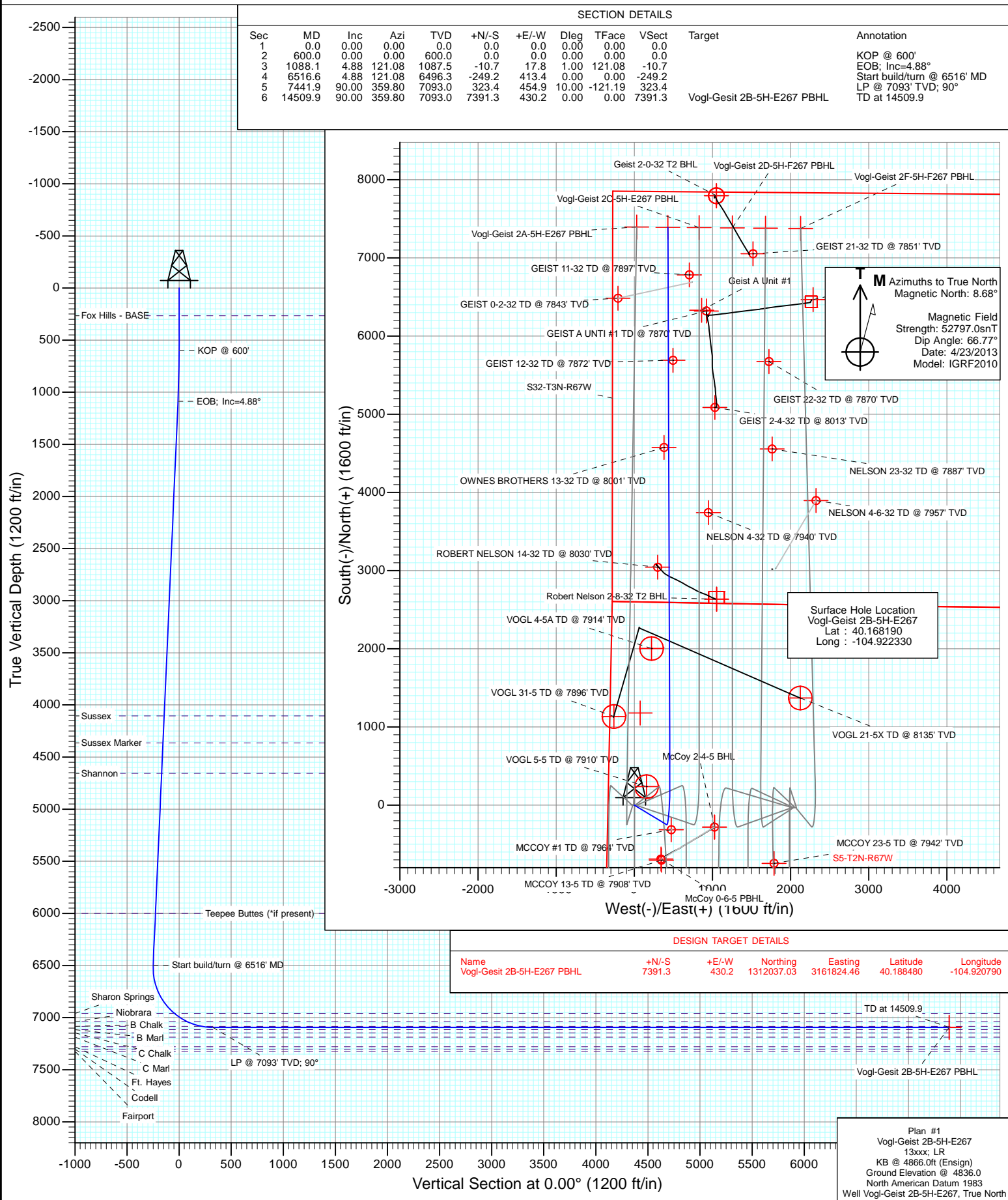




Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2B-5H-E267
Wellbore: Hz
Design: Plan #1



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 2B-5H-E267					
Well Position	+N/-S	0.0 ft	Northing:	1,304,643.05 ft	Latitude:	40.168190
	+E/-W	0.0 ft	Easting:	3,161,442.38 ft	Longitude:	-104.922330
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)
	IGRF2010	4/23/2013	8.68	66.77	52,797

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,088.1	4.88	121.08	1,087.5	-10.7	17.8	1.00	1.00	0.00	121.08	
6,516.6	4.88	121.08	6,496.3	-249.2	413.4	0.00	0.00	0.00	0.00	
7,441.9	90.00	359.80	7,093.0	323.4	454.9	10.00	9.20	-13.11	-121.19	
14,509.9	90.00	359.80	7,093.0	7,391.3	430.2	0.00	0.00	0.00	0.00	Vogl-Gesit 2B-5H-E267

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600'
700.0	1.00	121.08	700.0	-0.5	0.7	-0.5	1.00	1.00	
800.0	2.00	121.08	800.0	-1.8	3.0	-1.8	1.00	1.00	
900.0	3.00	121.08	899.9	-4.1	6.7	-4.1	1.00	1.00	
1,000.0	4.00	121.08	999.7	-7.2	12.0	-7.2	1.00	1.00	
1,088.1	4.88	121.08	1,087.5	-10.7	17.8	-10.7	1.00	1.00	EOB; Inc=4.88°
1,100.0	4.88	121.08	1,099.4	-11.2	18.7	-11.2	0.00	0.00	
1,200.0	4.88	121.08	1,199.0	-15.6	25.9	-15.6	0.00	0.00	
1,300.0	4.88	121.08	1,298.6	-20.0	33.2	-20.0	0.00	0.00	
1,400.0	4.88	121.08	1,398.3	-24.4	40.5	-24.4	0.00	0.00	
1,500.0	4.88	121.08	1,497.9	-28.8	47.8	-28.8	0.00	0.00	
1,600.0	4.88	121.08	1,597.6	-33.2	55.1	-33.2	0.00	0.00	
1,700.0	4.88	121.08	1,697.2	-37.6	62.4	-37.6	0.00	0.00	
1,800.0	4.88	121.08	1,796.8	-42.0	69.7	-42.0	0.00	0.00	
1,900.0	4.88	121.08	1,896.5	-46.4	77.0	-46.4	0.00	0.00	
2,000.0	4.88	121.08	1,996.1	-50.8	84.2	-50.8	0.00	0.00	
2,100.0	4.88	121.08	2,095.7	-55.2	91.5	-55.2	0.00	0.00	
2,200.0	4.88	121.08	2,195.4	-59.6	98.8	-59.6	0.00	0.00	
2,300.0	4.88	121.08	2,295.0	-64.0	106.1	-64.0	0.00	0.00	
2,400.0	4.88	121.08	2,394.7	-68.4	113.4	-68.4	0.00	0.00	
2,500.0	4.88	121.08	2,494.3	-72.7	120.7	-72.7	0.00	0.00	
2,600.0	4.88	121.08	2,593.9	-77.1	128.0	-77.1	0.00	0.00	
2,700.0	4.88	121.08	2,693.6	-81.5	135.3	-81.5	0.00	0.00	
2,800.0	4.88	121.08	2,793.2	-85.9	142.5	-85.9	0.00	0.00	
2,900.0	4.88	121.08	2,892.8	-90.3	149.8	-90.3	0.00	0.00	
3,000.0	4.88	121.08	2,992.5	-94.7	157.1	-94.7	0.00	0.00	
3,100.0	4.88	121.08	3,092.1	-99.1	164.4	-99.1	0.00	0.00	
3,200.0	4.88	121.08	3,191.8	-103.5	171.7	-103.5	0.00	0.00	
3,300.0	4.88	121.08	3,291.4	-107.9	179.0	-107.9	0.00	0.00	
3,400.0	4.88	121.08	3,391.0	-112.3	186.3	-112.3	0.00	0.00	
3,500.0	4.88	121.08	3,490.7	-116.7	193.6	-116.7	0.00	0.00	
3,600.0	4.88	121.08	3,590.3	-121.1	200.8	-121.1	0.00	0.00	
3,700.0	4.88	121.08	3,689.9	-125.5	208.1	-125.5	0.00	0.00	
3,800.0	4.88	121.08	3,789.6	-129.8	215.4	-129.8	0.00	0.00	
3,900.0	4.88	121.08	3,889.2	-134.2	222.7	-134.2	0.00	0.00	
4,000.0	4.88	121.08	3,988.9	-138.6	230.0	-138.6	0.00	0.00	
4,100.0	4.88	121.08	4,088.5	-143.0	237.3	-143.0	0.00	0.00	
4,116.6	4.88	121.08	4,105.0	-143.7	238.5	-143.7	0.00	0.00	Sussex
4,200.0	4.88	121.08	4,188.1	-147.4	244.6	-147.4	0.00	0.00	
4,300.0	4.88	121.08	4,287.8	-151.8	251.8	-151.8	0.00	0.00	
4,376.5	4.88	121.08	4,364.0	-155.2	257.4	-155.2	0.00	0.00	Sussex Marker
4,400.0	4.88	121.08	4,387.4	-156.2	259.1	-156.2	0.00	0.00	
4,500.0	4.88	121.08	4,487.0	-160.6	266.4	-160.6	0.00	0.00	
4,600.0	4.88	121.08	4,586.7	-165.0	273.7	-165.0	0.00	0.00	
4,669.6	4.88	121.08	4,656.0	-168.0	278.8	-168.0	0.00	0.00	Shannon

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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
4,700.0	4.88	121.08	4,686.3	-169.4	281.0	-169.4	0.00	0.00	
4,800.0	4.88	121.08	4,785.9	-173.8	288.3	-173.8	0.00	0.00	
4,900.0	4.88	121.08	4,885.6	-178.2	295.6	-178.2	0.00	0.00	
5,000.0	4.88	121.08	4,985.2	-182.6	302.9	-182.6	0.00	0.00	
5,100.0	4.88	121.08	5,084.9	-186.9	310.1	-186.9	0.00	0.00	
5,200.0	4.88	121.08	5,184.5	-191.3	317.4	-191.3	0.00	0.00	
5,300.0	4.88	121.08	5,284.1	-195.7	324.7	-195.7	0.00	0.00	
5,400.0	4.88	121.08	5,383.8	-200.1	332.0	-200.1	0.00	0.00	
5,500.0	4.88	121.08	5,483.4	-204.5	339.3	-204.5	0.00	0.00	
5,600.0	4.88	121.08	5,583.0	-208.9	346.6	-208.9	0.00	0.00	
5,700.0	4.88	121.08	5,682.7	-213.3	353.9	-213.3	0.00	0.00	
5,800.0	4.88	121.08	5,782.3	-217.7	361.2	-217.7	0.00	0.00	
5,900.0	4.88	121.08	5,882.0	-222.1	368.4	-222.1	0.00	0.00	
6,000.0	4.88	121.08	5,981.6	-226.5	375.7	-226.5	0.00	0.00	
6,018.5	4.88	121.08	6,000.0	-227.3	377.1	-227.3	0.00	0.00	Teepee Buttes (*if present)
6,100.0	4.88	121.08	6,081.2	-230.9	383.0	-230.9	0.00	0.00	
6,200.0	4.88	121.08	6,180.9	-235.3	390.3	-235.3	0.00	0.00	
6,300.0	4.88	121.08	6,280.5	-239.7	397.6	-239.7	0.00	0.00	
6,400.0	4.88	121.08	6,380.1	-244.0	404.9	-244.0	0.00	0.00	
6,500.0	4.88	121.08	6,479.8	-248.4	412.2	-248.4	0.00	0.00	
6,516.6	4.88	121.08	6,496.3	-249.2	413.4	-249.2	0.00	0.00	Start build/turn @ 6516' MD
6,600.0	7.15	35.38	6,579.4	-246.8	419.4	-246.8	10.00	2.72	
6,700.0	16.34	14.22	6,677.2	-228.0	426.5	-228.0	10.00	9.19	
6,800.0	26.12	8.36	6,770.3	-192.5	433.2	-192.5	10.00	9.78	
6,900.0	36.02	5.56	6,855.9	-141.3	439.2	-141.3	10.00	9.90	
7,000.0	45.96	3.85	6,931.3	-76.0	444.5	-76.0	10.00	9.94	
7,039.9	49.92	3.32	6,958.0	-46.5	446.4	-46.5	10.00	9.95	Sharon Springs
7,100.0	55.91	2.63	6,994.2	1.4	448.8	1.4	10.00	9.96	
7,193.2	65.20	1.73	7,040.0	82.4	451.9	82.4	10.00	9.96	Niobrara
7,200.0	65.88	1.67	7,042.8	88.6	452.1	88.6	10.00	9.97	
7,300.0	75.85	0.85	7,075.6	182.9	454.1	182.9	10.00	9.97	
7,334.6	79.29	0.59	7,083.0	216.7	454.6	216.7	10.00	9.97	B Chalk
7,345.7	80.40	0.51	7,085.0	227.6	454.7	227.6	10.00	9.97	7"
7,400.0	85.82	0.11	7,091.5	281.5	455.0	281.5	10.00	9.97	
7,441.9	90.00	359.80	7,093.0	323.4	454.9	323.4	10.00	9.97	LP @ 7093' TVD; 90°
7,500.0	90.00	359.80	7,093.0	381.5	454.7	381.5	0.00	0.00	
7,600.0	90.00	359.80	7,093.0	481.5	454.4	481.5	0.00	0.00	
7,700.0	90.00	359.80	7,093.0	581.5	454.0	581.5	0.00	0.00	
7,800.0	90.00	359.80	7,093.0	681.5	453.7	681.5	0.00	0.00	
7,900.0	90.00	359.80	7,093.0	781.5	453.3	781.5	0.00	0.00	
8,000.0	90.00	359.80	7,093.0	881.5	453.0	881.5	0.00	0.00	
8,100.0	90.00	359.80	7,093.0	981.5	452.6	981.5	0.00	0.00	
8,200.0	90.00	359.80	7,093.0	1,081.5	452.3	1,081.5	0.00	0.00	
8,300.0	90.00	359.80	7,093.0	1,181.5	451.9	1,181.5	0.00	0.00	
8,400.0	90.00	359.80	7,093.0	1,281.5	451.6	1,281.5	0.00	0.00	
8,500.0	90.00	359.80	7,093.0	1,381.5	451.2	1,381.5	0.00	0.00	
8,600.0	90.00	359.80	7,093.0	1,481.5	450.9	1,481.5	0.00	0.00	
8,700.0	90.00	359.80	7,093.0	1,581.5	450.5	1,581.5	0.00	0.00	
8,800.0	90.00	359.80	7,093.0	1,681.5	450.2	1,681.5	0.00	0.00	
8,900.0	90.00	359.80	7,093.0	1,781.5	449.8	1,781.5	0.00	0.00	
9,000.0	90.00	359.80	7,093.0	1,881.5	449.5	1,881.5	0.00	0.00	
9,100.0	90.00	359.80	7,093.0	1,981.5	449.1	1,981.5	0.00	0.00	

Cathedral Energy Services

Planning Report

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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 2B-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
9,200.0	90.00	359.80	7,093.0	2,081.5	448.8	2,081.5	0.00	0.00	
9,300.0	90.00	359.80	7,093.0	2,181.5	448.4	2,181.5	0.00	0.00	
9,400.0	90.00	359.80	7,093.0	2,281.5	448.1	2,281.5	0.00	0.00	
9,500.0	90.00	359.80	7,093.0	2,381.5	447.7	2,381.5	0.00	0.00	
9,600.0	90.00	359.80	7,093.0	2,481.5	447.4	2,481.5	0.00	0.00	
9,700.0	90.00	359.80	7,093.0	2,581.5	447.0	2,581.5	0.00	0.00	
9,800.0	90.00	359.80	7,093.0	2,681.5	446.7	2,681.5	0.00	0.00	
9,900.0	90.00	359.80	7,093.0	2,781.5	446.3	2,781.5	0.00	0.00	
10,000.0	90.00	359.80	7,093.0	2,881.5	446.0	2,881.5	0.00	0.00	
10,100.0	90.00	359.80	7,093.0	2,981.5	445.6	2,981.5	0.00	0.00	
10,200.0	90.00	359.80	7,093.0	3,081.5	445.3	3,081.5	0.00	0.00	
10,300.0	90.00	359.80	7,093.0	3,181.4	444.9	3,181.4	0.00	0.00	
10,400.0	90.00	359.80	7,093.0	3,281.4	444.6	3,281.4	0.00	0.00	
10,500.0	90.00	359.80	7,093.0	3,381.4	444.2	3,381.4	0.00	0.00	
10,600.0	90.00	359.80	7,093.0	3,481.4	443.9	3,481.4	0.00	0.00	
10,700.0	90.00	359.80	7,093.0	3,581.4	443.5	3,581.4	0.00	0.00	
10,800.0	90.00	359.80	7,093.0	3,681.4	443.2	3,681.4	0.00	0.00	
10,900.0	90.00	359.80	7,093.0	3,781.4	442.8	3,781.4	0.00	0.00	
11,000.0	90.00	359.80	7,093.0	3,881.4	442.5	3,881.4	0.00	0.00	
11,100.0	90.00	359.80	7,093.0	3,981.4	442.1	3,981.4	0.00	0.00	
11,200.0	90.00	359.80	7,093.0	4,081.4	441.8	4,081.4	0.00	0.00	
11,300.0	90.00	359.80	7,093.0	4,181.4	441.4	4,181.4	0.00	0.00	
11,400.0	90.00	359.80	7,093.0	4,281.4	441.1	4,281.4	0.00	0.00	
11,500.0	90.00	359.80	7,093.0	4,381.4	440.8	4,381.4	0.00	0.00	
11,600.0	90.00	359.80	7,093.0	4,481.4	440.4	4,481.4	0.00	0.00	
11,700.0	90.00	359.80	7,093.0	4,581.4	440.1	4,581.4	0.00	0.00	
11,800.0	90.00	359.80	7,093.0	4,681.4	439.7	4,681.4	0.00	0.00	
11,900.0	90.00	359.80	7,093.0	4,781.4	439.4	4,781.4	0.00	0.00	
12,000.0	90.00	359.80	7,093.0	4,881.4	439.0	4,881.4	0.00	0.00	
12,100.0	90.00	359.80	7,093.0	4,981.4	438.7	4,981.4	0.00	0.00	
12,200.0	90.00	359.80	7,093.0	5,081.4	438.3	5,081.4	0.00	0.00	
12,300.0	90.00	359.80	7,093.0	5,181.4	438.0	5,181.4	0.00	0.00	
12,400.0	90.00	359.80	7,093.0	5,281.4	437.6	5,281.4	0.00	0.00	
12,500.0	90.00	359.80	7,093.0	5,381.4	437.3	5,381.4	0.00	0.00	
12,600.0	90.00	359.80	7,093.0	5,481.4	436.9	5,481.4	0.00	0.00	
12,700.0	90.00	359.80	7,093.0	5,581.4	436.6	5,581.4	0.00	0.00	
12,800.0	90.00	359.80	7,093.0	5,681.4	436.2	5,681.4	0.00	0.00	
12,900.0	90.00	359.80	7,093.0	5,781.4	435.9	5,781.4	0.00	0.00	
13,000.0	90.00	359.80	7,093.0	5,881.4	435.5	5,881.4	0.00	0.00	
13,100.0	90.00	359.80	7,093.0	5,981.4	435.2	5,981.4	0.00	0.00	
13,200.0	90.00	359.80	7,093.0	6,081.4	434.8	6,081.4	0.00	0.00	
13,300.0	90.00	359.80	7,093.0	6,181.4	434.5	6,181.4	0.00	0.00	
13,400.0	90.00	359.80	7,093.0	6,281.4	434.1	6,281.4	0.00	0.00	
13,500.0	90.00	359.80	7,093.0	6,381.4	433.8	6,381.4	0.00	0.00	
13,600.0	90.00	359.80	7,093.0	6,481.4	433.4	6,481.4	0.00	0.00	
13,700.0	90.00	359.80	7,093.0	6,581.4	433.1	6,581.4	0.00	0.00	
13,800.0	90.00	359.80	7,093.0	6,681.4	432.7	6,681.4	0.00	0.00	
13,900.0	90.00	359.80	7,093.0	6,781.4	432.4	6,781.4	0.00	0.00	
14,000.0	90.00	359.80	7,093.0	6,881.4	432.0	6,881.4	0.00	0.00	
14,100.0	90.00	359.80	7,093.0	6,981.4	431.7	6,981.4	0.00	0.00	
14,200.0	90.00	359.80	7,093.0	7,081.4	431.3	7,081.4	0.00	0.00	
14,300.0	90.00	359.80	7,093.0	7,181.4	431.0	7,181.4	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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
14,400.0	90.00	359.80	7,093.0	7,281.4	430.6	7,281.4	0.00	0.00	
14,500.0	90.00	359.80	7,093.0	7,381.4	430.3	7,381.4	0.00	0.00	
14,509.9	90.00	359.80	7,093.0	7,391.3	430.2	7,391.3	0.00	0.00	TD at 14509.9 - Vogl-Gesit 2B-5H-E267 PBHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Vogl-Gesit 2B-5H-E267	0.00	0.00	7,093.0	7,391.3	430.2	1,312,037.03	3,161,824.46	40.188480	-104.920790
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
7,345.7	7,085.0	7"	0.000	0.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
266.0	266.0	Fox Hills - BASE			
4,116.6	4,105.0	Sussex			
4,376.5	4,364.0	Sussex Marker			
4,669.6	4,656.0	Shannon			
6,018.5	6,000.0	Teepee Buttes (*if present)			
7,039.9	6,958.0	Sharon Springs			
7,193.2	7,040.0	Niobrara			
7,334.6	7,083.0	B Chalk			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP @ 600'
1,088.1	1,087.5	-10.7	17.8	EOB; Inc=4.88°
6,516.6	6,496.3	-249.2	413.4	Start build/turn @ 6516' MD
7,441.9	7,093.0	323.4	454.9	LP @ 7093' TVD; 90°
14,509.9	7,093.0	7,391.3	430.2	TD at 14509.9

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S5-T2N-R67W (Vogl-McCoy)

Vogl-Geist 2B-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 2B-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 2B-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	14,513.0	Plan #1 (Hz)	MWD	Geolink MWD

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
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	13,901.3	7,029.0	272.0	138.5	2.038	CC, ES, SF
GEIST 12-32 (EXISTING) - ENCANA WELL - NO SURVE	12,809.2	7,035.0	59.5	-55.0	0.520	Level 1, CC, ES, SF
GEIST 2-0-32 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
GEIST 21-32 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVE						Out of range
GEIST 2-4-32 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
GEIST A UNIT #1 (EXISTING) - ENCANA WELL - SURV	13,438.3	7,027.0	488.3	362.9	3.894	CC, ES
GEIST A UNIT #1 (EXISTING) - ENCANA WELL - SURV	13,500.0	7,027.0	492.2	365.7	3.892	SF
MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEY	6,600.0	6,592.4	86.2	62.9	3.698	CC, ES, SF
MCCOY 0-6-5 (EXISTING) - ENCANA WELL - NO SURV	6,527.2	6,599.0	445.4	420.1	17.585	CC, ES, SF
MCCOY 13-5 (EXISTING) - ENCANA WELL - NO SURV	6,528.4	6,499.1	459.6	434.5	18.290	CC, ES, SF
MCCOY 14-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 23-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 24-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - Plan #1						Out of range
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
McCoy 3A-5H - Hz - Plan #1	5,913.0	5,946.9	305.2	280.6	12.433	CC, ES
McCoy 3A-5H - Hz - Plan #1	6,000.0	6,025.6	307.4	282.5	12.324	SF
McCoy 3B-5H - Hz - Plan #1	6,218.7	6,237.1	242.6	218.8	10.170	CC, ES
McCoy 3B-5H - Hz - Plan #1	6,300.0	6,313.4	244.2	219.9	10.048	SF
NELSON 23-32 (EXISTING) - ENCANA WELL - NO SUR						Out of range
NELSON 4-32 (EXISTING) - ENCANA WELL - NO SURV						Out of range
NELSON 4-32 (EXISTING) - ENCANA WELL - NO SURV						Out of range
NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN O						Out of range
OWNES BROTHERS 13-32 (EXISTING) - ENCANA WE	11,693.8	7,030.0	59.5	-35.5	0.626	Level 1, CC, ES, SF
PROMINENCE 4-8 (EXISTING) - KMG WELL - NO SUR						Out of range
ROBERT NELSON 14-32 (EXISTING) - ENCANA WELL	10,162.3	7,033.0	146.4	77.8	2.134	CC, ES, SF
ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL						Out of range
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL						Out of range
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL						Out of range
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL						Out of range
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	9,122.9	7,057.0	228.3	177.2	4.470	CC, ES, SF
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	967.5	941.2	283.6	280.3	85.922	CC
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	7,352.6	7,060.1	298.2	272.3	11.513	ES
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	7,400.0	7,065.5	301.8	275.5	11.498	SF
VOGL 5-8A (EXISTING) - KMG WELL - NO SURVEYS						Out of range
Vogl-Geist 2A-5H-E267 - Hz - Plan #1	400.0	400.0	19.6	18.3	15.147	CC, ES

CC - Min centre to center distance or convergent 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 2B-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 2B-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		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
S5-T2N-R67W (Vogl-McCoy)						
Vogl-Geist 2A-5H-E267 - Hz - Plan #1	14,510.9	14,716.5	455.6	223.0	1.959	SF
Vogl-Geist 2C-5H-E267 - Hz - Plan #1	300.0	300.0	19.6	18.6	20.756	CC, ES
Vogl-Geist 2C-5H-E267 - Hz - Plan #1	14,510.9	14,776.3	464.5	236.5	2.037	SF
Vogl-Geist 2D-5H-F267 - Hz - Plan #1						Out of range
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	27.9	27.4	47.233	CC, ES
Vogl-McCoy 2A-5H-E267 - Hz - Plan #1	700.0	697.0	45.2	42.9	19.298	SF
Vogl-McCoy 2B-5H-E267 - Hz - Plan #1	600.0	599.0	8.4	6.4	4.217	CC, ES
Vogl-McCoy 2B-5H-E267 - Hz - Plan #1	700.0	699.0	9.1	6.8	3.912	SF
Vogl-McCoy 2C-5H-E267 - Hz - Plan #1	500.0	500.0	11.2	9.5	6.814	CC, ES
Vogl-McCoy 2C-5H-E267 - Hz - Plan #1	7,116.4	7,097.3	92.6	67.9	3.748	SF
Vogl-McCoy 2D-5H-E267 - Hz - Plan #1	200.0	200.0	30.7	30.1	51.804	CC, ES
Vogl-McCoy 2D-5H-E267 - Hz - Plan #1	7,287.4	7,102.7	186.0	160.2	7.220	SF
Vogl-McCoy 2E-5H-F267 - Hz - Plan #1						Out of range
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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
13,500.0	7,093.0	7,029.0	7,029.0	114.5	12.3	90.00	6,783.7	704.3	484.8	358.3	126.47	3.833		
13,600.0	7,093.0	7,029.0	7,029.0	116.2	12.3	90.00	6,783.7	704.3	405.9	277.7	128.21	3.166		
13,700.0	7,093.0	7,029.0	7,029.0	118.0	12.3	90.00	6,783.7	704.3	338.4	208.4	129.95	2.604		
13,800.0	7,093.0	7,029.0	7,029.0	119.7	12.3	90.00	6,783.7	704.3	290.2	158.5	131.70	2.204		
13,900.0	7,093.0	7,029.0	7,029.0	121.4	12.3	90.00	6,783.7	704.3	272.0	138.5	133.44	2.038		
13,901.3	7,093.0	7,029.0	7,029.0	121.5	12.3	90.00	6,783.7	704.3	272.0	138.5	133.47	2.038	CC, ES, SF	
14,000.0	7,093.0	7,029.0	7,029.0	123.2	12.3	90.00	6,783.7	704.3	289.3	154.1	135.19	2.140		
14,100.0	7,093.0	7,029.0	7,029.0	124.9	12.3	90.00	6,783.7	704.3	336.8	199.9	136.93	2.460		
14,200.0	7,093.0	7,029.0	7,029.0	126.7	12.3	90.00	6,783.7	704.3	403.9	265.3	138.68	2.913		
14,300.0	7,093.0	7,029.0	7,029.0	128.4	12.3	90.00	6,783.7	704.3	482.6	342.2	140.43	3.437		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
12,400.0	7,093.0	7,035.0	7,035.0	95.4	12.3	90.00	5,690.9	495.7	413.5	306.2	107.32	3.853	
12,500.0	7,093.0	7,035.0	7,035.0	97.1	12.3	90.00	5,690.9	495.7	314.9	205.8	109.06	2.887	
12,600.0	7,093.0	7,035.0	7,035.0	98.8	12.3	90.00	5,690.9	495.7	217.5	106.7	110.80	1.963	
12,700.0	7,093.0	7,035.0	7,035.0	100.6	12.3	90.00	5,690.9	495.7	124.4	11.8	112.54	1.105	Level 2
12,800.0	7,093.0	7,035.0	7,035.0	102.3	12.3	90.00	5,690.9	495.7	60.2	-54.1	114.28	0.527	Level 1
12,809.2	7,093.0	7,035.0	7,035.0	102.5	12.3	90.00	5,690.9	495.7	59.5	-55.0	114.44	0.520	Level 1, CC, ES, SF
12,900.0	7,093.0	7,035.0	7,035.0	104.1	12.3	90.00	5,690.9	495.7	108.5	-7.5	116.02	0.935	Level 1
13,000.0	7,093.0	7,035.0	7,035.0	105.8	12.3	90.00	5,690.9	495.7	199.8	82.1	117.76	1.697	
13,100.0	7,093.0	7,035.0	7,035.0	107.5	12.3	90.00	5,690.9	495.7	296.8	177.3	119.50	2.484	
13,200.0	7,093.0	7,035.0	7,035.0	109.3	12.3	90.00	5,690.9	495.7	395.3	274.0	121.25	3.260	
13,300.0	7,093.0	7,035.0	7,035.0	111.0	12.3	90.00	5,690.9	495.7	494.4	371.4	122.99	4.020	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
13,400.0	7,093.0	7,027.0	7,027.0	112.7	12.3	90.00	6,321.4	922.3	489.8	365.1	124.72	3.927			
13,438.3	7,093.0	7,027.0	7,027.0	113.4	12.3	90.00	6,321.4	922.3	488.3	362.9	125.39	3.894	CC, ES		
13,500.0	7,093.0	7,027.0	7,027.0	114.5	12.3	90.00	6,321.4	922.3	492.2	365.7	126.46	3.892	SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
1,700.0	1,697.2	1,710.2	1,710.2	3.2	3.0	2.85	-314.0	473.4	495.3	489.4	5.87	84.314		
1,800.0	1,796.8	1,809.8	1,809.8	3.4	3.1	2.90	-314.0	473.4	486.8	480.6	6.22	78.228		
1,900.0	1,896.5	1,909.5	1,909.5	3.7	3.3	2.95	-314.0	473.4	478.3	471.7	6.57	72.788		
2,000.0	1,996.1	2,009.1	2,009.1	3.9	3.5	3.00	-314.0	473.4	469.8	462.9	6.92	67.895		
2,100.0	2,095.7	2,108.7	2,108.7	4.1	3.7	3.06	-314.0	473.4	461.3	454.1	7.27	63.471		
2,200.0	2,195.4	2,208.4	2,208.4	4.3	3.8	3.12	-314.0	473.4	452.8	445.2	7.62	59.452		
2,300.0	2,295.0	2,308.0	2,308.0	4.6	4.0	3.17	-314.0	473.4	444.3	436.4	7.97	55.785		
2,400.0	2,394.7	2,407.7	2,407.7	4.8	4.2	3.24	-314.0	473.4	435.8	427.5	8.31	52.425		
2,500.0	2,494.3	2,507.3	2,507.3	5.0	4.4	3.30	-314.0	473.4	427.3	418.7	8.66	49.335		
2,600.0	2,593.9	2,606.9	2,606.9	5.2	4.5	3.37	-314.0	473.4	418.9	409.8	9.01	46.484		
2,700.0	2,693.6	2,706.6	2,706.6	5.5	4.7	3.44	-314.0	473.4	410.4	401.0	9.36	43.846		
2,800.0	2,793.2	2,806.2	2,806.2	5.7	4.9	3.51	-314.0	473.4	401.9	392.2	9.71	41.396		
2,900.0	2,892.8	2,905.8	2,905.8	5.9	5.1	3.59	-314.0	473.4	393.4	383.3	10.06	39.117		
3,000.0	2,992.5	3,005.5	3,005.5	6.1	5.2	3.67	-314.0	473.4	384.9	374.5	10.40	36.990		
3,100.0	3,092.1	3,105.1	3,105.1	6.4	5.4	3.75	-314.0	473.4	376.4	365.6	10.75	35.002		
3,200.0	3,191.8	3,204.8	3,204.8	6.6	5.6	3.84	-314.0	473.4	367.9	356.8	11.10	33.138		
3,300.0	3,291.4	3,304.4	3,304.4	6.8	5.7	3.93	-314.0	473.4	359.4	348.0	11.45	31.387		
3,400.0	3,391.0	3,404.0	3,404.0	7.0	5.9	4.02	-314.0	473.4	350.9	339.1	11.80	29.740		
3,500.0	3,490.7	3,503.7	3,503.7	7.3	6.1	4.12	-314.0	473.4	342.4	330.3	12.15	28.187		
3,600.0	3,590.3	3,603.3	3,603.3	7.5	6.3	4.23	-314.0	473.4	333.9	321.5	12.50	26.722		
3,700.0	3,689.9	3,702.9	3,702.9	7.7	6.4	4.34	-314.0	473.4	325.5	312.6	12.85	25.335		
3,800.0	3,789.6	3,802.6	3,802.6	8.0	6.6	4.45	-314.0	473.4	317.0	303.8	13.20	24.022		
3,900.0	3,889.2	3,902.2	3,902.2	8.2	6.8	4.57	-314.0	473.4	308.5	295.0	13.54	22.777		
4,000.0	3,988.9	4,001.9	4,001.9	8.4	7.0	4.70	-314.0	473.4	300.0	286.1	13.89	21.594		
4,100.0	4,088.5	4,101.5	4,101.5	8.6	7.1	4.84	-314.0	473.4	291.5	277.3	14.24	20.469		
4,200.0	4,188.1	4,201.1	4,201.1	8.9	7.3	4.99	-314.0	473.4	283.1	268.5	14.59	19.398		
4,300.0	4,287.8	4,300.8	4,300.8	9.1	7.5	5.14	-314.0	473.4	274.6	259.6	14.94	18.377		
4,400.0	4,387.4	4,400.4	4,400.4	9.3	7.7	5.31	-314.0	473.4	266.1	250.8	15.29	17.403		
4,500.0	4,487.0	4,500.0	4,500.0	9.6	7.8	5.48	-314.0	473.4	257.6	242.0	15.64	16.472		
4,600.0	4,586.7	4,599.7	4,599.7	9.8	8.0	5.67	-314.0	473.4	249.2	233.2	15.99	15.582		
4,700.0	4,686.3	4,699.3	4,699.3	10.0	8.2	5.87	-314.0	473.4	240.7	224.4	16.34	14.730		
4,800.0	4,785.9	4,798.9	4,798.9	10.2	8.4	6.08	-314.0	473.4	232.2	215.6	16.69	13.914		
4,900.0	4,885.6	4,898.6	4,898.6	10.5	8.5	6.31	-314.0	473.4	223.8	206.7	17.04	13.131		
5,000.0	4,985.2	4,998.2	4,998.2	10.7	8.7	6.56	-314.0	473.4	215.3	197.9	17.39	12.380		
5,100.0	5,084.9	5,097.9	5,097.9	10.9	8.9	6.83	-314.0	473.4	206.9	189.1	17.75	11.658		
5,200.0	5,184.5	5,197.5	5,197.5	11.2	9.1	7.12	-314.0	473.4	198.4	180.3	18.10	10.965		
5,300.0	5,284.1	5,297.1	5,297.1	11.4	9.2	7.44	-314.0	473.4	190.0	171.5	18.45	10.298		
5,400.0	5,383.8	5,396.8	5,396.8	11.6	9.4	7.79	-314.0	473.4	181.6	162.8	18.80	9.656		
5,500.0	5,483.4	5,496.4	5,496.4	11.8	9.6	8.17	-314.0	473.4	173.1	154.0	19.16	9.037		
5,600.0	5,583.0	5,596.0	5,596.0	12.1	9.7	8.59	-314.0	473.4	164.7	145.2	19.51	8.442		
5,700.0	5,682.7	5,695.7	5,695.7	12.3	9.9	9.06	-314.0	473.4	156.3	136.4	19.87	7.867		
5,800.0	5,782.3	5,795.3	5,795.3	12.5	10.1	9.58	-314.0	473.4	147.9	127.7	20.23	7.313		
5,900.0	5,882.0	5,895.0	5,895.0	12.8	10.3	10.16	-314.0	473.4	139.5	118.9	20.59	6.778		
6,000.0	5,981.6	5,994.6	5,994.6	13.0	10.4	10.81	-314.0	473.4	131.2	110.2	20.95	6.261		
6,100.0	6,081.2	6,094.2	6,094.2	13.2	10.6	11.56	-314.0	473.4	122.8	101.5	21.31	5.762		
6,200.0	6,180.9	6,193.9	6,193.9	13.4	10.8	12.41	-314.0	473.4	114.5	92.8	21.68	5.280		
6,300.0	6,280.5	6,293.5	6,293.5	13.7	11.0	13.40	-314.0	473.4	106.2	84.1	22.05	4.815		
6,400.0	6,380.1	6,393.1	6,393.1	13.9	11.1	14.55	-314.0	473.4	97.9	75.5	22.44	4.365		
6,500.0	6,479.8	6,492.8	6,492.8	14.1	11.3	15.91	-314.0	473.4	89.7	66.9	22.83	3.931		
6,579.8	6,559.3	6,572.3	6,572.3	14.3	11.5	95.17	-314.0	473.4	86.7	63.5	23.23	3.733		
6,600.0	6,579.4	6,592.4	6,592.4	14.3	11.5	105.73	-314.0	473.4	86.2	62.9	23.32	3.698	CC, ES, SF	
6,700.0	6,677.2	6,690.2	6,690.2	14.4	11.7	135.98	-314.0	473.4	97.9	74.3	23.68	4.137		

CC - Min centre to center distance or convergent 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 2B-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 2B-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		Offset		Semi Major Axis			Distance					Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis		
6,800.0	6,770.3	6,783.3	6,783.3	14.4	11.8	150.76	-314.0	473.4	128.0	104.5	23.47	5.452	
6,900.0	6,855.9	6,868.9	6,868.9	14.4	12.0	159.58	-314.0	473.4	176.0	153.4	22.56	7.801	
7,000.0	6,931.3	6,944.3	6,944.3	14.5	12.1	164.69	-314.0	473.4	239.7	218.6	21.12	11.351	
7,100.0	6,994.2	7,007.2	7,007.2	14.7	12.2	167.49	-314.0	473.4	316.3	296.9	19.40	16.306	
7,200.0	7,042.8	7,055.8	7,055.8	14.9	12.3	168.61	-314.0	473.4	403.1	385.4	17.71	22.762	
7,300.0	7,075.6	7,088.6	7,088.6	15.4	12.4	167.60	-314.0	473.4	497.3	480.8	16.48	30.182	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 0-6-5 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,184.5	5,276.5	5,276.5	11.2	9.2	56.31	-688.5	341.0	497.7	478.0	19.73	25.224		
5,300.0	5,284.1	5,376.1	5,376.1	11.4	9.4	57.13	-688.5	341.0	493.0	472.9	20.15	24.472		
5,400.0	5,383.8	5,475.8	5,475.8	11.6	9.5	57.96	-688.5	341.0	488.4	467.9	20.56	23.754		
5,500.0	5,483.4	5,575.4	5,575.4	11.8	9.7	58.81	-688.5	341.0	484.0	463.0	20.98	23.067		
5,600.0	5,583.0	5,675.0	5,675.0	12.1	9.9	59.68	-688.5	341.0	479.6	458.2	21.40	22.412		
5,700.0	5,682.7	5,774.7	5,774.7	12.3	10.1	60.56	-688.5	341.0	475.4	453.5	21.82	21.785		
5,800.0	5,782.3	5,874.3	5,874.3	12.5	10.2	61.46	-688.5	341.0	471.2	449.0	22.24	21.186		
5,900.0	5,882.0	5,974.0	5,974.0	12.8	10.4	62.38	-688.5	341.0	467.2	444.5	22.66	20.613		
6,000.0	5,981.6	6,073.6	6,073.6	13.0	10.6	63.31	-688.5	341.0	463.3	440.2	23.09	20.066		
6,100.0	6,081.2	6,173.2	6,173.2	13.2	10.8	64.25	-688.5	341.0	459.5	436.0	23.51	19.543		
6,200.0	6,180.9	6,272.9	6,272.9	13.4	10.9	65.21	-688.5	341.0	455.9	432.0	23.94	19.043		
6,300.0	6,280.5	6,372.5	6,372.5	13.7	11.1	66.19	-688.5	341.0	452.4	428.0	24.37	18.565		
6,400.0	6,380.1	6,472.1	6,472.1	13.9	11.3	67.18	-688.5	341.0	449.0	424.2	24.79	18.109		
6,500.0	6,479.8	6,571.8	6,571.8	14.1	11.5	68.18	-688.5	341.0	445.8	420.5	25.22	17.673		
6,527.2	6,507.0	6,599.0	6,599.0	14.2	11.5	96.08	-688.5	341.0	445.4	420.1	25.33	17.585	CC, ES, SF	
6,600.0	6,579.4	6,671.4	6,671.4	14.3	11.6	154.52	-688.5	341.0	448.6	423.1	25.48	17.606		
6,700.0	6,677.2	6,769.2	6,769.2	14.4	11.8	176.15	-688.5	341.0	468.3	443.2	25.18	18.601		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 13-5 (EXISTING) - ENCANA WELL - NO SURVEYS												Offset Site Error: 0.0 ft	
Survey Program: 7908-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
5,500.0	5,483.4	5,474.4	5,474.4	11.8	9.5	58.12	-703.8	347.1	499.3	478.5	20.79	24.022	
5,600.0	5,583.0	5,574.0	5,574.0	12.1	9.7	58.95	-703.8	347.1	494.9	473.7	21.20	23.339	
5,700.0	5,682.7	5,673.7	5,673.7	12.3	9.9	59.80	-703.8	347.1	490.5	468.9	21.62	22.686	
5,800.0	5,782.3	5,773.3	5,773.3	12.5	10.1	60.66	-703.8	347.1	486.3	464.2	22.04	22.061	
5,900.0	5,882.0	5,873.0	5,873.0	12.8	10.2	61.54	-703.8	347.1	482.2	459.7	22.46	21.463	
6,000.0	5,981.6	5,972.6	5,972.6	13.0	10.4	62.44	-703.8	347.1	478.2	455.3	22.89	20.892	
6,100.0	6,081.2	6,072.2	6,072.2	13.2	10.6	63.35	-703.8	347.1	474.3	451.0	23.31	20.345	
6,200.0	6,180.9	6,171.9	6,171.9	13.4	10.8	64.27	-703.8	347.1	470.5	446.8	23.74	19.822	
6,300.0	6,280.5	6,271.5	6,271.5	13.7	10.9	65.21	-703.8	347.1	466.9	442.7	24.16	19.322	
6,400.0	6,380.1	6,371.1	6,371.1	13.9	11.1	66.16	-703.8	347.1	463.3	438.8	24.59	18.844	
6,500.0	6,479.8	6,470.8	6,470.8	14.1	11.3	67.13	-703.8	347.1	460.0	434.9	25.02	18.387	
6,528.4	6,508.1	6,499.1	6,499.1	14.2	11.3	96.32	-703.8	347.1	459.6	434.5	25.13	18.290 CC, ES, SF	
6,600.0	6,579.4	6,570.4	6,570.4	14.3	11.5	153.43	-703.8	347.1	462.7	437.4	25.28	18.305	
6,700.0	6,677.2	6,668.2	6,668.2	14.4	11.6	175.06	-703.8	347.1	482.3	457.4	24.98	19.308	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 3A-5H - Hz - Plan #1												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
4,900.0	4,885.6	4,929.1	4,928.5	10.5	8.6	55.10	-666.8	332.4	492.4	474.0	18.44	26.698	CC, ES SF
5,000.0	4,985.2	5,052.0	5,050.0	10.7	8.8	57.43	-652.2	320.9	475.2	456.3	18.95	25.075	
5,100.0	5,084.9	5,170.7	5,166.0	10.9	9.1	60.48	-632.3	305.2	453.8	434.3	19.49	23.281	
5,200.0	5,184.5	5,284.7	5,275.6	11.2	9.4	64.36	-607.9	285.9	428.9	408.8	20.07	21.368	
5,300.0	5,284.1	5,392.3	5,377.3	11.4	9.7	69.13	-580.2	264.0	401.6	380.9	20.70	19.404	
5,400.0	5,383.8	5,482.8	5,462.0	11.6	10.0	73.94	-555.2	244.3	375.3	354.0	21.31	17.612	
5,500.0	5,483.4	5,573.3	5,546.6	11.8	10.4	79.33	-530.3	224.5	352.3	330.3	21.96	16.042	
5,600.0	5,583.0	5,663.7	5,631.3	12.1	10.7	85.31	-505.3	204.8	333.0	310.4	22.62	14.720	
5,700.0	5,682.7	5,754.2	5,716.0	12.3	11.1	91.82	-480.4	185.1	318.4	295.1	23.29	13.671	
5,800.0	5,782.3	5,844.7	5,800.7	12.5	11.5	98.75	-455.4	165.3	309.0	285.0	23.92	12.917	
5,900.0	5,882.0	5,935.2	5,885.4	12.8	11.9	105.93	-430.5	145.6	305.2	280.8	24.48	12.469	
5,913.0	5,894.9	5,946.9	5,896.5	12.8	12.0	106.87	-427.2	143.0	305.2	280.6	24.54	12.433	
6,000.0	5,981.6	6,025.6	5,970.1	13.0	12.3	113.14	-405.5	125.9	307.4	282.5	24.95	12.324	
6,100.0	6,081.2	6,116.1	6,054.8	13.2	12.8	120.16	-380.6	106.1	315.4	290.1	25.31	12.461	
6,200.0	6,180.9	6,206.6	6,139.5	13.4	13.2	126.79	-355.6	86.4	328.7	303.2	25.58	12.851	
6,300.0	6,280.5	6,297.1	6,224.2	13.7	13.7	132.92	-330.6	66.7	346.8	321.1	25.78	13.453	
6,400.0	6,380.1	6,387.5	6,308.9	13.9	14.2	138.46	-305.7	47.0	369.0	343.1	25.94	14.226	
6,500.0	6,479.8	6,478.0	6,393.6	14.1	14.6	143.42	-280.7	27.2	394.5	368.4	26.07	15.132	
6,600.0	6,579.4	6,569.0	6,479.5	14.3	15.1	-125.49	-258.6	7.2	422.9	397.0	25.95	16.300	
6,700.0	6,677.2	6,661.4	6,569.0	14.4	15.4	-102.75	-249.9	-13.6	452.4	426.4	25.97	17.416	
6,800.0	6,770.3	6,742.5	6,647.8	14.4	15.6	-98.13	-254.5	-32.0	483.5	457.4	26.08	18.539	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 3B-5H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
4,500.0	4,487.0	4,480.0	4,480.0	9.6	7.8	50.40	-652.0	341.0	497.1	480.4	16.67	29.810		
4,600.0	4,586.7	4,579.7	4,579.7	9.8	8.0	51.16	-652.0	341.0	491.7	474.6	17.08	28.787		
4,700.0	4,686.3	4,679.3	4,679.3	10.0	8.1	51.94	-652.0	341.0	486.4	468.9	17.49	27.814		
4,800.0	4,785.9	4,784.9	4,784.9	10.2	8.3	52.76	-651.8	341.2	481.0	463.1	17.91	26.861		
4,900.0	4,885.6	4,904.8	4,904.7	10.5	8.5	53.21	-647.3	345.1	472.5	454.1	18.34	25.761		
5,000.0	4,985.2	5,023.8	5,022.8	10.7	8.8	53.00	-637.3	353.8	459.7	441.0	18.76	24.509		
5,100.0	5,084.9	5,140.8	5,138.1	10.9	9.0	52.08	-622.0	367.2	442.9	423.7	19.16	23.119		
5,200.0	5,184.5	5,255.2	5,249.3	11.2	9.3	50.38	-602.0	384.6	422.3	402.7	19.54	21.607		
5,300.0	5,284.1	5,366.2	5,355.5	11.4	9.6	47.77	-577.8	405.8	398.4	378.4	19.92	19.998		
5,400.0	5,383.8	5,468.6	5,451.9	11.6	9.9	44.36	-551.6	428.6	372.2	351.9	20.28	18.351		
5,500.0	5,483.4	5,562.5	5,539.8	11.8	10.2	40.63	-526.9	450.2	346.8	326.1	20.64	16.800		
5,600.0	5,583.0	5,656.3	5,627.8	12.1	10.6	36.37	-502.2	471.8	323.1	302.0	21.02	15.372		
5,700.0	5,682.7	5,750.2	5,715.7	12.3	10.9	31.52	-477.5	493.3	301.4	280.0	21.41	14.080		
5,800.0	5,782.3	5,844.1	5,803.7	12.5	11.3	26.03	-452.8	514.9	282.3	260.5	21.82	12.940		
5,900.0	5,882.0	5,937.9	5,891.6	12.8	11.8	19.87	-428.0	536.5	266.3	244.1	22.25	11.968		
6,000.0	5,981.6	6,031.8	5,979.6	13.0	12.2	13.11	-403.3	558.1	254.1	231.3	22.72	11.182		
6,100.0	6,081.2	6,125.7	6,067.5	13.2	12.6	5.84	-378.6	579.7	246.0	222.8	23.22	10.596		
6,200.0	6,180.9	6,219.5	6,155.5	13.4	13.1	-1.73	-353.9	601.2	242.7	218.9	23.75	10.218		
6,218.7	6,199.5	6,237.1	6,171.9	13.5	13.2	-3.16	-349.2	605.3	242.6	218.8	23.85	10.170 CC, ES		
6,300.0	6,280.5	6,313.4	6,243.4	13.7	13.6	-9.34	-329.1	622.8	244.2	219.9	24.31	10.048 SF		
6,400.0	6,380.1	6,407.3	6,331.3	13.9	14.0	-16.75	-304.4	644.4	250.5	225.7	24.87	10.075		
6,500.0	6,479.8	6,501.2	6,419.3	14.1	14.5	-23.72	-279.7	666.0	261.3	235.9	25.41	10.283		
6,600.0	6,579.4	6,594.9	6,508.3	14.3	15.0	56.36	-260.6	687.8	276.3	250.5	25.80	10.710		
6,700.0	6,677.2	6,688.9	6,599.5	14.4	15.3	77.96	-256.6	710.2	293.8	267.8	26.00	11.300		
6,800.0	6,770.3	6,769.4	6,677.1	14.4	15.4	87.76	-265.4	729.2	316.9	290.8	26.11	12.138		
6,900.0	6,855.9	6,828.7	6,733.1	14.4	15.5	93.43	-279.0	743.0	353.0	326.9	26.11	13.518		
7,000.0	6,931.3	6,866.8	6,768.2	14.5	15.5	94.02	-290.9	751.6	406.0	379.9	26.05	15.583		
7,100.0	6,994.2	6,887.1	6,786.7	14.7	15.5	88.88	-298.2	756.1	473.7	447.7	26.00	18.219		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
11,200.0	7,093.0	7,030.0	7,030.0	74.6	12.3	-90.00	4,575.1	380.6	497.4	410.9	86.48	5.751		
11,300.0	7,093.0	7,030.0	7,030.0	76.4	12.3	-90.00	4,575.1	380.6	398.3	310.1	88.22	4.515		
11,400.0	7,093.0	7,030.0	7,030.0	78.1	12.3	-90.00	4,575.1	380.6	299.8	209.8	89.95	3.333		
11,500.0	7,093.0	7,030.0	7,030.0	79.8	12.3	-90.00	4,575.1	380.6	202.8	111.1	91.68	2.212		
11,600.0	7,093.0	7,030.0	7,030.0	81.5	12.3	-90.00	4,575.1	380.6	111.1	17.7	93.41	1.189 Level 2		
11,693.8	7,093.0	7,030.0	7,030.0	83.2	12.3	-90.00	4,575.1	380.6	59.5	-35.5	95.04	0.626 Level 1, CC, ES, SF		
11,700.0	7,093.0	7,030.0	7,030.0	83.3	12.3	-90.00	4,575.1	380.6	59.8	-35.3	95.15	0.629 Level 1		
11,800.0	7,093.0	7,030.0	7,030.0	85.0	12.3	-90.00	4,575.1	380.6	121.7	24.8	96.88	1.256 Level 3		
11,900.0	7,093.0	7,030.0	7,030.0	86.7	12.3	-90.00	4,575.1	380.6	214.6	116.0	98.62	2.176		
12,000.0	7,093.0	7,030.0	7,030.0	88.4	12.3	-90.00	4,575.1	380.6	311.9	211.6	100.35	3.108		
12,100.0	7,093.0	7,030.0	7,030.0	90.2	12.3	-90.00	4,575.1	380.6	410.5	308.4	102.09	4.021		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 14-32 (EXISTING) - ENCANA WELL - NO SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 8030-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
9,700.0	7,093.0	7,033.0	7,033.0	49.1	12.3	-90.00	3,043.2	299.0	484.9	424.2	60.74	7.984	
9,800.0	7,093.0	7,033.0	7,033.0	50.8	12.3	-90.00	3,043.2	299.0	390.8	328.3	62.44	6.259	
9,900.0	7,093.0	7,033.0	7,033.0	52.5	12.3	-90.00	3,043.2	299.0	300.4	236.3	64.14	4.684	
10,000.0	7,093.0	7,033.0	7,033.0	54.2	12.3	-90.00	3,043.2	299.0	218.6	152.8	65.84	3.320	
10,100.0	7,093.0	7,033.0	7,033.0	55.9	12.3	-90.00	3,043.2	299.0	159.1	91.6	67.55	2.356	
10,162.3	7,093.0	7,033.0	7,033.0	56.9	12.3	-90.00	3,043.2	299.0	146.4	77.8	68.62	2.134	CC, ES, SF
10,200.0	7,093.0	7,033.0	7,033.0	57.6	12.3	-90.00	3,043.2	299.0	151.2	81.9	69.26	2.183	
10,300.0	7,093.0	7,033.0	7,033.0	59.2	12.3	-90.00	3,043.2	299.0	201.0	130.0	70.98	2.832	
10,400.0	7,093.0	7,033.0	7,033.0	60.9	12.3	-90.00	3,043.2	299.0	279.2	206.5	72.70	3.840	
10,500.0	7,093.0	7,033.0	7,033.0	62.7	12.3	-90.00	3,043.2	299.0	368.1	293.7	74.41	4.946	
10,600.0	7,093.0	7,033.0	7,033.0	64.4	12.3	-90.00	3,043.2	299.0	461.5	385.4	76.13	6.062	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 4-5A (EXISTING) - KMG WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 7914-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
8,700.0	7,093.0	7,057.0	7,057.0	32.8	12.3	-90.00	2,003.6	220.8	480.6	436.5	44.12	10.893		
8,800.0	7,093.0	7,057.0	7,057.0	34.4	12.3	-90.00	2,003.6	220.8	395.5	349.7	45.75	8.645		
8,900.0	7,093.0	7,057.0	7,057.0	36.0	12.3	-90.00	2,003.6	220.8	319.1	271.7	47.38	6.734		
9,000.0	7,093.0	7,057.0	7,057.0	37.6	12.3	-90.00	2,003.6	220.8	259.3	210.2	49.03	5.288		
9,100.0	7,093.0	7,057.0	7,057.0	39.2	12.3	-90.00	2,003.6	220.8	229.4	178.8	50.69	4.526		
9,122.9	7,093.0	7,057.0	7,057.0	39.6	12.3	-90.00	2,003.6	220.8	228.3	177.2	51.07	4.470	CC, ES, SF	
9,200.0	7,093.0	7,057.0	7,057.0	40.8	12.3	-90.00	2,003.6	220.8	241.0	188.6	52.36	4.602		
9,300.0	7,093.0	7,057.0	7,057.0	42.5	12.3	-90.00	2,003.6	220.8	288.9	234.9	54.03	5.348		
9,400.0	7,093.0	7,057.0	7,057.0	44.1	12.3	-90.00	2,003.6	220.8	359.0	303.3	55.71	6.445		
9,500.0	7,093.0	7,057.0	7,057.0	45.8	12.3	-90.00	2,003.6	220.8	440.8	383.4	57.39	7.680		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	33.46	236.8	156.5	285.0					
100.0	100.0	74.0	74.0	0.1	0.1	33.46	236.8	156.5	283.9	283.6	0.25	1,128.521		
200.0	200.0	174.0	174.0	0.3	0.3	33.46	236.8	156.5	283.9	283.3	0.60	472.623		
300.0	300.0	274.0	274.0	0.5	0.5	33.46	236.8	156.5	283.9	282.9	0.95	298.901		
400.0	400.0	374.0	374.0	0.6	0.7	33.46	236.8	156.5	283.9	282.6	1.30	218.564		
500.0	500.0	474.0	474.0	0.8	0.8	33.46	236.8	156.5	283.9	282.2	1.65	172.263		
600.0	600.0	574.0	574.0	1.0	1.0	33.46	236.8	156.5	283.9	281.9	2.00	142.150		
700.0	700.0	674.0	674.0	1.2	1.2	-87.80	236.8	156.5	283.8	281.5	2.35	120.964		
800.0	800.0	774.0	774.0	1.3	1.4	-88.33	236.8	156.5	283.7	281.0	2.70	105.163		
900.0	899.9	873.9	873.9	1.5	1.5	-89.21	236.8	156.5	283.6	280.6	3.05	92.850		
967.5	967.2	941.2	941.2	1.7	1.6	-90.00	236.8	156.5	283.6	280.3	3.30	85.922 CC		
1,000.0	999.7	973.7	973.7	1.7	1.7	-90.44	236.8	156.5	283.6	280.2	3.42	82.935		
1,100.0	1,099.4	1,073.4	1,073.4	1.9	1.9	-92.01	236.8	156.5	283.8	280.0	3.80	74.773		
1,200.0	1,199.0	1,173.0	1,173.0	2.1	2.0	-93.72	236.8	156.5	284.2	280.0	4.18	68.056		
1,300.0	1,298.6	1,272.6	1,272.6	2.3	2.2	-95.42	236.8	156.5	284.9	280.3	4.56	62.467		
1,400.0	1,398.3	1,372.3	1,372.3	2.6	2.4	-97.12	236.8	156.5	285.8	280.9	4.95	57.770		
1,500.0	1,497.9	1,471.9	1,471.9	2.8	2.6	-98.80	236.8	156.5	287.0	281.7	5.34	53.785		
1,600.0	1,597.6	1,571.6	1,571.6	3.0	2.7	-100.46	236.8	156.5	288.4	282.7	5.73	50.378		
1,700.0	1,697.2	1,671.2	1,671.2	3.2	2.9	-102.11	236.8	156.5	290.1	284.0	6.12	47.442		
1,800.0	1,796.8	1,770.8	1,770.8	3.4	3.1	-103.73	236.8	156.5	292.0	285.5	6.50	44.896		
1,900.0	1,896.5	1,870.5	1,870.5	3.7	3.3	-105.34	236.8	156.5	294.2	287.3	6.89	42.676		
2,000.0	1,996.1	1,970.1	1,970.1	3.9	3.4	-106.92	236.8	156.5	296.5	289.3	7.28	40.729		
2,100.0	2,095.7	2,069.7	2,069.7	4.1	3.6	-108.47	236.8	156.5	299.1	291.5	7.67	39.014		
2,200.0	2,195.4	2,169.4	2,169.4	4.3	3.8	-110.00	236.8	156.5	301.9	293.9	8.05	37.497		
2,300.0	2,295.0	2,269.0	2,269.0	4.6	4.0	-111.50	236.8	156.5	305.0	296.5	8.44	36.151		
2,400.0	2,394.7	2,368.7	2,368.7	4.8	4.1	-112.97	236.8	156.5	308.2	299.4	8.82	34.951		
2,500.0	2,494.3	2,468.3	2,468.3	5.0	4.3	-114.40	236.8	156.5	311.6	302.4	9.20	33.879		
2,600.0	2,593.9	2,567.9	2,567.9	5.2	4.5	-115.81	236.8	156.5	315.2	305.7	9.58	32.919		
2,700.0	2,693.6	2,667.6	2,667.6	5.5	4.7	-117.18	236.8	156.5	319.0	309.1	9.95	32.056		
2,800.0	2,793.2	2,767.2	2,767.2	5.7	4.8	-118.52	236.8	156.5	323.0	312.7	10.33	31.279		
2,900.0	2,892.8	2,866.8	2,866.8	5.9	5.0	-119.82	236.8	156.5	327.2	316.5	10.70	30.578		
3,000.0	2,992.5	2,966.5	2,966.5	6.1	5.2	-121.09	236.8	156.5	331.5	320.4	11.07	29.944		
3,100.0	3,092.1	3,066.1	3,066.1	6.4	5.4	-122.33	236.8	156.5	336.0	324.6	11.44	29.370		
3,200.0	3,191.8	3,165.8	3,165.8	6.6	5.5	-123.54	236.8	156.5	340.6	328.8	11.81	28.848		
3,300.0	3,291.4	3,265.4	3,265.4	6.8	5.7	-124.71	236.8	156.5	345.4	333.3	12.17	28.375		
3,400.0	3,391.0	3,365.0	3,365.0	7.0	5.9	-125.86	236.8	156.5	350.4	337.8	12.54	27.944		
3,500.0	3,490.7	3,464.7	3,464.7	7.3	6.0	-126.96	236.8	156.5	355.4	342.5	12.90	27.551		
3,600.0	3,590.3	3,564.3	3,564.3	7.5	6.2	-128.04	236.8	156.5	360.6	347.3	13.26	27.192		
3,700.0	3,689.9	3,663.9	3,663.9	7.7	6.4	-129.09	236.8	156.5	365.9	352.3	13.62	26.864		
3,800.0	3,789.6	3,763.6	3,763.6	8.0	6.6	-130.11	236.8	156.5	371.4	357.4	13.98	26.564		
3,900.0	3,889.2	3,863.2	3,863.2	8.2	6.7	-131.09	236.8	156.5	376.9	362.6	14.34	26.290		
4,000.0	3,988.9	3,962.9	3,962.9	8.4	6.9	-132.05	236.8	156.5	382.6	367.9	14.69	26.038		
4,100.0	4,088.5	4,062.5	4,062.5	8.6	7.1	-132.98	236.8	156.5	388.3	373.3	15.05	25.807		
4,200.0	4,188.1	4,162.1	4,162.1	8.9	7.3	-133.89	236.8	156.5	394.2	378.8	15.40	25.595		
4,300.0	4,287.8	4,261.8	4,261.8	9.1	7.4	-134.76	236.8	156.5	400.1	384.4	15.75	25.400		
4,400.0	4,387.4	4,361.4	4,361.4	9.3	7.6	-135.61	236.8	156.5	406.2	390.1	16.11	25.221		
4,500.0	4,487.0	4,461.0	4,461.0	9.6	7.8	-136.44	236.8	156.5	412.3	395.9	16.46	25.055		
4,600.0	4,586.7	4,560.7	4,560.7	9.8	8.0	-137.24	236.8	156.5	418.5	401.7	16.81	24.903		
4,700.0	4,686.3	4,660.3	4,660.3	10.0	8.1	-138.02	236.8	156.5	424.8	407.7	17.16	24.763		
4,800.0	4,785.9	4,759.9	4,759.9	10.2	8.3	-138.77	236.8	156.5	431.2	413.7	17.50	24.634		
4,900.0	4,885.6	4,859.6	4,859.6	10.5	8.5	-139.51	236.8	156.5	437.7	419.8	17.85	24.515		
5,000.0	4,985.2	4,959.2	4,959.2	10.7	8.7	-140.22	236.8	156.5	444.2	426.0	18.20	24.404		

CC - Min centre to center distance or convergent 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 2B-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 2B-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		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,084.9	5,058.9	5,058.9	10.9	8.8	-140.91	236.8	156.5	450.8	432.2	18.55	24.303		
5,200.0	5,184.5	5,158.5	5,158.5	11.2	9.0	-141.58	236.8	156.5	457.4	438.5	18.89	24.209		
5,300.0	5,284.1	5,258.1	5,258.1	11.4	9.2	-142.23	236.8	156.5	464.1	444.9	19.24	24.122		
5,400.0	5,383.8	5,357.8	5,357.8	11.6	9.4	-142.86	236.8	156.5	470.9	451.3	19.59	24.041		
5,500.0	5,483.4	5,457.4	5,457.4	11.8	9.5	-143.48	236.8	156.5	477.7	457.8	19.93	23.967		
5,600.0	5,583.0	5,557.0	5,557.0	12.1	9.7	-144.08	236.8	156.5	484.6	464.3	20.28	23.898		
5,700.0	5,682.7	5,656.7	5,656.7	12.3	9.9	-144.66	236.8	156.5	491.5	470.9	20.62	23.835		
5,800.0	5,782.3	5,756.3	5,756.3	12.5	10.0	-145.22	236.8	156.5	498.5	477.5	20.96	23.776		
6,900.0	6,855.9	6,829.9	6,829.9	14.4	11.9	-48.41	236.8	156.5	472.2	449.3	22.90	20.622		
7,000.0	6,931.3	6,905.3	6,905.3	14.5	12.1	-56.57	236.8	156.5	425.2	402.2	23.01	18.484		
7,100.0	6,994.2	6,968.2	6,968.2	14.7	12.2	-67.69	236.8	156.5	375.4	351.6	23.75	15.805		
7,200.0	7,042.8	7,016.8	7,016.8	14.9	12.2	-79.23	236.8	156.5	330.7	305.9	24.72	13.376		
7,300.0	7,075.6	7,049.6	7,049.6	15.4	12.3	-87.68	236.8	156.5	302.5	277.0	25.50	11.861		
7,352.6	7,086.1	7,060.1	7,060.1	15.7	12.3	-90.00	236.8	156.5	298.2	272.3	25.90	11.513 ES		
7,400.0	7,091.5	7,065.5	7,065.5	16.0	12.3	-90.63	236.8	156.5	301.8	275.5	26.25	11.498 SF		
7,500.0	7,093.0	7,067.0	7,067.0	16.8	12.3	-90.00	236.8	156.5	331.4	304.3	27.14	12.213		
7,600.0	7,093.0	7,067.0	7,067.0	17.8	12.3	-90.00	236.8	156.5	385.5	357.3	28.19	13.674		
7,700.0	7,093.0	7,067.0	7,067.0	18.8	12.3	-90.00	236.8	156.5	455.3	426.0	29.35	15.511		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-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		
400.0	400.0	400.0	400.0	0.6	0.6	-89.95	0.0	-19.6	19.6	18.3	1.29	15.147 CC, ES		
500.0	500.0	499.8	499.7	0.8	0.8	-94.68	-1.6	-20.1	20.1	18.5	1.64	12.269		
600.0	600.0	599.6	599.5	1.0	1.0	-104.61	-5.5	-21.3	22.0	20.0	2.00	11.015		
700.0	700.0	699.5	699.4	1.2	1.2	127.59	-9.5	-22.5	24.9	22.6	2.35	10.620		
800.0	800.0	799.4	799.2	1.3	1.4	125.24	-13.5	-23.7	29.1	26.4	2.70	10.775		
900.0	899.9	899.3	898.9	1.5	1.6	125.89	-17.4	-24.9	34.4	31.3	3.07	11.214		
1,000.0	999.7	999.1	998.6	1.7	1.7	128.34	-21.4	-26.1	40.7	37.2	3.43	11.849		
1,100.0	1,099.4	1,098.8	1,098.2	1.9	1.9	131.69	-25.4	-27.3	48.1	44.3	3.80	12.657		
1,200.0	1,199.0	1,198.4	1,197.8	2.1	2.1	134.67	-29.3	-28.6	56.2	52.0	4.18	13.456		
1,300.0	1,298.6	1,298.1	1,297.3	2.3	2.3	136.89	-33.3	-29.8	64.4	59.8	4.55	14.146		
1,400.0	1,398.3	1,397.7	1,396.9	2.6	2.5	138.62	-37.2	-31.0	72.7	67.7	4.93	14.747		
1,500.0	1,497.9	1,497.3	1,496.5	2.8	2.7	139.99	-41.2	-32.2	81.0	75.7	5.30	15.271		
1,600.0	1,597.6	1,597.0	1,596.0	3.0	2.9	141.10	-45.1	-33.4	89.3	83.6	5.68	15.733		
1,700.0	1,697.2	1,696.6	1,695.6	3.2	3.1	142.02	-49.1	-34.6	97.7	91.7	6.05	16.142		
1,800.0	1,796.8	1,796.2	1,795.1	3.4	3.2	142.80	-53.0	-35.8	106.1	99.7	6.43	16.506		
1,900.0	1,896.5	1,895.9	1,894.7	3.7	3.4	143.46	-57.0	-37.1	114.5	107.7	6.80	16.833		
2,000.0	1,996.1	1,995.5	1,994.2	3.9	3.6	144.04	-60.9	-38.3	123.0	115.8	7.18	17.128		
2,100.0	2,095.7	2,095.1	2,093.8	4.1	3.8	144.54	-64.9	-39.5	131.4	123.8	7.55	17.394		
2,200.0	2,195.4	2,194.8	2,193.3	4.3	4.0	144.98	-68.8	-40.7	139.8	131.9	7.93	17.636		
2,300.0	2,295.0	2,294.4	2,292.9	4.6	4.2	145.36	-72.8	-41.9	148.3	140.0	8.30	17.858		
2,400.0	2,394.7	2,394.1	2,392.4	4.8	4.4	145.71	-76.8	-43.1	156.8	148.1	8.68	18.061		
2,500.0	2,494.3	2,493.7	2,492.0	5.0	4.6	146.02	-80.7	-44.3	165.2	156.2	9.05	18.247		
2,600.0	2,593.9	2,593.3	2,591.5	5.2	4.7	146.30	-84.7	-45.6	173.7	164.3	9.43	18.420		
2,700.0	2,693.6	2,693.0	2,691.1	5.5	4.9	146.56	-88.6	-46.8	182.2	172.4	9.81	18.579		
2,800.0	2,793.2	2,792.6	2,790.6	5.7	5.1	146.79	-92.6	-48.0	190.7	180.5	10.18	18.727		
2,900.0	2,892.8	2,892.2	2,890.2	5.9	5.3	147.00	-96.5	-49.2	199.1	188.6	10.56	18.865		
3,000.0	2,992.5	2,991.9	2,989.7	6.1	5.5	147.20	-100.5	-50.4	207.6	196.7	10.93	18.993		
3,100.0	3,092.1	3,091.5	3,089.3	6.4	5.7	147.38	-104.4	-51.6	216.1	204.8	11.31	19.114		
3,200.0	3,191.8	3,191.2	3,188.8	6.6	5.9	147.54	-108.4	-52.8	224.6	212.9	11.68	19.226		
3,300.0	3,291.4	3,290.8	3,288.4	6.8	6.1	147.70	-112.3	-54.1	233.1	221.0	12.06	19.332		
3,400.0	3,391.0	3,390.4	3,387.9	7.0	6.2	147.84	-116.3	-55.3	241.6	229.1	12.43	19.431		
3,500.0	3,490.7	3,490.1	3,487.5	7.3	6.4	147.97	-120.2	-56.5	250.1	237.3	12.81	19.525		
3,600.0	3,590.3	3,589.7	3,587.0	7.5	6.6	148.10	-124.2	-57.7	258.6	245.4	13.18	19.614		
3,700.0	3,689.9	3,689.3	3,686.6	7.7	6.8	148.21	-128.2	-58.9	267.1	253.5	13.56	19.697		
3,800.0	3,789.6	3,789.0	3,786.1	8.0	7.0	148.32	-132.1	-60.1	275.6	261.6	13.93	19.777		
3,900.0	3,889.2	3,888.6	3,885.7	8.2	7.2	148.43	-136.1	-61.3	284.1	269.7	14.31	19.852		
4,000.0	3,988.9	3,988.3	3,985.2	8.4	7.4	148.52	-140.0	-62.5	292.6	277.9	14.68	19.923		
4,100.0	4,088.5	4,087.9	4,084.8	8.6	7.6	148.62	-144.0	-63.8	301.1	286.0	15.06	19.991		
4,200.0	4,188.1	4,187.5	4,184.3	8.9	7.8	148.70	-147.9	-65.0	309.6	294.1	15.43	20.056		
4,300.0	4,287.8	4,287.2	4,283.9	9.1	7.9	148.78	-151.9	-66.2	318.1	302.2	15.81	20.117		
4,400.0	4,387.4	4,386.8	4,383.4	9.3	8.1	148.86	-155.8	-67.4	326.6	310.4	16.19	20.176		
4,500.0	4,487.0	4,486.4	4,483.0	9.6	8.3	148.94	-159.8	-68.6	335.1	318.5	16.56	20.232		
4,600.0	4,586.7	4,586.1	4,582.5	9.8	8.5	149.01	-163.7	-69.8	343.6	326.6	16.94	20.286		
4,700.0	4,686.3	4,685.7	4,682.1	10.0	8.7	149.07	-167.7	-71.0	352.1	334.8	17.31	20.337		
4,800.0	4,785.9	4,785.3	4,781.6	10.2	8.9	149.14	-171.6	-72.3	360.6	342.9	17.69	20.387		
4,900.0	4,885.6	4,885.0	4,881.2	10.5	9.1	149.20	-175.6	-73.5	369.1	351.0	18.06	20.434		
5,000.0	4,985.2	4,984.6	4,980.7	10.7	9.3	149.25	-179.6	-74.7	377.6	359.1	18.44	20.479		
5,100.0	5,084.9	5,084.3	5,080.3	10.9	9.4	149.31	-183.5	-75.9	386.1	367.3	18.81	20.523		

CC - Min centre to center distance or convergent 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 2B-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 2B-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		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,184.5	5,183.9	5,179.8	11.2	9.6	149.36	-187.5	-77.1	394.6	375.4	19.19	20.565		
5,300.0	5,284.1	5,283.5	5,279.4	11.4	9.8	149.41	-191.4	-78.3	403.1	383.5	19.56	20.605		
5,400.0	5,383.8	5,383.2	5,378.9	11.6	10.0	149.46	-195.4	-79.5	411.6	391.7	19.94	20.644		
5,500.0	5,483.4	5,482.8	5,478.5	11.8	10.2	149.51	-199.3	-80.8	420.1	399.8	20.31	20.681		
5,600.0	5,583.0	5,582.4	5,578.0	12.1	10.4	149.55	-203.3	-82.0	428.6	407.9	20.69	20.717		
5,700.0	5,682.7	5,682.1	5,677.6	12.3	10.6	149.60	-207.2	-83.2	437.1	416.1	21.06	20.752		
5,800.0	5,782.3	5,781.7	5,777.1	12.5	10.8	149.64	-211.2	-84.4	445.6	424.2	21.44	20.785		
5,900.0	5,882.0	5,881.4	5,876.7	12.8	11.0	149.68	-215.1	-85.6	454.1	432.3	21.81	20.818		
6,000.0	5,981.6	5,981.0	5,976.3	13.0	11.1	149.72	-219.1	-86.8	462.6	440.4	22.19	20.849		
6,100.0	6,081.2	6,080.6	6,075.8	13.2	11.3	149.75	-223.0	-88.0	471.1	448.6	22.57	20.879		
6,200.0	6,180.9	6,180.3	6,175.4	13.4	11.5	149.79	-227.0	-89.2	479.6	456.7	22.94	20.908		
6,300.0	6,280.5	6,279.9	6,274.9	13.7	11.7	149.82	-231.0	-90.5	488.2	464.8	23.32	20.937		
6,400.0	6,380.1	6,379.5	6,374.5	13.9	11.9	149.86	-234.9	-91.7	496.7	473.0	23.69	20.964		
12,200.0	7,093.0	12,410.4	7,312.0	91.9	91.8	-116.06	5,089.3	-9.5	498.6	332.9	165.65	3.010		
12,300.0	7,093.0	12,510.4	7,312.0	93.6	93.6	-116.17	5,189.2	-7.8	496.7	328.1	168.63	2.945		
12,400.0	7,093.0	12,610.4	7,312.0	95.4	95.3	-116.27	5,289.2	-6.0	494.8	323.2	171.61	2.883		
12,500.0	7,093.0	12,710.3	7,312.0	97.1	97.0	-116.38	5,389.1	-4.3	492.9	318.4	174.57	2.824		
12,600.0	7,093.0	12,810.3	7,312.0	98.8	98.8	-116.49	5,489.1	-2.5	491.1	313.5	177.53	2.766		
12,700.0	7,093.0	12,910.3	7,312.0	100.6	100.5	-116.60	5,589.1	-0.8	489.2	308.7	180.49	2.710		
12,800.0	7,093.0	13,010.3	7,312.0	102.3	102.3	-116.71	5,689.0	1.0	487.3	303.9	183.44	2.657		
12,900.0	7,093.0	13,110.2	7,312.0	104.1	104.0	-116.82	5,789.0	2.7	485.4	299.1	186.38	2.605		
13,000.0	7,093.0	13,210.2	7,312.0	105.8	105.7	-116.93	5,889.0	4.4	483.6	294.3	189.31	2.554		
13,100.0	7,093.0	13,310.2	7,312.0	107.5	107.5	-117.05	5,988.9	6.2	481.7	289.5	192.23	2.506		
13,200.0	7,093.0	13,410.2	7,312.0	109.3	109.2	-117.16	6,088.9	7.9	479.8	284.7	195.15	2.459		
13,300.0	7,093.0	13,510.2	7,312.0	111.0	111.0	-117.27	6,188.8	9.7	478.0	279.9	198.06	2.413		
13,400.0	7,093.0	13,610.1	7,312.0	112.7	112.7	-117.39	6,288.8	11.4	476.1	275.2	200.96	2.369		
13,500.0	7,093.0	13,710.1	7,312.0	114.5	114.4	-117.51	6,388.8	13.2	474.3	270.4	203.86	2.326		
13,600.0	7,093.0	13,810.1	7,312.0	116.2	116.2	-117.62	6,488.7	14.9	472.4	265.7	206.74	2.285		
13,700.0	7,093.0	13,910.1	7,312.0	118.0	117.9	-117.74	6,588.7	16.7	470.5	260.9	209.62	2.245		
13,800.0	7,093.0	14,010.0	7,312.0	119.7	119.7	-117.86	6,688.7	18.4	468.7	256.2	212.49	2.206		
13,900.0	7,093.0	14,110.0	7,312.0	121.4	121.4	-117.98	6,788.6	20.1	466.8	251.5	215.35	2.168		
14,000.0	7,093.0	14,210.0	7,312.0	123.2	123.2	-118.10	6,888.6	21.9	465.0	246.8	218.20	2.131		
14,100.0	7,093.0	14,310.0	7,312.0	124.9	124.9	-118.22	6,988.5	23.6	463.1	242.1	221.04	2.095		
14,200.0	7,093.0	14,410.0	7,312.0	126.7	126.7	-118.35	7,088.5	25.4	461.3	237.4	223.87	2.061		
14,300.0	7,093.0	14,509.9	7,312.0	128.4	128.4	-118.47	7,188.5	27.1	459.5	232.8	226.70	2.027		
14,400.0	7,093.0	14,609.9	7,312.0	130.2	130.1	-118.60	7,288.4	28.9	457.6	228.1	229.51	1.994		
14,500.0	7,093.0	14,709.9	7,312.0	131.9	131.9	-118.72	7,388.4	30.6	455.8	223.5	232.31	1.962		
14,510.9	7,093.0	14,716.5	7,312.0	132.1	132.0	-118.73	7,395.0	30.7	455.6	223.0	232.56	1.959 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 2C-5H-E267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.05	0.0	19.6	19.6					
100.0	100.0	100.0	100.0	0.1	0.1	90.05	0.0	19.6	19.6	19.3	0.24	80.060		
200.0	200.0	200.0	200.0	0.3	0.3	90.05	0.0	19.6	19.6	19.0	0.59	32.966		
300.0	300.0	300.0	300.0	0.5	0.5	90.05	0.0	19.6	19.6	18.6	0.94	20.756 CC, ES		
400.0	400.0	399.7	399.7	0.6	0.6	90.83	-0.3	20.4	20.4	19.1	1.29	15.789		
500.0	500.0	499.3	499.2	0.8	0.8	92.83	-1.1	22.8	22.9	21.2	1.64	13.939		
600.0	600.0	598.8	598.6	1.0	1.0	95.35	-2.5	26.9	27.1	25.1	2.00	13.572		
700.0	700.0	698.1	697.8	1.2	1.2	-23.89	-4.5	32.7	32.2	29.9	2.34	13.792		
800.0	800.0	797.4	796.8	1.3	1.4	-23.10	-7.0	40.0	37.5	34.8	2.69	13.959		
900.0	899.9	896.6	895.5	1.5	1.6	-22.98	-10.0	48.9	42.9	39.8	3.04	14.114		
1,000.0	999.7	995.6	993.9	1.7	1.9	-23.30	-13.6	59.5	48.3	44.9	3.39	14.256		
1,100.0	1,099.4	1,095.2	1,092.7	1.9	2.1	-24.02	-17.6	71.4	53.5	49.8	3.75	14.291		
1,200.0	1,199.0	1,195.1	1,191.8	2.1	2.4	-24.87	-21.7	83.4	58.3	54.2	4.11	14.179		
1,300.0	1,298.6	1,295.0	1,290.8	2.3	2.7	-25.60	-25.8	95.5	63.0	58.5	4.47	14.080		
1,400.0	1,398.3	1,394.8	1,389.9	2.6	2.9	-26.22	-29.9	107.5	67.8	62.9	4.84	13.991		
1,500.0	1,497.9	1,494.7	1,489.0	2.8	3.2	-26.77	-34.0	119.6	72.5	67.3	5.21	13.911		
1,600.0	1,597.6	1,594.6	1,588.0	3.0	3.5	-27.25	-38.1	131.6	77.3	71.7	5.58	13.838		
1,700.0	1,697.2	1,694.5	1,687.1	3.2	3.8	-27.67	-42.2	143.7	82.0	76.1	5.96	13.771		
1,800.0	1,796.8	1,794.4	1,786.2	3.4	4.1	-28.04	-46.3	155.7	86.8	80.5	6.33	13.710		
1,900.0	1,896.5	1,894.3	1,885.3	3.7	4.3	-28.38	-50.4	167.8	91.6	84.9	6.71	13.654		
2,000.0	1,996.1	1,994.2	1,984.3	3.9	4.6	-28.68	-54.4	179.8	96.4	89.3	7.08	13.602		
2,100.0	2,095.7	2,094.0	2,083.4	4.1	4.9	-28.96	-58.5	191.9	101.1	93.7	7.46	13.554		
2,200.0	2,195.4	2,193.9	2,182.5	4.3	5.2	-29.20	-62.6	203.9	105.9	98.1	7.84	13.510		
2,300.0	2,295.0	2,293.8	2,281.5	4.6	5.4	-29.43	-66.7	215.9	110.7	102.5	8.22	13.469		
2,400.0	2,394.7	2,393.7	2,380.6	4.8	5.7	-29.64	-70.8	228.0	115.5	106.9	8.60	13.430		
2,500.0	2,494.3	2,493.6	2,479.7	5.0	6.0	-29.83	-74.9	240.0	120.3	111.3	8.98	13.394		
2,600.0	2,593.9	2,593.5	2,578.8	5.2	6.3	-30.01	-79.0	252.1	125.1	115.7	9.36	13.361		
2,700.0	2,693.6	2,693.4	2,677.8	5.5	6.6	-30.18	-83.1	264.1	129.8	120.1	9.74	13.329		
2,800.0	2,793.2	2,793.2	2,776.9	5.7	6.9	-30.33	-87.2	276.2	134.6	124.5	10.12	13.300		
2,900.0	2,892.8	2,893.1	2,876.0	5.9	7.1	-30.47	-91.3	288.2	139.4	128.9	10.50	13.272		
3,000.0	2,992.5	2,993.0	2,975.0	6.1	7.4	-30.60	-95.4	300.3	144.2	133.3	10.89	13.246		
3,100.0	3,092.1	3,092.9	3,074.1	6.4	7.7	-30.73	-99.5	312.3	149.0	137.7	11.27	13.221		
3,200.0	3,191.8	3,192.8	3,173.2	6.6	8.0	-30.84	-103.6	324.4	153.8	142.1	11.65	13.197		
3,300.0	3,291.4	3,292.7	3,272.3	6.8	8.3	-30.95	-107.6	336.4	158.6	146.5	12.04	13.175		
3,400.0	3,391.0	3,392.5	3,371.3	7.0	8.5	-31.06	-111.7	348.4	163.4	151.0	12.42	13.154		
3,500.0	3,490.7	3,492.4	3,470.4	7.3	8.8	-31.15	-115.8	360.5	168.2	155.4	12.80	13.134		
3,600.0	3,590.3	3,592.3	3,569.5	7.5	9.1	-31.25	-119.9	372.5	173.0	159.8	13.19	13.115		
3,700.0	3,689.9	3,692.2	3,668.5	7.7	9.4	-31.33	-124.0	384.6	177.8	164.2	13.57	13.097		
3,800.0	3,789.6	3,792.1	3,767.6	8.0	9.7	-31.42	-128.1	396.6	182.6	168.6	13.96	13.080		
3,900.0	3,889.2	3,892.0	3,866.7	8.2	10.0	-31.49	-132.2	408.7	187.3	173.0	14.34	13.064		
4,000.0	3,988.9	3,991.9	3,965.8	8.4	10.2	-31.57	-136.3	420.7	192.1	177.4	14.73	13.048		
4,100.0	4,088.5	4,091.7	4,064.8	8.6	10.5	-31.64	-140.4	432.8	196.9	181.8	15.11	13.033		
4,200.0	4,188.1	4,191.6	4,163.9	8.9	10.8	-31.71	-144.5	444.8	201.7	186.2	15.50	13.019		
4,300.0	4,287.8	4,291.5	4,263.0	9.1	11.1	-31.77	-148.6	456.9	206.5	190.7	15.88	13.005		
4,400.0	4,387.4	4,391.4	4,362.0	9.3	11.4	-31.83	-152.7	468.9	211.3	195.1	16.27	12.992		
4,500.0	4,487.0	4,491.3	4,461.1	9.6	11.7	-31.89	-156.7	480.9	216.1	199.5	16.65	12.980		
4,600.0	4,586.7	4,591.2	4,560.2	9.8	11.9	-31.95	-160.8	493.0	220.9	203.9	17.04	12.968		
4,700.0	4,686.3	4,691.0	4,659.3	10.0	12.2	-32.00	-164.9	505.0	225.7	208.3	17.42	12.956		
4,800.0	4,785.9	4,790.9	4,758.3	10.2	12.5	-32.05	-169.0	517.1	230.5	212.7	17.81	12.945		
4,900.0	4,885.6	4,890.8	4,857.4	10.5	12.8	-32.10	-173.1	529.1	235.3	217.1	18.19	12.934		
5,000.0	4,985.2	4,990.7	4,956.5	10.7	13.1	-32.15	-177.2	541.2	240.1	221.5	18.58	12.924		
5,100.0	5,084.9	5,090.6	5,055.5	10.9	13.4	-32.19	-181.3	553.2	244.9	225.9	18.96	12.914		

CC - Min centre to center distance or convergent 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 2B-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 2B-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 2C-5H-E267 - Hz - Plan #1												Offset Site Error: 0.0 ft			
Survey Program: 0-MWD														Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
5,200.0	5,184.5	5,190.5	5,154.6	11.2	13.6	-32.24	-185.4	565.3	249.7	230.4	19.35	12.904			
5,300.0	5,284.1	5,290.4	5,253.7	11.4	13.9	-32.28	-189.5	577.3	254.5	234.8	19.74	12.895			
5,400.0	5,383.8	5,390.2	5,352.8	11.6	14.2	-32.32	-193.6	589.4	259.3	239.2	20.12	12.886			
5,500.0	5,483.4	5,490.1	5,451.8	11.8	14.5	-32.36	-197.7	601.4	264.1	243.6	20.51	12.877			
5,600.0	5,583.0	5,590.0	5,550.9	12.1	14.8	-32.40	-201.8	613.5	268.9	248.0	20.90	12.869			
5,700.0	5,682.7	5,689.9	5,650.0	12.3	15.1	-32.43	-205.8	625.5	273.7	252.4	21.28	12.861			
5,800.0	5,782.3	5,789.8	5,749.0	12.5	15.3	-32.47	-209.9	637.5	278.5	256.8	21.67	12.853			
5,900.0	5,882.0	5,889.7	5,848.1	12.8	15.6	-32.50	-214.0	649.6	283.3	261.2	22.05	12.846			
6,000.0	5,981.6	5,989.5	5,947.2	13.0	15.9	-32.53	-218.1	661.6	288.1	265.7	22.44	12.838			
6,100.0	6,081.2	6,089.4	6,046.3	13.2	16.2	-32.57	-222.2	673.7	292.9	270.1	22.83	12.831			
6,200.0	6,180.9	6,189.3	6,145.3	13.4	16.5	-32.60	-226.3	685.7	297.7	274.5	23.21	12.824			
6,300.0	6,280.5	6,289.2	6,244.4	13.7	16.7	-32.63	-230.4	697.8	302.5	278.9	23.60	12.818			
6,400.0	6,380.1	6,389.1	6,343.5	13.9	17.0	-32.65	-234.5	709.8	307.3	283.3	23.99	12.811			
6,500.0	6,479.8	6,489.0	6,442.5	14.1	17.3	-32.68	-238.6	721.9	312.1	287.7	24.37	12.805			
6,600.0	6,579.4	6,588.6	6,541.3	14.3	17.6	-32.71	-242.7	733.9	316.8	292.2	24.75	12.798			
6,700.0	6,677.2	6,685.7	6,637.7	14.4	17.9	-32.74	-246.8	746.0	322.1	297.6	25.13	12.791			
6,800.0	6,777.0	6,785.5	6,737.0	14.6	18.1	-32.77	-250.9	758.1	327.3	302.7	25.51	12.784			
6,900.0	6,876.6	6,885.1	6,837.1	14.8	18.4	-32.80	-255.0	770.2	332.5	307.9	25.89	12.777			
7,000.0	6,976.2	6,984.7	6,936.2	15.0	18.6	-32.83	-259.1	782.3	337.7	313.1	26.27	12.770			
7,100.0	7,075.8	7,084.3	7,036.3	15.2	18.9	-32.86	-263.2	794.4	342.9	318.3	26.65	12.763			
7,200.0	7,175.4	7,183.9	7,135.4	15.4	19.1	-32.89	-267.3	806.5	348.1	323.5	27.03	12.756			
7,300.0	7,275.0	7,283.5	7,235.0	15.6	19.4	-32.92	-271.4	818.6	353.3	328.7	27.41	12.749			
7,400.0	7,374.6	7,383.1	7,335.1	15.8	19.6	-32.95	-275.5	830.7	358.5	333.9	27.79	12.742			
7,500.0	7,474.2	7,482.7	7,434.2	16.0	19.9	-32.98	-279.6	842.8	363.7	339.1	28.17	12.735			
7,600.0	7,573.8	7,582.3	7,534.3	16.2	20.1	-33.01	-283.7	854.9	368.9	344.3	28.55	12.728			
7,700.0	7,673.4	7,681.9	7,633.4	16.4	20.4	-33.04	-287.8	867.0	374.1	349.5	28.93	12.721			
7,800.0	7,773.0	7,781.5	7,733.0	16.6	20.6	-33.07	-291.9	879.1	379.3	354.7	29.31	12.714			
7,900.0	7,872.6	7,881.1	7,833.1	16.8	20.9	-33.10	-296.0	891.2	384.5	359.9	29.69	12.707			
8,000.0	7,972.2	7,980.7	7,932.2	17.0	21.1	-33.13	-300.1	903.3	389.7	365.1	30.07	12.700			
8,100.0	8,071.8	8,080.3	8,031.8	17.2	21.4	-33.16	-304.2	915.4	394.9	370.3	30.45	12.693			
8,200.0	8,171.4	8,179.9	8,131.4	17.4	21.6	-33.19	-308.3	927.5	399.1	375.5	30.83	12.686			
8,300.0	8,271.0	8,279.5	8,231.0	17.6	21.9	-33.22	-312.4	939.6	404.3	380.7	31.21	12.679			
8,400.0	8,370.6	8,379.1	8,329.6	17.8	22.1	-33.25	-316.5	951.7	409.5	385.9	31.59	12.672			
8,500.0	8,470.2	8,478.7	8,430.2	18.0	22.4	-33.28	-320.6	963.8	414.7	391.1	31.97	12.665			
8,600.0	8,569.8	8,578.3	8,530.3	18.2	22.6	-33.31	-324.7	975.9	419.9	396.3	32.35	12.658			
8,700.0	8,669.4	8,677.9	8,630.4	18.4	22.9	-33.34	-328.8	988.0	425.1	401.5	32.73	12.651			
8,800.0	8,769.0	8,777.5	8,730.0	18.6	23.1	-33.37	-332.9	1,000.1	430.3	406.7	33.11	12.644			
8,900.0	8,868.6	8,877.1	8,830.6	18.8	23.4	-33.40	-337.0	1,012.2	435.5	411.9	33.49	12.637			
9,000.0	8,968.2	8,976.7	8,930.2	19.0	23.6	-33.43	-341.1	1,024.3	440.7	417.1	33.87	12.630			
9,100.0	9,067.8	9,076.3	9,030.8	19.2	23.9	-33.46	-345.2	1,036.4	445.9	422.3	34.25	12.623			
9,200.0	9,167.4	9,175.9	9,130.4	19.4	24.1	-33.49	-349.3	1,048.5	451.1	427.5	34.63	12.616			
9,300.0	9,267.0	9,275.5	9,230.0	19.6	24.4	-33.52	-353.4	1,060.6	456.3	432.7	35.01	12.609			
9,400.0	9,366.6	9,375.1	9,330.6	19.8	24.6	-33.55	-357.5	1,072.7	461.5	437.9	35.39	12.602			
9,500.0	9,466.2	9,474.7	9,430.2	20.0	24.9	-33.58	-361.6	1,084.8	466.7	443.1	35.77	12.595			
9,600.0	9,565.8	9,574.3	9,530.8	20.2	25.1	-33.61	-365.7	1,096.9	471.9	448.3	36.15	12.588			
9,700.0	9,665.4	9,673.9	9,630.4	20.4	25.4	-33.64	-369.8	1,109.0	477.1	453.5	36.53	12.581			
9,800.0	9,765.0	9,773.5	9,730.0	20.6	25.6	-33.67	-373.9	1,121.1	482.3	458.7	36.91	12.574			
9,900.0	9,864.6	9,873.1	9,830.6	20.8	25.9	-33.70	-378.0	1,133.2	487.5	463.9	37.29	12.567			
10,000.0	9,964.2	9,972.7	9,930.2	21.0	26.1	-33.73	-382.1	1,145.3	492.7	469.1	37.67	12.560			
10,100.0	10,063.8	10,072.3	10,030.8	21.2	26.4	-33.76	-386.2	1,157.4	497.9	474.3	38.05	12.553			
10,200.0	10,163.4	10,171.9	10,130.4	21.4	26.6	-33.79	-390.3	1,169.5	503.1	479.5	38.43	12.546			
10,300.0	10,263.0	10,271.5	10,230.0	21.6	26.9	-33.82	-394.4	1,181.6	508.3	484.7	38.81	12.539			
10,400.0	10,362.6	10,371.1	10,330.6	21.8	27.1	-33.85	-398.5	1,193.7	513.5	489.9	39.19	12.532			
10,500.0	10,462.2	10,470.7	10,430.2	22.0	27.4	-33.88	-402.6	1,205.8	518.7	495.1	39.57	12.525			
10,600.0	10,561.8	10,570.3	10,530.8	22.2	27.6	-33.91	-406.7	1,217.9	523.9	500.3	39.95	12.518			
10,700.0	10,661.4	10,669.9	10,630.4	22.4	27.9	-33.94	-410.8	1,230.0	529.1	505.5	40.33	12.511			
10,800.0	10,761.0	10,769.5	10,730.0	22.6	28.1	-33.97	-414.9	1,242.1	534.3	510.7	40.71	12.504			
10,900.0	10,860.6	10,869.1	10,830.6	22.8	28.4	-34.00	-419.0	1,254.2	539.5	515.9	41.09	12.497			
11,000.0	10,960.2	10,968.7	10,930.2	23.0	28.6	-34.03	-423.1	1,266.3	544.7	521.1	41.47	12.490			
11,100.0	11,059.8	11,068.3	11,030.8	23.2	28.9	-34.06	-427.2	1,278.4	549.9	526.3	41.85	12.483			
11,200.0	11,159.4	11,167.9	11,130.4	23.4	29.1	-34.09	-431.3	1,290.5	555.1	531.5	42.23	12.476			
11,300.0	11,259.0	11,267.5	11,230.0	23.6	29.4	-34.12	-435.4	1,302.6	560.3	536.7	42.61	12.469			
11,400.0	11,358.6	11,367.1	11,330.6	23.8	29.6	-34.15	-439.5	1,314.7	565.5	541.9	42.99	12.462			
11,500.0	11,458.2	11,466.7	11,430.2	24.0	29.9	-34.18	-443.6	1,326.8	570.7	547.1	43.37	12.455			
11,600.0	11,557.8	11,566.3	11,530.8	24.2	30.1	-34.21	-447.7	1,338.9	575.9	552.3	43.75	12.448			
11,700.0	11,657.4	11,665.9	11,630.4	24.4	30.4	-34.24	-451.8	1,351.0	581.1	557.5	44.13	12.441			
11,800.0	11,757.0	11,765.5	11,730.0	24.6	30.6	-34.27	-455.9	1,363.1	586.3	562.7	44.51	12.434			
11,900.0	11,856.6	11,865.1	11,830.6	24.8	30.9	-34.30	-460.0	1,375.2	591.5	567.9	44.89	12.427			
12,000.0	11,956.2	11,964.7	11,930.2	25.0	31.1	-34.33	-464.1	1,387.3	596.7	573.1	45.27	12.420			
12,100.0	12,055.8	12,064.3	12,030.8	25.2	31.4	-34.36	-468.2	1,399.4	601.9	578.3	45.65	12.413			
12,200.0	12,155.4	12,163.9	12,130.4	25.4	31.6	-34.39	-472.3	1,411.5	607.1	583.5	46.03	12.406			
12,300.0	12,255.0	12,263.5	12,230.0	25.6	31.9	-34.4.									

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 2C-5H-E267 - Hz - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
10,400.0	7,093.0	10,670.0	7,330.0	60.9	62.2	121.60	3,281.4	829.8	452.2	348.1	104.10	4.344	
10,500.0	7,093.0	10,770.0	7,330.0	62.7	63.9	121.58	3,381.4	829.8	452.5	345.5	107.05	4.227	
10,600.0	7,093.0	10,870.0	7,330.0	64.4	65.6	121.56	3,481.4	829.8	452.8	342.8	110.01	4.116	
10,700.0	7,093.0	10,970.0	7,330.0	66.1	67.3	121.54	3,581.4	829.8	453.1	340.2	112.98	4.011	
10,800.0	7,093.0	11,070.0	7,330.0	67.8	69.0	121.51	3,681.4	829.8	453.4	337.5	115.95	3.911	
10,900.0	7,093.0	11,170.0	7,330.0	69.5	70.6	121.49	3,781.4	829.8	453.7	334.8	118.92	3.815	
11,000.0	7,093.0	11,270.0	7,330.0	71.2	72.3	121.47	3,881.4	829.8	454.0	332.1	121.90	3.725	
11,100.0	7,093.0	11,370.0	7,330.0	72.9	74.0	121.44	3,981.4	829.8	454.3	329.4	124.88	3.638	
11,200.0	7,093.0	11,470.0	7,330.0	74.6	75.7	121.42	4,081.4	829.8	454.6	326.8	127.86	3.556	
11,300.0	7,093.0	11,570.0	7,330.0	76.4	77.4	121.40	4,181.4	829.8	454.9	324.1	130.85	3.477	
11,400.0	7,093.0	11,670.0	7,330.0	78.1	79.1	121.37	4,281.4	829.8	455.2	321.4	133.84	3.401	
11,500.0	7,093.0	11,770.0	7,330.0	79.8	80.8	121.35	4,381.4	829.8	455.5	318.7	136.83	3.329	
11,600.0	7,093.0	11,870.0	7,330.0	81.5	82.5	121.33	4,481.4	829.8	455.8	316.0	139.83	3.260	
11,700.0	7,093.0	11,970.0	7,330.0	83.3	84.2	121.31	4,581.4	829.8	456.1	313.3	142.83	3.193	
11,800.0	7,093.0	12,070.0	7,330.0	85.0	85.9	121.28	4,681.4	829.8	456.4	310.6	145.83	3.130	
11,900.0	7,093.0	12,170.0	7,330.0	86.7	87.7	121.26	4,781.4	829.8	456.7	307.9	148.84	3.068	
12,000.0	7,093.0	12,270.0	7,330.0	88.4	89.4	121.24	4,881.4	829.8	457.0	305.2	151.85	3.010	
12,100.0	7,093.0	12,370.0	7,330.0	90.2	91.1	121.22	4,981.4	829.8	457.3	302.4	154.86	2.953	
12,200.0	7,093.0	12,470.0	7,330.0	91.9	92.8	121.19	5,081.4	829.8	457.6	299.7	157.87	2.899	
12,300.0	7,093.0	12,570.0	7,330.0	93.6	94.5	121.17	5,181.4	829.8	457.9	297.0	160.89	2.846	
12,400.0	7,093.0	12,670.0	7,330.0	95.4	96.2	121.15	5,281.4	829.8	458.2	294.3	163.91	2.796	
12,500.0	7,093.0	12,770.0	7,330.0	97.1	98.0	121.12	5,381.4	829.8	458.5	291.6	166.93	2.747	
12,600.0	7,093.0	12,870.0	7,330.0	98.8	99.7	121.10	5,481.4	829.8	458.8	288.9	169.95	2.700	
12,700.0	7,093.0	12,970.0	7,330.0	100.6	101.4	121.08	5,581.4	829.8	459.1	286.1	172.97	2.654	
12,800.0	7,093.0	13,070.0	7,330.0	102.3	103.1	121.06	5,681.4	829.8	459.4	283.4	176.00	2.610	
12,900.0	7,093.0	13,170.0	7,330.0	104.1	104.8	121.03	5,781.4	829.8	459.7	280.7	179.03	2.568	
13,000.0	7,093.0	13,270.0	7,330.0	105.8	106.6	121.01	5,881.4	829.8	460.0	277.9	182.06	2.527	
13,100.0	7,093.0	13,370.0	7,330.0	107.5	108.3	120.99	5,981.4	829.8	460.3	275.2	185.09	2.487	
13,200.0	7,093.0	13,470.0	7,330.0	109.3	110.0	120.97	6,081.4	829.8	460.6	272.5	188.13	2.448	
13,300.0	7,093.0	13,570.0	7,330.0	111.0	111.7	120.95	6,181.4	829.8	460.9	269.7	191.17	2.411	
13,400.0	7,093.0	13,670.0	7,330.0	112.7	113.5	120.92	6,281.4	829.8	461.2	267.0	194.21	2.375	
13,500.0	7,093.0	13,770.0	7,330.0	114.5	115.2	120.90	6,381.4	829.8	461.5	264.2	197.25	2.340	
13,600.0	7,093.0	13,870.0	7,330.0	116.2	116.9	120.88	6,481.4	829.8	461.8	261.5	200.29	2.306	
13,700.0	7,093.0	13,970.0	7,330.0	118.0	118.7	120.86	6,581.4	829.8	462.1	258.8	203.33	2.273	
13,800.0	7,093.0	14,070.0	7,330.0	119.7	120.4	120.83	6,681.4	829.8	462.4	256.0	206.38	2.240	
13,900.0	7,093.0	14,170.0	7,330.0	121.4	122.1	120.81	6,781.4	829.8	462.7	253.3	209.43	2.209	
14,000.0	7,093.0	14,270.0	7,330.0	123.2	123.9	120.79	6,881.4	829.8	463.0	250.5	212.48	2.179	
14,100.0	7,093.0	14,370.0	7,330.0	124.9	125.6	120.77	6,981.4	829.8	463.3	247.8	215.53	2.150	
14,200.0	7,093.0	14,470.0	7,330.0	126.7	127.3	120.75	7,081.4	829.8	463.6	245.0	218.58	2.121	
14,300.0	7,093.0	14,570.0	7,330.0	128.4	129.1	120.72	7,181.4	829.8	463.9	242.3	221.64	2.093	
14,400.0	7,093.0	14,670.0	7,330.0	130.2	130.8	120.70	7,281.4	829.8	464.2	239.5	224.70	2.066	
14,500.0	7,093.0	14,770.0	7,330.0	131.9	132.5	120.68	7,381.4	829.8	464.5	236.7	227.75	2.039	
14,510.9	7,093.0	14,776.3	7,330.0	132.1	132.6	120.68	7,387.7	829.8	464.5	236.5	228.02	2.037 SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-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 CC, ES		
300.0	300.0	298.6	298.6	0.5	0.5	-88.80	0.6	-28.6	28.6	27.6	0.94	30.399		
400.0	400.0	398.2	398.2	0.6	0.6	-85.61	2.3	-30.5	30.6	29.3	1.29	23.716		
500.0	500.0	497.7	497.5	0.8	0.8	-81.14	5.2	-33.6	34.1	32.4	1.64	20.782		
600.0	600.0	597.3	597.0	1.0	1.0	-76.43	9.1	-37.9	39.1	37.1	2.00	19.577		
700.0	700.0	697.0	696.5	1.2	1.2	166.47	13.2	-42.3	45.2	42.9	2.34	19.298 SF		
800.0	800.0	796.6	796.0	1.3	1.4	169.82	17.2	-46.7	53.3	50.6	2.69	19.800		
900.0	899.9	896.1	895.3	1.5	1.6	172.50	21.2	-51.1	63.2	60.2	3.04	20.812		
1,000.0	999.7	995.4	994.4	1.7	1.8	174.58	25.2	-55.5	75.0	71.6	3.38	22.167		
1,100.0	1,099.4	1,094.4	1,093.2	1.9	2.0	176.17	29.3	-59.9	88.5	84.8	3.73	23.758		
1,200.0	1,199.0	1,193.4	1,192.0	2.1	2.2	177.36	33.3	-64.3	102.8	98.7	4.07	25.239		
1,300.0	1,298.6	1,292.4	1,290.8	2.3	2.4	178.26	37.3	-68.6	117.1	112.6	4.42	26.494		
1,400.0	1,398.3	1,391.3	1,389.6	2.6	2.6	178.97	41.3	-73.0	131.4	126.6	4.77	27.572		
1,500.0	1,497.9	1,490.3	1,488.4	2.8	2.8	179.53	45.3	-77.4	145.7	140.6	5.11	28.506		
1,600.0	1,597.6	1,589.2	1,587.2	3.0	3.0	180.00	49.3	-81.7	160.0	154.6	5.46	29.323		
1,700.0	1,697.2	1,688.2	1,685.9	3.2	3.2	-179.61	53.3	-86.1	174.4	168.6	5.80	30.044		
1,800.0	1,796.8	1,787.2	1,784.7	3.4	3.4	-179.28	57.3	-90.5	188.7	182.6	6.15	30.684		
1,900.0	1,896.5	1,886.1	1,883.5	3.7	3.6	-179.00	61.3	-94.9	203.1	196.6	6.50	31.257		
2,000.0	1,996.1	1,985.1	1,982.3	3.9	3.8	-178.76	65.3	-99.2	217.5	210.6	6.84	31.772		
2,100.0	2,095.7	2,084.0	2,081.1	4.1	4.0	-178.54	69.3	-103.6	231.8	224.7	7.19	32.238		
2,200.0	2,195.4	2,183.0	2,179.8	4.3	4.2	-178.35	73.3	-108.0	246.2	238.7	7.54	32.661		
2,300.0	2,295.0	2,282.0	2,278.6	4.6	4.4	-178.18	77.3	-112.3	260.6	252.7	7.89	33.047		
2,400.0	2,394.7	2,380.9	2,377.4	4.8	4.6	-178.03	81.3	-116.7	275.0	266.7	8.23	33.401		
2,500.0	2,494.3	2,479.9	2,476.2	5.0	4.8	-177.89	85.3	-121.1	289.3	280.8	8.58	33.726		
2,600.0	2,593.9	2,578.8	2,575.0	5.2	5.0	-177.77	89.3	-125.5	303.7	294.8	8.93	34.026		
2,700.0	2,693.6	2,677.8	2,673.8	5.5	5.2	-177.66	93.3	-129.8	318.1	308.8	9.27	34.304		
2,800.0	2,793.2	2,776.7	2,772.5	5.7	5.4	-177.55	97.3	-134.2	332.5	322.9	9.62	34.562		
2,900.0	2,892.8	2,875.7	2,871.3	5.9	5.6	-177.46	101.3	-138.6	346.9	336.9	9.97	34.802		
3,000.0	2,992.5	2,974.7	2,970.1	6.1	5.8	-177.37	105.3	-142.9	361.2	350.9	10.31	35.026		
3,100.0	3,092.1	3,073.6	3,068.9	6.4	6.0	-177.29	109.3	-147.3	375.6	365.0	10.66	35.235		
3,200.0	3,191.8	3,172.6	3,167.7	6.6	6.2	-177.22	113.3	-151.7	390.0	379.0	11.01	35.431		
3,300.0	3,291.4	3,271.5	3,266.4	6.8	6.4	-177.15	117.3	-156.1	404.4	393.0	11.35	35.615		
3,400.0	3,391.0	3,370.5	3,365.2	7.0	6.6	-177.09	121.3	-160.4	418.8	407.1	11.70	35.788		
3,500.0	3,490.7	3,469.5	3,464.0	7.3	6.8	-177.03	125.3	-164.8	433.2	421.1	12.05	35.952		
3,600.0	3,590.3	3,568.4	3,562.8	7.5	7.0	-176.97	129.3	-169.2	447.5	435.1	12.40	36.106		
3,700.0	3,689.9	3,667.4	3,661.6	7.7	7.2	-176.92	133.3	-173.6	461.9	449.2	12.74	36.251		
3,800.0	3,789.6	3,766.3	3,760.3	8.0	7.4	-176.87	137.3	-177.9	476.3	463.2	13.09	36.390		
3,900.0	3,889.2	3,865.3	3,859.1	8.2	7.7	-176.82	141.3	-182.3	490.7	477.3	13.44	36.520		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-89.94	0.0	-8.4	8.4					
100.0	100.0	99.0	99.0	0.1	0.1	-89.94	0.0	-8.4	8.4	8.1	0.24	34.484		
200.0	200.0	199.0	199.0	0.3	0.3	-89.94	0.0	-8.4	8.4	7.8	0.59	14.170		
300.0	300.0	299.0	299.0	0.5	0.5	-89.94	0.0	-8.4	8.4	7.4	0.94	8.912		
400.0	400.0	399.0	399.0	0.6	0.6	-89.94	0.0	-8.4	8.4	7.1	1.29	6.500		
500.0	500.0	499.0	499.0	0.8	0.8	-89.94	0.0	-8.4	8.4	6.7	1.64	5.116		
600.0	600.0	599.0	599.0	1.0	1.0	-89.94	0.0	-8.4	8.4	6.4	1.99	4.217 CC, ES		
700.0	700.0	699.0	699.0	1.2	1.2	151.79	0.0	-8.4	9.1	6.8	2.34	3.912 SF		
800.0	800.0	799.0	799.0	1.3	1.3	157.95	0.0	-8.4	11.5	8.8	2.69	4.288		
900.0	899.9	898.9	898.9	1.5	1.5	163.95	0.0	-8.4	15.6	12.6	3.03	5.157		
1,000.0	999.7	998.7	998.7	1.7	1.7	168.42	0.0	-8.4	21.6	18.2	3.38	6.384		
1,100.0	1,099.4	1,098.4	1,098.4	1.9	1.9	171.49	0.0	-8.4	29.3	25.6	3.73	7.862		
1,200.0	1,199.0	1,198.0	1,198.0	2.1	2.0	173.40	0.0	-8.4	37.7	33.7	4.07	9.260		
1,300.0	1,298.6	1,297.6	1,297.6	2.3	2.2	174.61	0.0	-8.4	46.2	41.8	4.42	10.445		
1,400.0	1,398.3	1,397.3	1,397.3	2.6	2.4	175.45	0.0	-8.4	54.7	49.9	4.77	11.459		
1,500.0	1,497.9	1,496.9	1,496.9	2.8	2.6	176.06	0.0	-8.4	63.2	58.0	5.12	12.337		
1,600.0	1,597.6	1,596.6	1,596.6	3.0	2.7	176.53	0.0	-8.4	71.6	66.2	5.47	13.104		
1,700.0	1,697.2	1,696.2	1,696.2	3.2	2.9	176.90	0.0	-8.4	80.1	74.3	5.82	13.781		
1,800.0	1,796.8	1,795.8	1,795.8	3.4	3.1	177.20	0.0	-8.4	88.6	82.5	6.16	14.381		
1,900.0	1,896.5	1,895.5	1,895.5	3.7	3.3	177.44	0.0	-8.4	97.1	90.6	6.51	14.917		
2,000.0	1,996.1	1,995.1	1,995.1	3.9	3.4	177.65	0.0	-8.4	105.6	98.8	6.86	15.399		
2,100.0	2,095.7	2,094.7	2,094.7	4.1	3.6	177.82	0.0	-8.4	114.1	106.9	7.21	15.835		
2,200.0	2,195.4	2,194.4	2,194.4	4.3	3.8	177.97	0.0	-8.4	122.6	115.1	7.56	16.230		
2,300.0	2,295.0	2,294.0	2,294.0	4.6	4.0	178.11	0.0	-8.4	131.1	123.2	7.90	16.591		
2,400.0	2,394.7	2,393.7	2,393.7	4.8	4.1	178.22	0.0	-8.4	139.7	131.4	8.25	16.922		
2,500.0	2,494.3	2,493.3	2,493.3	5.0	4.3	178.32	0.0	-8.4	148.2	139.6	8.60	17.225		
2,600.0	2,593.9	2,592.9	2,592.9	5.2	4.5	178.41	0.0	-8.4	156.7	147.7	8.95	17.506		
2,700.0	2,693.6	2,692.6	2,692.6	5.5	4.6	178.50	0.0	-8.4	165.2	155.9	9.30	17.765		
2,800.0	2,793.2	2,792.2	2,792.2	5.7	4.8	178.57	0.0	-8.4	173.7	164.0	9.65	18.005		
2,900.0	2,892.8	2,891.8	2,891.8	5.9	5.0	178.64	0.0	-8.4	182.2	172.2	9.99	18.229		
3,000.0	2,992.5	2,991.5	2,991.5	6.1	5.2	178.70	0.0	-8.4	190.7	180.3	10.34	18.438		
3,100.0	3,092.1	3,091.1	3,091.1	6.4	5.3	178.75	0.0	-8.4	199.2	188.5	10.69	18.633		
3,200.0	3,191.8	3,190.8	3,190.8	6.6	5.5	178.80	0.0	-8.4	207.7	196.7	11.04	18.816		
3,300.0	3,291.4	3,290.4	3,290.4	6.8	5.7	178.85	0.0	-8.4	216.2	204.8	11.39	18.988		
3,400.0	3,391.0	3,390.0	3,390.0	7.0	5.9	178.89	0.0	-8.4	224.7	213.0	11.73	19.149		
3,500.0	3,490.7	3,489.7	3,489.7	7.3	6.0	178.93	0.0	-8.4	233.2	221.1	12.08	19.302		
3,600.0	3,590.3	3,589.3	3,589.3	7.5	6.2	178.97	0.0	-8.4	241.7	229.3	12.43	19.445		
3,700.0	3,689.9	3,688.9	3,688.9	7.7	6.4	179.01	0.0	-8.4	250.2	237.5	12.78	19.581		
3,800.0	3,789.6	3,788.6	3,788.6	8.0	6.6	179.04	0.0	-8.4	258.7	245.6	13.13	19.710		
3,900.0	3,889.2	3,888.2	3,888.2	8.2	6.7	179.07	0.0	-8.4	267.2	253.8	13.48	19.832		
4,000.0	3,988.9	3,987.9	3,987.9	8.4	6.9	179.10	0.0	-8.4	275.8	261.9	13.82	19.948		
4,100.0	4,088.5	4,087.5	4,087.5	8.6	7.1	179.24	0.6	-8.4	284.6	270.4	14.17	20.085		
4,200.0	4,188.1	4,187.2	4,187.2	8.9	7.2	179.65	2.9	-8.3	294.2	279.7	14.51	20.272		
4,300.0	4,287.8	4,279.6	4,279.5	9.1	7.4	-179.69	6.8	-8.1	304.6	289.8	14.86	20.506		
4,400.0	4,387.4	4,376.2	4,376.0	9.3	7.6	-178.82	12.3	-7.9	316.0	300.8	15.20	20.785		
4,500.0	4,487.0	4,472.5	4,472.0	9.6	7.8	-177.76	19.5	-7.7	328.3	312.7	15.55	21.109		
4,600.0	4,586.7	4,568.4	4,567.5	9.8	7.9	-176.56	28.2	-7.4	341.5	325.6	15.90	21.476		
4,700.0	4,686.3	4,666.6	4,665.1	10.0	8.1	-175.27	38.1	-7.0	355.6	339.3	16.26	21.861		
4,800.0	4,785.9	4,765.3	4,763.3	10.2	8.3	-174.07	48.2	-6.7	369.8	353.1	16.63	22.235		
4,900.0	4,885.6	4,864.0	4,861.5	10.5	8.5	-172.95	58.2	-6.3	384.1	367.1	17.00	22.598		
5,000.0	4,985.2	4,962.7	4,959.7	10.7	8.7	-171.92	68.3	-5.9	398.6	381.2	17.37	22.949		
5,100.0	5,084.9	5,061.4	5,057.9	10.9	8.9	-170.96	78.3	-5.6	413.2	395.5	17.74	23.291		

CC - Min centre to center distance or convergent 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 2B-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 2B-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		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
5,200.0	5,184.5	5,160.1	5,156.0	11.2	9.1	-170.06	88.4	-5.2	427.9	409.8	18.12	23.622		
5,300.0	5,284.1	5,258.7	5,254.2	11.4	9.3	-169.23	98.5	-4.9	442.7	424.2	18.49	23.942		
5,400.0	5,383.8	5,357.4	5,352.4	11.6	9.5	-168.45	108.5	-4.5	457.6	438.7	18.87	24.253		
5,500.0	5,483.4	5,456.1	5,450.6	11.8	9.7	-167.72	118.6	-4.1	472.6	453.3	19.25	24.555		
5,600.0	5,583.0	5,554.8	5,548.8	12.1	9.9	-167.03	128.6	-3.8	487.6	468.0	19.62	24.847		
7,100.0	6,994.2	7,130.6	7,096.4	14.7	12.6	-92.12	144.6	1.9	480.5	455.6	24.96	19.251		
7,200.0	7,042.8	7,118.2	7,086.2	14.9	12.6	-92.54	151.7	1.9	456.8	431.5	25.28	18.065		
7,269.9	7,067.4	7,101.7	7,072.4	15.2	12.6	-90.79	160.7	1.8	451.9	426.2	25.67	17.605		
7,300.0	7,075.6	7,093.3	7,065.3	15.4	12.6	-89.62	165.2	1.8	452.8	426.9	25.83	17.529		
7,400.0	7,091.5	7,061.5	7,037.8	16.0	12.6	-84.31	181.1	1.7	467.2	440.8	26.43	17.675		
7,500.0	7,093.0	7,027.4	7,007.3	16.8	12.7	-79.43	196.4	1.6	496.7	469.7	27.05	18.366		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.04	0.0	11.2	11.2					
100.0	100.0	100.0	100.0	0.1	0.1	90.04	0.0	11.2	11.2	10.9	0.24	45.749		
200.0	200.0	200.0	200.0	0.3	0.3	90.04	0.0	11.2	11.2	10.6	0.59	18.838		
300.0	300.0	300.0	300.0	0.5	0.5	90.04	0.0	11.2	11.2	10.2	0.94	11.861		
400.0	400.0	400.0	400.0	0.6	0.6	90.04	0.0	11.2	11.2	9.9	1.29	8.655		
500.0	500.0	500.0	500.0	0.8	0.8	90.04	0.0	11.2	11.2	9.5	1.64	6.814 CC, ES		
600.0	600.0	599.8	599.8	1.0	1.0	87.48	0.5	11.9	11.9	9.9	1.99	5.970		
700.0	700.0	699.6	699.6	1.2	1.2	-42.07	2.1	13.9	13.4	11.1	2.34	5.746		
800.0	800.0	799.3	799.2	1.3	1.4	-55.54	4.8	17.4	15.8	13.1	2.69	5.886		
900.0	899.9	898.9	898.6	1.5	1.5	-69.93	8.4	22.1	19.9	16.8	3.04	6.532		
1,000.0	999.7	998.6	998.1	1.7	1.7	-82.76	12.5	27.4	25.0	21.6	3.41	7.333		
1,100.0	1,099.4	1,098.3	1,097.5	1.9	1.9	-94.13	16.5	32.6	31.1	27.3	3.80	8.177		
1,200.0	1,199.0	1,197.9	1,196.9	2.1	2.1	-102.64	20.5	37.8	38.1	33.9	4.19	9.078		
1,300.0	1,298.6	1,297.5	1,296.3	2.3	2.3	-108.43	24.5	43.0	45.6	41.0	4.59	9.942		
1,400.0	1,398.3	1,397.1	1,395.7	2.6	2.5	-112.55	28.5	48.2	53.5	48.6	4.99	10.730		
1,500.0	1,497.9	1,496.8	1,495.1	2.8	2.7	-115.59	32.5	53.4	61.7	56.3	5.39	11.437		
1,600.0	1,597.6	1,596.4	1,594.6	3.0	2.9	-117.92	36.5	58.6	69.9	64.1	5.79	12.068		
1,700.0	1,697.2	1,696.0	1,694.0	3.2	3.2	-119.76	40.5	63.8	78.2	72.0	6.19	12.630		
1,800.0	1,796.8	1,795.6	1,793.4	3.4	3.4	-121.25	44.6	69.0	86.6	80.0	6.60	13.132		
1,900.0	1,896.5	1,895.3	1,892.8	3.7	3.6	-122.47	48.6	74.2	95.1	88.1	7.00	13.583		
2,000.0	1,996.1	1,994.9	1,992.2	3.9	3.8	-123.49	52.6	79.4	103.5	96.1	7.40	13.988		
2,100.0	2,095.7	2,094.5	2,091.6	4.1	4.0	-124.36	56.6	84.7	112.1	104.2	7.81	14.355		
2,200.0	2,195.4	2,194.1	2,191.0	4.3	4.2	-125.10	60.6	89.9	120.6	112.4	8.21	14.688		
2,300.0	2,295.0	2,293.8	2,290.4	4.6	4.4	-125.75	64.6	95.1	129.1	120.5	8.61	14.991		
2,400.0	2,394.7	2,393.4	2,389.8	4.8	4.6	-126.31	68.6	100.3	137.7	128.7	9.02	15.268		
2,500.0	2,494.3	2,493.0	2,489.2	5.0	4.8	-126.81	72.6	105.5	146.3	136.8	9.42	15.522		
2,600.0	2,593.9	2,592.6	2,588.6	5.2	5.0	-127.26	76.7	110.7	154.8	145.0	9.83	15.756		
2,700.0	2,693.6	2,692.3	2,688.0	5.5	5.2	-127.65	80.7	115.9	163.4	153.2	10.23	15.973		
2,800.0	2,793.2	2,791.9	2,787.4	5.7	5.4	-128.01	84.7	121.1	172.0	161.4	10.64	16.173		
2,900.0	2,892.8	2,891.5	2,886.8	5.9	5.6	-128.33	88.7	126.3	180.6	169.6	11.04	16.358		
3,000.0	2,992.5	2,991.1	2,986.3	6.1	5.8	-128.63	92.7	131.5	189.2	177.8	11.45	16.531		
3,100.0	3,092.1	3,090.8	3,085.7	6.4	6.0	-128.90	96.7	136.7	197.9	186.0	11.85	16.693		
3,200.0	3,191.8	3,190.4	3,185.1	6.6	6.3	-129.14	100.7	141.9	206.5	194.2	12.26	16.844		
3,300.0	3,291.4	3,290.0	3,284.5	6.8	6.5	-129.37	104.7	147.2	215.1	202.4	12.66	16.985		
3,400.0	3,391.0	3,389.6	3,383.9	7.0	6.7	-129.58	108.7	152.4	223.7	210.7	13.07	17.118		
3,500.0	3,490.7	3,489.3	3,483.3	7.3	6.9	-129.77	112.8	157.6	232.3	218.9	13.48	17.243		
3,600.0	3,590.3	3,588.9	3,582.7	7.5	7.1	-129.95	116.8	162.8	241.0	227.1	13.88	17.360		
3,700.0	3,689.9	3,688.5	3,682.1	7.7	7.3	-130.12	120.8	168.0	249.6	235.3	14.29	17.472		
3,800.0	3,789.6	3,788.1	3,781.5	8.0	7.5	-130.27	124.8	173.2	258.2	243.5	14.69	17.577		
3,900.0	3,889.2	3,887.8	3,880.9	8.2	7.7	-130.42	128.8	178.4	266.9	251.8	15.10	17.676		
4,000.0	3,988.9	3,987.4	3,980.3	8.4	7.9	-130.56	132.8	183.6	275.5	260.0	15.50	17.770		
4,100.0	4,088.5	4,087.0	4,079.7	8.6	8.1	-130.69	136.8	188.8	284.2	268.2	15.91	17.860		
4,200.0	4,188.1	4,186.6	4,179.1	8.9	8.3	-130.81	140.8	194.0	292.8	276.5	16.32	17.945		
4,300.0	4,287.8	4,286.2	4,278.5	9.1	8.5	-130.92	144.9	199.2	301.4	284.7	16.72	18.026		
4,400.0	4,387.4	4,385.9	4,378.0	9.3	8.7	-131.03	148.9	204.4	310.1	292.9	17.13	18.103		
4,500.0	4,487.0	4,485.5	4,477.4	9.6	9.0	-131.13	152.9	209.7	318.7	301.2	17.53	18.177		
4,600.0	4,586.7	4,585.1	4,576.8	9.8	9.2	-131.23	156.9	214.9	327.4	309.4	17.94	18.247		
4,700.0	4,686.3	4,684.7	4,676.2	10.0	9.4	-131.32	160.9	220.1	336.0	317.7	18.35	18.314		
4,800.0	4,785.9	4,784.4	4,775.6	10.2	9.6	-131.40	164.9	225.3	344.7	325.9	18.75	18.379		
4,900.0	4,885.6	4,884.0	4,875.0	10.5	9.8	-131.49	168.9	230.5	353.3	334.1	19.16	18.440		
5,000.0	4,985.2	4,983.6	4,974.4	10.7	10.0	-131.57	172.9	235.7	361.9	342.4	19.57	18.499		
5,100.0	5,084.9	5,083.2	5,073.8	10.9	10.2	-131.64	177.0	240.9	370.6	350.6	19.97	18.556		

CC - Min centre to center distance or convergent 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 2B-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 2B-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		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,184.5	5,182.9	5,173.2	11.2	10.4	-131.71	181.0	246.1	379.2	358.9	20.38	18.611		
5,300.0	5,284.1	5,282.5	5,272.6	11.4	10.6	-131.78	185.0	251.3	387.9	367.1	20.78	18.663		
5,400.0	5,383.8	5,382.1	5,372.0	11.6	10.8	-131.85	189.0	256.5	396.5	375.3	21.19	18.713		
5,500.0	5,483.4	5,481.7	5,471.4	11.8	11.0	-131.91	193.0	261.7	405.2	383.6	21.60	18.762		
5,600.0	5,583.0	5,581.4	5,570.8	12.1	11.2	-131.97	197.0	266.9	413.8	391.8	22.00	18.808		
5,700.0	5,682.7	5,681.0	5,670.2	12.3	11.4	-132.03	201.0	272.2	422.5	400.1	22.41	18.853		
5,800.0	5,782.3	5,780.6	5,769.7	12.5	11.7	-132.08	205.0	277.4	431.1	408.3	22.82	18.897		
5,900.0	5,882.0	5,880.2	5,869.1	12.8	11.9	-132.13	209.1	282.6	439.8	416.6	23.22	18.939		
6,000.0	5,981.6	5,979.9	5,968.5	13.0	12.1	-132.19	213.1	287.8	448.4	424.8	23.63	18.979		
6,100.0	6,081.2	6,079.5	6,067.9	13.2	12.3	-132.23	217.1	293.0	457.1	433.1	24.03	19.018		
6,200.0	6,180.9	6,179.1	6,167.3	13.4	12.5	-132.28	221.1	298.2	465.7	441.3	24.44	19.056		
6,300.0	6,280.5	6,278.7	6,266.7	13.7	12.7	-132.33	225.1	303.4	474.4	449.6	24.85	19.092		
6,400.0	6,380.1	6,378.4	6,366.1	13.9	12.9	-132.37	229.1	308.6	483.1	457.8	25.25	19.128		
6,500.0	6,479.8	6,478.0	6,465.5	14.1	13.1	-132.41	233.1	313.8	491.7	466.0	25.66	19.162		
6,600.0	6,579.4	6,737.6	6,722.3	14.3	13.5	-48.35	212.9	329.1	489.7	463.5	26.24	18.662		
6,700.0	6,677.2	7,072.9	6,997.6	14.4	13.7	-44.57	31.9	355.3	418.6	393.4	25.28	16.559		
6,800.0	6,770.3	7,146.3	7,040.8	14.4	13.9	-79.05	-27.2	361.3	325.0	300.9	24.16	13.454		
6,900.0	6,855.9	7,151.6	7,043.6	14.4	13.9	-107.77	-31.6	361.7	230.8	205.9	24.90	9.268		
7,000.0	6,931.3	7,132.7	7,033.4	14.5	13.9	-111.96	-15.8	360.2	145.5	120.9	24.59	5.916		
7,100.0	6,994.2	7,102.8	7,016.1	14.7	13.8	-100.25	8.5	357.8	93.9	69.3	24.64	3.812		
7,116.4	7,003.2	7,097.3	7,012.8	14.7	13.8	-97.06	12.9	357.3	92.6	67.9	24.72	3.748 SF		
7,200.0	7,042.8	7,067.0	6,993.9	14.9	13.7	-76.94	36.3	354.8	120.7	96.1	24.61	4.907		
7,300.0	7,075.6	7,027.7	6,967.4	15.4	13.6	-53.07	65.3	351.6	189.8	167.4	22.41	8.473		
7,400.0	7,091.5	6,986.1	6,937.4	16.0	13.6	-37.23	93.8	348.2	265.3	245.8	19.51	13.598		
7,500.0	7,093.0	6,950.0	6,909.7	16.8	13.6	-31.04	116.8	345.3	340.1	321.5	18.55	18.334		
7,600.0	7,093.0	6,900.0	6,869.0	17.8	13.5	-27.02	145.5	341.3	419.3	401.0	18.26	22.962		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	90.05	0.0	30.7	30.7					
100.0	100.0	100.0	100.0	0.1	0.1	90.05	0.0	30.7	30.7	30.5	0.24	125.809		
200.0	200.0	200.0	200.0	0.3	0.3	90.05	0.0	30.7	30.7	30.1	0.59	51.804 CC, ES		
300.0	300.0	299.5	299.5	0.5	0.5	89.42	0.3	31.5	31.5	30.6	0.94	33.462		
400.0	400.0	398.9	398.9	0.6	0.7	87.73	1.3	33.9	34.0	32.7	1.30	26.203		
500.0	500.0	498.3	498.1	0.8	0.8	85.39	3.1	37.9	38.0	36.4	1.66	22.960		
600.0	600.0	597.4	597.1	1.0	1.0	82.86	5.4	43.4	43.8	41.8	2.03	21.618		
700.0	700.0	696.3	695.7	1.2	1.2	-41.23	8.5	50.5	50.7	48.4	2.34	21.691		
800.0	800.0	795.3	794.2	1.3	1.5	-44.99	12.2	59.1	58.1	55.4	2.69	21.636		
900.0	899.9	894.9	893.4	1.5	1.7	-49.09	16.2	68.3	65.1	62.1	3.04	21.442		
1,000.0	999.7	994.6	992.5	1.7	1.9	-53.49	20.2	77.4	71.3	67.9	3.39	21.017		
1,100.0	1,099.4	1,094.2	1,091.7	1.9	2.2	-58.25	24.1	86.6	77.0	73.2	3.77	20.447		
1,200.0	1,199.0	1,193.9	1,190.8	2.1	2.4	-62.77	28.1	95.8	82.8	78.7	4.15	19.949		
1,300.0	1,298.6	1,293.5	1,289.9	2.3	2.7	-66.69	32.1	105.0	89.1	84.6	4.55	19.582		
1,400.0	1,398.3	1,393.1	1,389.0	2.6	2.9	-70.07	36.0	114.2	95.7	90.8	4.96	19.306		
1,500.0	1,497.9	1,492.8	1,488.2	2.8	3.2	-73.01	40.0	123.4	102.7	97.3	5.38	19.096		
1,600.0	1,597.6	1,592.4	1,587.3	3.0	3.4	-75.58	44.0	132.5	109.8	104.0	5.80	18.936		
1,700.0	1,697.2	1,692.0	1,686.4	3.2	3.6	-77.83	47.9	141.7	117.2	110.9	6.23	18.812		
1,800.0	1,796.8	1,791.6	1,785.5	3.4	3.9	-79.81	51.9	150.9	124.7	118.0	6.66	18.717		
1,900.0	1,896.5	1,891.3	1,884.7	3.7	4.1	-81.56	55.9	160.1	132.3	125.2	7.10	18.643		
2,000.0	1,996.1	1,990.9	1,983.8	3.9	4.4	-83.12	59.8	169.3	140.1	132.5	7.54	18.586		
2,100.0	2,095.7	2,090.5	2,082.9	4.1	4.6	-84.52	63.8	178.5	147.9	139.9	7.98	18.543		
2,200.0	2,195.4	2,190.2	2,182.1	4.3	4.9	-85.77	67.8	187.7	155.8	147.4	8.42	18.510		
2,300.0	2,295.0	2,289.8	2,281.2	4.6	5.1	-86.91	71.7	196.8	163.8	154.9	8.86	18.485		
2,400.0	2,394.7	2,389.4	2,380.3	4.8	5.4	-87.94	75.7	206.0	171.9	162.5	9.31	18.467		
2,500.0	2,494.3	2,489.1	2,479.4	5.0	5.6	-88.87	79.7	215.2	179.9	170.2	9.75	18.455		
2,600.0	2,593.9	2,588.7	2,578.6	5.2	5.9	-89.73	83.6	224.4	188.1	177.9	10.20	18.446		
2,700.0	2,693.6	2,688.3	2,677.7	5.5	6.1	-90.51	87.6	233.6	196.3	185.6	10.64	18.441		
2,800.0	2,793.2	2,788.0	2,776.8	5.7	6.3	-91.23	91.6	242.8	204.5	193.4	11.09	18.439		
2,900.0	2,892.8	2,887.6	2,875.9	5.9	6.6	-91.90	95.5	251.9	212.7	201.2	11.54	18.439		
3,000.0	2,992.5	2,987.2	2,975.1	6.1	6.8	-92.51	99.5	261.1	221.0	209.0	11.98	18.440		
3,100.0	3,092.1	3,086.8	3,074.2	6.4	7.1	-93.08	103.5	270.3	229.3	216.8	12.43	18.443		
3,200.0	3,191.8	3,186.5	3,173.3	6.6	7.3	-93.62	107.4	279.5	237.6	224.7	12.88	18.448		
3,300.0	3,291.4	3,286.1	3,272.5	6.8	7.6	-94.11	111.4	288.7	245.9	232.6	13.33	18.453		
3,400.0	3,391.0	3,385.7	3,371.6	7.0	7.8	-94.57	115.4	297.9	254.3	240.5	13.77	18.459		
3,500.0	3,490.7	3,485.4	3,470.7	7.3	8.1	-95.01	119.3	307.0	262.6	248.4	14.22	18.465		
3,600.0	3,590.3	3,585.0	3,569.8	7.5	8.3	-95.42	123.3	316.2	271.0	256.3	14.67	18.472		
3,700.0	3,689.9	3,684.6	3,669.0	7.7	8.6	-95.80	127.3	325.4	279.4	264.3	15.12	18.479		
3,800.0	3,789.6	3,784.3	3,768.1	8.0	8.8	-96.16	131.2	334.6	287.8	272.2	15.57	18.487		
3,900.0	3,889.2	3,883.9	3,867.2	8.2	9.1	-96.50	135.2	343.8	296.2	280.2	16.02	18.494		
4,000.0	3,988.9	3,983.5	3,966.3	8.4	9.3	-96.82	139.2	353.0	304.6	288.2	16.46	18.502		
4,100.0	4,088.5	4,083.2	4,065.5	8.6	9.5	-97.12	143.1	362.1	313.1	296.1	16.91	18.510		
4,200.0	4,188.1	4,182.8	4,164.6	8.9	9.8	-97.41	147.1	371.3	321.5	304.1	17.36	18.518		
4,300.0	4,287.8	4,282.4	4,263.7	9.1	10.0	-97.68	151.1	380.5	329.9	312.1	17.81	18.526		
4,400.0	4,387.4	4,382.0	4,362.8	9.3	10.3	-97.94	155.0	389.7	338.4	320.1	18.26	18.534		
4,500.0	4,487.0	4,481.7	4,462.0	9.6	10.5	-98.19	159.0	398.9	346.9	328.1	18.71	18.542		
4,600.0	4,586.7	4,581.3	4,561.1	9.8	10.8	-98.42	163.0	408.1	355.3	336.2	19.16	18.550		
4,700.0	4,686.3	4,680.9	4,660.2	10.0	11.0	-98.65	166.9	417.2	363.8	344.2	19.60	18.557		
4,800.0	4,785.9	4,780.6	4,759.4	10.2	11.3	-98.86	170.9	426.4	372.3	352.2	20.05	18.565		
4,900.0	4,885.6	4,880.2	4,858.5	10.5	11.5	-99.07	174.9	435.6	380.8	360.3	20.50	18.573		
5,000.0	4,985.2	4,979.8	4,957.6	10.7	11.8	-99.26	178.8	444.8	389.2	368.3	20.95	18.580		
5,100.0	5,084.9	5,079.5	5,056.7	10.9	12.0	-99.45	182.8	454.0	397.7	376.3	21.40	18.587		

CC - Min centre to center distance or convergent 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 2B-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 2B-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		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,184.5	5,179.1	5,155.9	11.2	12.3	-99.63	186.8	463.2	406.2	384.4	21.85	18.595		
5,300.0	5,284.1	5,278.7	5,255.0	11.4	12.5	-99.80	190.7	472.3	414.7	392.4	22.30	18.602		
5,400.0	5,383.8	5,378.3	5,354.1	11.6	12.8	-99.96	194.7	481.5	423.2	400.5	22.74	18.609		
5,500.0	5,483.4	5,478.0	5,453.2	11.8	13.0	-100.12	198.7	490.7	431.7	408.5	23.19	18.615		
5,600.0	5,583.0	5,577.6	5,552.4	12.1	13.2	-100.28	202.6	499.9	440.2	416.6	23.64	18.622		
5,700.0	5,682.7	5,677.2	5,651.5	12.3	13.5	-100.42	206.6	509.1	448.8	424.7	24.09	18.629		
5,800.0	5,782.3	5,776.9	5,750.6	12.5	13.7	-100.56	210.6	518.3	457.3	432.7	24.54	18.635		
5,900.0	5,882.0	5,876.5	5,849.8	12.8	14.0	-100.70	214.5	527.4	465.8	440.8	24.99	18.642		
6,000.0	5,981.6	5,976.1	5,948.9	13.0	14.2	-100.83	218.5	536.6	474.3	448.9	25.43	18.648		
6,100.0	6,081.2	6,075.8	6,048.0	13.2	14.5	-100.96	222.5	545.8	482.8	456.9	25.88	18.654		
6,200.0	6,180.9	6,175.4	6,147.1	13.4	14.7	-101.08	226.4	555.0	491.4	465.0	26.33	18.660		
6,300.0	6,280.5	6,275.0	6,246.3	13.7	15.0	-101.20	230.4	564.2	499.9	473.1	26.78	18.666		
6,800.0	6,770.3	6,767.5	6,736.3	14.4	16.2	14.34	250.0	609.6	477.6	451.1	26.50	18.024		
6,900.0	6,855.9	7,016.2	6,978.7	14.4	16.5	34.95	210.1	632.0	419.2	394.3	24.94	16.808		
7,000.0	6,931.3	7,108.4	7,060.9	14.5	16.6	64.24	169.2	639.7	339.2	314.8	24.40	13.902		
7,100.0	6,994.2	7,129.6	7,078.8	14.7	16.6	83.05	158.0	641.3	262.2	237.2	24.96	10.504		
7,200.0	7,042.8	7,121.6	7,072.1	14.9	16.6	88.26	162.3	640.7	204.6	179.2	25.37	8.064		
7,287.4	7,072.3	7,102.7	7,056.0	15.3	16.6	84.78	172.1	639.2	186.0	160.2	25.76	7.220 SF		
7,300.0	7,075.6	7,099.4	7,053.2	15.4	16.6	83.77	173.8	638.9	186.4	160.6	25.80	7.224		
7,400.0	7,091.5	7,069.3	7,026.8	16.0	16.6	72.38	188.2	636.5	214.1	188.1	25.97	8.244		
7,500.0	7,093.0	7,036.4	6,997.2	16.8	16.6	61.78	202.3	633.8	270.8	245.0	25.77	10.507		
7,600.0	7,093.0	7,009.5	6,972.6	17.8	16.5	55.64	212.5	631.5	343.8	318.1	25.71	13.373		
7,700.0	7,093.0	6,988.0	6,952.4	18.8	16.5	51.10	219.9	629.6	425.8	400.1	25.77	16.527		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2B-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 2B-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 2B-5H-E267
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.37°

