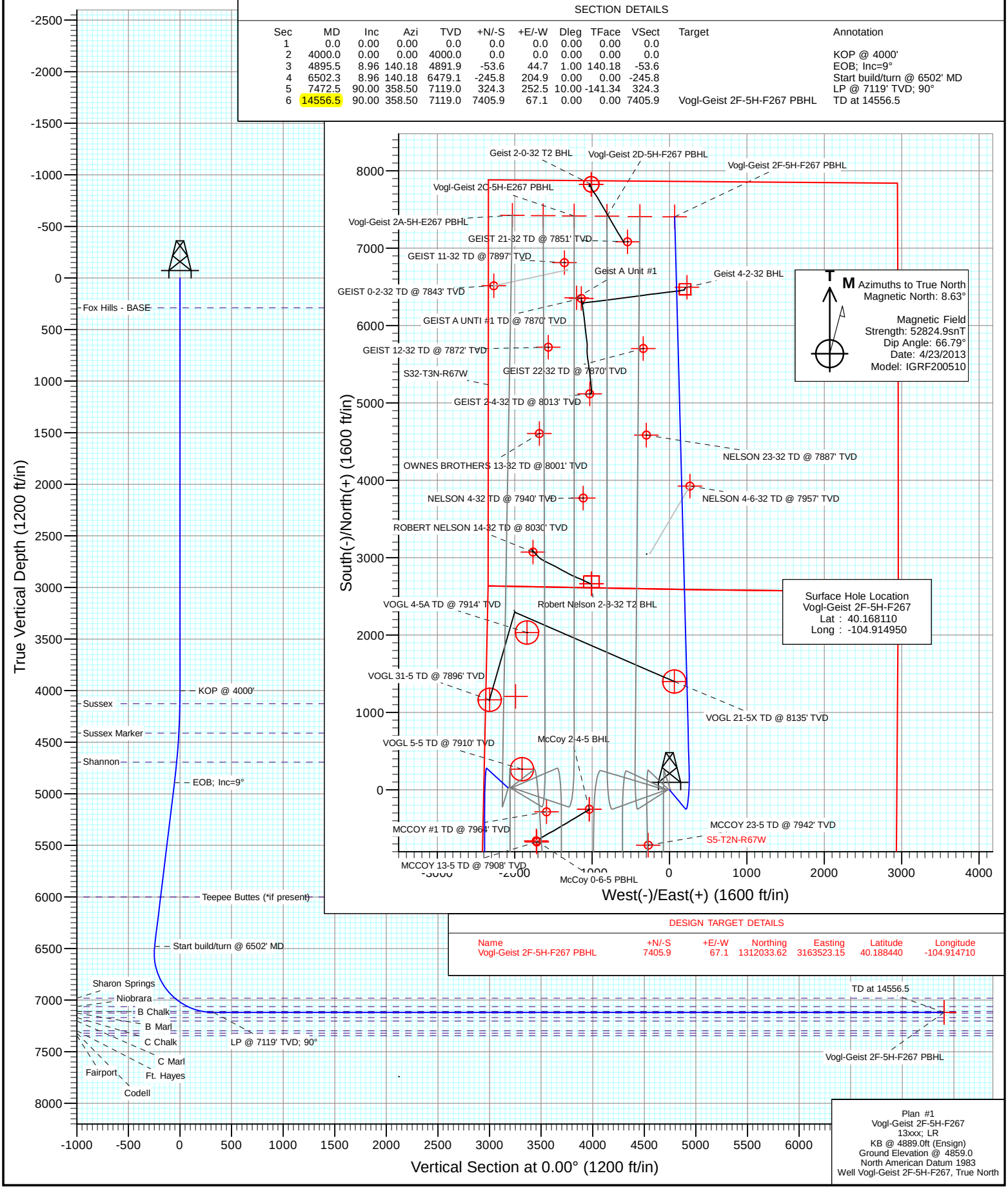
Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2F-5H-F267
Wellbore: Hz
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
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		KOP @ 4000'
3	4895.5	8.96	140.18	4891.9	-53.6	44.7	1.00	140.18	-53.6		EOB; Inc=9°
4	6502.3	8.96	140.18	6479.1	-245.8	204.9	0.00	0.00	-245.8		Start build/turn @ 6502' MD
5	7472.5	90.00	358.50	7119.0	324.3	252.5	10.00	-141.34	324.3		LP @ 7119' TVD; 90°
6	14556.5	90.00	358.50	7119.0	7405.9	67.1	0.00	0.00	7405.9	Vogl-Geist 2F-5H-F267 PBHL	TD at 14556.5



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Vogl-Geist 2F-5H-F267 PBHL	7405.9	67.1	1312033.62	3163523.15	40.188440	-104.914710

Plan #1
Vogl-Geist 2F-5H-F267
13xxx; LR
KB @ 4889.0ft (Ensign)
Ground Elevation @ 4859.0
North American Datum 1983
Well Vogl-Geist 2F-5H-F267, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy)

Site Position:		**Northing:**	1,303,967.76 ft	**Latitude:**	40.166330
From:	Lat/Long	**Easting:**	3,161,787.74 ft	**Longitude:**	-104.921110
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.37 °

Well Vogl-Geist 2F-5H-F267

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,304,627.41 ft	**Latitude:**	40.168110
	+E/-W	0.0 ft	**Easting:**	3,163,504.97 ft	**Longitude:**	-104.914950
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,859.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/23/2013	8.63	66.79	52,825

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	
4,895.5	8.96	140.18	4,891.9	-53.6	44.7	1.00	1.00	0.00	140.18	
6,502.3	8.96	140.18	6,479.1	-245.8	204.9	0.00	0.00	0.00	0.00	
7,472.5	90.00	358.50	7,119.0	324.3	252.5	10.00	8.35	-14.60	-141.34	
14,556.5	90.00	358.50	7,119.0	7,405.9	67.1	0.00	0.00	0.00	0.00	Vogl-Geist 2F-5H-F26

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2F-5H-F267	**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	
289.0	0.00	0.00	289.0	0.0	0.0	0.0	0.00	0.00	Fox Hills - BASE
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
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	140.18	4,100.0	-0.7	0.6	-0.7	1.00	1.00	
4,126.0	1.26	140.18	4,126.0	-1.1	0.9	-1.1	1.00	1.00	Sussex
4,200.0	2.00	140.18	4,200.0	-2.7	2.2	-2.7	1.00	1.00	
4,300.0	3.00	140.18	4,299.9	-6.0	5.0	-6.0	1.00	1.00	
4,400.0	4.00	140.18	4,399.7	-10.7	8.9	-10.7	1.00	1.00	
4,412.4	4.12	140.18	4,412.0	-11.4	9.5	-11.4	1.00	1.00	Sussex Marker
4,500.0	5.00	140.18	4,499.4	-16.7	14.0	-16.7	1.00	1.00	
4,600.0	6.00	140.18	4,598.9	-24.1	20.1	-24.1	1.00	1.00	
4,694.7	6.95	140.18	4,693.0	-32.3	26.9	-32.3	1.00	1.00	Shannon
4,700.0	7.00	140.18	4,698.3	-32.8	27.3	-32.8	1.00	1.00	

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Project:	DJ Wattenberg	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2F-5H-F267	**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	8.00	140.18	4,797.4	-42.8	35.7	-42.8	1.00	1.00	
4,895.5	8.96	140.18	4,891.9	-53.6	44.7	-53.6	1.00	1.00	EOB; Inc=9°
4,900.0	8.96	140.18	4,896.3	-54.2	45.2	-54.2	0.00	0.00	
5,000.0	8.96	140.18	4,995.1	-66.1	55.1	-66.1	0.00	0.00	
5,100.0	8.96	140.18	5,093.9	-78.1	65.1	-78.1	0.00	0.00	
5,200.0	8.96	140.18	5,192.6	-90.1	75.1	-90.1	0.00	0.00	
5,300.0	8.96	140.18	5,291.4	-102.0	85.0	-102.0	0.00	0.00	
5,400.0	8.96	140.18	5,390.2	-114.0	95.0	-114.0	0.00	0.00	
5,500.0	8.96	140.18	5,489.0	-125.9	105.0	-125.9	0.00	0.00	
5,600.0	8.96	140.18	5,587.8	-137.9	114.9	-137.9	0.00	0.00	
5,700.0	8.96	140.18	5,686.6	-149.8	124.9	-149.8	0.00	0.00	
5,800.0	8.96	140.18	5,785.3	-161.8	134.9	-161.8	0.00	0.00	
5,900.0	8.96	140.18	5,884.1	-173.7	144.8	-173.7	0.00	0.00	
6,000.0	8.96	140.18	5,982.9	-185.7	154.8	-185.7	0.00	0.00	
6,017.3	8.96	140.18	6,000.0	-187.8	156.5	-187.8	0.00	0.00	Teepee Buttes (*if present)
6,100.0	8.96	140.18	6,081.7	-197.7	164.8	-197.7	0.00	0.00	
6,200.0	8.96	140.18	6,180.5	-209.6	174.7	-209.6	0.00	0.00	
6,300.0	8.96	140.18	6,279.2	-221.6	184.7	-221.6	0.00	0.00	
6,400.0	8.96	140.18	6,378.0	-233.5	194.7	-233.5	0.00	0.00	
6,500.0	8.96	140.18	6,476.8	-245.5	204.6	-245.5	0.00	0.00	
6,502.3	8.96	140.18	6,479.1	-245.8	204.9	-245.8	0.00	0.00	Start build/turn @ 6502' MD
6,600.0	6.22	62.20	6,576.1	-249.1	214.4	-249.1	10.00	-2.80	
6,700.0	13.90	21.75	6,674.6	-235.4	223.7	-235.4	10.00	7.68	
6,800.0	23.39	11.55	6,769.3	-204.7	232.2	-204.7	10.00	9.49	
6,900.0	33.17	7.10	6,857.3	-158.0	239.5	-158.0	10.00	9.78	
7,000.0	43.04	4.50	6,935.8	-96.7	245.6	-96.7	10.00	9.87	
7,065.4	49.52	3.28	6,981.0	-49.6	248.8	-49.6	10.00	9.91	Sharon Springs
7,100.0	52.96	2.73	7,002.7	-22.6	250.2	-22.6	10.00	9.92	
7,200.0	62.89	1.37	7,055.7	61.9	253.2	61.9	10.00	9.93	
7,216.4	64.53	1.17	7,063.0	76.7	253.5	76.7	10.00	9.94	Niobrara
7,300.0	72.84	0.23	7,093.4	154.4	254.4	154.4	10.00	9.95	
7,333.4	76.16	359.88	7,102.3	186.6	254.5	186.6	10.00	9.95	7"
7,365.0	79.31	359.56	7,109.0	217.5	254.3	217.5	10.00	9.95	B Chalk
7,400.0	82.79	359.21	7,114.4	252.1	253.9	252.1	10.00	9.95	
7,472.5	90.00	358.50	7,119.0	324.3	252.5	324.3	10.00	9.95	LP @ 7119' TVD; 90°
7,500.0	90.00	358.50	7,119.0	351.8	251.8	351.8	0.00	0.00	
7,600.0	90.00	358.50	7,119.0	451.8	249.2	451.8	0.00	0.00	
7,700.0	90.00	358.50	7,119.0	551.8	246.5	551.8	0.00	0.00	
7,800.0	90.00	358.50	7,119.0	651.7	243.9	651.7	0.00	0.00	
7,900.0	90.00	358.50	7,119.0	751.7	241.3	751.7	0.00	0.00	
8,000.0	90.00	358.50	7,119.0	851.7	238.7	851.7	0.00	0.00	
8,100.0	90.00	358.50	7,119.0	951.6	236.1	951.6	0.00	0.00	
8,200.0	90.00	358.50	7,119.0	1,051.6	233.4	1,051.6	0.00	0.00	
8,300.0	90.00	358.50	7,119.0	1,151.6	230.8	1,151.6	0.00	0.00	
8,400.0	90.00	358.50	7,119.0	1,251.5	228.2	1,251.5	0.00	0.00	
8,500.0	90.00	358.50	7,119.0	1,351.5	225.6	1,351.5	0.00	0.00	
8,600.0	90.00	358.50	7,119.0	1,451.5	223.0	1,451.5	0.00	0.00	
8,700.0	90.00	358.50	7,119.0	1,551.4	220.4	1,551.4	0.00	0.00	
8,800.0	90.00	358.50	7,119.0	1,651.4	217.7	1,651.4	0.00	0.00	
8,900.0	90.00	358.50	7,119.0	1,751.4	215.1	1,751.4	0.00	0.00	
9,000.0	90.00	358.50	7,119.0	1,851.3	212.5	1,851.3	0.00	0.00	
9,100.0	90.00	358.50	7,119.0	1,951.3	209.9	1,951.3	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2F-5H-F267	**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
9,200.0	90.00	358.50	7,119.0	2,051.3	207.3	2,051.3	0.00	0.00	
9,300.0	90.00	358.50	7,119.0	2,151.2	204.7	2,151.2	0.00	0.00	
9,400.0	90.00	358.50	7,119.0	2,251.2	202.0	2,251.2	0.00	0.00	
9,500.0	90.00	358.50	7,119.0	2,351.2	199.4	2,351.2	0.00	0.00	
9,600.0	90.00	358.50	7,119.0	2,451.1	196.8	2,451.1	0.00	0.00	
9,700.0	90.00	358.50	7,119.0	2,551.1	194.2	2,551.1	0.00	0.00	
9,800.0	90.00	358.50	7,119.0	2,651.1	191.6	2,651.1	0.00	0.00	
9,900.0	90.00	358.50	7,119.0	2,751.0	188.9	2,751.0	0.00	0.00	
10,000.0	90.00	358.50	7,119.0	2,851.0	186.3	2,851.0	0.00	0.00	
10,100.0	90.00	358.50	7,119.0	2,951.0	183.7	2,951.0	0.00	0.00	
10,200.0	90.00	358.50	7,119.0	3,050.9	181.1	3,050.9	0.00	0.00	
10,300.0	90.00	358.50	7,119.0	3,150.9	178.5	3,150.9	0.00	0.00	
10,400.0	90.00	358.50	7,119.0	3,250.9	175.9	3,250.9	0.00	0.00	
10,500.0	90.00	358.50	7,119.0	3,350.8	173.2	3,350.8	0.00	0.00	
10,600.0	90.00	358.50	7,119.0	3,450.8	170.6	3,450.8	0.00	0.00	
10,700.0	90.00	358.50	7,119.0	3,550.8	168.0	3,550.8	0.00	0.00	
10,800.0	90.00	358.50	7,119.0	3,650.7	165.4	3,650.7	0.00	0.00	
10,900.0	90.00	358.50	7,119.0	3,750.7	162.8	3,750.7	0.00	0.00	
11,000.0	90.00	358.50	7,119.0	3,850.6	160.1	3,850.6	0.00	0.00	
11,100.0	90.00	358.50	7,119.0	3,950.6	157.5	3,950.6	0.00	0.00	
11,200.0	90.00	358.50	7,119.0	4,050.6	154.9	4,050.6	0.00	0.00	
11,300.0	90.00	358.50	7,119.0	4,150.5	152.3	4,150.5	0.00	0.00	
11,400.0	90.00	358.50	7,119.0	4,250.5	149.7	4,250.5	0.00	0.00	
11,500.0	90.00	358.50	7,119.0	4,350.5	147.1	4,350.5	0.00	0.00	
11,600.0	90.00	358.50	7,119.0	4,450.4	144.4	4,450.4	0.00	0.00	
11,700.0	90.00	358.50	7,119.0	4,550.4	141.8	4,550.4	0.00	0.00	
11,800.0	90.00	358.50	7,119.0	4,650.4	139.2	4,650.4	0.00	0.00	
11,900.0	90.00	358.50	7,119.0	4,750.3	136.6	4,750.3	0.00	0.00	
12,000.0	90.00	358.50	7,119.0	4,850.3	134.0	4,850.3	0.00	0.00	
12,100.0	90.00	358.50	7,119.0	4,950.3	131.4	4,950.3	0.00	0.00	
12,200.0	90.00	358.50	7,119.0	5,050.2	128.7	5,050.2	0.00	0.00	
12,300.0	90.00	358.50	7,119.0	5,150.2	126.1	5,150.2	0.00	0.00	
12,400.0	90.00	358.50	7,119.0	5,250.2	123.5	5,250.2	0.00	0.00	
12,500.0	90.00	358.50	7,119.0	5,350.1	120.9	5,350.1	0.00	0.00	
12,600.0	90.00	358.50	7,119.0	5,450.1	118.3	5,450.1	0.00	0.00	
12,700.0	90.00	358.50	7,119.0	5,550.1	115.6	5,550.1	0.00	0.00	
12,800.0	90.00	358.50	7,119.0	5,650.0	113.0	5,650.0	0.00	0.00	
12,900.0	90.00	358.50	7,119.0	5,750.0	110.4	5,750.0	0.00	0.00	
13,000.0	90.00	358.50	7,119.0	5,850.0	107.8	5,850.0	0.00	0.00	
13,100.0	90.00	358.50	7,119.0	5,949.9	105.2	5,949.9	0.00	0.00	
13,200.0	90.00	358.50	7,119.0	6,049.9	102.6	6,049.9	0.00	0.00	
13,300.0	90.00	358.50	7,119.0	6,149.9	99.9	6,149.9	0.00	0.00	
13,400.0	90.00	358.50	7,119.0	6,249.8	97.3	6,249.8	0.00	0.00	
13,500.0	90.00	358.50	7,119.0	6,349.8	94.7	6,349.8	0.00	0.00	
13,600.0	90.00	358.50	7,119.0	6,449.8	92.1	6,449.8	0.00	0.00	
13,700.0	90.00	358.50	7,119.0	6,549.7	89.5	6,549.7	0.00	0.00	
13,800.0	90.00	358.50	7,119.0	6,649.7	86.9	6,649.7	0.00	0.00	
13,900.0	90.00	358.50	7,119.0	6,749.7	84.2	6,749.7	0.00	0.00	
14,000.0	90.00	358.50	7,119.0	6,849.6	81.6	6,849.6	0.00	0.00	
14,100.0	90.00	358.50	7,119.0	6,949.6	79.0	6,949.6	0.00	0.00	
14,200.0	90.00	358.50	7,119.0	7,049.6	76.4	7,049.6	0.00	0.00	
14,300.0	90.00	358.50	7,119.0	7,149.5	73.8	7,149.5	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2F-5H-F267	**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
14,400.0	90.00	358.50	7,119.0	7,249.5	71.1	7,249.5	0.00	0.00	
14,500.0	90.00	358.50	7,119.0	7,349.4	68.5	7,349.4	0.00	0.00	
14,556.5	90.00	358.50	7,119.0	7,405.9	67.1	7,405.9	0.00	0.00	TD at 14556.5 - Vogl-Geist 2F-5H-F267 PBHL

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
Vogl-Geist 2F-5H-F267 I - plan hits target center - Point	0.00	0.00	7,119.0	7,405.9	67.1	1,312,033.62	3,163,523.15	40.188440	-104.914710

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
7,333.4	7,102.3	7"	0.000	0.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
289.0	289.0	Fox Hills - BASE			
4,126.0	4,126.0	Sussex			
4,412.4	4,412.0	Sussex Marker			
4,694.7	4,693.0	Shannon			
6,017.3	6,000.0	Teepee Buttes (*if present)			
7,065.4	6,981.0	Sharon Springs			
7,216.4	7,063.0	Niobrara			
7,365.0	7,109.0	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'
4,895.5	4,891.9	-53.6	44.7	EOB; Inc=9°
6,502.3	6,479.1	-245.8	204.9	Start build/turn @ 6502' MD
7,472.5	7,119.0	324.3	252.5	LP @ 7119' TVD; 90°
14,556.5	7,119.0	7,405.9	67.1	TD at 14556.5

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S5-T2N-R67W (Vogl-McCoy)
Vogl-Geist 2F-5H-F267
Hz
Plan #1

Anticollision Report

21 May, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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** 5/21/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	14,546.8	Plan #1 (Hz)	MWD	Geolink MWD

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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
S5-T2N-R67W (Vogl-McCoy)						
ALFRED SATER UNIT 2 (EXISTING) - KMG WELL - NO						Out of range
CHENG 3-8A (EXISTING) - KMG WELL - SURVEYS						Out of range
DIER 13-8 (EXISTING) - ENCANA WELL - Plan #1						Out of range
DIER 13-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
DIER 14-8 (EXISTING) - ENCANA WELL - Plan #1						Out of range
DIER 14-8 (EXISTING) - ENCANA WELL - Plan #2						Out of range
DIER 14-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
DIER 23-8 (EXISTING) - ENCANA WELL - Plan #1						Out of range
DIER 23-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
DIER 24-8 (EXISTING) - ENCANA WELL - Plan #1						Out of range
DIER 24-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
DIER 4-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
GEIST 0-2-32 (EXISTING) - ENCANA WELL - NO SURV						Out of range
GEIST 11-32 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
GEIST 12-32 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
GEIST 2-0-32 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
GEIST 21-32 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVE	12,865.8	7,036.0	450.4	335.5	3.922	CC, ES
GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVE	12,900.0	7,036.0	451.7	336.2	3.913	SF
GEIST 2-4-32 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS	13,617.5	7,223.2	103.5	-25.0	0.806	Level 1, CC, ES, SF
GEIST A UNIT #1 (EXISTING) - ENCANA WELL - SURV						Out of range
MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEY						Out of range
MCCOY 0-6-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 13-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 14-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 23-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 24-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - Plan #1						Out of range
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
NELSON 23-32 (EXISTING) - ENCANA WELL - NO SUR	11,745.6	7,037.0	439.5	344.1	4.609	CC, ES
NELSON 23-32 (EXISTING) - ENCANA WELL - NO SUR	11,800.0	7,037.0	442.8	346.5	4.598	SF
NELSON 4-32 (EXISTING) - ENCANA WELL - NO SURV						Out of range
NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN O	11,072.0	7,118.5	105.3	14.4	1.159	Level 2, CC, ES, SF
OWNES BROTHERS 13-32 (EXISTING) - ENCANA WE						Out of range
PROMINENCE 4-8 (EXISTING) - KMG WELL - NO SUR						Out of range
ROBERT NELSON 14-32 (EXISTING) - ENCANA WELL						Out of range
ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL	10,209.3	7,050.0	480.8	412.0	6.985	CC, ES
ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL	10,300.0	7,050.0	489.3	418.9	6.951	SF
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL						Out of range
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL						Out of range
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL						Out of range
VOGL 21-5X (EXISTING) - KMG WELL - NO SURVEYS	8,558.7	7,473.5	178.3	128.8	3.605	CC, ES, SF
VOGL 31-5 (EXISTING) - KMG WELL - NO SURVEYS						Out of range
VOGL 4-5A (EXISTING) - KMG WELL - NO SURVEYS						Out of range
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS						Out of range
VOGL 5-8A (EXISTING) - KMG WELL - NO SURVEYS						Out of range
Vogl-Geist 2A-5H-E267 - Hz - Plan #1						Out of range
Vogl-Geist 2B-5H-E267 - Hz - Plan #1						Out of range
Vogl-Geist 2C-5H-E267 - Hz - Plan #1						Out of range
Vogl-Geist 2D-5H-F267 - Hz - Plan #1	266.3	267.3	39.1	38.3	47.327	CC
Vogl-Geist 2D-5H-F267 - Hz - Plan #1	300.0	301.0	39.1	38.2	41.437	ES
Vogl-Geist 2D-5H-F267 - Hz - Plan #1	800.0	796.6	60.0	57.3	21.991	SF

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 Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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
S5-T2N-R67W (Vogl-McCoy)						
Vogl-Geist 2E-5H-F267 - Hz - Plan #1	466.3	467.3	19.6	18.0	12.829	CC
Vogl-Geist 2E-5H-F267 - Hz - Plan #1	500.0	501.0	19.6	17.9	11.911	ES
Vogl-Geist 2E-5H-F267 - Hz - Plan #1	14,556.5	14,764.0	496.4	256.0	2.064	SF
Vogl-McCoy 2A-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2B-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2C-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2D-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2E-5H-F267 - Hz - Plan #1	166.3	167.3	50.3	49.8	105.320	CC
Vogl-McCoy 2E-5H-F267 - Hz - Plan #1	200.0	201.0	50.3	49.7	84.523	ES
Vogl-McCoy 2E-5H-F267 - Hz - Plan #1	800.0	793.8	80.7	78.0	29.741	SF
Vogl-McCoy 2F-5H-F267 - Hz - Plan #1	366.3	367.3	30.7	29.6	26.146	CC
Vogl-McCoy 2F-5H-F267 - Hz - Plan #1	400.0	401.0	30.7	29.4	23.770	ES
Vogl-McCoy 2F-5H-F267 - Hz - Plan #1	700.0	699.3	38.0	35.7	16.254	SF
Vogl-McCoy 2G-5H-F267 - Hz - Plan #1	600.0	600.0	8.4	6.4	4.214	CC, ES
Vogl-McCoy 2G-5H-F267 - Hz - Plan #1	700.0	699.9	9.0	6.7	3.863	SF
Vogl-McCoy 2H-5H-F267 - Hz - Plan #1	799.2	799.3	10.6	7.9	3.955	CC
Vogl-McCoy 2H-5H-F267 - Hz - Plan #1	800.0	800.0	10.6	7.9	3.951	ES
Vogl-McCoy 2H-5H-F267 - Hz - Plan #1	900.0	899.9	11.4	8.4	3.748	SF
WANDELL 8-2-7 (EXISTING) - ENCANA WELL - SURVE						Out of range
WANDELL 8-4-7 (EXISTING) - ENCANA WELL - SURVE						Out of range

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 7870-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
12,700.0	7,119.0	7,036.0	7,036.0	99.8	12.3	-90.00	5,704.0	-338.9	479.9	368.0	111.95	4.287	
12,800.0	7,119.0	7,036.0	7,036.0	101.5	12.3	-90.00	5,704.0	-338.9	455.2	341.5	113.69	4.003	
12,865.8	7,119.0	7,036.0	7,036.0	102.7	12.3	-90.00	5,704.0	-338.9	450.4	335.5	114.84	3.922	CC, ES
12,900.0	7,119.0	7,036.0	7,036.0	103.3	12.3	-90.00	5,704.0	-338.9	451.7	336.2	115.43	3.913	SF
13,000.0	7,119.0	7,036.0	7,036.0	105.0	12.3	-90.00	5,704.0	-338.9	470.0	352.8	117.17	4.011	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 759-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
13,200.0	7,119.0	7,209.4	7,031.4	108.5	26.9	81.42	6,469.5	194.9	429.9	309.8	120.16	3.578	
13,300.0	7,119.0	7,212.6	7,034.7	110.2	26.9	83.18	6,469.6	194.9	333.8	211.5	122.31	2.729	
13,400.0	7,119.0	7,215.9	7,037.9	112.0	26.9	84.98	6,469.7	195.0	240.8	116.4	124.38	1.936	
13,500.0	7,119.0	7,219.2	7,041.3	113.7	26.9	86.82	6,469.9	195.0	156.6	30.2	126.34	1.239	Level 2
13,600.0	7,119.0	7,222.0	7,044.1	115.4	26.9	88.37	6,470.0	195.1	105.0	-23.2	128.18	0.819	Level 1
13,617.5	7,119.0	7,223.2	7,045.2	115.8	26.9	89.02	6,470.0	195.1	103.5	-25.0	128.50	0.806	Level 1, CC, ES, SF
13,700.0	7,119.0	7,226.0	7,048.1	117.2	26.9	90.59	6,470.1	195.1	132.3	2.4	129.92	1.018	Level 2
13,800.0	7,119.0	7,229.5	7,051.6	118.9	26.9	92.52	6,470.2	195.2	209.7	78.2	131.50	1.594	
13,900.0	7,119.0	7,233.1	7,055.1	120.7	26.9	94.49	6,470.4	195.3	300.7	167.7	132.94	2.262	
14,000.0	7,119.0	7,236.7	7,058.8	122.4	26.9	96.48	6,470.5	195.3	396.0	261.8	134.21	2.950	
14,100.0	7,119.0	7,240.5	7,062.5	124.2	26.9	98.49	6,470.6	195.4	493.1	357.8	135.31	3.644	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - NELSON 23-32 (EXISTING) - ENCANA WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 7887-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
11,600.0	7,119.0	7,037.0	7,037.0	80.7	12.3	-90.00	4,584.5	-298.7	463.0	370.1	92.83	4.987	
11,700.0	7,119.0	7,037.0	7,037.0	82.4	12.3	-90.00	4,584.5	-298.7	441.8	347.3	94.57	4.672	
11,745.6	7,119.0	7,037.0	7,037.0	83.2	12.3	-90.00	4,584.5	-298.7	439.5	344.1	95.36	4.609	CC, ES
11,800.0	7,119.0	7,037.0	7,037.0	84.1	12.3	-90.00	4,584.5	-298.7	442.8	346.5	96.30	4.598	SF
11,900.0	7,119.0	7,037.0	7,037.0	85.9	12.3	-90.00	4,584.5	-298.7	465.8	367.8	98.04	4.751	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN ONLY

Offset Site Error: 0.0 ft

Survey Program: 0-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
10,600.0	7,119.0	7,118.5	7,036.0	63.4	21.6	90.00	3,925.4	263.5	483.6	400.9	82.73	5.846	
10,700.0	7,119.0	7,118.5	7,036.0	65.2	21.6	90.00	3,925.4	263.5	386.6	302.2	84.45	4.578	
10,800.0	7,119.0	7,118.5	7,036.0	66.9	21.6	90.00	3,925.4	263.5	291.7	205.5	86.17	3.385	
10,900.0	7,119.0	7,118.5	7,036.0	68.6	21.6	90.00	3,925.4	263.5	201.7	113.8	87.90	2.294	
11,000.0	7,119.0	7,118.5	7,036.0	70.3	21.6	90.00	3,925.4	263.5	127.6	37.9	89.62	1.423	Level 3
11,072.0	7,119.0	7,118.5	7,036.0	71.6	21.6	90.00	3,925.4	263.5	105.3	14.4	90.87	1.159	Level 2, CC, ES, SF
11,100.0	7,119.0	7,118.5	7,036.0	72.0	21.6	90.00	3,925.4	263.5	109.0	17.6	91.35	1.193	Level 2
11,200.0	7,119.0	7,118.5	7,036.0	73.8	21.6	90.00	3,925.4	263.5	165.7	72.7	93.08	1.781	
11,300.0	7,119.0	7,118.5	7,036.0	75.5	21.6	90.00	3,925.4	263.5	251.1	156.3	94.81	2.649	
11,400.0	7,119.0	7,118.5	7,036.0	77.2	21.6	90.00	3,925.4	263.5	344.5	248.0	96.54	3.568	
11,500.0	7,119.0	7,118.5	7,036.0	79.0	21.6	90.00	3,925.4	263.5	440.8	342.5	98.27	4.485	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL - NO SURVEYS

Survey Program: 7922-MWD

Offset Site Error: 0.0 ft

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	7,119.0	7,050.0	7,050.0	54.9	12.3	-90.00	3,047.6	-299.8	493.1	426.1	66.97	7.363	
10,200.0	7,119.0	7,050.0	7,050.0	56.6	12.3	-90.00	3,047.6	-299.8	480.9	412.2	68.68	7.002	
10,209.3	7,119.0	7,050.0	7,050.0	56.7	12.3	-90.00	3,047.6	-299.8	480.8	412.0	68.84	6.985	CC, ES
10,300.0	7,119.0	7,050.0	7,050.0	58.3	12.3	-90.00	3,047.6	-299.8	489.3	418.9	70.39	6.951	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - VOGL 21-5X (EXISTING) - KMG WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 500-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	7,119.0	7,491.4	7,093.7	22.5	39.9	-100.85	1,404.9	48.1	491.8	449.6	42.16	11.666	
8,200.0	7,119.0	7,487.6	7,090.0	23.9	39.9	-99.64	1,405.0	47.8	400.3	356.6	43.70	9.161	
8,300.0	7,119.0	7,483.7	7,086.1	25.4	39.9	-98.41	1,405.2	47.5	314.0	268.8	45.28	6.936	
8,400.0	7,119.0	7,479.8	7,082.2	26.9	39.9	-97.16	1,405.3	47.1	238.6	191.7	46.88	5.090	
8,500.0	7,119.0	7,475.9	7,078.3	28.4	39.9	-95.88	1,405.5	46.8	187.7	139.2	48.49	3.871	
8,558.7	7,119.0	7,473.5	7,075.9	29.4	39.9	-95.12	1,405.6	46.5	178.3	128.8	49.45	3.605	CC, ES, SF
8,600.0	7,119.0	7,471.8	7,074.3	30.0	39.9	-94.59	1,405.6	46.4	183.0	132.9	50.12	3.651	
8,700.0	7,119.0	7,467.7	7,070.2	31.6	39.9	-93.27	1,405.8	46.0	227.4	175.7	51.74	4.395	
8,800.0	7,119.0	7,463.6	7,066.0	33.2	39.9	-91.94	1,406.0	45.6	299.8	246.5	53.37	5.618	
8,900.0	7,119.0	7,459.3	7,061.8	34.8	39.9	-90.59	1,406.1	45.3	384.8	329.8	54.98	6.998	
9,000.0	7,119.0	7,455.0	7,057.6	36.4	39.9	-89.22	1,406.3	44.9	475.6	419.0	56.58	8.405	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2D-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	0.1	0.1	-89.95	0.0	-39.1	39.1	38.9	0.25	158.985	
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-39.1	39.1	38.5	0.60	65.739	
266.3	266.3	267.3	267.3	0.4	0.4	-89.95	0.0	-39.1	39.1	38.3	0.83	47.327	CC
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-39.1	39.1	38.2	0.94	41.437	ES
400.0	400.0	400.3	400.3	0.6	0.6	-90.38	-0.3	-40.0	40.0	38.7	1.29	30.911	
500.0	500.0	499.6	499.6	0.8	0.8	-91.54	-1.1	-42.4	42.4	40.8	1.64	25.819	
600.0	600.0	598.8	598.7	1.0	1.0	-93.20	-2.6	-46.5	46.6	44.6	2.00	23.305	
700.0	700.0	697.8	697.5	1.2	1.2	-95.07	-4.6	-52.1	52.4	50.1	2.36	22.216	
800.0	800.0	796.6	795.9	1.3	1.4	-96.94	-7.2	-59.4	60.0	57.3	2.73	21.991	SF
900.0	900.0	895.0	893.9	1.5	1.6	-98.66	-10.4	-68.2	69.3	66.2	3.11	22.323	
1,000.0	1,000.0	993.1	991.4	1.7	1.9	-100.18	-14.1	-78.5	80.4	76.9	3.49	23.024	
1,100.0	1,100.0	1,092.0	1,089.5	1.9	2.1	-101.45	-18.3	-90.1	92.7	88.8	3.88	23.885	
1,200.0	1,200.0	1,191.2	1,187.9	2.0	2.4	-102.44	-22.5	-101.9	105.1	100.8	4.27	24.598	
1,300.0	1,300.0	1,290.4	1,286.4	2.2	2.7	-103.21	-26.7	-113.6	117.6	112.9	4.67	25.191	
1,400.0	1,400.0	1,389.6	1,384.8	2.4	2.9	-103.84	-30.9	-125.3	130.0	125.0	5.06	25.692	
1,500.0	1,500.0	1,488.8	1,483.2	2.6	3.2	-104.36	-35.1	-137.0	142.5	137.1	5.46	26.120	
1,600.0	1,600.0	1,588.0	1,581.6	2.7	3.5	-104.79	-39.3	-148.7	155.0	149.1	5.85	26.491	
1,700.0	1,700.0	1,687.2	1,680.1	2.9	3.7	-105.16	-43.5	-160.4	167.5	161.3	6.25	26.814	
1,800.0	1,800.0	1,786.4	1,778.5	3.1	4.0	-105.48	-47.7	-172.1	180.0	173.4	6.64	27.099	
1,900.0	1,900.0	1,885.6	1,876.9	3.3	4.3	-105.76	-51.9	-183.8	192.5	185.5	7.04	27.352	
2,000.0	2,000.0	1,984.9	1,975.3	3.4	4.6	-106.00	-56.1	-195.5	205.0	197.6	7.43	27.578	
2,100.0	2,100.0	2,084.1	2,073.8	3.6	4.8	-106.21	-60.3	-207.2	217.5	209.7	7.83	27.781	
2,200.0	2,200.0	2,183.3	2,172.2	3.8	5.1	-106.41	-64.5	-218.9	230.0	221.8	8.23	27.965	
2,300.0	2,300.0	2,282.5	2,270.6	4.0	5.4	-106.58	-68.7	-230.7	242.6	233.9	8.62	28.131	
2,400.0	2,400.0	2,381.7	2,369.1	4.1	5.7	-106.73	-72.9	-242.4	255.1	246.1	9.02	28.284	
2,500.0	2,500.0	2,480.9	2,467.5	4.3	5.9	-106.87	-77.1	-254.1	267.6	258.2	9.42	28.423	
2,600.0	2,600.0	2,580.1	2,565.9	4.5	6.2	-107.00	-81.3	-265.8	280.1	270.3	9.81	28.551	
2,700.0	2,700.0	2,679.3	2,664.3	4.7	6.5	-107.12	-85.5	-277.5	292.7	282.4	10.21	28.669	
2,800.0	2,800.0	2,778.5	2,762.8	4.8	6.8	-107.22	-89.7	-289.2	305.2	294.6	10.60	28.778	
2,900.0	2,900.0	2,877.8	2,861.2	5.0	7.0	-107.32	-93.9	-300.9	317.7	306.7	11.00	28.879	
3,000.0	3,000.0	2,977.0	2,959.6	5.2	7.3	-107.42	-98.1	-312.6	330.2	318.8	11.40	28.974	
3,100.0	3,100.0	3,076.2	3,058.1	5.4	7.6	-107.50	-102.3	-324.3	342.8	331.0	11.79	29.062	
3,200.0	3,200.0	3,175.4	3,156.5	5.5	7.9	-107.58	-106.5	-336.0	355.3	343.1	12.19	29.144	
3,300.0	3,300.0	3,274.6	3,254.9	5.7	8.2	-107.65	-110.7	-347.7	367.8	355.2	12.59	29.221	
3,400.0	3,400.0	3,373.8	3,353.3	5.9	8.4	-107.72	-114.9	-359.5	380.4	367.4	12.98	29.293	
3,500.0	3,500.0	3,473.0	3,451.8	6.1	8.7	-107.78	-119.1	-371.2	392.9	379.5	13.38	29.361	
3,600.0	3,600.0	3,572.2	3,550.2	6.2	9.0	-107.84	-123.3	-382.9	405.4	391.6	13.78	29.426	
3,700.0	3,700.0	3,671.4	3,648.6	6.4	9.3	-107.90	-127.5	-394.6	418.0	403.8	14.17	29.486	
3,800.0	3,800.0	3,770.7	3,747.0	6.6	9.5	-107.95	-131.7	-406.3	430.5	415.9	14.57	29.543	
3,900.0	3,900.0	3,869.9	3,845.5	6.8	9.8	-108.00	-135.9	-418.0	443.0	428.0	14.97	29.598	
4,000.0	4,000.0	3,969.1	3,943.9	6.9	10.1	-108.05	-140.1	-429.7	455.5	440.2	15.36	29.649	
4,100.0	4,100.0	4,068.2	4,042.3	7.1	10.4	111.70	-144.3	-441.4	468.4	454.3	14.14	33.137	
4,200.0	4,200.0	4,167.3	4,140.6	7.3	10.7	111.82	-148.4	-453.1	481.9	467.4	14.48	33.282	
4,300.0	4,299.9	4,266.2	4,238.7	7.5	10.9	112.11	-152.6	-464.8	496.1	481.2	14.82	33.463	

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 Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2E-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	-19.6	19.6				
100.0	100.0	101.0	101.0	0.1	0.1	-89.95	0.0	-19.6	19.6	19.3	0.25	79.493	
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-19.6	19.6	19.0	0.60	32.869	
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-19.6	19.6	18.6	0.94	20.718	
400.0	400.0	401.0	401.0	0.6	0.6	-89.95	0.0	-19.6	19.6	18.3	1.29	15.126	
466.3	466.3	467.3	467.3	0.8	0.8	-89.95	0.0	-19.6	19.6	18.0	1.52	12.829	CC
500.0	500.0	501.0	501.0	0.8	0.8	-89.95	0.0	-19.6	19.6	17.9	1.64	11.911	ES
600.0	600.0	600.7	600.7	1.0	1.0	-91.30	-0.5	-20.3	20.3	18.3	1.99	10.202	
700.0	700.0	700.3	700.3	1.2	1.2	-94.76	-1.9	-22.5	22.6	20.3	2.34	9.648	
800.0	800.0	800.0	799.9	1.3	1.4	-99.16	-4.2	-26.2	26.5	23.8	2.70	9.836	
900.0	900.0	899.2	898.9	1.5	1.5	-103.46	-7.5	-31.3	32.2	29.2	3.06	10.537	
1,000.0	1,000.0	998.7	998.1	1.7	1.7	-107.06	-11.5	-37.6	39.4	36.0	3.42	11.523	
1,100.0	1,100.0	1,098.4	1,097.5	1.9	2.0	-109.60	-15.7	-44.1	46.9	43.1	3.79	12.384	
1,200.0	1,200.0	1,198.1	1,196.9	2.0	2.2	-111.43	-19.8	-50.5	54.4	50.3	4.15	13.107	
1,300.0	1,300.0	1,297.8	1,296.3	2.2	2.4	-112.82	-24.0	-57.0	62.0	57.5	4.52	13.721	
1,400.0	1,400.0	1,397.5	1,395.7	2.4	2.6	-113.90	-28.1	-63.5	69.6	64.7	4.89	14.248	
1,500.0	1,500.0	1,497.2	1,495.1	2.6	2.8	-114.77	-32.3	-69.9	77.3	72.0	5.25	14.704	
1,600.0	1,600.0	1,596.9	1,594.5	2.7	3.0	-115.49	-36.4	-76.4	84.9	79.3	5.62	15.103	
1,700.0	1,700.0	1,696.6	1,693.9	2.9	3.2	-116.08	-40.6	-82.9	92.6	86.6	5.99	15.454	
1,800.0	1,800.0	1,796.3	1,793.3	3.1	3.4	-116.59	-44.7	-89.4	100.2	93.9	6.36	15.765	
1,900.0	1,900.0	1,896.0	1,892.7	3.3	3.6	-117.02	-48.9	-95.8	107.9	101.2	6.73	16.043	
2,000.0	2,000.0	1,995.7	1,992.1	3.4	3.9	-117.40	-53.0	-102.3	115.6	108.5	7.09	16.293	
2,100.0	2,100.0	2,095.4	2,091.5	3.6	4.1	-117.73	-57.2	-108.8	123.3	115.8	7.46	16.519	
2,200.0	2,200.0	2,195.1	2,190.9	3.8	4.3	-118.02	-61.3	-115.2	130.9	123.1	7.83	16.724	
2,300.0	2,300.0	2,294.8	2,290.3	4.0	4.5	-118.27	-65.5	-121.7	138.6	130.4	8.20	16.911	
2,400.0	2,400.0	2,394.5	2,389.7	4.1	4.7	-118.51	-69.6	-128.2	146.3	137.7	8.57	17.082	
2,500.0	2,500.0	2,494.2	2,489.2	4.3	5.0	-118.71	-73.8	-134.7	154.0	145.1	8.93	17.238	
2,600.0	2,600.0	2,593.9	2,588.6	4.5	5.2	-118.90	-77.9	-141.1	161.7	152.4	9.30	17.383	
2,700.0	2,700.0	2,693.6	2,688.0	4.7	5.4	-119.07	-82.1	-147.6	169.4	159.7	9.67	17.517	
2,800.0	2,800.0	2,793.3	2,787.4	4.8	5.6	-119.23	-86.2	-154.1	177.1	167.0	10.04	17.641	
2,900.0	2,900.0	2,893.0	2,886.8	5.0	5.8	-119.37	-90.4	-160.6	184.8	174.4	10.41	17.756	
3,000.0	3,000.0	2,992.7	2,986.2	5.2	6.0	-119.50	-94.5	-167.0	192.5	181.7	10.77	17.864	
3,100.0	3,100.0	3,092.4	3,085.6	5.4	6.3	-119.62	-98.7	-173.5	200.2	189.0	11.14	17.964	
3,200.0	3,200.0	3,192.1	3,185.0	5.5	6.5	-119.74	-102.8	-180.0	207.9	196.4	11.51	18.058	
3,300.0	3,300.0	3,291.8	3,284.4	5.7	6.7	-119.84	-107.0	-186.4	215.6	203.7	11.88	18.147	
3,400.0	3,400.0	3,391.5	3,383.8	5.9	6.9	-119.94	-111.1	-192.9	223.3	211.0	12.25	18.230	
3,500.0	3,500.0	3,491.2	3,483.2	6.1	7.1	-120.03	-115.3	-199.4	231.0	218.4	12.62	18.308	
3,600.0	3,600.0	3,590.9	3,582.6	6.2	7.4	-120.12	-119.4	-205.9	238.7	225.7	12.98	18.382	
3,700.0	3,700.0	3,690.6	3,682.0	6.4	7.6	-120.19	-123.5	-212.3	246.4	233.0	13.35	18.451	
3,800.0	3,800.0	3,790.3	3,781.4	6.6	7.8	-120.27	-127.7	-218.8	254.1	240.4	13.72	18.517	
3,900.0	3,900.0	3,890.0	3,880.8	6.8	8.0	-120.34	-131.8	-225.3	261.8	247.7	14.09	18.580	
4,000.0	4,000.0	3,989.7	3,980.2	6.9	8.2	-120.41	-136.0	-231.7	269.5	255.0	14.46	18.639	
4,100.0	4,100.0	4,089.4	4,079.6	7.1	8.5	99.45	-140.1	-238.2	277.3	263.2	14.18	19.553	
4,200.0	4,200.0	4,189.1	4,179.0	7.3	8.7	99.82	-144.3	-244.7	285.5	271.0	14.53	19.644	
4,300.0	4,299.9	4,288.6	4,278.2	7.5	8.9	100.51	-148.4	-251.1	294.0	279.1	14.88	19.751	
4,400.0	4,399.7	4,388.1	4,377.4	7.6	9.1	101.46	-152.6	-257.6	302.8	287.6	15.24	19.875	
4,500.0	4,499.4	4,487.4	4,476.4	7.8	9.3	102.67	-156.7	-264.0	312.2	296.6	15.59	20.018	
4,600.0	4,598.9	4,586.6	4,575.3	8.0	9.5	104.10	-160.8	-270.5	322.1	306.1	15.96	20.182	
4,700.0	4,698.3	4,685.5	4,673.9	8.2	9.8	105.71	-164.9	-276.9	332.7	316.3	16.33	20.369	
4,800.0	4,797.4	4,784.2	4,772.4	8.4	10.0	107.49	-169.1	-283.3	344.1	327.4	16.71	20.584	
4,900.0	4,896.3	4,882.7	4,870.5	8.6	10.2	109.40	-173.2	-289.7	356.4	339.3	17.11	20.830	
5,000.0	4,995.1	4,981.0	4,968.6	8.8	10.4	111.40	-177.2	-296.1	369.4	351.9	17.52	21.087	

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 Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2E-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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
5,100.0	5,093.9	5,079.4	5,066.6	9.1	10.6	113.26	-181.3	-302.5	382.8	364.9	17.93	21.348	
5,200.0	5,192.6	5,177.7	5,164.7	9.3	10.8	115.00	-185.4	-308.9	396.7	378.3	18.35	21.612	
5,300.0	5,291.4	5,276.1	5,262.7	9.5	11.1	116.62	-189.5	-315.2	410.8	392.0	18.78	21.876	
5,400.0	5,390.2	5,374.4	5,360.8	9.8	11.3	118.13	-193.6	-321.6	425.3	406.1	19.21	22.142	
5,500.0	5,489.0	5,472.7	5,458.8	10.0	11.5	119.54	-197.7	-328.0	440.0	420.4	19.64	22.407	
5,600.0	5,587.8	5,571.1	5,556.9	10.3	11.7	120.87	-201.8	-334.4	455.0	434.9	20.07	22.671	
5,700.0	5,686.6	5,669.4	5,654.9	10.5	11.9	122.10	-205.9	-340.8	470.2	449.7	20.50	22.933	
5,800.0	5,785.3	5,767.7	5,752.9	10.8	12.1	123.27	-210.0	-347.2	485.6	464.6	20.94	23.193	
14,500.0	7,119.0	14,707.9	7,330.0	131.1	131.4	-114.94	7,353.4	-383.2	498.2	259.3	238.86	2.086	
14,556.5	7,119.0	14,764.0	7,330.0	132.1	132.4	-115.04	7,409.6	-382.8	496.4	256.0	240.47	2.064	SF

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2E-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	0.1	0.1	-89.95	0.0	-50.3	50.3	50.1	0.25	204.409	
166.3	166.3	167.3	167.3	0.2	0.2	-89.95	0.0	-50.3	50.3	49.8	0.48	105.320	CC
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-50.3	50.3	49.7	0.60	84.523	ES
300.0	300.0	300.0	300.0	0.5	0.5	-89.67	0.3	-51.1	51.2	50.2	0.94	54.263	
400.0	400.0	399.2	399.2	0.6	0.7	-88.90	1.0	-53.6	53.7	52.4	1.29	41.557	
500.0	500.0	498.2	498.1	0.8	0.8	-87.76	2.3	-57.7	57.9	56.2	1.64	35.253	
600.0	600.0	597.0	596.7	1.0	1.0	-86.43	4.0	-63.5	63.8	61.8	1.99	31.975	
700.0	700.0	695.6	695.0	1.2	1.2	-85.04	6.1	-70.8	71.4	69.0	2.35	30.359	
800.0	800.0	793.8	792.8	1.3	1.5	-83.70	8.8	-79.8	80.7	78.0	2.71	29.741	SF
900.0	900.0	891.8	890.1	1.5	1.7	-82.47	11.9	-90.3	91.7	88.6	3.08	29.758	
1,000.0	1,000.0	989.3	986.8	1.7	2.0	-81.38	15.5	-102.3	104.5	101.0	3.46	30.191	
1,100.0	1,100.0	1,087.3	1,083.8	1.9	2.3	-80.43	19.5	-115.8	118.7	114.9	3.85	30.861	
1,200.0	1,200.0	1,186.3	1,181.7	2.0	2.6	-79.66	23.7	-129.7	133.2	129.0	4.24	31.418	
1,300.0	1,300.0	1,285.2	1,279.6	2.2	2.9	-79.05	27.8	-143.5	147.7	143.1	4.64	31.863	
1,400.0	1,400.0	1,384.1	1,377.4	2.4	3.2	-78.54	31.9	-157.3	162.2	157.2	5.03	32.224	
1,500.0	1,500.0	1,483.0	1,475.3	2.6	3.5	-78.12	36.0	-171.1	176.8	171.3	5.44	32.523	
1,600.0	1,600.0	1,582.0	1,573.2	2.7	3.8	-77.77	40.1	-185.0	191.3	185.5	5.84	32.774	
1,700.0	1,700.0	1,680.9	1,671.1	2.9	4.1	-77.46	44.2	-198.8	205.8	199.6	6.24	32.987	
1,800.0	1,800.0	1,779.8	1,768.9	3.1	4.4	-77.19	48.3	-212.6	220.4	213.8	6.64	33.169	
1,900.0	1,900.0	1,878.8	1,866.8	3.3	4.7	-76.96	52.5	-226.5	235.0	227.9	7.05	33.328	
2,000.0	2,000.0	1,977.7	1,964.7	3.4	5.0	-76.75	56.6	-240.3	249.5	242.1	7.46	33.466	
2,100.0	2,100.0	2,076.6	2,062.5	3.6	5.3	-76.57	60.7	-254.1	264.1	256.2	7.86	33.588	
2,200.0	2,200.0	2,175.6	2,160.4	3.8	5.6	-76.41	64.8	-267.9	278.6	270.4	8.27	33.696	
2,300.0	2,300.0	2,274.5	2,258.3	4.0	5.9	-76.26	68.9	-281.8	293.2	284.5	8.68	33.792	
2,400.0	2,400.0	2,373.4	2,356.2	4.1	6.2	-76.12	73.0	-295.6	307.8	298.7	9.08	33.879	
2,500.0	2,500.0	2,472.4	2,454.0	4.3	6.5	-76.00	77.1	-309.4	322.3	312.8	9.49	33.957	
2,600.0	2,600.0	2,571.3	2,551.9	4.5	6.8	-75.89	81.3	-323.3	336.9	327.0	9.90	34.028	
2,700.0	2,700.0	2,670.2	2,649.8	4.7	7.1	-75.79	85.4	-337.1	351.5	341.2	10.31	34.093	
2,800.0	2,800.0	2,769.2	2,747.7	4.8	7.4	-75.69	89.5	-350.9	366.0	355.3	10.72	34.151	
2,900.0	2,900.0	2,868.1	2,845.5	5.0	7.7	-75.61	93.6	-364.7	380.6	369.5	11.13	34.206	
3,000.0	3,000.0	2,967.0	2,943.4	5.2	8.0	-75.53	97.7	-378.6	395.2	383.7	11.54	34.255	
3,100.0	3,100.0	3,065.9	3,041.3	5.4	8.3	-75.45	101.8	-392.4	409.8	397.8	11.95	34.301	
3,200.0	3,200.0	3,164.9	3,139.2	5.5	8.6	-75.38	105.9	-406.2	424.3	412.0	12.36	34.344	
3,300.0	3,300.0	3,263.8	3,237.0	5.7	8.9	-75.32	110.1	-420.1	438.9	426.2	12.77	34.384	
3,400.0	3,400.0	3,362.7	3,334.9	5.9	9.2	-75.26	114.2	-433.9	453.5	440.3	13.18	34.421	
3,500.0	3,500.0	3,461.7	3,432.8	6.1	9.5	-75.20	118.3	-447.7	468.1	454.5	13.58	34.455	
3,600.0	3,600.0	3,560.6	3,530.6	6.2	9.8	-75.15	122.4	-461.5	482.6	468.7	13.99	34.487	
3,700.0	3,700.0	3,659.5	3,628.5	6.4	10.2	-75.10	126.5	-475.4	497.2	482.8	14.41	34.517	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2F-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	-30.7	30.7				
100.0	100.0	101.0	101.0	0.1	0.1	-89.95	0.0	-30.7	30.7	30.5	0.25	124.917	
200.0	200.0	201.0	201.0	0.3	0.3	-89.95	0.0	-30.7	30.7	30.1	0.60	51.652	
300.0	300.0	301.0	301.0	0.5	0.5	-89.95	0.0	-30.7	30.7	29.8	0.94	32.557	
366.3	366.3	367.3	367.3	0.6	0.6	-89.95	0.0	-30.7	30.7	29.6	1.18	26.146	CC
400.0	400.0	401.0	401.0	0.6	0.6	-89.95	0.0	-30.7	30.7	29.4	1.29	23.770	ES
500.0	500.0	500.5	500.5	0.8	0.8	-89.28	0.4	-31.5	31.5	29.9	1.64	19.218	
600.0	600.0	600.0	600.0	1.0	1.0	-87.48	1.5	-33.9	34.0	32.0	1.99	17.063	
700.0	700.0	699.3	699.1	1.2	1.2	-84.99	3.3	-37.8	38.0	35.7	2.34	16.254	SF
800.0	800.0	798.4	798.1	1.3	1.4	-82.30	5.9	-43.3	43.8	41.1	2.69	16.278	
900.0	900.0	897.3	896.7	1.5	1.6	-79.73	9.1	-50.3	51.3	48.3	3.04	16.852	
1,000.0	1,000.0	996.5	995.4	1.7	1.8	-77.52	13.0	-58.6	60.3	56.9	3.40	17.722	
1,100.0	1,100.0	1,096.0	1,094.5	1.9	2.0	-75.84	16.9	-67.2	69.6	65.8	3.77	18.471	
1,200.0	1,200.0	1,195.6	1,193.7	2.0	2.2	-74.56	20.9	-75.7	78.9	74.7	4.13	19.088	
1,300.0	1,300.0	1,295.2	1,292.8	2.2	2.5	-73.56	24.9	-84.2	88.2	83.7	4.50	19.603	
1,400.0	1,400.0	1,394.7	1,391.9	2.4	2.7	-72.74	28.8	-92.7	97.5	92.7	4.87	20.039	
1,500.0	1,500.0	1,494.3	1,491.0	2.6	2.9	-72.07	32.8	-101.3	106.9	101.7	5.24	20.411	
1,600.0	1,600.0	1,593.8	1,590.1	2.7	3.2	-71.50	36.7	-109.8	116.3	110.7	5.61	20.733	
1,700.0	1,700.0	1,693.4	1,689.2	2.9	3.4	-71.02	40.7	-118.3	125.7	119.7	5.98	21.014	
1,800.0	1,800.0	1,792.9	1,788.3	3.1	3.6	-70.61	44.6	-126.8	135.0	128.7	6.35	21.261	
1,900.0	1,900.0	1,892.5	1,887.4	3.3	3.9	-70.25	48.6	-135.3	144.4	137.7	6.73	21.479	
2,000.0	2,000.0	1,992.0	1,986.5	3.4	4.1	-69.93	52.6	-143.9	153.8	146.8	7.10	21.674	
2,100.0	2,100.0	2,091.6	2,085.6	3.6	4.3	-69.65	56.5	-152.4	163.3	155.8	7.47	21.848	
2,200.0	2,200.0	2,191.1	2,184.7	3.8	4.6	-69.40	60.5	-160.9	172.7	164.8	7.85	22.006	
2,300.0	2,300.0	2,290.7	2,283.9	4.0	4.8	-69.18	64.4	-169.4	182.1	173.9	8.22	22.148	
2,400.0	2,400.0	2,390.2	2,383.0	4.1	5.1	-68.98	68.4	-178.0	191.5	182.9	8.60	22.278	
2,500.0	2,500.0	2,489.8	2,482.1	4.3	5.3	-68.79	72.4	-186.5	200.9	191.9	8.97	22.396	
2,600.0	2,600.0	2,589.3	2,581.2	4.5	5.5	-68.63	76.3	-195.0	210.3	201.0	9.35	22.505	
2,700.0	2,700.0	2,688.9	2,680.3	4.7	5.8	-68.48	80.3	-203.5	219.8	210.0	9.72	22.605	
2,800.0	2,800.0	2,788.5	2,779.4	4.8	6.0	-68.34	84.2	-212.0	229.2	219.1	10.10	22.698	
2,900.0	2,900.0	2,888.0	2,878.5	5.0	6.2	-68.21	88.2	-220.6	238.6	228.1	10.47	22.783	
3,000.0	3,000.0	2,987.6	2,977.6	5.2	6.5	-68.09	92.1	-229.1	248.0	237.2	10.85	22.863	
3,100.0	3,100.0	3,087.1	3,076.7	5.4	6.7	-67.98	96.1	-237.6	257.5	246.2	11.22	22.937	
3,200.0	3,200.0	3,186.7	3,175.8	5.5	7.0	-67.88	100.1	-246.1	266.9	255.3	11.60	23.006	
3,300.0	3,300.0	3,286.2	3,274.9	5.7	7.2	-67.78	104.0	-254.7	276.3	264.3	11.98	23.070	
3,400.0	3,400.0	3,385.8	3,374.1	5.9	7.4	-67.69	108.0	-263.2	285.7	273.4	12.35	23.131	
3,500.0	3,500.0	3,485.3	3,473.2	6.1	7.7	-67.61	111.9	-271.7	295.2	282.4	12.73	23.188	
3,600.0	3,600.0	3,584.9	3,572.3	6.2	7.9	-67.53	115.9	-280.2	304.6	291.5	13.11	23.241	
3,700.0	3,700.0	3,684.4	3,671.4	6.4	8.1	-67.46	119.8	-288.8	314.0	300.6	13.48	23.292	
3,800.0	3,800.0	3,784.0	3,770.5	6.6	8.4	-67.39	123.8	-297.3	323.5	309.6	13.86	23.340	
3,900.0	3,900.0	3,883.5	3,869.6	6.8	8.6	-67.32	127.8	-305.8	332.9	318.7	14.24	23.385	
4,000.0	4,000.0	3,983.1	3,968.7	6.9	8.9	-67.26	131.7	-314.3	342.3	327.7	14.61	23.427	
4,100.0	4,100.0	4,082.6	4,067.7	7.1	9.1	152.63	135.7	-322.8	352.5	338.4	14.16	24.890	
4,200.0	4,200.0	4,181.9	4,166.6	7.3	9.3	152.82	139.6	-331.3	364.3	349.8	14.50	25.121	
4,300.0	4,299.9	4,280.9	4,265.2	7.5	9.6	153.11	143.6	-339.8	377.6	362.7	14.84	25.451	
4,400.0	4,399.7	4,379.8	4,363.6	7.6	9.8	153.48	147.5	-348.3	392.4	377.3	15.17	25.875	
4,500.0	4,499.4	4,478.4	4,461.8	7.8	10.0	153.92	151.4	-356.7	408.9	393.4	15.50	26.387	
4,600.0	4,598.9	4,576.6	4,559.6	8.0	10.3	154.42	155.3	-365.1	426.9	411.1	15.82	26.982	
4,700.0	4,698.3	4,674.6	4,657.1	8.2	10.5	154.97	159.2	-373.5	446.5	430.3	16.14	27.657	
4,800.0	4,797.4	4,772.2	4,754.3	8.4	10.7	155.54	163.1	-381.9	467.7	451.2	16.46	28.407	
4,900.0	4,896.3	4,869.4	4,851.0	8.6	11.0	156.14	167.0	-390.2	490.5	473.7	16.78	29.226	

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 Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2G-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	-89.94	0.0	-8.4	8.4				
100.0	100.0	100.0	100.0	0.1	0.1	-89.94	0.0	-8.4	8.4	8.1	0.24	34.312	
200.0	200.0	200.0	200.0	0.3	0.3	-89.94	0.0	-8.4	8.4	7.8	0.59	14.128	
300.0	300.0	300.0	300.0	0.5	0.5	-89.94	0.0	-8.4	8.4	7.4	0.94	8.896	
400.0	400.0	400.0	400.0	0.6	0.6	-89.94	0.0	-8.4	8.4	7.1	1.29	6.491	
500.0	500.0	500.0	500.0	0.8	0.8	-89.94	0.0	-8.4	8.4	6.7	1.64	5.110	
600.0	600.0	600.0	600.0	1.0	1.0	-89.94	0.0	-8.4	8.4	6.4	1.99	4.214	CC, ES
700.0	700.0	699.9	699.9	1.2	1.2	-86.13	0.6	-9.0	9.0	6.7	2.34	3.863	SF
800.0	800.0	799.7	799.7	1.3	1.3	-77.51	2.4	-10.9	11.2	8.5	2.69	4.156	
900.0	900.0	899.4	899.3	1.5	1.5	-68.91	5.4	-14.0	15.1	12.0	3.04	4.960	
1,000.0	1,000.0	999.1	998.7	1.7	1.7	-62.54	9.5	-18.3	20.7	17.3	3.39	6.114	
1,100.0	1,100.0	1,098.8	1,098.3	1.9	1.9	-58.74	13.9	-22.9	26.9	23.1	3.74	7.183	
1,200.0	1,200.0	1,198.6	1,197.9	2.0	2.1	-56.37	18.3	-27.5	33.1	29.0	4.10	8.082	
1,300.0	1,300.0	1,298.4	1,297.5	2.2	2.3	-54.75	22.7	-32.1	39.4	34.9	4.45	8.843	
1,400.0	1,400.0	1,398.2	1,397.1	2.4	2.5	-53.58	27.1	-36.7	45.7	40.9	4.81	9.495	
1,500.0	1,500.0	1,498.0	1,496.7	2.6	2.7	-52.69	31.5	-41.3	52.0	46.8	5.17	10.058	
1,600.0	1,600.0	1,597.8	1,596.3	2.7	2.9	-51.99	35.8	-45.9	58.3	52.8	5.53	10.549	
1,700.0	1,700.0	1,697.6	1,695.9	2.9	3.1	-51.43	40.2	-50.4	64.6	58.8	5.89	10.980	
1,800.0	1,800.0	1,797.4	1,795.5	3.1	3.3	-50.97	44.6	-55.0	71.0	64.7	6.25	11.361	
1,900.0	1,900.0	1,897.2	1,895.1	3.3	3.5	-50.58	49.0	-59.6	77.3	70.7	6.61	11.702	
2,000.0	2,000.0	1,997.0	1,994.7	3.4	3.7	-50.26	53.4	-64.2	83.7	76.7	6.97	12.006	
2,100.0	2,100.0	2,096.8	2,094.3	3.6	3.9	-49.98	57.8	-68.8	90.0	82.7	7.33	12.281	
2,200.0	2,200.0	2,196.6	2,193.9	3.8	4.1	-49.73	62.1	-73.4	96.3	88.7	7.69	12.530	
2,300.0	2,300.0	2,296.4	2,293.5	4.0	4.3	-49.52	66.5	-77.9	102.7	94.6	8.05	12.757	
2,400.0	2,400.0	2,396.2	2,393.1	4.1	4.5	-49.33	70.9	-82.5	109.0	100.6	8.41	12.964	
2,500.0	2,500.0	2,496.0	2,492.7	4.3	4.7	-49.16	75.3	-87.1	115.4	106.6	8.77	13.154	
2,600.0	2,600.0	2,595.8	2,592.3	4.5	4.9	-49.01	79.7	-91.7	121.7	112.6	9.13	13.329	
2,700.0	2,700.0	2,695.6	2,691.9	4.7	5.1	-48.88	84.1	-96.3	128.1	118.6	9.49	13.490	
2,800.0	2,800.0	2,795.4	2,791.5	4.8	5.3	-48.76	88.4	-100.9	134.4	124.6	9.86	13.640	
2,900.0	2,900.0	2,895.2	2,891.1	5.0	5.5	-48.64	92.8	-105.5	140.8	130.6	10.22	13.779	
3,000.0	3,000.0	2,995.0	2,990.7	5.2	5.8	-48.54	97.2	-110.0	147.1	136.6	10.58	13.908	
3,100.0	3,100.0	3,094.8	3,090.3	5.4	6.0	-48.45	101.6	-114.6	153.5	142.5	10.94	14.029	
3,200.0	3,200.0	3,194.6	3,189.8	5.5	6.2	-48.36	106.0	-119.2	159.8	148.5	11.30	14.142	
3,300.0	3,300.0	3,294.4	3,289.4	5.7	6.4	-48.28	110.4	-123.8	166.2	154.5	11.66	14.248	
3,400.0	3,400.0	3,394.2	3,389.0	5.9	6.6	-48.21	114.7	-128.4	172.5	160.5	12.03	14.348	
3,500.0	3,500.0	3,494.0	3,488.6	6.1	6.8	-48.14	119.1	-133.0	178.9	166.5	12.39	14.442	
3,600.0	3,600.0	3,593.8	3,588.2	6.2	7.0	-48.08	123.5	-137.6	185.2	172.5	12.75	14.530	
3,700.0	3,700.0	3,693.6	3,687.8	6.4	7.2	-48.02	127.9	-142.1	191.6	178.5	13.11	14.613	
3,800.0	3,800.0	3,793.4	3,787.4	6.6	7.4	-47.96	132.3	-146.7	197.9	184.5	13.47	14.692	
3,900.0	3,900.0	3,893.2	3,887.0	6.8	7.6	-47.91	136.7	-151.3	204.3	190.5	13.83	14.767	
4,000.0	4,000.0	3,993.0	3,986.6	6.9	7.8	-47.86	141.1	-155.9	210.7	196.5	14.20	14.838	
4,100.0	4,100.0	4,092.7	4,086.2	7.1	8.0	172.02	145.4	-160.5	217.9	203.7	14.19	15.359	
4,200.0	4,200.0	4,192.3	4,185.5	7.3	8.2	172.15	149.8	-165.0	226.8	212.3	14.52	15.616	
4,300.0	4,299.9	4,291.7	4,284.8	7.5	8.4	172.31	154.2	-169.6	237.5	222.6	14.86	15.980	
4,400.0	4,399.7	4,391.0	4,383.8	7.6	8.6	172.51	158.5	-174.2	249.9	234.7	15.19	16.446	
4,500.0	4,499.4	4,490.0	4,482.6	7.8	8.8	172.74	162.9	-178.7	264.0	248.4	15.52	17.007	
4,600.0	4,598.9	4,588.7	4,581.1	8.0	9.0	172.99	167.2	-183.3	279.8	263.9	15.85	17.657	
4,700.0	4,698.3	4,687.1	4,679.4	8.2	9.2	173.24	171.5	-187.8	297.3	281.1	16.17	18.392	
4,800.0	4,797.4	4,785.3	4,777.3	8.4	9.4	173.50	175.9	-192.3	316.6	300.1	16.48	19.207	
4,900.0	4,896.3	4,883.0	4,874.9	8.6	9.6	173.76	180.2	-196.8	337.5	320.7	16.79	20.096	
5,000.0	4,995.1	4,980.6	4,972.3	8.8	9.8	174.03	184.4	-201.3	359.2	342.1	17.14	20.961	
5,100.0	5,093.9	5,078.2	5,069.7	9.1	10.0	174.26	188.7	-205.7	381.0	363.5	17.48	21.792	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2G-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	5,192.6	5,175.8	5,167.1	9.3	10.2	174.47	193.0	-210.2	402.7	384.9	17.83	22.591	
5,300.0	5,291.4	5,273.4	5,264.5	9.5	10.4	174.66	197.3	-214.7	424.5	406.3	18.17	23.360	
5,400.0	5,390.2	5,371.0	5,361.9	9.8	10.6	174.82	201.6	-219.2	446.2	427.7	18.51	24.101	
5,500.0	5,489.0	5,468.6	5,459.3	10.0	10.9	174.98	205.9	-223.7	468.0	449.1	18.86	24.815	
5,600.0	5,587.8	5,566.2	5,556.7	10.3	11.1	175.12	210.2	-228.2	489.7	470.5	19.20	25.504	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2H-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-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	0.1	0.1	90.04	0.0	11.2	11.2	10.9	0.24	45.749	
200.0	200.0	200.0	200.0	0.3	0.3	90.04	0.0	11.2	11.2	10.6	0.59	18.838	
300.0	300.0	300.0	300.0	0.5	0.5	90.04	0.0	11.2	11.2	10.2	0.94	11.861	
400.0	400.0	400.0	400.0	0.6	0.6	90.04	0.0	11.2	11.2	9.9	1.29	8.655	
500.0	500.0	500.0	500.0	0.8	0.8	90.04	0.0	11.2	11.2	9.5	1.64	6.814	
600.0	600.0	600.0	600.0	1.0	1.0	90.04	0.0	11.2	11.2	9.2	1.99	5.618	
700.0	700.0	700.1	700.0	1.2	1.2	85.69	0.8	10.9	10.9	8.6	2.34	4.677	
799.2	799.2	799.3	799.2	1.3	1.3	71.99	3.3	10.1	10.6	7.9	2.69	3.955	CC
800.0	800.0	800.0	800.0	1.3	1.3	71.84	3.3	10.1	10.6	7.9	2.69	3.951	ES
900.0	900.0	899.9	899.8	1.5	1.5	50.63	7.2	8.8	11.4	8.4	3.05	3.748	SF
1,000.0	1,000.0	999.9	999.6	1.7	1.7	33.36	11.4	7.5	13.6	10.2	3.40	4.000	
1,100.0	1,100.0	1,099.8	1,099.4	1.9	1.9	21.62	15.5	6.1	16.7	12.9	3.76	4.433	
1,200.0	1,200.0	1,199.7	1,199.3	2.0	2.1	13.75	19.6	4.8	20.2	16.1	4.12	4.907	
1,300.0	1,300.0	1,299.6	1,299.1	2.2	2.3	8.29	23.7	3.5	24.0	19.5	4.47	5.366	
1,400.0	1,400.0	1,399.5	1,398.9	2.4	2.5	4.34	27.9	2.1	28.0	23.1	4.83	5.791	
1,500.0	1,500.0	1,499.4	1,498.7	2.6	2.6	1.39	32.0	0.8	32.0	26.8	5.19	6.176	
1,600.0	1,600.0	1,599.3	1,598.5	2.7	2.8	-0.90	36.1	-0.6	36.1	30.6	5.54	6.524	
1,700.0	1,700.0	1,699.2	1,698.3	2.9	3.0	-2.71	40.2	-1.9	40.3	34.4	5.90	6.838	
1,800.0	1,800.0	1,799.1	1,798.1	3.1	3.2	-4.19	44.4	-3.2	44.5	38.3	6.25	7.122	
1,900.0	1,900.0	1,899.0	1,897.9	3.3	3.4	-5.41	48.5	-4.6	48.7	42.1	6.61	7.378	
2,000.0	2,000.0	1,998.9	1,997.7	3.4	3.6	-6.43	52.6	-5.9	53.0	46.0	6.96	7.612	
2,100.0	2,100.0	2,098.8	2,097.6	3.6	3.8	-7.30	56.7	-7.3	57.3	49.9	7.32	7.824	
2,200.0	2,200.0	2,198.7	2,197.4	3.8	4.0	-8.05	60.9	-8.6	61.5	53.9	7.67	8.018	
2,300.0	2,300.0	2,298.6	2,297.2	4.0	4.1	-8.71	65.0	-10.0	65.8	57.8	8.03	8.197	
2,400.0	2,400.0	2,398.5	2,397.0	4.1	4.3	-9.28	69.1	-11.3	70.1	61.7	8.38	8.361	
2,500.0	2,500.0	2,498.4	2,496.8	4.3	4.5	-9.79	73.2	-12.6	74.4	65.6	8.74	8.512	
2,600.0	2,600.0	2,598.3	2,596.6	4.5	4.7	-10.24	77.4	-14.0	78.7	69.6	9.09	8.652	
2,700.0	2,700.0	2,698.2	2,696.4	4.7	4.9	-10.65	81.5	-15.3	83.0	73.5	9.45	8.782	
2,800.0	2,800.0	2,798.2	2,796.2	4.8	5.1	-11.01	85.6	-16.7	87.3	77.5	9.81	8.903	
2,900.0	2,900.0	2,898.1	2,896.0	5.0	5.3	-11.34	89.7	-18.0	91.6	81.4	10.16	9.016	
3,000.0	3,000.0	2,998.0	2,995.9	5.2	5.5	-11.64	93.9	-19.3	95.9	85.4	10.52	9.122	
3,100.0	3,100.0	3,097.9	3,095.7	5.4	5.7	-11.92	98.0	-20.7	100.2	89.4	10.87	9.220	
3,200.0	3,200.0	3,197.8	3,195.5	5.5	5.8	-12.17	102.1	-22.0	104.6	93.3	11.23	9.313	
3,300.0	3,300.0	3,297.7	3,295.3	5.7	6.0	-12.40	106.2	-23.4	108.9	97.3	11.58	9.400	
3,400.0	3,400.0	3,397.6	3,395.1	5.9	6.2	-12.62	110.4	-24.7	113.2	101.3	11.94	9.482	
3,500.0	3,500.0	3,497.5	3,494.9	6.1	6.4	-12.82	114.5	-26.0	117.5	105.2	12.29	9.560	
3,600.0	3,600.0	3,597.4	3,594.7	6.2	6.6	-13.00	118.6	-27.4	121.8	109.2	12.65	9.633	
3,700.0	3,700.0	3,697.3	3,694.5	6.4	6.8	-13.17	122.7	-28.7	126.2	113.2	13.00	9.702	
3,800.0	3,800.0	3,797.2	3,794.4	6.6	7.0	-13.34	126.9	-30.1	130.5	117.1	13.36	9.768	
3,900.0	3,900.0	3,897.1	3,894.2	6.8	7.2	-13.49	131.0	-31.4	134.8	121.1	13.71	9.831	
4,000.0	4,000.0	3,997.0	3,994.0	6.9	7.4	-13.63	135.1	-32.8	139.2	125.1	14.07	9.890	
4,100.0	4,100.0	4,096.9	4,093.7	7.1	7.6	-154.07	139.2	-34.1	144.3	130.1	14.20	10.161	
4,200.0	4,200.0	4,196.7	4,193.4	7.3	7.7	-154.60	143.4	-35.4	151.0	136.4	14.54	10.382	
4,300.0	4,299.9	4,296.3	4,293.0	7.5	7.9	-155.33	147.5	-36.8	159.2	144.4	14.88	10.702	
4,400.0	4,399.7	4,395.8	4,392.3	7.6	8.1	-156.23	151.6	-38.1	169.1	153.9	15.21	11.117	
4,500.0	4,499.4	4,495.0	4,491.5	7.8	8.3	-157.23	155.7	-39.4	180.7	165.1	15.55	11.621	
4,600.0	4,598.9	4,594.1	4,590.5	8.0	8.5	-158.30	159.8	-40.8	193.9	178.0	15.88	12.211	
4,700.0	4,698.3	4,692.9	4,689.2	8.2	8.7	-159.39	163.8	-42.1	208.7	192.5	16.20	12.883	
4,800.0	4,797.4	4,791.4	4,787.6	8.4	8.9	-160.47	167.9	-43.4	225.3	208.8	16.53	13.634	
4,900.0	4,896.3	4,889.6	4,885.8	8.6	9.1	-161.53	172.0	-44.7	243.6	226.7	16.85	14.459	
5,000.0	4,995.1	4,987.7	4,983.7	8.8	9.2	-162.55	176.0	-46.1	262.7	245.5	17.19	15.277	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2H-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

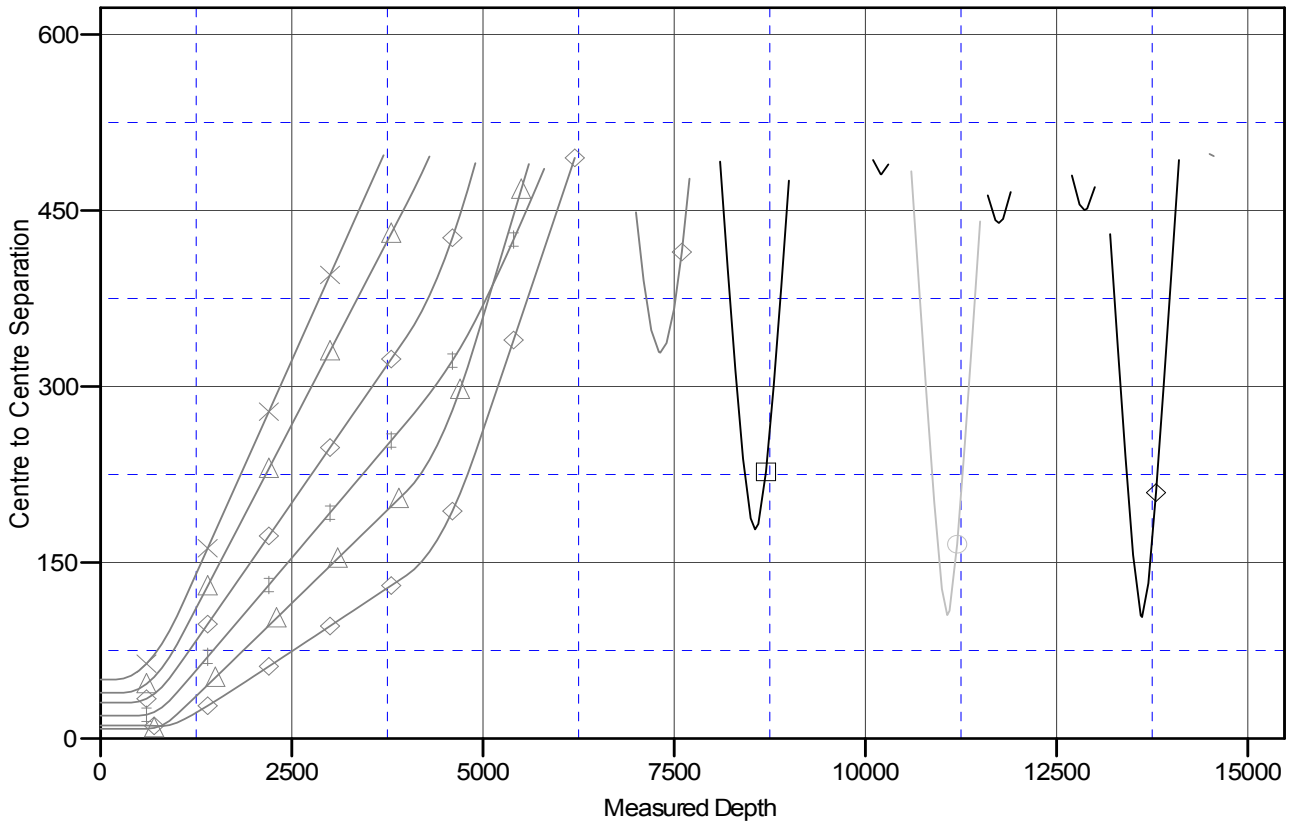
Offset Well Error: 0.0 ft

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
5,100.0	5,093.9	5,085.8	5,081.7	9.1	9.4	-163.42	180.1	-47.4	281.9	264.3	17.54	16.067	
5,200.0	5,192.6	5,183.8	5,179.7	9.3	9.6	-164.19	184.1	-48.7	301.1	283.2	17.89	16.828	
5,300.0	5,291.4	5,281.9	5,277.6	9.5	9.8	-164.86	188.2	-50.0	320.3	302.1	18.24	17.563	
5,400.0	5,390.2	5,379.9	5,375.6	9.8	10.0	-165.46	192.2	-51.3	339.7	321.1	18.59	18.273	
5,500.0	5,489.0	5,478.0	5,473.6	10.0	10.2	-165.99	196.3	-52.6	359.0	340.1	18.94	18.958	
5,600.0	5,587.8	5,576.1	5,571.5	10.3	10.4	-166.47	200.3	-54.0	378.4	359.1	19.29	19.619	
5,700.0	5,686.6	5,674.1	5,669.5	10.5	10.6	-166.91	204.4	-55.3	397.7	378.1	19.63	20.258	
5,800.0	5,785.3	5,772.2	5,767.5	10.8	10.7	-167.30	208.4	-56.6	417.2	397.2	19.98	20.876	
5,900.0	5,884.1	5,870.2	5,865.4	11.0	10.9	-167.65	212.4	-57.9	436.6	416.2	20.33	21.474	
6,000.0	5,982.9	5,968.3	5,963.4	11.3	11.1	-167.98	216.5	-59.2	456.0	435.3	20.68	22.052	
6,100.0	6,081.7	6,066.4	6,061.4	11.6	11.3	-168.28	220.5	-60.5	475.5	454.4	21.03	22.612	
6,200.0	6,180.5	6,164.4	6,159.3	11.8	11.5	-168.56	224.6	-61.8	494.9	473.6	21.38	23.154	
7,000.0	6,935.8	7,100.1	7,082.7	13.0	12.8	-76.16	181.4	-74.3	448.6	424.1	24.51	18.305	
7,100.0	7,002.7	7,137.8	7,115.2	13.1	12.8	-87.92	162.3	-74.7	390.4	365.4	24.98	15.627	
7,200.0	7,055.7	7,137.3	7,114.8	13.4	12.8	-91.79	162.6	-74.7	348.0	322.7	25.27	13.771	
7,300.0	7,093.4	7,119.1	7,099.3	13.8	12.8	-90.15	172.0	-74.5	329.4	303.7	25.74	12.800	
7,319.7	7,098.8	7,114.2	7,095.1	13.9	12.8	-89.32	174.5	-74.4	328.9	303.1	25.87	12.715	
7,400.0	7,114.4	7,091.4	7,075.1	14.4	12.8	-84.58	185.4	-74.2	337.1	310.8	26.32	12.809	
7,500.0	7,119.0	7,058.7	7,045.7	15.2	12.8	-77.45	199.8	-73.8	366.7	339.9	26.76	13.704	
7,600.0	7,119.0	7,030.3	7,019.5	16.2	12.8	-73.16	210.9	-73.4	414.7	387.3	27.36	15.157	
7,700.0	7,119.0	7,000.0	6,991.1	17.3	12.8	-68.70	221.3	-73.0	477.2	449.3	27.91	17.097	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4889.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4889.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2F-5H-F267	**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 KB @ 4889.0ft (Ensign)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Vogl-Geist 2F-5H-F267
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.38°



L E G E N D

A WELL, NO SURVEYS V0
JA WELL, SURVEYS V0
NA WELL, NO SURVEYS V0
ANA WELL, PLAN ONLY V0
ROBERT NELSON 24-32 (EXISTING), ENCANA WELL, NO SURVEYS V0
VOGL 21-5X (EXISTING), KMG WELL, NO SURVEYS V0
Vogl-Geist 2D-5H-F267, Hz, Plan #1 V0
Vogl-Geist 2E-5H-F267, Hz, Plan #1 V0
Vogl-McCoy 2E-5H-F267, Hz, Plan
Vogl-McCoy 2F-5H-F267, Hz, Plan
Vogl-McCoy 2G-5H-F267, Hz, Plar
Vogl-McCoy 2H-5H-F267, Hz, Plar