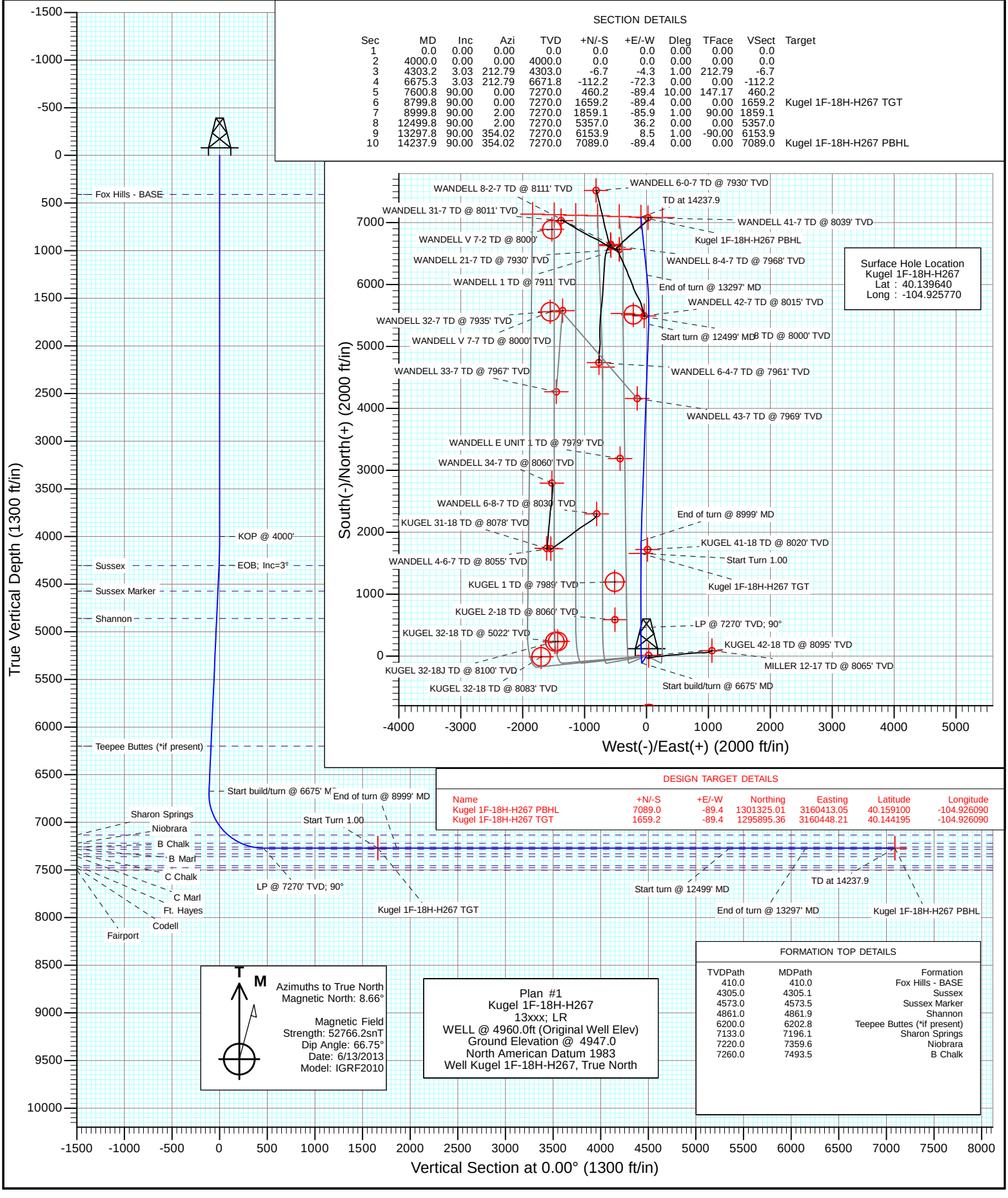
Project: DJ Wattenberg
Site: S18-T2N-R67W
Well: Kugel 1F-18H-H267
Wellbore: Hz
Design: Plan #1

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4000.0	0.00	0.00	4000.0	0.0	0.0	0.00	0.00	0.0	
3	4303.2	3.03	212.79	4303.0	-6.7	-4.3	1.00	212.79	-6.7	
4	6675.3	3.03	212.79	6671.8	-112.2	-72.3	0.00	0.00	-112.2	
5	7600.8	90.00	0.00	7270.0	460.2	-89.4	10.00	147.17	460.2	
6	8799.8	90.00	0.00	7270.0	1659.2	-89.4	0.00	0.00	1659.2	Kugel 1F-18H-H267 TGT
7	8999.8	90.00	2.00	7270.0	1859.1	-85.9	1.00	90.00	1859.1	
8	12499.8	90.00	2.00	7270.0	5357.0	36.2	0.00	0.00	5357.0	
9	13297.8	90.00	354.02	7270.0	6153.9	8.5	1.00	-90.00	6153.9	
10	14237.9	90.00	354.02	7270.0	7089.0	-89.4	0.00	0.00	7089.0	Kugel 1F-18H-H267 PBHL

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Kugel 1F-18H-H267 PBHL	7089.0	-89.4	1301325.01	3160413.05	40.159100	-104.926090
Kugel 1F-18H-H267 TGT	1659.2	-89.4	1295895.36	3160448.21	40.144195	-104.926090



T M
Azimuths to True North
Magnetic North: 8.66°

Magnetic Field
Strength: 52766.2snT
Dip Angle: 66.75°
Date: 6/13/2013
Model: IGRF2010

Plan #1
Kugel 1F-18H-H267
13xxx; LR
WELL @ 4960.0ft (Original Well Elev)
Ground Elevation @ 4947.0
North American Datum 1983
Well Kugel 1F-18H-H267, True North

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
410.0	410.0	Fox Hills - BASE
4305.0	4305.1	Sussex
4573.0	4573.5	Sussex Marker
4861.0	4861.9	Shannon
6200.0	6202.8	Teepee Buttes (*if present)
7133.0	7196.1	Sharon Springs
7220.0	7359.6	Niobrara
7260.0	7493.5	B Chalk

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 1F-18H-H267

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,294,236.78 ft	**Latitude:**	40.139640
	+E/-W	0.0 ft	**Easting:**	3,160,548.39 ft	**Longitude:**	-104.925770
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) (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	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,303.2	3.03	212.79	4,303.0	-6.7	-4.3	1.00	1.00	0.00	212.79	
6,675.3	3.03	212.79	6,671.8	-112.2	-72.3	0.00	0.00	0.00	0.00	
7,600.8	90.00	0.00	7,270.0	460.2	-89.4	10.00	9.40	15.91	147.17	
8,799.8	90.00	0.00	7,270.0	1,659.2	-89.4	0.00	0.00	0.00	0.00	Kugel 1F-18H-H267 T
8,999.8	90.00	2.00	7,270.0	1,859.1	-85.9	1.00	0.00	1.00	90.00	
12,499.8	90.00	2.00	7,270.0	5,357.0	36.2	0.00	0.00	0.00	0.00	
13,297.8	90.00	354.02	7,270.0	6,153.9	8.5	1.00	0.00	-1.00	-90.00	
14,237.9	90.00	354.02	7,270.0	7,089.0	-89.4	0.00	0.00	0.00	0.00	Kugel 1F-18H-H267 F

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Kugel 1F-18H-H267
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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W	**North Reference:**	True
Well:	Kugel 1F-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	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4000'
4,100.0	1.00	212.79	4,100.0	-0.7	-0.5	-0.7	1.00	1.00	
4,200.0	2.00	212.79	4,200.0	-2.9	-1.9	-2.9	1.00	1.00	
4,300.0	3.00	212.79	4,299.9	-6.6	-4.3	-6.6	1.00	1.00	
4,303.2	3.03	212.79	4,303.0	-6.7	-4.3	-6.7	1.00	1.00	EOB; Inc=3°
4,305.1	3.03	212.79	4,305.0	-6.8	-4.4	-6.8	0.00	0.00	Sussex
4,400.0	3.03	212.79	4,399.7	-11.0	-7.1	-11.0	0.00	0.00	
4,500.0	3.03	212.79	4,499.6	-15.5	-10.0	-15.5	0.00	0.00	
4,573.5	3.03	212.79	4,573.0	-18.8	-12.1	-18.8	0.00	0.00	Sussex Marker
4,600.0	3.03	212.79	4,599.4	-19.9	-12.8	-19.9	0.00	0.00	
4,700.0	3.03	212.79	4,699.3	-24.4	-15.7	-24.4	0.00	0.00	

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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 1F-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	3.03	212.79	4,799.2	-28.8	-18.6	-28.8	0.00	0.00	
4,861.9	3.03	212.79	4,861.0	-31.6	-20.3	-31.6	0.00	0.00	Shannon
4,900.0	3.03	212.79	4,899.0	-33.3	-21.4	-33.3	0.00	0.00	
5,000.0	3.03	212.79	4,998.9	-37.7	-24.3	-37.7	0.00	0.00	
5,100.0	3.03	212.79	5,098.7	-42.2	-27.2	-42.2	0.00	0.00	
5,200.0	3.03	212.79	5,198.6	-46.6	-30.0	-46.6	0.00	0.00	
5,300.0	3.03	212.79	5,298.5	-51.1	-32.9	-51.1	0.00	0.00	
5,400.0	3.03	212.79	5,398.3	-55.5	-35.8	-55.5	0.00	0.00	
5,500.0	3.03	212.79	5,498.2	-60.0	-38.6	-60.0	0.00	0.00	
5,600.0	3.03	212.79	5,598.0	-64.4	-41.5	-64.4	0.00	0.00	
5,700.0	3.03	212.79	5,697.9	-68.8	-44.4	-68.8	0.00	0.00	
5,800.0	3.03	212.79	5,797.8	-73.3	-47.2	-73.3	0.00	0.00	
5,900.0	3.03	212.79	5,897.6	-77.7	-50.1	-77.7	0.00	0.00	
6,000.0	3.03	212.79	5,997.5	-82.2	-52.9	-82.2	0.00	0.00	
6,100.0	3.03	212.79	6,097.3	-86.6	-55.8	-86.6	0.00	0.00	
6,200.0	3.03	212.79	6,197.2	-91.1	-58.7	-91.1	0.00	0.00	
6,202.8	3.03	212.79	6,200.0	-91.2	-58.8	-91.2	0.00	0.00	Teepee Buttes (*if present)
6,300.0	3.03	212.79	6,297.1	-95.5	-61.5	-95.5	0.00	0.00	
6,400.0	3.03	212.79	6,396.9	-100.0	-64.4	-100.0	0.00	0.00	
6,500.0	3.03	212.79	6,496.8	-104.4	-67.3	-104.4	0.00	0.00	
6,600.0	3.03	212.79	6,596.6	-108.9	-70.1	-108.9	0.00	0.00	
6,675.3	3.03	212.79	6,671.8	-112.2	-72.3	-112.2	0.00	0.00	Start build/turn @ 6675' MD
6,700.0	1.64	267.36	6,696.5	-112.8	-73.0	-112.8	10.00	-5.61	
6,800.0	10.06	350.69	6,796.0	-104.2	-75.8	-104.2	10.00	8.41	
6,900.0	19.99	355.48	6,892.4	-78.5	-78.6	-78.5	10.00	9.93	
7,000.0	29.97	357.15	6,983.0	-36.4	-81.2	-36.4	10.00	9.98	
7,100.0	39.95	358.04	7,064.8	20.8	-83.6	20.8	10.00	9.99	
7,196.1	49.55	358.60	7,133.0	88.3	-85.5	88.3	10.00	9.99	Sharon Springs
7,200.0	49.94	358.62	7,135.5	91.3	-85.6	91.3	10.00	9.99	
7,300.0	59.94	359.05	7,192.9	173.1	-87.2	173.1	10.00	9.99	
7,359.6	65.89	359.26	7,220.0	226.1	-88.0	226.1	10.00	9.99	Niobrara
7,400.0	69.93	359.40	7,235.2	263.5	-88.4	263.5	10.00	10.00	
7,493.5	79.28	359.69	7,260.0	353.6	-89.2	353.6	10.00	10.00	B Chalk
7,500.0	79.93	359.71	7,261.2	359.9	-89.2	359.9	10.00	10.00	
7,600.0	89.92	360.00	7,270.0	459.4	-89.4	459.4	10.00	10.00	
7,600.8	90.00	0.00	7,270.0	460.2	-89.4	460.2	10.00	10.00	LP @ 7270' TVD; 90°
7,700.0	90.00	0.00	7,270.0	559.4	-89.4	559.4	0.00	0.00	
7,800.0	90.00	0.00	7,270.0	659.4	-89.4	659.4	0.00	0.00	
7,900.0	90.00	0.00	7,270.0	759.4	-89.4	759.4	0.00	0.00	
8,000.0	90.00	0.00	7,270.0	859.4	-89.4	859.4	0.00	0.00	
8,100.0	90.00	0.00	7,270.0	959.4	-89.4	959.4	0.00	0.00	
8,200.0	90.00	0.00	7,270.0	1,059.4	-89.4	1,059.4	0.00	0.00	
8,300.0	90.00	0.00	7,270.0	1,159.4	-89.4	1,159.4	0.00	0.00	
8,400.0	90.00	0.00	7,270.0	1,259.4	-89.4	1,259.4	0.00	0.00	
8,500.0	90.00	0.00	7,270.0	1,359.4	-89.4	1,359.4	0.00	0.00	
8,600.0	90.00	0.00	7,270.0	1,459.4	-89.4	1,459.4	0.00	0.00	
8,700.0	90.00	0.00	7,270.0	1,559.4	-89.4	1,559.4	0.00	0.00	
8,799.8	90.00	0.00	7,270.0	1,659.2	-89.4	1,659.2	0.00	0.00	Start Turn 1.00
8,800.0	90.00	0.00	7,270.0	1,659.4	-89.4	1,659.4	0.00	0.00	
8,900.0	90.00	1.00	7,270.0	1,759.4	-88.6	1,759.4	1.00	0.00	
8,999.8	90.00	2.00	7,270.0	1,859.1	-85.9	1,859.1	1.00	0.00	End of turn @ 8999' MD
9,000.0	90.00	2.00	7,270.0	1,859.4	-85.9	1,859.4	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 4960.0ft (Original Well Elev)
Site:	S18-T2N-R67W	**North Reference:**	True
Well:	Kugel 1F-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
9,100.0	90.00	2.00	7,270.0	1,959.3	-82.5	1,959.3	0.00	0.00	
9,200.0	90.00	2.00	7,270.0	2,059.3	-79.0	2,059.3	0.00	0.00	
9,300.0	90.00	2.00	7,270.0	2,159.2	-75.5	2,159.2	0.00	0.00	
9,400.0	90.00	2.00	7,270.0	2,259.1	-72.0	2,259.1	0.00	0.00	
9,500.0	90.00	2.00	7,270.0	2,359.1	-68.5	2,359.1	0.00	0.00	
9,600.0	90.00	2.00	7,270.0	2,459.0	-65.0	2,459.0	0.00	0.00	
9,700.0	90.00	2.00	7,270.0	2,559.0	-61.5	2,559.0	0.00	0.00	
9,800.0	90.00	2.00	7,270.0	2,658.9	-58.0	2,658.9	0.00	0.00	
9,900.0	90.00	2.00	7,270.0	2,758.8	-54.5	2,758.8	0.00	0.00	
10,000.0	90.00	2.00	7,270.0	2,858.8	-51.0	2,858.8	0.00	0.00	
10,100.0	90.00	2.00	7,270.0	2,958.7	-47.6	2,958.7	0.00	0.00	
10,200.0	90.00	2.00	7,270.0	3,058.7	-44.1	3,058.7	0.00	0.00	
10,300.0	90.00	2.00	7,270.0	3,158.6	-40.6	3,158.6	0.00	0.00	
10,400.0	90.00	2.00	7,270.0	3,258.5	-37.1	3,258.5	0.00	0.00	
10,500.0	90.00	2.00	7,270.0	3,358.5	-33.6	3,358.5	0.00	0.00	
10,600.0	90.00	2.00	7,270.0	3,458.4	-30.1	3,458.4	0.00	0.00	
10,700.0	90.00	2.00	7,270.0	3,558.4	-26.6	3,558.4	0.00	0.00	
10,800.0	90.00	2.00	7,270.0	3,658.3	-23.1	3,658.3	0.00	0.00	
10,900.0	90.00	2.00	7,270.0	3,758.2	-19.6	3,758.2	0.00	0.00	
11,000.0	90.00	2.00	7,270.0	3,858.2	-16.1	3,858.2	0.00	0.00	
11,100.0	90.00	2.00	7,270.0	3,958.1	-12.7	3,958.1	0.00	0.00	
11,200.0	90.00	2.00	7,270.0	4,058.0	-9.2	4,058.0	0.00	0.00	
11,300.0	90.00	2.00	7,270.0	4,158.0	-5.7	4,158.0	0.00	0.00	
11,400.0	90.00	2.00	7,270.0	4,257.9	-2.2	4,257.9	0.00	0.00	
11,500.0	90.00	2.00	7,270.0	4,357.9	1.3	4,357.9	0.00	0.00	
11,600.0	90.00	2.00	7,270.0	4,457.8	4.8	4,457.8	0.00	0.00	
11,700.0	90.00	2.00	7,270.0	4,557.7	8.3	4,557.7	0.00	0.00	
11,800.0	90.00	2.00	7,270.0	4,657.7	11.8	4,657.7	0.00	0.00	
11,900.0	90.00	2.00	7,270.0	4,757.6	15.3	4,757.6	0.00	0.00	
12,000.0	90.00	2.00	7,270.0	4,857.6	18.8	4,857.6	0.00	0.00	
12,100.0	90.00	2.00	7,270.0	4,957.5	22.2	4,957.5	0.00	0.00	
12,200.0	90.00	2.00	7,270.0	5,057.4	25.7	5,057.4	0.00	0.00	
12,300.0	90.00	2.00	7,270.0	5,157.4	29.2	5,157.4	0.00	0.00	
12,400.0	90.00	2.00	7,270.0	5,257.3	32.7	5,257.3	0.00	0.00	
12,499.8	90.00	2.00	7,270.0	5,357.0	36.2	5,357.0	0.00	0.00	Start turn @ 12499' MD
12,500.0	90.00	2.00	7,270.0	5,357.3	36.2	5,357.3	0.00	0.00	
12,600.0	90.00	1.00	7,270.0	5,457.2	38.8	5,457.2	1.00	0.00	
12,700.0	90.00	360.00	7,270.0	5,557.2	39.7	5,557.2	1.00	0.00	
12,800.0	90.00	359.00	7,270.0	5,657.2	38.8	5,657.2	1.00	0.00	
12,900.0	90.00	358.00	7,270.0	5,757.2	36.2	5,757.2	1.00	0.00	
13,000.0	90.00	357.00	7,270.0	5,857.1	31.8	5,857.1	1.00	0.00	
13,100.0	90.00	356.00	7,270.0	5,956.9	25.7	5,956.9	1.00	0.00	
13,200.0	90.00	355.00	7,270.0	6,056.6	17.9	6,056.6	1.00	0.00	
13,297.8	90.00	354.02	7,270.0	6,153.9	8.5	6,153.9	1.00	0.00	End of turn @ 13297' MD
13,300.0	90.00	354.02	7,270.0	6,156.1	8.3	6,156.1	0.00	0.00	
13,400.0	90.00	354.02	7,270.0	6,255.6	-2.1	6,255.6	0.00	0.00	
13,500.0	90.00	354.02	7,270.0	6,355.0	-12.6	6,355.0	0.00	0.00	
13,600.0	90.00	354.02	7,270.0	6,454.5	-23.0	6,454.5	0.00	0.00	
13,700.0	90.00	354.02	7,270.0	6,553.9	-33.4	6,553.9	0.00	0.00	
13,800.0	90.00	354.02	7,270.0	6,653.4	-43.8	6,653.4	0.00	0.00	
13,900.0	90.00	354.02	7,270.0	6,752.9	-54.2	6,752.9	0.00	0.00	
14,000.0	90.00	354.02	7,270.0	6,852.3	-64.7	6,852.3	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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
14,100.0	90.00	354.02	7,270.0	6,951.8	-75.1	6,951.8	0.00	0.00	
14,200.0	90.00	354.02	7,270.0	7,051.2	-85.5	7,051.2	0.00	0.00	
14,237.9	90.00	354.02	7,270.0	7,089.0	-89.4	7,089.0	0.00	0.00	TD at 14237.9

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 1F-18H-H267 PBH - plan hits target center - Point	0.00	0.00	7,270.0	7,089.0	-89.4	1,301,325.01	3,160,413.05	40.159100	-104.926090
Kugel 1F-18H-H267 TGT - plan hits target center - Point	0.00	0.00	7,270.0	1,659.2	-89.4	1,295,895.36	3,160,448.21	40.144195	-104.926090

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
410.0	410.0	Fox Hills - BASE			
4,305.1	4,305.0	Sussex			
4,573.5	4,573.0	Sussex Marker			
4,861.9	4,861.0	Shannon			
6,202.8	6,200.0	Teepee Buttes (*if present)			
7,196.1	7,133.0	Sharon Springs			
7,359.6	7,220.0	Niobrara			
7,493.5	7,260.0	B Chalk			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
4,000.0	4,000.0	0.0	0.0	KOP @ 4000'
4,303.2	4,303.0	-6.7	-4.3	EOB; Inc=3°
6,675.3	6,671.8	-112.2	-72.3	Start build/turn @ 6675' MD
7,600.8	7,270.0	460.2	-89.4	LP @ 7270' TVD; 90°
8,799.8	7,270.0	1,659.2	-89.4	Start Turn 1.00
8,999.8	7,270.0	1,859.1	-85.9	End of turn @ 8999' MD
12,499.8	7,270.0	5,357.0	36.2	Start turn @ 12499' MD
13,297.8	7,270.0	6,153.9	8.5	End of turn @ 13297' MD
14,237.9	7,270.0	7,089.0	-89.4	TD at 14237.9

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S18-T2N-R67W
Kugel 1F-18H-H267
Hz
Plan #1

Anticollision Report

17 June, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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** 6/17/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	14,229.8	Plan #1 (Hz)	Geolink MWD	Geolink MWD

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
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	8,336.9	7,255.0	424.1	385.7	11.036	CC, ES
KUGEL 1 (EXISTING) - MACHII-ROSS WELL - NO SUR	8,400.0	7,255.0	428.8	389.4	10.881	SF
Kugel 1A-18H-H267 - Hz - Plan #1	166.3	167.3	50.3	49.8	93.720	CC
Kugel 1A-18H-H267 - Hz - Plan #1	200.0	201.0	50.3	49.7	76.892	ES
Kugel 1A-18H-H267 - Hz - Plan #1	800.0	793.7	81.4	78.6	29.382	SF
Kugel 1B-18H-H267 - Hz - Plan #1	266.3	267.3	39.1	38.3	44.176	CC
Kugel 1B-18H-H267 - Hz - Plan #1	300.0	301.0	39.1	38.1	39.003	ES
Kugel 1B-18H-H267 - Hz - Plan #1	800.0	796.4	60.8	58.0	22.039	SF
Kugel 1C-18H-H267 - Hz - Plan #1	366.3	367.3	30.8	29.5	24.900	CC
Kugel 1C-18H-H267 - Hz - Plan #1	400.0	401.0	30.8	29.4	22.737	ES
Kugel 1C-18H-H267 - Hz - Plan #1	700.0	699.1	38.6	36.2	16.075	SF
Kugel 1D-18H-H267 - Hz - Plan #1	500.0	500.0	19.6	17.9	11.512	CC, ES
Kugel 1D-18H-H267 - Hz - Plan #1	700.0	699.3	23.0	20.6	9.594	SF
Kugel 1E-18H-H267 - Hz - Plan #1	600.0	600.0	11.2	9.1	5.458	CC, ES
Kugel 1E-18H-H267 - Hz - Plan #1	14,237.9	14,416.2	408.1	192.5	1.893	SF
Kugel 1G-18H-H267 - Hz - Plan #1	500.0	500.0	11.2	9.5	6.579	CC, ES
Kugel 1G-18H-H267 - Hz - Plan #1	14,200.0	14,409.1	407.4	194.1	1.910	SF
KUGEL 2-18 (EXISTING) - ENCANA WELL - NO SURVE	7,729.3	7,260.0	418.8	389.0	14.024	CC, ES
KUGEL 2-18 (EXISTING) - ENCANA WELL - NO SURVE	7,800.0	7,260.0	424.8	394.0	13.817	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	8,864.1	7,235.0	107.5	60.8	2.299	CC, ES, SF
KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURV	4,000.0	3,988.0	37.7	23.8	2.711	CC, ES
KUGEL 42-18 (EXISTING) - ENCANA WELL - NO SURV	4,100.0	4,088.0	38.4	24.2	2.694	SF
MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEY	1,755.3	1,739.4	34.2	28.0	5.521	CC, ES
MILLER 12-17 (EXISTING) - ENCANA WELL - SURVEY	4,500.0	4,485.1	60.8	45.1	3.869	SF
WANDELL 1 (EXISTING) - ENCANA WELL - NO SURVE	13,757.2	7,200.0	400.8	270.5	3.075	CC, ES
WANDELL 1 (EXISTING) - ENCANA WELL - NO SURVE	13,800.0	7,200.0	403.1	272.0	3.075	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	14,202.6	7,273.3	116.0	-24.4	0.826	Level 1, CC, ES, SF
WANDELL 42-7 (EXISTING) - ENCANA WELL - SURVE	12,630.2	7,366.3	74.9	-46.6	0.617	Level 1, CC, ES, SF
WANDELL 43-7 (EXISTING) - ENCANA WELL - PLAN O	11,366.0	7,511.5	210.7	109.2	2.075	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						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 8-2-7 (EXISTING) - ENCANA WELL - NO SU						Out of range
WANDELL 8-4-7 (EXISTING) - ENCANA WELL - NO SU						Out of range
WANDELL 8-4-7 (EXISTING) - ENCANA WELL - NO SU						Out of range

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S18-T2N-R67W						
WANDELL E UNIT 1 (EXISTING) - ENCANA WELL - NO	10,319.1	7,225.0	385.2	314.0	5.407	CC, ES, SF
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	12,654.6	7,209.0	250.3	138.6	2.241	CC, ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,100.0	7,270.0	7,255.0	7,255.0	22.3	12.7	-90.00	1,196.3	-513.6	485.8	450.9	34.87	13.932	
8,200.0	7,270.0	7,255.0	7,255.0	23.7	12.7	-90.00	1,196.3	-513.6	445.7	409.3	36.35	12.261	
8,300.0	7,270.0	7,255.0	7,255.0	25.2	12.7	-90.00	1,196.3	-513.6	425.7	387.9	37.86	11.244	
8,336.9	7,270.0	7,255.0	7,255.0	25.8	12.7	-90.00	1,196.3	-513.6	424.1	385.7	38.43	11.036	CC, ES
8,400.0	7,270.0	7,255.0	7,255.0	26.8	12.7	-90.00	1,196.3	-513.6	428.8	389.4	39.41	10.881	SF
8,500.0	7,270.0	7,255.0	7,255.0	28.4	12.7	-90.00	1,196.3	-513.6	454.4	413.4	40.97	11.090	
8,600.0	7,270.0	7,255.0	7,255.0	29.9	12.7	-90.00	1,196.3	-513.6	499.1	456.5	42.56	11.726	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
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	
166.3	166.3	167.3	167.3	0.3	0.3	-89.95	0.0	-50.3	50.3	49.8	0.54	93.720	CC
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-50.3	50.3	49.7	0.65	76.892	ES
300.0	300.0	300.0	300.0	0.5	0.5	-90.05	0.0	-51.2	51.2	50.2	1.00	51.100	
400.0	400.0	399.2	399.1	0.7	0.7	-90.34	-0.3	-53.8	53.8	52.5	1.35	39.831	
500.0	500.0	498.1	498.0	0.8	0.9	-90.75	-0.8	-58.0	58.1	56.4	1.70	34.171	
600.0	600.0	596.9	596.6	1.0	1.1	-91.23	-1.4	-64.0	64.2	62.1	2.05	31.245	
700.0	700.0	695.4	694.8	1.2	1.3	-91.73	-2.2	-71.6	71.9	69.5	2.41	29.848	
800.0	800.0	793.7	792.6	1.4	1.5	-92.22	-3.1	-80.9	81.4	78.6	2.77	29.382	SF
900.0	900.0	891.6	889.9	1.5	1.7	-92.66	-4.3	-91.8	92.6	89.4	3.14	29.516	
1,000.0	1,000.0	989.0	986.5	1.7	2.0	-93.05	-5.6	-104.3	105.4	101.9	3.51	30.053	
1,100.0	1,100.0	1,086.1	1,082.5	1.9	2.3	-93.39	-7.0	-118.3	120.0	116.1	3.89	30.865	
1,200.0	1,200.0	1,182.6	1,177.8	2.1	2.6	-93.69	-8.6	-133.9	136.2	131.9	4.27	31.868	
1,300.0	1,300.0	1,278.5	1,272.2	2.2	2.9	-93.94	-10.4	-151.0	154.1	149.4	4.67	33.001	
1,400.0	1,400.0	1,373.9	1,365.7	2.4	3.3	-94.16	-12.3	-169.5	173.6	168.5	5.07	34.223	
1,500.0	1,500.0	1,468.6	1,458.2	2.6	3.7	-94.34	-14.4	-189.4	194.7	189.3	5.48	35.504	
1,600.0	1,600.0	1,562.6	1,549.8	2.8	4.1	-94.50	-16.6	-210.7	217.5	211.6	5.91	36.822	
1,700.0	1,700.0	1,655.8	1,640.2	2.9	4.5	-94.64	-18.9	-233.3	241.8	235.5	6.34	38.158	
1,800.0	1,800.0	1,748.3	1,729.5	3.1	5.0	-94.76	-21.4	-257.1	267.7	261.0	6.78	39.502	
1,900.0	1,900.0	1,840.6	1,818.3	3.3	5.4	-94.87	-24.0	-282.3	295.2	288.0	7.23	40.849	
2,000.0	2,000.0	1,936.6	1,910.4	3.5	5.9	-94.96	-26.8	-309.1	323.2	315.5	7.69	42.025	
2,100.0	2,100.0	2,032.6	2,002.5	3.6	6.4	-95.03	-29.6	-335.9	351.3	343.1	8.16	43.053	
2,200.0	2,200.0	2,128.6	2,094.7	3.8	6.9	-95.10	-32.4	-362.6	379.3	370.7	8.63	43.958	
2,300.0	2,300.0	2,224.5	2,186.8	4.0	7.4	-95.16	-35.1	-389.4	407.3	398.2	9.10	44.759	
2,400.0	2,400.0	2,320.5	2,279.0	4.2	7.9	-95.21	-37.9	-416.2	435.3	425.8	9.57	45.474	
2,500.0	2,500.0	2,416.5	2,371.1	4.3	8.4	-95.25	-40.7	-442.9	463.4	453.3	10.05	46.116	
2,600.0	2,600.0	2,512.5	2,463.3	4.5	8.9	-95.29	-43.5	-469.7	491.4	480.9	10.52	46.694	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
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	
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-39.1	39.1	38.5	0.65	59.803	
266.3	266.3	267.3	267.3	0.4	0.4	-89.95	0.0	-39.1	39.1	38.3	0.89	44.176	CC
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-39.1	39.1	38.1	1.00	39.003	ES
400.0	400.0	400.0	400.0	0.7	0.7	-90.06	0.0	-40.0	40.0	38.7	1.35	29.624	
500.0	500.0	499.6	499.5	0.8	0.9	-90.35	-0.3	-42.6	42.6	40.9	1.70	25.072	
600.0	600.0	598.7	598.6	1.0	1.0	-90.77	-0.6	-46.9	47.0	44.9	2.05	22.904	
700.0	700.0	697.6	697.3	1.2	1.2	-91.24	-1.1	-52.9	53.0	50.6	2.40	22.066	
800.0	800.0	796.4	795.7	1.4	1.4	-91.70	-1.8	-60.6	60.8	58.0	2.76	22.039	SF
900.0	900.0	894.8	893.7	1.5	1.7	-92.13	-2.6	-69.9	70.3	67.2	3.12	22.538	
1,000.0	1,000.0	992.9	991.2	1.7	1.9	-92.50	-3.5	-80.8	81.5	78.0	3.48	23.389	
1,100.0	1,100.0	1,090.5	1,088.0	1.9	2.2	-92.82	-4.6	-93.4	94.4	90.5	3.86	24.480	
1,200.0	1,200.0	1,187.7	1,184.2	2.1	2.5	-93.10	-5.8	-107.5	109.0	104.8	4.23	25.736	
1,300.0	1,300.0	1,284.4	1,279.6	2.2	2.8	-93.32	-7.2	-123.2	125.2	120.6	4.62	27.104	
1,400.0	1,400.0	1,380.6	1,374.2	2.4	3.1	-93.52	-8.6	-140.4	143.2	138.2	5.02	28.547	
1,500.0	1,500.0	1,476.1	1,467.8	2.6	3.4	-93.68	-10.2	-159.0	162.7	157.3	5.42	30.036	
1,600.0	1,600.0	1,570.9	1,560.5	2.8	3.8	-93.81	-11.9	-179.0	183.9	178.1	5.83	31.549	
1,700.0	1,700.0	1,667.2	1,654.3	2.9	4.2	-93.93	-13.8	-200.6	206.4	200.2	6.25	33.021	
1,800.0	1,800.0	1,764.6	1,749.2	3.1	4.6	-94.02	-15.7	-222.5	229.0	222.3	6.68	34.293	
1,900.0	1,900.0	1,862.0	1,844.1	3.3	5.0	-94.10	-17.5	-244.5	251.6	244.5	7.11	35.398	
2,000.0	2,000.0	1,959.4	1,939.0	3.5	5.4	-94.17	-19.4	-266.4	274.2	266.7	7.54	36.368	
2,100.0	2,100.0	2,056.9	2,033.9	3.6	5.9	-94.22	-21.3	-288.3	296.8	288.8	7.97	37.224	
2,200.0	2,200.0	2,154.3	2,128.8	3.8	6.3	-94.27	-23.2	-310.3	319.4	311.0	8.41	37.985	
2,300.0	2,300.0	2,251.7	2,223.7	4.0	6.7	-94.31	-25.0	-332.2	342.0	333.2	8.85	38.666	
2,400.0	2,400.0	2,349.1	2,318.6	4.2	7.1	-94.34	-26.9	-354.2	364.6	355.3	9.28	39.278	
2,500.0	2,500.0	2,446.5	2,413.5	4.3	7.5	-94.38	-28.8	-376.1	387.2	377.5	9.72	39.832	
2,600.0	2,600.0	2,543.9	2,508.4	4.5	7.9	-94.40	-30.7	-398.0	409.8	399.7	10.16	40.334	
2,700.0	2,700.0	2,641.3	2,603.3	4.7	8.4	-94.43	-32.5	-420.0	432.4	421.8	10.60	40.793	
2,800.0	2,800.0	2,738.7	2,698.1	4.9	8.8	-94.45	-34.4	-441.9	455.0	444.0	11.04	41.213	
2,900.0	2,900.0	2,836.2	2,793.0	5.0	9.2	-94.47	-36.3	-463.9	477.6	466.2	11.48	41.599	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-89.95	0.0	-30.8	30.8				
100.0	100.0	101.0	101.0	0.2	0.2	-89.95	0.0	-30.8	30.8	30.4	0.31	100.689	
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-30.8	30.8	30.1	0.65	46.988	
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-30.8	30.8	29.8	1.00	30.645	
366.3	366.3	367.3	367.3	0.6	0.6	-89.95	0.0	-30.8	30.8	29.5	1.24	24.900	CC
400.0	400.0	401.0	401.0	0.7	0.7	-89.95	0.0	-30.8	30.8	29.4	1.35	22.737	ES
500.0	500.0	500.5	500.4	0.8	0.9	-90.13	-0.1	-31.6	31.6	29.9	1.70	18.599	
600.0	600.0	600.0	600.0	1.0	1.0	-90.60	-0.4	-34.2	34.2	32.2	2.05	16.704	
700.0	700.0	699.1	699.0	1.2	1.2	-91.25	-0.8	-38.5	38.6	36.2	2.40	16.075	SF
800.0	800.0	798.2	797.9	1.4	1.4	-91.94	-1.5	-44.5	44.6	41.9	2.75	16.222	
900.0	900.0	897.1	896.5	1.5	1.6	-92.59	-2.4	-52.2	52.4	49.3	3.11	16.874	
1,000.0	1,000.0	995.7	994.6	1.7	1.8	-93.16	-3.4	-61.5	61.9	58.5	3.47	17.867	
1,100.0	1,100.0	1,093.9	1,092.2	1.9	2.1	-93.65	-4.6	-72.5	73.1	69.3	3.83	19.096	
1,200.0	1,200.0	1,191.7	1,189.2	2.1	2.3	-94.05	-6.0	-85.0	86.1	81.9	4.20	20.489	
1,300.0	1,300.0	1,289.0	1,285.5	2.2	2.6	-94.38	-7.6	-99.2	100.7	96.1	4.58	21.993	
1,400.0	1,400.0	1,386.4	1,381.5	2.4	2.9	-94.65	-9.3	-114.9	116.9	111.9	4.96	23.563	
1,500.0	1,500.0	1,485.0	1,478.8	2.6	3.2	-94.86	-11.2	-131.2	133.5	128.2	5.35	24.960	
1,600.0	1,600.0	1,583.6	1,576.0	2.8	3.5	-95.03	-13.0	-147.5	150.2	144.5	5.74	26.156	
1,700.0	1,700.0	1,682.2	1,673.2	2.9	3.8	-95.16	-14.8	-163.9	166.9	160.7	6.14	27.191	
1,800.0	1,800.0	1,780.8	1,770.4	3.1	4.2	-95.27	-16.6	-180.2	183.5	177.0	6.53	28.093	
1,900.0	1,900.0	1,879.4	1,867.6	3.3	4.5	-95.36	-18.4	-196.5	200.2	193.3	6.93	28.886	
2,000.0	2,000.0	1,978.0	1,964.9	3.5	4.8	-95.43	-20.2	-212.9	216.9	209.5	7.33	29.589	
2,100.0	2,100.0	2,076.6	2,062.1	3.6	5.1	-95.50	-22.1	-229.2	233.5	225.8	7.73	30.215	
2,200.0	2,200.0	2,175.2	2,159.3	3.8	5.5	-95.56	-23.9	-245.5	250.2	242.1	8.13	30.777	
2,300.0	2,300.0	2,273.8	2,256.5	4.0	5.8	-95.61	-25.7	-261.9	266.9	258.3	8.53	31.283	
2,400.0	2,400.0	2,372.4	2,353.8	4.2	6.1	-95.65	-27.5	-278.2	283.5	274.6	8.93	31.742	
2,500.0	2,500.0	2,471.0	2,451.0	4.3	6.5	-95.69	-29.3	-294.5	300.2	290.8	9.33	32.160	
2,600.0	2,600.0	2,569.6	2,548.2	4.5	6.8	-95.72	-31.2	-310.9	316.8	307.1	9.74	32.542	
2,700.0	2,700.0	2,668.2	2,645.4	4.7	7.1	-95.75	-33.0	-327.2	333.5	323.4	10.14	32.892	
2,800.0	2,800.0	2,766.8	2,742.6	4.9	7.5	-95.78	-34.8	-343.5	350.2	339.6	10.54	33.214	
2,900.0	2,900.0	2,865.4	2,839.9	5.0	7.8	-95.81	-36.6	-359.9	366.8	355.9	10.95	33.512	
3,000.0	3,000.0	2,964.0	2,937.1	5.2	8.1	-95.83	-38.4	-376.2	383.5	372.2	11.35	33.788	
3,100.0	3,100.0	3,062.6	3,034.3	5.4	8.5	-95.85	-40.2	-392.5	400.2	388.4	11.75	34.044	
3,200.0	3,200.0	3,161.2	3,131.5	5.6	8.8	-95.87	-42.1	-408.9	416.8	404.7	12.16	34.282	
3,300.0	3,300.0	3,259.8	3,228.8	5.7	9.1	-95.89	-43.9	-425.2	433.5	420.9	12.56	34.505	
3,400.0	3,400.0	3,358.4	3,326.0	5.9	9.5	-95.91	-45.7	-441.5	450.2	437.2	12.97	34.713	
3,500.0	3,500.0	3,457.0	3,423.2	6.1	9.8	-95.93	-47.5	-457.9	466.8	453.5	13.37	34.908	
3,600.0	3,600.0	3,555.6	3,520.4	6.3	10.1	-95.94	-49.3	-474.2	483.5	469.7	13.78	35.091	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-19.6	19.6				
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-19.6	19.6	19.3	0.30	64.443	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-19.6	19.6	18.9	0.65	29.982	
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-19.6	19.6	18.6	1.00	19.535	
400.0	400.0	400.0	400.0	0.7	0.7	-89.95	0.0	-19.6	19.6	18.2	1.35	14.487	
500.0	500.0	500.0	500.0	0.8	0.8	-89.95	0.0	-19.6	19.6	17.9	1.70	11.512	CC, ES
600.0	600.0	599.7	599.7	1.0	1.0	-90.39	-0.1	-20.4	20.4	18.4	2.05	9.972	
700.0	700.0	699.3	699.2	1.2	1.2	-91.52	-0.6	-23.0	23.0	20.6	2.40	9.594	SF
800.0	800.0	798.7	798.6	1.4	1.4	-92.92	-1.4	-27.2	27.3	24.6	2.75	9.938	
900.0	900.0	898.0	897.7	1.5	1.6	-94.28	-2.5	-33.2	33.3	30.2	3.10	10.758	
1,000.0	1,000.0	997.1	996.5	1.7	1.8	-95.43	-3.9	-40.8	41.1	37.6	3.45	11.903	
1,100.0	1,100.0	1,095.8	1,094.8	1.9	2.0	-96.36	-5.6	-50.0	50.6	46.8	3.81	13.275	
1,200.0	1,200.0	1,195.1	1,193.4	2.1	2.2	-97.07	-7.5	-60.5	61.3	57.1	4.17	14.688	
1,300.0	1,300.0	1,294.5	1,292.2	2.2	2.5	-97.57	-9.4	-71.0	72.1	67.5	4.54	15.878	
1,400.0	1,400.0	1,393.9	1,391.1	2.4	2.7	-97.94	-11.4	-81.6	82.8	77.9	4.90	16.886	
1,500.0	1,500.0	1,493.3	1,489.9	2.6	2.9	-98.22	-13.3	-92.1	93.6	88.3	5.27	17.750	
1,600.0	1,600.0	1,592.7	1,588.8	2.8	3.2	-98.45	-15.2	-102.6	104.4	98.7	5.64	18.498	
1,700.0	1,700.0	1,692.1	1,687.6	2.9	3.4	-98.63	-17.2	-113.2	115.1	109.1	6.01	19.152	
1,800.0	1,800.0	1,791.6	1,786.4	3.1	3.7	-98.78	-19.1	-123.7	125.9	119.5	6.38	19.729	
1,900.0	1,900.0	1,891.0	1,885.3	3.3	3.9	-98.91	-21.0	-134.2	136.7	129.9	6.75	20.240	
2,000.0	2,000.0	1,990.4	1,984.1	3.5	4.2	-99.02	-23.0	-144.8	147.4	140.3	7.12	20.697	
2,100.0	2,100.0	2,089.8	2,083.0	3.6	4.4	-99.12	-24.9	-155.3	158.2	150.7	7.50	21.107	
2,200.0	2,200.0	2,189.2	2,181.8	3.8	4.7	-99.20	-26.9	-165.8	169.0	161.1	7.87	21.478	
2,300.0	2,300.0	2,288.6	2,280.6	4.0	4.9	-99.27	-28.8	-176.4	179.7	171.5	8.24	21.814	
2,400.0	2,400.0	2,388.1	2,379.5	4.2	5.2	-99.34	-30.7	-186.9	190.5	181.9	8.61	22.120	
2,500.0	2,500.0	2,487.5	2,478.3	4.3	5.4	-99.39	-32.7	-197.4	201.3	192.3	8.99	22.401	
2,600.0	2,600.0	2,586.9	2,577.2	4.5	5.7	-99.44	-34.6	-208.0	212.1	202.7	9.36	22.659	
2,700.0	2,700.0	2,686.3	2,676.0	4.7	5.9	-99.49	-36.5	-218.5	222.8	213.1	9.73	22.897	
2,800.0	2,800.0	2,785.7	2,774.8	4.9	6.2	-99.53	-38.5	-229.0	233.6	223.5	10.11	23.116	
2,900.0	2,900.0	2,885.2	2,873.7	5.0	6.4	-99.57	-40.4	-239.6	244.4	233.9	10.48	23.320	
3,000.0	3,000.0	2,984.6	2,972.5	5.2	6.7	-99.61	-42.3	-250.1	255.2	244.3	10.85	23.509	
3,100.0	3,100.0	3,084.0	3,071.4	5.4	6.9	-99.64	-44.3	-260.6	265.9	254.7	11.23	23.686	
3,200.0	3,200.0	3,183.4	3,170.2	5.6	7.2	-99.67	-46.2	-271.2	276.7	265.1	11.60	23.851	
3,300.0	3,300.0	3,282.8	3,269.0	5.7	7.4	-99.70	-48.1	-281.7	287.5	275.5	11.98	24.006	
3,400.0	3,400.0	3,382.2	3,367.9	5.9	7.7	-99.72	-50.1	-292.3	298.2	285.9	12.35	24.151	
3,500.0	3,500.0	3,481.7	3,466.7	6.1	7.9	-99.75	-52.0	-302.8	309.0	296.3	12.72	24.287	
3,600.0	3,600.0	3,581.1	3,565.5	6.3	8.2	-99.77	-53.9	-313.3	319.8	306.7	13.10	24.415	
3,700.0	3,700.0	3,680.5	3,664.4	6.4	8.5	-99.79	-55.9	-323.9	330.6	317.1	13.47	24.536	
3,800.0	3,800.0	3,779.9	3,763.2	6.6	8.7	-99.81	-57.8	-334.4	341.3	327.5	13.85	24.651	
3,900.0	3,900.0	3,879.3	3,862.1	6.8	9.0	-99.83	-59.8	-344.9	352.1	337.9	14.22	24.759	
4,000.0	4,000.0	3,978.8	3,960.9	7.0	9.2	-99.85	-61.7	-355.5	362.9	348.3	14.60	24.862	
4,100.0	4,100.0	4,078.2	4,059.8	7.1	9.5	47.37	-63.6	-366.0	373.1	358.9	14.22	26.232	
4,200.0	4,200.0	4,177.8	4,158.8	7.3	9.7	47.58	-65.6	-376.6	382.1	367.5	14.57	26.218	
4,300.0	4,299.9	4,277.5	4,257.9	7.5	10.0	47.97	-67.5	-387.1	389.9	375.0	14.93	26.126	
4,400.0	4,399.7	4,377.1	4,357.0	7.7	10.2	48.50	-69.4	-397.7	397.2	381.9	15.28	26.001	
4,500.0	4,499.6	4,476.8	4,456.0	7.8	10.5	49.01	-71.4	-408.2	404.5	388.9	15.63	25.881	
4,600.0	4,599.4	4,576.5	4,555.1	8.0	10.7	49.51	-73.3	-418.8	411.8	395.9	15.98	25.767	
4,700.0	4,699.3	4,676.1	4,654.2	8.2	11.0	49.99	-75.3	-429.4	419.2	402.9	16.34	25.658	
4,800.0	4,799.2	4,775.8	4,753.3	8.4	11.3	50.45	-77.2	-439.9	426.6	409.9	16.69	25.553	
4,900.0	4,899.0	4,875.5	4,852.4	8.6	11.5	50.89	-79.1	-450.5	434.0	417.0	17.05	25.453	
5,000.0	4,998.9	4,975.1	4,951.5	8.7	11.8	51.32	-81.1	-461.0	441.4	424.0	17.41	25.357	
5,100.0	5,098.7	5,074.8	5,050.6	8.9	12.0	51.74	-83.0	-471.6	448.9	431.1	17.77	25.265	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,198.6	5,174.5	5,149.7	9.1	12.3	52.14	-85.0	-482.2	456.4	438.3	18.13	25.176	
5,300.0	5,298.5	5,274.1	5,248.7	9.3	12.5	52.53	-86.9	-492.7	463.9	445.4	18.49	25.091	
5,400.0	5,398.3	5,373.8	5,347.8	9.5	12.8	52.91	-88.8	-503.3	471.4	452.6	18.85	25.009	
5,500.0	5,498.2	5,473.5	5,446.9	9.7	13.0	53.27	-90.8	-513.9	479.0	459.8	19.21	24.930	
5,600.0	5,598.0	5,573.1	5,546.0	9.8	13.3	53.63	-92.7	-524.4	486.6	467.0	19.58	24.854	
5,700.0	5,697.9	5,672.8	5,645.1	10.0	13.6	53.97	-94.7	-535.0	494.1	474.2	19.94	24.780	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
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	
600.0	600.0	600.0	600.0	1.0	1.0	-89.96	0.0	-11.2	11.2	9.1	2.05	5.458	CC, ES
700.0	700.0	699.8	699.8	1.2	1.2	-91.55	-0.3	-12.0	12.0	9.6	2.40	5.001	
800.0	800.0	799.6	799.5	1.4	1.4	-95.24	-1.3	-14.4	14.5	11.7	2.75	5.266	
900.0	900.0	899.3	899.1	1.5	1.6	-99.16	-3.0	-18.4	18.6	15.5	3.10	6.011	
1,000.0	1,000.0	999.2	998.9	1.7	1.7	-101.88	-4.8	-22.8	23.3	19.8	3.45	6.757	
1,100.0	1,100.0	1,099.0	1,098.7	1.9	1.9	-103.68	-6.6	-27.2	28.0	24.2	3.80	7.373	
1,200.0	1,200.0	1,198.9	1,198.4	2.1	2.1	-104.96	-8.4	-31.6	32.7	28.6	4.15	7.889	
1,300.0	1,300.0	1,298.8	1,298.2	2.2	2.3	-105.92	-10.3	-36.0	37.5	33.0	4.50	8.326	
1,400.0	1,400.0	1,398.7	1,398.0	2.4	2.5	-106.66	-12.1	-40.4	42.2	37.4	4.85	8.701	
1,500.0	1,500.0	1,498.6	1,497.8	2.6	2.7	-107.26	-13.9	-44.8	47.0	41.8	5.21	9.026	
1,600.0	1,600.0	1,598.5	1,597.5	2.8	2.9	-107.74	-15.8	-49.2	51.8	46.2	5.56	9.309	
1,700.0	1,700.0	1,698.4	1,697.3	2.9	3.1	-108.14	-17.6	-53.7	56.5	50.6	5.91	9.559	
1,800.0	1,800.0	1,798.2	1,797.1	3.1	3.3	-108.48	-19.4	-58.1	61.3	55.0	6.27	9.782	
1,900.0	1,900.0	1,898.1	1,896.8	3.3	3.4	-108.77	-21.2	-62.5	66.1	59.4	6.62	9.980	
2,000.0	2,000.0	1,998.0	1,996.6	3.5	3.6	-109.02	-23.1	-66.9	70.8	63.9	6.97	10.158	
2,100.0	2,100.0	2,097.9	2,096.4	3.6	3.8	-109.24	-24.9	-71.3	75.6	68.3	7.33	10.319	
2,200.0	2,200.0	2,197.8	2,196.2	3.8	4.0	-109.44	-26.7	-75.7	80.4	72.7	7.68	10.466	
2,300.0	2,300.0	2,297.7	2,295.9	4.0	4.2	-109.61	-28.5	-80.1	85.2	77.1	8.03	10.599	
2,400.0	2,400.0	2,397.6	2,395.7	4.2	4.4	-109.76	-30.4	-84.5	89.9	81.5	8.39	10.721	
2,500.0	2,500.0	2,497.4	2,495.5	4.3	4.6	-109.90	-32.2	-89.0	94.7	86.0	8.74	10.834	
2,600.0	2,600.0	2,597.3	2,595.2	4.5	4.8	-110.02	-34.0	-93.4	99.5	90.4	9.10	10.937	
2,700.0	2,700.0	2,697.2	2,695.0	4.7	5.0	-110.14	-35.9	-97.8	104.3	94.8	9.45	11.033	
2,800.0	2,800.0	2,797.1	2,794.8	4.9	5.2	-110.24	-37.7	-102.2	109.0	99.2	9.80	11.122	
2,900.0	2,900.0	2,897.0	2,894.6	5.0	5.4	-110.33	-39.5	-106.6	113.8	103.7	10.16	11.205	
3,000.0	3,000.0	2,996.9	2,994.3	5.2	5.6	-110.42	-41.3	-111.0	118.6	108.1	10.51	11.282	
3,100.0	3,100.0	3,096.8	3,094.1	5.4	5.7	-110.50	-43.2	-115.4	123.4	112.5	10.87	11.354	
3,200.0	3,200.0	3,196.6	3,193.9	5.6	5.9	-110.58	-45.0	-119.8	128.2	116.9	11.22	11.421	
3,300.0	3,300.0	3,296.5	3,293.6	5.7	6.1	-110.65	-46.8	-124.3	132.9	121.4	11.57	11.485	
3,400.0	3,400.0	3,396.4	3,393.4	5.9	6.3	-110.71	-48.6	-128.7	137.7	125.8	11.93	11.544	
3,500.0	3,500.0	3,496.3	3,493.2	6.1	6.5	-110.77	-50.5	-133.1	142.5	130.2	12.28	11.600	
3,600.0	3,600.0	3,596.2	3,593.0	6.3	6.7	-110.83	-52.3	-137.5	147.3	134.6	12.64	11.653	
3,700.0	3,700.0	3,696.1	3,692.7	6.4	6.9	-110.88	-54.1	-141.9	152.0	139.1	12.99	11.703	
3,800.0	3,800.0	3,796.0	3,792.5	6.6	7.1	-110.93	-56.0	-146.3	156.8	143.5	13.35	11.751	
3,900.0	3,900.0	3,895.8	3,892.3	6.8	7.3	-110.97	-57.8	-150.7	161.6	147.9	13.70	11.796	
4,000.0	4,000.0	3,995.7	3,992.0	7.0	7.5	-111.02	-59.6	-155.1	166.4	152.3	14.05	11.839	
4,100.0	4,100.0	4,095.6	4,091.8	7.1	7.7	36.30	-61.4	-159.6	170.5	156.2	14.26	11.955	
4,200.0	4,200.0	4,195.6	4,191.7	7.3	7.9	36.75	-63.3	-164.0	173.1	158.5	14.61	11.853	
4,300.0	4,299.9	4,295.6	4,291.5	7.5	8.1	37.55	-65.1	-168.4	174.4	159.5	14.96	11.663	
4,400.0	4,399.7	4,395.5	4,391.4	7.7	8.3	38.52	-66.9	-172.8	175.1	159.7	15.31	11.435	
4,500.0	4,499.6	4,495.5	4,491.2	7.8	8.4	39.49	-68.8	-177.2	175.7	160.1	15.66	11.220	
4,600.0	4,599.4	4,595.4	4,591.1	8.0	8.6	40.45	-70.6	-181.6	176.4	160.4	16.01	11.017	
4,700.0	4,699.3	4,695.4	4,690.9	8.2	8.8	41.41	-72.4	-186.0	177.2	160.8	16.37	10.824	
4,800.0	4,799.2	4,795.3	4,790.7	8.4	9.0	42.36	-74.2	-190.5	178.0	161.3	16.72	10.643	
4,900.0	4,899.0	4,895.3	4,890.6	8.6	9.2	43.29	-76.1	-194.9	178.8	161.8	17.08	10.471	
5,000.0	4,998.9	4,995.2	4,990.4	8.7	9.4	44.22	-77.9	-199.3	179.7	162.3	17.44	10.308	
5,100.0	5,098.7	5,095.2	5,090.2	8.9	9.6	45.14	-79.7	-203.7	180.7	162.9	17.80	10.153	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,198.6	5,195.1	5,190.1	9.1	9.8	46.05	-81.6	-208.1	181.7	163.5	18.16	10.007	
5,300.0	5,298.5	5,295.1	5,289.9	9.3	10.0	46.95	-83.4	-212.5	182.7	164.2	18.52	9.868	
5,400.0	5,398.3	5,395.0	5,389.8	9.5	10.2	47.84	-85.2	-217.0	183.8	164.9	18.88	9.736	
5,500.0	5,498.2	5,495.0	5,489.6	9.7	10.4	48.71	-87.0	-221.4	184.9	165.7	19.24	9.611	
5,600.0	5,598.0	5,594.9	5,589.4	9.8	10.6	49.58	-88.9	-225.8	186.1	166.5	19.61	9.493	
5,700.0	5,697.9	5,694.9	5,689.3	10.0	10.8	50.44	-90.7	-230.2	187.3	167.4	19.97	9.380	
5,800.0	5,797.8	5,794.9	5,789.1	10.2	11.0	51.28	-92.5	-234.6	188.6	168.2	20.34	9.272	
5,900.0	5,897.6	5,894.8	5,889.0	10.4	11.1	52.11	-94.4	-239.0	189.9	169.2	20.71	9.170	
6,000.0	5,997.5	5,994.8	5,988.8	10.6	11.3	52.94	-96.2	-243.5	191.2	170.1	21.07	9.073	
6,100.0	6,097.3	6,094.7	6,088.6	10.8	11.5	53.75	-98.0	-247.9	192.6	171.1	21.44	8.981	
6,200.0	6,197.2	6,194.7	6,188.5	11.0	11.7	54.54	-99.8	-252.3	194.0	172.2	21.82	8.893	
6,300.0	6,297.1	6,294.6	6,288.3	11.2	11.9	55.33	-101.7	-256.7	195.5	173.3	22.19	8.810	
6,400.0	6,396.9	6,394.6	6,388.2	11.3	12.1	56.11	-103.5	-261.1	196.9	174.4	22.56	8.730	
6,500.0	6,496.8	6,494.5	6,488.0	11.5	12.3	56.87	-105.3	-265.5	198.5	175.5	22.93	8.654	
6,600.0	6,596.6	6,594.5	6,587.8	11.7	12.5	57.62	-107.2	-269.9	200.0	176.7	23.31	8.582	
6,700.0	6,696.5	6,694.4	6,687.7	11.9	12.7	3.72	-109.0	-274.4	201.6	177.9	23.68	8.514	
6,800.0	6,796.0	6,793.8	6,786.9	12.1	12.9	-82.23	-110.8	-278.7	203.2	179.3	23.95	8.487	
6,900.0	6,892.4	6,889.8	6,882.8	12.2	13.1	-93.74	-112.6	-283.0	207.4	183.3	24.12	8.600	
7,000.0	6,983.0	6,989.5	6,982.2	12.3	13.2	-104.32	-108.9	-287.5	218.6	194.4	24.20	9.036	
7,100.0	7,064.8	7,099.0	7,088.9	12.5	13.4	-113.30	-85.6	-292.5	235.7	211.5	24.14	9.764	
7,200.0	7,135.5	7,218.9	7,198.3	12.8	13.6	-120.62	-37.3	-297.9	256.1	232.1	23.95	10.693	
7,300.0	7,192.9	7,351.0	7,304.2	13.2	13.8	-126.34	40.9	-303.6	276.9	253.2	23.72	11.673	
7,400.0	7,235.2	7,495.8	7,396.5	13.9	14.4	-130.43	152.0	-309.1	295.2	271.4	23.71	12.447	
7,500.0	7,261.2	7,652.2	7,461.5	14.8	15.4	-132.86	293.6	-313.7	308.1	283.9	24.20	12.731	
7,600.0	7,270.0	7,815.8	7,486.0	15.8	16.9	-133.54	454.8	-316.7	313.6	288.2	25.42	12.335	
7,700.0	7,270.0	7,917.7	7,486.0	16.9	17.9	-133.38	556.6	-318.0	314.5	287.3	27.14	11.589	
7,800.0	7,270.0	8,017.7	7,486.0	18.1	19.1	-133.23	656.6	-319.2	315.4	286.4	28.97	10.884	
7,900.0	7,270.0	8,117.7	7,486.0	19.5	20.4	-133.08	756.6	-320.4	316.3	285.3	30.93	10.225	
8,000.0	7,270.0	8,217.7	7,486.0	20.8	21.7	-132.93	856.6	-321.6	317.1	284.2	32.99	9.614	
8,100.0	7,270.0	8,317.7	7,486.0	22.3	23.1	-132.78	956.6	-322.9	318.0	282.9	35.13	9.053	
8,200.0	7,270.0	8,417.7	7,486.0	23.7	24.5	-132.63	1,056.6	-324.1	318.9	281.6	37.34	8.540	
8,300.0	7,270.0	8,517.7	7,486.0	25.2	26.0	-132.48	1,156.5	-325.3	319.8	280.2	39.62	8.072	
8,400.0	7,270.0	8,617.6	7,486.0	26.8	27.5	-132.34	1,256.5	-326.5	320.7	278.8	41.96	7.645	
8,500.0	7,270.0	8,717.6	7,486.0	28.4	29.0	-132.19	1,356.5	-327.8	321.6	277.3	44.34	7.255	
8,600.0	7,270.0	8,817.6	7,486.0	29.9	30.6	-132.04	1,456.5	-329.0	322.6	275.8	46.76	6.898	
8,700.0	7,270.0	8,917.6	7,486.0	31.5	32.2	-131.90	1,556.5	-330.2	323.5	274.2	49.22	6.572	
8,800.0	7,270.0	9,017.6	7,486.0	33.2	33.7	-131.75	1,656.5	-331.4	324.4	272.7	51.72	6.272	
8,900.0	7,270.0	9,117.6	7,486.0	34.8	35.4	-131.52	1,756.4	-332.6	325.9	271.7	54.20	6.014	
9,000.0	7,270.0	9,217.5	7,486.0	36.4	37.0	-131.09	1,856.4	-333.9	328.8	272.0	56.84	5.785	
9,100.0	7,270.0	9,317.4	7,486.0	38.1	38.6	-130.56	1,956.2	-335.1	332.4	272.7	59.73	5.565	
9,200.0	7,270.0	9,417.3	7,486.0	39.7	40.3	-130.04	2,056.1	-336.3	336.0	273.3	62.65	5.363	
9,300.0	7,270.0	9,517.2	7,486.0	41.4	41.9	-129.53	2,156.0	-337.5	339.6	274.0	65.62	5.176	
9,400.0	7,270.0	9,617.1	7,486.0	43.1	43.6	-129.03	2,255.9	-338.7	343.3	274.6	68.62	5.002	
9,500.0	7,270.0	9,717.0	7,486.0	44.8	45.2	-128.54	2,355.8	-340.0	346.9	275.3	71.65	4.842	
9,600.0	7,270.0	9,816.8	7,486.0	46.5	46.9	-128.06	2,455.7	-341.2	350.6	275.9	74.72	4.693	
9,700.0	7,270.0	9,916.7	7,486.0	48.1	48.6	-127.59	2,555.5	-342.4	354.4	276.5	77.82	4.554	
9,800.0	7,270.0	10,016.6	7,486.0	49.8	50.3	-127.13	2,655.4	-343.6	358.1	277.2	80.94	4.424	
9,900.0	7,270.0	10,116.5	7,486.0	51.5	51.9	-126.68	2,755.3	-344.8	361.9	277.8	84.09	4.303	
10,000.0	7,270.0	10,216.4	7,486.0	53.2	53.6	-126.24	2,855.2	-346.1	365.7	278.4	87.27	4.190	
10,100.0	7,270.0	10,316.3	7,486.0	54.9	55.3	-125.81	2,955.1	-347.3	369.5	279.0	90.46	4.084	
10,200.0	7,270.0	10,416.2	7,486.0	56.7	57.0	-125.38	3,054.9	-348.5	373.3	279.6	93.68	3.985	
10,300.0	7,270.0	10,516.1	7,486.0	58.4	58.7	-124.97	3,154.8	-349.7	377.2	280.2	96.92	3.891	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	7,270.0	10,616.0	7,486.0	60.1	60.4	-124.56	3,254.7	-350.9	381.0	280.8	100.18	3.803	
10,500.0	7,270.0	10,715.9	7,486.0	61.8	62.1	-124.17	3,354.6	-352.2	384.9	281.5	103.45	3.721	
10,600.0	7,270.0	10,815.7	7,486.0	63.5	63.9	-123.78	3,454.5	-353.4	388.8	282.1	106.75	3.642	
10,700.0	7,270.0	10,915.6	7,486.0	65.2	65.6	-123.39	3,554.3	-354.6	392.7	282.7	110.05	3.569	
10,800.0	7,270.0	11,015.5	7,486.0	67.0	67.3	-123.02	3,654.2	-355.8	396.7	283.3	113.38	3.499	
10,900.0	7,270.0	11,115.4	7,486.0	68.7	69.0	-122.65	3,754.1	-357.0	400.6	283.9	116.71	3.433	
11,000.0	7,270.0	11,215.3	7,486.0	70.4	70.7	-122.29	3,854.0	-358.3	404.6	284.6	120.06	3.370	
11,100.0	7,270.0	11,315.2	7,486.0	72.1	72.4	-121.94	3,953.9	-359.5	408.6	285.2	123.43	3.311	
11,200.0	7,270.0	11,415.1	7,486.0	73.9	74.2	-121.59	4,053.8	-360.7	412.6	285.8	126.80	3.254	
11,300.0	7,270.0	11,515.0	7,486.0	75.6	75.9	-121.26	4,153.6	-361.9	416.6	286.5	130.19	3.200	
11,400.0	7,270.0	11,614.9	7,486.0	77.3	77.6	-120.92	4,253.5	-363.1	420.7	287.1	133.58	3.149	
11,500.0	7,270.0	11,714.7	7,486.0	79.1	79.3	-120.60	4,353.4	-364.4	424.7	287.7	136.99	3.100	
11,600.0	7,270.0	11,814.6	7,486.0	80.8	81.1	-120.28	4,453.3	-365.6	428.8	288.4	140.40	3.054	
11,700.0	7,270.0	11,914.5	7,486.0	82.5	82.8	-119.96	4,553.2	-366.8	432.9	289.0	143.83	3.010	
11,800.0	7,270.0	12,014.4	7,486.0	84.3	84.5	-119.65	4,653.0	-368.0	437.0	289.7	147.26	2.967	
11,900.0	7,270.0	12,114.3	7,486.0	86.0	86.2	-119.35	4,752.9	-369.2	441.1	290.4	150.70	2.927	
12,000.0	7,270.0	12,214.2	7,486.0	87.7	88.0	-119.05	4,852.8	-370.5	445.2	291.0	154.15	2.888	
12,100.0	7,270.0	12,314.1	7,486.0	89.5	89.7	-118.76	4,952.7	-371.7	449.3	291.7	157.60	2.851	
12,200.0	7,270.0	12,414.0	7,486.0	91.2	91.4	-118.48	5,052.6	-372.9	453.4	292.4	161.07	2.815	
12,300.0	7,270.0	12,513.9	7,486.0	92.9	93.2	-118.19	5,152.5	-374.1	457.6	293.0	164.53	2.781	
12,400.0	7,270.0	12,613.7	7,486.0	94.7	94.9	-117.92	5,252.3	-375.3	461.7	293.7	168.01	2.748	
12,500.0	7,270.0	12,713.6	7,486.0	96.4	96.6	-117.65	5,352.2	-376.6	465.9	294.4	171.49	2.717	
12,600.0	7,270.0	12,813.6	7,486.0	98.2	98.4	-117.41	5,452.1	-377.8	469.3	294.2	175.10	2.680	
12,700.0	7,270.0	12,915.0	7,486.0	99.9	100.1	-117.29	5,553.6	-379.0	471.1	292.6	178.53	2.639	
12,800.0	7,270.0	13,022.3	7,486.0	101.6	102.0	-117.35	5,660.9	-378.9	470.3	288.6	181.72	2.588	
12,900.0	7,270.0	13,122.2	7,486.0	103.4	103.7	-117.56	5,760.8	-378.1	467.2	282.7	184.50	2.532	
13,000.0	7,270.0	13,222.1	7,486.0	105.1	105.5	-117.88	5,860.6	-377.2	462.6	275.5	187.03	2.473	
13,100.0	7,270.0	13,321.8	7,486.0	106.9	107.2	-118.32	5,960.4	-376.3	456.4	267.1	189.29	2.411	
13,200.0	7,270.0	13,421.5	7,486.0	108.6	108.9	-118.89	6,060.0	-375.4	448.7	257.5	191.23	2.347	
13,300.0	7,270.0	13,520.9	7,486.0	110.3	110.7	-119.59	6,159.5	-374.6	439.6	246.8	192.81	2.280	
13,400.0	7,270.0	13,619.8	7,486.0	112.1	112.4	-120.33	6,258.3	-373.7	429.8	235.3	194.45	2.210	
13,500.0	7,270.0	13,710.7	7,486.0	113.8	114.0	-120.95	6,349.2	-374.1	421.2	225.1	196.12	2.148	
13,600.0	7,270.0	13,800.0	7,486.0	115.6	115.5	-121.44	6,438.5	-376.6	414.7	216.7	197.99	2.094	
13,700.0	7,270.0	13,893.5	7,486.0	117.3	117.1	-121.80	6,531.8	-381.4	410.2	210.0	200.14	2.049	
13,800.0	7,270.0	13,985.2	7,486.0	119.0	118.7	-122.00	6,623.3	-388.3	407.7	205.1	202.58	2.013	
13,872.3	7,270.0	14,051.5	7,486.0	120.3	119.9	-122.04	6,689.4	-394.6	407.2	202.6	204.55	1.991	
13,900.0	7,270.0	14,078.2	7,486.0	120.8	120.4	-122.03	6,715.9	-397.5	407.2	201.9	205.36	1.983	
14,000.0	7,270.0	14,178.2	7,486.0	122.5	122.1	-122.01	6,815.3	-408.2	407.5	199.1	208.38	1.955	
14,100.0	7,270.0	14,278.2	7,486.0	124.3	123.9	-121.99	6,914.7	-418.9	407.7	196.3	211.40	1.929	
14,200.0	7,270.0	14,378.2	7,486.0	126.0	125.6	-121.97	7,014.2	-429.6	408.0	193.5	214.42	1.903	
14,237.9	7,270.0	14,416.2	7,486.0	126.7	126.3	-121.96	7,051.9	-433.6	408.1	192.5	215.56	1.893	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 1G-18H-H267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
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	CC, ES
600.0	600.0	599.8	599.8	1.0	1.0	91.88	-0.4	12.0	12.0	9.9	2.05	5.842	
700.0	700.0	699.6	699.5	1.2	1.2	96.16	-1.5	14.3	14.4	12.0	2.40	5.998	
800.0	800.0	799.4	799.3	1.4	1.4	100.44	-3.3	17.8	18.1	15.4	2.75	6.596	
900.0	900.0	899.3	899.1	1.5	1.6	103.29	-5.1	21.4	22.1	19.0	3.10	7.106	
1,000.0	1,000.0	999.3	999.0	1.7	1.7	105.28	-6.8	25.1	26.0	22.5	3.46	7.523	
1,100.0	1,100.0	1,099.2	1,098.8	1.9	1.9	106.75	-8.6	28.7	30.0	26.2	3.81	7.868	
1,200.0	1,200.0	1,199.1	1,198.6	2.1	2.1	107.87	-10.4	32.3	34.0	29.8	4.16	8.159	
1,300.0	1,300.0	1,299.0	1,298.5	2.2	2.3	108.75	-12.2	35.9	38.0	33.4	4.52	8.406	
1,400.0	1,400.0	1,398.9	1,398.3	2.4	2.5	109.47	-14.0	39.5	42.0	37.1	4.87	8.619	
1,500.0	1,500.0	1,498.8	1,498.2	2.6	2.7	110.06	-15.8	43.1	46.0	40.7	5.22	8.804	
1,600.0	1,600.0	1,598.8	1,598.0	2.8	2.9	110.56	-17.5	46.8	50.0	44.4	5.57	8.966	
1,700.0	1,700.0	1,698.7	1,697.8	2.9	3.0	110.98	-19.3	50.4	54.0	48.1	5.93	9.109	
1,800.0	1,800.0	1,798.6	1,797.7	3.1	3.2	111.35	-21.1	54.0	58.0	51.7	6.28	9.237	
1,900.0	1,900.0	1,898.5	1,897.5	3.3	3.4	111.67	-22.9	57.6	62.0	55.4	6.63	9.352	
2,000.0	2,000.0	1,998.4	1,997.3	3.5	3.6	111.94	-24.7	61.2	66.0	59.1	6.99	9.455	
2,100.0	2,100.0	2,098.4	2,097.2	3.6	3.8	112.19	-26.4	64.8	70.1	62.7	7.34	9.548	
2,200.0	2,200.0	2,198.3	2,197.0	3.8	4.0	112.41	-28.2	68.4	74.1	66.4	7.69	9.633	
2,300.0	2,300.0	2,298.2	2,296.9	4.0	4.2	112.61	-30.0	72.1	78.1	70.1	8.04	9.711	
2,400.0	2,400.0	2,398.1	2,396.7	4.2	4.4	112.79	-31.8	75.7	82.1	73.7	8.40	9.782	
2,500.0	2,500.0	2,498.0	2,496.5	4.3	4.5	112.95	-33.6	79.3	86.2	77.4	8.75	9.847	
2,600.0	2,600.0	2,597.9	2,596.4	4.5	4.7	113.09	-35.4	82.9	90.2	81.1	9.10	9.908	
2,700.0	2,700.0	2,697.9	2,696.2	4.7	4.9	113.23	-37.1	86.5	94.2	84.8	9.46	9.964	
2,800.0	2,800.0	2,797.8	2,796.0	4.9	5.1	113.35	-38.9	90.1	98.3	88.4	9.81	10.016	
2,900.0	2,900.0	2,897.7	2,895.9	5.0	5.3	113.47	-40.7	93.7	102.3	92.1	10.16	10.065	
3,000.0	3,000.0	2,997.6	2,995.7	5.2	5.5	113.57	-42.5	97.4	106.3	95.8	10.52	10.110	
3,100.0	3,100.0	3,097.5	3,095.6	5.4	5.7	113.67	-44.3	101.0	110.3	99.5	10.87	10.152	
3,200.0	3,200.0	3,197.5	3,195.4	5.6	5.9	113.76	-46.0	104.6	114.4	103.1	11.22	10.192	
3,300.0	3,300.0	3,297.4	3,295.2	5.7	6.0	113.84	-47.8	108.2	118.4	106.8	11.57	10.229	
3,400.0	3,400.0	3,397.3	3,395.1	5.9	6.2	113.92	-49.6	111.8	122.4	110.5	11.93	10.264	
3,500.0	3,500.0	3,497.2	3,494.9	6.1	6.4	113.99	-51.4	115.4	126.5	114.2	12.28	10.298	
3,600.0	3,600.0	3,597.1	3,594.7	6.3	6.6	114.06	-53.2	119.0	130.5	117.9	12.63	10.329	
3,700.0	3,700.0	3,697.1	3,694.6	6.4	6.8	114.13	-54.9	122.7	134.5	121.5	12.99	10.358	
3,800.0	3,800.0	3,797.0	3,794.4	6.6	7.0	114.19	-56.7	126.3	138.5	125.2	13.34	10.386	
3,900.0	3,900.0	3,896.9	3,894.3	6.8	7.2	114.25	-58.5	129.9	142.6	128.9	13.69	10.413	
4,000.0	4,000.0	3,996.8	3,994.1	7.0	7.4	114.30	-60.3	133.5	146.6	132.6	14.05	10.438	
4,100.0	4,100.0	4,096.7	4,093.9	7.1	7.5	-98.72	-62.1	137.1	150.8	136.5	14.26	10.574	
4,200.0	4,200.0	4,196.6	4,193.7	7.3	7.7	-99.58	-63.9	140.7	155.2	140.6	14.61	10.625	
4,300.0	4,299.9	4,296.4	4,293.4	7.5	7.9	-100.99	-65.6	144.3	160.0	145.1	14.96	10.697	
4,400.0	4,399.7	4,396.1	4,393.1	7.7	8.1	-102.68	-67.4	148.0	165.1	149.8	15.31	10.784	
4,500.0	4,499.6	4,495.9	4,492.8	7.8	8.3	-104.27	-69.2	151.6	170.4	154.7	15.67	10.874	
4,600.0	4,599.4	4,595.7	4,592.4	8.0	8.5	-105.76	-71.0	155.2	175.7	159.7	16.02	10.967	
4,700.0	4,699.3	4,695.4	4,692.1	8.2	8.7	-107.16	-72.7	158.8	181.2	164.8	16.38	11.062	
4,800.0	4,799.2	4,795.2	4,791.8	8.4	8.9	-108.48	-74.5	162.4	186.8	170.0	16.74	11.158	
4,900.0	4,899.0	4,894.9	4,891.5	8.6	9.0	-109.72	-76.3	166.0	192.5	175.4	17.10	11.255	
5,000.0	4,998.9	4,994.7	4,991.1	8.7	9.2	-110.90	-78.1	169.6	198.2	180.8	17.46	11.353	
5,100.0	5,098.7	5,094.4	5,090.8	8.9	9.4	-112.00	-79.9	173.2	204.0	186.2	17.82	11.450	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 1G-18H-H267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,198.6	5,194.2	5,190.5	9.1	9.6	-113.04	-81.6	176.8	210.0	191.8	18.18	11.547	
5,300.0	5,298.5	5,293.9	5,290.2	9.3	9.8	-114.03	-83.4	180.4	215.9	197.4	18.54	11.644	
5,400.0	5,398.3	5,393.7	5,389.8	9.5	10.0	-114.96	-85.2	184.0	222.0	203.1	18.91	11.739	
5,500.0	5,498.2	5,493.4	5,489.5	9.7	10.2	-115.85	-87.0	187.7	228.0	208.8	19.27	11.834	
5,600.0	5,598.0	5,593.2	5,589.2	9.8	10.4	-116.68	-88.7	191.3	234.2	214.6	19.63	11.928	
5,700.0	5,697.9	5,693.0	5,688.9	10.0	10.5	-117.48	-90.5	194.9	240.4	220.4	20.00	12.020	
5,800.0	5,797.8	5,792.7	5,788.5	10.2	10.7	-118.23	-92.3	198.5	246.6	226.2	20.36	12.111	
5,900.0	5,897.6	5,892.5	5,888.2	10.4	10.9	-118.95	-94.1	202.1	252.9	232.1	20.73	12.201	
6,000.0	5,997.5	5,992.2	5,987.9	10.6	11.1	-119.63	-95.9	205.7	259.2	238.1	21.09	12.289	
6,100.0	6,097.3	6,092.0	6,087.5	10.8	11.3	-120.28	-97.6	209.3	265.5	244.1	21.45	12.376	
6,200.0	6,197.2	6,191.7	6,187.2	11.0	11.5	-120.90	-99.4	212.9	271.9	250.1	21.82	12.461	
6,300.0	6,297.1	6,291.5	6,286.9	11.2	11.7	-121.49	-101.2	216.5	278.3	256.1	22.18	12.545	
6,400.0	6,396.9	6,391.2	6,386.6	11.3	11.9	-122.05	-103.0	220.1	284.7	262.2	22.55	12.627	
6,500.0	6,496.8	6,491.0	6,486.2	11.5	12.1	-122.59	-104.8	223.7	291.2	268.3	22.91	12.708	
6,600.0	6,596.6	6,590.7	6,585.9	11.7	12.2	-123.11	-106.5	227.3	297.7	274.4	23.28	12.787	
6,700.0	6,696.5	6,690.5	6,685.6	11.9	12.4	-178.20	-108.3	231.0	304.2	280.5	23.64	12.866	
6,800.0	6,796.0	6,789.6	6,784.6	12.1	12.6	99.88	-110.1	234.5	310.7	286.7	23.94	12.974	
6,900.0	6,892.4	6,885.5	6,880.4	12.2	12.8	99.17	-111.8	238.0	318.6	294.4	24.17	13.182	
7,000.0	6,983.0	6,985.0	6,979.7	12.3	13.0	103.17	-108.4	241.6	330.8	306.5	24.31	13.607	
7,100.0	7,064.8	7,094.6	7,086.7	12.5	13.1	107.74	-85.4	245.5	346.4	322.1	24.38	14.208	
7,200.0	7,135.5	7,215.0	7,196.6	12.8	13.3	112.09	-37.3	249.5	364.0	339.6	24.46	14.883	
7,300.0	7,192.9	7,347.7	7,303.3	13.2	13.5	115.93	41.1	253.3	381.6	356.9	24.67	15.469	
7,400.0	7,235.2	7,493.7	7,396.4	13.9	14.1	118.99	153.0	256.7	396.7	371.4	25.23	15.722	
7,500.0	7,261.2	7,651.5	7,461.8	14.8	15.1	121.00	296.0	259.1	407.0	380.6	26.38	15.428	
7,600.0	7,270.0	7,816.4	7,486.0	15.8	16.6	121.73	458.6	259.9	410.8	382.5	28.27	14.529	
7,700.0	7,270.0	7,917.3	7,486.0	16.9	17.7	121.73	559.4	259.9	410.8	380.5	30.21	13.595	
7,800.0	7,270.0	8,017.3	7,486.0	18.1	18.9	121.73	659.4	259.9	410.8	378.5	32.31	12.715	
7,900.0	7,270.0	8,117.3	7,486.0	19.5	20.2	121.73	759.4	259.9	410.8	376.2	34.53	11.896	
8,000.0	7,270.0	8,217.3	7,486.0	20.8	21.5	121.73	859.4	259.9	410.8	373.9	36.86	11.143	
8,100.0	7,270.0	8,317.3	7,486.0	22.3	22.9	121.73	959.4	259.9	410.8	371.5	39.28	10.456	
8,200.0	7,270.0	8,417.3	7,486.0	23.7	24.3	121.73	1,059.4	259.9	410.8	369.0	41.78	9.831	
8,300.0	7,270.0	8,517.3	7,486.0	25.2	25.8	121.73	1,159.4	259.9	410.8	366.4	44.34	9.264	
8,400.0	7,270.0	8,617.3	7,486.0	26.8	27.3	121.73	1,259.4	259.9	410.8	363.8	46.95	8.750	
8,500.0	7,270.0	8,717.3	7,486.0	28.4	28.9	121.73	1,359.4	259.9	410.8	361.2	49.60	8.282	
8,600.0	7,270.0	8,817.3	7,486.0	29.9	30.4	121.73	1,459.4	259.9	410.8	358.5	52.29	7.856	
8,700.0	7,270.0	8,917.3	7,486.0	31.5	32.0	121.73	1,559.4	259.9	410.8	355.8	55.01	7.468	
8,800.0	7,270.0	9,017.3	7,486.0	33.2	33.6	121.73	1,659.4	259.9	410.8	353.0	57.75	7.112	
8,900.0	7,270.0	9,117.3	7,486.0	34.8	35.2	121.79	1,759.4	259.9	410.0	349.5	60.53	6.774	
9,000.0	7,270.0	9,217.2	7,486.0	36.4	36.8	122.00	1,859.4	259.9	407.8	344.6	63.22	6.450	
9,100.0	7,270.0	9,317.2	7,486.0	38.1	38.5	122.26	1,959.3	259.9	404.8	339.0	65.86	6.147	
9,200.0	7,270.0	9,417.1	7,486.0	39.7	40.1	122.53	2,059.3	259.9	401.9	333.4	68.49	5.868	
9,300.0	7,270.0	9,517.0	7,486.0	41.4	41.8	122.80	2,159.2	259.9	398.9	327.8	71.11	5.610	
9,400.0	7,270.0	9,617.0	7,486.0	43.1	43.4	123.07	2,259.1	259.9	396.0	322.3	73.72	5.372	
9,500.0	7,270.0	9,716.9	7,486.0	44.8	45.1	123.35	2,359.1	259.9	393.1	316.8	76.32	5.150	
9,600.0	7,270.0	9,816.9	7,486.0	46.5	46.8	123.63	2,459.0	259.9	390.2	311.3	78.91	4.944	
9,700.0	7,270.0	9,916.8	7,486.0	48.1	48.5	123.92	2,559.0	259.9	387.3	305.8	81.49	4.753	
9,800.0	7,270.0	10,016.7	7,486.0	49.8	50.2	124.21	2,658.9	259.9	384.4	300.3	84.04	4.574	
9,900.0	7,270.0	10,116.7	7,486.0	51.5	51.9	124.50	2,758.8	259.9	381.5	294.9	86.58	4.406	
10,000.0	7,270.0	10,216.6	7,486.0	53.2	53.6	124.80	2,858.8	259.9	378.6	289.5	89.10	4.250	
10,100.0	7,270.0	10,316.6	7,486.0	54.9	55.2	125.10	2,958.7	259.9	375.8	284.2	91.60	4.102	
10,200.0	7,270.0	10,416.5	7,486.0	56.7	57.0	125.41	3,058.7	259.9	372.9	278.9	94.07	3.964	
10,300.0	7,270.0	10,516.4	7,486.0	58.4	58.7	125.72	3,158.6	259.9	370.1	273.6	96.52	3.834	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 1G-18H-H267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	7,270.0	10,616.4	7,486.0	60.1	60.4	126.04	3,258.5	259.9	367.3	268.3	98.95	3.712	
10,500.0	7,270.0	10,716.3	7,486.0	61.8	62.1	126.36	3,358.5	259.9	364.4	263.1	101.34	3.596	
10,600.0	7,270.0	10,816.3	7,486.0	63.5	63.8	126.69	3,458.4	259.9	361.6	257.9	103.71	3.487	
10,700.0	7,270.0	10,916.2	7,486.0	65.2	65.5	127.03	3,558.4	259.9	358.8	252.8	106.06	3.384	
10,800.0	7,270.0	11,016.1	7,486.0	67.0	67.2	127.36	3,658.3	259.9	356.1	247.7	108.37	3.286	
10,900.0	7,270.0	11,116.1	7,486.0	68.7	68.9	127.71	3,758.2	259.9	353.3	242.6	110.64	3.193	
11,000.0	7,270.0	11,216.0	7,486.0	70.4	70.7	128.06	3,858.2	259.9	350.5	237.6	112.89	3.105	
11,100.0	7,270.0	11,316.0	7,486.0	72.1	72.4	128.41	3,958.1	259.9	347.8	232.7	115.10	3.022	
11,200.0	7,270.0	11,415.9	7,486.0	73.9	74.1	128.77	4,058.1	259.9	345.1	227.8	117.27	2.943	
11,300.0	7,270.0	11,515.8	7,486.0	75.6	75.8	129.14	4,158.0	259.9	342.4	222.9	119.40	2.867	
11,400.0	7,270.0	11,615.8	7,486.0	77.3	77.6	129.51	4,257.9	259.9	339.7	218.2	121.50	2.795	
11,500.0	7,270.0	11,715.7	7,486.0	79.1	79.3	129.88	4,357.9	259.9	337.0	213.4	123.55	2.727	
11,600.0	7,270.0	11,815.6	7,486.0	80.8	81.0	130.27	4,457.8	259.9	334.3	208.7	125.57	2.662	
11,700.0	7,270.0	11,915.6	7,486.0	82.5	82.7	130.66	4,557.7	259.9	331.6	204.1	127.54	2.600	
11,800.0	7,270.0	12,015.5	7,486.0	84.3	84.5	131.05	4,657.7	259.9	329.0	199.5	129.46	2.541	
11,900.0	7,270.0	12,115.5	7,486.0	86.0	86.2	131.46	4,757.6	259.9	326.4	195.0	131.34	2.485	
12,000.0	7,270.0	12,215.4	7,486.0	87.7	87.9	131.86	4,857.6	259.9	323.8	190.6	133.17	2.431	
12,100.0	7,270.0	12,315.3	7,486.0	89.5	89.7	132.28	4,957.5	259.9	321.2	186.2	134.94	2.380	
12,200.0	7,270.0	12,415.3	7,486.0	91.2	91.4	132.70	5,057.4	259.9	318.6	181.9	136.67	2.331	
12,300.0	7,270.0	12,515.2	7,486.0	92.9	93.1	133.13	5,157.4	259.9	316.0	177.7	138.34	2.285	
12,400.0	7,270.0	12,615.2	7,486.0	94.7	94.9	133.57	5,257.3	259.9	313.5	173.5	139.96	2.240	
12,500.0	7,270.0	12,715.1	7,486.0	96.4	96.6	134.01	5,357.3	259.9	311.0	169.5	141.52	2.198	
12,600.0	7,270.0	12,815.1	7,486.0	98.2	98.3	134.33	5,457.2	259.9	309.1	165.8	143.28	2.157	
12,699.8	7,270.0	12,914.8	7,486.0	99.9	100.1	134.44	5,557.0	259.9	308.5	163.0	145.46	2.121	
12,700.0	7,270.0	12,915.1	7,486.0	99.9	100.1	134.44	5,557.2	259.9	308.5	163.0	145.47	2.121	
12,800.0	7,270.0	13,015.1	7,486.0	101.6	101.8	134.33	5,657.2	259.9	309.1	161.0	148.12	2.087	
12,900.0	7,270.0	13,115.0	7,486.0	103.4	103.6	134.01	5,757.2	259.9	311.0	159.7	151.25	2.056	
13,000.0	7,270.0	13,214.9	7,486.0	105.1	105.3	133.48	5,857.1	259.9	314.2	159.3	154.84	2.029	
13,100.0	7,270.0	13,314.7	7,486.0	106.9	107.0	132.75	5,956.9	259.9	318.6	159.7	158.89	2.005	
13,200.0	7,270.0	13,414.4	7,486.0	108.6	108.8	131.85	6,056.6	259.9	324.4	161.1	163.33	1.986	
13,300.0	7,270.0	13,514.0	7,486.0	110.3	110.5	130.79	6,156.1	259.9	331.6	163.5	168.14	1.972	
13,400.0	7,270.0	13,613.4	7,486.0	112.1	112.2	129.65	6,255.6	259.9	339.6	166.1	173.51	1.957	
13,500.0	7,270.0	13,712.9	7,486.0	113.8	114.0	128.56	6,355.0	259.9	347.7	168.9	178.78	1.945	
13,600.0	7,270.0	13,812.3	7,486.0	115.6	115.7	127.51	6,454.5	259.9	355.9	172.0	183.96	1.935	
13,700.0	7,270.0	13,911.8	7,486.0	117.3	117.4	126.52	6,553.9	259.9	364.3	175.2	189.05	1.927	
13,800.0	7,270.0	14,011.2	7,486.0	119.0	119.2	125.56	6,653.4	259.9	372.7	178.7	194.06	1.921	
13,900.0	7,270.0	14,110.7	7,486.0	120.8	120.9	124.66	6,752.9	259.9	381.3	182.3	198.98	1.916	
14,000.0	7,270.0	14,210.2	7,486.0	122.5	122.6	123.79	6,852.3	259.9	389.9	186.0	203.84	1.913	
14,100.0	7,270.0	14,309.6	7,486.0	124.3	124.4	122.96	6,951.8	259.9	398.6	190.0	208.63	1.911	
14,200.0	7,270.0	14,409.1	7,486.0	126.0	126.1	122.16	7,051.2	259.9	407.4	194.1	213.34	1.910 SF	
14,237.9	7,270.0	14,439.5	7,486.0	126.7	126.6	121.92	7,081.7	259.9	410.8	195.9	214.89	1.912	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
7,500.0	7,261.2	7,251.2	7,251.2	14.8	12.7	-84.48	588.7	-508.3	477.5	450.2	27.25	17.524	
7,600.0	7,270.0	7,260.0	7,260.0	15.8	12.7	-89.98	588.7	-508.3	438.3	410.0	28.36	15.454	
7,700.0	7,270.0	7,260.0	7,260.0	16.9	12.7	-90.00	588.7	-508.3	419.8	390.3	29.50	14.231	
7,729.3	7,270.0	7,260.0	7,260.0	17.3	12.7	-90.00	588.7	-508.3	418.8	389.0	29.87	14.024	CC, ES
7,800.0	7,270.0	7,260.0	7,260.0	18.1	12.7	-90.00	588.7	-508.3	424.8	394.0	30.74	13.817	SF
7,900.0	7,270.0	7,260.0	7,260.0	19.5	12.7	-90.00	588.7	-508.3	452.3	420.2	32.06	14.107	
8,000.0	7,270.0	7,260.0	7,260.0	20.8	12.7	-90.00	588.7	-508.3	498.7	465.3	33.44	14.912	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,400.0	7,270.0	7,235.0	7,235.0	26.8	12.6	90.00	1,722.4	18.5	475.3	436.0	39.37	12.073	
8,500.0	7,270.0	7,235.0	7,235.0	28.4	12.6	90.00	1,722.4	18.5	378.6	337.7	40.94	9.249	
8,600.0	7,270.0	7,235.0	7,235.0	29.9	12.6	90.00	1,722.4	18.5	284.2	241.7	42.53	6.683	
8,700.0	7,270.0	7,235.0	7,235.0	31.5	12.6	90.00	1,722.4	18.5	195.4	151.3	44.13	4.428	
8,800.0	7,270.0	7,235.0	7,235.0	33.2	12.6	90.00	1,722.4	18.5	124.9	79.1	45.75	2.730	
8,864.1	7,270.0	7,235.0	7,235.0	34.2	12.6	90.00	1,722.4	18.5	107.5	60.8	46.78	2.299	CC, ES, SF
8,900.0	7,270.0	7,235.0	7,235.0	34.8	12.6	90.00	1,722.4	18.5	113.3	65.9	47.36	2.391	
9,000.0	7,270.0	7,235.0	7,235.0	36.4	12.6	90.00	1,722.4	18.5	172.3	123.3	48.97	3.518	
9,100.0	7,270.0	7,235.0	7,235.0	38.1	12.6	90.00	1,722.4	18.5	257.6	206.9	50.62	5.088	
9,200.0	7,270.0	7,235.0	7,235.0	39.7	12.6	90.00	1,722.4	18.5	350.7	298.4	52.29	6.708	
9,300.0	7,270.0	7,235.0	7,235.0	41.4	12.6	90.00	1,722.4	18.5	446.8	392.9	53.96	8.281	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	70.19	12.8	35.5	39.6				
100.0	100.0	88.0	88.0	0.2	0.2	70.19	12.8	35.5	37.7	37.4	0.31	123.480	
200.0	200.0	188.0	188.0	0.3	0.3	70.19	12.8	35.5	37.7	37.1	0.65	57.644	
300.0	300.0	288.0	288.0	0.5	0.5	70.19	12.8	35.5	37.7	36.7	1.00	37.598	
400.0	400.0	388.0	388.0	0.7	0.7	70.19	12.8	35.5	37.7	36.4	1.35	27.897	
500.0	500.0	488.0	488.0	0.8	0.9	70.19	12.8	35.5	37.7	36.0	1.70	22.175	
600.0	600.0	588.0	588.0	1.0	1.0	70.19	12.8	35.5	37.7	35.7	2.05	18.401	
700.0	700.0	688.0	688.0	1.2	1.2	70.19	12.8	35.5	37.7	35.3	2.40	15.725	
800.0	800.0	788.0	788.0	1.4	1.4	70.19	12.8	35.5	37.7	35.0	2.75	13.728	
900.0	900.0	888.0	888.0	1.5	1.6	70.19	12.8	35.5	37.7	34.6	3.10	12.181	
1,000.0	1,000.0	988.0	988.0	1.7	1.7	70.19	12.8	35.5	37.7	34.3	3.45	10.948	
1,100.0	1,100.0	1,088.0	1,088.0	1.9	1.9	70.19	12.8	35.5	37.7	33.9	3.80	9.941	
1,200.0	1,200.0	1,188.0	1,188.0	2.1	2.1	70.19	12.8	35.5	37.7	33.6	4.15	9.104	
1,300.0	1,300.0	1,288.0	1,288.0	2.2	2.2	70.19	12.8	35.5	37.7	33.2	4.49	8.397	
1,400.0	1,400.0	1,388.0	1,388.0	2.4	2.4	70.19	12.8	35.5	37.7	32.9	4.84	7.792	
1,500.0	1,500.0	1,488.0	1,488.0	2.6	2.6	70.19	12.8	35.5	37.7	32.5	5.19	7.268	
1,600.0	1,600.0	1,588.0	1,588.0	2.8	2.8	70.19	12.8	35.5	37.7	32.2	5.54	6.810	
1,700.0	1,700.0	1,688.0	1,688.0	2.9	2.9	70.19	12.8	35.5	37.7	31.8	5.89	6.407	
1,800.0	1,800.0	1,788.0	1,788.0	3.1	3.1	70.19	12.8	35.5	37.7	31.5	6.24	6.048	
1,900.0	1,900.0	1,888.0	1,888.0	3.3	3.3	70.19	12.8	35.5	37.7	31.2	6.59	5.728	
2,000.0	2,000.0	1,988.0	1,988.0	3.5	3.5	70.19	12.8	35.5	37.7	30.8	6.94	5.440	
2,100.0	2,100.0	2,088.0	2,088.0	3.6	3.6	70.19	12.8	35.5	37.7	30.5	7.29	5.179	
2,200.0	2,200.0	2,188.0	2,188.0	3.8	3.8	70.19	12.8	35.5	37.7	30.1	7.64	4.942	
2,300.0	2,300.0	2,288.0	2,288.0	4.0	4.0	70.19	12.8	35.5	37.7	29.8	7.99	4.726	
2,400.0	2,400.0	2,388.0	2,388.0	4.2	4.2	70.19	12.8	35.5	37.7	29.4	8.33	4.528	
2,500.0	2,500.0	2,488.0	2,488.0	4.3	4.3	70.19	12.8	35.5	37.7	29.1	8.68	4.346	
2,600.0	2,600.0	2,588.0	2,588.0	4.5	4.5	70.19	12.8	35.5	37.7	28.7	9.03	4.178	
2,700.0	2,700.0	2,688.0	2,688.0	4.7	4.7	70.19	12.8	35.5	37.7	28.4	9.38	4.023	
2,800.0	2,800.0	2,788.0	2,788.0	4.9	4.9	70.19	12.8	35.5	37.7	28.0	9.73	3.879	
2,900.0	2,900.0	2,888.0	2,888.0	5.0	5.0	70.19	12.8	35.5	37.7	27.7	10.08	3.744	
3,000.0	3,000.0	2,988.0	2,988.0	5.2	5.2	70.19	12.8	35.5	37.7	27.3	10.43	3.619	
3,100.0	3,100.0	3,088.0	3,088.0	5.4	5.4	70.19	12.8	35.5	37.7	27.0	10.78	3.502	
3,200.0	3,200.0	3,188.0	3,188.0	5.6	5.6	70.19	12.8	35.5	37.7	26.6	11.13	3.392	
3,300.0	3,300.0	3,288.0	3,288.0	5.7	5.7	70.19	12.8	35.5	37.7	26.3	11.48	3.289	
3,400.0	3,400.0	3,388.0	3,388.0	5.9	5.9	70.19	12.8	35.5	37.7	25.9	11.82	3.192	
3,500.0	3,500.0	3,488.0	3,488.0	6.1	6.1	70.19	12.8	35.5	37.7	25.6	12.17	3.100	
3,600.0	3,600.0	3,588.0	3,588.0	6.3	6.3	70.19	12.8	35.5	37.7	25.2	12.52	3.014	
3,700.0	3,700.0	3,688.0	3,688.0	6.4	6.4	70.19	12.8	35.5	37.7	24.9	12.87	2.932	
3,800.0	3,800.0	3,788.0	3,788.0	6.6	6.6	70.19	12.8	35.5	37.7	24.5	13.22	2.854	
3,900.0	3,900.0	3,888.0	3,888.0	6.8	6.8	70.19	12.8	35.5	37.7	24.2	13.57	2.781	
4,000.0	4,000.0	3,988.0	3,988.0	7.0	7.0	70.19	12.8	35.5	37.7	23.8	13.92	2.711	CC, ES
4,100.0	4,100.0	4,088.0	4,088.0	7.1	7.1	-143.38	12.8	35.5	38.4	24.2	14.27	2.694	SF
4,200.0	4,200.0	4,188.0	4,188.0	7.3	7.3	-145.58	12.8	35.5	40.6	26.0	14.61	2.776	
4,300.0	4,299.9	4,287.9	4,287.9	7.5	7.5	-148.75	12.8	35.5	44.2	29.3	14.96	2.957	
4,400.0	4,399.7	4,387.7	4,387.7	7.7	7.7	-151.97	12.8	35.5	48.8	33.5	15.31	3.191	
4,500.0	4,499.6	4,487.6	4,487.6	7.8	7.8	-154.63	12.8	35.5	53.6	37.9	15.65	3.422	
4,600.0	4,599.4	4,587.4	4,587.4	8.0	8.0	-156.85	12.8	35.5	58.4	42.4	16.00	3.648	
4,700.0	4,699.3	4,687.3	4,687.3	8.2	8.2	-158.73	12.8	35.5	63.3	46.9	16.35	3.870	
4,800.0	4,799.2	4,787.2	4,787.2	8.4	8.4	-160.35	12.8	35.5	68.2	51.5	16.70	4.086	
4,900.0	4,899.0	4,887.0	4,887.0	8.6	8.5	-161.74	12.8	35.5	73.2	56.2	17.05	4.296	
5,000.0	4,998.9	4,986.9	4,986.9	8.7	8.7	-162.95	12.8	35.5	78.3	60.9	17.40	4.499	
5,100.0	5,098.7	5,086.7	5,086.7	8.9	8.9	-164.02	12.8	35.5	83.4	65.6	17.75	4.697	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,198.6	5,186.6	5,186.6	9.1	9.1	-164.96	12.8	35.5	88.5	70.4	18.10	4.888	
5,300.0	5,298.5	5,286.5	5,286.5	9.3	9.2	-165.80	12.8	35.5	93.6	75.1	18.45	5.073	
5,400.0	5,398.3	5,386.3	5,386.3	9.5	9.4	-166.55	12.8	35.5	98.7	79.9	18.79	5.252	
5,500.0	5,498.2	5,486.2	5,486.2	9.7	9.6	-167.23	12.8	35.5	103.9	84.7	19.14	5.425	
5,600.0	5,598.0	5,586.0	5,586.0	9.8	9.7	-167.85	12.8	35.5	109.0	89.5	19.49	5.593	
5,700.0	5,697.9	5,685.9	5,685.9	10.0	9.9	-168.40	12.8	35.5	114.2	94.4	19.84	5.756	
5,800.0	5,797.8	5,785.8	5,785.8	10.2	10.1	-168.91	12.8	35.5	119.4	99.2	20.19	5.913	
5,900.0	5,897.6	5,885.6	5,885.6	10.4	10.3	-169.38	12.8	35.5	124.6	104.0	20.54	6.066	
6,000.0	5,997.5	5,985.5	5,985.5	10.6	10.4	-169.81	12.8	35.5	129.8	108.9	20.89	6.213	
6,100.0	6,097.3	6,085.3	6,085.3	10.8	10.6	-170.21	12.8	35.5	135.0	113.8	21.24	6.357	
6,200.0	6,197.2	6,185.2	6,185.2	11.0	10.8	-170.58	12.8	35.5	140.2	118.6	21.58	6.495	
6,300.0	6,297.1	6,285.1	6,285.1	11.2	11.0	-170.92	12.8	35.5	145.4	123.5	21.93	6.630	
6,400.0	6,396.9	6,384.9	6,384.9	11.3	11.1	-171.24	12.8	35.5	150.6	128.4	22.28	6.761	
6,500.0	6,496.8	6,484.8	6,484.8	11.5	11.3	-171.53	12.8	35.5	155.9	133.2	22.63	6.888	
6,600.0	6,596.6	6,584.6	6,584.6	11.7	11.5	-171.81	12.8	35.5	161.1	138.1	22.98	7.011	
6,700.0	6,696.5	6,684.5	6,684.5	11.9	11.7	133.46	12.8	35.5	165.9	142.6	23.34	7.109	
6,800.0	6,796.0	6,784.0	6,784.0	12.1	11.8	53.32	12.8	35.5	161.5	137.9	23.59	6.848	
6,900.0	6,892.4	6,880.4	6,880.4	12.2	12.0	57.51	12.8	35.5	146.1	122.4	23.73	6.157	
7,000.0	6,983.0	6,971.0	6,971.0	12.3	12.2	72.50	12.8	35.5	126.7	102.5	24.16	5.242	
7,080.3	7,049.5	7,037.5	7,037.5	12.4	12.3	90.00	12.8	35.5	118.7	94.1	24.63	4.819	
7,100.0	7,064.8	7,052.8	7,052.8	12.5	12.3	94.46	12.8	35.5	119.3	94.7	24.68	4.836	
7,200.0	7,135.5	7,123.5	7,123.5	12.8	12.4	113.74	12.8	35.5	144.3	120.0	24.29	5.942	
7,300.0	7,192.9	7,180.9	7,180.9	13.2	12.5	124.10	12.8	35.5	201.9	178.4	23.51	8.587	
7,400.0	7,235.2	7,223.2	7,223.2	13.9	12.6	125.48	12.8	35.5	279.7	256.1	23.55	11.877	
7,500.0	7,261.2	7,249.2	7,249.2	14.8	12.7	116.33	12.8	35.5	368.9	343.4	25.46	14.491	
7,600.0	7,270.0	7,258.0	7,258.0	15.8	12.7	90.27	12.8	35.5	463.8	435.4	28.36	16.354	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	83.77	6.2	57.0	59.8				
100.0	100.0	83.2	83.2	0.2	0.2	83.95	6.0	56.9	57.2	56.9	0.30	190.439	
200.0	200.0	183.4	183.4	0.3	0.4	84.69	5.3	56.5	56.8	56.1	0.65	86.729	
300.0	300.0	283.6	283.5	0.5	0.6	86.01	3.9	55.8	56.0	54.9	1.01	55.425	
400.0	400.0	383.7	383.7	0.7	0.8	87.96	2.0	54.8	54.8	53.5	1.37	40.138	
500.0	500.0	483.9	483.8	0.8	1.0	90.61	-0.6	53.5	53.5	51.8	1.73	30.996	
600.0	600.0	583.9	583.8	1.0	1.2	94.06	-3.7	51.9	52.0	49.9	2.09	24.889	
700.0	700.0	684.0	683.7	1.2	1.4	98.39	-7.4	49.9	50.5	48.0	2.46	20.538	
800.0	800.0	784.0	783.6	1.4	1.6	103.70	-11.6	47.7	49.1	46.3	2.83	17.329	
900.0	900.0	883.8	883.3	1.5	1.8	109.99	-16.4	45.2	48.1	44.9	3.22	14.954	
1,000.0	1,000.0	983.6	983.0	1.7	1.9	116.04	-21.0	43.0	47.8	44.2	3.60	13.282	
1,005.2	1,005.2	988.9	988.2	1.7	2.0	116.34	-21.2	42.9	47.8	44.2	3.62	13.208	
1,100.0	1,100.0	1,083.5	1,082.8	1.9	2.1	121.75	-25.3	40.9	48.0	44.1	3.98	12.060	
1,200.0	1,200.0	1,184.4	1,183.5	2.1	2.3	127.02	-28.8	38.2	47.9	43.5	4.35	11.020	
1,300.0	1,300.0	1,285.5	1,284.5	2.2	2.5	131.62	-30.3	34.1	45.7	41.0	4.70	9.709	
1,400.0	1,400.0	1,385.2	1,384.2	2.4	2.6	134.54	-29.8	30.3	42.6	37.5	5.03	8.469	
1,500.0	1,500.0	1,485.0	1,484.0	2.6	2.8	133.79	-27.6	28.8	39.9	34.6	5.34	7.481	
1,600.0	1,600.0	1,585.2	1,584.1	2.8	2.9	131.03	-24.6	28.2	37.4	31.8	5.66	6.611	
1,700.0	1,700.0	1,684.7	1,683.6	2.9	3.1	130.97	-22.7	26.2	34.7	28.7	6.00	5.774	
1,755.3	1,755.3	1,739.4	1,738.3	3.0	3.2	130.91	-22.4	25.8	34.2	28.0	6.19	5.521	CC, ES
1,800.0	1,800.0	1,783.7	1,782.5	3.1	3.3	130.70	-22.5	26.2	34.5	28.1	6.35	5.434	
1,900.0	1,900.0	1,883.0	1,881.8	3.3	3.4	129.83	-23.8	28.5	37.2	30.5	6.69	5.554	
2,000.0	2,000.0	1,983.4	1,982.1	3.5	3.6	129.25	-25.2	30.8	39.8	32.8	7.04	5.654	
2,100.0	2,100.0	2,083.9	2,082.7	3.6	3.8	129.13	-26.1	32.0	41.3	33.9	7.39	5.588	
2,200.0	2,200.0	2,184.5	2,183.2	3.8	3.9	129.50	-26.2	31.8	41.2	33.5	7.73	5.331	
2,300.0	2,300.0	2,284.6	2,283.3	4.0	4.1	128.62	-25.3	31.6	40.5	32.4	8.06	5.023	
2,400.0	2,400.0	2,384.6	2,383.3	4.2	4.3	125.56	-23.1	32.3	39.7	31.3	8.39	4.726	
2,500.0	2,500.0	2,484.9	2,483.6	4.3	4.4	121.45	-20.1	32.9	38.5	29.8	8.73	4.414	
2,594.0	2,594.0	2,578.3	2,577.0	4.5	4.6	117.55	-17.3	33.1	37.3	28.3	9.04	4.124	
2,600.0	2,600.0	2,584.3	2,582.9	4.5	4.6	117.32	-17.1	33.1	37.3	28.2	9.06	4.116	
2,700.0	2,700.0	2,682.6	2,681.2	4.7	4.7	114.10	-16.2	36.2	39.7	30.3	9.41	4.220	
2,800.0	2,800.0	2,782.7	2,781.1	4.9	4.9	112.08	-16.7	41.0	44.3	34.6	9.76	4.544	
2,900.0	2,900.0	2,883.0	2,881.4	5.0	5.1	110.52	-16.9	45.0	48.1	38.0	10.10	4.763	
3,000.0	3,000.0	2,983.5	2,981.8	5.2	5.2	108.93	-16.5	48.2	50.9	40.5	10.45	4.874	
3,100.0	3,100.0	3,084.0	3,082.3	5.4	5.4	107.14	-15.5	50.4	52.7	41.9	10.79	4.886	
3,200.0	3,200.0	3,184.4	3,182.7	5.6	5.6	105.09	-14.0	51.7	53.6	42.5	11.14	4.811	
3,300.0	3,300.0	3,284.5	3,282.8	5.7	5.8	103.51	-12.6	52.6	54.1	42.6	11.49	4.710	
3,400.0	3,400.0	3,384.6	3,382.8	5.9	5.9	102.73	-12.0	53.2	54.5	42.7	11.84	4.604	
3,500.0	3,500.0	3,484.6	3,482.9	6.1	6.1	102.72	-12.1	53.4	54.8	42.6	12.19	4.493	
3,600.0	3,600.0	3,584.6	3,582.9	6.3	6.3	103.27	-12.6	53.5	55.0	42.4	12.54	4.384	
3,700.0	3,700.0	3,684.6	3,682.8	6.4	6.5	104.24	-13.6	53.5	55.2	42.3	12.89	4.284	
3,800.0	3,800.0	3,784.6	3,782.8	6.6	6.6	105.60	-14.9	53.5	55.5	42.3	13.24	4.193	
3,900.0	3,900.0	3,884.6	3,882.8	6.8	6.8	107.26	-16.6	53.3	55.9	42.3	13.59	4.110	
4,000.0	4,000.0	3,984.6	3,982.8	7.0	7.0	109.08	-18.4	53.1	56.2	42.3	13.94	4.032	
4,100.0	4,100.0	4,084.6	4,082.8	7.1	7.2	-102.60	-20.3	52.8	56.8	42.5	14.31	3.969	
4,200.0	4,200.0	4,184.7	4,182.9	7.3	7.3	-103.22	-22.2	52.4	57.6	43.0	14.66	3.931	
4,300.0	4,299.9	4,284.9	4,283.1	7.5	7.5	-105.89	-23.6	51.8	58.6	43.6	15.01	3.903	
4,400.0	4,399.7	4,385.0	4,383.1	7.7	7.7	-109.74	-24.5	51.0	59.7	44.3	15.36	3.886	
4,500.0	4,499.6	4,485.1	4,483.3	7.8	7.9	-113.86	-24.9	50.0	60.8	45.1	15.71	3.869	SF
4,600.0	4,599.4	4,580.9	4,579.1	8.0	8.0	-118.04	-25.0	50.9	64.1	48.0	16.05	3.992	
4,700.0	4,699.3	4,675.7	4,673.4	8.2	8.2	-123.56	-22.9	59.4	75.6	59.2	16.38	4.616	
4,800.0	4,799.2	4,769.0	4,765.6	8.4	8.4	-127.44	-20.6	73.0	93.4	76.7	16.72	5.585	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
4,900.0	4,899.0	4,861.2	4,855.9	8.6	8.5	-129.42	-19.0	91.5	116.8	99.7	17.06	6.847	
5,000.0	4,998.9	4,952.0	4,944.1	8.7	8.7	-131.20	-15.8	113.2	144.3	126.9	17.39	8.297	
5,100.0	5,098.7	5,039.5	5,027.9	8.9	8.9	-132.75	-11.0	137.7	176.2	158.5	17.72	9.944	
5,200.0	5,198.6	5,128.9	5,112.8	9.1	9.2	-133.56	-6.6	165.3	210.9	192.9	18.06	11.681	
5,300.0	5,298.5	5,219.3	5,198.0	9.3	9.4	-133.52	-4.3	195.6	247.7	229.3	18.40	13.462	
5,400.0	5,398.3	5,311.2	5,284.2	9.5	9.8	-133.12	-3.6	227.3	285.2	266.5	18.74	15.216	
5,500.0	5,498.2	5,390.1	5,357.9	9.7	10.1	-133.30	-0.3	255.5	324.4	305.4	19.06	17.020	
5,600.0	5,598.0	5,470.0	5,431.2	9.8	10.4	-133.81	5.6	286.6	367.4	348.0	19.38	18.959	
5,700.0	5,697.9	5,550.9	5,504.6	10.0	10.8	-134.11	11.2	320.1	412.7	393.0	19.70	20.947	
5,800.0	5,797.8	5,638.1	5,583.2	10.2	11.3	-133.97	14.7	357.6	459.0	438.9	20.04	22.903	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 1 (EXISTING) - ENCANA WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 7911-Geolink MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
13,500.0	7,270.0	7,200.0	7,200.0	113.8	12.6	-90.00	6,569.1	-438.0	476.3	350.4	125.83	3.785	
13,600.0	7,270.0	7,200.0	7,200.0	115.6	12.6	-90.00	6,569.1	-438.0	430.5	303.0	127.57	3.375	
13,700.0	7,270.0	7,200.0	7,200.0	117.3	12.6	-90.00	6,569.1	-438.0	404.9	275.6	129.32	3.131	
13,757.2	7,270.0	7,200.0	7,200.0	118.3	12.6	-90.00	6,569.1	-438.0	400.8	270.5	130.32	3.075	CC, ES
13,800.0	7,270.0	7,200.0	7,200.0	119.0	12.6	-90.00	6,569.1	-438.0	403.1	272.0	131.07	3.075	SF
13,900.0	7,270.0	7,200.0	7,200.0	120.8	12.6	-90.00	6,569.1	-438.0	425.5	292.6	132.82	3.203	
14,000.0	7,270.0	7,200.0	7,200.0	122.5	12.6	-90.00	6,569.1	-438.0	468.6	334.0	134.57	3.482	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
13,800.0	7,270.0	7,261.2	7,190.8	119.0	17.9	84.47	7,065.5	29.7	418.8	286.0	132.80	3.153	
13,900.0	7,270.0	7,264.2	7,193.8	120.8	17.9	85.96	7,065.6	29.7	323.9	189.1	134.80	2.403	
14,000.0	7,270.0	7,267.2	7,196.8	122.5	17.9	87.44	7,065.7	29.7	233.3	96.6	136.73	1.707	
14,100.0	7,270.0	7,270.2	7,199.8	124.3	17.9	88.92	7,065.8	29.6	154.8	16.2	138.57	1.117	Level 2
14,200.0	7,270.0	7,273.2	7,202.8	126.0	17.9	90.39	7,065.9	29.6	116.0	-24.3	140.33	0.827	Level 1
14,202.6	7,270.0	7,273.3	7,202.9	126.1	17.9	90.43	7,065.9	29.6	116.0	-24.4	140.38	0.826	Level 1, CC, ES, SF
14,237.9	7,270.0	7,274.3	7,203.9	126.7	17.9	90.95	7,065.9	29.6	121.3	-19.7	140.98	0.860	Level 1

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
12,200.0	7,270.0	7,364.0	7,199.2	91.2	24.2	-87.90	5,488.3	-35.7	435.3	321.5	113.79	3.825	
12,300.0	7,270.0	7,364.5	7,199.7	92.9	24.2	-88.31	5,488.3	-35.7	337.3	221.7	115.55	2.919	
12,400.0	7,270.0	7,365.0	7,200.3	94.7	24.2	-88.71	5,488.4	-35.7	240.9	123.6	117.31	2.054	
12,500.0	7,270.0	7,365.6	7,200.8	96.4	24.2	-89.11	5,488.4	-35.7	149.5	30.4	119.07	1.256	Level 3
12,600.0	7,270.0	7,366.1	7,201.4	98.2	24.2	-89.51	5,488.4	-35.7	80.7	-40.2	120.97	0.667	Level 1
12,630.2	7,270.0	7,366.3	7,201.5	98.7	24.2	-89.64	5,488.4	-35.7	74.9	-46.6	121.54	0.617	Level 1, CC, ES, SF
12,700.0	7,270.0	7,366.7	7,201.9	99.9	24.2	-89.93	5,488.4	-35.7	102.1	-20.8	122.84	0.831	Level 1
12,800.0	7,270.0	7,367.2	7,202.5	101.6	24.2	-90.35	5,488.4	-35.7	184.5	59.9	124.66	1.480	Level 3
12,900.0	7,270.0	7,367.8	7,203.0	103.4	24.2	-90.73	5,488.4	-35.7	278.3	151.8	126.45	2.201	
13,000.0	7,270.0	7,368.4	7,203.6	105.1	24.2	-91.07	5,488.4	-35.7	374.8	246.6	128.20	2.924	
13,100.0	7,270.0	7,369.0	7,204.2	106.9	24.2	-91.34	5,488.4	-35.7	472.5	342.6	129.91	3.637	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
11,000.0	7,270.0	7,571.1	7,299.8	70.4	34.0	-115.65	4,220.3	-201.1	417.5	329.3	88.18	4.735	
11,100.0	7,270.0	7,555.7	7,285.0	72.1	33.9	-111.79	4,223.0	-203.5	336.1	244.0	92.13	3.648	
11,200.0	7,270.0	7,539.7	7,269.4	73.9	33.8	-107.64	4,225.9	-206.0	266.6	170.7	95.93	2.779	
11,300.0	7,270.0	7,523.0	7,253.2	75.6	33.8	-103.20	4,229.1	-208.7	220.5	121.0	99.44	2.217	
11,366.0	7,270.0	7,511.5	7,242.1	76.7	33.7	-100.13	4,231.2	-210.6	210.7	109.2	101.52	2.075	CC, ES, SF
11,400.0	7,270.0	7,505.4	7,236.2	77.3	33.7	-98.51	4,232.4	-211.7	213.3	110.8	102.51	2.081	
11,500.0	7,270.0	7,487.0	7,218.4	79.1	33.6	-93.62	4,236.0	-214.8	248.4	143.4	104.99	2.366	
11,600.0	7,270.0	7,467.7	7,199.8	80.8	33.5	-88.61	4,239.9	-218.1	311.8	205.0	106.76	2.920	
11,700.0	7,270.0	7,447.4	7,180.2	82.5	33.4	-83.55	4,244.1	-221.7	389.8	282.0	107.75	3.618	
11,800.0	7,270.0	7,426.0	7,159.7	84.3	33.3	-78.52	4,248.6	-225.6	475.2	367.3	107.92	4.403	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,100.0	7,270.0	7,225.0	7,225.0	54.9	12.6	-90.00	3,191.1	-424.9	443.2	375.7	67.50	6.566	
10,200.0	7,270.0	7,225.0	7,225.0	56.7	12.6	-90.00	3,191.1	-424.9	403.2	334.0	69.21	5.826	
10,300.0	7,270.0	7,225.0	7,225.0	58.4	12.6	-90.00	3,191.1	-424.9	385.7	314.8	70.92	5.439	
10,319.1	7,270.0	7,225.0	7,225.0	58.7	12.6	-90.00	3,191.1	-424.9	385.2	314.0	71.25	5.407	CC, ES, SF
10,400.0	7,270.0	7,225.0	7,225.0	60.1	12.6	-90.00	3,191.1	-424.9	393.6	321.0	72.64	5.419	
10,500.0	7,270.0	7,225.0	7,225.0	61.8	12.6	-90.00	3,191.1	-424.9	425.6	351.2	74.36	5.724	
10,600.0	7,270.0	7,225.0	7,225.0	63.5	12.6	-90.00	3,191.1	-424.9	476.8	400.7	76.08	6.267	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
12,300.0	7,270.0	7,209.0	7,209.0	92.9	12.6	-90.00	5,513.8	-210.8	429.7	324.2	105.49	4.073	
12,400.0	7,270.0	7,209.0	7,209.0	94.7	12.6	-90.00	5,513.8	-210.8	353.6	246.4	107.23	3.298	
12,500.0	7,270.0	7,209.0	7,209.0	96.4	12.6	-90.00	5,513.8	-210.8	292.4	183.4	108.97	2.683	
12,600.0	7,270.0	7,209.0	7,209.0	98.2	12.6	-90.00	5,513.8	-210.8	255.9	145.2	110.74	2.311	
12,654.6	7,270.0	7,209.0	7,209.0	99.1	12.6	-90.00	5,513.8	-210.8	250.3	138.6	111.70	2.241	CC, ES, SF
12,700.0	7,270.0	7,209.0	7,209.0	99.9	12.6	-90.00	5,513.8	-210.8	254.2	141.7	112.49	2.260	
12,800.0	7,270.0	7,209.0	7,209.0	101.6	12.6	-90.00	5,513.8	-210.8	287.8	173.6	114.20	2.520	
12,900.0	7,270.0	7,209.0	7,209.0	103.4	12.6	-90.00	5,513.8	-210.8	346.7	230.8	115.89	2.992	
13,000.0	7,270.0	7,209.0	7,209.0	105.1	12.6	-90.00	5,513.8	-210.8	420.3	302.8	117.55	3.576	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Kugel 1F-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 1F-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)	Coordinates are relative to: Kugel 1F-18H-H267
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.37°