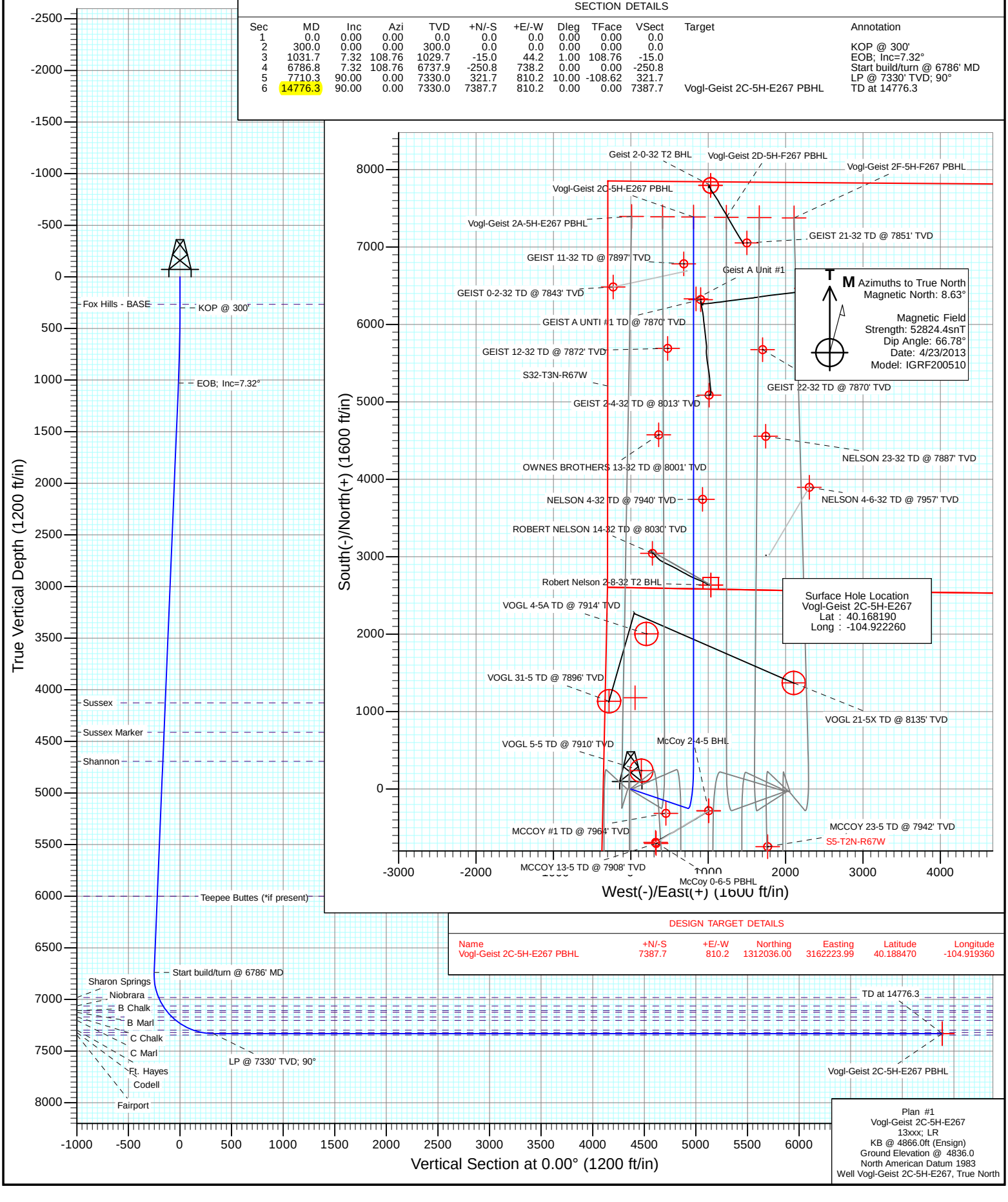
encana

Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2C-5H-E267
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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0		KOP @ 300'
3	1031.7	7.32	108.76	1029.7	-15.0	44.2	1.00	108.76	-15.0		EOB; Inc=7.32°
4	6786.8	7.32	108.76	6737.9	-250.8	738.2	0.00	0.00	-250.8		Start build/turn @ 6786' MD
5	7710.3	90.00	0.00	7330.0	321.7	810.2	10.00	-108.62	321.7		LP @ 7330' TVD; 90°
6	14776.3	90.00	0.00	7330.0	7387.7	810.2	0.00	0.00	7387.7	Vogl-Geist 2C-5H-E267 PBHL	TD at 14776.3



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Vogl-Geist 2C-5H-E267 PBHL	7387.7	810.2	1312036.00	3162223.99	40.188470	-104.919360

Plan #1
Vogl-Geist 2C-5H-E267
13xxx; LR
KB @ 4866.0ft (Ensign)
Ground Elevation @ 4836.0
North American Datum 1983
Well Vogl-Geist 2C-5H-E267, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2C-5H-E267	**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 2C-5H-E267

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,304,643.16 ft	**Latitude:**	40.168190
	+E/-W	0.0 ft	**Easting:**	3,161,461.94 ft	**Longitude:**	-104.922260
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,836.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/23/2013	8.63	66.78	52,824

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,031.7	7.32	108.76	1,029.7	-15.0	44.2	1.00	1.00	0.00	108.76	
6,786.8	7.32	108.76	6,737.9	-250.8	738.2	0.00	0.00	0.00	0.00	
7,710.3	90.00	0.00	7,330.0	321.7	810.2	10.00	8.95	-11.78	-108.62	
14,776.3	90.00	0.00	7,330.0	7,387.7	810.2	0.00	0.00	0.00	0.00	Vogl-Geist 2C-5H-E2(

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2C-5H-E267	**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	
266.0	0.00	0.00	266.0	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	KOP @ 300'
400.0	1.00	108.76	400.0	-0.3	0.8	-0.3	1.00	1.00	
500.0	2.00	108.76	500.0	-1.1	3.3	-1.1	1.00	1.00	
600.0	3.00	108.76	599.9	-2.5	7.4	-2.5	1.00	1.00	
700.0	4.00	108.76	699.7	-4.5	13.2	-4.5	1.00	1.00	
800.0	5.00	108.76	799.4	-7.0	20.6	-7.0	1.00	1.00	
900.0	6.00	108.76	898.9	-10.1	29.7	-10.1	1.00	1.00	
1,000.0	7.00	108.76	998.3	-13.7	40.4	-13.7	1.00	1.00	
1,031.7	7.32	108.76	1,029.7	-15.0	44.2	-15.0	1.00	1.00	EOB; Inc=7.32°
1,100.0	7.32	108.76	1,097.5	-17.8	52.4	-17.8	0.00	0.00	
1,200.0	7.32	108.76	1,196.6	-21.9	64.5	-21.9	0.00	0.00	
1,300.0	7.32	108.76	1,295.8	-26.0	76.5	-26.0	0.00	0.00	
1,400.0	7.32	108.76	1,395.0	-30.1	88.6	-30.1	0.00	0.00	
1,500.0	7.32	108.76	1,494.2	-34.2	100.7	-34.2	0.00	0.00	
1,600.0	7.32	108.76	1,593.4	-38.3	112.7	-38.3	0.00	0.00	
1,700.0	7.32	108.76	1,692.6	-42.4	124.8	-42.4	0.00	0.00	
1,800.0	7.32	108.76	1,791.8	-46.5	136.8	-46.5	0.00	0.00	
1,900.0	7.32	108.76	1,890.9	-50.6	148.9	-50.6	0.00	0.00	
2,000.0	7.32	108.76	1,990.1	-54.7	161.0	-54.7	0.00	0.00	
2,100.0	7.32	108.76	2,089.3	-58.8	173.0	-58.8	0.00	0.00	
2,200.0	7.32	108.76	2,188.5	-62.9	185.1	-62.9	0.00	0.00	
2,300.0	7.32	108.76	2,287.7	-67.0	197.1	-67.0	0.00	0.00	
2,400.0	7.32	108.76	2,386.9	-71.1	209.2	-71.1	0.00	0.00	
2,500.0	7.32	108.76	2,486.1	-75.2	221.2	-75.2	0.00	0.00	
2,600.0	7.32	108.76	2,585.2	-79.3	233.3	-79.3	0.00	0.00	
2,700.0	7.32	108.76	2,684.4	-83.3	245.4	-83.3	0.00	0.00	
2,800.0	7.32	108.76	2,783.6	-87.4	257.4	-87.4	0.00	0.00	
2,900.0	7.32	108.76	2,882.8	-91.5	269.5	-91.5	0.00	0.00	
3,000.0	7.32	108.76	2,982.0	-95.6	281.5	-95.6	0.00	0.00	
3,100.0	7.32	108.76	3,081.2	-99.7	293.6	-99.7	0.00	0.00	
3,200.0	7.32	108.76	3,180.4	-103.8	305.7	-103.8	0.00	0.00	
3,300.0	7.32	108.76	3,279.5	-107.9	317.7	-107.9	0.00	0.00	
3,400.0	7.32	108.76	3,378.7	-112.0	329.8	-112.0	0.00	0.00	
3,500.0	7.32	108.76	3,477.9	-116.1	341.8	-116.1	0.00	0.00	
3,600.0	7.32	108.76	3,577.1	-120.2	353.9	-120.2	0.00	0.00	
3,700.0	7.32	108.76	3,676.3	-124.3	366.0	-124.3	0.00	0.00	
3,800.0	7.32	108.76	3,775.5	-128.4	378.0	-128.4	0.00	0.00	
3,900.0	7.32	108.76	3,874.7	-132.5	390.1	-132.5	0.00	0.00	
4,000.0	7.32	108.76	3,973.8	-136.6	402.1	-136.6	0.00	0.00	
4,100.0	7.32	108.76	4,073.0	-140.7	414.2	-140.7	0.00	0.00	
4,153.4	7.32	108.76	4,126.0	-142.9	420.6	-142.9	0.00	0.00	Sussex
4,200.0	7.32	108.76	4,172.2	-144.8	426.3	-144.8	0.00	0.00	
4,300.0	7.32	108.76	4,271.4	-148.9	438.3	-148.9	0.00	0.00	
4,400.0	7.32	108.76	4,370.6	-153.0	450.4	-153.0	0.00	0.00	
4,441.8	7.32	108.76	4,412.0	-154.7	455.4	-154.7	0.00	0.00	Sussex Marker
4,500.0	7.32	108.76	4,469.8	-157.1	462.4	-157.1	0.00	0.00	
4,600.0	7.32	108.76	4,569.0	-161.2	474.5	-161.2	0.00	0.00	
4,700.0	7.32	108.76	4,668.1	-165.3	486.6	-165.3	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2C-5H-E267	**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
4,725.1	7.32	108.76	4,693.0	-166.3	489.6	-166.3	0.00	0.00	Shannon
4,800.0	7.32	108.76	4,767.3	-169.4	498.6	-169.4	0.00	0.00	
4,900.0	7.32	108.76	4,866.5	-173.5	510.7	-173.5	0.00	0.00	
5,000.0	7.32	108.76	4,965.7	-177.6	522.7	-177.6	0.00	0.00	
5,100.0	7.32	108.76	5,064.9	-181.7	534.8	-181.7	0.00	0.00	
5,200.0	7.32	108.76	5,164.1	-185.8	546.9	-185.8	0.00	0.00	
5,300.0	7.32	108.76	5,263.3	-189.9	558.9	-189.9	0.00	0.00	
5,400.0	7.32	108.76	5,362.4	-193.9	571.0	-193.9	0.00	0.00	
5,500.0	7.32	108.76	5,461.6	-198.0	583.0	-198.0	0.00	0.00	
5,600.0	7.32	108.76	5,560.8	-202.1	595.1	-202.1	0.00	0.00	
5,700.0	7.32	108.76	5,660.0	-206.2	607.2	-206.2	0.00	0.00	
5,800.0	7.32	108.76	5,759.2	-210.3	619.2	-210.3	0.00	0.00	
5,900.0	7.32	108.76	5,858.4	-214.4	631.3	-214.4	0.00	0.00	
6,000.0	7.32	108.76	5,957.6	-218.5	643.3	-218.5	0.00	0.00	
6,042.8	7.32	108.76	6,000.0	-220.3	648.5	-220.3	0.00	0.00	Teepee Buttes (*if present)
6,100.0	7.32	108.76	6,056.7	-222.6	655.4	-222.6	0.00	0.00	
6,200.0	7.32	108.76	6,155.9	-226.7	667.5	-226.7	0.00	0.00	
6,300.0	7.32	108.76	6,255.1	-230.8	679.5	-230.8	0.00	0.00	
6,400.0	7.32	108.76	6,354.3	-234.9	691.6	-234.9	0.00	0.00	
6,500.0	7.32	108.76	6,453.5	-239.0	703.6	-239.0	0.00	0.00	
6,600.0	7.32	108.76	6,552.7	-243.1	715.7	-243.1	0.00	0.00	
6,700.0	7.32	108.76	6,651.9	-247.2	727.7	-247.2	0.00	0.00	
6,786.8	7.32	108.76	6,737.9	-250.8	738.2	-250.8	0.00	0.00	Start build/turn @ 6786' MD
6,800.0	7.01	98.44	6,751.0	-251.1	739.8	-251.1	10.00	-2.34	
6,900.0	11.32	37.39	6,849.9	-244.2	751.8	-244.2	10.00	4.31	
7,000.0	20.16	19.34	6,946.2	-220.1	763.5	-220.1	10.00	8.83	
7,037.6	23.71	16.07	6,981.0	-206.7	767.8	-206.7	10.00	9.46	Sharon Springs
7,100.0	29.72	12.30	7,036.7	-179.5	774.5	-179.5	10.00	9.63	
7,130.7	32.71	10.91	7,063.0	-163.9	777.7	-163.9	10.00	9.72	Niobrara
7,187.2	38.23	8.88	7,109.0	-131.7	783.3	-131.7	10.00	9.78	B Chalk
7,200.0	39.49	8.49	7,119.0	-123.7	784.5	-123.7	10.00	9.81	
7,207.9	40.26	8.25	7,125.0	-118.7	785.3	-118.7	10.00	9.82	B Marl
7,266.8	46.07	6.73	7,168.0	-78.7	790.5	-78.7	10.00	9.84	C Chalk
7,300.0	49.34	6.00	7,190.3	-54.4	793.2	-54.4	10.00	9.87	
7,319.9	51.30	5.59	7,203.0	-39.2	794.8	-39.2	10.00	9.88	C Marl
7,380.4	57.29	4.48	7,238.3	9.8	799.1	9.8	10.00	9.89	7"
7,400.0	59.23	4.15	7,248.6	26.4	800.3	26.4	10.00	9.90	
7,500.0	69.13	2.66	7,292.1	116.1	805.6	116.1	10.00	9.91	
7,514.1	70.54	2.46	7,297.0	129.4	806.2	129.4	10.00	9.92	Ft. Hayes
7,600.0	79.06	1.35	7,319.5	212.1	808.9	212.1	10.00	9.92	
7,602.7	79.32	1.31	7,320.0	214.8	809.0	214.8	10.00	9.92	Codell
7,700.0	88.98	0.12	7,329.9	311.5	810.2	311.5	10.00	9.93	
7,710.3	90.00	0.00	7,330.0	321.7	810.2	321.7	10.00	9.93	LP @ 7330' TVD; 90°
7,800.0	90.00	0.00	7,330.0	411.5	810.2	411.5	0.00	0.00	
7,900.0	90.00	0.00	7,330.0	511.5	810.2	511.5	0.00	0.00	
8,000.0	90.00	0.00	7,330.0	611.5	810.2	611.5	0.00	0.00	
8,100.0	90.00	0.00	7,330.0	711.5	810.2	711.5	0.00	0.00	
8,200.0	90.00	0.00	7,330.0	811.5	810.2	811.5	0.00	0.00	
8,300.0	90.00	0.00	7,330.0	911.5	810.2	911.5	0.00	0.00	
8,400.0	90.00	0.00	7,330.0	1,011.5	810.2	1,011.5	0.00	0.00	
8,500.0	90.00	0.00	7,330.0	1,111.5	810.2	1,111.5	0.00	0.00	
8,600.0	90.00	0.00	7,330.0	1,211.5	810.2	1,211.5	0.00	0.00	

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Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2C-5H-E267	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,700.0	90.00	0.00	7,330.0	1,311.5	810.2	1,311.5	0.00	0.00	
8,800.0	90.00	0.00	7,330.0	1,411.5	810.2	1,411.5	0.00	0.00	
8,900.0	90.00	0.00	7,330.0	1,511.5	810.2	1,511.5	0.00	0.00	
9,000.0	90.00	0.00	7,330.0	1,611.5	810.2	1,611.5	0.00	0.00	
9,100.0	90.00	0.00	7,330.0	1,711.5	810.2	1,711.5	0.00	0.00	
9,200.0	90.00	0.00	7,330.0	1,811.5	810.2	1,811.5	0.00	0.00	
9,300.0	90.00	0.00	7,330.0	1,911.5	810.2	1,911.5	0.00	0.00	
9,400.0	90.00	0.00	7,330.0	2,011.5	810.2	2,011.5	0.00	0.00	
9,500.0	90.00	0.00	7,330.0	2,111.5	810.2	2,111.5	0.00	0.00	
9,600.0	90.00	0.00	7,330.0	2,211.5	810.2	2,211.5	0.00	0.00	
9,700.0	90.00	0.00	7,330.0	2,311.5	810.2	2,311.5	0.00	0.00	
9,800.0	90.00	0.00	7,330.0	2,411.5	810.2	2,411.5	0.00	0.00	
9,900.0	90.00	0.00	7,330.0	2,511.5	810.2	2,511.5	0.00	0.00	
10,000.0	90.00	0.00	7,330.0	2,611.5	810.2	2,611.5	0.00	0.00	
10,100.0	90.00	0.00	7,330.0	2,711.5	810.2	2,711.5	0.00	0.00	
10,200.0	90.00	0.00	7,330.0	2,811.5	810.2	2,811.5	0.00	0.00	
10,300.0	90.00	0.00	7,330.0	2,911.5	810.2	2,911.5	0.00	0.00	
10,400.0	90.00	0.00	7,330.0	3,011.5	810.2	3,011.5	0.00	0.00	
10,500.0	90.00	0.00	7,330.0	3,111.5	810.2	3,111.5	0.00	0.00	
10,600.0	90.00	0.00	7,330.0	3,211.5	810.2	3,211.5	0.00	0.00	
10,700.0	90.00	0.00	7,330.0	3,311.5	810.2	3,311.5	0.00	0.00	
10,800.0	90.00	0.00	7,330.0	3,411.5	810.2	3,411.5	0.00	0.00	
10,900.0	90.00	0.00	7,330.0	3,511.5	810.2	3,511.5	0.00	0.00	
11,000.0	90.00	0.00	7,330.0	3,611.5	810.2	3,611.5	0.00	0.00	
11,100.0	90.00	0.00	7,330.0	3,711.5	810.2	3,711.5	0.00	0.00	
11,200.0	90.00	0.00	7,330.0	3,811.5	810.2	3,811.5	0.00	0.00	
11,300.0	90.00	0.00	7,330.0	3,911.5	810.2	3,911.5	0.00	0.00	
11,400.0	90.00	0.00	7,330.0	4,011.5	810.2	4,011.5	0.00	0.00	
11,500.0	90.00	0.00	7,330.0	4,111.5	810.2	4,111.5	0.00	0.00	
11,600.0	90.00	0.00	7,330.0	4,211.5	810.2	4,211.5	0.00	0.00	
11,700.0	90.00	0.00	7,330.0	4,311.5	810.2	4,311.5	0.00	0.00	
11,800.0	90.00	0.00	7,330.0	4,411.5	810.2	4,411.5	0.00	0.00	
11,900.0	90.00	0.00	7,330.0	4,511.5	810.2	4,511.5	0.00	0.00	
12,000.0	90.00	0.00	7,330.0	4,611.5	810.2	4,611.5	0.00	0.00	
12,100.0	90.00	0.00	7,330.0	4,711.5	810.2	4,711.5	0.00	0.00	
12,200.0	90.00	0.00	7,330.0	4,811.5	810.2	4,811.5	0.00	0.00	
12,300.0	90.00	0.00	7,330.0	4,911.5	810.2	4,911.5	0.00	0.00	
12,400.0	90.00	0.00	7,330.0	5,011.5	810.2	5,011.5	0.00	0.00	
12,500.0	90.00	0.00	7,330.0	5,111.5	810.2	5,111.5	0.00	0.00	
12,600.0	90.00	0.00	7,330.0	5,211.5	810.2	5,211.5	0.00	0.00	
12,700.0	90.00	0.00	7,330.0	5,311.5	810.2	5,311.5	0.00	0.00	
12,800.0	90.00	0.00	7,330.0	5,411.5	810.2	5,411.5	0.00	0.00	
12,900.0	90.00	0.00	7,330.0	5,511.5	810.2	5,511.5	0.00	0.00	
13,000.0	90.00	0.00	7,330.0	5,611.5	810.2	5,611.5	0.00	0.00	
13,100.0	90.00	0.00	7,330.0	5,711.5	810.2	5,711.5	0.00	0.00	
13,200.0	90.00	0.00	7,330.0	5,811.5	810.2	5,811.5	0.00	0.00	
13,300.0	90.00	0.00	7,330.0	5,911.5	810.2	5,911.5	0.00	0.00	
13,400.0	90.00	0.00	7,330.0	6,011.5	810.2	6,011.5	0.00	0.00	
13,500.0	90.00	0.00	7,330.0	6,111.5	810.2	6,111.5	0.00	0.00	
13,600.0	90.00	0.00	7,330.0	6,211.5	810.2	6,211.5	0.00	0.00	
13,700.0	90.00	0.00	7,330.0	6,311.5	810.2	6,311.5	0.00	0.00	
13,800.0	90.00	0.00	7,330.0	6,411.5	810.2	6,411.5	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2C-5H-E267	**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
13,900.0	90.00	0.00	7,330.0	6,511.5	810.2	6,511.5	0.00	0.00	
14,000.0	90.00	0.00	7,330.0	6,611.5	810.2	6,611.5	0.00	0.00	
14,100.0	90.00	0.00	7,330.0	6,711.5	810.2	6,711.5	0.00	0.00	
14,200.0	90.00	0.00	7,330.0	6,811.5	810.2	6,811.5	0.00	0.00	
14,300.0	90.00	0.00	7,330.0	6,911.5	810.2	6,911.5	0.00	0.00	
14,400.0	90.00	0.00	7,330.0	7,011.5	810.2	7,011.5	0.00	0.00	
14,500.0	90.00	0.00	7,330.0	7,111.5	810.2	7,111.5	0.00	0.00	
14,600.0	90.00	0.00	7,330.0	7,211.5	810.2	7,211.5	0.00	0.00	
14,700.0	90.00	0.00	7,330.0	7,311.5	810.2	7,311.5	0.00	0.00	
14,776.3	90.00	0.00	7,330.0	7,387.7	810.2	7,387.7	0.00	0.00	TD at 14776.3 - Vogl-Geist 2C-5H-E267 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 2C-5H-E267 - plan hits target center - Point	0.00	0.00	7,330.0	7,387.7	810.2	1,312,036.00	3,162,223.99	40.188470	-104.919360

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
7,380.4	7,238.3	7"	7.000	7.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
266.0	266.0	Fox Hills - BASE			
4,153.4	4,126.0	Sussex			
4,441.8	4,412.0	Sussex Marker			
4,725.1	4,693.0	Shannon			
6,042.8	6,000.0	Teepee Buttes (*if present)			
7,037.6	6,981.0	Sharon Springs			
7,130.7	7,063.0	Niobrara			
7,187.2	7,109.0	B Chalk			
7,207.9	7,125.0	B Marl			
7,266.8	7,168.0	C Chalk			
7,319.9	7,203.0	C Marl			
7,514.1	7,297.0	Ft. Hayes			
7,602.7	7,320.0	Codell			

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-Geist 2C-5H-E267	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.0	300.0	0.0	0.0	KOP @ 300'
1,031.7	1,029.7	-15.0	44.2	EOB; Inc=7.32°
6,786.8	6,737.9	-250.8	738.2	Start build/turn @ 6786' MD
7,710.3	7,330.0	321.7	810.2	LP @ 7330' TVD; 90°
14,776.3	7,330.0	7,387.7	810.2	TD at 14776.3

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S5-T2N-R67W (Vogl-McCoy)
Vogl-Geist 2C-5H-E267
Hz
Plan #1

Anticollision Report

21 May, 2013

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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	14,776.3	Plan #1 (Hz)	MWD	Geolink MWD

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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	14,172.3	7,266.0	125.4	-8.6	0.936	Level 1, CC, ES, SF
GEIST 12-32 (EXISTING) - ENCANA WELL - NO SURVE	13,079.4	7,272.0	334.1	219.1	2.906	CC, ES
GEIST 12-32 (EXISTING) - ENCANA WELL - NO SURVE	13,100.0	7,272.0	334.7	219.4	2.902	SF
GEIST 2-0-32 (EXISTING) - ENCANA WELL - SURVEYS	14,776.3	7,374.1	433.0	283.1	2.889	CC, ES, SF
GEIST 21-32 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
GEIST 2-4-32 (EXISTING) - ENCANA WELL - SURVEYS	12,478.0	7,458.4	209.3	92.8	1.796	CC, ES, SF
GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
GEIST A UNIT #1 (EXISTING) - ENCANA WELL - SURV	13,710.0	7,264.0	92.5	-33.4	0.734	Level 1, CC, ES, SF
MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEY	4,832.4	4,812.4	151.3	130.3	7.205	CC
MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEY	4,900.0	4,879.5	151.6	130.3	7.116	ES
MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEY	5,100.0	5,077.9	155.1	133.1	7.037	SF
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	7,031.0	7,028.2	249.4	221.7	8.983	CC, ES
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - Plan #1	7,100.0	7,090.0	252.6	224.2	8.914	SF
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS	7,033.9	7,029.4	249.4	221.5	8.952	CC, ES
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS	7,100.0	7,087.9	252.4	224.0	8.888	SF
NELSON 23-32 (EXISTING) - ENCANA WELL - NO SUR						Out of range
NELSON 4-32 (EXISTING) - ENCANA WELL - NO SURV	11,130.2	7,274.0	117.5	36.3	1.447	Level 3, CC, ES, SF
NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN O						Out of range
OWNES BROTHERS 13-32 (EXISTING) - ENCANA WE	11,963.6	7,267.0	449.2	353.6	4.699	CC, ES
OWNES BROTHERS 13-32 (EXISTING) - ENCANA WE	12,000.0	7,267.0	450.7	354.4	4.684	SF
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						Out of range
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL	10,022.4	7,358.5	223.7	159.3	3.472	CC, ES, SF
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL	10,022.4	7,388.2	223.7	159.2	3.467	CC, ES, SF
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL	10,028.6	7,381.0	201.3	136.8	3.120	CC, ES, SF
VOGL 21-5X (EXISTING) - KMG WELL - NO SURVEYS						Out of range
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	1,086.8	1,058.4	268.3	264.3	67.590	CC
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	1,200.0	1,170.6	268.7	264.2	60.187	ES
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	3,900.0	3,848.7	447.8	433.0	30.308	SF
VOGL 5-8A (EXISTING) - KMG WELL - NO SURVEYS						Out of range
Vogl-Geist 2A-5H-E267 - Hz - Plan #1	300.0	300.0	39.1	38.2	41.513	CC, ES

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2A-5H-E267 - Hz - Plan #1	700.0	699.0	55.5	53.1	23.550	SF
Vogl-Geist 2B-5H-E267 - Hz - Plan #1	300.0	300.0	19.6	18.6	20.756	CC, ES
Vogl-Geist 2B-5H-E267 - Hz - Plan #1	14,776.3	14,504.9	464.5	236.5	2.037	SF
Vogl-Geist 2D-5H-F267 - Hz - Plan #1	7,390.0	7,300.0	482.8	457.5	19.056	CC
Vogl-Geist 2D-5H-F267 - Hz - Plan #1	14,776.3	14,586.9	485.4	253.1	2.089	ES, SF
Vogl-Geist 2E-5H-F267 - Hz - Plan #1						Out of range
Vogl-Geist 2F-5H-F267 - Hz - Plan #1						Out of range
Vogl-McCoy 2A-5H-E267 - Hz - Plan #1	200.0	199.0	47.5	46.9	80.296	CC, ES
Vogl-McCoy 2A-5H-E267 - Hz - Plan #1	700.0	695.1	77.2	74.8	32.950	SF
Vogl-McCoy 2B-5H-E267 - Hz - Plan #1	300.0	299.0	27.9	27.0	29.707	CC, ES
Vogl-McCoy 2B-5H-E267 - Hz - Plan #1	700.0	698.7	41.4	39.1	17.729	SF
Vogl-McCoy 2C-5H-E267 - Hz - Plan #1	300.0	300.0	8.4	7.4	8.896	CC, ES
Vogl-McCoy 2C-5H-E267 - Hz - Plan #1	400.0	400.0	9.2	7.9	7.135	SF
Vogl-McCoy 2D-5H-E267 - Hz - Plan #1	200.0	200.0	11.2	10.6	18.838	CC, ES
Vogl-McCoy 2D-5H-E267 - Hz - Plan #1	7,358.9	7,364.6	161.5	135.9	6.296	SF
Vogl-McCoy 2E-5H-F267 - Hz - Plan #1	7,168.0	7,337.0	292.1	266.3	11.318	CC, ES, SF
Vogl-McCoy 2F-5H-F267 - Hz - Plan #1						Out of range
Vogl-McCoy 2G-5H-F267 - Hz - Plan #1						Out of range
Vogl-McCoy 2H-5H-F267 - Hz - Plan #1						Out of range
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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 11-32 (EXISTING) - ENCANA WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 7897-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
13,700.0	7,330.0	7,266.0	7,266.0	114.0	12.7	-90.00	6,783.7	684.8	488.6	362.9	125.78	3.885	
13,800.0	7,330.0	7,266.0	7,266.0	115.7	12.7	-90.00	6,783.7	684.8	392.8	265.3	127.53	3.080	
13,900.0	7,330.0	7,266.0	7,266.0	117.5	12.7	-90.00	6,783.7	684.8	299.8	170.5	129.27	2.319	
14,000.0	7,330.0	7,266.0	7,266.0	119.2	12.7	-90.00	6,783.7	684.8	213.1	82.1	131.01	1.626	
14,100.0	7,330.0	7,266.0	7,266.0	120.9	12.7	-90.00	6,783.7	684.8	144.8	12.0	132.76	1.090	Level 2
14,172.3	7,330.0	7,266.0	7,266.0	122.2	12.7	-90.00	6,783.7	684.8	125.4	-8.6	134.02	0.936	Level 1, CC, ES, SF
14,200.0	7,330.0	7,266.0	7,266.0	122.7	12.7	-90.00	6,783.7	684.8	128.5	-6.0	134.50	0.955	Level 1
14,300.0	7,330.0	7,266.0	7,266.0	124.4	12.7	-90.00	6,783.7	684.8	179.0	42.8	136.25	1.314	Level 3
14,400.0	7,330.0	7,266.0	7,266.0	126.1	12.7	-90.00	6,783.7	684.8	260.0	122.0	137.99	1.884	
14,500.0	7,330.0	7,266.0	7,266.0	127.9	12.7	-90.00	6,783.7	684.8	350.9	211.2	139.74	2.511	
14,600.0	7,330.0	7,266.0	7,266.0	129.6	12.7	-90.00	6,783.7	684.8	445.7	304.3	141.48	3.150	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 12-32 (EXISTING) - ENCANA WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 7872-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
12,800.0	7,330.0	7,272.0	7,272.0	98.5	12.7	-90.00	5,690.9	476.1	435.5	325.4	110.12	3.955	
12,900.0	7,330.0	7,272.0	7,272.0	100.2	12.7	-90.00	5,690.9	476.1	379.2	267.4	111.86	3.390	
13,000.0	7,330.0	7,272.0	7,272.0	101.9	12.7	-90.00	5,690.9	476.1	343.4	229.8	113.60	3.023	
13,079.4	7,330.0	7,272.0	7,272.0	103.3	12.7	-90.00	5,690.9	476.1	334.1	219.1	114.99	2.906	CC, ES
13,100.0	7,330.0	7,272.0	7,272.0	103.6	12.7	-90.00	5,690.9	476.1	334.7	219.4	115.34	2.902	SF
13,200.0	7,330.0	7,272.0	7,272.0	105.4	12.7	-90.00	5,690.9	476.1	355.2	238.1	117.08	3.034	
13,300.0	7,330.0	7,272.0	7,272.0	107.1	12.7	-90.00	5,690.9	476.1	400.4	281.5	118.83	3.369	
13,400.0	7,330.0	7,272.0	7,272.0	108.8	12.7	-90.00	5,690.9	476.1	463.0	342.5	120.57	3.840	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2-0-32 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 650-MWD

Offset Well Error: 0.0 ft

Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
14,776.3	7,330.0	7,374.1	7,287.3	132.6	19.7	92.15	7,774.3	1,005.2	433.0	283.1	149.90	2.889	CC, ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2-4-32 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 762-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
12,100.0	7,330.0	7,459.0	7,282.1	86.5	24.8	90.85	5,089.5	1,019.5	432.1	322.1	109.96	3.929	
12,200.0	7,330.0	7,458.8	7,282.0	88.2	24.8	90.81	5,089.5	1,019.5	348.0	236.3	111.70	3.115	
12,300.0	7,330.0	7,458.7	7,281.8	89.9	24.8	90.77	5,089.5	1,019.5	274.8	161.3	113.44	2.422	
12,400.0	7,330.0	7,458.5	7,281.7	91.6	24.8	90.73	5,089.5	1,019.5	223.4	108.2	115.17	1.939	
12,478.0	7,330.0	7,458.4	7,281.5	92.9	24.8	90.69	5,089.5	1,019.5	209.3	92.8	116.53	1.796	CC, ES, SF
12,500.0	7,330.0	7,458.4	7,281.5	93.3	24.8	90.68	5,089.5	1,019.5	210.5	93.5	116.91	1.800	
12,600.0	7,330.0	7,458.2	7,281.4	95.0	24.8	90.64	5,089.5	1,019.5	242.3	123.6	118.65	2.042	
12,700.0	7,330.0	7,458.1	7,281.2	96.7	24.8	90.60	5,089.5	1,019.5	305.1	184.7	120.39	2.534	
12,800.0	7,330.0	7,457.9	7,281.0	98.5	24.8	90.56	5,089.5	1,019.5	384.0	261.9	122.13	3.145	
12,900.0	7,330.0	7,457.8	7,280.9	100.2	24.8	90.51	5,089.5	1,019.5	471.0	347.2	123.87	3.803	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 A UNIT #1 (EXISTING) - ENCANA WELL - 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
13,300.0	7,330.0	7,264.0	7,264.0	107.1	12.7	90.00	6,321.5	902.7	420.3	301.5	118.81	3.538	
13,400.0	7,330.0	7,264.0	7,264.0	108.8	12.7	90.00	6,321.5	902.7	323.5	203.0	120.55	2.684	
13,500.0	7,330.0	7,264.0	7,264.0	110.5	12.7	90.00	6,321.5	902.7	229.5	107.2	122.30	1.876	
13,600.0	7,330.0	7,264.0	7,264.0	112.3	12.7	90.00	6,321.5	902.7	143.7	19.7	124.04	1.159	Level 2
13,700.0	7,330.0	7,264.0	7,264.0	114.0	12.7	90.00	6,321.5	902.7	93.1	-32.7	125.78	0.740	Level 1
13,710.0	7,330.0	7,264.0	7,264.0	114.2	12.7	90.00	6,321.5	902.7	92.5	-33.4	125.96	0.734	Level 1, CC, ES, SF
13,800.0	7,330.0	7,264.0	7,264.0	115.7	12.7	90.00	6,321.5	902.7	129.1	1.5	127.52	1.012	Level 2
13,900.0	7,330.0	7,264.0	7,264.0	117.5	12.7	90.00	6,321.5	902.7	211.3	82.1	129.27	1.635	
14,000.0	7,330.0	7,264.0	7,264.0	119.2	12.7	90.00	6,321.5	902.7	304.4	173.4	131.01	2.323	
14,100.0	7,330.0	7,264.0	7,264.0	120.9	12.7	90.00	6,321.5	902.7	400.8	268.1	132.76	3.019	
14,200.0	7,330.0	7,264.0	7,264.0	122.7	12.7	90.00	6,321.5	902.7	498.7	364.2	134.50	3.707	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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) - MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEYS

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
1,100.0	1,097.5	1,110.5	1,110.5	2.2	1.9	17.79	-314.0	453.9	498.9	495.1	3.80	131.117	
1,200.0	1,196.6	1,209.6	1,209.6	2.4	2.1	18.25	-314.0	453.9	486.7	482.6	4.16	116.905	
1,300.0	1,295.8	1,308.8	1,308.8	2.7	2.3	18.73	-314.0	453.9	474.7	470.1	4.52	104.916	
1,400.0	1,395.0	1,408.0	1,408.0	3.0	2.4	19.24	-314.0	453.9	462.6	457.7	4.89	94.670	
1,500.0	1,494.2	1,507.2	1,507.2	3.2	2.6	19.77	-314.0	453.9	450.6	445.3	5.25	85.814	
1,600.0	1,593.4	1,606.4	1,606.4	3.5	2.8	20.33	-314.0	453.9	438.6	433.0	5.62	78.086	
1,700.0	1,692.6	1,705.6	1,705.6	3.8	3.0	20.93	-314.0	453.9	426.7	420.7	5.99	71.285	
1,800.0	1,791.8	1,804.8	1,804.8	4.1	3.1	21.55	-314.0	453.9	414.8	408.4	6.36	65.255	
1,900.0	1,890.9	1,903.9	1,903.9	4.3	3.3	22.22	-314.0	453.9	403.0	396.2	6.73	59.874	
2,000.0	1,990.1	2,003.1	2,003.1	4.6	3.5	22.92	-314.0	453.9	391.2	384.1	7.11	55.044	
2,100.0	2,089.3	2,102.3	2,102.3	4.9	3.7	23.67	-314.0	453.9	379.5	372.0	7.49	50.685	
2,200.0	2,188.5	2,201.5	2,201.5	5.2	3.8	24.47	-314.0	453.9	367.8	360.0	7.87	46.735	
2,300.0	2,287.7	2,300.7	2,300.7	5.5	4.0	25.31	-314.0	453.9	356.3	348.0	8.26	43.138	
2,400.0	2,386.9	2,399.9	2,399.9	5.7	4.2	26.22	-314.0	453.9	344.8	336.1	8.65	39.853	
2,500.0	2,486.1	2,499.1	2,499.1	6.0	4.3	27.18	-314.0	453.9	333.4	324.3	9.05	36.842	
2,600.0	2,585.2	2,598.2	2,598.2	6.3	4.5	28.22	-314.0	453.9	322.1	312.6	9.45	34.073	
2,700.0	2,684.4	2,697.4	2,697.4	6.6	4.7	29.32	-314.0	453.9	310.9	301.0	9.86	31.522	
2,800.0	2,783.6	2,796.6	2,796.6	6.9	4.9	30.51	-314.0	453.9	299.8	289.6	10.28	29.165	
2,900.0	2,882.8	2,895.8	2,895.8	7.2	5.0	31.79	-314.0	453.9	288.9	278.2	10.71	26.985	
3,000.0	2,982.0	2,995.0	2,995.0	7.4	5.2	33.17	-314.0	453.9	278.1	267.0	11.14	24.964	
3,100.0	3,081.2	3,094.2	3,094.2	7.7	5.4	34.66	-314.0	453.9	267.5	256.0	11.59	23.090	
3,200.0	3,180.4	3,193.4	3,193.4	8.0	5.6	36.27	-314.0	453.9	257.1	245.1	12.04	21.350	
3,300.0	3,279.5	3,292.5	3,292.5	8.3	5.7	38.01	-314.0	453.9	247.0	234.4	12.51	19.735	
3,400.0	3,378.7	3,391.7	3,391.7	8.6	5.9	39.90	-314.0	453.9	237.0	224.0	13.00	18.237	
3,500.0	3,477.9	3,490.9	3,490.9	8.8	6.1	41.96	-314.0	453.9	227.4	213.9	13.50	16.847	
3,600.0	3,577.1	3,590.1	3,590.1	9.1	6.2	44.19	-314.0	453.9	218.0	204.0	14.01	15.561	
3,700.0	3,676.3	3,689.3	3,689.3	9.4	6.4	46.61	-314.0	453.9	209.0	194.5	14.54	14.375	
3,800.0	3,775.5	3,788.5	3,788.5	9.7	6.6	49.24	-314.0	453.9	200.5	185.4	15.09	13.283	
3,900.0	3,874.7	3,887.7	3,887.7	10.0	6.8	52.10	-314.0	453.9	192.3	176.7	15.66	12.285	
4,000.0	3,973.8	3,986.8	3,986.8	10.3	6.9	55.20	-314.0	453.9	184.8	168.5	16.24	11.377	
4,100.0	4,073.0	4,086.0	4,086.0	10.5	7.1	58.56	-314.0	453.9	177.8	160.9	16.84	10.558	
4,200.0	4,172.2	4,185.2	4,185.2	10.8	7.3	62.17	-314.0	453.9	171.4	154.0	17.44	9.828	
4,300.0	4,271.4	4,284.4	4,284.4	11.1	7.5	66.04	-314.0	453.9	165.8	147.8	18.05	9.186	
4,400.0	4,370.6	4,383.6	4,383.6	11.4	7.6	70.15	-314.0	453.9	161.0	142.4	18.66	8.631	
4,500.0	4,469.8	4,482.8	4,482.8	11.7	7.8	74.49	-314.0	453.9	157.1	137.9	19.25	8.163	
4,600.0	4,569.0	4,582.0	4,582.0	12.0	8.0	79.02	-314.0	453.9	154.2	134.4	19.82	7.780	
4,700.0	4,668.1	4,681.1	4,681.1	12.2	8.2	83.69	-314.0	453.9	152.3	131.9	20.36	7.479	
4,800.0	4,767.3	4,780.3	4,780.3	12.5	8.3	88.45	-314.0	453.9	151.4	130.5	20.85	7.260	
4,832.4	4,799.4	4,812.4	4,812.4	12.6	8.4	90.00	-314.0	453.9	151.3	130.3	21.00	7.205 CC	
4,900.0	4,866.5	4,879.5	4,879.5	12.8	8.5	93.23	-314.0	453.9	151.6	130.3	21.30	7.116 ES	
5,000.0	4,965.7	4,978.7	4,978.7	13.1	8.7	97.97	-314.0	453.9	152.8	131.1	21.70	7.044	
5,100.0	5,064.9	5,077.9	5,077.9	13.4	8.8	102.59	-314.0	453.9	155.1	133.1	22.04	7.037 SF	
5,200.0	5,164.1	5,177.1	5,177.1	13.7	9.0	107.06	-314.0	453.9	158.4	136.1	22.34	7.090	
5,300.0	5,263.3	5,276.3	5,276.3	13.9	9.2	111.33	-314.0	453.9	162.6	140.0	22.60	7.195	
5,400.0	5,362.4	5,375.4	5,375.4	14.2	9.4	115.36	-314.0	453.9	167.7	144.9	22.83	7.347	
5,500.0	5,461.6	5,474.6	5,474.6	14.5	9.5	119.13	-314.0	453.9	173.6	150.5	23.03	7.537	
5,600.0	5,560.8	5,573.8	5,573.8	14.8	9.7	122.65	-314.0	453.9	180.2	156.9	23.21	7.760	
5,700.0	5,660.0	5,673.0	5,673.0	15.1	9.9	125.92	-314.0	453.9	187.4	164.0	23.39	8.010	
5,800.0	5,759.2	5,772.2	5,772.2	15.4	10.1	128.93	-314.0	453.9	195.2	171.6	23.56	8.282	
5,900.0	5,858.4	5,871.4	5,871.4	15.6	10.2	131.71	-314.0	453.9	203.4	179.7	23.73	8.571	
6,000.0	5,957.6	5,970.6	5,970.6	15.9	10.4	134.27	-314.0	453.9	212.2	188.3	23.91	8.873	
6,100.0	6,056.7	6,069.7	6,069.7	16.2	10.6	136.62	-314.0	453.9	221.3	197.2	24.09	9.185	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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) - MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEYS

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
6,200.0	6,155.9	6,168.9	6,168.9	16.5	10.7	138.79	-314.0	453.9	230.7	206.5	24.28	9.503	
6,300.0	6,255.1	6,268.1	6,268.1	16.8	10.9	140.78	-314.0	453.9	240.5	216.0	24.48	9.825	
6,400.0	6,354.3	6,367.3	6,367.3	17.1	11.1	142.62	-314.0	453.9	250.5	225.8	24.68	10.150	
6,500.0	6,453.5	6,466.5	6,466.5	17.3	11.3	144.31	-314.0	453.9	260.8	235.9	24.90	10.475	
6,600.0	6,552.7	6,565.7	6,565.7	17.6	11.4	145.88	-314.0	453.9	271.3	246.1	25.12	10.799	
6,700.0	6,651.9	6,664.9	6,664.9	17.9	11.6	147.33	-314.0	453.9	281.9	256.6	25.35	11.121	
6,800.0	6,751.0	6,764.0	6,764.0	18.2	11.8	159.02	-314.0	453.9	292.8	267.2	25.57	11.451	
6,900.0	6,849.9	6,862.9	6,862.9	18.4	12.0	-140.01	-314.0	453.9	306.0	280.3	25.69	11.914	
7,000.0	6,946.2	6,959.2	6,959.2	18.6	12.1	-124.50	-314.0	453.9	323.6	297.8	25.82	12.530	
7,100.0	7,036.7	7,049.7	7,049.7	18.7	12.3	-121.34	-314.0	453.9	347.7	321.9	25.79	13.483	
7,200.0	7,119.0	7,132.0	7,132.0	18.8	12.4	-121.45	-314.0	453.9	381.5	356.1	25.44	14.996	
7,300.0	7,190.3	7,203.3	7,203.3	18.9	12.6	-121.65	-314.0	453.9	427.3	402.4	24.85	17.191	
7,400.0	7,248.6	7,261.6	7,261.6	19.1	12.7	-120.17	-314.0	453.9	485.7	461.3	24.42	19.891	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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) - MCCOY 2-4-5 (EXISTING) - ENCANA WELL - 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
3,400.0	3,378.7	3,390.6	3,368.2	8.6	8.0	33.83	-506.4	633.0	497.5	482.7	14.80	33.617	
3,500.0	3,477.9	3,489.9	3,466.3	8.8	8.3	32.88	-498.5	646.0	488.7	473.4	15.27	32.009	
3,600.0	3,577.1	3,589.2	3,564.4	9.1	8.6	31.88	-490.6	659.0	480.0	464.3	15.73	30.519	
3,700.0	3,676.3	3,688.4	3,662.5	9.4	9.0	30.85	-482.7	672.0	471.5	455.3	16.18	29.134	
3,800.0	3,775.5	3,787.7	3,760.6	9.7	9.3	29.79	-474.8	685.1	463.1	446.5	16.63	27.848	
3,900.0	3,874.7	3,887.0	3,858.7	10.0	9.6	28.69	-467.0	698.1	454.9	437.8	17.07	26.651	
4,000.0	3,973.8	3,986.2	3,956.8	10.3	9.9	27.54	-459.1	711.1	446.8	429.3	17.50	25.537	
4,100.0	4,073.0	4,085.5	4,054.9	10.5	10.2	26.36	-451.2	724.1	439.0	421.1	17.92	24.499	
4,200.0	4,172.2	4,184.8	4,153.0	10.8	10.5	25.13	-443.3	737.1	431.3	413.0	18.33	23.532	
4,300.0	4,271.4	4,284.1	4,251.0	11.1	10.8	23.86	-435.4	750.2	423.9	405.2	18.73	22.630	
4,400.0	4,370.6	4,383.3	4,349.1	11.4	11.1	22.55	-427.5	763.2	416.6	397.5	19.12	21.789	
4,500.0	4,469.8	4,482.6	4,447.2	11.7	11.5	21.19	-419.6	776.2	409.6	390.1	19.50	21.006	
4,600.0	4,569.0	4,581.9	4,545.3	12.0	11.8	19.78	-411.7	789.2	402.9	383.0	19.87	20.275	
4,700.0	4,668.1	4,681.1	4,643.4	12.2	12.1	18.33	-403.9	802.2	396.4	376.1	20.23	19.595	
4,800.0	4,767.3	4,780.4	4,741.5	12.5	12.4	16.83	-396.0	815.3	390.1	369.5	20.57	18.962	
4,900.0	4,866.5	4,879.7	4,839.6	12.8	12.7	15.28	-388.1	828.3	384.1	363.2	20.91	18.372	
5,000.0	4,965.7	4,978.9	4,937.7	13.1	13.0	13.69	-380.2	841.3	378.5	357.2	21.23	17.824	
5,100.0	5,064.9	5,078.2	5,035.8	13.4	13.3	12.05	-372.3	854.3	373.1	351.5	21.55	17.315	
5,200.0	5,164.1	5,177.5	5,133.9	13.7	13.7	10.36	-364.4	867.4	368.0	346.2	21.85	16.843	
5,300.0	5,263.3	5,276.7	5,232.0	13.9	14.0	8.63	-356.5	880.4	363.3	341.1	22.14	16.405	
5,400.0	5,362.4	5,376.0	5,330.1	14.2	14.3	6.85	-348.7	893.4	358.9	336.5	22.43	15.999	
5,500.0	5,461.6	5,475.3	5,428.2	14.5	14.6	5.04	-340.8	906.4	354.9	332.2	22.71	15.624	
5,600.0	5,560.8	5,574.5	5,526.3	14.8	14.9	3.18	-332.9	919.4	351.2	328.2	22.99	15.278	
5,700.0	5,660.0	5,673.8	5,624.4	15.1	15.2	1.29	-325.0	932.5	347.9	324.7	23.26	14.958	
5,800.0	5,759.2	5,773.1	5,722.5	15.4	15.6	-0.64	-317.1	945.5	345.0	321.5	23.53	14.663	
5,900.0	5,858.4	5,872.4	5,820.6	15.6	15.9	-2.59	-309.2	958.5	342.6	318.8	23.80	14.392	
6,000.0	5,957.6	5,971.6	5,918.7	15.9	16.2	-4.57	-301.3	971.5	340.5	316.4	24.08	14.142	
6,100.0	6,056.7	6,076.3	6,022.1	16.2	16.5	-6.61	-293.4	984.7	338.4	314.0	24.35	13.896	
6,200.0	6,155.9	6,185.2	6,130.4	16.5	16.8	-8.34	-287.0	995.2	334.1	309.5	24.63	13.563	
6,300.0	6,255.1	6,294.2	6,239.1	16.8	17.0	-9.65	-282.7	1,002.2	327.2	302.2	24.92	13.128	
6,400.0	6,354.3	6,403.1	6,347.8	17.1	17.1	-10.54	-280.6	1,005.7	317.5	292.2	25.21	12.591	
6,500.0	6,453.5	6,506.7	6,451.5	17.3	17.2	-11.06	-280.4	1,006.1	305.3	279.8	25.51	11.966	
6,600.0	6,552.7	6,605.9	6,550.7	17.6	17.4	-11.54	-280.4	1,006.1	292.8	267.0	25.81	11.345	
6,700.0	6,651.9	6,705.1	6,649.9	17.9	17.5	-12.06	-280.4	1,006.1	280.3	254.2	26.11	10.737	
6,800.0	6,751.0	6,804.3	6,749.1	18.2	17.6	-2.19	-280.4	1,006.1	267.9	241.5	26.42	10.141	
6,900.0	6,849.9	6,903.2	6,848.0	18.4	17.7	61.18	-280.4	1,006.1	256.8	230.0	26.84	9.568	
7,000.0	6,946.2	6,999.4	6,944.2	18.6	17.8	84.94	-280.4	1,006.1	249.9	222.4	27.50	9.089	
7,031.0	6,975.0	7,028.2	6,973.0	18.6	17.9	90.00	-280.4	1,006.1	249.4	221.7	27.77	8.983	CC, ES
7,100.0	7,036.7	7,090.0	7,034.8	18.7	17.9	99.79	-280.4	1,006.1	252.6	224.2	28.33	8.914	SF
7,200.0	7,119.0	7,172.2	7,117.0	18.8	18.0	111.28	-280.4	1,006.1	271.3	242.5	28.80	9.421	
7,300.0	7,190.3	7,243.5	7,188.3	18.9	18.1	119.29	-280.4	1,006.1	310.5	282.0	28.46	10.911	
7,400.0	7,248.6	7,301.8	7,246.6	19.1	18.2	123.22	-280.4	1,006.1	369.4	341.9	27.50	13.433	
7,500.0	7,292.1	7,345.3	7,290.1	19.4	18.2	122.22	-280.4	1,006.1	444.3	417.6	26.70	16.643	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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) - MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 718-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
3,600.0	3,577.1	3,585.0	3,554.5	9.1	9.5	24.03	-456.8	718.1	496.3	480.2	16.09	30.853	
3,700.0	3,676.3	3,683.7	3,652.0	9.4	9.8	22.89	-448.8	731.2	489.1	472.5	16.52	29.612	
3,800.0	3,775.5	3,782.7	3,749.8	9.7	10.2	21.62	-440.1	744.8	481.9	464.9	16.94	28.448	
3,900.0	3,874.7	3,879.9	3,845.6	10.0	10.5	20.30	-431.5	758.6	475.3	458.0	17.35	27.401	
4,000.0	3,973.8	3,978.5	3,942.8	10.3	10.8	18.91	-422.8	772.7	469.1	451.4	17.74	26.439	
4,100.0	4,073.0	4,075.8	4,038.7	10.5	11.2	17.59	-415.1	786.7	463.8	445.6	18.12	25.595	
4,200.0	4,172.2	4,179.9	4,141.7	10.8	11.5	16.38	-407.9	800.1	458.1	439.6	18.49	24.769	
4,300.0	4,271.4	4,282.3	4,243.2	11.1	11.8	15.23	-401.0	812.4	451.9	433.0	18.86	23.957	
4,400.0	4,370.6	4,382.0	4,342.0	11.4	12.1	14.09	-394.1	823.8	445.3	426.1	19.22	23.166	
4,500.0	4,469.8	4,483.4	4,442.5	11.7	12.4	12.92	-387.1	835.3	438.8	419.2	19.57	22.426	
4,600.0	4,569.0	4,584.7	4,543.0	12.0	12.6	11.83	-380.6	845.8	432.0	412.1	19.91	21.699	
4,700.0	4,668.1	4,682.6	4,640.1	12.2	12.9	10.72	-374.1	856.1	425.3	405.0	20.24	21.012	
4,800.0	4,767.3	4,783.2	4,740.0	12.5	13.2	9.54	-367.6	866.8	418.9	398.3	20.56	20.370	
4,900.0	4,866.5	4,882.7	4,838.7	12.8	13.5	8.38	-361.2	877.0	412.4	391.5	20.89	19.746	
5,000.0	4,965.7	4,981.5	4,936.8	13.1	13.7	7.19	-354.9	887.2	406.3	385.1	21.20	19.165	
5,100.0	5,064.9	5,079.8	5,034.3	13.4	14.0	5.92	-348.5	897.7	400.4	378.9	21.50	18.621	
5,200.0	5,164.1	5,178.3	5,132.0	13.7	14.3	4.63	-342.3	908.5	395.2	373.4	21.80	18.130	
5,300.0	5,263.3	5,280.7	5,233.7	13.9	14.6	3.30	-335.9	919.2	389.8	367.7	22.10	17.635	
5,400.0	5,362.4	5,379.3	5,331.6	14.2	14.8	1.99	-329.8	929.4	384.4	362.0	22.39	17.169	
5,500.0	5,461.6	5,479.0	5,430.5	14.5	15.1	0.65	-323.7	939.6	379.2	356.5	22.68	16.720	
5,600.0	5,560.8	5,581.1	5,532.0	14.8	15.4	-0.75	-317.5	949.9	374.0	351.1	22.96	16.288	
5,700.0	5,660.0	5,679.3	5,629.6	15.1	15.6	-2.01	-312.1	958.9	368.5	345.2	23.25	15.852	
5,800.0	5,759.2	5,774.7	5,724.4	15.4	15.9	-3.19	-307.6	968.6	364.1	340.6	23.52	15.480	
5,900.0	5,858.4	5,880.5	5,829.6	15.6	16.1	-4.44	-303.1	978.9	359.8	336.0	23.81	15.111	
6,000.0	5,957.6	5,988.1	5,936.8	15.9	16.4	-5.61	-298.8	987.0	353.4	329.3	24.10	14.663	
6,100.0	6,056.7	6,089.1	6,037.5	16.2	16.6	-6.81	-294.2	993.1	345.6	321.2	24.39	14.171	
6,200.0	6,155.9	6,192.1	6,140.3	16.5	16.8	-7.92	-290.3	998.8	337.7	313.0	24.68	13.686	
6,300.0	6,255.1	6,296.6	6,244.6	16.8	17.0	-8.87	-287.4	1,002.8	328.3	303.4	24.97	13.150	
6,400.0	6,354.3	6,400.0	6,348.0	17.1	17.1	-9.70	-285.3	1,005.2	317.6	292.4	25.26	12.575	
6,500.0	6,453.5	6,501.2	6,449.1	17.3	17.2	-10.39	-284.0	1,006.5	306.2	280.6	25.55	11.982	
6,600.0	6,552.7	6,602.0	6,549.9	17.6	17.4	-11.02	-283.2	1,007.1	294.1	268.3	25.85	11.379	
6,700.0	6,651.9	6,702.1	6,650.1	17.9	17.5	-11.63	-282.6	1,007.2	281.7	255.6	26.15	10.775	
6,800.0	6,751.0	6,802.3	6,750.3	18.2	17.6	-1.80	-282.4	1,007.0	269.0	242.5	26.45	10.168	
6,900.0	6,849.9	6,901.8	6,849.7	18.4	17.7	61.65	-282.3	1,006.4	257.4	230.5	26.89	9.571	
7,000.0	6,946.2	6,997.9	6,945.9	18.6	17.8	85.46	-282.1	1,005.7	250.0	222.4	27.56	9.071	
7,033.9	6,977.6	7,029.4	6,977.3	18.6	17.8	90.99	-282.1	1,005.5	249.4	221.5	27.86	8.952	CC, ES
7,100.0	7,036.7	7,087.9	7,035.9	18.7	17.9	100.30	-282.1	1,005.1	252.4	224.0	28.39	8.888	SF
7,200.0	7,119.0	7,169.1	7,117.0	18.8	18.0	111.65	-282.1	1,004.9	271.4	242.5	28.84	9.411	
7,300.0	7,190.3	7,240.6	7,188.6	18.9	18.1	119.64	-282.1	1,004.9	310.9	282.4	28.46	10.922	
7,400.0	7,248.6	7,299.6	7,247.6	19.1	18.2	123.66	-282.1	1,004.8	370.1	342.6	27.48	13.465	
7,500.0	7,292.1	7,344.3	7,292.2	19.4	18.2	122.86	-282.0	1,004.6	445.1	418.5	26.64	16.706	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 4-32 (EXISTING) - ENCANA WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 7940-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
10,700.0	7,330.0	7,274.0	7,274.0	62.7	12.7	90.00	3,741.6	927.7	445.9	372.1	73.80	6.042	
10,800.0	7,330.0	7,274.0	7,274.0	64.4	12.7	90.00	3,741.6	927.7	350.4	274.9	75.51	4.641	
10,900.0	7,330.0	7,274.0	7,274.0	66.1	12.7	90.00	3,741.6	927.7	258.4	181.2	77.23	3.346	
11,000.0	7,330.0	7,274.0	7,274.0	67.8	12.7	90.00	3,741.6	927.7	175.3	96.4	78.95	2.221	
11,100.0	7,330.0	7,274.0	7,274.0	69.5	12.7	90.00	3,741.6	927.7	121.3	40.6	80.68	1.503	
11,130.2	7,330.0	7,274.0	7,274.0	70.0	12.7	90.00	3,741.6	927.7	117.5	36.3	81.20	1.447	Level 3, CC, ES, SF
11,200.0	7,330.0	7,274.0	7,274.0	71.1	12.7	90.00	3,741.6	927.7	136.7	54.3	82.40	1.659	
11,300.0	7,330.0	7,274.0	7,274.0	72.8	12.7	90.00	3,741.6	927.7	206.5	122.4	84.12	2.455	
11,400.0	7,330.0	7,274.0	7,274.0	74.5	12.7	90.00	3,741.6	927.7	294.3	208.5	85.85	3.428	
11,500.0	7,330.0	7,274.0	7,274.0	76.2	12.7	90.00	3,741.6	927.7	388.1	300.5	87.58	4.431	
11,600.0	7,330.0	7,274.0	7,274.0	77.9	12.7	90.00	3,741.6	927.7	484.3	395.0	89.31	5.423	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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) - OWNES BROTHERS 13-32 (EXISTING) - ENCANA WELL - NO SURVE

Offset Site Error: 0.0 ft

Survey Program: 8001-MWD

Offset Well Error: 0.0 ft

Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
11,800.0	7,330.0	7,267.0	7,267.0	81.3	12.7	-90.00	4,575.1	361.0	478.1	385.3	92.76	5.154	
11,900.0	7,330.0	7,267.0	7,267.0	83.0	12.7	-90.00	4,575.1	361.0	453.7	359.2	94.49	4.801	
11,963.6	7,330.0	7,267.0	7,267.0	84.1	12.7	-90.00	4,575.1	361.0	449.2	353.6	95.59	4.699	CC, ES
12,000.0	7,330.0	7,267.0	7,267.0	84.7	12.7	-90.00	4,575.1	361.0	450.7	354.4	96.22	4.684	SF
12,100.0	7,330.0	7,267.0	7,267.0	86.5	12.7	-90.00	4,575.1	361.0	469.4	371.5	97.96	4.792	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2-8-32 (EXISTING) - ENCANA WELL - 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
9,600.0	7,330.0	7,358.5	7,286.0	44.7	20.0	90.00	2,633.8	1,033.9	478.0	420.6	57.31	8.339	
9,700.0	7,330.0	7,358.5	7,286.0	46.3	20.0	90.00	2,633.8	1,033.9	392.4	333.4	58.99	6.652	
9,800.0	7,330.0	7,358.5	7,286.0	47.9	20.0	90.00	2,633.8	1,033.9	315.4	254.8	60.67	5.199	
9,900.0	7,330.0	7,358.5	7,286.0	49.6	20.0	90.00	2,633.8	1,033.9	255.0	192.6	62.36	4.089	
10,000.0	7,330.0	7,358.5	7,286.0	51.2	20.0	90.00	2,633.8	1,033.9	224.8	160.8	64.05	3.510	
10,022.4	7,330.0	7,358.5	7,286.0	51.5	20.0	90.00	2,633.8	1,033.9	223.7	159.3	64.43	3.472	CC, ES, SF
10,100.0	7,330.0	7,358.5	7,286.0	52.8	20.0	90.00	2,633.8	1,033.9	236.8	171.0	65.75	3.601	
10,200.0	7,330.0	7,358.5	7,286.0	54.5	20.0	90.00	2,633.8	1,033.9	285.6	218.2	67.45	4.235	
10,300.0	7,330.0	7,358.5	7,286.0	56.1	20.0	90.00	2,633.8	1,033.9	356.5	287.4	69.15	5.156	
10,400.0	7,330.0	7,358.5	7,286.0	57.7	20.0	90.00	2,633.8	1,033.9	438.9	368.0	70.86	6.194	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2-8-32 (EXISTING) - ENCANA WELL - Plan #2

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
9,600.0	7,330.0	7,388.2	7,286.0	44.7	20.2	90.00	2,633.8	1,033.9	478.0	420.6	57.40	8.327	
9,700.0	7,330.0	7,388.2	7,286.0	46.3	20.2	90.00	2,633.8	1,033.9	392.4	333.3	59.08	6.642	
9,800.0	7,330.0	7,388.2	7,286.0	47.9	20.2	90.00	2,633.8	1,033.9	315.4	254.7	60.76	5.192	
9,900.0	7,330.0	7,388.2	7,286.0	49.6	20.2	90.00	2,633.8	1,033.9	255.0	192.5	62.45	4.083	
10,000.0	7,330.0	7,388.2	7,286.0	51.2	20.2	90.00	2,633.8	1,033.9	224.8	160.7	64.14	3.505	
10,022.4	7,330.0	7,388.2	7,286.0	51.5	20.2	90.00	2,633.8	1,033.9	223.7	159.2	64.52	3.467	CC, ES, SF
10,100.0	7,330.0	7,388.2	7,286.0	52.8	20.2	90.00	2,633.8	1,033.9	236.8	171.0	65.83	3.597	
10,200.0	7,330.0	7,388.2	7,286.0	54.5	20.2	90.00	2,633.8	1,033.9	285.6	218.1	67.53	4.230	
10,300.0	7,330.0	7,388.2	7,286.0	56.1	20.2	90.00	2,633.8	1,033.9	356.5	287.3	69.24	5.149	
10,400.0	7,330.0	7,388.2	7,286.0	57.7	20.2	90.00	2,633.8	1,033.9	438.9	368.0	70.94	6.187	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2-8-32 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 100-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
9,600.0	7,330.0	7,385.7	7,286.4	44.7	19.6	90.11	2,640.0	1,011.5	473.5	416.2	57.28	8.265	
9,700.0	7,330.0	7,384.6	7,285.3	46.3	19.6	89.81	2,640.0	1,011.5	385.3	326.4	58.96	6.535	
9,800.0	7,330.0	7,383.5	7,284.2	47.9	19.6	89.50	2,640.0	1,011.5	304.6	243.9	60.65	5.022	
9,900.0	7,330.0	7,382.4	7,283.2	49.6	19.6	89.19	2,640.0	1,011.5	238.8	176.5	62.34	3.831	
10,000.0	7,330.0	7,381.4	7,282.1	51.2	19.6	88.88	2,640.0	1,011.4	203.3	139.3	64.03	3.175	
10,028.6	7,330.0	7,381.0	7,281.7	51.6	19.6	88.79	2,640.1	1,011.4	201.3	136.8	64.51	3.120	CC, ES, SF
10,100.0	7,330.0	7,380.3	7,281.0	52.8	19.6	88.56	2,640.1	1,011.4	213.6	147.8	65.72	3.249	
10,200.0	7,330.0	7,379.1	7,279.9	54.5	19.6	88.25	2,640.1	1,011.4	264.4	196.9	67.41	3.921	
10,300.0	7,330.0	7,378.0	7,278.7	56.1	19.6	87.93	2,640.1	1,011.4	337.9	268.8	69.11	4.889	
10,400.0	7,330.0	7,376.9	7,277.6	57.7	19.6	87.61	2,640.1	1,011.3	422.4	351.6	70.81	5.966	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 5-5 (EXISTING) - KMG WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 7910-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	30.04	236.8	136.9	274.8				
100.0	100.0	74.0	74.0	0.1	0.1	30.04	236.8	136.9	273.6	273.3	0.25	1,087.636	
200.0	200.0	174.0	174.0	0.3	0.3	30.04	236.8	136.9	273.6	273.0	0.60	455.500	
300.0	300.0	274.0	274.0	0.5	0.5	30.04	236.8	136.9	273.6	272.6	0.95	288.072	
400.0	400.0	374.0	374.0	0.6	0.7	-78.91	236.8	136.9	273.4	272.1	1.30	210.405	
500.0	500.0	474.0	474.0	0.8	0.8	-79.45	236.8	136.9	272.9	271.3	1.65	165.139	
600.0	599.9	573.9	573.9	1.0	1.0	-80.36	236.8	136.9	272.1	270.1	2.01	135.208	
700.0	699.7	673.7	673.7	1.2	1.2	-81.64	236.8	136.9	271.2	268.8	2.38	113.774	
800.0	799.4	773.4	773.4	1.4	1.3	-83.29	236.8	136.9	270.2	267.4	2.77	97.581	
900.0	898.9	872.9	872.9	1.6	1.5	-85.32	236.8	136.9	269.2	266.0	3.17	84.897	
1,000.0	998.3	972.3	972.3	1.9	1.7	-87.72	236.8	136.9	268.5	264.9	3.59	74.726	
1,086.8	1,084.4	1,058.4	1,058.4	2.1	1.8	-90.00	236.8	136.9	268.3	264.3	3.97	67.590	CC
1,100.0	1,097.5	1,071.5	1,071.5	2.2	1.9	-90.40	236.8	136.9	268.3	264.3	4.03	66.629	
1,200.0	1,196.6	1,170.6	1,170.6	2.4	2.0	-93.09	236.8	136.9	268.7	264.2	4.46	60.187	ES
1,300.0	1,295.8	1,269.8	1,269.8	2.7	2.2	-95.77	236.8	136.9	269.7	264.8	4.90	55.003	
1,400.0	1,395.0	1,369.0	1,369.0	3.0	2.4	-98.43	236.8	136.9	271.3	265.9	5.34	50.788	
1,500.0	1,494.2	1,468.2	1,468.2	3.2	2.6	-101.05	236.8	136.9	273.4	267.7	5.78	47.332	
1,600.0	1,593.4	1,567.4	1,567.4	3.5	2.7	-103.62	236.8	136.9	276.2	270.0	6.21	44.480	
1,700.0	1,692.6	1,666.6	1,666.6	3.8	2.9	-106.14	236.8	136.9	279.5	272.8	6.64	42.111	
1,800.0	1,791.8	1,765.8	1,765.8	4.1	3.1	-108.60	236.8	136.9	283.3	276.2	7.06	40.135	
1,900.0	1,890.9	1,864.9	1,864.9	4.3	3.3	-110.99	236.8	136.9	287.7	280.2	7.48	38.480	
2,000.0	1,990.1	1,964.1	1,964.1	4.6	3.4	-113.30	236.8	136.9	292.5	284.6	7.89	37.092	
2,100.0	2,089.3	2,063.3	2,063.3	4.9	3.6	-115.54	236.8	136.9	297.8	289.5	8.29	35.924	
2,200.0	2,188.5	2,162.5	2,162.5	5.2	3.8	-117.69	236.8	136.9	303.5	294.8	8.69	34.941	
2,300.0	2,287.7	2,261.7	2,261.7	5.5	3.9	-119.77	236.8	136.9	309.7	300.6	9.08	34.113	
2,400.0	2,386.9	2,360.9	2,360.9	5.7	4.1	-121.76	236.8	136.9	316.3	306.8	9.46	33.416	
2,500.0	2,486.1	2,460.1	2,460.1	6.0	4.3	-123.67	236.8	136.9	323.2	313.3	9.84	32.830	
2,600.0	2,585.2	2,559.2	2,559.2	6.3	4.5	-125.50	236.8	136.9	330.4	320.2	10.22	32.337	
2,700.0	2,684.4	2,658.4	2,658.4	6.6	4.6	-127.24	236.8	136.9	338.0	327.5	10.59	31.925	
2,800.0	2,783.6	2,757.6	2,757.6	6.9	4.8	-128.92	236.8	136.9	345.9	335.0	10.95	31.582	
2,900.0	2,882.8	2,856.8	2,856.8	7.2	5.0	-130.51	236.8	136.9	354.1	342.8	11.31	31.297	
3,000.0	2,982.0	2,956.0	2,956.0	7.4	5.2	-132.04	236.8	136.9	362.6	350.9	11.67	31.062	
3,100.0	3,081.2	3,055.2	3,055.2	7.7	5.3	-133.49	236.8	136.9	371.2	359.2	12.03	30.870	
3,200.0	3,180.4	3,154.4	3,154.4	8.0	5.5	-134.88	236.8	136.9	380.2	367.8	12.38	30.715	
3,300.0	3,279.5	3,253.5	3,253.5	8.3	5.7	-136.20	236.8	136.9	389.3	376.6	12.73	30.592	
3,400.0	3,378.7	3,352.7	3,352.7	8.6	5.9	-137.46	236.8	136.9	398.6	385.5	13.07	30.496	
3,500.0	3,477.9	3,451.9	3,451.9	8.8	6.0	-138.67	236.8	136.9	408.1	394.7	13.41	30.423	
3,600.0	3,577.1	3,551.1	3,551.1	9.1	6.2	-139.82	236.8	136.9	417.8	404.0	13.76	30.371	
3,700.0	3,676.3	3,650.3	3,650.3	9.4	6.4	-140.91	236.8	136.9	427.6	413.5	14.10	30.336	
3,800.0	3,775.5	3,749.5	3,749.5	9.7	6.5	-141.96	236.8	136.9	437.6	423.2	14.44	30.316	
3,900.0	3,874.7	3,848.7	3,848.7	10.0	6.7	-142.96	236.8	136.9	447.8	433.0	14.77	30.308	SF
4,000.0	3,973.8	3,947.8	3,947.8	10.3	6.9	-143.92	236.8	136.9	458.0	442.9	15.11	30.312	
4,100.0	4,073.0	4,047.0	4,047.0	10.5	7.1	-144.84	236.8	136.9	468.4	453.0	15.45	30.325	
4,200.0	4,172.2	4,146.2	4,146.2	10.8	7.2	-145.71	236.8	136.9	478.9	463.1	15.78	30.346	
4,300.0	4,271.4	4,245.4	4,245.4	11.1	7.4	-146.55	236.8	136.9	489.5	473.4	16.12	30.373	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2A-5H-E267 - 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	-89.95	0.0	-39.1	39.1				
100.0	100.0	100.0	100.0	0.1	0.1	-89.95	0.0	-39.1	39.1	38.9	0.24	160.120	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-39.1	39.1	38.5	0.59	65.932	
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-39.1	39.1	38.2	0.94	41.513	CC, ES
400.0	400.0	400.0	400.0	0.6	0.6	161.69	0.0	-39.1	40.0	38.7	1.29	30.935	
500.0	500.0	499.5	499.5	0.8	0.8	160.56	-1.6	-39.6	42.9	41.3	1.64	26.154	
600.0	599.9	599.3	599.2	1.0	1.0	157.65	-5.5	-40.8	48.4	46.4	2.00	24.214	
700.0	699.7	699.0	698.8	1.2	1.2	156.01	-9.5	-42.0	55.5	53.1	2.36	23.550	SF
800.0	799.4	798.6	798.3	1.4	1.4	155.39	-13.4	-43.3	64.2	61.5	2.72	23.629	
900.0	898.9	898.1	897.7	1.6	1.6	155.48	-17.4	-44.5	74.6	71.5	3.08	24.182	
1,000.0	998.3	997.4	996.9	1.9	1.7	156.01	-21.3	-45.7	86.5	83.0	3.45	25.061	
1,100.0	1,097.5	1,096.5	1,096.0	2.2	1.9	156.74	-25.2	-46.9	99.6	95.8	3.82	26.074	
1,200.0	1,196.6	1,195.6	1,195.0	2.4	2.1	157.33	-29.2	-48.1	112.8	108.6	4.19	26.920	
1,300.0	1,295.8	1,294.7	1,294.0	2.7	2.3	157.80	-33.1	-49.3	126.0	121.5	4.56	27.628	
1,400.0	1,395.0	1,393.8	1,393.0	3.0	2.5	158.18	-37.0	-50.5	139.3	134.4	4.93	28.228	
1,500.0	1,494.2	1,492.9	1,492.1	3.2	2.7	158.49	-41.0	-51.7	152.5	147.2	5.31	28.744	
1,600.0	1,593.4	1,592.1	1,591.1	3.5	2.9	158.75	-44.9	-52.9	165.8	160.1	5.68	29.192	
1,700.0	1,692.6	1,691.2	1,690.1	3.8	3.0	158.98	-48.8	-54.1	179.0	173.0	6.05	29.585	
1,800.0	1,791.8	1,790.3	1,789.2	4.1	3.2	159.17	-52.8	-55.3	192.3	185.9	6.42	29.932	
1,900.0	1,890.9	1,889.4	1,888.2	4.3	3.4	159.34	-56.7	-56.5	205.5	198.7	6.80	30.241	
2,000.0	1,990.1	1,988.5	1,987.2	4.6	3.6	159.49	-60.6	-57.8	218.8	211.6	7.17	30.518	
2,100.0	2,089.3	2,087.6	2,086.3	4.9	3.8	159.62	-64.6	-59.0	232.1	224.5	7.54	30.767	
2,200.0	2,188.5	2,186.8	2,185.3	5.2	4.0	159.73	-68.5	-60.2	245.3	237.4	7.92	30.993	
2,300.0	2,287.7	2,285.9	2,284.3	5.5	4.2	159.84	-72.4	-61.4	258.6	250.3	8.29	31.198	
2,400.0	2,386.9	2,385.0	2,383.3	5.7	4.4	159.93	-76.4	-62.6	271.8	263.2	8.66	31.386	
2,500.0	2,486.1	2,484.1	2,482.4	6.0	4.5	160.02	-80.3	-63.8	285.1	276.1	9.03	31.558	
2,600.0	2,585.2	2,583.2	2,581.4	6.3	4.7	160.10	-84.2	-65.0	298.4	289.0	9.41	31.716	
2,700.0	2,684.4	2,682.3	2,680.4	6.6	4.9	160.17	-88.2	-66.2	311.6	301.9	9.78	31.863	
2,800.0	2,783.6	2,781.5	2,779.5	6.9	5.1	160.24	-92.1	-67.4	324.9	314.7	10.15	31.998	
2,900.0	2,882.8	2,880.6	2,878.5	7.2	5.3	160.30	-96.0	-68.6	338.2	327.6	10.53	32.124	
3,000.0	2,982.0	2,979.7	2,977.5	7.4	5.5	160.35	-100.0	-69.8	351.4	340.5	10.90	32.241	
3,100.0	3,081.2	3,078.8	3,076.6	7.7	5.7	160.40	-103.9	-71.0	364.7	353.4	11.27	32.351	
3,200.0	3,180.4	3,177.9	3,175.6	8.0	5.8	160.45	-107.8	-72.2	378.0	366.3	11.65	32.453	
3,300.0	3,279.5	3,277.0	3,274.6	8.3	6.0	160.50	-111.8	-73.4	391.2	379.2	12.02	32.549	
3,400.0	3,378.7	3,376.1	3,373.6	8.6	6.2	160.54	-115.7	-74.7	404.5	392.1	12.39	32.639	
3,500.0	3,477.9	3,475.3	3,472.7	8.8	6.4	160.58	-119.6	-75.9	417.8	405.0	12.77	32.724	
3,600.0	3,577.1	3,574.4	3,571.7	9.1	6.6	160.62	-123.6	-77.1	431.0	417.9	13.14	32.804	
3,700.0	3,676.3	3,673.5	3,670.7	9.4	6.8	160.65	-127.5	-78.3	444.3	430.8	13.51	32.880	
3,800.0	3,775.5	3,772.6	3,769.8	9.7	7.0	160.68	-131.4	-79.5	457.6	443.7	13.89	32.952	
3,900.0	3,874.7	3,871.7	3,868.8	10.0	7.2	160.71	-135.4	-80.7	470.8	456.6	14.26	33.020	
4,000.0	3,973.8	3,970.8	3,967.8	10.3	7.3	160.74	-139.3	-81.9	484.1	469.5	14.63	33.084	
4,100.0	4,073.0	4,070.0	4,066.9	10.5	7.5	160.77	-143.2	-83.1	497.3	482.3	15.01	33.145	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2B-5H-E267 - 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	-89.95	0.0	-19.6	19.6				
100.0	100.0	100.0	100.0	0.1	0.1	-89.95	0.0	-19.6	19.6	19.3	0.24	80.060	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-19.6	19.6	19.0	0.59	32.966	
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-19.6	19.6	18.6	0.94	20.756	CC, ES
400.0	400.0	400.0	400.0	0.6	0.6	162.07	0.0	-19.6	20.4	19.1	1.29	15.789	
500.0	500.0	500.0	500.0	0.8	0.8	164.08	0.0	-19.6	22.9	21.3	1.64	13.957	
600.0	599.9	599.9	599.9	1.0	1.0	166.60	0.0	-19.6	27.1	25.1	1.99	13.633	
700.0	699.7	700.2	700.2	1.2	1.2	168.44	-0.4	-18.8	32.3	29.9	2.34	13.809	
800.0	799.4	800.6	800.6	1.4	1.3	169.21	-1.8	-16.6	37.6	34.9	2.69	13.984	
900.0	898.9	901.1	901.0	1.6	1.5	169.31	-4.1	-12.8	43.0	39.9	3.04	14.147	
1,000.0	998.3	1,001.7	1,001.4	1.9	1.7	168.95	-7.3	-7.5	48.5	45.1	3.39	14.295	
1,100.0	1,097.5	1,102.3	1,101.6	2.2	1.9	168.20	-11.3	-0.7	53.7	50.0	3.75	14.317	
1,200.0	1,196.6	1,202.2	1,201.2	2.4	2.1	167.35	-15.7	6.5	58.4	54.3	4.11	14.203	
1,300.0	1,295.8	1,302.0	1,300.7	2.7	2.3	166.63	-20.1	13.8	63.2	58.7	4.48	14.102	
1,400.0	1,395.0	1,401.9	1,400.2	3.0	2.6	166.01	-24.5	21.1	67.9	63.1	4.85	14.011	
1,500.0	1,494.2	1,501.8	1,499.7	3.2	2.8	165.47	-28.9	28.4	72.7	67.5	5.22	13.929	
1,600.0	1,593.4	1,601.7	1,599.2	3.5	3.0	164.99	-33.3	35.7	77.4	71.9	5.59	13.855	
1,700.0	1,692.6	1,701.6	1,698.8	3.8	3.2	164.57	-37.7	42.9	82.2	76.2	5.96	13.787	
1,800.0	1,791.8	1,801.5	1,798.3	4.1	3.4	164.20	-42.0	50.2	87.0	80.6	6.34	13.725	
1,900.0	1,890.9	1,901.3	1,897.8	4.3	3.7	163.86	-46.4	57.5	91.7	85.0	6.71	13.668	
2,000.0	1,990.1	2,001.2	1,997.3	4.6	3.9	163.56	-50.8	64.8	96.5	89.4	7.09	13.615	
2,100.0	2,089.3	2,101.1	2,096.9	4.9	4.1	163.29	-55.2	72.1	101.3	93.8	7.47	13.567	
2,200.0	2,188.5	2,201.0	2,196.4	5.2	4.3	163.04	-59.6	79.3	106.1	98.2	7.85	13.522	
2,300.0	2,287.7	2,300.9	2,295.9	5.5	4.6	162.81	-64.0	86.6	110.9	102.6	8.22	13.480	
2,400.0	2,386.9	2,400.8	2,395.4	5.7	4.8	162.60	-68.4	93.9	115.7	107.0	8.60	13.441	
2,500.0	2,486.1	2,500.7	2,494.9	6.0	5.0	162.41	-72.8	101.2	120.4	111.5	8.98	13.404	
2,600.0	2,585.2	2,600.5	2,594.5	6.3	5.2	162.23	-77.1	108.4	125.2	115.9	9.37	13.370	
2,700.0	2,684.4	2,700.4	2,694.0	6.6	5.5	162.07	-81.5	115.7	130.0	120.3	9.75	13.338	
2,800.0	2,783.6	2,800.3	2,793.5	6.9	5.7	161.92	-85.9	123.0	134.8	124.7	10.13	13.308	
2,900.0	2,882.8	2,900.2	2,893.0	7.2	5.9	161.78	-90.3	130.3	139.6	129.1	10.51	13.280	
3,000.0	2,982.0	3,000.1	2,992.6	7.4	6.1	161.64	-94.7	137.6	144.4	133.5	10.89	13.254	
3,100.0	3,081.2	3,100.0	3,092.1	7.7	6.4	161.52	-99.1	144.8	149.2	137.9	11.28	13.229	
3,200.0	3,180.4	3,199.8	3,191.6	8.0	6.6	161.40	-103.5	152.1	154.0	142.3	11.66	13.205	
3,300.0	3,279.5	3,299.7	3,291.1	8.3	6.8	161.29	-107.9	159.4	158.8	146.7	12.04	13.183	
3,400.0	3,378.7	3,399.6	3,390.6	8.6	7.0	161.19	-112.2	166.7	163.5	151.1	12.43	13.161	
3,500.0	3,477.9	3,499.5	3,490.2	8.8	7.3	161.09	-116.6	174.0	168.3	155.5	12.81	13.141	
3,600.0	3,577.1	3,599.4	3,589.7	9.1	7.5	161.00	-121.0	181.2	173.1	159.9	13.19	13.122	
3,700.0	3,676.3	3,699.3	3,689.2	9.4	7.7	160.92	-125.4	188.5	177.9	164.4	13.58	13.104	
3,800.0	3,775.5	3,799.2	3,788.7	9.7	8.0	160.83	-129.8	195.8	182.7	168.8	13.96	13.087	
3,900.0	3,874.7	3,899.0	3,888.3	10.0	8.2	160.76	-134.2	203.1	187.5	173.2	14.35	13.070	
4,000.0	3,973.8	3,998.9	3,987.8	10.3	8.4	160.68	-138.6	210.3	192.3	177.6	14.73	13.054	
4,100.0	4,073.0	4,098.8	4,087.3	10.5	8.6	160.61	-143.0	217.6	197.1	182.0	15.12	13.039	
4,200.0	4,172.2	4,198.7	4,186.8	10.8	8.9	160.54	-147.3	224.9	201.9	186.4	15.50	13.025	
4,300.0	4,271.4	4,298.6	4,286.3	11.1	9.1	160.48	-151.7	232.2	206.7	190.8	15.89	13.011	
4,400.0	4,370.6	4,398.5	4,385.9	11.4	9.3	160.42	-156.1	239.5	211.5	195.2	16.27	12.998	
4,500.0	4,469.8	4,498.3	4,485.4	11.7	9.6	160.36	-160.5	246.7	216.3	199.6	16.66	12.985	
4,600.0	4,569.0	4,598.2	4,584.9	12.0	9.8	160.30	-164.9	254.0	221.1	204.0	17.04	12.973	
4,700.0	4,668.1	4,698.1	4,684.4	12.2	10.0	160.25	-169.3	261.3	225.9	208.5	17.43	12.961	
4,800.0	4,767.3	4,798.0	4,784.0	12.5	10.2	160.20	-173.7	268.6	230.7	212.9	17.81	12.950	
4,900.0	4,866.5	4,897.9	4,883.5	12.8	10.5	160.15	-178.1	275.9	235.5	217.3	18.20	12.939	
5,000.0	4,965.7	4,997.8	4,983.0	13.1	10.7	160.10	-182.4	283.1	240.3	221.7	18.59	12.928	
5,100.0	5,064.9	5,097.7	5,082.5	13.4	10.9	160.06	-186.8	290.4	245.1	226.1	18.97	12.918	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2B-5H-E267 - 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	5,164.1	5,197.5	5,182.0	13.7	11.1	160.01	-191.2	297.7	249.9	230.5	19.36	12.909	
5,300.0	5,263.3	5,297.4	5,281.6	13.9	11.4	159.97	-195.6	305.0	254.7	234.9	19.74	12.899	
5,400.0	5,362.4	5,397.3	5,381.1	14.2	11.6	159.93	-200.0	312.2	259.5	239.3	20.13	12.890	
5,500.0	5,461.6	5,497.2	5,480.6	14.5	11.8	159.89	-204.4	319.5	264.3	243.8	20.52	12.882	
5,600.0	5,560.8	5,597.1	5,580.1	14.8	12.1	159.85	-208.8	326.8	269.1	248.2	20.90	12.873	
5,700.0	5,660.0	5,697.0	5,679.7	15.1	12.3	159.82	-213.1	334.1	273.9	252.6	21.29	12.865	
5,800.0	5,759.2	5,796.8	5,779.2	15.4	12.5	159.78	-217.5	341.4	278.7	257.0	21.67	12.857	
5,900.0	5,858.4	5,896.7	5,878.7	15.6	12.7	159.75	-221.9	348.6	283.5	261.4	22.06	12.850	
6,000.0	5,957.6	5,996.6	5,978.2	15.9	13.0	159.72	-226.3	355.9	288.3	265.8	22.45	12.842	
6,100.0	6,056.7	6,096.5	6,077.8	16.2	13.2	159.69	-230.7	363.2	293.1	270.2	22.83	12.835	
6,200.0	6,155.9	6,196.4	6,177.3	16.5	13.4	159.65	-235.1	370.5	297.9	274.6	23.22	12.828	
6,300.0	6,255.1	6,296.3	6,276.8	16.8	13.7	159.63	-239.5	377.8	302.7	279.1	23.61	12.821	
6,400.0	6,354.3	6,396.2	6,376.3	17.1	13.9	159.60	-243.9	385.0	307.5	283.5	23.99	12.815	
6,500.0	6,453.5	6,496.0	6,475.8	17.3	14.1	159.57	-248.2	392.3	312.3	287.9	24.38	12.808	
6,600.0	6,552.7	6,596.6	6,576.0	17.6	14.3	160.55	-247.1	399.6	317.0	292.4	24.58	12.894	
6,700.0	6,651.9	6,692.8	6,670.3	17.9	14.4	164.31	-229.9	406.4	322.3	297.9	24.37	13.226	
6,800.0	6,751.0	6,780.0	6,752.2	18.2	14.4	-179.72	-200.9	412.3	331.3	307.3	24.05	13.779	
6,900.0	6,849.9	6,860.5	6,823.2	18.4	14.4	-112.57	-163.3	417.4	345.2	321.2	23.96	14.404	
7,000.0	6,946.2	6,937.7	6,885.7	18.6	14.5	-89.23	-118.3	421.8	361.7	337.5	24.26	14.908	
7,100.0	7,036.7	7,012.3	6,939.8	18.7	14.5	-77.80	-67.1	425.5	379.3	354.6	24.73	15.335	
7,200.0	7,119.0	7,085.0	6,985.7	18.8	14.6	-70.52	-10.9	428.7	396.4	371.3	25.10	15.791	
7,300.0	7,190.3	7,150.0	7,020.4	18.9	14.8	-65.62	43.9	431.0	412.0	386.7	25.28	16.298	
7,400.0	7,248.6	7,226.3	7,053.0	19.1	15.1	-61.94	112.8	433.2	424.9	399.6	25.32	16.780	
7,500.0	7,292.1	7,300.0	7,075.6	19.4	15.4	-59.52	182.9	434.6	434.8	409.5	25.25	17.220	
7,600.0	7,319.5	7,364.3	7,087.8	19.9	15.8	-58.18	246.0	435.2	441.0	415.8	25.16	17.527	
7,700.0	7,329.9	7,432.8	7,092.9	20.4	16.3	-57.70	314.3	435.4	443.5	418.2	25.28	17.543	
7,800.0	7,330.0	7,528.7	7,093.0	21.1	17.1	-57.72	410.1	435.1	443.7	416.9	26.80	16.560	
7,900.0	7,330.0	7,628.7	7,093.0	21.9	18.1	-57.74	510.1	434.7	444.0	415.4	28.66	15.495	
8,000.0	7,330.0	7,728.7	7,093.0	22.8	19.1	-57.77	610.1	434.4	444.3	413.6	30.70	14.475	
8,100.0	7,330.0	7,828.7	7,093.0	23.8	20.3	-57.79	710.1	434.0	444.6	411.7	32.88	13.523	
8,200.0	7,330.0	7,928.7	7,093.0	24.9	21.6	-57.81	810.1	433.7	444.9	409.7	35.18	12.647	
8,300.0	7,330.0	8,028.7	7,093.0	26.0	22.9	-57.84	910.1	433.3	445.2	407.6	37.58	11.847	
8,400.0	7,330.0	8,128.7	7,093.0	27.2	24.3	-57.86	1,010.1	433.0	445.5	405.5	40.06	11.121	
8,500.0	7,330.0	8,228.7	7,093.0	28.5	25.7	-57.89	1,110.1	432.6	445.8	403.2	42.60	10.464	
8,600.0	7,330.0	8,328.7	7,093.0	29.8	27.1	-57.91	1,210.1	432.3	446.1	400.9	45.20	9.869	
8,700.0	7,330.0	8,428.7	7,093.0	31.2	28.6	-57.93	1,310.1	431.9	446.4	398.6	47.85	9.329	
8,800.0	7,330.0	8,528.7	7,093.0	32.6	30.1	-57.96	1,410.1	431.6	446.7	396.2	50.54	8.839	
8,900.0	7,330.0	8,628.7	7,093.0	34.1	31.7	-57.98	1,510.1	431.2	447.0	393.7	53.26	8.393	
9,000.0	7,330.0	8,728.7	7,093.0	35.5	33.2	-58.00	1,610.1	430.9	447.3	391.3	56.01	7.986	
9,100.0	7,330.0	8,828.7	7,093.0	37.0	34.8	-58.03	1,710.1	430.5	447.6	388.8	58.78	7.614	
9,200.0	7,330.0	8,928.7	7,093.0	38.5	36.4	-58.05	1,810.1	430.2	447.9	386.3	61.58	7.273	
9,300.0	7,330.0	9,028.7	7,093.0	40.1	38.0	-58.07	1,910.1	429.8	448.2	383.8	64.39	6.960	
9,400.0	7,330.0	9,128.7	7,093.0	41.6	39.7	-58.10	2,010.1	429.5	448.5	381.2	67.23	6.671	
9,500.0	7,330.0	9,228.7	7,093.0	43.2	41.3	-58.12	2,110.1	429.1	448.8	378.7	70.08	6.404	
9,600.0	7,330.0	9,328.7	7,093.0	44.7	42.9	-58.15	2,210.1	428.8	449.1	376.1	72.94	6.157	
9,700.0	7,330.0	9,428.7	7,093.0	46.3	44.6	-58.17	2,310.1	428.4	449.4	373.6	75.81	5.927	
9,800.0	7,330.0	9,528.7	7,093.0	47.9	46.3	-58.19	2,410.1	428.1	449.7	371.0	78.70	5.714	
9,900.0	7,330.0	9,628.7	7,093.0	49.6	47.9	-58.22	2,510.1	427.7	450.0	368.4	81.59	5.515	
10,000.0	7,330.0	9,728.7	7,093.0	51.2	49.6	-58.24	2,610.1	427.4	450.3	365.8	84.50	5.329	
10,100.0	7,330.0	9,828.6	7,093.0	52.8	51.3	-58.26	2,710.1	427.0	450.5	363.1	87.41	5.154	
10,200.0	7,330.0	9,928.6	7,093.0	54.5	53.0	-58.29	2,810.1	426.7	450.8	360.5	90.33	4.991	
10,300.0	7,330.0	10,028.6	7,093.0	56.1	54.6	-58.31	2,910.1	426.3	451.1	357.9	93.26	4.838	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2B-5H-E267 - 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
10,400.0	7,330.0	10,128.6	7,093.0	57.7	56.3	-58.33	3,010.1	426.0	451.4	355.2	96.19	4.693	
10,500.0	7,330.0	10,228.6	7,093.0	59.4	58.0	-58.36	3,110.1	425.6	451.7	352.6	99.13	4.557	
10,600.0	7,330.0	10,328.6	7,093.0	61.1	59.7	-58.38	3,210.1	425.3	452.0	350.0	102.08	4.428	
10,700.0	7,330.0	10,428.6	7,093.0	62.7	61.4	-58.40	3,310.1	424.9	452.3	347.3	105.03	4.307	
10,800.0	7,330.0	10,528.6	7,093.0	64.4	63.1	-58.43	3,410.1	424.6	452.6	344.6	107.99	4.191	
10,900.0	7,330.0	10,628.6	7,093.0	66.1	64.9	-58.45	3,510.1	424.2	452.9	342.0	110.95	4.082	
11,000.0	7,330.0	10,728.6	7,093.0	67.8	66.6	-58.47	3,610.1	423.9	453.2	339.3	113.91	3.979	
11,100.0	7,330.0	10,828.6	7,093.0	69.5	68.3	-58.49	3,710.1	423.5	453.5	336.6	116.88	3.880	
11,200.0	7,330.0	10,928.6	7,093.0	71.1	70.0	-58.52	3,810.1	423.2	453.8	334.0	119.86	3.786	
11,300.0	7,330.0	11,028.6	7,093.0	72.8	71.7	-58.54	3,910.1	422.8	454.1	331.3	122.84	3.697	
11,400.0	7,330.0	11,128.6	7,093.0	74.5	73.4	-58.56	4,010.1	422.5	454.4	328.6	125.82	3.612	
11,500.0	7,330.0	11,228.6	7,093.0	76.2	75.1	-58.59	4,110.1	422.1	454.7	325.9	128.80	3.530	
11,600.0	7,330.0	11,328.6	7,093.0	77.9	76.9	-58.61	4,210.1	421.8	455.0	323.2	131.79	3.452	
11,700.0	7,330.0	11,428.6	7,093.0	79.6	78.6	-58.63	4,310.1	421.4	455.3	320.5	134.78	3.378	
11,800.0	7,330.0	11,528.6	7,093.0	81.3	80.3	-58.66	4,410.1	421.1	455.6	317.8	137.78	3.307	
11,900.0	7,330.0	11,628.6	7,093.0	83.0	82.0	-58.68	4,510.1	420.7	455.9	315.1	140.78	3.238	
12,000.0	7,330.0	11,728.6	7,093.0	84.7	83.8	-58.70	4,610.1	420.4	456.2	312.4	143.78	3.173	
12,100.0	7,330.0	11,828.6	7,093.0	86.5	85.5	-58.72	4,710.1	420.0	456.5	309.7	146.78	3.110	
12,200.0	7,330.0	11,928.6	7,093.0	88.2	87.2	-58.75	4,810.1	419.7	456.8	307.0	149.79	3.050	
12,300.0	7,330.0	12,028.6	7,093.0	89.9	88.9	-58.77	4,910.1	419.3	457.1	304.3	152.80	2.992	
12,400.0	7,330.0	12,128.6	7,093.0	91.6	90.7	-58.79	5,010.1	419.0	457.4	301.6	155.81	2.936	
12,500.0	7,330.0	12,228.6	7,093.0	93.3	92.4	-58.81	5,110.1	418.6	457.7	298.9	158.82	2.882	
12,600.0	7,330.0	12,328.6	7,093.0	95.0	94.1	-58.84	5,210.1	418.3	458.0	296.2	161.84	2.830	
12,700.0	7,330.0	12,428.6	7,093.0	96.7	95.9	-58.86	5,310.1	418.0	458.3	293.4	164.86	2.780	
12,800.0	7,330.0	12,528.6	7,093.0	98.5	97.6	-58.88	5,410.1	417.6	458.6	290.7	167.88	2.732	
12,900.0	7,330.0	12,628.6	7,093.0	100.2	99.3	-58.90	5,510.1	417.3	458.9	288.0	170.90	2.685	
13,000.0	7,330.0	12,728.6	7,093.0	101.9	101.1	-58.93	5,610.1	416.9	459.2	285.3	173.93	2.640	
13,100.0	7,330.0	12,828.6	7,093.0	103.6	102.8	-58.95	5,710.1	416.6	459.5	282.5	176.96	2.597	
13,200.0	7,330.0	12,928.6	7,093.0	105.4	104.5	-58.97	5,810.1	416.2	459.8	279.8	179.99	2.555	
13,300.0	7,330.0	13,028.6	7,093.0	107.1	106.3	-58.99	5,910.1	415.9	460.1	277.1	183.02	2.514	
13,400.0	7,330.0	13,128.6	7,093.0	108.8	108.0	-59.02	6,010.1	415.5	460.4	274.3	186.05	2.474	
13,500.0	7,330.0	13,228.6	7,093.0	110.5	109.8	-59.04	6,110.1	415.2	460.7	271.6	189.09	2.436	
13,600.0	7,330.0	13,328.6	7,093.0	112.3	111.5	-59.06	6,210.1	414.8	461.0	268.9	192.13	2.399	
13,700.0	7,330.0	13,428.6	7,093.0	114.0	113.2	-59.08	6,310.1	414.5	461.3	266.1	195.16	2.364	
13,800.0	7,330.0	13,528.6	7,093.0	115.7	115.0	-59.11	6,410.1	414.1	461.6	263.4	198.21	2.329	
13,900.0	7,330.0	13,628.6	7,093.0	117.5	116.7	-59.13	6,510.1	413.8	461.9	260.6	201.25	2.295	
14,000.0	7,330.0	13,728.6	7,093.0	119.2	118.5	-59.15	6,610.1	413.4	462.2	257.9	204.29	2.262	
14,100.0	7,330.0	13,828.6	7,093.0	120.9	120.2	-59.17	6,710.1	413.1	462.5	255.1	207.34	2.231	
14,200.0	7,330.0	13,928.6	7,093.0	122.7	121.9	-59.19	6,810.1	412.7	462.8	252.4	210.39	2.200	
14,300.0	7,330.0	14,028.6	7,093.0	124.4	123.7	-59.22	6,910.1	412.4	463.1	249.6	213.44	2.170	
14,400.0	7,330.0	14,128.6	7,093.0	126.1	125.4	-59.24	7,010.1	412.0	463.4	246.9	216.49	2.140	
14,500.0	7,330.0	14,228.6	7,093.0	127.9	127.2	-59.26	7,110.1	411.7	463.7	244.1	219.55	2.112	
14,600.0	7,330.0	14,328.6	7,093.0	129.6	128.9	-59.28	7,210.1	411.3	464.0	241.4	222.60	2.084	
14,700.0	7,330.0	14,428.6	7,093.0	131.3	130.7	-59.30	7,310.1	411.0	464.3	238.6	225.66	2.057	
14,776.3	7,330.0	14,504.9	7,093.0	132.6	132.0	-59.32	7,386.3	410.7	464.5	236.5	227.99	2.037	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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
7,100.0	7,036.7	7,100.0	6,988.5	18.7	18.2	64.08	-72.1	1,251.0	493.7	468.2	25.49	19.371	
7,200.0	7,119.0	7,169.3	7,029.0	18.8	18.3	64.83	-16.2	1,246.2	487.5	462.0	25.48	19.131	
7,300.0	7,190.3	7,238.3	7,062.4	18.9	18.5	64.34	44.0	1,242.2	484.1	458.7	25.40	19.057	
7,390.0	7,243.4	7,300.0	7,086.1	19.1	18.7	63.52	101.0	1,239.4	482.8	457.5	25.34	19.056	CC
7,400.0	7,248.6	7,300.0	7,086.1	19.1	18.7	63.61	101.0	1,239.4	482.8	457.6	25.26	19.115	
7,500.0	7,292.1	7,374.1	7,106.2	19.4	19.0	62.47	172.2	1,237.0	483.0	457.6	25.37	19.042	
7,600.0	7,319.5	7,441.3	7,116.4	19.9	19.4	61.65	238.6	1,235.7	484.2	458.4	25.77	18.788	
7,700.0	7,329.9	7,514.3	7,119.0	20.4	19.8	61.09	311.5	1,235.4	485.8	459.1	26.72	18.184	
7,800.0	7,330.0	7,614.3	7,119.0	21.1	20.6	61.07	411.5	1,235.4	485.8	457.4	28.40	17.107	
7,900.0	7,330.0	7,714.3	7,119.0	21.9	21.4	61.07	511.5	1,235.4	485.8	455.5	30.31	16.028	
8,000.0	7,330.0	7,814.3	7,119.0	22.8	22.4	61.07	611.5	1,235.4	485.8	453.4	32.40	14.994	
8,100.0	7,330.0	7,914.3	7,119.0	23.8	23.4	61.07	711.5	1,235.4	485.8	451.2	34.64	14.025	
8,200.0	7,330.0	8,014.3	7,119.0	24.9	24.6	61.07	811.5	1,235.4	485.8	448.8	37.00	13.131	
8,300.0	7,330.0	8,114.3	7,119.0	26.0	25.8	61.07	911.5	1,235.4	485.8	446.3	39.45	12.313	
8,400.0	7,330.0	8,214.3	7,119.0	27.2	27.0	61.07	1,011.5	1,235.4	485.8	443.8	41.99	11.569	
8,500.0	7,330.0	8,314.3	7,119.0	28.5	28.4	61.07	1,111.5	1,235.4	485.8	441.2	44.60	10.892	
8,600.0	7,330.0	8,414.3	7,119.0	29.8	29.7	61.07	1,211.5	1,235.4	485.8	438.5	47.26	10.279	
8,700.0	7,330.0	8,514.3	7,119.0	31.2	31.1	61.07	1,311.5	1,235.4	485.8	435.8	49.97	9.721	
8,800.0	7,330.0	8,614.3	7,119.0	32.6	32.5	61.07	1,411.5	1,235.3	485.8	433.0	52.72	9.214	
8,900.0	7,330.0	8,714.3	7,119.0	34.1	34.0	61.07	1,511.5	1,235.3	485.8	430.3	55.51	8.751	
9,000.0	7,330.0	8,814.3	7,119.0	35.5	35.5	61.07	1,611.5	1,235.3	485.8	427.4	58.32	8.329	
9,100.0	7,330.0	8,914.3	7,119.0	37.0	37.0	61.07	1,711.5	1,235.3	485.7	424.6	61.16	7.942	
9,200.0	7,330.0	9,014.3	7,119.0	38.5	38.5	61.07	1,811.5	1,235.3	485.7	421.7	64.02	7.587	
9,300.0	7,330.0	9,114.3	7,119.0	40.1	40.1	61.07	1,911.5	1,235.3	485.7	418.8	66.90	7.261	
9,400.0	7,330.0	9,214.3	7,119.0	41.6	41.7	61.07	2,011.5	1,235.3	485.7	415.9	69.80	6.959	
9,500.0	7,330.0	9,314.3	7,119.0	43.2	43.2	61.06	2,111.5	1,235.3	485.7	413.0	72.71	6.681	
9,600.0	7,330.0	9,414.3	7,119.0	44.7	44.8	61.06	2,211.5	1,235.3	485.7	410.1	75.63	6.422	
9,700.0	7,330.0	9,514.3	7,119.0	46.3	46.5	61.06	2,311.5	1,235.3	485.7	407.1	78.57	6.182	
9,800.0	7,330.0	9,614.3	7,119.0	47.9	48.1	61.06	2,411.5	1,235.3	485.7	404.2	81.51	5.959	
9,900.0	7,330.0	9,714.3	7,119.0	49.6	49.7	61.06	2,511.5	1,235.3	485.7	401.2	84.47	5.750	
10,000.0	7,330.0	9,814.3	7,119.0	51.2	51.3	61.06	2,611.5	1,235.2	485.7	398.3	87.43	5.555	
10,100.0	7,330.0	9,914.3	7,119.0	52.8	53.0	61.06	2,711.5	1,235.2	485.7	395.3	90.40	5.372	
10,200.0	7,330.0	10,014.3	7,119.0	54.5	54.6	61.06	2,811.5	1,235.2	485.7	392.3	93.38	5.201	
10,300.0	7,330.0	10,114.3	7,119.0	56.1	56.3	61.06	2,911.5	1,235.2	485.7	389.3	96.36	5.040	
10,400.0	7,330.0	10,214.3	7,119.0	57.7	57.9	61.06	3,011.5	1,235.2	485.7	386.3	99.35	4.888	
10,500.0	7,330.0	10,314.3	7,119.0	59.4	59.6	61.06	3,111.5	1,235.2	485.6	383.3	102.35	4.745	
10,600.0	7,330.0	10,414.3	7,119.0	61.1	61.3	61.06	3,211.5	1,235.2	485.6	380.3	105.35	4.610	
10,700.0	7,330.0	10,514.3	7,119.0	62.7	63.0	61.06	3,311.5	1,235.2	485.6	377.3	108.35	4.482	
10,800.0	7,330.0	10,614.3	7,119.0	64.4	64.6	61.06	3,411.5	1,235.2	485.6	374.3	111.36	4.361	
10,900.0	7,330.0	10,714.3	7,119.0	66.1	66.3	61.06	3,511.5	1,235.2	485.6	371.3	114.37	4.246	
11,000.0	7,330.0	10,814.3	7,119.0	67.8	68.0	61.06	3,611.5	1,235.2	485.6	368.2	117.38	4.137	
11,100.0	7,330.0	10,914.3	7,119.0	69.5	69.7	61.06	3,711.5	1,235.2	485.6	365.2	120.40	4.033	
11,200.0	7,330.0	11,014.3	7,119.0	71.1	71.4	61.06	3,811.5	1,235.1	485.6	362.2	123.42	3.935	
11,300.0	7,330.0	11,114.3	7,119.0	72.8	73.1	61.06	3,911.5	1,235.1	485.6	359.1	126.44	3.840	
11,400.0	7,330.0	11,214.3	7,119.0	74.5	74.8	61.06	4,011.5	1,235.1	485.6	356.1	129.47	3.751	
11,500.0	7,330.0	11,314.3	7,119.0	76.2	76.5	61.06	4,111.5	1,235.1	485.6	353.1	132.49	3.665	
11,600.0	7,330.0	11,414.3	7,119.0	77.9	78.2	61.06	4,211.5	1,235.1	485.6	350.0	135.52	3.583	
11,700.0	7,330.0	11,514.3	7,119.0	79.6	79.9	61.05	4,311.5	1,235.1	485.6	347.0	138.55	3.504	
11,800.0	7,330.0	11,614.3	7,119.0	81.3	81.6	61.05	4,411.5	1,235.1	485.6	344.0	141.59	3.429	
11,900.0	7,330.0	11,714.3	7,119.0	83.0	83.3	61.05	4,511.5	1,235.1	485.5	340.9	144.62	3.357	
12,000.0	7,330.0	11,814.3	7,119.0	84.7	85.0	61.05	4,611.5	1,235.1	485.5	337.9	147.66	3.288	
12,100.0	7,330.0	11,914.3	7,119.0	86.5	86.7	61.05	4,711.5	1,235.1	485.5	334.8	150.70	3.222	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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
12,200.0	7,330.0	12,014.3	7,119.0	88.2	88.5	61.05	4,811.5	1,235.1	485.5	331.8	153.74	3.158	
12,300.0	7,330.0	12,114.3	7,119.0	89.9	90.2	61.05	4,911.5	1,235.1	485.5	328.7	156.78	3.097	
12,400.0	7,330.0	12,214.3	7,119.0	91.6	91.9	61.05	5,011.5	1,235.1	485.5	325.7	159.82	3.038	
12,500.0	7,330.0	12,314.3	7,119.0	93.3	93.6	61.05	5,111.5	1,235.0	485.5	322.6	162.86	2.981	
12,600.0	7,330.0	12,414.3	7,119.0	95.0	95.3	61.05	5,211.5	1,235.0	485.5	319.6	165.91	2.926	
12,700.0	7,330.0	12,514.3	7,119.0	96.7	97.1	61.05	5,311.5	1,235.0	485.5	316.5	168.96	2.873	
12,800.0	7,330.0	12,614.3	7,119.0	98.5	98.8	61.05	5,411.5	1,235.0	485.5	313.5	172.00	2.823	
12,900.0	7,330.0	12,714.3	7,119.0	100.2	100.5	61.05	5,511.5	1,235.0	485.5	310.4	175.05	2.773	
13,000.0	7,330.0	12,814.3	7,119.0	101.9	102.2	61.05	5,611.5	1,235.0	485.5	307.4	178.10	2.726	
13,100.0	7,330.0	12,914.3	7,119.0	103.6	104.0	61.05	5,711.5	1,235.0	485.5	304.3	181.15	2.680	
13,200.0	7,330.0	13,014.3	7,119.0	105.4	105.7	61.05	5,811.5	1,235.0	485.5	301.3	184.20	2.636	
13,300.0	7,330.0	13,114.3	7,119.0	107.1	107.4	61.05	5,911.5	1,235.0	485.4	298.2	187.25	2.593	
13,400.0	7,330.0	13,214.3	7,119.0	108.8	109.1	61.05	6,011.5	1,235.0	485.4	295.1	190.30	2.551	
13,500.0	7,330.0	13,314.3	7,119.0	110.5	110.9	61.05	6,111.5	1,235.0	485.4	292.1	193.35	2.511	
13,600.0	7,330.0	13,414.3	7,119.0	112.3	112.6	61.05	6,211.5	1,235.0	485.4	289.0	196.41	2.472	
13,700.0	7,330.0	13,514.3	7,119.0	114.0	114.3	61.05	6,311.5	1,234.9	485.4	286.0	199.46	2.434	
13,800.0	7,330.0	13,614.3	7,119.0	115.7	116.1	61.04	6,411.5	1,234.9	485.4	282.9	202.51	2.397	
13,900.0	7,330.0	13,714.3	7,119.0	117.5	117.8	61.04	6,511.5	1,234.9	485.4	279.8	205.57	2.361	
14,000.0	7,330.0	13,814.3	7,119.0	119.2	119.5	61.04	6,611.5	1,234.9	485.4	276.8	208.62	2.327	
14,100.0	7,330.0	13,914.3	7,119.0	120.9	121.3	61.04	6,711.5	1,234.9	485.4	273.7	211.68	2.293	
14,200.0	7,330.0	14,014.3	7,119.0	122.7	123.0	61.04	6,811.5	1,234.9	485.4	270.6	214.74	2.260	
14,300.0	7,330.0	14,114.3	7,119.0	124.4	124.7	61.04	6,911.5	1,234.9	485.4	267.6	217.79	2.229	
14,400.0	7,330.0	14,214.3	7,119.0	126.1	126.5	61.04	7,011.5	1,234.9	485.4	264.5	220.85	2.198	
14,500.0	7,330.0	14,314.3	7,119.0	127.9	128.2	61.04	7,111.5	1,234.9	485.4	261.5	223.91	2.168	
14,600.0	7,330.0	14,414.3	7,119.0	129.6	129.9	61.04	7,211.5	1,234.9	485.4	258.4	226.97	2.138	
14,700.0	7,330.0	14,514.3	7,119.0	131.3	131.7	61.04	7,311.5	1,234.9	485.3	255.3	230.03	2.110	
14,754.9	7,330.0	14,569.3	7,119.0	132.3	132.6	61.04	7,366.4	1,234.9	485.3	253.6	231.71	2.095	
14,776.3	7,330.0	14,586.9	7,119.0	132.6	132.9	61.04	7,384.1	1,234.9	485.4	253.1	232.30	2.089	ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2A-5H-E267 - 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	-89.95	0.0	-47.5	47.5				
100.0	100.0	99.0	99.0	0.1	0.1	-89.95	0.0	-47.5	47.5	47.3	0.24	195.409	
200.0	200.0	199.0	199.0	0.3	0.3	-89.95	0.0	-47.5	47.5	46.9	0.59	80.296	CC, ES
300.0	300.0	298.4	298.4	0.5	0.5	-89.27	0.6	-48.1	48.1	47.2	0.94	51.218	
400.0	400.0	397.7	397.6	0.6	0.6	164.18	2.3	-50.0	50.9	49.6	1.29	39.486	
500.0	500.0	496.7	496.6	0.8	0.8	167.63	5.2	-53.2	56.9	55.2	1.64	34.660	
600.0	599.9	595.8	595.5	1.0	1.0	171.37	9.1	-57.4	66.0	64.0	1.99	33.112	
700.0	699.7	695.1	694.6	1.2	1.2	174.42	13.1	-61.8	77.2	74.8	2.34	32.950	SF
800.0	799.4	794.2	793.5	1.4	1.4	176.75	17.1	-66.2	90.2	87.6	2.69	33.560	
900.0	898.9	893.0	892.2	1.6	1.6	178.52	21.1	-70.5	105.2	102.1	3.03	34.658	
1,000.0	998.3	991.6	990.6	1.9	1.8	179.85	25.1	-74.9	121.9	118.5	3.38	36.082	
1,100.0	1,097.5	1,089.9	1,088.7	2.2	2.0	-179.14	29.1	-79.2	140.0	136.2	3.72	37.588	
1,200.0	1,196.6	1,188.2	1,186.9	2.4	2.2	-178.37	33.1	-83.6	158.2	154.1	4.07	38.852	
1,300.0	1,295.8	1,286.5	1,285.0	2.7	2.4	-177.76	37.0	-87.9	176.4	172.0	4.42	39.920	
1,400.0	1,395.0	1,384.8	1,383.1	3.0	2.6	-177.26	41.0	-92.3	194.6	189.9	4.77	40.835	
1,500.0	1,494.2	1,483.2	1,481.3	3.2	2.8	-176.84	45.0	-96.6	212.9	207.8	5.11	41.626	
1,600.0	1,593.4	1,581.5	1,579.4	3.5	3.0	-176.50	49.0	-101.0	231.2	225.7	5.46	42.318	
1,700.0	1,692.6	1,679.8	1,677.5	3.8	3.2	-176.20	52.9	-105.3	249.4	243.6	5.81	42.926	
1,800.0	1,791.8	1,778.1	1,775.7	4.1	3.4	-175.94	56.9	-109.6	267.7	261.6	6.16	43.466	
1,900.0	1,890.9	1,876.4	1,873.8	4.3	3.6	-175.72	60.9	-114.0	286.0	279.5	6.51	43.948	
2,000.0	1,990.1	1,974.7	1,971.9	4.6	3.8	-175.52	64.9	-118.3	304.3	297.4	6.86	44.382	
2,100.0	2,089.3	2,073.0	2,070.1	4.9	4.0	-175.35	68.8	-122.7	322.6	315.4	7.20	44.773	
2,200.0	2,188.5	2,171.3	2,168.2	5.2	4.2	-175.19	72.8	-127.0	340.9	333.3	7.55	45.128	
2,300.0	2,287.7	2,269.6	2,266.3	5.5	4.4	-175.05	76.8	-131.4	359.1	351.2	7.90	45.452	
2,400.0	2,386.9	2,367.9	2,364.5	5.7	4.6	-174.92	80.8	-135.7	377.4	369.2	8.25	45.748	
2,500.0	2,486.1	2,466.2	2,462.6	6.0	4.8	-174.81	84.7	-140.0	395.7	387.1	8.60	46.020	
2,600.0	2,585.2	2,564.6	2,560.7	6.3	5.0	-174.70	88.7	-144.4	414.0	405.1	8.95	46.271	
2,700.0	2,684.4	2,662.9	2,658.9	6.6	5.2	-174.61	92.7	-148.7	432.3	423.0	9.30	46.503	
2,800.0	2,783.6	2,761.2	2,757.0	6.9	5.4	-174.52	96.7	-153.1	450.6	441.0	9.65	46.718	
2,900.0	2,882.8	2,859.5	2,855.1	7.2	5.6	-174.44	100.6	-157.4	468.9	458.9	9.99	46.918	
3,000.0	2,982.0	2,957.8	2,953.2	7.4	5.8	-174.36	104.6	-161.8	487.2	476.9	10.34	47.105	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2B-5H-E267 - 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	-89.95	0.0	-27.9	28.0				
100.0	100.0	99.0	99.0	0.1	0.1	-89.95	0.0	-27.9	27.9	27.7	0.24	114.946	
200.0	200.0	199.0	199.0	0.3	0.3	-89.95	0.0	-27.9	27.9	27.4	0.59	47.233	
300.0	300.0	299.0	299.0	0.5	0.5	-89.95	0.0	-27.9	27.9	27.0	0.94	29.707	CC, ES
400.0	400.0	399.0	399.0	0.6	0.6	161.84	0.0	-27.9	28.8	27.5	1.29	22.310	
500.0	500.0	499.0	499.0	0.8	0.8	163.33	0.0	-27.9	31.3	29.6	1.64	19.084	
600.0	599.9	598.9	598.9	1.0	1.0	165.34	0.0	-27.9	35.5	33.5	1.99	17.849	
700.0	699.7	698.7	698.7	1.2	1.2	167.47	0.0	-27.9	41.4	39.1	2.34	17.729	SF
800.0	799.4	798.4	798.4	1.4	1.3	169.44	0.0	-27.9	49.1	46.4	2.68	18.301	
900.0	898.9	897.9	897.9	1.6	1.5	171.14	0.0	-27.9	58.5	55.5	3.03	19.330	
1,000.0	998.3	997.3	997.3	1.9	1.7	172.56	0.0	-27.9	69.8	66.4	3.37	20.678	
1,100.0	1,097.5	1,096.5	1,096.5	2.2	1.9	173.70	0.0	-27.9	82.3	78.6	3.72	22.131	
1,200.0	1,196.6	1,195.6	1,195.6	2.4	2.0	174.54	0.0	-27.9	95.0	90.9	4.07	23.357	
1,300.0	1,295.8	1,294.8	1,294.8	2.7	2.2	175.19	0.0	-27.9	107.7	103.3	4.41	24.394	
1,400.0	1,395.0	1,394.0	1,394.0	3.0	2.4	175.69	0.0	-27.9	120.4	115.6	4.76	25.282	
1,500.0	1,494.2	1,493.2	1,493.2	3.2	2.6	176.11	0.0	-27.9	133.1	128.0	5.11	26.052	
1,600.0	1,593.4	1,592.4	1,592.4	3.5	2.7	176.45	0.0	-27.9	145.8	140.3	5.46	26.724	
1,700.0	1,692.6	1,691.6	1,691.6	3.8	2.9	176.73	0.0	-27.9	158.5	152.7	5.80	27.317	
1,800.0	1,791.8	1,790.8	1,790.8	4.1	3.1	176.97	0.0	-27.9	171.2	165.1	6.15	27.843	
1,900.0	1,890.9	1,889.9	1,889.9	4.3	3.2	177.18	0.0	-27.9	183.9	177.4	6.50	28.314	
2,000.0	1,990.1	1,989.1	1,989.1	4.6	3.4	177.37	0.0	-27.9	196.7	189.8	6.84	28.737	
2,100.0	2,089.3	2,088.3	2,088.3	4.9	3.6	177.53	0.0	-27.9	209.4	202.2	7.19	29.120	
2,200.0	2,188.5	2,187.5	2,187.5	5.2	3.8	177.67	0.0	-27.9	222.1	214.6	7.54	29.468	
2,300.0	2,287.7	2,286.7	2,286.7	5.5	3.9	177.79	0.0	-27.9	234.8	226.9	7.88	29.785	
2,400.0	2,386.9	2,385.9	2,385.9	5.7	4.1	177.91	0.0	-27.9	247.6	239.3	8.23	30.075	
2,500.0	2,486.1	2,485.1	2,485.1	6.0	4.3	178.01	0.0	-27.9	260.3	251.7	8.58	30.342	
2,600.0	2,585.2	2,584.2	2,584.2	6.3	4.5	178.10	0.0	-27.9	273.0	264.1	8.93	30.589	
2,700.0	2,684.4	2,683.4	2,683.4	6.6	4.6	178.19	0.0	-27.9	285.7	276.5	9.27	30.817	
2,800.0	2,783.6	2,782.6	2,782.6	6.9	4.8	178.26	0.0	-27.9	298.5	288.9	9.62	31.029	
2,900.0	2,882.8	2,881.8	2,881.8	7.2	5.0	178.34	0.0	-27.9	311.2	301.2	9.97	31.226	
3,000.0	2,982.0	2,981.0	2,981.0	7.4	5.2	178.40	0.0	-27.9	323.9	313.6	10.31	31.409	
3,100.0	3,081.2	3,080.2	3,080.2	7.7	5.3	178.46	0.0	-27.9	336.7	326.0	10.66	31.581	
3,200.0	3,180.4	3,179.4	3,179.4	8.0	5.5	178.52	0.0	-27.9	349.4	338.4	11.01	31.742	
3,300.0	3,279.5	3,278.5	3,278.5	8.3	5.7	178.57	0.0	-27.9	362.1	350.8	11.35	31.893	
3,400.0	3,378.7	3,377.7	3,377.7	8.6	5.8	178.62	0.0	-27.9	374.9	363.2	11.70	32.036	
3,500.0	3,477.9	3,476.9	3,476.9	8.8	6.0	178.66	0.0	-27.9	387.6	375.6	12.05	32.170	
3,600.0	3,577.1	3,576.1	3,576.1	9.1	6.2	178.71	0.0	-27.9	400.3	387.9	12.40	32.296	
3,700.0	3,676.3	3,675.3	3,675.3	9.4	6.4	178.75	0.0	-27.9	413.1	400.3	12.74	32.416	
3,800.0	3,775.5	3,774.5	3,774.5	9.7	6.5	178.78	0.0	-27.9	425.8	412.7	13.09	32.529	
3,900.0	3,874.7	3,873.7	3,873.7	10.0	6.7	178.82	0.0	-27.9	438.5	425.1	13.44	32.637	
4,000.0	3,973.8	3,972.8	3,972.8	10.3	6.9	178.85	0.0	-27.9	451.3	437.5	13.78	32.739	
4,100.0	4,073.0	4,070.5	4,070.5	10.5	7.1	178.94	0.5	-27.9	464.1	450.0	14.13	32.851	
4,200.0	4,172.2	4,167.4	4,167.4	10.8	7.2	179.20	2.5	-27.9	477.4	462.9	14.47	32.992	
4,300.0	4,271.4	4,264.1	4,264.0	11.1	7.4	179.63	6.1	-27.7	491.2	476.4	14.81	33.157	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2C-5H-E267 - 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	CC, ES
400.0	400.0	400.0	400.0	0.6	0.6	163.03	0.0	-8.4	9.2	7.9	1.29	7.135	SF
500.0	500.0	500.0	500.0	0.8	0.8	166.76	0.0	-8.4	11.7	10.1	1.64	7.159	
600.0	599.9	600.0	600.0	1.0	1.0	172.69	0.5	-7.7	15.4	13.4	1.99	7.761	
700.0	699.7	700.1	700.1	1.2	1.2	-179.37	2.1	-5.6	20.0	17.6	2.34	8.538	
800.0	799.4	800.1	799.9	1.4	1.4	-171.36	4.8	-2.2	25.7	23.0	2.70	9.531	
900.0	898.9	899.9	899.6	1.6	1.5	-164.25	8.5	2.6	32.9	29.8	3.07	10.717	
1,000.0	998.3	999.4	998.9	1.9	1.7	-159.83	12.5	7.8	41.9	38.4	3.45	12.140	
1,100.0	1,097.5	1,098.9	1,098.1	2.2	1.9	-157.56	16.5	13.0	52.2	48.4	3.84	13.613	
1,200.0	1,196.6	1,198.3	1,197.4	2.4	2.1	-156.09	20.5	18.2	62.7	58.5	4.23	14.824	
1,300.0	1,295.8	1,297.8	1,296.6	2.7	2.3	-155.04	24.5	23.4	73.3	68.7	4.63	15.822	
1,400.0	1,395.0	1,397.2	1,395.8	3.0	2.5	-154.26	28.5	28.6	83.9	78.8	5.03	16.656	
1,500.0	1,494.2	1,496.6	1,495.0	3.2	2.7	-153.65	32.5	33.8	94.4	89.0	5.44	17.362	
1,600.0	1,593.4	1,596.1	1,594.2	3.5	2.9	-153.16	36.5	39.0	105.0	99.2	5.85	17.966	
1,700.0	1,692.6	1,695.5	1,693.4	3.8	3.2	-152.76	40.5	44.2	115.6	109.3	6.25	18.488	
1,800.0	1,791.8	1,794.9	1,792.7	4.1	3.4	-152.43	44.5	49.4	126.2	119.5	6.66	18.944	
1,900.0	1,890.9	1,894.4	1,891.9	4.3	3.6	-152.15	48.5	54.6	136.8	129.7	7.07	19.345	
2,000.0	1,990.1	1,993.8	1,991.1	4.6	3.8	-151.91	52.6	59.8	147.4	139.9	7.48	19.701	
2,100.0	2,089.3	2,093.2	2,090.3	4.9	4.0	-151.71	56.6	65.0	158.0	150.1	7.89	20.018	
2,200.0	2,188.5	2,192.7	2,189.5	5.2	4.2	-151.53	60.6	70.2	168.6	160.3	8.30	20.303	
2,300.0	2,287.7	2,292.1	2,288.8	5.5	4.4	-151.37	64.6	75.4	179.2	170.5	8.72	20.559	
2,400.0	2,386.9	2,391.5	2,388.0	5.7	4.6	-151.22	68.6	80.6	189.8	180.7	9.13	20.792	
2,500.0	2,486.1	2,491.0	2,487.2	6.0	4.8	-151.10	72.6	85.8	200.4	190.9	9.54	21.004	
2,600.0	2,585.2	2,590.4	2,586.4	6.3	5.0	-150.98	76.6	91.0	211.0	201.1	9.96	21.197	
2,700.0	2,684.4	2,689.8	2,685.6	6.6	5.2	-150.88	80.6	96.2	221.6	211.3	10.37	21.375	
2,800.0	2,783.6	2,789.3	2,784.8	6.9	5.4	-150.79	84.6	101.4	232.2	221.5	10.78	21.539	
2,900.0	2,882.8	2,888.7	2,884.1	7.2	5.6	-150.70	88.6	106.6	242.9	231.7	11.20	21.690	
3,000.0	2,982.0	2,988.2	2,983.3	7.4	5.8	-150.62	92.6	111.8	253.5	241.9	11.61	21.830	
3,100.0	3,081.2	3,087.6	3,082.5	7.7	6.0	-150.55	96.6	117.0	264.1	252.0	12.03	21.960	
3,200.0	3,180.4	3,187.0	3,181.7	8.0	6.2	-150.48	100.6	122.2	274.7	262.2	12.44	22.082	
3,300.0	3,279.5	3,286.5	3,280.9	8.3	6.5	-150.42	104.6	127.4	285.3	272.4	12.85	22.195	
3,400.0	3,378.7	3,385.9	3,380.2	8.6	6.7	-150.37	108.6	132.6	295.9	282.6	13.27	22.301	
3,500.0	3,477.9	3,485.3	3,479.4	8.8	6.9	-150.31	112.6	137.8	306.5	292.8	13.68	22.400	
3,600.0	3,577.1	3,584.8	3,578.6	9.1	7.1	-150.26	116.6	143.0	317.1	303.0	14.10	22.493	
3,700.0	3,676.3	3,684.2	3,677.8	9.4	7.3	-150.22	120.6	148.2	327.7	313.2	14.51	22.581	
3,800.0	3,775.5	3,783.6	3,777.0	9.7	7.5	-150.17	124.6	153.4	338.4	323.4	14.93	22.664	
3,900.0	3,874.7	3,883.1	3,876.2	10.0	7.7	-150.13	128.6	158.6	349.0	333.6	15.34	22.742	
4,000.0	3,973.8	3,982.5	3,975.5	10.3	7.9	-150.09	132.6	163.8	359.6	343.8	15.76	22.816	
4,100.0	4,073.0	4,081.9	4,074.7	10.5	8.1	-150.06	136.6	169.0	370.2	354.0	16.18	22.886	
4,200.0	4,172.2	4,181.4	4,173.9	10.8	8.3	-150.02	140.6	174.2	380.8	364.2	16.59	22.953	
4,300.0	4,271.4	4,280.8	4,273.1	11.1	8.5	-149.99	144.7	179.4	391.4	374.4	17.01	23.016	
4,400.0	4,370.6	4,380.2	4,372.3	11.4	8.7	-149.96	148.7	184.6	402.0	384.6	17.42	23.076	
4,500.0	4,469.8	4,479.7	4,471.6	11.7	8.9	-149.93	152.7	189.8	412.7	394.8	17.84	23.133	
4,600.0	4,569.0	4,579.1	4,570.8	12.0	9.1	-149.90	156.7	195.0	423.3	405.0	18.25	23.188	
4,700.0	4,668.1	4,678.5	4,670.0	12.2	9.4	-149.88	160.7	200.2	433.9	415.2	18.67	23.240	
4,800.0	4,767.3	4,778.0	4,769.2	12.5	9.6	-149.85	164.7	205.4	444.5	425.4	19.09	23.290	
4,900.0	4,866.5	4,877.4	4,868.4	12.8	9.8	-149.83	168.7	210.6	455.1	435.6	19.50	23.338	
5,000.0	4,965.7	4,976.9	4,967.6	13.1	10.0	-149.81	172.7	215.8	465.7	445.8	19.92	23.383	
5,100.0	5,064.9	5,076.3	5,066.9	13.4	10.2	-149.78	176.7	221.0	476.3	456.0	20.33	23.427	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2C-5H-E267 - 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	5,164.1	5,175.7	5,166.1	13.7	10.4	-149.76	180.7	226.2	487.0	466.2	20.75	23.469	
5,300.0	5,263.3	5,275.2	5,265.3	13.9	10.6	-149.74	184.7	231.4	497.6	476.4	21.17	23.509	
6,900.0	6,849.9	7,353.0	7,118.0	18.4	14.9	-128.91	-217.0	357.6	477.5	451.2	26.27	18.178	
7,000.0	6,946.2	7,348.7	7,117.1	18.6	14.9	-114.87	-212.8	357.3	440.8	414.2	26.57	16.589	
7,100.0	7,036.7	7,327.0	7,112.1	18.7	14.7	-107.11	-191.7	355.7	425.7	399.5	26.19	16.258	
7,115.9	7,050.4	7,322.6	7,111.0	18.7	14.7	-105.92	-187.5	355.4	425.4	399.3	26.10	16.300	
7,200.0	7,119.0	7,296.3	7,103.7	18.8	14.6	-99.30	-162.3	353.5	433.1	407.4	25.68	16.862	
7,300.0	7,190.3	7,260.5	7,092.0	18.9	14.4	-90.48	-128.6	350.8	459.3	433.8	25.46	18.038	
7,400.0	7,248.6	7,221.5	7,076.8	19.1	14.2	-81.01	-92.8	347.7	498.6	473.1	25.43	19.604	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2D-5H-E267 - 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	CC, ES
300.0	300.0	299.8	299.8	0.5	0.5	88.39	0.3	12.0	12.0	11.0	0.94	12.705	
400.0	400.0	399.6	399.5	0.6	0.7	-25.70	1.4	14.4	13.7	12.4	1.29	10.570	
500.0	500.0	499.3	499.1	0.8	0.8	-34.36	3.1	18.4	15.6	14.0	1.64	9.534	
600.0	599.9	598.9	598.6	1.0	1.0	-44.60	5.5	23.9	18.4	16.4	2.00	9.208	
700.0	699.7	698.4	697.8	1.2	1.3	-54.76	8.6	31.1	22.2	19.8	2.37	9.384	
800.0	799.4	797.9	796.8	1.4	1.5	-63.78	12.3	39.8	27.3	24.5	2.77	9.876	
900.0	898.9	897.7	896.1	1.6	1.7	-72.29	16.3	48.9	32.8	29.6	3.20	10.232	
1,000.0	998.3	997.3	995.3	1.9	2.0	-80.79	20.3	58.1	38.5	34.8	3.69	10.428	
1,100.0	1,097.5	1,097.0	1,094.4	2.2	2.2	-88.75	24.2	67.3	44.7	40.5	4.20	10.649	
1,200.0	1,196.6	1,196.6	1,193.5	2.4	2.4	-94.78	28.2	76.5	51.6	46.9	4.71	10.955	
1,300.0	1,295.8	1,296.3	1,292.7	2.7	2.7	-99.35	32.2	85.7	59.0	53.8	5.22	11.288	
1,400.0	1,395.0	1,395.9	1,391.8	3.0	2.9	-102.90	36.1	94.9	66.6	60.9	5.73	11.619	
1,500.0	1,494.2	1,495.5	1,490.9	3.2	3.2	-105.70	40.1	104.1	74.5	68.2	6.24	11.933	
1,600.0	1,593.4	1,595.1	1,590.0	3.5	3.4	-107.97	44.1	113.2	82.4	75.7	6.74	12.225	
1,700.0	1,692.6	1,694.8	1,689.2	3.8	3.6	-109.84	48.0	122.4	90.5	83.3	7.25	12.495	
1,800.0	1,791.8	1,794.4	1,788.3	4.1	3.9	-111.40	52.0	131.6	98.7	90.9	7.75	12.742	
1,900.0	1,890.9	1,894.0	1,887.4	4.3	4.1	-112.72	56.0	140.8	106.9	98.7	8.25	12.968	
2,000.0	1,990.1	1,993.7	1,986.6	4.6	4.4	-113.85	59.9	150.0	115.2	106.5	8.74	13.175	
2,100.0	2,089.3	2,093.3	2,085.7	4.9	4.6	-114.83	63.9	159.2	123.5	114.3	9.24	13.365	
2,200.0	2,188.5	2,192.9	2,184.8	5.2	4.9	-115.68	67.9	168.3	131.9	122.1	9.74	13.540	
2,300.0	2,287.7	2,292.6	2,283.9	5.5	5.1	-116.44	71.8	177.5	140.2	130.0	10.24	13.701	
2,400.0	2,386.9	2,392.2	2,383.1	5.7	5.4	-117.11	75.8	186.7	148.6	137.9	10.73	13.849	
2,500.0	2,486.1	2,491.8	2,482.2	6.0	5.6	-117.70	79.8	195.9	157.0	145.8	11.23	13.987	
2,600.0	2,585.2	2,591.5	2,581.3	6.3	5.9	-118.24	83.8	205.1	165.5	153.7	11.72	14.114	
2,700.0	2,684.4	2,691.1	2,680.5	6.6	6.1	-118.72	87.7	214.3	173.9	161.7	12.22	14.232	
2,800.0	2,783.6	2,790.7	2,779.6	6.9	6.4	-119.16	91.7	223.4	182.4	169.7	12.72	14.342	
2,900.0	2,882.8	2,890.4	2,878.7	7.2	6.6	-119.56	95.7	232.6	190.8	177.6	13.21	14.445	
3,000.0	2,982.0	2,990.0	2,977.9	7.4	6.8	-119.93	99.6	241.8	199.3	185.6	13.71	14.541	
3,100.0	3,081.2	3,089.6	3,077.0	7.7	7.1	-120.27	103.6	251.0	207.8	193.6	14.20	14.631	
3,200.0	3,180.4	3,189.3	3,176.1	8.0	7.3	-120.58	107.6	260.2	216.3	201.6	14.70	14.716	
3,300.0	3,279.5	3,288.9	3,275.2	8.3	7.6	-120.86	111.5	269.4	224.8	209.6	15.19	14.795	
3,400.0	3,378.7	3,388.5	3,374.4	8.6	7.8	-121.13	115.5	278.5	233.2	217.6	15.69	14.870	
3,500.0	3,477.9	3,488.2	3,473.5	8.8	8.1	-121.37	119.5	287.7	241.7	225.6	16.18	14.941	
3,600.0	3,577.1	3,587.8	3,572.6	9.1	8.3	-121.61	123.4	296.9	250.3	233.6	16.67	15.008	
3,700.0	3,676.3	3,687.4	3,671.8	9.4	8.6	-121.82	127.4	306.1	258.8	241.6	17.17	15.071	
3,800.0	3,775.5	3,787.1	3,770.9	9.7	8.8	-122.02	131.4	315.3	267.3	249.6	17.66	15.131	
3,900.0	3,874.7	3,886.7	3,870.0	10.0	9.1	-122.21	135.3	324.5	275.8	257.6	18.16	15.188	
4,000.0	3,973.8	3,986.3	3,969.1	10.3	9.3	-122.39	139.3	333.7	284.3	265.6	18.65	15.242	
4,100.0	4,073.0	4,086.0	4,068.3	10.5	9.6	-122.56	143.3	342.8	292.8	273.7	19.15	15.293	
4,200.0	4,172.2	4,185.6	4,167.4	10.8	9.8	-122.71	147.2	352.0	301.3	281.7	19.64	15.342	
4,300.0	4,271.4	4,285.2	4,266.5	11.1	10.0	-122.86	151.2	361.2	309.9	289.7	20.14	15.388	
4,400.0	4,370.6	4,384.9	4,365.7	11.4	10.3	-123.00	155.2	370.4	318.4	297.8	20.63	15.433	
4,500.0	4,469.8	4,484.5	4,464.8	11.7	10.5	-123.14	159.1	379.6	326.9	305.8	21.13	15.476	
4,600.0	4,569.0	4,584.1	4,563.9	12.0	10.8	-123.27	163.1	388.8	335.5	313.8	21.62	15.516	
4,700.0	4,668.1	4,683.8	4,663.0	12.2	11.0	-123.39	167.1	397.9	344.0	321.9	22.11	15.555	
4,800.0	4,767.3	4,783.4	4,762.2	12.5	11.3	-123.50	171.0	407.1	352.5	329.9	22.61	15.593	
4,900.0	4,866.5	4,883.0	4,861.3	12.8	11.5	-123.61	175.0	416.3	361.1	337.9	23.10	15.628	
5,000.0	4,965.7	4,982.7	4,960.4	13.1	11.8	-123.72	179.0	425.5	369.6	346.0	23.60	15.663	
5,100.0	5,064.9	5,082.3	5,059.6	13.4	12.0	-123.81	182.9	434.7	378.1	354.0	24.09	15.696	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 2D-5H-E267 - 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	5,164.1	5,181.9	5,158.7	13.7	12.3	-123.91	186.9	443.9	386.7	362.1	24.59	15.727	
5,300.0	5,263.3	5,281.6	5,257.8	13.9	12.5	-124.00	190.9	453.0	395.2	370.1	25.08	15.758	
5,400.0	5,362.4	5,381.2	5,357.0	14.2	12.8	-124.09	194.8	462.2	403.7	378.2	25.57	15.787	
5,500.0	5,461.6	5,480.8	5,456.1	14.5	13.0	-124.17	198.8	471.4	412.3	386.2	26.07	15.816	
5,600.0	5,560.8	5,580.5	5,555.2	14.8	13.3	-124.25	202.8	480.6	420.8	394.3	26.56	15.843	
5,700.0	5,660.0	5,680.1	5,654.3	15.1	13.5	-124.33	206.7	489.8	429.4	402.3	27.06	15.869	
5,800.0	5,759.2	5,779.7	5,753.5	15.4	13.7	-124.40	210.7	499.0	437.9	410.4	27.55	15.895	
5,900.0	5,858.4	5,879.4	5,852.6	15.6	14.0	-124.48	214.7	508.1	446.4	418.4	28.04	15.919	
6,000.0	5,957.6	5,979.0	5,951.7	15.9	14.2	-124.54	218.6	517.3	455.0	426.5	28.54	15.943	
6,100.0	6,056.7	6,078.6	6,050.9	16.2	14.5	-124.61	222.6	526.5	463.5	434.5	29.03	15.966	
6,200.0	6,155.9	6,178.3	6,150.0	16.5	14.7	-124.67	226.6	535.7	472.1	442.6	29.53	15.988	
6,300.0	6,255.1	6,277.9	6,249.1	16.8	15.0	-124.74	230.5	544.9	480.6	450.6	30.02	16.010	
6,400.0	6,354.3	6,377.5	6,348.2	17.1	15.2	-124.79	234.5	554.1	489.2	458.7	30.51	16.031	
6,500.0	6,453.5	6,477.2	6,447.4	17.3	15.5	-124.85	238.5	563.2	497.7	466.7	31.01	16.051	
6,900.0	6,849.9	7,310.5	7,211.9	18.4	16.8	-73.56	37.2	634.1	473.3	443.4	29.95	15.804	
7,000.0	6,946.2	7,421.1	7,272.2	18.6	17.0	-91.57	-55.1	639.7	385.9	360.7	25.23	15.294	
7,100.0	7,036.7	7,433.0	7,277.6	18.7	17.1	-107.04	-65.7	640.2	298.4	272.5	25.93	11.510	
7,200.0	7,119.0	7,415.3	7,269.6	18.8	17.0	-109.95	-50.0	639.4	221.7	195.7	26.06	8.510	
7,300.0	7,190.3	7,385.4	7,254.7	18.9	16.9	-104.16	-24.0	638.0	170.7	145.1	25.65	6.656	
7,358.9	7,226.3	7,364.6	7,243.6	19.0	16.9	-97.49	-6.5	637.0	161.5	135.9	25.66	6.296	SF
7,400.0	7,248.6	7,350.0	7,235.5	19.1	16.9	-91.90	5.6	636.3	165.9	140.2	25.73	6.447	
7,500.0	7,292.1	7,309.3	7,211.1	19.4	16.8	-74.95	38.1	634.0	205.2	179.5	25.64	8.002	
7,600.0	7,319.5	7,267.2	7,183.6	19.9	16.7	-58.75	69.8	631.5	265.0	240.9	24.08	11.005	
7,700.0	7,329.9	7,223.6	7,152.7	20.4	16.7	-46.25	100.5	628.6	330.0	308.4	21.58	15.292	
7,800.0	7,330.0	7,182.3	7,121.4	21.1	16.6	-41.49	127.3	625.7	397.9	376.8	21.15	18.812	
7,900.0	7,330.0	7,150.0	7,095.6	21.9	16.6	-38.57	146.6	623.3	472.2	451.0	21.21	22.270	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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
6,800.0	6,751.0	7,326.9	7,096.3	18.2	20.8	-27.38	-157.1	1,072.7	472.1	444.7	27.39	17.232	
6,900.0	6,849.9	7,366.4	7,108.3	18.4	21.0	50.74	-194.7	1,070.5	398.7	372.9	25.73	15.495	
7,000.0	6,946.2	7,369.2	7,109.0	18.6	21.0	76.51	-197.4	1,070.4	337.6	311.5	26.05	12.958	
7,100.0	7,036.7	7,353.7	7,104.7	18.7	20.9	84.00	-182.5	1,071.2	299.9	273.8	26.05	11.510	
7,168.0	7,093.8	7,337.0	7,099.6	18.7	20.9	83.97	-166.7	1,072.1	292.1	266.3	25.81	11.318	CC, ES, SF
7,200.0	7,119.0	7,328.0	7,096.7	18.8	20.8	82.94	-158.2	1,072.6	293.8	268.2	25.65	11.454	
7,300.0	7,190.3	7,300.0	7,086.7	18.9	20.7	77.16	-132.1	1,074.4	318.4	293.2	25.19	12.640	
7,400.0	7,248.6	7,260.5	7,070.4	19.1	20.6	66.92	-96.2	1,077.1	364.0	339.5	24.50	14.860	
7,500.0	7,292.1	7,222.2	7,052.4	19.4	20.5	56.44	-62.6	1,080.1	420.5	397.2	23.34	18.019	
7,600.0	7,319.5	7,182.2	7,031.2	19.9	20.4	46.91	-28.8	1,083.5	480.6	458.7	21.83	22.016	

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 2C-5H-E267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-Geist 2C-5H-E267	**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 @ 4866.0ft (Ensign)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Vogl-Geist 2C-5H-E267
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.37°