

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Kugel 1G-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	North Reference:	True
Well:	Kugel 1G-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

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

Site		S18-T2N-R67W			
Site Position:		Northing:	1,294,236.50 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 1G-18H-H267					
Well Position	+N/-S	0.0 ft	Northing:	1,294,236.85 ft	Latitude:	40.139640
	+E/-W	0.0 ft	Easting:	3,160,559.58 ft	Longitude:	-104.925730
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 #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
731.1	2.31	116.23	731.1	-2.1	4.2	1.00	1.00	0.00	116.23	
6,908.3	2.31	116.23	6,903.2	-112.2	227.7	0.00	0.00	0.00	0.00	
7,818.5	90.00	0.00	7,486.0	460.7	248.8	10.00	9.63	-12.77	-116.22	
14,439.5	90.00	0.00	7,486.0	7,081.7	248.8	0.00	0.00	0.00	0.00	Kugel 1G-18H-H267 f

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Site:	S18-T2N-R67W	North Reference:	True
Well:	Kugel 1G-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
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	KOP @ 500'
600.0	1.00	116.23	600.0	-0.4	0.8	-0.4	1.00	1.00	
700.0	2.00	116.23	700.0	-1.5	3.1	-1.5	1.00	1.00	
731.1	2.31	116.23	731.1	-2.1	4.2	-2.1	1.00	1.00	EOB; Inc=2.31°
800.0	2.31	116.23	799.9	-3.3	6.7	-3.3	0.00	0.00	
900.0	2.31	116.23	899.8	-5.1	10.3	-5.1	0.00	0.00	
1,000.0	2.31	116.23	999.7	-6.9	13.9	-6.9	0.00	0.00	
1,100.0	2.31	116.23	1,099.6	-8.6	17.5	-8.6	0.00	0.00	
1,200.0	2.31	116.23	1,199.6	-10.4	21.1	-10.4	0.00	0.00	
1,300.0	2.31	116.23	1,299.5	-12.2	24.8	-12.2	0.00	0.00	
1,400.0	2.31	116.23	1,399.4	-14.0	28.4	-14.0	0.00	0.00	
1,500.0	2.31	116.23	1,499.3	-15.8	32.0	-15.8	0.00	0.00	
1,600.0	2.31	116.23	1,599.2	-17.6	35.6	-17.6	0.00	0.00	
1,700.0	2.31	116.23	1,699.1	-19.3	39.2	-19.3	0.00	0.00	
1,800.0	2.31	116.23	1,799.1	-21.1	42.8	-21.1	0.00	0.00	
1,900.0	2.31	116.23	1,899.0	-22.9	46.5	-22.9	0.00	0.00	
2,000.0	2.31	116.23	1,998.9	-24.7	50.1	-24.7	0.00	0.00	
2,100.0	2.31	116.23	2,098.8	-26.5	53.7	-26.5	0.00	0.00	
2,200.0	2.31	116.23	2,198.7	-28.2	57.3	-28.2	0.00	0.00	
2,300.0	2.31	116.23	2,298.7	-30.0	60.9	-30.0	0.00	0.00	
2,400.0	2.31	116.23	2,398.6	-31.8	64.6	-31.8	0.00	0.00	
2,500.0	2.31	116.23	2,498.5	-33.6	68.2	-33.6	0.00	0.00	
2,600.0	2.31	116.23	2,598.4	-35.4	71.8	-35.4	0.00	0.00	
2,700.0	2.31	116.23	2,698.3	-37.2	75.4	-37.2	0.00	0.00	
2,800.0	2.31	116.23	2,798.3	-38.9	79.0	-38.9	0.00	0.00	
2,900.0	2.31	116.23	2,898.2	-40.7	82.6	-40.7	0.00	0.00	
3,000.0	2.31	116.23	2,998.1	-42.5	86.3	-42.5	0.00	0.00	
3,100.0	2.31	116.23	3,098.0	-44.3	89.9	-44.3	0.00	0.00	
3,200.0	2.31	116.23	3,197.9	-46.1	93.5	-46.1	0.00	0.00	
3,300.0	2.31	116.23	3,297.8	-47.9	97.1	-47.9	0.00	0.00	
3,400.0	2.31	116.23	3,397.8	-49.6	100.7	-49.6	0.00	0.00	
3,500.0	2.31	116.23	3,497.7	-51.4	104.4	-51.4	0.00	0.00	
3,600.0	2.31	116.23	3,597.6	-53.2	108.0	-53.2	0.00	0.00	
3,700.0	2.31	116.23	3,697.5	-55.0	111.6	-55.0	0.00	0.00	
3,800.0	2.31	116.23	3,797.4	-56.8	115.2	-56.8	0.00	0.00	
3,900.0	2.31	116.23	3,897.4	-58.6	118.8	-58.6	0.00	0.00	
4,000.0	2.31	116.23	3,997.3	-60.3	122.4	-60.3	0.00	0.00	
4,100.0	2.31	116.23	4,097.2	-62.1	126.1	-62.1	0.00	0.00	
4,200.0	2.31	116.23	4,197.1	-63.9	129.7	-63.9	0.00	0.00	
4,300.0	2.31	116.23	4,297.0	-65.7	133.3	-65.7	0.00	0.00	
4,308.0	2.31	116.23	4,305.0	-65.8	133.6	-65.8	0.00	0.00	Sussex
4,400.0	2.31	116.23	4,397.0	-67.5	136.9	-67.5	0.00	0.00	
4,500.0	2.31	116.23	4,496.9	-69.3	140.5	-69.3	0.00	0.00	
4,576.2	2.31	116.23	4,573.0	-70.6	143.3	-70.6	0.00	0.00	Sussex Marker
4,600.0	2.31	116.23	4,596.8	-71.0	144.1	-71.0	0.00	0.00	
4,700.0	2.31	116.23	4,696.7	-72.8	147.8	-72.8	0.00	0.00	

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Well:	Kugel 1G-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,800.0	2.31	116.23	4,796.6	-74.6	151.4	-74.6	0.00	0.00	
4,864.4	2.31	116.23	4,861.0	-75.7	153.7	-75.7	0.00	0.00	Shannon
4,900.0	2.31	116.23	4,896.5	-76.4	155.0	-76.4	0.00	0.00	
5,000.0	2.31	116.23	4,996.5	-78.2	158.6	-78.2	0.00	0.00	
5,100.0	2.31	116.23	5,096.4	-79.9	162.2	-79.9	0.00	0.00	
5,200.0	2.31	116.23	5,196.3	-81.7	165.9	-81.7	0.00	0.00	
5,300.0	2.31	116.23	5,296.2	-83.5	169.5	-83.5	0.00	0.00	
5,400.0	2.31	116.23	5,396.1	-85.3	173.1	-85.3	0.00	0.00	
5,500.0	2.31	116.23	5,496.1	-87.1	176.7	-87.1	0.00	0.00	
5,600.0	2.31	116.23	5,596.0	-88.9	180.3	-88.9	0.00	0.00	
5,700.0	2.31	116.23	5,695.9	-90.6	183.9	-90.6	0.00	0.00	
5,800.0	2.31	116.23	5,795.8	-92.4	187.6	-92.4	0.00	0.00	
5,900.0	2.31	116.23	5,895.7	-94.2	191.2	-94.2	0.00	0.00	
6,000.0	2.31	116.23	5,995.7	-96.0	194.8	-96.0	0.00	0.00	
6,100.0	2.31	116.23	6,095.6	-97.8	198.4	-97.8	0.00	0.00	
6,200.0	2.31	116.23	6,195.5	-99.6	202.0	-99.6	0.00	0.00	
6,204.5	2.31	116.23	6,200.0	-99.6	202.2	-99.6	0.00	0.00	Teepee Buttes (*if present)
6,300.0	2.31	116.23	6,295.4	-101.3	205.6	-101.3	0.00	0.00	
6,400.0	2.31	116.23	6,395.3	-103.1	209.3	-103.1	0.00	0.00	
6,500.0	2.31	116.23	6,495.2	-104.9	212.9	-104.9	0.00	0.00	
6,600.0	2.31	116.23	6,595.2	-106.7	216.5	-106.7	0.00	0.00	
6,700.0	2.31	116.23	6,695.1	-108.5	220.1	-108.5	0.00	0.00	
6,800.0	2.31	116.23	6,795.0	-110.3	223.7	-110.3	0.00	0.00	
6,900.0	2.31	116.23	6,894.9	-112.0	227.4	-112.0	0.00	0.00	
6,908.3	2.31	116.23	6,903.2	-112.2	227.7	-112.2	0.00	0.00	Start build/turn @ 6908' MD
7,000.0	8.41	14.18	6,994.6	-106.5	231.0	-106.5	10.00	6.65	
7,100.0	18.26	6.30	7,091.8	-83.8	234.5	-83.8	10.00	9.86	
7,144.0	22.64	4.98	7,133.0	-68.5	236.0	-68.5	10.00	9.95	Sharon Springs
7,200.0	28.22	3.87	7,183.5	-44.5	237.8	-44.5	10.00	9.96	
7,242.2	32.43	3.27	7,220.0	-23.2	239.1	-23.2	10.00	9.97	Niobrara
7,291.0	37.30	2.72	7,260.0	4.6	240.6	4.6	10.00	9.98	B Chalk
7,300.0	38.20	2.64	7,267.1	10.1	240.8	10.1	10.00	9.98	
7,319.2	40.11	2.46	7,282.0	22.2	241.4	22.2	10.00	9.98	B Marl
7,388.3	47.01	1.93	7,332.0	69.7	243.2	69.7	10.00	9.99	C Chalk
7,400.0	48.18	1.86	7,339.9	78.4	243.5	78.4	10.00	9.99	
7,431.1	51.29	1.66	7,360.0	102.1	244.2	102.1	10.00	9.99	C Marl
7,500.0	58.17	1.29	7,399.8	158.3	245.6	158.3	10.00	9.99	
7,600.0	68.16	0.83	7,444.9	247.4	247.3	247.4	10.00	9.99	
7,629.1	71.07	0.71	7,455.0	274.7	247.6	274.7	10.00	9.99	Ft. Hayes
7,700.0	78.16	0.44	7,473.8	343.0	248.3	343.0	10.00	9.99	
7,711.3	79.28	0.39	7,476.0	354.1	248.4	354.1	10.00	9.99	Codell
7,800.0	88.15	0.07	7,485.7	442.2	248.7	442.2	10.00	9.99	
7,818.5	90.00	0.00	7,486.0	460.7	248.8	460.7	10.00	9.99	LP @ 7486' TVD; 90°
7,900.0	90.00	0.00	7,486.0	542.2	248.8	542.2	0.00	0.00	
8,000.0	90.00	0.00	7,486.0	642.2	248.8	642.2	0.00	0.00	
8,100.0	90.00	0.00	7,486.0	742.2	248.8	742.2	0.00	0.00	
8,200.0	90.00	0.00	7,486.0	842.2	248.8	842.2	0.00	0.00	
8,300.0	90.00	0.00	7,486.0	942.2	248.8	942.2	0.00	0.00	
8,400.0	90.00	0.00	7,486.0	1,042.2	248.8	1,042.2	0.00	0.00	
8,500.0	90.00	0.00	7,486.0	1,142.2	248.8	1,142.2	0.00	0.00	
8,600.0	90.00	0.00	7,486.0	1,242.2	248.8	1,242.2	0.00	0.00	
8,700.0	90.00	0.00	7,486.0	1,342.2	248.8	1,342.2	0.00	0.00	

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Well:	Kugel 1G-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,800.0	90.00	0.00	7,486.0	1,442.2	248.8	1,442.2	0.00	0.00	
8,900.0	90.00	0.00	7,486.0	1,542.2	248.8	1,542.2	0.00	0.00	
9,000.0	90.00	0.00	7,486.0	1,642.2	248.8	1,642.2	0.00	0.00	
9,100.0	90.00	0.00	7,486.0	1,742.2	248.8	1,742.2	0.00	0.00	
9,200.0	90.00	0.00	7,486.0	1,842.2	248.8	1,842.2	0.00	0.00	
9,300.0	90.00	0.00	7,486.0	1,942.2	248.8	1,942.2	0.00	0.00	
9,400.0	90.00	0.00	7,486.0	2,042.2	248.8	2,042.2	0.00	0.00	
9,500.0	90.00	0.00	7,486.0	2,142.2	248.8	2,142.2	0.00	0.00	
9,600.0	90.00	0.00	7,486.0	2,242.2	248.8	2,242.2	0.00	0.00	
9,700.0	90.00	0.00	7,486.0	2,342.2	248.8	2,342.2	0.00	0.00	
9,800.0	90.00	0.00	7,486.0	2,442.2	248.8	2,442.2	0.00	0.00	
9,900.0	90.00	0.00	7,486.0	2,542.2	248.8	2,542.2	0.00	0.00	
10,000.0	90.00	0.00	7,486.0	2,642.2	248.8	2,642.2	0.00	0.00	
10,100.0	90.00	0.00	7,486.0	2,742.2	248.8	2,742.2	0.00	0.00	
10,200.0	90.00	0.00	7,486.0	2,842.2	248.8	2,842.2	0.00	0.00	
10,300.0	90.00	0.00	7,486.0	2,942.2	248.8	2,942.2	0.00	0.00	
10,400.0	90.00	0.00	7,486.0	3,042.2	248.8	3,042.2	0.00	0.00	
10,500.0	90.00	0.00	7,486.0	3,142.2	248.8	3,142.2	0.00	0.00	
10,600.0	90.00	0.00	7,486.0	3,242.2	248.8	3,242.2	0.00	0.00	
10,700.0	90.00	0.00	7,486.0	3,342.2	248.8	3,342.2	0.00	0.00	
10,800.0	90.00	0.00	7,486.0	3,442.2	248.8	3,442.2	0.00	0.00	
10,900.0	90.00	0.00	7,486.0	3,542.2	248.8	3,542.2	0.00	0.00	
11,000.0	90.00	0.00	7,486.0	3,642.2	248.8	3,642.2	0.00	0.00	
11,100.0	90.00	0.00	7,486.0	3,742.2	248.8	3,742.2	0.00	0.00	
11,200.0	90.00	0.00	7,486.0	3,842.2	248.8	3,842.2	0.00	0.00	
11,300.0	90.00	0.00	7,486.0	3,942.2	248.8	3,942.2	0.00	0.00	
11,400.0	90.00	0.00	7,486.0	4,042.2	248.8	4,042.2	0.00	0.00	
11,500.0	90.00	0.00	7,486.0	4,142.2	248.8	4,142.2	0.00	0.00	
11,600.0	90.00	0.00	7,486.0	4,242.2	248.8	4,242.2	0.00	0.00	
11,700.0	90.00	0.00	7,486.0	4,342.2	248.8	4,342.2	0.00	0.00	
11,800.0	90.00	0.00	7,486.0	4,442.2	248.8	4,442.2	0.00	0.00	
11,900.0	90.00	0.00	7,486.0	4,542.2	248.8	4,542.2	0.00	0.00	
12,000.0	90.00	0.00	7,486.0	4,642.2	248.8	4,642.2	0.00	0.00	
12,100.0	90.00	0.00	7,486.0	4,742.2	248.8	4,742.2	0.00	0.00	
12,200.0	90.00	0.00	7,486.0	4,842.2	248.8	4,842.2	0.00	0.00	
12,300.0	90.00	0.00	7,486.0	4,942.2	248.8	4,942.2	0.00	0.00	
12,400.0	90.00	0.00	7,486.0	5,042.2	248.8	5,042.2	0.00	0.00	
12,500.0	90.00	0.00	7,486.0	5,142.2	248.8	5,142.2	0.00	0.00	
12,600.0	90.00	0.00	7,486.0	5,242.2	248.8	5,242.2	0.00	0.00	
12,700.0	90.00	0.00	7,486.0	5,342.2	248.8	5,342.2	0.00	0.00	
12,800.0	90.00	0.00	7,486.0	5,442.2	248.8	5,442.2	0.00	0.00	
12,900.0	90.00	0.00	7,486.0	5,542.2	248.8	5,542.2	0.00	0.00	
13,000.0	90.00	0.00	7,486.0	5,642.2	248.8	5,642.2	0.00	0.00	
13,100.0	90.00	0.00	7,486.0	5,742.2	248.8	5,742.2	0.00	0.00	
13,200.0	90.00	0.00	7,486.0	5,842.2	248.8	5,842.2	0.00	0.00	
13,300.0	90.00	0.00	7,486.0	5,942.2	248.8	5,942.2	0.00	0.00	
13,400.0	90.00	0.00	7,486.0	6,042.2	248.8	6,042.2	0.00	0.00	
13,500.0	90.00	0.00	7,486.0	6,142.2	248.8	6,142.2	0.00	0.00	
13,600.0	90.00	0.00	7,486.0	6,242.2	248.8	6,242.2	0.00	0.00	
13,700.0	90.00	0.00	7,486.0	6,342.2	248.8	6,342.2	0.00	0.00	
13,800.0	90.00	0.00	7,486.0	6,442.2	248.8	6,442.2	0.00	0.00	
13,900.0	90.00	0.00	7,486.0	6,542.2	248.8	6,542.2	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Kugel 1G-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	North Reference:	True
Well:	Kugel 1G-18H-H267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
14,000.0	90.00	0.00	7,486.0	6,642.2	248.8	6,642.2	0.00	0.00	
14,100.0	90.00	0.00	7,486.0	6,742.2	248.8	6,742.2	0.00	0.00	
14,200.0	90.00	0.00	7,486.0	6,842.2	248.8	6,842.2	0.00	0.00	
14,300.0	90.00	0.00	7,486.0	6,942.2	248.8	6,942.2	0.00	0.00	
14,400.0	90.00	0.00	7,486.0	7,042.2	248.8	7,042.2	0.00	0.00	
14,439.5	90.00	0.00	7,486.0	7,081.7	248.8	7,081.7	0.00	0.00	TD at 14439.5

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 1G-18H-H267 PB - plan hits target center - Point	0.00	0.00	7,486.0	7,081.7	248.8	1,301,319.99	3,160,762.47	40.159080	-104.924840

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
410.0	410.0	Fox Hills - BASE			
4,308.0	4,305.0	Sussex			
4,576.2	4,573.0	Sussex Marker			
4,864.4	4,861.0	Shannon			
6,204.5	6,200.0	Teepee Buttes (*if present)			
7,144.0	7,133.0	Sharon Springs			
7,242.2	7,220.0	Niobrara			
7,291.0	7,260.0	B Chalk			
7,319.2	7,282.0	B Marl			
7,388.3	7,332.0	C Chalk			
7,431.1	7,360.0	C Marl			
7,629.1	7,455.0	Ft. Hayes			
7,711.3	7,476.0	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP @ 500'
731.1	731.1	-2.1	4.2	EOB; Inc=2.31°
6,908.3	6,903.2	-112.2	227.7	Start build/turn @ 6908' MD
7,818.5	7,486.0	460.7	248.8	LP @ 7486' TVD; 90°
14,439.5	7,486.0	7,081.7	248.8	TD at 14439.5

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S18-T2N-R67W

Kugel 1G-18H-H267

Hz

Plan #1

Anticollision Report

18 June, 2013

Anticollision Report

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

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	6/18/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,439.5	Plan #1 (Hz)	Geolink MWD	Geolink MWD	

Anticollision Report

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

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
S18-T2N-R67W						
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						Out of range
Kugel 1A-18H-H267 - Hz - Plan #1	166.3	167.3	61.5	61.0	114.546	CC
Kugel 1A-18H-H267 - Hz - Plan #1	200.0	201.0	61.5	60.9	93.979	ES
Kugel 1A-18H-H267 - Hz - Plan #1	700.0	694.2	86.1	83.8	36.075	SF
Kugel 1B-18H-H267 - Hz - Plan #1	266.3	267.3	50.3	49.4	56.797	CC
Kugel 1B-18H-H267 - Hz - Plan #1	300.0	301.0	50.3	49.3	50.146	ES
Kugel 1B-18H-H267 - Hz - Plan #1	700.0	696.6	67.3	64.9	28.131	SF
Kugel 1C-18H-H267 - Hz - Plan #1	366.3	367.3	41.9	40.7	33.954	CC
Kugel 1C-18H-H267 - Hz - Plan #1	400.0	401.0	41.9	40.6	31.004	ES
Kugel 1C-18H-H267 - Hz - Plan #1	700.0	698.4	52.9	50.5	22.071	SF
Kugel 1D-18H-H267 - Hz - Plan #1	500.0	500.0	30.8	29.1	18.091	CC, ES
Kugel 1D-18H-H267 - Hz - Plan #1	700.0	698.7	37.3	34.9	15.572	SF
Kugel 1E-18H-H267 - Hz - Plan #1	500.0	500.0	22.4	20.7	13.157	CC, ES
Kugel 1E-18H-H267 - Hz - Plan #1	700.0	699.6	26.3	23.9	10.983	SF
Kugel 1F-18H-H267 - Hz - Plan #1	500.0	500.0	11.2	9.5	6.579	CC, ES
Kugel 1F-18H-H267 - Hz - Plan #1	14,439.5	14,194.3	408.5	193.1	1.897	SF
KUGEL 2-18 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
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	9,080.2	7,451.0	241.5	194.1	5.100	CC, ES
KUGEL 41-18 (EXISTING) - ENCANA WELL - ENCANA	9,100.0	7,451.0	242.3	194.6	5.083	SF
KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURV	1,016.3	1,004.0	22.2	18.7	6.295	CC
KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURV	1,100.0	1,087.6	22.5	18.7	5.869	ES
KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURV	1,300.0	1,287.5	25.0	20.5	5.508	SF
MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEY	1,327.8	1,311.0	18.1	13.4	3.871	CC
MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEY	1,507.0	1,490.7	18.6	13.4	3.526	ES, SF
WANDELL 1 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
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	14,428.7	7,487.0	232.3	90.2	1.635	CC, ES
WANDELL 41-7 (EXISTING) - ENCANA WELL - SURVE	14,439.5	7,487.2	232.5	90.2	1.634	SF
WANDELL 42-7 (EXISTING) - ENCANA WELL - SURVE	12,847.2	7,582.5	296.6	174.6	2.432	CC, ES, SF
WANDELL 43-7 (EXISTING) - ENCANA WELL - PLAN O	11,551.1	7,746.5	440.6	337.3	4.264	CC, ES
WANDELL 43-7 (EXISTING) - ENCANA WELL - PLAN O	11,600.0	7,740.6	443.2	339.0	4.250	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						Out of range
WANDELL 6-8-7 (EXISTING) - ENCANA WELL - SURVE						Out of range
WANDELL 8-2-7 (EXISTING) - ENCANA WELL - NO SU						Out of range
WANDELL 8-4-7 (EXISTING) - ENCANA WELL - NO SU						Out of range
WANDELL E UNIT 1 (EXISTING) - ENCANA 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 1G-18H-H267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 4960.0ft (Original Well Elev)
Reference Site:	S18-T2N-R67W	MD Reference:	WELL @ 4960.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kugel 1G-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 #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)		Separation Factor	Warning
Offset Well - Wellbore - Design						
S18-T2N-R67W						
WANDELL V 7-2 (EXISTING) - GERRITY OIL WELL - NO						Out of range
WANDELL V 7-7 (EXISTING) - GERRITY OIL WELL - NO						Out of range
WANDELL V 7-8 (EXISTING) - GERRITY OIL WELL - NO	12,871.6	7,425.0	470.7	358.5	4.196	CC, ES
WANDELL V 7-8 (EXISTING) - GERRITY OIL WELL - NO	12,900.0	7,425.0	471.5	358.9	4.185	SF

Anticollision Report

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

Offset Design S18-T2N-R67W - 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				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	1.0	1.0	0.0	0.0	-89.95	0.1	-61.5	61.5					
100.0	100.0	101.0	101.0	0.2	0.2	-89.95	0.1	-61.5	61.5	61.2	0.31	201.379		
166.3	166.3	167.3	167.3	0.3	0.3	-89.95	0.1	-61.5	61.5	61.0	0.54	114.546 CC		
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.1	-61.5	61.5	60.9	0.65	93.979 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-90.04	0.0	-62.4	62.4	61.4	1.00	62.220		
400.0	400.0	398.8	398.8	0.7	0.7	-90.27	-0.3	-64.9	65.0	63.6	1.35	47.984		
500.0	500.0	497.6	497.4	0.8	0.9	-90.62	-0.7	-69.2	69.3	67.6	1.71	40.463		
600.0	600.0	596.1	595.8	1.0	1.1	152.99	-1.4	-75.1	76.1	74.0	2.04	37.258		
700.0	700.0	694.2	693.6	1.2	1.3	153.27	-2.1	-82.7	86.1	83.8	2.39	36.075 SF		
800.0	799.9	791.8	790.7	1.4	1.5	153.75	-3.1	-91.9	99.1	96.3	2.73	36.240		
900.0	899.8	888.9	887.2	1.6	1.7	154.06	-4.2	-102.7	113.8	110.7	3.08	36.937		
1,000.0	999.7	985.5	983.1	1.7	2.0	154.21	-5.5	-115.0	130.1	126.7	3.43	37.983		
1,100.0	1,099.6	1,081.6	1,078.1	1.9	2.3	154.26	-6.9	-128.8	148.1	144.3	3.77	39.281		
1,200.0	1,199.6	1,177.0	1,172.3	2.1	2.6	154.23	-8.5	-144.2	167.7	163.6	4.11	40.766		
1,300.0	1,299.5	1,271.8	1,265.6	2.3	2.9	154.16	-10.3	-160.9	189.0	184.5	4.46	42.393		
1,400.0	1,399.4	1,365.9	1,357.9	2.5	3.3	154.05	-12.2	-179.1	211.8	207.0	4.80	44.130		
1,500.0	1,499.3	1,459.2	1,449.1	2.7	3.6	153.92	-14.2	-198.6	236.2	231.1	5.14	45.954		
1,600.0	1,599.2	1,551.8	1,539.3	2.9	4.0	153.78	-16.3	-219.4	262.2	256.7	5.48	47.848		
1,700.0	1,699.1	1,643.5	1,628.3	3.1	4.5	153.63	-18.6	-241.4	289.7	283.9	5.82	49.799		
1,800.0	1,799.1	1,734.4	1,716.1	3.2	4.9	153.48	-21.0	-264.7	318.8	312.6	6.15	51.796		
1,900.0	1,899.0	1,824.4	1,802.7	3.4	5.3	153.33	-23.6	-289.0	349.3	342.8	6.49	53.831		
2,000.0	1,998.9	1,919.2	1,893.7	3.6	5.8	153.19	-26.3	-315.4	380.6	373.8	6.83	55.719		
2,100.0	2,098.8	2,014.1	1,984.8	3.8	6.3	153.07	-29.0	-341.9	412.0	404.8	7.17	57.424		
2,200.0	2,198.7	2,109.1	2,076.0	4.0	6.8	152.96	-31.8	-368.4	443.3	435.8	7.52	58.975		
2,300.0	2,298.7	2,204.0	2,167.1	4.2	7.3	152.87	-34.5	-394.9	474.7	466.8	7.86	60.390		

Anticollision Report

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

Offset Design S18-T2N-R67W - 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			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	1.0	1.0	0.0	0.0	-89.95	0.0	-50.3	50.3					
100.0	100.0	101.0	101.0	0.2	0.2	-89.95	0.0	-50.3	50.3	50.0	0.31	164.764		
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-50.3	50.3	49.7	0.65	76.890		
266.3	266.3	267.3	267.3	0.4	0.4	-89.95	0.0	-50.3	50.3	49.4	0.89	56.797 CC		
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-50.3	50.3	49.3	1.00	50.146 ES		
400.0	400.0	400.0	400.0	0.7	0.7	-90.04	0.0	-51.2	51.2	49.9	1.35	37.887		
500.0	500.0	499.2	499.1	0.8	0.9	-90.27	-0.3	-53.8	53.8	52.1	1.70	31.600		
600.0	600.0	598.1	597.9	1.0	1.0	153.51	-0.6	-58.0	58.9	56.9	2.05	28.799		
700.0	700.0	696.6	696.3	1.2	1.2	154.05	-1.1	-64.0	67.3	64.9	2.39	28.131 SF		
800.0	799.9	794.8	794.1	1.4	1.4	154.77	-1.8	-71.6	78.6	75.8	2.74	28.690		
900.0	899.8	892.5	891.4	1.6	1.7	155.22	-2.6	-80.8	91.6	88.5	3.09	29.698		
1,000.0	999.7	989.7	988.0	1.7	1.9	155.46	-3.5	-91.6	106.4	102.9	3.43	30.994		
1,100.0	1,099.6	1,086.4	1,084.0	1.9	2.2	155.54	-4.6	-104.0	122.7	119.0	3.78	32.497		
1,200.0	1,199.6	1,182.6	1,179.1	2.1	2.4	155.53	-5.7	-117.9	140.8	136.7	4.12	34.154		
1,300.0	1,299.5	1,278.1	1,273.4	2.3	2.7	155.45	-7.1	-133.3	160.5	156.0	4.47	35.927		
1,400.0	1,399.4	1,373.0	1,366.8	2.5	3.1	155.33	-8.5	-150.1	181.7	176.9	4.81	37.790		
1,500.0	1,499.3	1,467.2	1,459.2	2.7	3.4	155.18	-10.1	-168.4	204.6	199.5	5.15	39.724		
1,600.0	1,599.2	1,560.7	1,550.5	2.9	3.8	155.02	-11.7	-188.0	229.1	223.6	5.49	41.715		
1,700.0	1,699.1	1,655.4	1,642.8	3.1	4.2	154.86	-13.5	-209.1	254.9	249.1	5.84	43.691		
1,800.0	1,799.1	1,752.0	1,736.9	3.2	4.6	154.72	-15.4	-230.9	281.0	274.8	6.18	45.456		
1,900.0	1,899.0	1,848.5	1,830.9	3.4	5.0	154.60	-17.3	-252.6	307.0	300.5	6.53	47.035		
2,000.0	1,998.9	1,945.1	1,925.0	3.6	5.4	154.50	-19.1	-274.4	333.0	326.1	6.87	48.455		
2,100.0	2,098.8	2,041.6	2,019.1	3.8	5.8	154.42	-21.0	-296.1	359.0	351.8	7.22	49.738		
2,200.0	2,198.7	2,138.2	2,113.1	4.0	6.2	154.34	-22.8	-317.8	385.1	377.5	7.56	50.905		
2,300.0	2,298.7	2,234.7	2,207.2	4.2	6.6	154.28	-24.7	-339.6	411.1	403.2	7.91	51.970		
2,400.0	2,398.6	2,331.3	2,301.2	4.4	7.0	154.22	-26.6	-361.3	437.1	428.9	8.26	52.946		
2,500.0	2,498.5	2,427.8	2,395.3	4.5	7.4	154.17	-28.4	-383.1	463.2	454.6	8.60	53.843		
2,600.0	2,598.4	2,524.4	2,489.3	4.7	7.9	154.13	-30.3	-404.8	489.2	480.2	8.95	54.671		

Anticollision Report

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

Offset Design S18-T2N-R67W - Kugel 1C-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	-41.9	41.9					
100.0	100.0	101.0	101.0	0.2	0.2	-89.95	0.0	-41.9	41.9	41.6	0.31	137.304		
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-41.9	41.9	41.3	0.65	64.075		
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-41.9	41.9	40.9	1.00	41.788		
366.3	366.3	367.3	367.3	0.6	0.6	-89.95	0.0	-41.9	41.9	40.7	1.24	33.954 CC		
400.0	400.0	401.0	401.0	0.7	0.7	-89.95	0.0	-41.9	41.9	40.6	1.35	31.004 ES		
500.0	500.0	500.0	500.0	0.8	0.9	-90.08	-0.1	-42.8	42.8	41.1	1.70	25.180		
600.0	600.0	599.4	599.4	1.0	1.0	153.79	-0.4	-45.4	46.2	44.1	2.05	22.557		
700.0	700.0	698.4	698.2	1.2	1.2	154.49	-0.8	-49.7	52.9	50.5	2.40	22.071 SF		
800.0	799.9	796.9	796.6	1.4	1.4	155.34	-1.5	-55.6	62.4	59.7	2.74	22.768		
900.0	899.8	895.1	894.5	1.6	1.6	155.80	-2.3	-63.2	73.8	70.7	3.09	23.881		
1,000.0	999.7	992.9	991.9	1.7	1.8	155.97	-3.4	-72.4	86.8	83.4	3.44	25.261		
1,100.0	1,099.6	1,090.2	1,088.6	1.9	2.1	155.95	-4.6	-83.2	101.5	97.8	3.78	26.830		
1,200.0	1,199.6	1,187.1	1,184.6	2.1	2.3	155.82	-5.9	-95.6	117.9	113.8	4.13	28.540		
1,300.0	1,299.5	1,283.3	1,279.8	2.3	2.6	155.61	-7.5	-109.5	135.9	131.4	4.48	30.357		
1,400.0	1,399.4	1,379.5	1,374.7	2.5	2.9	155.37	-9.2	-124.9	155.5	150.7	4.82	32.244		
1,500.0	1,499.3	1,477.4	1,471.3	2.7	3.2	155.16	-11.0	-141.1	175.6	170.4	5.17	33.958		
1,600.0	1,599.2	1,575.4	1,567.9	2.9	3.5	154.99	-12.8	-157.4	195.7	190.2	5.52	35.455		
1,700.0	1,699.1	1,673.4	1,664.5	3.1	3.8	154.85	-14.6	-173.6	215.8	210.0	5.87	36.774		
1,800.0	1,799.1	1,771.3	1,761.1	3.2	4.1	154.74	-16.4	-189.8	236.0	229.7	6.22	37.945		
1,900.0	1,899.0	1,869.3	1,857.7	3.4	4.5	154.64	-18.2	-206.0	256.1	249.5	6.57	38.991		
2,000.0	1,998.9	1,967.2	1,954.2	3.6	4.8	154.56	-20.0	-222.3	276.2	269.3	6.92	39.932		
2,100.0	2,098.8	2,065.2	2,050.8	3.8	5.1	154.49	-21.8	-238.5	296.3	289.0	7.27	40.782		
2,200.0	2,198.7	2,163.1	2,147.4	4.0	5.4	154.42	-23.7	-254.7	316.4	308.8	7.61	41.555		
2,300.0	2,298.7	2,261.1	2,244.0	4.2	5.8	154.37	-25.5	-270.9	336.5	328.6	7.96	42.259		
2,400.0	2,398.6	2,359.0	2,340.6	4.4	6.1	154.32	-27.3	-287.2	356.7	348.4	8.31	42.904		
2,500.0	2,498.5	2,457.0	2,437.2	4.5	6.4	154.28	-29.1	-303.4	376.8	368.1	8.66	43.498		
2,600.0	2,598.4	2,554.9	2,533.7	4.7	6.7	154.24	-30.9	-319.6	396.9	387.9	9.01	44.045		
2,700.0	2,698.3	2,652.9	2,630.3	4.9	7.1	154.20	-32.7	-335.8	417.0	407.7	9.36	44.551		
2,800.0	2,798.3	2,750.9	2,726.9	5.1	7.4	154.17	-34.5	-352.1	437.1	427.4	9.71	45.021		
2,900.0	2,898.2	2,848.8	2,823.5	5.3	7.7	154.14	-36.3	-368.3	457.3	447.2	10.06	45.459		
3,000.0	2,998.1	2,946.8	2,920.1	5.5	8.1	154.12	-38.1	-384.5	477.4	467.0	10.41	45.867		
3,100.0	3,098.0	3,044.7	3,016.7	5.7	8.4	154.09	-39.9	-400.7	497.5	486.7	10.76	46.248		

Anticollision Report

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

Offset Design S18-T2N-R67W - 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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-30.8	30.8					
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-30.8	30.8	30.5	101.268			
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-30.8	30.8	30.1	0.65	47.114		
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-30.8	30.8	29.8	1.00	30.698		
400.0	400.0	400.0	400.0	0.7	0.7	-89.95	0.0	-30.8	30.8	29.4	1.35	22.766		
500.0	500.0	500.0	500.0	0.8	0.8	-89.95	0.0	-30.8	30.8	29.1	1.70	18.091 CC, ES		
600.0	600.0	599.4	599.4	1.0	1.0	154.21	-0.1	-31.6	32.4	30.3	2.05	15.816		
700.0	700.0	698.7	698.7	1.2	1.2	155.18	-0.6	-34.1	37.3	34.9	2.40	15.572 SF		
800.0	799.9	797.7	797.6	1.4	1.4	156.14	-1.4	-38.4	45.1	42.4	2.74	16.447		
900.0	899.8	896.4	896.1	1.6	1.6	156.44	-2.5	-44.2	54.7	51.6	3.09	17.691		
1,000.0	999.7	994.8	994.2	1.7	1.8	156.31	-3.8	-51.8	66.0	62.5	3.44	19.167		
1,100.0	1,099.6	1,092.7	1,091.7	1.9	2.0	155.94	-5.5	-60.9	78.9	75.1	3.79	20.809		
1,200.0	1,199.6	1,191.4	1,189.8	2.1	2.2	155.51	-7.4	-71.3	93.0	88.8	4.14	22.458		
1,300.0	1,299.5	1,290.4	1,288.2	2.3	2.4	155.18	-9.3	-81.8	107.2	102.7	4.49	23.859		
1,400.0	1,399.4	1,389.4	1,386.6	2.5	2.7	154.93	-11.3	-92.3	121.3	116.5	4.84	25.056		
1,500.0	1,499.3	1,488.4	1,485.0	2.7	2.9	154.73	-13.2	-102.7	135.5	130.3	5.19	26.091		
1,600.0	1,599.2	1,587.3	1,583.4	2.9	3.2	154.58	-15.1	-113.2	149.7	144.2	5.55	26.995		
1,700.0	1,699.1	1,686.3	1,681.8	3.1	3.4	154.44	-17.1	-123.7	163.9	158.0	5.90	27.791		
1,800.0	1,799.1	1,785.3	1,780.2	3.2	3.6	154.33	-19.0	-134.2	178.1	171.8	6.25	28.497		
1,900.0	1,899.0	1,884.3	1,878.6	3.4	3.9	154.24	-20.9	-144.7	192.3	185.7	6.60	29.128		
2,000.0	1,998.9	1,983.3	1,977.1	3.6	4.1	154.16	-22.8	-155.2	206.4	199.5	6.95	29.694		
2,100.0	2,098.8	2,082.3	2,075.5	3.8	4.4	154.08	-24.8	-165.7	220.6	213.3	7.30	30.206		
2,200.0	2,198.7	2,181.3	2,173.9	4.0	4.6	154.02	-26.7	-176.2	234.8	227.2	7.66	30.671		
2,300.0	2,298.7	2,280.3	2,272.3	4.2	4.9	153.97	-28.6	-186.7	249.0	241.0	8.01	31.095		
2,400.0	2,398.6	2,379.2	2,370.7	4.4	5.1	153.92	-30.5	-197.2	263.2	254.8	8.36	31.483		
2,500.0	2,498.5	2,478.2	2,469.1	4.5	5.4	153.87	-32.5	-207.6	277.4	268.7	8.71	31.840		
2,600.0	2,598.4	2,577.2	2,567.5	4.7	5.6	153.83	-34.4	-218.1	291.6	282.5	9.06	32.169		
2,700.0	2,698.3	2,676.2	2,665.9	4.9	5.9	153.80	-36.3	-228.6	305.8	296.3	9.42	32.474		
2,800.0	2,798.3	2,775.2	2,764.4	5.1	6.1	153.76	-38.3	-239.1	319.9	310.2	9.77	32.756		
2,900.0	2,898.2	2,874.2	2,862.8	5.3	6.4	153.73	-40.2	-249.6	334.1	324.0	10.12	33.019		
3,000.0	2,998.1	2,973.2	2,961.2	5.5	6.6	153.71	-42.1	-260.1	348.3	337.8	10.47	33.264		
3,100.0	3,098.0	3,072.2	3,059.6	5.7	6.9	153.68	-44.0	-270.6	362.5	351.7	10.82	33.493		
3,200.0	3,197.9	3,171.2	3,158.0	5.9	7.2	153.66	-46.0	-281.1	376.7	365.5	11.18	33.707		
3,300.0	3,297.8	3,270.1	3,256.4	6.1	7.4	153.63	-47.9	-291.6	390.9	379.3	11.53	33.909		
3,400.0	3,397.8	3,369.1	3,354.8	6.2	7.7	153.61	-49.8	-302.0	405.1	393.2	11.88	34.098		
3,500.0	3,497.7	3,468.1	3,453.2	6.4	7.9	153.59	-51.7	-312.5	419.3	407.0	12.23	34.277		
3,600.0	3,597.6	3,567.1	3,551.7	6.6	8.2	153.58	-53.7	-323.0	433.4	420.9	12.58	34.445		
3,700.0	3,697.5	3,666.1	3,650.1	6.8	8.4	153.56	-55.6	-333.5	447.6	434.7	12.94	34.605		
3,800.0	3,797.4	3,765.1	3,748.5	7.0	8.7	153.54	-57.5	-344.0	461.8	448.5	13.29	34.756		
3,900.0	3,897.4	3,864.1	3,846.9	7.2	8.9	153.53	-59.4	-354.5	476.0	462.4	13.64	34.899		
4,000.0	3,997.3	3,963.1	3,945.3	7.4	9.2	153.52	-61.4	-365.0	490.2	476.2	13.99	35.035		

Anticollision Report

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

Offset Design S18-T2N-R67W - Kugel 1E-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	0.0	0.0	0.0	0.0	-89.96	0.0	-22.4	22.4					
100.0	100.0	100.0	100.0	0.2	0.2	-89.96	0.0	-22.4	22.4	22.1	0.30	73.650		
200.0	200.0	200.0	200.0	0.3	0.3	-89.96	0.0	-22.4	22.4	21.7	0.65	34.265		
300.0	300.0	300.0	300.0	0.5	0.5	-89.96	0.0	-22.4	22.4	21.4	1.00	22.326		
400.0	400.0	400.0	400.0	0.7	0.7	-89.96	0.0	-22.4	22.4	21.0	1.35	16.557		
500.0	500.0	500.0	500.0	0.8	0.8	-89.96	0.0	-22.4	22.4	20.7	1.70	13.157 CC, ES		
600.0	600.0	600.0	600.0	1.0	1.0	154.76	0.0	-22.4	23.2	21.1	2.05	11.300		
700.0	700.0	699.6	699.5	1.2	1.2	156.42	-0.3	-23.2	26.3	23.9	2.40	10.983 SF		
800.0	799.9	798.9	798.9	1.4	1.4	157.24	-1.3	-25.6	32.3	29.6	2.75	11.764		
900.0	899.8	898.2	898.1	1.6	1.6	156.79	-2.9	-29.5	39.9	36.8	3.10	12.878		
1,000.0	999.7	997.9	997.6	1.7	1.7	156.22	-4.8	-33.9	47.9	44.4	3.45	13.890		
1,100.0	1,099.6	1,097.6	1,097.2	1.9	1.9	155.82	-6.6	-38.3	55.9	52.1	3.80	14.714		
1,200.0	1,199.6	1,197.2	1,196.8	2.1	2.1	155.52	-8.4	-42.7	63.9	59.8	4.15	15.398		
1,300.0	1,299.5	1,296.9	1,296.3	2.3	2.3	155.28	-10.2	-47.1	72.0	67.5	4.50	15.975		
1,400.0	1,399.4	1,396.6	1,395.9	2.5	2.5	155.09	-12.1	-51.5	80.0	75.1	4.86	16.467		
1,500.0	1,499.3	1,496.3	1,495.5	2.7	2.7	154.94	-13.9	-55.9	88.0	82.8	5.21	16.892		
1,600.0	1,599.2	1,596.0	1,595.0	2.9	2.9	154.81	-15.7	-60.3	96.0	90.5	5.56	17.263		
1,700.0	1,699.1	1,695.6	1,694.6	3.1	3.1	154.70	-17.5	-64.7	104.1	98.1	5.92	17.589		
1,800.0	1,799.1	1,795.3	1,794.1	3.2	3.2	154.61	-19.3	-69.1	112.1	105.8	6.27	17.879		
1,900.0	1,899.0	1,895.0	1,893.7	3.4	3.4	154.53	-21.2	-73.5	120.1	113.5	6.62	18.137		
2,000.0	1,998.9	1,994.7	1,993.3	3.6	3.6	154.46	-23.0	-77.9	128.1	121.2	6.98	18.370		
2,100.0	2,098.8	2,094.3	2,092.8	3.8	3.8	154.40	-24.8	-82.3	136.2	128.8	7.33	18.579		
2,200.0	2,198.7	2,194.0	2,192.4	4.0	4.0	154.34	-26.6	-86.7	144.2	136.5	7.68	18.770		
2,300.0	2,298.7	2,293.7	2,292.0	4.2	4.2	154.29	-28.5	-91.1	152.2	144.2	8.04	18.943		
2,400.0	2,398.6	2,393.4	2,391.5	4.4	4.4	154.25	-30.3	-95.5	160.3	151.9	8.39	19.102		
2,500.0	2,498.5	2,493.0	2,491.1	4.5	4.6	154.21	-32.1	-99.9	168.3	159.5	8.74	19.248		
2,600.0	2,598.4	2,592.7	2,590.7	4.7	4.8	154.17	-33.9	-104.3	176.3	167.2	9.10	19.382		
2,700.0	2,698.3	2,692.4	2,690.2	4.9	5.0	154.14	-35.8	-108.7	184.3	174.9	9.45	19.507		
2,800.0	2,798.3	2,792.1	2,789.8	5.1	5.2	154.11	-37.6	-113.2	192.4	182.6	9.80	19.622		
2,900.0	2,898.2	2,891.8	2,889.3	5.3	5.4	154.08	-39.4	-117.6	200.4	190.2	10.16	19.730		
3,000.0	2,998.1	2,991.4	2,988.9	5.5	5.5	154.06	-41.2	-122.0	208.4	197.9	10.51	19.830		
3,100.0	3,098.0	3,091.1	3,088.5	5.7	5.7	154.03	-43.1	-126.4	216.5	205.6	10.86	19.923		
3,200.0	3,197.9	3,190.8	3,188.0	5.9	5.9	154.01	-44.9	-130.8	224.5	213.3	11.22	20.011		
3,300.0	3,297.8	3,290.5	3,287.6	6.1	6.1	153.99	-46.7	-135.2	232.5	220.9	11.57	20.093		
3,400.0	3,397.8	3,390.1	3,387.2	6.2	6.3	153.97	-48.5	-139.6	240.5	228.6	11.93	20.170		
3,500.0	3,497.7	3,489.8	3,486.7	6.4	6.5	153.95	-50.3	-144.0	248.6	236.3	12.28	20.243		
3,600.0	3,597.6	3,589.5	3,586.3	6.6	6.7	153.94	-52.2	-148.4	256.6	244.0	12.63	20.312		
3,700.0	3,697.5	3,689.2	3,685.8	6.8	6.9	153.92	-54.0	-152.8	264.6	251.6	12.99	20.377		
3,800.0	3,797.4	3,788.8	3,785.4	7.0	7.1	153.90	-55.8	-157.2	272.7	259.3	13.34	20.439		
3,900.0	3,897.4	3,888.5	3,885.0	7.2	7.3	153.89	-57.6	-161.6	280.7	267.0	13.69	20.497		
4,000.0	3,997.3	3,988.2	3,984.5	7.4	7.5	153.88	-59.5	-166.0	288.7	274.7	14.05	20.553		
4,100.0	4,097.2	4,087.9	4,084.1	7.6	7.7	153.86	-61.3	-170.4	296.7	282.3	14.40	20.605		
4,200.0	4,197.1	4,187.6	4,183.7	7.7	7.8	153.85	-63.1	-174.8	304.8	290.0	14.75	20.656		
4,300.0	4,297.0	4,287.2	4,283.2	7.9	8.0	153.84	-64.9	-179.2	312.8	297.7	15.11	20.703		
4,400.0	4,397.0	4,386.9	4,382.8	8.1	8.2	153.83	-66.8	-183.6	320.8	305.4	15.46	20.749		
4,500.0	4,496.9	4,486.6	4,482.4	8.3	8.4	153.82	-68.6	-188.0	328.9	313.0	15.82	20.793		
4,600.0	4,596.8	4,586.3	4,581.9	8.5	8.6	153.81	-70.4	-192.4	336.9	320.7	16.17	20.834		
4,700.0	4,696.7	4,685.9	4,681.5	8.7	8.8	153.80	-72.2	-196.8	344.9	328.4	16.52	20.874		
4,800.0	4,796.6	4,785.6	4,781.0	8.9	9.0	153.79	-74.1	-201.2	352.9	336.1	16.88	20.912		
4,900.0	4,896.5	4,885.3	4,880.6	9.1	9.2	153.78	-75.9	-205.6	361.0	343.7	17.23	20.949		
5,000.0	4,996.5	4,985.0	4,980.2	9.2	9.4	153.78	-77.7	-210.0	369.0	351.4	17.58	20.984		
5,100.0	5,096.4	5,084.7	5,079.7	9.4	9.6	153.77	-79.5	-214.4	377.0	359.1	17.94	21.018		

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

Offset Design												S18-T2N-R67W - Kugel 1E-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	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)						
5,200.0	5,196.3	5,184.3	5,179.3	9.6	9.8	153.76	-81.3	-218.8	385.1	366.8	18.29	21.050				
5,300.0	5,296.2	5,284.0	5,278.9	9.8	10.0	153.75	-83.2	-223.2	393.1	374.4	18.65	21.082				
5,400.0	5,396.1	5,383.7	5,378.4	10.0	10.2	153.75	-85.0	-227.6	401.1	382.1	19.00	21.112				
5,500.0	5,496.1	5,483.4	5,478.0	10.2	10.4	153.74	-86.8	-232.0	409.1	389.8	19.35	21.141				
5,600.0	5,596.0	5,583.0	5,577.5	10.4	10.5	153.73	-88.6	-236.4	417.2	397.5	19.71	21.169				
5,700.0	5,695.9	5,682.7	5,677.1	10.6	10.7	153.73	-90.5	-240.8	425.2	405.1	20.06	21.196				
5,800.0	5,795.8	5,782.4	5,776.7	10.8	10.9	153.72	-92.3	-245.3	433.2	412.8	20.41	21.222				
5,900.0	5,895.7	5,882.1	5,876.2	10.9	11.1	153.72	-94.1	-249.7	441.3	420.5	20.77	21.247				
6,000.0	5,995.7	5,981.7	5,975.8	11.1	11.3	153.71	-95.9	-254.1	449.3	428.2	21.12	21.271				
6,100.0	6,095.6	6,081.4	6,075.4	11.3	11.5	153.70	-97.8	-258.5	457.3	435.8	21.48	21.294				
6,200.0	6,195.5	6,181.1	6,174.9	11.5	11.7	153.70	-99.6	-262.9	465.4	443.5	21.83	21.317				
6,300.0	6,295.4	6,280.8	6,274.5	11.7	11.9	153.69	-101.4	-267.3	473.4	451.2	22.18	21.339				
6,400.0	6,395.3	6,380.5	6,374.1	11.9	12.1	153.69	-103.2	-271.7	481.4	458.9	22.54	21.360				
6,500.0	6,495.2	6,480.1	6,473.6	12.1	12.3	153.69	-105.1	-276.1	489.4	466.5	22.89	21.381				
6,600.0	6,595.2	6,579.8	6,573.2	12.3	12.5	153.68	-106.9	-280.5	497.5	474.2	23.25	21.401				

Anticollision Report

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

Offset Design S18-T2N-R67W - Kugel 1F-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	0.0	0.0	0.0	0.0	-89.96	0.0	-11.2	11.2					
100.0	100.0	100.0	100.0	0.2	0.2	-89.96	0.0	-11.2	11.2	10.9	0.30	36.825		
200.0	200.0	200.0	200.0	0.3	0.3	-89.96	0.0	-11.2	11.2	10.5	0.65	17.132		
300.0	300.0	300.0	300.0	0.5	0.5	-89.96	0.0	-11.2	11.2	10.2	1.00	11.163		
400.0	400.0	400.0	400.0	0.7	0.7	-89.96	0.0	-11.2	11.2	9.8	1.35	8.278		
500.0	500.0	500.0	500.0	0.8	0.8	-89.96	0.0	-11.2	11.2	9.5	1.70	6.579 CC, ES		
600.0	600.0	600.0	600.0	1.0	1.0	155.65	0.0	-11.2	12.0	9.9	2.05	5.843		
700.0	700.0	700.0	700.0	1.2	1.2	159.94	0.0	-11.2	14.4	12.0	2.40	6.005		
800.0	799.9	799.9	799.9	1.4	1.4	164.21	0.0	-11.2	18.2	15.4	2.75	6.611		
900.0	899.8	899.8	899.8	1.6	1.5	167.06	0.0	-11.2	22.1	19.0	3.10	7.128		
1,000.0	999.7	999.7	999.7	1.7	1.7	169.05	0.0	-11.2	26.0	22.6	3.44	7.552		
1,100.0	1,099.6	1,099.6	1,099.6	1.9	1.9	170.52	0.0	-11.2	30.0	26.2	3.79	7.904		
1,200.0	1,199.6	1,199.6	1,199.6	2.1	2.1	171.64	0.0	-11.2	34.0	29.8	4.14	8.200		
1,300.0	1,299.5	1,299.5	1,299.5	2.3	2.2	172.52	0.0	-11.2	38.0	33.5	4.49	8.452		
1,400.0	1,399.4	1,399.4	1,399.4	2.5	2.4	173.24	0.0	-11.2	42.0	37.1	4.84	8.670		
1,500.0	1,499.3	1,499.3	1,499.3	2.7	2.6	173.83	0.0	-11.2	46.0	40.8	5.19	8.860		
1,600.0	1,599.2	1,599.2	1,599.2	2.9	2.8	174.33	0.0	-11.2	50.0	44.4	5.54	9.026		
1,700.0	1,699.1	1,699.1	1,699.1	3.1	2.9	174.75	0.0	-11.2	54.0	48.1	5.89	9.173		
1,800.0	1,799.1	1,799.1	1,799.1	3.2	3.1	175.12	0.0	-11.2	58.0	51.8	6.24	9.304		
1,900.0	1,899.0	1,899.0	1,899.0	3.4	3.3	175.43	0.0	-11.2	62.0	55.5	6.58	9.422		
2,000.0	1,998.9	1,998.9	1,998.9	3.6	3.5	175.71	0.0	-11.2	66.1	59.1	6.93	9.528		
2,100.0	2,098.8	2,098.8	2,098.8	3.8	3.6	175.96	0.0	-11.2	70.1	62.8	7.28	9.624		
2,200.0	2,198.7	2,198.7	2,198.7	4.0	3.8	176.18	0.0	-11.2	74.1	66.5	7.63	9.711		
2,300.0	2,298.7	2,298.7	2,298.7	4.2	4.0	176.37	0.0	-11.2	78.1	70.1	7.98	9.791		
2,400.0	2,398.6	2,398.6	2,398.6	4.4	4.2	176.55	0.0	-11.2	82.2	73.8	8.33	9.864		
2,500.0	2,498.5	2,498.5	2,498.5	4.5	4.3	176.71	0.0	-11.2	86.2	77.5	8.68	9.931		
2,600.0	2,598.4	2,598.4	2,598.4	4.7	4.5	176.86	0.0	-11.2	90.2	81.2	9.03	9.994		
2,700.0	2,698.3	2,698.3	2,698.3	4.9	4.7	177.00	0.0	-11.2	94.2	84.9	9.38	10.051		
2,800.0	2,798.3	2,798.3	2,798.3	5.1	4.9	177.12	0.0	-11.2	98.3	88.5	9.72	10.105		
2,900.0	2,898.2	2,898.2	2,898.2	5.3	5.0	177.23	0.0	-11.2	102.3	92.2	10.07	10.155		
3,000.0	2,998.1	2,998.1	2,998.1	5.5	5.2	177.34	0.0	-11.2	106.3	95.9	10.42	10.202		
3,100.0	3,098.0	3,098.0	3,098.0	5.7	5.4	177.43	0.0	-11.2	110.3	99.6	10.77	10.245		
3,200.0	3,197.9	3,197.9	3,197.9	5.9	5.6	177.52	0.0	-11.2	114.4	103.3	11.12	10.286		
3,300.0	3,297.8	3,297.8	3,297.8	6.1	5.7	177.61	0.0	-11.2	118.4	106.9	11.47	10.325		
3,400.0	3,397.8	3,397.8	3,397.8	6.2	5.9	177.69	0.0	-11.2	122.4	110.6	11.82	10.361		
3,500.0	3,497.7	3,497.7	3,497.7	6.4	6.1	177.76	0.0	-11.2	126.5	114.3	12.17	10.395		
3,600.0	3,597.6	3,597.6	3,597.6	6.6	6.3	177.83	0.0	-11.2	130.5	118.0	12.51	10.427		
3,700.0	3,697.5	3,697.5	3,697.5	6.8	6.4	177.90	0.0	-11.2	134.5	121.7	12.86	10.458		
3,800.0	3,797.4	3,797.4	3,797.4	7.0	6.6	177.96	0.0	-11.2	138.6	125.3	13.21	10.487		
3,900.0	3,897.4	3,897.4	3,897.4	7.2	6.8	178.01	0.0	-11.2	142.6	129.0	13.56	10.514		
4,000.0	3,997.3	3,997.3	3,997.3	7.4	7.0	178.07	0.0	-11.2	146.6	132.7	13.91	10.540		
4,100.0	4,097.2	4,096.8	4,096.8	7.6	7.1	177.81	-0.7	-11.6	150.8	136.5	14.26	10.574		
4,200.0	4,197.1	4,196.3	4,196.2	7.7	7.3	176.94	-2.8	-13.0	155.2	140.6	14.61	10.625		
4,300.0	4,297.0	4,295.6	4,295.5	7.9	7.5	175.51	-6.4	-15.3	160.0	145.0	14.96	10.696		
4,400.0	4,397.0	4,395.3	4,395.0	8.1	7.7	173.82	-10.8	-18.2	165.1	149.8	15.31	10.783		
4,500.0	4,496.9	4,495.1	4,494.6	8.3	7.8	172.23	-15.3	-21.0	170.3	154.7	15.67	10.873		
4,600.0	4,596.8	4,594.8	4,594.3	8.5	8.0	170.74	-19.7	-23.9	175.7	159.7	16.02	10.965		
4,700.0	4,696.7	4,694.6	4,693.9	8.7	8.2	169.34	-24.1	-26.7	181.2	164.8	16.38	11.060		
4,800.0	4,796.6	4,794.3	4,793.5	8.9	8.4	168.02	-28.6	-29.6	186.8	170.0	16.74	11.156		
4,900.0	4,896.5	4,894.1	4,893.1	9.1	8.6	166.78	-33.0	-32.5	192.4	175.3	17.10	11.253		
5,000.0	4,996.5	4,993.8	4,992.7	9.2	8.7	165.60	-37.4	-35.3	198.2	180.7	17.46	11.350		
5,100.0	5,096.4	5,093.6	5,092.3	9.4	8.9	164.50	-41.9	-38.2	204.0	186.2	17.82	11.447		

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

Offset Design S18-T2N-R67W - 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	5,196.3	5,193.3	5,191.9	9.6	9.1	163.46	-46.3	-41.0	209.9	191.7	18.19	11.544		
5,300.0	5,296.2	5,293.1	5,291.6	9.8	9.3	162.47	-50.7	-43.9	215.9	197.4	18.55	11.640		
5,400.0	5,396.1	5,392.8	5,391.2	10.0	9.5	161.54	-55.2	-46.7	221.9	203.0	18.91	11.736		
5,500.0	5,496.1	5,492.6	5,490.8	10.2	9.6	160.65	-59.6	-49.6	228.0	208.7	19.27	11.830		
5,600.0	5,596.0	5,592.3	5,590.4	10.4	9.8	159.82	-64.0	-52.5	234.2	214.5	19.64	11.924		
5,700.0	5,695.9	5,692.1	5,690.0	10.6	10.0	159.02	-68.5	-55.3	240.3	220.3	20.00	12.016		
5,800.0	5,795.8	5,791.9	5,789.6	10.8	10.2	158.27	-72.9	-58.2	246.6	226.2	20.37	12.107		
5,900.0	5,895.7	5,891.6	5,889.2	10.9	10.4	157.55	-77.4	-61.0	252.8	232.1	20.73	12.197		
6,000.0	5,995.7	5,991.4	5,988.9	11.1	10.6	156.87	-81.8	-63.9	259.2	238.1	21.09	12.285		
6,100.0	6,095.6	6,091.1	6,088.5	11.3	10.8	156.22	-86.2	-66.7	265.5	244.0	21.46	12.372		
6,200.0	6,195.5	6,190.9	6,188.1	11.5	11.0	155.60	-90.7	-69.6	271.9	250.0	21.82	12.457		
6,300.0	6,295.4	6,290.6	6,287.7	11.7	11.1	155.01	-95.1	-72.4	278.3	256.1	22.19	12.541		
6,400.0	6,395.3	6,390.4	6,387.3	11.9	11.3	154.44	-99.5	-75.3	284.7	262.2	22.55	12.623		
6,500.0	6,495.2	6,490.1	6,486.9	12.1	11.5	153.90	-104.0	-78.2	291.2	268.2	22.92	12.704		
6,600.0	6,595.2	6,589.9	6,586.6	12.3	11.7	153.39	-108.4	-81.0	297.7	274.4	23.28	12.783		
6,700.0	6,695.1	6,689.8	6,686.3	12.4	11.9	152.93	-112.7	-83.9	304.2	280.5	23.65	12.862		
6,800.0	6,795.0	6,789.3	6,785.4	12.6	12.0	152.51	-105.9	-86.7	310.6	286.7	23.95	12.968		
6,900.0	6,894.9	6,883.2	6,876.6	12.8	12.1	152.77	-84.0	-89.3	318.5	294.3	24.20	13.159		
7,000.0	6,994.6	6,970.3	6,956.9	13.0	12.2	-93.33	-50.5	-91.6	329.6	305.2	24.42	13.499		
7,100.0	7,091.8	7,053.8	7,028.3	13.1	12.4	-80.20	-7.4	-93.7	342.9	318.2	24.63	13.923		
7,200.0	7,183.5	7,134.5	7,090.6	13.2	12.6	-73.28	43.7	-95.5	357.1	332.2	24.83	14.381		
7,300.0	7,267.1	7,213.0	7,143.8	13.4	12.8	-68.34	101.4	-97.0	371.0	346.0	25.02	14.828		
7,400.0	7,339.9	7,289.8	7,187.7	13.7	13.2	-64.63	164.3	-98.3	383.8	358.6	25.25	15.204		
7,500.0	7,399.8	7,365.3	7,222.3	14.1	13.7	-61.88	231.3	-99.3	394.7	369.1	25.57	15.436		
7,600.0	7,444.9	7,439.9	7,247.6	14.7	14.2	-59.95	301.4	-100.0	403.0	376.9	26.09	15.449		
7,700.0	7,473.8	7,513.9	7,263.4	15.5	14.9	-58.77	373.6	-100.4	408.4	381.5	26.89	15.187		
7,800.0	7,485.7	7,587.5	7,269.8	16.4	15.6	-58.29	446.9	-100.6	410.7	382.6	28.05	14.643		
7,900.0	7,486.0	7,682.7	7,270.0	17.5	16.7	-58.27	542.2	-100.6	410.8	380.9	29.87	13.752		
8,000.0	7,486.0	7,782.7	7,270.0	18.7	17.9	-58.27	642.2	-100.6	410.8	378.8	31.93	12.863		
8,100.0	7,486.0	7,882.7	7,270.0	19.9	19.2	-58.27	742.2	-100.6	410.8	376.6	34.14	12.033		
8,200.0	7,486.0	7,982.7	7,270.0	21.3	20.6	-58.27	842.2	-100.6	410.8	374.3	36.45	11.268		
8,300.0	7,486.0	8,082.7	7,270.0	22.6	22.0	-58.27	942.2	-100.6	410.8	371.9	38.86	10.570		
8,400.0	7,486.0	8,182.7	7,270.0	24.1	23.5	-58.27	1,042.2	-100.6	410.8	369.4	41.34	9.935		
8,500.0	7,486.0	8,282.7	7,270.0	25.5	25.0	-58.27	1,142.2	-100.6	410.8	366.9	43.89	9.358		
8,600.0	7,486.0	8,382.7	7,270.0	27.1	26.5	-58.27	1,242.2	-100.6	410.8	364.3	46.49	8.835		
8,700.0	7,486.0	8,482.7	7,270.0	28.6	28.1	-58.27	1,342.2	-100.6	410.8	361.6	49.14	8.359		
8,800.0	7,486.0	8,582.7	7,270.0	30.1	29.7	-58.27	1,442.2	-100.6	410.8	358.9	51.82	7.927		
8,900.0	7,486.0	8,682.7	7,270.0	31.7	31.3	-58.27	1,542.2	-100.6	410.8	356.2	54.53	7.532		
9,000.0	7,486.0	8,782.7	7,270.0	33.3	32.9	-58.27	1,642.2	-100.6	410.8	353.5	57.28	7.172		
9,100.0	7,486.0	8,888.1	7,270.0	34.9	34.6	-58.22	1,747.5	-99.9	410.2	350.1	60.09	6.827		
9,200.0	7,486.0	8,994.5	7,270.0	36.6	36.3	-58.03	1,853.9	-97.3	408.1	345.3	62.85	6.494		
9,300.0	7,486.0	9,094.8	7,270.0	38.2	38.0	-57.77	1,954.1	-93.8	405.2	339.7	65.49	6.187		
9,400.0	7,486.0	9,194.7	7,270.0	39.8	39.7	-57.50	2,054.0	-90.3	402.2	334.1	68.12	5.905		
9,500.0	7,486.0	9,294.7	7,270.0	41.5	41.3	-57.23	2,153.9	-86.8	399.3	328.5	70.74	5.644		
9,600.0	7,486.0	9,394.6	7,270.0	43.2	43.0	-56.96	2,253.8	-83.4	396.3	323.0	73.35	5.403		
9,700.0	7,486.0	9,494.5	7,270.0	44.8	44.7	-56.68	2,353.6	-79.9	393.4	317.5	75.96	5.180		
9,800.0	7,486.0	9,594.5	7,270.0	46.5	46.4	-56.40	2,453.5	-76.4	390.5	312.0	78.55	4.972		
9,900.0	7,486.0	9,694.4	7,270.0	48.2	48.1	-56.12	2,553.4	-72.9	387.6	306.5	81.12	4.778		
10,000.0	7,486.0	9,794.4	7,270.0	49.9	49.7	-55.83	2,653.3	-69.4	384.7	301.0	83.68	4.597		
10,100.0	7,486.0	9,894.3	7,270.0	51.6	51.4	-55.53	2,753.2	-65.9	381.8	295.6	86.22	4.429		
10,200.0	7,486.0	9,994.2	7,270.0	53.3	53.1	-55.23	2,853.0	-62.4	379.0	290.2	88.74	4.270		
10,300.0	7,486.0	10,094.2	7,270.0	55.0	54.9	-54.93	2,952.9	-58.9	376.1	284.9	91.24	4.122		

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

Offset Design S18-T2N-R67W - 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)			
10,400.0	7,486.0	10,194.1	7,270.0	56.7	56.6	-54.62	3,052.8	-55.4	373.2	279.5	93.72	3.983	
10,500.0	7,486.0	10,294.1	7,270.0	58.4	58.3	-54.31	3,152.7	-52.0	370.4	274.2	96.17	3.852	
10,600.0	7,486.0	10,394.0	7,270.0	60.1	60.0	-53.99	3,252.5	-48.5	367.6	269.0	98.60	3.728	
10,700.0	7,486.0	10,493.9	7,270.0	61.8	61.7	-53.67	3,352.4	-45.0	364.8	263.8	101.00	3.611	
10,800.0	7,486.0	10,593.9	7,270.0	63.5	63.4	-53.34	3,452.3	-41.5	361.9	258.6	103.37	3.501	
10,900.0	7,486.0	10,693.8	7,270.0	65.2	65.1	-53.01	3,552.2	-38.0	359.2	253.4	105.72	3.397	
11,000.0	7,486.0	10,793.8	7,270.0	66.9	66.9	-52.67	3,652.1	-34.5	356.4	248.3	108.03	3.299	
11,100.0	7,486.0	10,893.7	7,270.0	68.7	68.6	-52.33	3,751.9	-31.0	353.6	243.3	110.31	3.206	
11,200.0	7,486.0	10,993.6	7,270.0	70.4	70.3	-51.98	3,851.8	-27.5	350.8	238.3	112.56	3.117	
11,300.0	7,486.0	11,093.6	7,270.0	72.1	72.0	-51.63	3,951.7	-24.1	348.1	233.3	114.77	3.033	
11,400.0	7,486.0	11,193.5	7,270.0	73.8	73.8	-51.27	4,051.6	-20.6	345.4	228.4	116.95	2.953	
11,500.0	7,486.0	11,293.4	7,270.0	75.6	75.5	-50.91	4,151.5	-17.1	342.7	223.6	119.09	2.877	
11,600.0	7,486.0	11,393.4	7,270.0	77.3	77.2	-50.53	4,251.3	-13.6	340.0	218.8	121.19	2.805	
11,700.0	7,486.0	11,493.3	7,270.0	79.0	78.9	-50.16	4,351.2	-10.1	337.3	214.0	123.25	2.737	
11,800.0	7,486.0	11,593.3	7,270.0	80.7	80.7	-49.77	4,451.1	-6.6	334.6	209.3	125.26	2.671	
11,900.0	7,486.0	11,693.2	7,270.0	82.5	82.4	-49.39	4,551.0	-3.1	331.9	204.7	127.24	2.609	
12,000.0	7,486.0	11,793.1	7,270.0	84.2	84.1	-48.99	4,650.8	0.4	329.3	200.1	129.17	2.549	
12,100.0	7,486.0	11,893.1	7,270.0	85.9	85.9	-48.59	4,750.7	3.8	326.7	195.6	131.05	2.493	
12,200.0	7,486.0	11,993.0	7,270.0	87.7	87.6	-48.18	4,850.6	7.3	324.1	191.2	132.88	2.439	
12,300.0	7,486.0	12,093.0	7,270.0	89.4	89.4	-47.77	4,950.5	10.8	321.5	186.8	134.67	2.387	
12,400.0	7,486.0	12,192.9	7,270.0	91.1	91.1	-47.35	5,050.4	14.3	318.9	182.5	136.40	2.338	
12,500.0	7,486.0	12,292.8	7,270.0	92.9	92.8	-46.92	5,150.2	17.8	316.3	178.3	138.08	2.291	
12,600.0	7,486.0	12,392.8	7,270.0	94.6	94.6	-46.48	5,250.1	21.3	313.8	174.1	139.70	2.246	
12,700.0	7,486.0	12,492.7	7,270.0	96.3	96.3	-46.04	5,350.0	24.8	311.3	170.0	141.26	2.203	
12,800.0	7,486.0	12,589.2	7,270.0	98.1	98.0	-45.70	5,446.4	27.4	309.3	166.3	142.96	2.163	
12,900.0	7,486.0	12,685.5	7,270.0	99.8	99.7	-45.56	5,542.7	28.5	308.5	163.4	145.11	2.126	
12,915.1	7,486.0	12,700.0	7,270.0	100.1	99.9	-45.56	5,557.2	28.5	308.5	163.0	145.47	2.121	
13,000.0	7,486.0	12,781.8	7,270.0	101.6	101.3	-45.63	5,639.0	27.9	308.9	161.2	147.73	2.091	
13,100.0	7,486.0	12,878.0	7,270.0	103.3	103.0	-45.92	5,735.2	25.7	310.6	159.7	150.85	2.059	
13,200.0	7,486.0	12,974.2	7,270.0	105.0	104.7	-46.40	5,831.3	21.9	313.4	158.9	154.47	2.029	
13,300.0	7,486.0	13,070.2	7,270.0	106.8	106.4	-47.07	5,927.1	16.5	317.5	158.9	158.57	2.002	
13,400.0	7,486.0	13,165.9	7,270.0	108.5	108.0	-47.92	6,022.7	9.6	322.9	159.8	163.12	1.979	
13,500.0	7,486.0	13,261.5	7,270.0	110.3	109.7	-48.92	6,117.8	1.0	329.6	161.5	168.07	1.961	
13,600.0	7,486.0	13,359.4	7,270.0	112.0	111.4	-50.05	6,215.2	-9.1	337.4	164.1	173.39	1.946	
13,700.0	7,486.0	13,458.8	7,270.0	113.7	113.1	-51.15	6,314.1	-19.4	345.5	166.8	178.70	1.933	
13,800.0	7,486.0	13,558.3	7,270.0	115.5	114.8	-52.21	6,413.0	-29.8	353.7	169.8	183.93	1.923	
13,900.0	7,486.0	13,657.7	7,270.0	117.2	116.6	-53.22	6,511.9	-40.2	362.0	173.0	189.06	1.915	
14,000.0	7,486.0	13,757.2	7,270.0	119.0	118.3	-54.18	6,610.8	-50.5	370.4	176.3	194.10	1.908	
14,100.0	7,486.0	13,856.6	7,270.0	120.7	120.0	-55.10	6,709.7	-60.9	378.9	179.9	199.06	1.904	
14,200.0	7,486.0	13,956.1	7,270.0	122.4	121.8	-55.98	6,808.6	-71.3	387.5	183.6	203.95	1.900	
14,300.0	7,486.0	14,055.5	7,270.0	124.2	123.5	-56.82	6,907.6	-81.6	396.2	187.5	208.77	1.898	
14,400.0	7,486.0	14,155.0	7,270.0	125.9	125.2	-57.63	7,006.5	-92.0	405.0	191.5	213.52	1.897	
14,439.5	7,486.0	14,194.3	7,270.0	126.6	125.9	-57.94	7,045.6	-96.1	408.5	193.1	215.38	1.897 SF	

Anticollision Report

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

Offset Design		S18-T2N-R67W - 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	
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)					
8,700.0	7,486.0	7,451.0	7,451.0	28.6	13.0	-90.00	1,722.4	7.3	450.4	409.1	41.26	10.917			
8,800.0	7,486.0	7,451.0	7,451.0	30.1	13.0	-90.00	1,722.4	7.3	369.9	327.1	42.84	8.635			
8,900.0	7,486.0	7,451.0	7,451.0	31.7	13.0	-90.00	1,722.4	7.3	301.3	256.9	44.43	6.781			
9,000.0	7,486.0	7,451.0	7,451.0	33.3	13.0	-90.00	1,722.4	7.3	254.5	208.4	46.04	5.526			
9,080.2	7,486.0	7,451.0	7,451.0	34.6	13.0	-90.00	1,722.4	7.3	241.5	194.1	47.35	5.100 CC, ES			
9,100.0	7,486.0	7,451.0	7,451.0	34.9	13.0	-90.00	1,722.4	7.3	242.3	194.6	47.67	5.083 SF			
9,200.0	7,486.0	7,451.0	7,451.0	36.6	13.0	-90.00	1,722.4	7.3	269.6	220.3	49.31	5.467			
9,300.0	7,486.0	7,451.0	7,451.0	38.2	13.0	-90.00	1,722.4	7.3	326.5	275.6	50.95	6.408			
9,400.0	7,486.0	7,451.0	7,451.0	39.8	13.0	-90.00	1,722.4	7.3	400.7	348.1	52.61	7.617			
9,500.0	7,486.0	7,451.0	7,451.0	41.5	13.0	-90.00	1,722.4	7.3	484.3	430.0	54.28	8.923			

Anticollision Report

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

Offset Design S18-T2N-R67W - 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)				
0.0	0.0	0.0	0.0	0.0	0.0	62.25	12.8	24.3	30.0					
100.0	100.0	88.0	88.0	0.2	0.2	62.25	12.8	24.3	27.5	27.2	0.31	89.925		
200.0	200.0	188.0	188.0	0.3	0.3	62.25	12.8	24.3	27.5	26.8	0.65	41.980		
300.0	300.0	288.0	288.0	0.5	0.5	62.25	12.8	24.3	27.5	26.5	1.00	27.381		
400.0	400.0	388.0	388.0	0.7	0.7	62.25	12.8	24.3	27.5	26.1	1.35	20.316		
500.0	500.0	488.0	488.0	0.8	0.9	62.25	12.8	24.3	27.5	25.8	1.70	16.149		
600.0	600.0	588.0	588.0	1.0	1.0	-55.48	12.8	24.3	27.0	24.9	2.05	13.153		
700.0	700.0	688.0	688.0	1.2	1.2	-60.33	12.8	24.3	25.6	23.2	2.40	10.651		
800.0	799.9	787.9	787.9	1.4	1.4	-68.59	12.8	24.3	23.9	21.1	2.76	8.662		
900.0	899.8	887.8	887.8	1.6	1.5	-78.10	12.8	24.3	22.7	19.6	3.11	7.295		
1,000.0	999.7	987.7	987.7	1.7	1.7	-88.31	12.8	24.3	22.2	18.8	3.47	6.403		
1,016.3	1,016.0	1,004.0	1,004.0	1.8	1.8	-90.00	12.8	24.3	22.2	18.7	3.53	6.295 CC		
1,100.0	1,099.6	1,087.6	1,087.6	1.9	1.9	-98.63	12.8	24.3	22.5	18.7	3.83	5.869 ES		
1,200.0	1,199.6	1,187.6	1,187.6	2.1	2.1	-108.42	12.8	24.3	23.4	19.2	4.19	5.597		
1,300.0	1,299.5	1,287.5	1,287.5	2.3	2.2	-117.22	12.8	24.3	25.0	20.5	4.54	5.508 SF		
1,400.0	1,399.4	1,387.4	1,387.4	2.5	2.4	-124.82	12.8	24.3	27.1	22.2	4.89	5.540		
1,500.0	1,499.3	1,487.3	1,487.3	2.7	2.6	-131.25	12.8	24.3	29.6	24.3	5.24	5.648		
1,600.0	1,599.2	1,587.2	1,587.2	2.9	2.8	-136.62	12.8	24.3	32.4	26.8	5.58	5.799		
1,700.0	1,699.1	1,687.1	1,687.1	3.1	2.9	-141.10	12.8	24.3	35.4	29.5	5.93	5.973		
1,800.0	1,799.1	1,787.1	1,787.1	3.2	3.1	-144.86	12.8	24.3	38.6	32.4	6.28	6.157		
1,900.0	1,899.0	1,887.0	1,887.0	3.4	3.3	-148.03	12.8	24.3	42.0	35.4	6.62	6.342		
2,000.0	1,998.9	1,986.9	1,986.9	3.6	3.5	-150.72	12.8	24.3	45.5	38.5	6.97	6.525		
2,100.0	2,098.8	2,086.8	2,086.8	3.8	3.6	-153.02	12.8	24.3	49.0	41.7	7.32	6.702		
2,200.0	2,198.7	2,186.7	2,186.7	4.0	3.8	-155.01	12.8	24.3	52.7	45.0	7.66	6.872		
2,300.0	2,298.7	2,286.7	2,286.7	4.2	4.0	-156.75	12.8	24.3	56.3	48.3	8.01	7.034		
2,400.0	2,398.6	2,386.6	2,386.6	4.4	4.2	-158.27	12.8	24.3	60.1	51.7	8.36	7.188		
2,500.0	2,498.5	2,486.5	2,486.5	4.5	4.3	-159.61	12.8	24.3	63.8	55.1	8.70	7.334		
2,600.0	2,598.4	2,586.4	2,586.4	4.7	4.5	-160.80	12.8	24.3	67.6	58.6	9.05	7.471		
2,700.0	2,698.3	2,686.3	2,686.3	4.9	4.7	-161.86	12.8	24.3	71.5	62.1	9.40	7.602		
2,800.0	2,798.3	2,786.3	2,786.3	5.1	4.9	-162.82	12.8	24.3	75.3	65.5	9.75	7.725		
2,900.0	2,898.2	2,886.2	2,886.2	5.3	5.0	-163.68	12.8	24.3	79.2	69.1	10.10	7.841		
3,000.0	2,998.1	2,986.1	2,986.1	5.5	5.2	-164.46	12.8	24.3	83.0	72.6	10.44	7.951		
3,100.0	3,098.0	3,086.0	3,086.0	5.7	5.4	-165.17	12.8	24.3	86.9	76.1	10.79	8.056		
3,200.0	3,197.9	3,185.9	3,185.9	5.9	5.6	-165.82	12.8	24.3	90.8	79.7	11.14	8.154		
3,300.0	3,297.8	3,285.8	3,285.8	6.1	5.7	-166.42	12.8	24.3	94.8	83.3	11.49	8.248		
3,400.0	3,397.8	3,385.8	3,385.8	6.2	5.9	-166.97	12.8	24.3	98.7	86.8	11.84	8.337		
3,500.0	3,497.7	3,485.7	3,485.7	6.4	6.1	-167.48	12.8	24.3	102.6	90.4	12.18	8.422		
3,600.0	3,597.6	3,585.6	3,585.6	6.6	6.3	-167.95	12.8	24.3	106.5	94.0	12.53	8.502		
3,700.0	3,697.5	3,685.5	3,685.5	6.8	6.4	-168.39	12.8	24.3	110.5	97.6	12.88	8.579		
3,800.0	3,797.4	3,785.4	3,785.4	7.0	6.6	-168.79	12.8	24.3	114.5	101.2	13.23	8.652		
3,900.0	3,897.4	3,885.4	3,885.4	7.2	6.8	-169.17	12.8	24.3	118.4	104.8	13.58	8.721		
4,000.0	3,997.3	3,985.3	3,985.3	7.4	7.0	-169.53	12.8	24.3	122.4	108.4	13.93	8.788		
4,100.0	4,097.2	4,085.2	4,085.2	7.6	7.1	-169.86	12.8	24.3	126.3	112.1	14.27	8.851		
4,200.0	4,197.1	4,185.1	4,185.1	7.7	7.3	-170.17	12.8	24.3	130.3	115.7	14.62	8.912		
4,300.0	4,297.0	4,285.0	4,285.0	7.9	7.5	-170.46	12.8	24.3	134.3	119.3	14.97	8.970		
4,400.0	4,397.0	4,385.0	4,385.0	8.1	7.7	-170.74	12.8	24.3	138.3	122.9	15.32	9.026		
4,500.0	4,496.9	4,484.9	4,484.9	8.3	7.8	-171.00	12.8	24.3	142.3	126.6	15.67	9.079		
4,600.0	4,596.8	4,584.8	4,584.8	8.5	8.0	-171.25	12.8	24.3	146.2	130.2	16.02	9.130		
4,700.0	4,696.7	4,684.7	4,684.7	8.7	8.2	-171.48	12.8	24.3	150.2	133.9	16.36	9.180		
4,800.0	4,796.6	4,784.6	4,784.6	8.9	8.4	-171.71	12.8	24.3	154.2	137.5	16.71	9.227		
4,900.0	4,896.5	4,884.5	4,884.5	9.1	8.5	-171.92	12.8	24.3	158.2	141.1	17.06	9.272		
5,000.0	4,996.5	4,984.5	4,984.5	9.2	8.7	-172.12	12.8	24.3	162.2	144.8	17.41	9.316		

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

Offset Design S18-T2N-R67W - 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							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		
5,100.0	5,096.4	5,084.4	5,084.4	9.4	8.9	-172.31	12.8	24.3	166.2	148.4	17.76	9.358		
5,200.0	5,196.3	5,184.3	5,184.3	9.6	9.0	-172.49	12.8	24.3	170.2	152.1	18.11	9.399		
5,300.0	5,296.2	5,284.2	5,284.2	9.8	9.2	-172.66	12.8	24.3	174.2	155.7	18.46	9.438		
5,400.0	5,396.1	5,384.1	5,384.1	10.0	9.4	-172.83	12.8	24.3	178.2	159.4	18.81	9.476		
5,500.0	5,496.1	5,484.1	5,484.1	10.2	9.6	-172.99	12.8	24.3	182.2	163.0	19.15	9.512		
5,600.0	5,596.0	5,584.0	5,584.0	10.4	9.7	-173.14	12.8	24.3	186.2	166.7	19.50	9.547		
5,700.0	5,695.9	5,683.9	5,683.9	10.6	9.9	-173.28	12.8	24.3	190.2	170.4	19.85	9.582		
5,800.0	5,795.8	5,783.8	5,783.8	10.8	10.1	-173.42	12.8	24.3	194.2	174.0	20.20	9.614		
5,900.0	5,895.7	5,883.7	5,883.7	10.9	10.3	-173.56	12.8	24.3	198.2	177.7	20.55	9.646		
6,000.0	5,995.7	5,983.7	5,983.7	11.1	10.4	-173.68	12.8	24.3	202.2	181.3	20.90	9.677		
6,100.0	6,095.6	6,083.6	6,083.6	11.3	10.6	-173.81	12.8	24.3	206.2	185.0	21.25	9.707		
6,200.0	6,195.5	6,183.5	6,183.5	11.5	10.8	-173.93	12.8	24.3	210.2	188.7	21.59	9.736		
6,300.0	6,295.4	6,283.4	6,283.4	11.7	11.0	-174.04	12.8	24.3	214.3	192.3	21.94	9.764		
6,400.0	6,395.3	6,383.3	6,383.3	11.9	11.1	-174.15	12.8	24.3	218.3	196.0	22.29	9.791		
6,500.0	6,495.2	6,483.2	6,483.2	12.1	11.3	-174.26	12.8	24.3	222.3	199.6	22.64	9.818		
6,600.0	6,595.2	6,583.2	6,583.2	12.3	11.5	-174.36	12.8	24.3	226.3	203.3	22.99	9.843		
6,700.0	6,695.1	6,683.1	6,683.1	12.4	11.7	-174.46	12.8	24.3	230.3	207.0	23.34	9.868		
6,800.0	6,795.0	6,783.0	6,783.0	12.6	11.8	-174.55	12.8	24.3	234.3	210.6	23.69	9.892		
6,900.0	6,894.9	6,882.9	6,882.9	12.8	12.0	-174.64	12.8	24.3	238.3	214.3	24.04	9.916		
7,000.0	6,994.6	6,982.6	6,982.6	13.0	12.2	-74.35	12.8	24.3	238.6	214.2	24.36	9.794		
7,100.0	7,091.8	7,079.8	7,079.8	13.1	12.4	-72.49	12.8	24.3	231.3	206.7	24.63	9.392		
7,200.0	7,183.5	7,171.5	7,171.5	13.2	12.5	-80.14	12.8	24.3	221.0	196.1	24.98	8.847		
7,287.3	7,257.0	7,245.0	7,245.0	13.4	12.6	-90.00	12.8	24.3	216.4	191.0	25.35	8.536		
7,300.0	7,267.1	7,255.1	7,255.1	13.4	12.7	-91.51	12.8	24.3	216.5	191.1	25.39	8.527		
7,400.0	7,339.9	7,327.9	7,327.9	13.7	12.8	-102.59	12.8	24.3	228.8	203.2	25.55	8.952		
7,500.0	7,399.8	7,387.8	7,387.8	14.1	12.9	-110.00	12.8	24.3	264.9	239.4	25.51	10.384		
7,600.0	7,444.9	7,432.9	7,432.9	14.7	13.0	-111.95	12.8	24.3	323.7	297.8	25.82	12.535		
7,700.0	7,473.8	7,461.8	7,461.8	15.5	13.0	-107.10	12.8	24.3	399.0	372.0	27.06	14.747		
7,800.0	7,485.7	7,473.7	7,473.7	16.4	13.0	-93.54	12.8	24.3	484.5	455.6	28.86	16.789		

Anticollision Report

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

Offset Design S18-T2N-R67W - 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									
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	82.25	6.2	45.9	49.3						
100.0	100.0	83.1	83.1	0.2	0.2	82.48	6.0	45.7	46.1	45.8	0.31	147.579			
200.0	200.0	183.3	183.3	0.3	0.4	83.38	5.3	45.3	45.6	45.0	0.68	67.111			
300.0	300.0	283.5	283.4	0.5	0.6	85.00	3.9	44.6	44.8	43.8	1.05	42.822			
400.0	400.0	383.6	383.6	0.7	0.8	87.42	2.0	43.6	43.7	42.3	1.41	30.968			
500.0	500.0	483.7	483.6	0.8	1.0	90.76	-0.6	42.3	42.3	40.5	1.77	23.902			
600.0	600.0	583.7	583.6	1.0	1.2	-21.55	-3.7	40.7	40.0	37.9	2.16	18.510			
700.0	700.0	683.7	683.5	1.2	1.4	-17.00	-7.3	38.8	36.1	33.6	2.54	14.211			
800.0	799.9	783.6	783.2	1.4	1.6	-10.69	-11.6	36.5	31.0	28.1	2.92	10.614			
900.0	899.8	883.3	882.8	1.6	1.8	-0.71	-16.4	34.0	26.3	23.0	3.30	7.976			
1,000.0	999.7	983.1	982.5	1.7	1.9	12.04	-21.0	31.8	22.8	19.1	3.66	6.223			
1,100.0	1,099.6	1,082.9	1,082.2	1.9	2.1	27.56	-25.2	29.7	20.6	16.6	4.00	5.152			
1,200.0	1,199.6	1,183.1	1,182.3	2.1	2.3	45.82	-28.8	27.1	19.3	15.0	4.31	4.483			
1,300.0	1,299.5	1,283.2	1,282.3	2.3	2.5	69.21	-30.3	23.0	18.2	13.6	4.60	3.951			
1,327.8	1,327.2	1,311.0	1,310.0	2.4	2.5	76.58	-30.4	21.7	18.1	13.4	4.68	3.871 CC			
1,400.0	1,399.4	1,383.4	1,382.4	2.5	2.6	93.80	-29.9	19.2	18.3	13.4	4.91	3.738			
1,500.0	1,499.3	1,483.7	1,482.6	2.7	2.8	114.11	-27.7	17.6	18.6	13.4	5.26	3.544			
1,507.0	1,506.3	1,490.7	1,489.7	2.7	2.8	115.47	-27.4	17.6	18.6	13.4	5.29	3.526 ES, SF			
1,600.0	1,599.2	1,583.2	1,582.1	2.9	2.9	132.91	-24.6	17.1	19.8	14.2	5.62	3.528			
1,700.0	1,699.1	1,683.0	1,681.9	3.1	3.1	145.74	-22.7	15.0	24.5	18.5	5.99	4.088			
1,800.0	1,799.1	1,783.6	1,782.4	3.2	3.3	150.95	-22.5	15.0	27.9	21.6	6.35	4.398			
1,900.0	1,899.0	1,883.9	1,882.8	3.4	3.4	151.98	-23.8	17.4	29.1	22.4	6.70	4.344			
2,000.0	1,998.9	1,983.7	1,982.5	3.6	3.6	152.84	-25.2	19.6	30.5	23.4	7.05	4.317			
2,100.0	2,098.8	2,083.2	2,082.0	3.8	3.8	154.49	-26.0	20.8	32.9	25.5	7.40	4.442			
2,200.0	2,198.7	2,182.8	2,181.5	4.0	3.9	156.92	-26.2	20.6	36.8	29.0	7.74	4.746			
2,300.0	2,298.7	2,282.9	2,281.7	4.2	4.1	160.42	-25.3	20.5	40.8	32.7	8.08	5.044			
2,400.0	2,398.6	2,383.0	2,381.8	4.4	4.3	165.07	-23.1	21.1	44.3	35.9	8.41	5.270			
2,500.0	2,498.5	2,482.5	2,481.2	4.5	4.4	169.87	-20.2	21.7	48.4	39.7	8.75	5.533			
2,600.0	2,598.4	2,583.1	2,581.7	4.7	4.6	173.86	-17.1	21.9	53.1	44.0	9.09	5.841			
2,700.0	2,698.3	2,685.3	2,683.9	4.9	4.7	176.41	-16.2	25.1	54.5	45.1	9.43	5.779			
2,800.0	2,798.3	2,785.0	2,783.5	5.1	4.9	178.20	-16.7	30.0	53.9	44.2	9.78	5.517			
2,813.2	2,811.5	2,798.2	2,796.7	5.1	4.9	178.43	-16.7	30.5	53.9	44.1	9.82	5.491			
2,900.0	2,898.2	2,884.5	2,882.9	5.3	5.1	179.87	-16.9	33.9	54.3	44.2	10.12	5.366			
3,000.0	2,998.1	2,983.9	2,982.2	5.5	5.2	-178.41	-16.5	37.0	55.7	45.3	10.46	5.327			
3,100.0	3,098.0	3,083.2	3,081.5	5.7	5.4	-176.67	-15.5	39.2	58.3	47.5	10.80	5.394			
3,200.0	3,197.9	3,182.7	3,180.9	5.9	5.6	-175.00	-14.0	40.5	61.9	50.8	11.15	5.555			
3,300.0	3,297.8	3,282.6	3,280.9	6.1	5.8	-173.93	-12.7	41.4	65.9	54.4	11.50	5.731			
3,400.0	3,397.8	3,382.6	3,380.9	6.2	5.9	-173.59	-12.0	42.0	69.8	57.9	11.85	5.890			
3,500.0	3,497.7	3,482.6	3,480.9	6.4	6.1	-173.86	-12.0	42.2	73.6	61.4	12.19	6.032			
3,600.0	3,597.6	3,582.7	3,580.9	6.6	6.3	-174.49	-12.6	42.3	77.2	64.7	12.54	6.154			
3,700.0	3,697.5	3,682.7	3,681.0	6.8	6.5	-175.34	-13.5	42.3	80.7	67.8	12.89	6.259			
3,800.0	3,797.4	3,782.8	3,781.0	7.0	6.6	-176.36	-14.9	42.3	84.1	70.8	13.24	6.349			
3,900.0	3,897.4	3,882.7	3,881.0	7.2	6.8	-177.50	-16.5	42.2	87.4	73.8	13.60	6.430			
4,000.0	3,997.3	3,982.6	3,980.9	7.4	7.0	-178.67	-18.3	42.0	90.8	76.8	13.95	6.510			
4,100.0	4,097.2	4,082.5	4,080.8	7.6	7.2	-179.87	-20.3	41.7	94.2	79.9	14.30	6.589			
4,200.0	4,197.1	4,182.2	4,180.4	7.7	7.3	179.03	-22.2	41.2	97.8	83.2	14.65	6.676			
4,300.0	4,297.0	4,281.7	4,279.9	7.9	7.5	178.21	-23.6	40.6	101.8	86.8	15.00	6.787			
4,400.0	4,397.0	4,381.2	4,379.4	8.1	7.7	177.65	-24.5	39.9	106.1	90.8	15.35	6.917			
4,500.0	4,496.9	4,480.7	4,478.8	8.3	7.9	177.34	-24.9	38.9	110.9	95.2	15.69	7.064			
4,600.0	4,596.8	4,587.4	4,585.5	8.5	8.0	177.65	-25.0	40.1	113.9	97.9	16.05	7.097			
4,700.0	4,696.7	4,692.8	4,690.4	8.7	8.2	-178.87	-22.4	50.3	110.3	93.9	16.40	6.727			
4,800.0	4,796.6	4,799.3	4,795.4	8.9	8.4	-173.34	-20.2	67.4	101.3	84.5	16.75	6.048			

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

Offset Design S18-T2N-R67W - 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		
4,900.0	4,896.5	4,899.7	4,893.4	9.1	8.6	-164.63	-17.7	89.1	89.4	72.3	17.12	5.222		
5,000.0	4,996.5	4,998.3	4,988.6	9.2	8.8	-150.63	-13.5	114.5	78.8	61.2	17.58	4.481		
5,100.0	5,096.4	5,096.4	5,082.0	9.4	9.1	-130.69	-8.0	143.7	74.4	56.2	18.23	4.081		
5,112.2	5,108.6	5,108.4	5,093.4	9.5	9.1	-128.02	-7.4	147.5	74.3	56.0	18.31	4.058		
5,200.0	5,196.3	5,193.7	5,173.9	9.6	9.4	-108.83	-4.7	175.6	77.8	58.9	18.92	4.112		
5,300.0	5,296.2	5,289.4	5,263.7	9.8	9.7	-89.62	-3.8	208.7	90.1	70.7	19.44	4.636		
5,400.0	5,396.1	5,378.3	5,346.9	10.0	10.0	-77.12	-1.1	239.9	112.2	92.4	19.79	5.668		
5,500.0	5,496.1	5,467.4	5,428.8	10.2	10.4	-68.88	5.4	274.4	143.6	123.5	20.09	7.145		
5,600.0	5,596.0	5,557.4	5,510.5	10.4	10.8	-62.82	11.6	311.7	179.0	158.6	20.38	8.781		
5,700.0	5,695.9	5,652.6	5,596.3	10.6	11.4	-57.48	15.0	352.7	215.5	194.9	20.68	10.424		
5,800.0	5,795.8	5,750.3	5,685.0	10.8	11.9	-53.52	17.1	393.5	251.4	230.4	20.97	11.986		
5,900.0	5,895.7	5,852.4	5,779.9	10.9	12.4	-51.15	20.5	431.0	283.6	262.3	21.30	13.317		
6,000.0	5,995.7	5,934.8	5,855.8	11.1	12.9	-49.41	22.8	463.0	318.1	296.5	21.60	14.722		
6,100.0	6,095.6	6,037.3	5,950.1	11.3	13.5	-47.56	25.2	503.1	352.8	330.9	21.93	16.085		
6,200.0	6,195.5	6,124.7	6,030.6	11.5	14.0	-46.52	28.7	536.9	387.9	365.6	22.25	17.431		
6,300.0	6,295.4	6,225.7	6,123.8	11.7	14.6	-45.72	34.0	575.4	423.0	400.4	22.60	18.716		
6,400.0	6,395.3	6,329.7	6,220.9	11.9	15.2	-45.02	38.6	612.5	455.4	432.5	22.96	19.840		
6,500.0	6,495.2	6,443.2	6,327.1	12.1	15.9	-44.08	40.8	652.3	487.0	463.6	23.32	20.880		

Anticollision Report

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

Offset Design S18-T2N-R67W - 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
14,000.0	7,486.0	7,478.2	7,407.7	119.0	18.2	-87.46	7,070.7	16.5	487.5	353.1	134.46	3.626	
14,100.0	7,486.0	7,480.2	7,409.7	120.7	18.2	-87.96	7,070.8	16.5	402.5	266.2	136.25	2.954	
14,200.0	7,486.0	7,482.3	7,411.8	122.4	18.2	-88.47	7,070.8	16.5	326.0	187.9	138.04	2.361	
14,300.0	7,486.0	7,484.3	7,413.8	124.2	18.2	-88.97	7,070.8	16.5	265.6	125.7	139.82	1.899	
14,400.0	7,486.0	7,486.4	7,415.9	125.9	18.2	-89.48	7,070.9	16.5	234.0	92.5	141.59	1.653	
14,428.7	7,486.0	7,487.0	7,416.5	126.4	18.2	-89.62	7,070.9	16.5	232.3	90.2	142.10	1.635 CC, ES	
14,439.5	7,486.0	7,487.2	7,416.7	126.6	18.2	-89.68	7,070.9	16.5	232.5	90.2	142.28	1.634 SF	

Anticollision Report

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

Offset Design S18-T2N-R67W - 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	7,581.7	7,417.0	92.9	24.4	-89.80	5,489.4	-47.8	456.6	340.7	115.89	3.940		
12,600.0	7,486.0	7,582.0	7,417.2	94.6	24.4	-89.85	5,489.4	-47.8	386.1	268.5	117.63	3.282		
12,700.0	7,486.0	7,582.2	7,417.4	96.3	24.4	-89.89	5,489.4	-47.8	331.1	211.7	119.37	2.774		
12,800.0	7,486.0	7,582.4	7,417.6	98.1	24.4	-89.93	5,489.4	-47.8	300.3	179.2	121.11	2.480		
12,847.2	7,486.0	7,582.5	7,417.7	98.9	24.4	-89.95	5,489.4	-47.8	296.6	174.6	121.93	2.432 CC, ES, SF		
12,900.0	7,486.0	7,582.6	7,417.9	99.8	24.4	-89.97	5,489.4	-47.8	301.2	178.4	122.85	2.452		
13,000.0	7,486.0	7,582.8	7,418.1	101.6	24.4	-90.01	5,489.4	-47.8	333.6	209.0	124.59	2.678		
13,100.0	7,486.0	7,583.0	7,418.3	103.3	24.4	-90.05	5,489.4	-47.8	389.7	263.4	126.33	3.085		
13,200.0	7,486.0	7,583.2	7,418.5	105.0	24.4	-90.09	5,489.4	-47.8	460.9	332.8	128.07	3.599		

Anticollision Report

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

Offset Design											S18-T2N-R67W - 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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation Factor					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis					
11,400.0	7,486.0	7,763.8	7,488.7	73.8	34.7	-98.83	4,191.0	-187.0	465.4	365.1	100.31	4.640				
11,500.0	7,486.0	7,752.5	7,477.5	75.6	34.6	-97.36	4,192.5	-188.2	443.5	341.2	102.32	4.334				
11,551.1	7,486.0	7,746.5	7,471.5	76.4	34.6	-96.59	4,193.3	-188.9	440.6	337.3	103.33	4.264	CC, ES			
11,600.0	7,486.0	7,740.6	7,465.7	77.3	34.6	-95.83	4,194.0	-189.6	443.2	339.0	104.29	4.250	SF			
11,700.0	7,486.0	7,728.1	7,453.4	79.0	34.6	-94.22	4,195.7	-191.0	464.7	358.5	106.20	4.375				

Anticollision Report

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

Offset Design													S18-T2N-R67W - 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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis						
12,800.0	7,486.0	7,425.0	7,425.0	98.1	13.0	-90.00	5,513.8	-221.9	476.1	365.2	110.94	4.292					
12,871.6	7,486.0	7,425.0	7,425.0	99.3	13.0	-90.00	5,513.8	-221.9	470.7	358.5	112.18	4.196 CC, ES					
12,900.0	7,486.0	7,425.0	7,425.0	99.8	13.0	-90.00	5,513.8	-221.9	471.5	358.9	112.68	4.185 SF					
13,000.0	7,486.0	7,425.0	7,425.0	101.6	13.0	-90.00	5,513.8	-221.9	487.9	373.5	114.42	4.264					

Anticollision Report

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

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

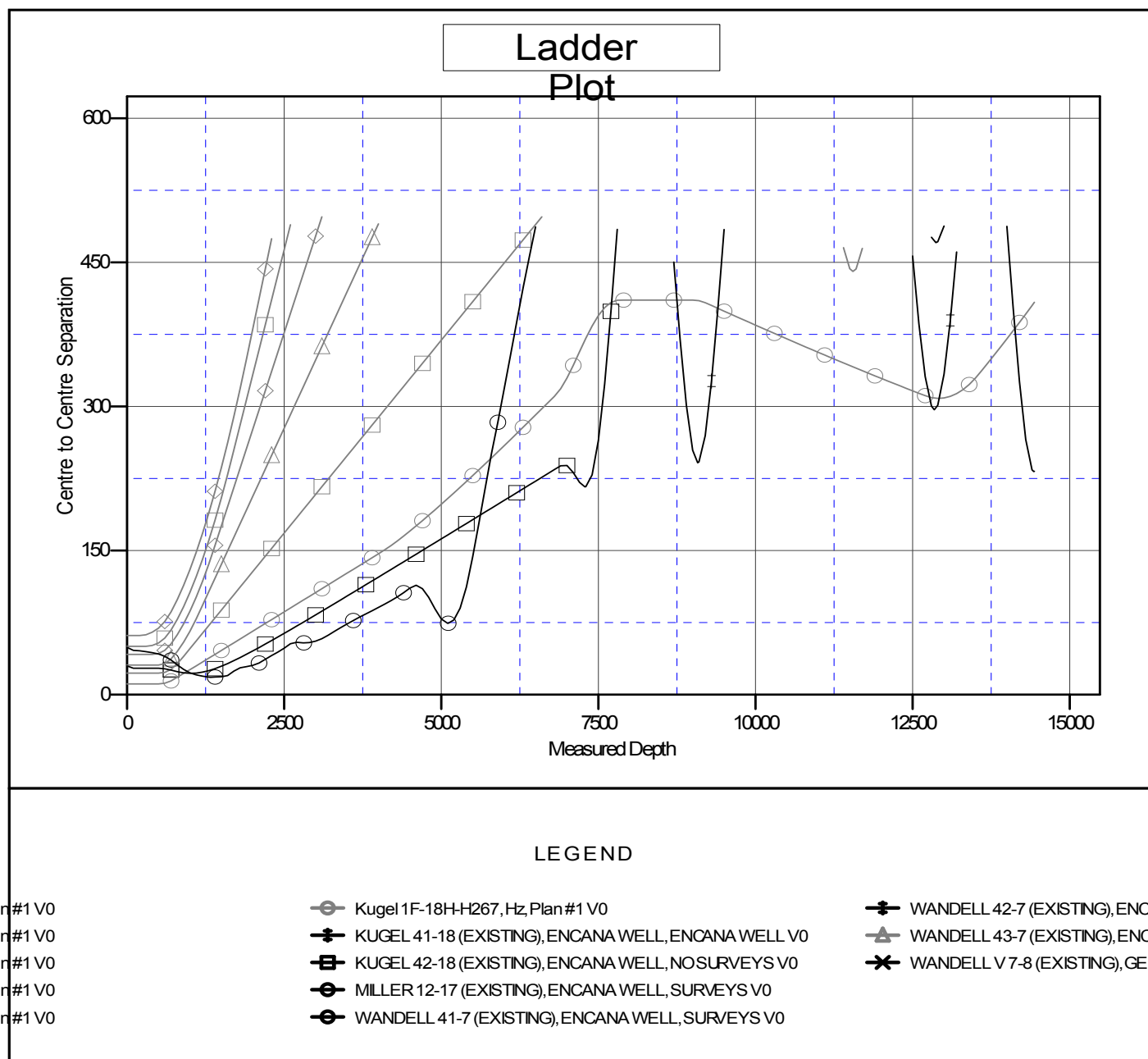
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Kugel 1G-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