	8.3	7.7	-168.24	-24.5	62.2	228.0	212.7	15.36	14.844			
4,500.0	4,495.7	4,483.4	4,481.5	8.5	7.9	-168.42	-24.9	61.3	231.7	216.0	15.71	14.748			
4,600.0	4,595.6	4,570.3	4,568.4	8.6	8.0	-168.57	-25.1	61.6	236.9	220.9	16.04	14.771			
4,700.0	4,695.5	4,653.5	4,651.4	8.8	8.2	-168.80	-23.6	68.1	249.5	233.2	16.36	15.256			
4,800.0	4,795.4	4,739.3	4,736.3	9.0	8.3	-169.05	-21.1	79.2	267.4	250.8	16.68	16.036			
4,900.0	4,895.3	4,823.2	4,818.9	9.2	8.5	-168.81	-19.9	94.5	290.2	273.2	17.00	17.070			

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 825-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	
5,000.0	4,995.2	4,907.7	4,901.2	9.4	8.6	-168.72	-17.4	113.3	317.2	299.8	17.33	18.306	
5,100.0	5,095.1	4,989.3	4,980.0	9.6	8.8	-168.71	-14.0	134.4	347.8	330.1	17.64	19.714	
5,200.0	5,194.9	5,074.4	5,061.1	9.8	9.0	-168.84	-9.0	159.3	382.1	364.2	17.96	21.272	
5,300.0	5,294.8	5,157.5	5,139.8	10.0	9.2	-168.65	-5.7	185.9	418.6	400.3	18.28	22.893	
5,400.0	5,394.7	5,243.7	5,220.9	10.2	9.5	-168.18	-4.2	215.1	456.6	438.0	18.62	24.529	
5,500.0	5,494.6	5,333.2	5,304.9	10.4	9.8	-167.70	-3.1	246.1	495.3	476.3	18.95	26.133	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 1 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 7911-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
13,500.0	7,486.0	7,416.0	7,416.0	110.3	12.9	-90.00	6,569.1	-426.8	436.2	313.3	122.89	3.550		
13,600.0	7,486.0	7,416.0	7,416.0	112.0	12.9	-90.00	6,569.1	-426.8	338.4	213.8	124.63	2.715		
13,700.0	7,486.0	7,416.0	7,416.0	113.8	12.9	-90.00	6,569.1	-426.8	242.3	115.9	126.37	1.917		
13,800.0	7,486.0	7,416.0	7,416.0	115.5	12.9	-90.00	6,569.1	-426.8	151.4	23.2	128.11	1.181 Level 2		
13,900.0	7,486.0	7,416.0	7,416.0	117.2	12.9	-90.00	6,569.1	-426.8	84.3	-45.6	129.88	0.649 Level 1		
13,930.6	7,486.0	7,416.0	7,416.0	117.8	12.9	-90.00	6,569.1	-426.8	78.9	-51.7	130.54	0.604 Level 1, CC, ES, SF		
14,000.0	7,486.0	7,416.0	7,416.0	119.0	12.9	-90.00	6,569.1	-426.8	104.0	-27.9	131.91	0.789 Level 1		
14,100.0	7,486.0	7,416.0	7,416.0	120.7	12.9	-90.00	6,569.1	-426.8	183.4	49.8	133.58	1.373 Level 3		
14,200.0	7,486.0	7,416.0	7,416.0	122.5	12.9	-90.00	6,569.1	-426.8	274.7	139.8	134.88	2.036		
14,300.0	7,486.0	7,416.0	7,416.0	124.2	12.9	-90.00	6,569.1	-426.8	369.0	233.2	135.82	2.717		
14,400.0	7,486.0	7,416.0	7,416.0	125.9	12.9	-90.00	6,569.1	-426.8	464.3	327.9	136.39	3.404		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 41-7 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 170-Geolink 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
14,200.0	7,486.0	7,486.4	7,415.9	122.5	18.2	89.72	7,070.9	38.8	468.8	331.9	136.91	3.424	
14,300.0	7,486.0	7,488.5	7,418.0	124.2	18.2	90.00	7,070.9	38.8	445.2	307.6	137.57	3.236	
14,336.6	7,486.0	7,489.3	7,418.8	124.8	18.2	90.10	7,070.9	38.8	443.3	305.6	137.71	3.219 CC, ES, SF	
14,400.0	7,486.0	7,490.6	7,420.1	125.9	18.2	90.28	7,071.0	38.8	448.9	311.1	137.86	3.256	
14,469.5	7,486.0	7,492.1	7,421.6	127.1	18.2	90.47	7,071.0	38.8	467.4	329.1	138.29	3.380	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 42-7 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 370-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		
12,500.0	7,486.0	7,582.4	7,417.6	92.9	24.4	89.93	5,489.4	-25.5	486.6	370.7	115.98	4.196		
12,600.0	7,486.0	7,582.5	7,417.8	94.7	24.4	89.96	5,489.4	-25.5	421.3	303.6	117.72	3.579		
12,700.0	7,486.0	7,582.7	7,418.0	96.4	24.4	90.00	5,489.4	-25.5	371.7	252.3	119.46	3.112		
12,800.0	7,486.0	7,582.9	7,418.2	98.1	24.4	90.03	5,489.4	-25.5	344.7	223.5	121.20	2.844		
12,846.8	7,486.0	7,583.0	7,418.2	98.9	24.4	90.04	5,489.4	-25.5	341.6	219.6	122.01	2.800	CC, ES, SF	
12,900.0	7,486.0	7,583.1	7,418.3	99.9	24.4	90.06	5,489.4	-25.5	345.7	222.8	122.93	2.812		
13,000.0	7,486.0	7,583.3	7,418.5	101.6	24.4	90.08	5,489.4	-25.5	373.5	249.1	124.45	3.002		
13,100.0	7,486.0	7,583.4	7,418.7	103.3	24.4	90.11	5,489.4	-25.5	422.3	296.4	125.96	3.353		
13,200.0	7,486.0	7,583.6	7,418.9	105.1	24.4	90.14	5,489.4	-25.5	486.4	358.7	127.70	3.809		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 43-7 (EXISTING) - ENCANA WELL - PLAN ONLY													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		
11,100.0	7,486.0	7,736.8	7,462.0	68.7	34.6	102.59	4,194.5	-167.7	491.1	397.1	94.03	5.223		
11,200.0	7,486.0	7,723.9	7,449.4	70.5	34.5	98.86	4,196.3	-169.2	400.3	303.5	96.82	4.135		
11,300.0	7,486.0	7,710.5	7,436.1	72.2	34.5	94.80	4,198.1	-170.8	314.6	215.3	99.32	3.168		
11,400.0	7,486.0	7,696.3	7,422.2	73.9	34.5	90.39	4,200.2	-172.5	239.5	138.1	101.37	2.362		
11,500.0	7,486.0	7,681.4	7,407.6	75.6	34.4	85.66	4,202.3	-174.4	187.8	84.9	102.83	1.826		
11,563.0	7,486.0	7,671.5	7,397.9	76.7	34.4	82.52	4,203.8	-175.7	177.1	73.8	103.36	1.714	CC, ES, SF	
11,600.0	7,486.0	7,665.6	7,392.1	77.3	34.3	80.62	4,204.7	-176.5	180.9	77.4	103.52	1.747		
11,700.0	7,486.0	7,649.0	7,375.8	79.1	34.3	75.34	4,207.3	-178.7	222.9	119.6	103.32	2.157		
11,800.0	7,486.0	7,631.3	7,358.6	80.8	34.2	69.88	4,210.1	-181.1	293.4	191.3	102.10	2.874		
11,900.0	7,486.0	7,612.7	7,340.4	82.5	34.1	64.32	4,213.1	-183.8	376.7	276.9	99.85	3.773		
12,000.0	7,486.0	7,592.9	7,321.1	84.3	34.1	58.77	4,216.5	-186.7	465.9	369.4	96.60	4.824		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 6-4-7 (EXISTING) - ENCANA WELL - SURVEYS													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	
11,900.0	7,486.0	7,806.8	7,418.0	82.5	36.0	-90.00	4,739.4	-757.1	449.1	330.9	118.15	3.801	
12,000.0	7,486.0	7,806.2	7,417.4	84.3	36.0	-89.92	4,739.4	-757.1	412.9	293.1	119.88	3.445	
12,100.0	7,486.0	7,805.6	7,416.8	86.0	36.0	-89.83	4,739.4	-757.1	399.2	277.6	121.62	3.283	
12,105.7	7,486.0	7,805.5	7,416.8	86.1	36.0	-89.83	4,739.4	-757.1	399.2	277.5	121.71	3.280	CC, ES, SF
12,200.0	7,486.0	7,805.0	7,416.2	87.7	36.0	-89.75	4,739.4	-757.1	410.2	286.8	123.35	3.325	
12,300.0	7,486.0	7,804.4	7,415.6	89.5	36.0	-89.66	4,739.4	-757.1	444.0	318.9	125.09	3.549	
12,400.0	7,486.0	7,803.8	7,415.0	91.2	36.0	-89.57	4,739.4	-757.1	496.0	369.1	126.82	3.911	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 6-8-7 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 78-Geolink MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
9,500.0	7,486.0	7,586.6	7,467.2	41.6	21.3	-89.90	2,296.0	-794.2	493.7	435.9	57.80	8.542		
9,600.0	7,486.0	7,587.3	7,467.8	43.3	21.3	-89.98	2,296.0	-794.2	470.3	410.9	59.48	7.908		
9,662.9	7,486.0	7,587.7	7,468.3	44.3	21.3	-90.03	2,296.0	-794.2	466.1	405.6	60.54	7.700 CC, ES		
9,700.0	7,486.0	7,587.9	7,468.5	44.9	21.3	-90.06	2,296.0	-794.2	467.6	406.4	61.16	7.645 SF		
9,800.0	7,486.0	7,588.6	7,469.2	46.6	21.3	-90.14	2,296.0	-794.2	485.9	423.0	62.84	7.731		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 8-2-7 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8111-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
13,600.0	7,486.0	7,418.0	7,418.0	112.0	12.9	-90.00	6,650.0	-567.4	463.1	338.5	124.63	3.716		
13,700.0	7,486.0	7,418.0	7,418.0	113.8	12.9	-90.00	6,650.0	-567.4	378.3	252.0	126.37	2.994		
13,800.0	7,486.0	7,418.0	7,418.0	115.5	12.9	-90.00	6,650.0	-567.4	303.0	174.9	128.12	2.365		
13,900.0	7,486.0	7,418.0	7,418.0	117.2	12.9	-90.00	6,650.0	-567.4	245.9	116.0	129.89	1.893		
14,000.0	7,486.0	7,418.0	7,418.0	119.0	12.9	-90.00	6,650.0	-567.4	218.6	86.7	131.91	1.657		
14,022.4	7,486.0	7,418.0	7,418.0	119.4	12.9	-90.00	6,650.0	-567.4	217.6	85.2	132.32	1.644	CC, ES, SF	
14,100.0	7,486.0	7,418.0	7,418.0	120.7	12.9	-90.00	6,650.0	-567.4	229.4	95.8	133.58	1.717		
14,200.0	7,486.0	7,418.0	7,418.0	122.5	12.9	-90.00	6,650.0	-567.4	273.9	139.0	134.89	2.030		
14,300.0	7,486.0	7,418.0	7,418.0	124.2	12.9	-90.00	6,650.0	-567.4	338.9	203.0	135.82	2.495		
14,400.0	7,486.0	7,418.0	7,418.0	125.9	12.9	-90.00	6,650.0	-567.4	414.7	278.3	136.39	3.041		
14,469.5	7,486.0	7,418.0	7,418.0	127.1	12.9	-90.00	6,650.0	-567.4	471.1	334.2	136.95	3.440		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL 8-4-7 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 7968-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		
13,600.0	7,486.0	7,419.0	7,419.0	112.0	12.9	-90.00	6,630.0	-562.4	443.0	318.4	124.63	3.555		
13,700.0	7,486.0	7,419.0	7,419.0	113.8	12.9	-90.00	6,630.0	-562.4	359.0	232.7	126.38	2.841		
13,800.0	7,486.0	7,419.0	7,419.0	115.5	12.9	-90.00	6,630.0	-562.4	285.6	157.5	128.12	2.229		
13,900.0	7,486.0	7,419.0	7,419.0	117.2	12.9	-90.00	6,630.0	-562.4	232.9	103.0	129.89	1.793		
13,999.4	7,486.0	7,419.0	7,419.0	119.0	12.9	-90.00	6,630.0	-562.4	213.4	81.5	131.90	1.618 CC		
14,000.0	7,486.0	7,419.0	7,419.0	119.0	12.9	-90.00	6,630.0	-562.4	213.4	81.5	131.92	1.618 ES, SF		
14,100.0	7,486.0	7,419.0	7,419.0	120.7	12.9	-90.00	6,630.0	-562.4	233.3	99.8	133.59	1.747		
14,200.0	7,486.0	7,419.0	7,419.0	122.5	12.9	-90.00	6,630.0	-562.4	284.5	149.6	134.89	2.109		
14,300.0	7,486.0	7,419.0	7,419.0	124.2	12.9	-90.00	6,630.0	-562.4	353.4	217.5	135.83	2.602		
14,400.0	7,486.0	7,419.0	7,419.0	125.9	12.9	-90.00	6,630.0	-562.4	431.5	295.1	136.39	3.163		
14,469.5	7,486.0	7,419.0	7,419.0	127.1	12.9	-90.00	6,630.0	-562.4	488.9	351.9	136.95	3.570		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL E UNIT 1 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 7979-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		
10,100.0	7,486.0	7,441.0	7,441.0	51.7	13.0	-90.00	3,191.1	-413.7	459.4	395.0	64.39	7.136		
10,200.0	7,486.0	7,441.0	7,441.0	53.4	13.0	-90.00	3,191.1	-413.7	361.1	295.0	66.09	5.464		
10,300.0	7,486.0	7,441.0	7,441.0	55.1	13.0	-90.00	3,191.1	-413.7	264.1	196.3	67.79	3.896		
10,400.0	7,486.0	7,441.0	7,441.0	56.8	13.0	-90.00	3,191.1	-413.7	170.6	101.1	69.50	2.454		
10,500.0	7,486.0	7,441.0	7,441.0	58.5	13.0	-90.00	3,191.1	-413.7	91.8	20.6	71.21	1.289	Level 3	
10,553.3	7,486.0	7,441.0	7,441.0	59.4	13.0	-90.00	3,191.1	-413.7	74.7	2.6	72.12	1.036	Level 2, CC, ES, SF	
10,600.0	7,486.0	7,441.0	7,441.0	60.2	13.0	-90.00	3,191.1	-413.7	88.1	15.2	72.92	1.208	Level 2	
10,700.0	7,486.0	7,441.0	7,441.0	61.9	13.0	-90.00	3,191.1	-413.7	164.6	90.0	74.64	2.206		
10,800.0	7,486.0	7,441.0	7,441.0	63.6	13.0	-90.00	3,191.1	-413.7	257.8	181.4	76.36	3.376		
10,900.0	7,486.0	7,441.0	7,441.0	65.3	13.0	-90.00	3,191.1	-413.7	354.7	276.6	78.08	4.542		
11,000.0	7,486.0	7,441.0	7,441.0	67.0	13.0	-90.00	3,191.1	-413.7	452.9	373.1	79.80	5.676		

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 Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Offset Design S18-T2N-R67W (Kugel) - WANDELL V 7-8 (EXISTING) - GERRITY OIL WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8000-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		
12,500.0	7,486.0	7,425.0	7,425.0	92.9	13.0	90.00	5,513.8	-199.6	409.2	303.4	105.74	3.870		
12,600.0	7,486.0	7,425.0	7,425.0	94.7	13.0	90.00	5,513.8	-199.6	320.6	213.1	107.47	2.983		
12,700.0	7,486.0	7,425.0	7,425.0	96.4	13.0	90.00	5,513.8	-199.6	241.1	131.9	109.21	2.208		
12,800.0	7,486.0	7,425.0	7,425.0	98.1	13.0	90.00	5,513.8	-199.6	183.0	72.1	110.95	1.650		
12,873.3	7,486.0	7,425.0	7,425.0	99.4	13.0	90.00	5,513.8	-199.6	167.7	55.5	112.22	1.495	Level 3, CC, ES, SF	
12,900.0	7,486.0	7,425.0	7,425.0	99.9	13.0	90.00	5,513.8	-199.6	169.9	57.2	112.69	1.508		
13,000.0	7,486.0	7,425.0	7,425.0	101.6	13.0	90.00	5,513.8	-199.6	209.5	95.2	114.32	1.833		
13,100.0	7,486.0	7,425.0	7,425.0	103.3	13.0	90.00	5,513.8	-199.6	279.9	164.0	115.93	2.415		
13,200.0	7,486.0	7,425.0	7,425.0	105.1	13.0	90.00	5,513.8	-199.6	364.1	246.4	117.67	3.094		
13,300.0	7,486.0	7,425.0	7,425.0	106.8	13.0	90.00	5,513.8	-199.6	454.7	335.3	119.42	3.807		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Kugel 1E-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W (Kugel)	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1E-18H-H267	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 #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4960.0ft (Original Well Elev)

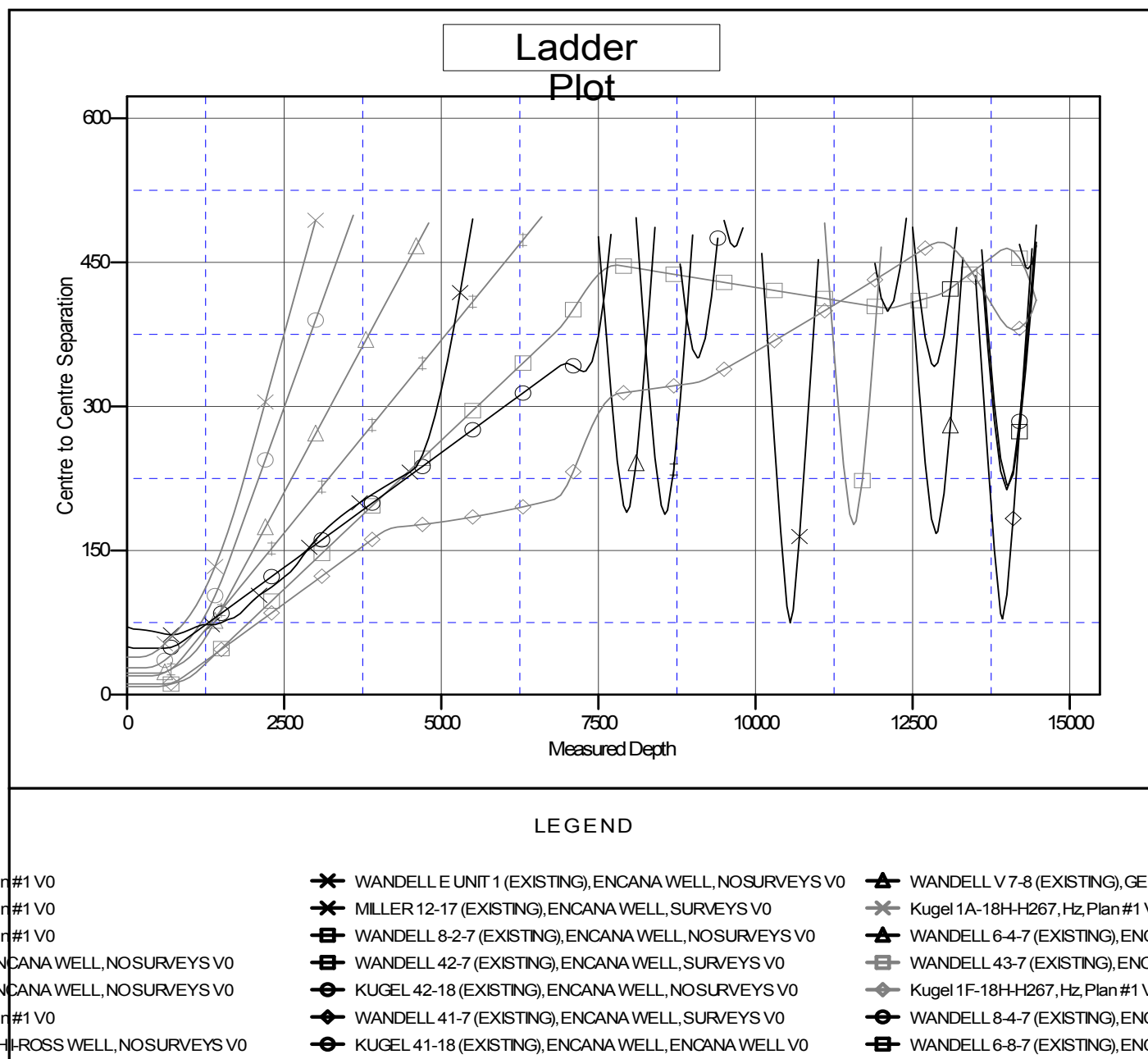
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Kugel 1E-18H-H267

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.37°



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