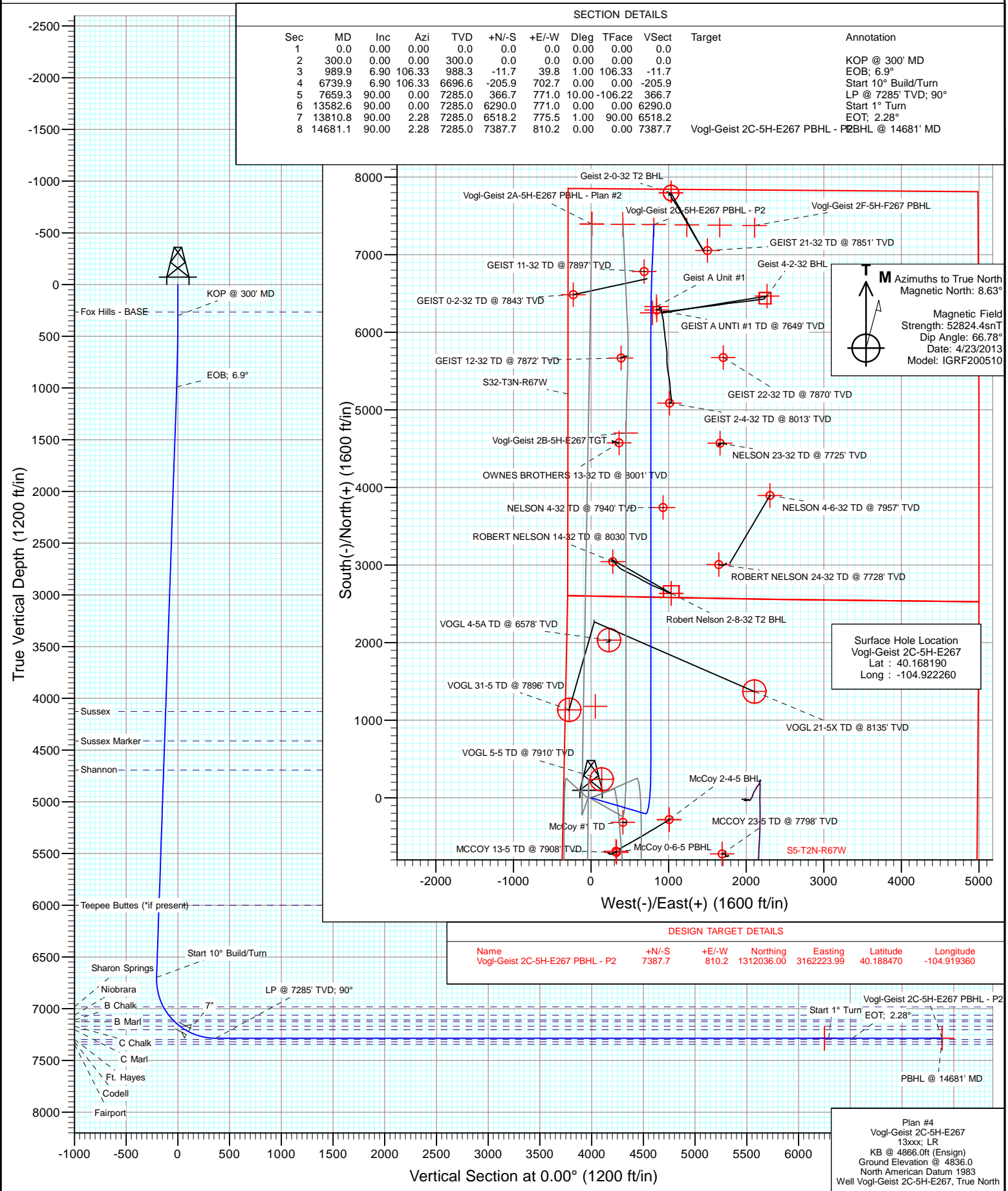




Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2C-5H-E267
Wellbore: Hz
Design: Plan #4





Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	North Reference:	True
Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

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

Site		S5-T2N-R67W (Vogl-McCoy)			
Site Position:		Northing:	1,303,967.76 ft	Latitude:	40.166330
From:	Lat/Long	Easting:	3,161,787.74 ft	Longitude:	-104.921110
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.37 °

Well	Vogl-Geist 2C-5H-E267					
Well Position	+N/-S	0.0 ft	Northing:	1,304,643.16 ft	Latitude:	40.168190
	+E/-W	0.0 ft	Easting:	3,161,461.94 ft	Longitude:	-104.922260
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,836.0 ft

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

Design	Plan #4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
989.9	6.90	106.33	988.3	-11.7	39.8	1.00	1.00	0.00	106.33	
6,739.9	6.90	106.33	6,696.6	-205.9	702.7	0.00	0.00	0.00	0.00	
7,659.3	90.00	0.00	7,285.0	366.7	771.0	10.00	9.04	-11.57	-106.22	
13,582.6	90.00	0.00	7,285.0	6,290.0	771.0	0.00	0.00	0.00	0.00	
13,810.8	90.00	2.28	7,285.0	6,518.2	775.5	1.00	0.00	1.00	90.00	
14,681.1	90.00	2.28	7,285.0	7,387.7	810.2	0.00	0.00	0.00	0.00	Vogl-Geist 2C-5H-E267



Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2C-5H-E267
Wellbore: Hz
Design: Plan #4

Local Co-ordinate Reference: Well Vogl-Geist 2C-5H-E267
TVD Reference: KB @ 4866.0ft (Ensign)
MD Reference: KB @ 4866.0ft (Ensign)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
266.0	0.00	0.00	266.0	0.0	0.0	0.0	0.00	0.00	Fox Hills - BASE
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300' MD
400.0	1.00	106.33	400.0	-0.2	0.8	-0.2	1.00	1.00	
500.0	2.00	106.33	500.0	-1.0	3.3	-1.0	1.00	1.00	
600.0	3.00	106.33	599.9	-2.2	7.5	-2.2	1.00	1.00	
700.0	4.00	106.33	699.7	-3.9	13.4	-3.9	1.00	1.00	
800.0	5.00	106.33	799.4	-6.1	20.9	-6.1	1.00	1.00	
900.0	6.00	106.33	898.9	-8.8	30.1	-8.8	1.00	1.00	
989.9	6.90	106.33	988.3	-11.7	39.8	-11.7	1.00	1.00	EOB; 6.9°
1,000.0	6.90	106.33	998.3	-12.0	41.0	-12.0	0.00	0.00	
1,100.0	6.90	106.33	1,097.5	-15.4	52.5	-15.4	0.00	0.00	
1,200.0	6.90	106.33	1,196.8	-18.8	64.0	-18.8	0.00	0.00	
1,300.0	6.90	106.33	1,296.1	-22.1	75.6	-22.1	0.00	0.00	
1,400.0	6.90	106.33	1,395.4	-25.5	87.1	-25.5	0.00	0.00	
1,500.0	6.90	106.33	1,494.6	-28.9	98.6	-28.9	0.00	0.00	
1,600.0	6.90	106.33	1,593.9	-32.3	110.1	-32.3	0.00	0.00	
1,700.0	6.90	106.33	1,693.2	-35.7	121.7	-35.7	0.00	0.00	
1,800.0	6.90	106.33	1,792.5	-39.0	133.2	-39.0	0.00	0.00	
1,900.0	6.90	106.33	1,891.7	-42.4	144.7	-42.4	0.00	0.00	
2,000.0	6.90	106.33	1,991.0	-45.8	156.3	-45.8	0.00	0.00	
2,100.0	6.90	106.33	2,090.3	-49.2	167.8	-49.2	0.00	0.00	
2,200.0	6.90	106.33	2,189.6	-52.5	179.3	-52.5	0.00	0.00	
2,300.0	6.90	106.33	2,288.8	-55.9	190.8	-55.9	0.00	0.00	
2,400.0	6.90	106.33	2,388.1	-59.3	202.4	-59.3	0.00	0.00	
2,500.0	6.90	106.33	2,487.4	-62.7	213.9	-62.7	0.00	0.00	
2,600.0	6.90	106.33	2,586.7	-66.1	225.4	-66.1	0.00	0.00	
2,700.0	6.90	106.33	2,686.0	-69.4	237.0	-69.4	0.00	0.00	
2,800.0	6.90	106.33	2,785.2	-72.8	248.5	-72.8	0.00	0.00	
2,900.0	6.90	106.33	2,884.5	-76.2	260.0	-76.2	0.00	0.00	
3,000.0	6.90	106.33	2,983.8	-79.6	271.5	-79.6	0.00	0.00	
3,100.0	6.90	106.33	3,083.1	-82.9	283.1	-82.9	0.00	0.00	
3,200.0	6.90	106.33	3,182.3	-86.3	294.6	-86.3	0.00	0.00	
3,300.0	6.90	106.33	3,281.6	-89.7	306.1	-89.7	0.00	0.00	
3,400.0	6.90	106.33	3,380.9	-93.1	317.6	-93.1	0.00	0.00	
3,500.0	6.90	106.33	3,480.2	-96.5	329.2	-96.5	0.00	0.00	
3,600.0	6.90	106.33	3,579.4	-99.8	340.7	-99.8	0.00	0.00	
3,700.0	6.90	106.33	3,678.7	-103.2	352.2	-103.2	0.00	0.00	
3,800.0	6.90	106.33	3,778.0	-106.6	363.8	-106.6	0.00	0.00	
3,900.0	6.90	106.33	3,877.3	-110.0	375.3	-110.0	0.00	0.00	
4,000.0	6.90	106.33	3,976.5	-113.4	386.8	-113.4	0.00	0.00	
4,100.0	6.90	106.33	4,075.8	-116.7	398.3	-116.7	0.00	0.00	
4,150.6	6.90	106.33	4,126.0	-118.4	404.2	-118.4	0.00	0.00	Sussex
4,200.0	6.90	106.33	4,175.1	-120.1	409.9	-120.1	0.00	0.00	
4,300.0	6.90	106.33	4,274.4	-123.5	421.4	-123.5	0.00	0.00	
4,400.0	6.90	106.33	4,373.6	-126.9	432.9	-126.9	0.00	0.00	
4,438.6	6.90	106.33	4,412.0	-128.2	437.4	-128.2	0.00	0.00	Sussex Marker
4,500.0	6.90	106.33	4,472.9	-130.2	444.5	-130.2	0.00	0.00	
4,600.0	6.90	106.33	4,572.2	-133.6	456.0	-133.6	0.00	0.00	
4,700.0	6.90	106.33	4,671.5	-137.0	467.5	-137.0	0.00	0.00	



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	North Reference:	True
Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

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
4,721.7	6.90	106.33	4,693.0	-137.7	470.0	-137.7	0.00	0.00	Shannon
4,800.0	6.90	106.33	4,770.7	-140.4	479.0	-140.4	0.00	0.00	
4,900.0	6.90	106.33	4,870.0	-143.8	490.6	-143.8	0.00	0.00	
5,000.0	6.90	106.33	4,969.3	-147.1	502.1	-147.1	0.00	0.00	
5,100.0	6.90	106.33	5,068.6	-150.5	513.6	-150.5	0.00	0.00	
5,200.0	6.90	106.33	5,167.8	-153.9	525.2	-153.9	0.00	0.00	
5,300.0	6.90	106.33	5,267.1	-157.3	536.7	-157.3	0.00	0.00	
5,400.0	6.90	106.33	5,366.4	-160.6	548.2	-160.6	0.00	0.00	
5,500.0	6.90	106.33	5,465.7	-164.0	559.7	-164.0	0.00	0.00	
5,600.0	6.90	106.33	5,564.9	-167.4	571.3	-167.4	0.00	0.00	
5,700.0	6.90	106.33	5,664.2	-170.8	582.8	-170.8	0.00	0.00	
5,800.0	6.90	106.33	5,763.5	-174.2	594.3	-174.2	0.00	0.00	
5,900.0	6.90	106.33	5,862.8	-177.5	605.8	-177.5	0.00	0.00	
6,000.0	6.90	106.33	5,962.1	-180.9	617.4	-180.9	0.00	0.00	
6,038.2	6.90	106.33	6,000.0	-182.2	621.8	-182.2	0.00	0.00	Teepee Buttes (*if present)
6,100.0	6.90	106.33	6,061.3	-184.3	628.9	-184.3	0.00	0.00	
6,200.0	6.90	106.33	6,160.6	-187.7	640.4	-187.7	0.00	0.00	
6,300.0	6.90	106.33	6,259.9	-191.0	652.0	-191.0	0.00	0.00	
6,400.0	6.90	106.33	6,359.2	-194.4	663.5	-194.4	0.00	0.00	
6,500.0	6.90	106.33	6,458.4	-197.8	675.0	-197.8	0.00	0.00	
6,600.0	6.90	106.33	6,557.7	-201.2	686.5	-201.2	0.00	0.00	
6,700.0	6.90	106.33	6,657.0	-204.6	698.1	-204.6	0.00	0.00	
6,739.9	6.90	106.33	6,696.6	-205.9	702.7	-205.9	0.00	0.00	Start 10° Build/Turn
6,750.0	6.69	98.01	6,706.6	-206.2	703.8	-206.2	10.00	-2.10	
6,800.0	7.77	58.33	6,756.3	-204.8	709.6	-204.8	10.00	2.16	
6,850.0	11.21	35.85	6,805.6	-199.1	715.3	-199.1	10.00	6.89	
6,900.0	15.52	24.71	6,854.2	-189.0	721.0	-189.0	10.00	8.62	
6,950.0	20.15	18.45	6,901.8	-174.8	726.5	-174.8	10.00	9.25	
7,000.0	24.91	14.48	6,948.0	-156.4	731.9	-156.4	10.00	9.53	
7,037.0	28.48	12.36	6,981.0	-140.3	735.7	-140.3	10.00	9.66	Sharon Springs
7,050.0	29.75	11.72	6,992.4	-134.1	737.0	-134.1	10.00	9.71	
7,100.0	34.63	9.68	7,034.7	-107.9	741.9	-107.9	10.00	9.76	
7,135.2	38.08	8.52	7,063.0	-87.3	745.2	-87.3	10.00	9.81	Niobrara
7,150.0	39.54	8.09	7,074.6	-78.1	746.6	-78.1	10.00	9.83	
7,196.2	44.09	6.88	7,109.0	-47.6	750.6	-47.6	10.00	9.85	B Chalk
7,200.0	44.46	6.80	7,111.7	-44.9	750.9	-44.9	10.00	9.86	
7,218.9	46.33	6.36	7,125.0	-31.6	752.4	-31.6	10.00	9.87	B Marl
7,250.0	49.40	5.71	7,145.8	-8.6	754.8	-8.6	10.00	9.88	
7,285.3	52.89	5.04	7,168.0	18.7	757.4	18.7	10.00	9.89	C Chalk
7,300.0	54.35	4.78	7,176.7	30.5	758.4	30.5	10.00	9.90	
7,347.9	59.09	3.99	7,203.0	70.4	761.5	70.4	10.00	9.90	C Marl
7,350.0	59.30	3.95	7,204.1	72.2	761.6	72.2	10.00	9.91	
7,380.4	62.31	3.49	7,218.9	98.7	763.3	98.7	10.00	9.91	7"
7,400.0	64.26	3.21	7,227.7	116.2	764.3	116.2	10.00	9.92	
7,450.0	69.22	2.53	7,247.4	162.0	766.6	162.0	10.00	9.92	
7,500.0	74.18	1.89	7,263.1	209.5	768.5	209.5	10.00	9.93	
7,550.0	79.14	1.28	7,274.7	258.1	769.8	258.1	10.00	9.93	
7,600.0	84.11	0.69	7,282.0	307.5	770.6	307.5	10.00	9.93	
7,650.0	89.08	0.11	7,284.9	357.4	771.0	357.4	10.00	9.93	
7,659.3	90.00	0.00	7,285.0	366.7	771.0	366.7	10.00	9.93	LP @ 7285' TVD; 90°
7,700.0	90.00	0.00	7,285.0	407.4	771.0	407.4	0.00	0.00	
7,800.0	90.00	0.00	7,285.0	507.4	771.0	507.4	0.00	0.00	



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	North Reference:	True
Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

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
7,900.0	90.00	0.00	7,285.0	607.4	771.0	607.4	0.00	0.00	
8,000.0	90.00	0.00	7,285.0	707.4	771.0	707.4	0.00	0.00	
8,100.0	90.00	0.00	7,285.0	807.4	771.0	807.4	0.00	0.00	
8,200.0	90.00	0.00	7,285.0	907.4	771.0	907.4	0.00	0.00	
8,300.0	90.00	0.00	7,285.0	1,007.4	771.0	1,007.4	0.00	0.00	
8,400.0	90.00	0.00	7,285.0	1,107.4	771.0	1,107.4	0.00	0.00	
8,500.0	90.00	0.00	7,285.0	1,207.4	771.0	1,207.4	0.00	0.00	
8,600.0	90.00	0.00	7,285.0	1,307.4	771.0	1,307.4	0.00	0.00	
8,700.0	90.00	0.00	7,285.0	1,407.4	771.0	1,407.4	0.00	0.00	
8,800.0	90.00	0.00	7,285.0	1,507.4	771.0	1,507.4	0.00	0.00	
8,900.0	90.00	0.00	7,285.0	1,607.4	771.0	1,607.4	0.00	0.00	
9,000.0	90.00	0.00	7,285.0	1,707.4	771.0	1,707.4	0.00	0.00	
9,100.0	90.00	0.00	7,285.0	1,807.4	771.0	1,807.4	0.00	0.00	
9,200.0	90.00	0.00	7,285.0	1,907.4	771.0	1,907.4	0.00	0.00	
9,300.0	90.00	0.00	7,285.0	2,007.4	771.0	2,007.4	0.00	0.00	
9,400.0	90.00	0.00	7,285.0	2,107.4	771.0	2,107.4	0.00	0.00	
9,500.0	90.00	0.00	7,285.0	2,207.4	771.0	2,207.4	0.00	0.00	
9,600.0	90.00	0.00	7,285.0	2,307.4	771.0	2,307.4	0.00	0.00	
9,700.0	90.00	0.00	7,285.0	2,407.4	771.0	2,407.4	0.00	0.00	
9,800.0	90.00	0.00	7,285.0	2,507.4	771.0	2,507.4	0.00	0.00	
9,900.0	90.00	0.00	7,285.0	2,607.4	771.0	2,607.4	0.00	0.00	
10,000.0	90.00	0.00	7,285.0	2,707.4	771.0	2,707.4	0.00	0.00	
10,100.0	90.00	0.00	7,285.0	2,807.4	771.0	2,807.4	0.00	0.00	
10,200.0	90.00	0.00	7,285.0	2,907.4	771.0	2,907.4	0.00	0.00	
10,300.0	90.00	0.00	7,285.0	3,007.4	771.0	3,007.4	0.00	0.00	
10,400.0	90.00	0.00	7,285.0	3,107.4	771.0	3,107.4	0.00	0.00	
10,500.0	90.00	0.00	7,285.0	3,207.4	771.0	3,207.4	0.00	0.00	
10,600.0	90.00	0.00	7,285.0	3,307.4	771.0	3,307.4	0.00	0.00	
10,700.0	90.00	0.00	7,285.0	3,407.4	771.0	3,407.4	0.00	0.00	
10,800.0	90.00	0.00	7,285.0	3,507.4	771.0	3,507.4	0.00	0.00	
10,900.0	90.00	0.00	7,285.0	3,607.4	771.0	3,607.4	0.00	0.00	
11,000.0	90.00	0.00	7,285.0	3,707.4	771.0	3,707.4	0.00	0.00	
11,100.0	90.00	0.00	7,285.0	3,807.4	771.0	3,807.4	0.00	0.00	
11,200.0	90.00	0.00	7,285.0	3,907.4	771.0	3,907.4	0.00	0.00	
11,300.0	90.00	0.00	7,285.0	4,007.4	771.0	4,007.4	0.00	0.00	
11,400.0	90.00	0.00	7,285.0	4,107.4	771.0	4,107.4	0.00	0.00	
11,500.0	90.00	0.00	7,285.0	4,207.4	771.0	4,207.4	0.00	0.00	
11,600.0	90.00	0.00	7,285.0	4,307.4	771.0	4,307.4	0.00	0.00	
11,700.0	90.00	0.00	7,285.0	4,407.4	771.0	4,407.4	0.00	0.00	
11,800.0	90.00	0.00	7,285.0	4,507.4	771.0	4,507.4	0.00	0.00	
11,900.0	90.00	0.00	7,285.0	4,607.4	771.0	4,607.4	0.00	0.00	
12,000.0	90.00	0.00	7,285.0	4,707.4	771.0	4,707.4	0.00	0.00	
12,100.0	90.00	0.00	7,285.0	4,807.4	771.0	4,807.4	0.00	0.00	
12,200.0	90.00	0.00	7,285.0	4,907.4	771.0	4,907.4	0.00	0.00	
12,300.0	90.00	0.00	7,285.0	5,007.4	771.0	5,007.4	0.00	0.00	
12,400.0	90.00	0.00	7,285.0	5,107.4	771.0	5,107.4	0.00	0.00	
12,500.0	90.00	0.00	7,285.0	5,207.4	771.0	5,207.4	0.00	0.00	
12,600.0	90.00	0.00	7,285.0	5,307.4	771.0	5,307.4	0.00	0.00	
12,700.0	90.00	0.00	7,285.0	5,407.4	771.0	5,407.4	0.00	0.00	
12,800.0	90.00	0.00	7,285.0	5,507.4	771.0	5,507.4	0.00	0.00	
12,900.0	90.00	0.00	7,285.0	5,607.4	771.0	5,607.4	0.00	0.00	
13,000.0	90.00	0.00	7,285.0	5,707.4	771.0	5,707.4	0.00	0.00	



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	North Reference:	True
Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
13,100.0	90.00	0.00	7,285.0	5,807.4	771.0	5,807.4	0.00	0.00	
13,200.0	90.00	0.00	7,285.0	5,907.4	771.0	5,907.4	0.00	0.00	
13,300.0	90.00	0.00	7,285.0	6,007.4	771.0	6,007.4	0.00	0.00	
13,400.0	90.00	0.00	7,285.0	6,107.4	771.0	6,107.4	0.00	0.00	
13,500.0	90.00	0.00	7,285.0	6,207.4	771.0	6,207.4	0.00	0.00	
13,582.6	90.00	0.00	7,285.0	6,290.0	771.0	6,290.0	0.00	0.00	Start 1° Turn
13,600.0	90.00	0.17	7,285.0	6,307.4	771.0	6,307.4	1.00	0.00	
13,700.0	90.00	1.17	7,285.0	6,407.4	772.2	6,407.4	1.00	0.00	
13,800.0	90.00	2.17	7,285.0	6,507.4	775.1	6,507.4	1.00	0.00	
13,810.8	90.00	2.28	7,285.0	6,518.2	775.5	6,518.2	1.00	0.00	EOT; 2.28°
13,900.0	90.00	2.28	7,285.0	6,607.3	779.1	6,607.3	0.00	0.00	
14,000.0	90.00	2.28	7,285.0	6,707.2	783.1	6,707.2	0.00	0.00	
14,100.0	90.00	2.28	7,285.0	6,807.1	787.1	6,807.1	0.00	0.00	
14,200.0	90.00	2.28	7,285.0	6,907.0	791.0	6,907.0	0.00	0.00	
14,300.0	90.00	2.28	7,285.0	7,007.0	795.0	7,007.0	0.00	0.00	
14,400.0	90.00	2.28	7,285.0	7,106.9	799.0	7,106.9	0.00	0.00	
14,500.0	90.00	2.28	7,285.0	7,206.8	803.0	7,206.8	0.00	0.00	
14,600.0	90.00	2.28	7,285.0	7,306.7	807.0	7,306.7	0.00	0.00	
14,681.1	90.00	2.28	7,285.0	7,387.7	810.2	7,387.7	0.00	0.00	PBHL @ 14681' MD

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-Geist 2C-5H-E267	0.00	0.00	7,285.0	7,387.7	810.2	1,312,036.00	3,162,223.99	40.188470	-104.919360
- plan hits target center									
- Point									
Vogl-Geist 2C Int. Tgt	0.00	0.00	7,285.0	6,250.0	790.0	1,310,898.18	3,162,211.20	40.185347	-104.919432
- plan misses target center by 19.0ft at 13542.6ft MD (7285.0 TVD, 6250.0 N, 771.0 E)									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
7,380.4	7,218.9	7"	7.000	7.000	



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB @ 4866.0ft (Ensign)
Project:	DJ Wattenberg	MD Reference:	KB @ 4866.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	North Reference:	True
Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Wellbore:	H2		
Design:	Plan #4		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
266.0	266.0	Fox Hills - BASE				
4,150.6	4,126.0	Sussex				
4,438.6	4,412.0	Sussex Marker				
4,721.7	4,693.0	Shannon				
6,038.2	6,000.0	Teepee Buttes (*if present)				
7,037.0	6,981.0	Sharon Springs				
7,135.2	7,063.0	Niobrara				
7,196.2	7,109.0	B Chalk				
7,218.9	7,125.0	B Marl				
7,285.3	7,168.0	C Chalk				
7,347.9	7,203.0	C Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.0	300.0	0.0	0.0	KOP @ 300' MD	
989.9	988.3	-11.7	39.8	EOB; 6.9°	
6,739.9	6,696.6	-205.9	702.7	Start 10° Build/Turn	
7,659.3	7,285.0	366.7	771.0	LP @ 7285' TVD; 90°	
13,582.6	7,285.0	6,290.0	771.0	Start 1° Turn	
13,810.8	7,285.0	6,518.2	775.5	EOT; 2.28°	
14,681.1	7,285.0	7,387.7	810.2	PBHL @ 14681' MD	



EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S5-T2N-R67W (Vogl-McCoy)

Vogl-Geist 2C-5H-E267

Hz

Plan #4

Anticollision Report

13 February, 2014



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Reference	Plan #4		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,550.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	2/13/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	14,681.1	Plan #4 (Hz)	MWD	Geolink MWD



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
S5-T2N-R67W (Vogl-McCoy)						
GEIST 0-2-32 (EXISTING) - ENCANA WELL - NO SURV	13,748.3	7,296.6	1,002.0	872.7	7.752	CC, ES
GEIST 0-2-32 (EXISTING) - ENCANA WELL - NO SURV	13,900.0	7,296.6	1,014.7	882.6	7.683	SF
GEIST 11-32 (EXISTING) - ENCANA WELL - NO SURVE	14,072.5	7,221.0	101.3	-33.0	0.754	Level 1, CC, ES, SF
GEIST 12-32 (EXISTING) - ENCANA WELL - SURVEYS	12,963.3	7,228.6	382.2	267.6	3.337	CC, ES
GEIST 12-32 (EXISTING) - ENCANA WELL - SURVEYS	13,000.0	7,228.5	383.9	268.8	3.334	SF
GEIST 2-0-32 (EXISTING) - ENCANA WELL - Plan #1	14,681.1	7,305.7	463.9	313.5	3.086	CC, ES, SF
GEIST 2-0-32 (EXISTING) - ENCANA WELL - SURVEYS	14,681.1	7,329.1	433.8	283.8	2.891	CC, ES, SF
GEIST 21-32 (EXISTING) - ENCANA WELL - NO SURVE	14,374.8	7,229.0	702.6	563.0	5.033	CC, ES
GEIST 21-32 (EXISTING) - ENCANA WELL - NO SURVE	14,400.0	7,229.0	703.0	563.0	5.021	SF
GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVE	12,967.5	7,225.0	932.5	817.9	8.137	CC, ES
GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVE	13,100.0	7,225.0	941.9	825.0	8.057	SF
GEIST 2-4-32 (EXISTING) - ENCANA WELL - SURVEYS	12,382.1	7,413.9	249.1	132.6	2.139	CC, ES
GEIST 2-4-32 (EXISTING) - ENCANA WELL - SURVEYS	12,400.0	7,413.9	249.7	132.9	2.138	SF
GEIST 4-2-32 (EXISTING) - ENCANA WELL - Plan #2	13,818.3	7,399.4	1,494.0	1,363.1	11.411	CC, ES
GEIST 4-2-32 (EXISTING) - ENCANA WELL - Plan #2	14,100.0	7,399.4	1,520.3	1,384.5	11.192	SF
GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS	13,794.2	7,380.4	1,467.8	1,337.5	11.260	CC
GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS	13,810.8	7,381.2	1,467.9	1,337.2	11.231	ES
GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS	14,100.0	7,393.9	1,498.4	1,362.7	11.036	SF
GEIST A UNIT #1 (EXISTING) - ENCANA WELL - SURVE	13,580.9	7,219.6	75.8	-49.5	0.605	Level 1, CC, SF
GEIST A UNIT #1 (EXISTING) - ENCANA WELL - SURVE	13,582.6	7,219.5	75.8	-49.5	0.605	Level 1, ES
MCCOY #1 (EXISTING) - ENCANA WELL - SURVEYS	4,685.4	4,669.6	186.5	166.5	9.322	CC
MCCOY #1 (EXISTING) - ENCANA WELL - SURVEYS	4,700.0	4,684.0	186.5	166.4	9.292	ES
MCCOY #1 (EXISTING) - ENCANA WELL - SURVEYS	5,100.0	5,081.9	193.6	172.0	8.951	SF
MCCOY 0-6-5 (EXISTING) - ENCANA WELL - NO SURV	4,823.6	4,886.2	570.3	549.6	27.496	CC
MCCOY 0-6-5 (EXISTING) - ENCANA WELL - NO SURV	5,000.0	5,061.3	570.7	549.2	26.514	ES
MCCOY 0-6-5 (EXISTING) - ENCANA WELL - NO SURV	6,750.0	6,798.6	615.5	586.9	21.489	SF
MCCOY 13-5 (EXISTING) - ENCANA WELL - SURVEYS	3,794.7	3,755.5	626.1	610.1	39.093	CC
MCCOY 13-5 (EXISTING) - ENCANA WELL - SURVEYS	4,600.0	4,568.1	626.8	607.2	31.869	ES
MCCOY 13-5 (EXISTING) - ENCANA WELL - SURVEYS	6,739.9	6,687.9	698.4	670.2	24.801	SF
MCCOY 23-5 (EXISTING) - ENCANA WELL - SURVEYS	6,893.9	6,870.8	1,116.9	1,092.5	45.827	CC
MCCOY 23-5 (EXISTING) - ENCANA WELL - SURVEYS	6,900.0	6,877.1	1,116.9	1,092.5	45.784	ES
MCCOY 23-5 (EXISTING) - ENCANA WELL - SURVEYS	7,000.0	6,969.0	1,122.3	1,097.6	45.420	SF
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS	6,941.3	6,945.8	299.4	271.4	10.704	CC
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS	6,950.0	6,953.9	299.4	271.4	10.679	ES
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS	7,000.0	7,000.0	301.3	272.9	10.601	SF
NELSON 23-32 (EXISTING) - ENCANA WELL - SURVEY	11,863.3	7,211.2	886.8	791.4	9.298	CC, ES
NELSON 23-32 (EXISTING) - ENCANA WELL - SURVEY	12,000.0	7,213.1	897.2	799.5	9.179	SF
NELSON 4-32 (EXISTING) - ENCANA WELL - NO SURV	11,034.2	7,229.0	156.7	75.6	1.933	CC, ES, SF
NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN O	11,188.9	7,307.5	1,535.1	1,444.1	16.873	CC
NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN O	11,200.0	7,307.5	1,535.1	1,443.9	16.838	ES
NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN O	11,400.0	7,307.5	1,549.5	1,454.9	16.375	SF
OWENS BROTHERS 13-32 (EXISTING) - ENCANA WEL	11,877.0	7,217.0	486.3	390.7	5.086	CC, ES
OWENS BROTHERS 13-32 (EXISTING) - ENCANA WEL	11,900.0	7,216.3	486.8	390.8	5.070	SF
ROBERT NELSON 14-32 (EXISTING) - ENCANA WELL	10,335.8	7,225.0	491.6	422.5	7.117	CC, ES
ROBERT NELSON 14-32 (EXISTING) - ENCANA WELL	10,400.0	7,225.0	495.7	425.6	7.065	SF
ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL	10,297.3	7,244.9	877.3	808.9	12.823	CC
ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL	10,300.0	7,244.9	877.3	808.8	12.814	ES
ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL	10,500.0	7,245.1	900.4	828.5	12.525	SF
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL	9,926.4	7,343.2	262.9	198.5	4.083	CC, ES, SF
ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL	9,933.2	7,334.9	239.5	175.1	3.719	CC, ES, SF
VOGL 21-5X (EXISTING) - KMG WELL - NO SURVEYS	8,666.6	7,542.6	1,328.2	1,279.7	27.361	CC
VOGL 21-5X (EXISTING) - KMG WELL - NO SURVEYS	8,700.0	7,541.1	1,328.7	1,279.6	27.079	ES
VOGL 21-5X (EXISTING) - KMG WELL - NO SURVEYS	9,300.0	7,512.7	1,471.3	1,412.6	25.064	SF

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S5-T2N-R67W (Vogl-McCoy)						
VOGL 31-5 (EXISTING) - KMG WELL - NO SURVEYS	8,414.5	7,448.1	1,057.1	1,006.3	20.800	CC, ES
VOGL 31-5 (EXISTING) - KMG WELL - NO SURVEYS	8,800.0	7,448.1	1,125.2	1,068.4	19.796	SF
VOGL 4-5A (EXISTING) - KMG WELL - GYRO	9,325.5	6,580.0	860.3	825.2	24.473	CC, ES
VOGL 4-5A (EXISTING) - KMG WELL - GYRO	9,500.0	6,580.0	877.8	840.9	23.735	SF
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	1,184.1	1,155.0	265.8	261.4	60.659	CC
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	1,300.0	1,270.1	266.1	261.3	54.498	ES
VOGL 5-5 (EXISTING) - KMG WELL - NO SURVEYS	7,650.0	7,258.9	645.4	617.9	23.448	SF
Vogl-Geist 2A-5H-E267 - Hz - Plan #2	300.0	300.0	39.1	38.2	41.513	CC, ES
Vogl-Geist 2A-5H-E267 - Hz - Plan #2	14,681.1	14,661.5	799.1	534.8	3.024	SF
Vogl-Geist 2B-5H-E267 - Hz - Plan #2	300.0	300.0	19.6	18.6	20.756	CC, ES
Vogl-Geist 2B-5H-E267 - Hz - Plan #2	14,500.0	14,302.0	428.8	197.7	1.855	SF
Vogl-Geist 2D-5H-F267 - Hz - SURVEYS						Out of range
Vogl-Geist 2E-5H-F267 - Hz - SURVEYS						Out of range
Vogl-Geist 2F-5H-F267 - Hz - SURVEYS						Out of range
Vogl-McCoy 2A-5H-E267 - Hz - Plan #1	200.0	199.0	47.5	46.9	80.296	CC, ES
Vogl-McCoy 2A-5H-E267 - Hz - Plan #1	700.0	695.1	77.2	74.9	32.967	SF
Vogl-McCoy 2B-5H-E267 - Hz - Plan #3	300.0	299.0	27.9	27.0	29.707	CC, ES
Vogl-McCoy 2B-5H-E267 - Hz - Plan #3	700.0	698.7	41.5	39.2	17.784	SF
Vogl-McCoy 2C-5H-E267 - Hz - Plan #2	300.0	300.0	8.4	7.4	8.896	CC, ES
Vogl-McCoy 2C-5H-E267 - Hz - Plan #2	400.0	400.0	9.2	7.9	7.143	SF
Vogl-McCoy 2D-5H-E267 - Hz - Plan #2	200.0	200.0	11.2	10.6	18.838	CC, ES
Vogl-McCoy 2D-5H-E267 - Hz - Plan #2	7,300.0	7,291.0	124.6	99.2	4.900	SF
Vogl-McCoy 2E-5H-F267 - Hz - SURVEYS						Out of range
Vogl-McCoy 2F-5H-F267 - Hz - SURVEYS						Out of range
Vogl-McCoy 2G-5H-F267 - Hz - SURVEYS						Out of range
Vogl-McCoy 2H-5H-F267 - Hz - Hz	7,382.6	7,276.9	1,415.0	1,389.2	54.844	CC, ES
Vogl-McCoy 2H-5H-F267 - Hz - Hz	8,000.0	7,052.0	1,532.4	1,501.2	49.064	SF



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 0-2-32 (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		
12,600.0	7,285.0	7,296.6	7,219.0	96.5	21.4	-90.00	6,484.7	-228.2	1,544.1	1,435.4	108.78	14.194		
12,700.0	7,285.0	7,296.6	7,219.0	98.3	21.4	-90.00	6,484.7	-228.2	1,469.3	1,358.8	110.52	13.294		
12,800.0	7,285.0	7,296.6	7,219.0	100.0	21.4	-90.00	6,484.7	-228.2	1,397.7	1,285.4	112.26	12.450		
12,900.0	7,285.0	7,296.6	7,219.0	101.7	21.4	-90.00	6,484.7	-228.2	1,329.7	1,215.7	114.00	11.663		
13,000.0	7,285.0	7,296.6	7,219.0	103.4	21.4	-90.00	6,484.7	-228.2	1,265.9	1,150.2	115.74	10.937		
13,100.0	7,285.0	7,296.6	7,219.0	105.2	21.4	-90.00	6,484.7	-228.2	1,207.1	1,089.6	117.49	10.274		
13,200.0	7,285.0	7,296.6	7,219.0	106.9	21.4	-90.00	6,484.7	-228.2	1,154.0	1,034.7	119.23	9.679		
13,300.0	7,285.0	7,296.6	7,219.0	108.6	21.4	-90.00	6,484.7	-228.2	1,107.3	986.4	120.97	9.154		
13,400.0	7,285.0	7,296.6	7,219.0	110.4	21.4	-90.00	6,484.7	-228.2	1,068.0	945.3	122.71	8.704		
13,500.0	7,285.0	7,296.6	7,219.0	112.1	21.4	-90.00	6,484.7	-228.2	1,036.9	912.5	124.45	8.332		
13,582.6	7,285.0	7,296.6	7,219.0	113.5	21.4	-90.00	6,484.7	-228.2	1,018.0	892.1	125.89	8.086		
13,600.0	7,285.0	7,296.6	7,219.0	113.8	21.4	-90.00	6,484.7	-228.2	1,014.8	888.6	126.25	8.038		
13,700.0	7,285.0	7,296.6	7,219.0	115.5	21.4	-90.00	6,484.7	-228.2	1,003.4	875.1	128.29	7.821		
13,748.3	7,285.0	7,296.6	7,219.0	116.4	21.4	-90.00	6,484.7	-228.2	1,002.0	872.7	129.26	7.752 CC, ES		
13,800.0	7,285.0	7,296.6	7,219.0	117.3	21.4	-90.00	6,484.7	-228.2	1,003.6	873.3	130.30	7.702		
13,810.8	7,285.0	7,296.6	7,219.0	117.5	21.4	-90.00	6,484.7	-228.2	1,004.3	873.8	130.52	7.695		
13,900.0	7,285.0	7,296.6	7,219.0	119.0	21.4	-90.00	6,484.7	-228.2	1,014.7	882.6	132.07	7.683 SF		
14,000.0	7,285.0	7,296.6	7,219.0	120.8	21.4	-90.00	6,484.7	-228.2	1,035.4	901.6	133.81	7.738		
14,100.0	7,285.0	7,296.6	7,219.0	122.5	21.4	-90.00	6,484.7	-228.2	1,065.2	929.6	135.56	7.858		
14,200.0	7,285.0	7,296.6	7,219.0	124.2	21.4	-90.00	6,484.7	-228.2	1,103.3	965.9	137.31	8.035		
14,300.0	7,285.0	7,296.6	7,219.0	126.0	21.4	-90.00	6,484.7	-228.2	1,148.8	1,009.7	139.05	8.262		
14,400.0	7,285.0	7,296.6	7,219.0	127.7	21.4	-90.00	6,484.7	-228.2	1,200.9	1,060.1	140.80	8.529		
14,500.0	7,285.0	7,296.6	7,219.0	129.5	21.4	-90.00	6,484.7	-228.2	1,258.9	1,116.3	142.54	8.831		
14,600.0	7,285.0	7,296.6	7,219.0	131.2	21.4	-90.00	6,484.7	-228.2	1,321.8	1,177.5	144.29	9.161		
14,681.1	7,285.0	7,296.6	7,219.0	132.6	21.4	-90.00	6,484.7	-228.2	1,376.1	1,230.4	145.70	9.444		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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	
12,600.0	7,285.0	7,221.0	7,221.0	96.5	12.6	-90.00	6,783.7	684.8	1,478.8	1,370.6	108.19	13.669	
12,700.0	7,285.0	7,221.0	7,221.0	98.3	12.6	-90.00	6,783.7	684.8	1,379.0	1,269.1	109.93	12.544	
12,800.0	7,285.0	7,221.0	7,221.0	100.0	12.6	-90.00	6,783.7	684.8	1,279.2	1,167.5	111.67	11.455	
12,900.0	7,285.0	7,221.0	7,221.0	101.7	12.6	-90.00	6,783.7	684.8	1,179.5	1,066.1	113.41	10.400	
13,000.0	7,285.0	7,221.0	7,221.0	103.4	12.6	-90.00	6,783.7	684.8	1,079.8	964.6	115.15	9.377	
13,100.0	7,285.0	7,221.0	7,221.0	105.2	12.6	-90.00	6,783.7	684.8	980.1	863.2	116.89	8.385	
13,200.0	7,285.0	7,221.0	7,221.0	106.9	12.6	-90.00	6,783.7	684.8	880.5	761.9	118.63	7.422	
13,300.0	7,285.0	7,221.0	7,221.0	108.6	12.6	-90.00	6,783.7	684.8	781.1	660.7	120.38	6.489	
13,400.0	7,285.0	7,221.0	7,221.0	110.4	12.6	-90.00	6,783.7	684.8	681.8	559.7	122.12	5.583	
13,500.0	7,285.0	7,221.0	7,221.0	112.1	12.6	-90.00	6,783.7	684.8	582.7	458.9	123.86	4.705	
13,582.6	7,285.0	7,221.0	7,221.0	113.5	12.6	-90.00	6,783.7	684.8	501.2	375.9	125.30	4.000	
13,600.0	7,285.0	7,221.0	7,221.0	113.8	12.6	-90.00	6,783.7	684.8	484.1	358.4	125.64	3.853	
13,700.0	7,285.0	7,221.0	7,221.0	115.5	12.6	-90.00	6,783.7	684.8	386.3	258.7	127.60	3.028	
13,800.0	7,285.0	7,221.0	7,221.0	117.3	12.6	-90.00	6,783.7	684.8	290.8	161.2	129.52	2.245	
13,810.8	7,285.0	7,221.0	7,221.0	117.5	12.6	-90.00	6,783.7	684.8	280.6	150.9	129.72	2.163	
13,900.0	7,285.0	7,221.0	7,221.0	119.0	12.6	-90.00	6,783.7	684.8	200.1	68.8	131.28	1.524	
14,000.0	7,285.0	7,221.0	7,221.0	120.8	12.6	-90.00	6,783.7	684.8	124.6	-8.4	133.02	0.936 Level 1	
14,072.5	7,285.0	7,221.0	7,221.0	122.0	12.6	-90.00	6,783.7	684.8	101.3	-33.0	134.29	0.754 Level 1, CC, ES, SF	
14,100.0	7,285.0	7,221.0	7,221.0	122.5	12.6	-90.00	6,783.7	684.8	104.9	-29.8	134.77	0.779 Level 1	
14,200.0	7,285.0	7,221.0	7,221.0	124.2	12.6	-90.00	6,783.7	684.8	162.8	26.3	136.51	1.192 Level 2	
14,300.0	7,285.0	7,221.0	7,221.0	126.0	12.6	-90.00	6,783.7	684.8	249.0	110.7	138.26	1.801	
14,400.0	7,285.0	7,221.0	7,221.0	127.7	12.6	-90.00	6,783.7	684.8	342.8	202.8	140.01	2.448	
14,500.0	7,285.0	7,221.0	7,221.0	129.5	12.6	-90.00	6,783.7	684.8	439.3	297.5	141.75	3.099	
14,600.0	7,285.0	7,221.0	7,221.0	131.2	12.6	-90.00	6,783.7	684.8	537.1	393.6	143.50	3.743	
14,681.1	7,285.0	7,221.0	7,221.0	132.6	12.6	-90.00	6,783.7	684.8	616.9	472.0	144.91	4.257	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 12-32 (EXISTING) - ENCANA WELL - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 100-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)			
11,500.0	7,285.0	7,230.1	7,229.0	77.7	12.7	-90.30	5,670.7	388.8	1,512.3	1,423.2	89.13	16.969	
11,600.0	7,285.0	7,230.0	7,228.9	79.4	12.7	-90.28	5,670.7	388.8	1,415.8	1,325.0	90.86	15.583	
11,700.0	7,285.0	7,229.9	7,228.8	81.1	12.7	-90.27	5,670.7	388.8	1,319.8	1,227.2	92.59	14.255	
11,800.0	7,285.0	7,229.7	7,228.7	82.8	12.7	-90.25	5,670.7	388.8	1,224.4	1,130.1	94.32	12.982	
11,900.0	7,285.0	7,229.6	7,228.6	84.5	12.7	-90.23	5,670.7	388.8	1,129.9	1,033.8	96.05	11.763	
12,000.0	7,285.0	7,229.5	7,228.5	86.2	12.7	-90.22	5,670.7	388.8	1,036.3	938.5	97.79	10.597	
12,100.0	7,285.0	7,229.4	7,228.4	88.0	12.7	-90.20	5,670.7	388.8	944.1	844.5	99.52	9.486	
12,200.0	7,285.0	7,229.3	7,228.3	89.7	12.7	-90.19	5,670.7	388.8	853.6	752.3	101.26	8.430	
12,300.0	7,285.0	7,229.2	7,228.1	91.4	12.7	-90.17	5,670.7	388.8	765.5	662.5	103.00	7.432	
12,400.0	7,285.0	7,229.1	7,228.0	93.1	12.7	-90.16	5,670.7	388.8	680.7	575.9	104.73	6.499	
12,500.0	7,285.0	7,229.0	7,227.9	94.8	12.7	-90.14	5,670.7	388.8	600.6	494.1	106.47	5.640	
12,600.0	7,285.0	7,228.9	7,227.8	96.5	12.7	-90.13	5,670.7	388.8	527.3	419.1	108.21	4.873	
12,700.0	7,285.0	7,228.8	7,227.7	98.3	12.7	-90.11	5,670.7	388.8	464.1	354.1	109.95	4.221	
12,800.0	7,285.0	7,228.7	7,227.7	100.0	12.7	-90.10	5,670.7	388.8	415.6	303.9	111.69	3.721	
12,900.0	7,285.0	7,228.6	7,227.6	101.7	12.7	-90.08	5,670.7	388.8	387.4	273.9	113.43	3.415	
12,963.3	7,285.0	7,228.6	7,227.5	102.8	12.7	-90.07	5,670.7	388.8	382.2	267.6	114.53	3.337 CC, ES	
13,000.0	7,285.0	7,228.5	7,227.5	103.4	12.7	-90.07	5,670.7	388.8	383.9	268.8	115.17	3.334 SF	
13,100.0	7,285.0	7,228.4	7,227.4	105.2	12.7	-90.06	5,670.7	388.8	405.9	289.0	116.91	3.472	
13,200.0	7,285.0	7,228.3	7,227.3	106.9	12.7	-90.04	5,670.7	388.8	449.5	330.9	118.65	3.789	
13,300.0	7,285.0	7,228.3	7,227.2	108.6	12.7	-90.03	5,670.7	388.8	509.3	389.0	120.39	4.231	
13,400.0	7,285.0	7,228.2	7,227.1	110.4	12.7	-90.01	5,670.7	388.8	580.3	458.2	122.14	4.752	
13,500.0	7,285.0	7,228.1	7,227.0	112.1	12.7	-90.00	5,670.7	388.8	658.9	535.0	123.88	5.319	
13,582.6	7,285.0	7,228.0	7,226.9	113.5	12.7	-89.99	5,670.7	388.8	727.8	602.4	125.32	5.807	
13,600.0	7,285.0	7,228.0	7,226.9	113.8	12.7	-89.99	5,670.7	388.8	742.6	617.0	125.66	5.910	
13,700.0	7,285.0	7,227.9	7,226.8	115.5	12.7	-89.97	5,670.7	388.8	830.5	702.9	127.61	6.508	
13,800.0	7,285.0	7,227.8	7,226.7	117.3	12.7	-89.96	5,670.7	388.8	921.5	792.0	129.54	7.114	
13,810.8	7,285.0	7,227.8	7,226.7	117.5	12.7	-89.96	5,670.7	388.8	931.6	801.8	129.74	7.180	
13,900.0	7,285.0	7,227.7	7,226.7	119.0	12.7	-89.95	5,670.7	388.8	1,014.7	883.4	131.30	7.728	
14,000.0	7,285.0	7,227.7	7,226.6	120.8	12.7	-89.93	5,670.7	388.8	1,109.0	975.9	133.04	8.335	
14,100.0	7,285.0	7,227.6	7,226.5	122.5	12.7	-89.92	5,670.7	388.8	1,204.2	1,069.4	134.79	8.934	
14,200.0	7,285.0	7,227.5	7,226.4	124.2	12.7	-89.91	5,670.7	388.8	1,300.1	1,163.6	136.53	9.523	
14,300.0	7,285.0	7,227.4	7,226.4	126.0	12.7	-89.89	5,670.7	388.8	1,396.7	1,258.4	138.28	10.100	
14,400.0	7,285.0	7,227.3	7,226.3	127.7	12.7	-89.88	5,670.7	388.8	1,493.6	1,353.6	140.02	10.667	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 2-0-32 (EXISTING) - ENCANA WELL - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					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)	Total Uncertainty Axis			
13,582.6	7,285.0	7,305.7	7,235.0	113.5	19.7	90.00	7,795.7	1,030.9	1,528.0	1,397.0	130.94	11.670		
13,600.0	7,285.0	7,305.7	7,235.0	113.8	19.7	90.00	7,795.7	1,030.9	1,510.8	1,379.6	131.26	11.510		
13,700.0	7,285.0	7,305.7	7,235.0	115.5	19.7	90.00	7,795.7	1,030.9	1,412.2	1,279.1	133.12	10.608		
13,800.0	7,285.0	7,305.7	7,235.0	117.3	19.7	90.00	7,795.7	1,030.9	1,313.5	1,178.5	134.94	9.734		
13,810.8	7,285.0	7,305.7	7,235.0	117.5	19.7	90.00	7,795.7	1,030.9	1,302.8	1,167.6	135.14	9.640		
13,900.0	7,285.0	7,305.7	7,235.0	119.0	19.7	90.00	7,795.7	1,030.9	1,214.8	1,078.1	136.69	8.887		
14,000.0	7,285.0	7,305.7	7,235.0	120.8	19.7	90.00	7,795.7	1,030.9	1,116.4	977.9	138.44	8.064		
14,100.0	7,285.0	7,305.7	7,235.0	122.5	19.7	90.00	7,795.7	1,030.9	1,018.2	878.0	140.18	7.263		
14,200.0	7,285.0	7,305.7	7,235.0	124.2	19.7	90.00	7,795.7	1,030.9	920.5	778.5	141.93	6.485		
14,300.0	7,285.0	7,305.7	7,235.0	126.0	19.7	90.00	7,795.7	1,030.9	823.3	679.6	143.68	5.730		
14,400.0	7,285.0	7,305.7	7,235.0	127.7	19.7	90.00	7,795.7	1,030.9	726.8	581.4	145.42	4.998		
14,500.0	7,285.0	7,305.7	7,235.0	129.5	19.7	90.00	7,795.7	1,030.9	631.5	484.3	147.17	4.291		
14,600.0	7,285.0	7,305.7	7,235.0	131.2	19.7	90.00	7,795.7	1,030.9	537.8	388.9	148.91	3.612		
14,681.1	7,285.0	7,305.7	7,235.0	132.6	19.7	90.00	7,795.7	1,030.9	463.9	313.5	150.33	3.086 CC, ES, SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 2-0-32 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 650-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						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	
13,582.6	7,285.0	7,348.0	7,261.2	113.5	19.7	96.38	7,774.8	1,005.3	1,503.3	1,373.3	130.05	11.560	
13,600.0	7,285.0	7,347.7	7,260.9	113.8	19.7	96.43	7,774.8	1,005.3	1,486.2	1,355.8	130.36	11.401	
13,700.0	7,285.0	7,346.0	7,259.2	115.5	19.7	96.73	7,774.8	1,005.3	1,387.3	1,255.2	132.13	10.500	
13,800.0	7,285.0	7,344.3	7,257.5	117.3	19.7	97.04	7,774.8	1,005.3	1,288.4	1,154.5	133.86	9.625	
13,810.8	7,285.0	7,344.1	7,257.3	117.5	19.7	97.08	7,774.8	1,005.3	1,277.7	1,143.6	134.04	9.532	
13,900.0	7,285.0	7,342.5	7,255.8	119.0	19.7	96.60	7,774.9	1,005.3	1,189.5	1,053.7	135.71	8.764	
14,000.0	7,285.0	7,340.8	7,254.0	120.8	19.7	96.05	7,774.9	1,005.3	1,090.7	953.1	137.58	7.928	
14,100.0	7,285.0	7,339.1	7,252.3	122.5	19.7	95.51	7,774.9	1,005.3	992.2	852.8	139.44	7.116	
14,200.0	7,285.0	7,337.4	7,250.6	124.2	19.7	94.96	7,774.9	1,005.3	894.1	752.8	141.28	6.328	
14,300.0	7,285.0	7,335.7	7,248.9	126.0	19.7	94.42	7,775.0	1,005.3	796.4	653.3	143.13	5.564	
14,400.0	7,285.0	7,333.9	7,247.2	127.7	19.6	93.87	7,775.0	1,005.3	699.3	554.4	144.96	4.825	
14,500.0	7,285.0	7,332.2	7,245.4	129.5	19.6	93.33	7,775.0	1,005.3	603.3	456.5	146.78	4.110	
14,600.0	7,285.0	7,330.5	7,243.7	131.2	19.6	92.78	7,775.1	1,005.3	508.7	360.1	148.59	3.423	
14,681.1	7,285.0	7,329.1	7,242.3	132.6	19.6	92.33	7,775.1	1,005.3	433.8	283.8	150.05	2.891 CC, ES, SF	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 21-32 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 7851-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
13,000.0	7,285.0	7,229.0	7,229.0	103.4	12.6	90.00	7,053.7	1,500.0	1,531.0	1,415.8	115.17	13.294	
13,100.0	7,285.0	7,229.0	7,229.0	105.2	12.6	90.00	7,053.7	1,500.0	1,443.8	1,326.9	116.91	12.350	
13,200.0	7,285.0	7,229.0	7,229.0	106.9	12.6	90.00	7,053.7	1,500.0	1,358.5	1,239.8	118.65	11.449	
13,300.0	7,285.0	7,229.0	7,229.0	108.6	12.6	90.00	7,053.7	1,500.0	1,275.2	1,154.8	120.39	10.592	
13,400.0	7,285.0	7,229.0	7,229.0	110.4	12.6	90.00	7,053.7	1,500.0	1,194.5	1,072.4	122.13	9.781	
13,500.0	7,285.0	7,229.0	7,229.0	112.1	12.6	90.00	7,053.7	1,500.0	1,117.0	993.1	123.88	9.017	
13,582.6	7,285.0	7,229.0	7,229.0	113.5	12.6	90.00	7,053.7	1,500.0	1,055.8	930.5	125.31	8.425	
13,600.0	7,285.0	7,229.0	7,229.0	113.8	12.6	90.00	7,053.7	1,500.0	1,043.2	917.6	125.66	8.302	
13,700.0	7,285.0	7,229.0	7,229.0	115.5	12.6	90.00	7,053.7	1,500.0	973.3	845.7	127.61	7.627	
13,800.0	7,285.0	7,229.0	7,229.0	117.3	12.6	90.00	7,053.7	1,500.0	907.7	778.2	129.53	7.008	
13,810.8	7,285.0	7,229.0	7,229.0	117.5	12.6	90.00	7,053.7	1,500.0	900.9	771.2	129.74	6.944	
13,900.0	7,285.0	7,229.0	7,229.0	119.0	12.6	90.00	7,053.7	1,500.0	847.9	716.6	131.29	6.458	
14,000.0	7,285.0	7,229.0	7,229.0	120.8	12.6	90.00	7,053.7	1,500.0	796.3	663.2	133.04	5.985	
14,100.0	7,285.0	7,229.0	7,229.0	122.5	12.6	90.00	7,053.7	1,500.0	754.4	619.6	134.78	5.597	
14,200.0	7,285.0	7,229.0	7,229.0	124.2	12.6	90.00	7,053.7	1,500.0	724.0	587.4	136.53	5.303	
14,300.0	7,285.0	7,229.0	7,229.0	126.0	12.6	90.00	7,053.7	1,500.0	706.5	568.3	138.27	5.110	
14,374.8	7,285.0	7,229.0	7,229.0	127.3	12.6	90.00	7,053.7	1,500.0	702.6	563.0	139.58	5.033 CC, ES	
14,400.0	7,285.0	7,229.0	7,229.0	127.7	12.6	90.00	7,053.7	1,500.0	703.0	563.0	140.02	5.021 SF	
14,500.0	7,285.0	7,229.0	7,229.0	129.5	12.6	90.00	7,053.7	1,500.0	713.6	571.9	141.77	5.034	
14,600.0	7,285.0	7,229.0	7,229.0	131.2	12.6	90.00	7,053.7	1,500.0	737.8	594.3	143.51	5.141	
14,681.1	7,285.0	7,229.0	7,229.0	132.6	12.6	90.00	7,053.7	1,500.0	766.4	621.5	144.93	5.288	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design		S5-T2N-R67W (Vogl-McCoy) - GEIST 22-32 (EXISTING) - ENCANA WELL - NO SURVEYS											Offset Site Error: 0.0 ft	
Survey Program: 7870-MWD													Offset Well Error: 0.0 ft	
Reference		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		
11,800.0	7,285.0	7,225.0	7,225.0	82.8	12.6	90.00	5,674.9	1,703.5	1,494.2	1,399.9	94.31	15.843		
11,900.0	7,285.0	7,225.0	7,225.0	84.5	12.6	90.00	5,674.9	1,703.5	1,417.4	1,321.4	96.04	14.758		
12,000.0	7,285.0	7,225.0	7,225.0	86.2	12.6	90.00	5,674.9	1,703.5	1,343.7	1,245.9	97.78	13.743		
12,100.0	7,285.0	7,225.0	7,225.0	88.0	12.6	90.00	5,674.9	1,703.5	1,273.6	1,174.1	99.51	12.798		
12,200.0	7,285.0	7,225.0	7,225.0	89.7	12.6	90.00	5,674.9	1,703.5	1,207.7	1,106.5	101.25	11.928		
12,300.0	7,285.0	7,225.0	7,225.0	91.4	12.6	90.00	5,674.9	1,703.5	1,146.8	1,043.8	102.99	11.135		
12,400.0	7,285.0	7,225.0	7,225.0	93.1	12.6	90.00	5,674.9	1,703.5	1,091.6	986.9	104.72	10.424		
12,500.0	7,285.0	7,225.0	7,225.0	94.8	12.6	90.00	5,674.9	1,703.5	1,043.1	936.7	106.46	9.798		
12,600.0	7,285.0	7,225.0	7,225.0	96.5	12.6	90.00	5,674.9	1,703.5	1,002.3	894.1	108.20	9.263		
12,700.0	7,285.0	7,225.0	7,225.0	98.3	12.6	90.00	5,674.9	1,703.5	970.1	860.2	109.94	8.824		
12,800.0	7,285.0	7,225.0	7,225.0	100.0	12.6	90.00	5,674.9	1,703.5	947.4	835.7	111.68	8.483		
12,900.0	7,285.0	7,225.0	7,225.0	101.7	12.6	90.00	5,674.9	1,703.5	934.9	821.5	113.42	8.243		
12,967.5	7,285.0	7,225.0	7,225.0	102.9	12.6	90.00	5,674.9	1,703.5	932.5	817.9	114.59	8.137 CC, ES		
13,000.0	7,285.0	7,225.0	7,225.0	103.4	12.6	90.00	5,674.9	1,703.5	933.1	817.9	115.16	8.102		
13,100.0	7,285.0	7,225.0	7,225.0	105.2	12.6	90.00	5,674.9	1,703.5	941.9	825.0	116.90	8.057 SF		
13,200.0	7,285.0	7,225.0	7,225.0	106.9	12.6	90.00	5,674.9	1,703.5	961.0	842.4	118.64	8.100		
13,300.0	7,285.0	7,225.0	7,225.0	108.6	12.6	90.00	5,674.9	1,703.5	990.0	869.6	120.38	8.224		
13,400.0	7,285.0	7,225.0	7,225.0	110.4	12.6	90.00	5,674.9	1,703.5	1,027.9	905.8	122.13	8.417		
13,500.0	7,285.0	7,225.0	7,225.0	112.1	12.6	90.00	5,674.9	1,703.5	1,073.8	950.0	123.87	8.669		
13,582.6	7,285.0	7,225.0	7,225.0	113.5	12.6	90.00	5,674.9	1,703.5	1,117.1	991.8	125.31	8.915		
13,600.0	7,285.0	7,225.0	7,225.0	113.8	12.6	90.00	5,674.9	1,703.5	1,126.8	1,001.1	125.65	8.967		
13,700.0	7,285.0	7,225.0	7,225.0	115.5	12.6	90.00	5,674.9	1,703.5	1,184.9	1,057.2	127.60	9.285		
13,800.0	7,285.0	7,225.0	7,225.0	117.3	12.6	90.00	5,674.9	1,703.5	1,246.9	1,117.4	129.52	9.627		
13,810.8	7,285.0	7,225.0	7,225.0	117.5	12.6	90.00	5,674.9	1,703.5	1,253.9	1,124.2	129.73	9.665		
13,900.0	7,285.0	7,225.0	7,225.0	119.0	12.6	90.00	5,674.9	1,703.5	1,313.0	1,181.7	131.29	10.001		
14,000.0	7,285.0	7,225.0	7,225.0	120.8	12.6	90.00	5,674.9	1,703.5	1,383.1	1,250.0	133.03	10.396		
14,100.0	7,285.0	7,225.0	7,225.0	122.5	12.6	90.00	5,674.9	1,703.5	1,456.6	1,321.9	134.78	10.808		
14,200.0	7,285.0	7,225.0	7,225.0	124.2	12.6	90.00	5,674.9	1,703.5	1,533.2	1,396.7	136.52	11.231		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 2-4-32 (EXISTING) - ENCANA WELL - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 762-MWD												Offset Well Error:	0.0 ft
Reference		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		
10,900.0	7,285.0	7,415.9	7,239.0	67.5	24.7	91.15	5,089.5	1,020.0	1,502.9	1,412.1	90.79	16.554	
11,000.0	7,285.0	7,415.7	7,238.9	69.2	24.7	91.12	5,089.5	1,020.0	1,404.4	1,311.9	92.51	15.181	
11,100.0	7,285.0	7,415.6	7,238.7	70.9	24.7	91.09	5,089.5	1,020.0	1,306.1	1,211.8	94.23	13.860	
11,200.0	7,285.0	7,415.5	7,238.6	72.6	24.7	91.06	5,089.5	1,020.0	1,208.1	1,112.1	95.96	12.589	
11,300.0	7,285.0	7,415.3	7,238.5	74.3	24.7	91.03	5,089.5	1,020.0	1,110.4	1,012.7	97.69	11.367	
11,400.0	7,285.0	7,415.2	7,238.3	76.0	24.7	91.00	5,089.5	1,020.0	1,013.2	913.8	99.42	10.191	
11,500.0	7,285.0	7,415.1	7,238.2	77.7	24.7	90.96	5,089.5	1,020.0	916.6	815.4	101.15	9.062	
11,600.0	7,285.0	7,414.9	7,238.1	79.4	24.7	90.93	5,089.5	1,020.0	820.8	717.9	102.88	7.978	
11,700.0	7,285.0	7,414.8	7,237.9	81.1	24.7	90.90	5,089.5	1,020.0	726.2	621.5	104.61	6.941	
11,800.0	7,285.0	7,414.7	7,237.8	82.8	24.7	90.87	5,089.5	1,020.0	633.2	526.8	106.35	5.954	
11,900.0	7,285.0	7,414.5	7,237.7	84.5	24.7	90.84	5,089.5	1,020.0	542.6	434.6	108.08	5.021	
12,000.0	7,285.0	7,414.4	7,237.5	86.2	24.7	90.81	5,089.5	1,020.0	456.1	346.3	109.82	4.153	
12,100.0	7,285.0	7,414.3	7,237.4	88.0	24.7	90.78	5,089.5	1,020.0	376.3	264.8	111.55	3.373	
12,200.0	7,285.0	7,414.1	7,237.3	89.7	24.7	90.75	5,089.5	1,020.0	308.5	195.2	113.29	2.723	
12,300.0	7,285.0	7,414.0	7,237.1	91.4	24.7	90.72	5,089.5	1,020.0	262.2	147.2	115.03	2.280	
12,382.1	7,285.0	7,413.9	7,237.0	92.8	24.7	90.70	5,089.5	1,020.0	249.1	132.6	116.45	2.139 CC, ES	
12,400.0	7,285.0	7,413.9	7,237.0	93.1	24.7	90.69	5,089.5	1,020.0	249.7	132.9	116.76	2.138 SF	
12,500.0	7,285.0	7,413.7	7,236.9	94.8	24.7	90.66	5,089.5	1,020.0	275.5	157.0	118.50	2.325	
12,600.0	7,285.0	7,413.6	7,236.7	96.5	24.7	90.63	5,089.5	1,020.0	330.9	210.7	120.24	2.752	
12,700.0	7,285.0	7,413.5	7,236.6	98.3	24.7	90.60	5,089.5	1,020.0	403.8	281.8	121.98	3.311	
12,800.0	7,285.0	7,413.3	7,236.5	100.0	24.7	90.57	5,089.5	1,020.0	486.5	362.8	123.72	3.932	
12,900.0	7,285.0	7,413.2	7,236.4	101.7	24.7	90.54	5,089.5	1,020.0	574.7	449.2	125.46	4.580	
13,000.0	7,285.0	7,413.1	7,236.2	103.4	24.7	90.51	5,089.5	1,020.0	666.2	539.0	127.20	5.237	
13,100.0	7,285.0	7,413.0	7,236.1	105.2	24.7	90.48	5,089.5	1,020.0	759.9	630.9	128.94	5.893	
13,200.0	7,285.0	7,412.8	7,236.0	106.9	24.7	90.45	5,089.5	1,020.0	855.0	724.3	130.69	6.542	
13,300.0	7,285.0	7,412.7	7,235.8	108.6	24.7	90.42	5,089.5	1,020.0	951.1	818.6	132.43	7.182	
13,400.0	7,285.0	7,412.6	7,235.7	110.4	24.7	90.39	5,089.5	1,020.0	1,047.9	913.7	134.17	7.810	
13,500.0	7,285.0	7,412.4	7,235.6	112.1	24.7	90.36	5,089.5	1,020.1	1,145.3	1,009.4	135.92	8.427	
13,582.6	7,285.0	7,412.3	7,235.5	113.5	24.7	90.33	5,089.5	1,020.1	1,226.0	1,088.7	137.36	8.926	
13,600.0	7,285.0	7,412.3	7,235.4	113.8	24.7	90.32	5,089.5	1,020.1	1,243.1	1,105.4	137.69	9.028	
13,700.0	7,285.0	7,412.2	7,235.3	115.5	24.7	90.27	5,089.5	1,020.1	1,341.0	1,201.4	139.61	9.605	
13,800.0	7,285.0	7,412.0	7,235.1	117.3	24.7	90.21	5,089.5	1,020.1	1,438.8	1,297.3	141.50	10.169	
13,810.8	7,285.0	7,412.0	7,235.1	117.5	24.7	90.21	5,089.5	1,020.1	1,449.4	1,307.7	141.70	10.229	
13,900.0	7,285.0	7,411.8	7,235.0	119.0	24.7	90.18	5,089.5	1,020.1	1,536.8	1,393.5	143.25	10.728	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 4-2-32 (EXISTING) - ENCANA WELL - Plan #2													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	
13,400.0	7,285.0	7,399.4	7,236.0	110.4	27.5	90.00	6,466.2	2,268.6	1,540.0	1,417.1	122.88	12.532	
13,500.0	7,285.0	7,399.4	7,236.0	112.1	27.5	90.00	6,466.2	2,268.6	1,519.8	1,395.2	124.63	12.195	
13,582.6	7,285.0	7,399.4	7,236.0	113.5	27.5	90.00	6,466.2	2,268.6	1,508.0	1,381.9	126.07	11.962	
13,600.0	7,285.0	7,399.4	7,236.0	113.8	27.5	90.00	6,466.2	2,268.6	1,506.0	1,379.6	126.43	11.912	
13,700.0	7,285.0	7,399.4	7,236.0	115.5	27.5	90.00	6,466.2	2,268.6	1,497.6	1,369.1	128.51	11.653	
13,800.0	7,285.0	7,399.4	7,236.0	117.3	27.5	90.00	6,466.2	2,268.6	1,494.1	1,363.5	130.58	11.442	
13,810.8	7,285.0	7,399.4	7,236.0	117.5	27.5	90.00	6,466.2	2,268.6	1,494.0	1,363.2	130.80	11.422	
13,818.3	7,285.0	7,399.4	7,236.0	117.6	27.5	90.00	6,466.2	2,268.6	1,494.0	1,363.1	130.93	11.411 CC, ES	
13,900.0	7,285.0	7,399.4	7,236.0	119.0	27.5	90.00	6,466.2	2,268.6	1,496.2	1,363.9	132.35	11.305	
14,000.0	7,285.0	7,399.4	7,236.0	120.8	27.5	90.00	6,466.2	2,268.6	1,505.0	1,370.9	134.10	11.223	
14,100.0	7,285.0	7,399.4	7,236.0	122.5	27.5	90.00	6,466.2	2,268.6	1,520.3	1,384.5	135.84	11.192 SF	
14,200.0	7,285.0	7,399.4	7,236.0	124.2	27.5	90.00	6,466.2	2,268.6	1,542.0	1,404.4	137.59	11.207	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - GEIST 4-2-32 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 759-MWD													Offset Well Error: 0.0 ft
Reference		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	
13,300.0	7,285.0	7,357.2	7,179.0	108.6	27.1	87.78	6,446.4	2,240.8	1,535.0	1,414.0	120.99	12.686	
13,400.0	7,285.0	7,362.1	7,183.9	110.4	27.1	87.97	6,446.6	2,240.9	1,509.4	1,386.7	122.75	12.296	
13,500.0	7,285.0	7,366.9	7,188.7	112.1	27.1	88.16	6,446.8	2,241.0	1,490.1	1,365.6	124.51	11.968	
13,582.6	7,285.0	7,370.7	7,192.6	113.5	27.1	88.31	6,447.0	2,241.1	1,479.1	1,353.1	125.96	11.742	
13,600.0	7,285.0	7,371.5	7,193.4	113.8	27.1	88.34	6,447.0	2,241.1	1,477.3	1,351.0	126.33	11.694	
13,700.0	7,285.0	7,376.2	7,198.0	115.5	27.1	88.52	6,447.2	2,241.2	1,470.1	1,341.6	128.42	11.448	
13,794.2	7,285.0	7,380.4	7,202.3	117.2	27.1	88.68	6,447.4	2,241.3	1,467.8	1,337.5	130.36	11.260 CC	
13,800.0	7,285.0	7,380.7	7,202.6	117.3	27.1	88.70	6,447.4	2,241.4	1,467.8	1,337.4	130.48	11.249	
13,810.8	7,285.0	7,381.2	7,203.1	117.5	27.1	88.71	6,447.4	2,241.4	1,467.9	1,337.2	130.70	11.231 ES	
13,900.0	7,285.0	7,385.2	7,207.1	119.0	27.1	88.87	6,447.5	2,241.5	1,471.3	1,339.1	132.27	11.124	
14,000.0	7,285.0	7,389.6	7,211.4	120.8	27.1	89.04	6,447.7	2,241.6	1,481.6	1,347.6	134.02	11.055	
14,100.0	7,285.0	7,393.9	7,215.7	122.5	27.1	89.21	6,447.9	2,241.7	1,498.4	1,362.7	135.78	11.036 SF	
14,200.0	7,285.0	7,398.1	7,219.9	124.2	27.2	89.37	6,448.0	2,241.8	1,521.7	1,384.2	137.53	11.064	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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: 100-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
12,100.0	7,285.0	7,228.5	7,227.7	88.0	12.7	96.55	6,288.3	846.8	1,482.8	1,383.9	98.92	14.989	
12,200.0	7,285.0	7,227.9	7,227.1	89.7	12.7	96.13	6,288.3	846.8	1,382.9	1,282.2	100.72	13.730	
12,300.0	7,285.0	7,227.3	7,226.6	91.4	12.7	95.70	6,288.3	846.8	1,283.1	1,180.6	102.52	12.515	
12,400.0	7,285.0	7,226.7	7,226.0	93.1	12.7	95.27	6,288.3	846.8	1,183.3	1,079.0	104.32	11.343	
12,500.0	7,285.0	7,226.2	7,225.4	94.8	12.7	94.84	6,288.3	846.8	1,083.5	977.4	106.12	10.211	
12,600.0	7,285.0	7,225.6	7,224.8	96.5	12.7	94.40	6,288.3	846.8	983.8	875.9	107.91	9.117	
12,700.0	7,285.0	7,225.0	7,224.2	98.3	12.7	93.96	6,288.3	846.8	884.1	774.4	109.70	8.059	
12,800.0	7,285.0	7,224.4	7,223.6	100.0	12.7	93.51	6,288.3	846.8	784.5	673.1	111.49	7.037	
12,900.0	7,285.0	7,223.8	7,223.0	101.7	12.7	93.05	6,288.3	846.8	685.1	571.8	113.28	6.048	
13,000.0	7,285.0	7,223.2	7,222.4	103.4	12.7	92.60	6,288.3	846.8	585.8	470.7	115.06	5.091	
13,100.0	7,285.0	7,222.6	7,221.8	105.2	12.7	92.14	6,288.3	846.8	486.8	370.0	116.83	4.167	
13,200.0	7,285.0	7,222.0	7,221.2	106.9	12.7	91.67	6,288.3	846.8	388.4	269.8	118.60	3.274	
13,300.0	7,285.0	7,221.3	7,220.6	108.6	12.7	91.20	6,288.3	846.8	290.9	170.6	120.36	2.417	
13,400.0	7,285.0	7,220.7	7,220.0	110.4	12.7	90.72	6,288.3	846.8	196.1	74.0	122.12	1.606	
13,500.0	7,285.0	7,220.1	7,219.3	112.1	12.7	90.24	6,288.3	846.8	110.8	-13.0	123.87	0.895 Level 1	
13,580.9	7,285.0	7,219.6	7,218.8	113.5	12.7	89.85	6,288.3	846.8	75.8	-49.5	125.28	0.605 Level 1, CC, SF	
13,582.6	7,285.0	7,219.5	7,218.8	113.5	12.7	89.84	6,288.3	846.8	75.8	-49.5	125.31	0.605 Level 1, ES	
13,600.0	7,285.0	7,219.4	7,218.7	113.8	12.7	89.76	6,288.3	846.8	78.1	-47.5	125.65	0.622 Level 1	
13,700.0	7,285.0	7,218.8	7,218.0	115.5	12.7	89.28	6,288.3	846.8	140.5	12.9	127.60	1.101 Level 2	
13,800.0	7,285.0	7,218.1	7,217.4	117.3	12.6	88.85	6,288.3	846.8	230.5	101.0	129.50	1.780	
13,810.8	7,285.0	7,218.1	7,217.3	117.5	12.6	88.80	6,288.3	846.8	240.7	111.0	129.71	1.855	
13,900.0	7,285.0	7,217.5	7,216.7	119.0	12.6	88.39	6,288.3	846.8	326.1	194.8	131.24	2.485	
14,000.0	7,285.0	7,216.8	7,216.1	120.8	12.6	87.93	6,288.3	846.8	423.7	290.8	132.95	3.187	
14,100.0	7,285.0	7,216.2	7,215.4	122.5	12.6	87.46	6,288.3	846.8	522.2	387.6	134.65	3.878	
14,200.0	7,285.0	7,215.5	7,214.8	124.2	12.6	86.98	6,288.3	846.8	621.2	484.9	136.34	4.556	
14,300.0	7,285.0	7,214.8	7,214.1	126.0	12.6	86.51	6,288.3	846.8	720.5	582.5	138.02	5.220	
14,400.0	7,285.0	7,214.2	7,213.4	127.7	12.6	86.02	6,288.3	846.8	820.0	680.3	139.69	5.870	
14,500.0	7,285.0	7,213.5	7,212.7	129.5	12.6	85.54	6,288.3	846.8	919.5	778.2	141.35	6.505	
14,600.0	7,285.0	7,212.8	7,212.0	131.2	12.6	85.05	6,288.4	846.8	1,019.2	876.2	143.00	7.127	
14,681.1	7,285.0	7,212.2	7,211.5	132.6	12.6	84.65	6,288.4	846.8	1,100.0	955.7	144.32	7.622	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY #1 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 100-Geolink 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			
0.0	0.0	12.8	12.8	0.0	0.0	124.67	-314.0	453.9	551.9					
100.0	100.0	111.1	111.1	0.1	0.2	124.65	-313.9	454.2	552.1	551.8	0.30	1,847.679		
200.0	200.0	211.1	211.1	0.3	0.4	124.62	-313.9	454.6	552.4	551.8	0.65	852.538		
300.0	300.0	312.6	312.6	0.5	0.5	124.61	-313.9	454.8	552.6	551.6	1.00	552.813		
400.0	400.0	412.8	412.8	0.6	0.7	18.28	-313.7	455.0	551.9	550.5	1.35	409.101		
500.0	500.0	512.8	512.8	0.8	0.9	18.34	-313.4	455.3	549.4	547.7	1.70	323.528		
600.0	599.9	612.3	612.3	1.0	1.1	18.45	-313.1	455.5	545.3	543.3	2.05	266.409		
700.0	699.7	709.8	709.8	1.2	1.2	18.62	-312.9	456.1	539.9	537.5	2.39	225.611		
800.0	799.4	810.0	810.0	1.4	1.4	18.86	-312.8	456.8	532.9	530.2	2.74	194.157		
900.0	898.9	910.0	910.0	1.6	1.6	19.18	-312.7	457.4	524.3	521.2	3.10	169.229		
989.9	988.3	999.7	999.6	1.9	1.7	19.56	-312.7	457.7	515.0	511.6	3.42	150.736		
1,000.0	998.3	1,009.7	1,009.7	1.9	1.7	19.60	-312.7	457.7	513.9	510.5	3.45	148.841		
1,100.0	1,097.5	1,109.8	1,109.8	2.1	1.9	20.07	-312.8	457.9	502.8	499.0	3.81	131.871		
1,200.0	1,196.8	1,211.6	1,211.6	2.4	2.1	20.58	-312.9	457.7	491.4	487.2	4.18	117.617		
1,300.0	1,296.1	1,310.3	1,310.3	2.7	2.3	21.13	-313.1	457.2	479.9	475.3	4.54	105.711		
1,400.0	1,395.4	1,410.2	1,410.2	2.9	2.4	21.70	-313.1	456.8	468.4	463.5	4.91	95.488		
1,500.0	1,494.6	1,510.8	1,510.8	3.2	2.6	22.32	-313.1	456.1	456.7	451.4	5.27	86.587		
1,600.0	1,593.9	1,609.0	1,608.9	3.5	2.8	23.00	-313.4	455.1	445.0	439.4	5.64	78.880		
1,700.0	1,693.2	1,707.1	1,707.0	3.7	3.0	23.73	-313.9	454.3	433.7	427.6	6.01	72.134		
1,800.0	1,792.5	1,806.7	1,806.6	4.0	3.1	24.55	-314.6	453.4	422.4	416.0	6.39	66.125		
1,900.0	1,891.7	1,904.0	1,903.9	4.3	3.3	25.43	-315.7	452.4	411.5	404.7	6.76	60.829		
2,000.0	1,991.0	2,003.3	2,003.3	4.5	3.5	26.40	-317.0	451.5	400.9	393.7	7.15	56.071		
2,100.0	2,090.3	2,104.3	2,104.3	4.8	3.7	27.46	-318.3	450.2	390.1	382.6	7.54	51.724		
2,200.0	2,189.6	2,205.2	2,205.1	5.1	3.8	28.58	-319.2	448.6	379.0	371.1	7.94	47.736		
2,300.0	2,288.8	2,303.5	2,303.4	5.3	4.0	29.73	-320.0	447.1	368.0	359.6	8.34	44.132		
2,400.0	2,388.1	2,405.0	2,404.9	5.6	4.2	30.98	-320.6	445.3	356.8	348.1	8.75	40.786		
2,500.0	2,487.4	2,503.1	2,502.9	5.9	4.4	32.24	-321.0	443.6	345.7	336.5	9.16	37.747		
2,600.0	2,586.7	2,604.0	2,603.8	6.2	4.5	33.62	-321.3	441.8	334.6	325.0	9.58	34.923		
2,700.0	2,686.0	2,703.2	2,703.0	6.4	4.7	35.05	-321.2	439.9	323.4	313.4	10.01	32.315		
2,800.0	2,785.2	2,801.5	2,801.3	6.7	4.9	36.54	-321.2	438.1	312.5	302.1	10.44	29.935		
2,900.0	2,884.5	2,900.1	2,899.9	7.0	5.1	38.10	-321.2	436.7	302.1	291.2	10.88	27.763		
3,000.0	2,983.8	3,000.7	3,000.4	7.3	5.2	39.76	-320.9	435.3	291.7	280.3	11.33	25.736		
3,100.0	3,083.1	3,099.4	3,099.1	7.5	5.4	41.47	-320.4	434.0	281.3	269.6	11.79	23.862		
3,200.0	3,182.3	3,198.3	3,198.1	7.8	5.6	43.24	-319.7	433.1	271.4	259.1	12.26	22.144		
3,300.0	3,281.6	3,297.1	3,296.8	8.1	5.7	45.04	-319.0	432.5	261.8	249.1	12.73	20.571		
3,400.0	3,380.9	3,395.3	3,395.0	8.3	5.9	46.94	-318.4	432.2	252.8	239.6	13.21	19.138		
3,500.0	3,480.2	3,494.6	3,494.4	8.6	6.1	48.99	-318.0	432.0	244.2	230.5	13.70	17.824		
3,600.0	3,579.4	3,593.3	3,593.1	8.9	6.3	51.19	-317.6	431.8	236.1	221.9	14.21	16.619		
3,700.0	3,678.7	3,693.5	3,693.3	9.2	6.4	53.60	-317.3	431.4	228.3	213.5	14.73	15.500		
3,800.0	3,778.0	3,792.5	3,792.3	9.4	6.6	56.22	-316.8	430.7	220.7	205.4	15.26	14.462		
3,900.0	3,877.3	3,891.2	3,891.0	9.7	6.8	59.08	-316.6	429.8	213.7	197.9	15.80	13.526		
4,000.0	3,976.5	3,990.2	3,989.9	10.0	7.0	62.14	-316.6	429.0	207.6	191.2	16.35	12.692		
4,100.0	4,075.8	4,089.6	4,089.3	10.3	7.1	65.44	-316.6	427.9	202.0	185.1	16.91	11.944		
4,200.0	4,175.1	4,188.2	4,187.9	10.5	7.3	68.96	-316.6	426.5	197.2	179.7	17.47	11.287		
4,300.0	4,274.4	4,287.2	4,286.9	10.8	7.5	72.69	-316.9	425.1	193.4	175.4	18.03	10.729		
4,400.0	4,373.6	4,386.4	4,386.1	11.1	7.7	76.56	-317.1	423.6	190.5	171.9	18.57	10.256		
4,500.0	4,472.9	4,486.0	4,485.7	11.3	7.8	80.57	-317.2	422.0	188.3	169.2	19.10	9.858		
4,600.0	4,572.2	4,585.1	4,584.7	11.6	8.0	84.61	-317.1	420.6	186.9	167.3	19.60	9.535		
4,685.4	4,657.0	4,669.6	4,669.3	11.9	8.2	88.06	-317.1	419.4	186.5	166.5	20.00	9.322 CC		
4,700.0	4,671.5	4,684.0	4,683.6	11.9	8.2	88.66	-317.1	419.2	186.5	166.4	20.07	9.292 ES		
4,800.0	4,770.7	4,783.0	4,782.7	12.2	8.4	92.72	-317.2	417.8	187.1	166.6	20.51	9.125		
4,900.0	4,870.0	4,882.7	4,882.3	12.4	8.5	96.70	-317.2	416.5	188.6	167.7	20.92	9.017		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY #1 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 100-Geolink MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
5,000.0	4,969.3	4,982.0	4,981.7	12.7	8.7	100.69	-316.9	415.1	190.8	169.5	21.29	8.961	
5,100.0	5,068.6	5,081.9	5,081.5	13.0	8.9	104.57	-316.5	413.9	193.6	172.0	21.63	8.951 SF	
5,200.0	5,167.8	5,180.6	5,180.2	13.3	9.1	108.25	-315.9	412.8	197.2	175.2	21.94	8.984	
5,300.0	5,267.1	5,279.9	5,279.5	13.5	9.2	111.74	-315.6	411.9	201.6	179.4	22.23	9.069	
5,400.0	5,366.4	5,350.0	5,349.6	13.8	9.4	114.13	-315.3	411.2	208.7	186.2	22.50	9.278	
5,500.0	5,465.7	5,350.0	5,349.6	14.1	9.4	114.13	-315.3	411.2	248.2	225.4	22.76	10.905	
5,600.0	5,564.9	5,350.0	5,349.6	14.4	9.4	114.13	-315.3	411.2	315.6	292.6	23.02	13.712	
5,700.0	5,664.2	5,350.0	5,349.6	14.6	9.4	114.13	-315.3	411.2	397.0	373.8	23.28	17.057	
5,800.0	5,763.5	5,350.0	5,349.6	14.9	9.4	114.13	-315.3	411.2	485.5	461.9	23.54	20.625	
5,900.0	5,862.8	5,350.0	5,349.6	15.2	9.4	114.13	-315.3	411.2	577.7	553.9	23.80	24.275	
6,000.0	5,962.1	5,350.0	5,349.6	15.4	9.4	114.13	-315.3	411.2	672.1	648.0	24.06	27.938	
6,100.0	6,061.3	5,350.0	5,349.6	15.7	9.4	114.13	-315.3	411.2	767.9	743.6	24.32	31.582	
6,200.0	6,160.6	5,350.0	5,349.6	16.0	9.4	114.13	-315.3	411.2	864.7	840.2	24.58	35.187	
6,300.0	6,259.9	5,350.0	5,349.6	16.3	9.4	114.13	-315.3	411.2	962.2	937.3	24.84	38.742	
6,400.0	6,359.2	5,350.0	5,349.6	16.5	9.4	114.13	-315.3	411.2	1,060.1	1,035.0	25.09	42.243	
6,500.0	6,458.4	5,350.0	5,349.6	16.8	9.4	114.13	-315.3	411.2	1,158.4	1,133.0	25.35	45.687	
6,600.0	6,557.7	5,350.0	5,349.6	17.1	9.4	114.13	-315.3	411.2	1,256.9	1,231.3	25.61	49.071	
6,700.0	6,657.0	5,350.0	5,349.6	17.4	9.4	114.13	-315.3	411.2	1,355.7	1,329.8	25.87	52.396	
6,739.9	6,696.6	5,350.0	5,349.6	17.5	9.4	114.13	-315.3	411.2	1,395.2	1,369.2	25.98	53.707	
6,750.0	6,706.6	5,350.0	5,349.6	17.5	9.4	127.22	-315.3	411.2	1,405.1	1,379.5	25.65	54.790	
6,800.0	6,756.3	5,350.0	5,349.6	17.6	9.4	-151.90	-315.3	411.2	1,454.8	1,433.0	21.85	66.578	
6,850.0	6,805.6	5,350.0	5,349.6	17.7	9.4	-84.06	-315.3	411.2	1,504.6	1,482.0	22.56	66.702	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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		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			
0.0	0.0	92.0	92.0	0.0	0.1	154.98	-688.5	321.4	759.8					
100.0	100.0	192.0	192.0	0.1	0.3	154.98	-688.5	321.4	759.8	759.3	0.44	1,727.468		
200.0	200.0	292.0	292.0	0.3	0.5	154.98	-688.5	321.4	759.8	759.0	0.79	963.102		
300.0	300.0	392.0	392.0	0.5	0.7	154.98	-688.5	321.4	759.8	758.6	1.14	667.672		
400.0	400.0	492.0	492.0	0.6	0.8	48.70	-688.5	321.4	759.2	757.7	1.49	510.439		
500.0	500.0	592.0	592.0	0.8	1.0	48.86	-688.5	321.4	757.5	755.6	1.84	411.981		
600.0	599.9	691.9	691.9	1.0	1.2	49.13	-688.5	321.4	754.6	752.4	2.19	343.978		
700.0	699.7	791.7	791.7	1.2	1.4	49.51	-688.5	321.4	750.6	748.1	2.56	293.779		
800.0	799.4	891.4	891.4	1.4	1.5	50.01	-688.5	321.4	745.6	742.6	2.92	254.899		
900.0	898.9	990.9	990.9	1.6	1.7	50.62	-688.5	321.4	739.4	736.1	3.31	223.675		
989.9	988.3	1,080.3	1,080.3	1.9	1.9	51.28	-688.5	321.4	733.0	729.4	3.66	200.299		
1,000.0	998.3	1,090.3	1,090.3	1.9	1.9	51.35	-688.5	321.4	732.3	728.6	3.70	197.927		
1,100.0	1,097.5	1,189.5	1,189.5	2.1	2.1	52.09	-688.5	321.4	724.8	720.7	4.10	176.731		
1,200.0	1,196.8	1,288.8	1,288.8	2.4	2.2	52.85	-688.5	321.4	717.4	712.9	4.51	159.157		
1,300.0	1,296.1	1,388.1	1,388.1	2.7	2.4	53.62	-688.5	321.4	710.2	705.3	4.92	144.386		
1,400.0	1,395.4	1,487.4	1,487.4	2.9	2.6	54.40	-688.5	321.4	703.1	697.8	5.33	131.818		
1,500.0	1,494.6	1,586.6	1,586.6	3.2	2.8	55.20	-688.5	321.4	696.2	690.4	5.75	121.013		
1,600.0	1,593.9	1,685.9	1,685.9	3.5	2.9	56.02	-688.5	321.4	689.3	683.2	6.18	111.634		
1,700.0	1,693.2	1,785.2	1,785.2	3.7	3.1	56.85	-688.5	321.4	682.7	676.1	6.60	103.427		
1,800.0	1,792.5	1,884.5	1,884.5	4.0	3.3	57.70	-688.5	321.4	676.1	669.1	7.03	96.193		
1,900.0	1,891.7	1,983.7	1,983.7	4.3	3.4	58.56	-688.5	321.4	669.8	662.3	7.46	89.775		
2,000.0	1,991.0	2,083.0	2,083.0	4.5	3.6	59.44	-688.5	321.4	663.5	655.7	7.89	84.049		
2,100.0	2,090.3	2,182.3	2,182.3	4.8	3.8	60.34	-688.5	321.4	657.5	649.2	8.33	78.912		
2,200.0	2,189.6	2,281.6	2,281.6	5.1	4.0	61.25	-688.5	321.4	651.6	642.8	8.77	74.285		
2,300.0	2,288.8	2,380.8	2,380.8	5.3	4.1	62.18	-688.5	321.4	645.9	636.7	9.21	70.098		
2,400.0	2,388.1	2,480.1	2,480.1	5.6	4.3	63.12	-688.5	321.4	640.3	630.7	9.66	66.295		
2,500.0	2,487.4	2,579.4	2,579.4	5.9	4.5	64.08	-688.5	321.4	634.9	624.8	10.11	62.831		
2,600.0	2,586.7	2,678.7	2,678.7	6.2	4.7	65.06	-688.5	321.4	629.8	619.2	10.55	59.665		
2,700.0	2,686.0	2,778.0	2,778.0	6.4	4.8	66.05	-688.5	321.4	624.8	613.7	11.01	56.764		
2,800.0	2,785.2	2,877.2	2,877.2	6.7	5.0	67.06	-688.5	321.4	619.9	608.5	11.46	54.098		
2,900.0	2,884.5	2,976.5	2,976.5	7.0	5.2	68.09	-688.5	321.4	615.3	603.4	11.91	51.645		
3,000.0	2,983.8	3,075.8	3,075.8	7.3	5.4	69.13	-688.5	321.4	610.9	598.6	12.37	49.381		
3,100.0	3,083.1	3,175.1	3,175.1	7.5	5.5	70.18	-688.5	321.4	606.7	593.9	12.83	47.290		
3,200.0	3,182.3	3,274.3	3,274.3	7.8	5.7	71.25	-688.5	321.4	602.7	589.4	13.29	45.354		
3,300.0	3,281.6	3,373.6	3,373.6	8.1	5.9	72.33	-688.5	321.4	598.9	585.2	13.75	43.559		
3,400.0	3,380.9	3,472.9	3,472.9	8.3	6.0	73.42	-688.5	321.4	595.4	581.2	14.21	41.893		
3,500.0	3,480.2	3,572.2	3,572.2	8.6	6.2	74.53	-688.5	321.4	592.0	577.4	14.67	40.346		
3,600.0	3,579.4	3,671.4	3,671.4	8.9	6.4	75.65	-688.5	321.4	588.9	573.8	15.14	38.907		
3,700.0	3,678.7	3,770.7	3,770.7	9.2	6.6	76.78	-688.5	321.4	586.1	570.5	15.60	37.567		
3,800.0	3,778.0	3,870.0	3,870.0	9.4	6.7	77.92	-688.5	321.4	583.4	567.3	16.06	36.320		
3,900.0	3,877.3	3,969.3	3,969.3	9.7	6.9	79.07	-688.5	321.4	581.0	564.5	16.53	35.156		
4,000.0	3,976.5	4,068.5	4,068.5	10.0	7.1	80.23	-688.5	321.4	578.8	561.8	16.99	34.072		
4,100.0	4,075.8	4,167.8	4,167.8	10.3	7.3	81.40	-688.5	321.4	576.9	559.4	17.45	33.060		
4,200.0	4,175.1	4,267.1	4,267.1	10.5	7.4	82.57	-688.5	321.4	575.2	557.3	17.91	32.116		
4,300.0	4,274.4	4,366.4	4,366.4	10.8	7.6	83.75	-688.5	321.4	573.8	555.4	18.37	31.235		
4,400.0	4,373.6	4,465.6	4,465.6	11.1	7.8	84.94	-688.5	321.4	572.6	553.7	18.83	30.413		
4,500.0	4,472.9	4,564.9	4,564.9	11.3	7.9	86.13	-688.5	321.4	571.6	552.3	19.28	29.645		
4,600.0	4,572.2	4,664.2	4,664.2	11.6	8.1	87.32	-688.5	321.4	570.9	551.2	19.74	28.929		
4,700.0	4,671.5	4,763.5	4,763.5	11.9	8.3	88.52	-688.5	321.4	570.5	550.3	20.19	28.261		
4,800.0	4,770.7	4,862.7	4,862.7	12.2	8.5	89.72	-688.5	321.4	570.3	549.7	20.64	27.637		
4,823.6	4,794.2	4,886.2	4,886.2	12.2	8.5	90.00	-688.5	321.4	570.3	549.6	20.74	27.496 CC		
4,900.0	4,870.0	4,962.0	4,962.0	12.4	8.6	90.91	-688.5	321.4	570.4	549.3	21.08	27.056		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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				Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
5,000.0	4,969.3	5,061.3	5,061.3	12.7	8.8	92.11	-688.5	321.4	570.7	549.2	21.52	26.514 ES	
5,100.0	5,068.6	5,160.6	5,160.6	13.0	9.0	93.31	-688.5	321.4	571.3	549.3	21.96	26.009	
5,200.0	5,167.8	5,259.8	5,259.8	13.3	9.2	94.50	-688.5	321.4	572.1	549.7	22.40	25.540	
5,300.0	5,267.1	5,359.1	5,359.1	13.5	9.3	95.69	-688.5	321.4	573.2	550.3	22.83	25.103	
5,400.0	5,366.4	5,458.4	5,458.4	13.8	9.5	96.87	-688.5	321.4	574.5	551.2	23.26	24.697	
5,500.0	5,465.7	5,557.7	5,557.7	14.1	9.7	98.05	-688.5	321.4	576.1	552.4	23.69	24.320	
5,600.0	5,564.9	5,656.9	5,656.9	14.4	9.9	99.22	-688.5	321.4	577.9	553.8	24.11	23.970	
5,700.0	5,664.2	5,756.2	5,756.2	14.6	10.0	100.38	-688.5	321.4	579.9	555.4	24.52	23.647	
5,800.0	5,763.5	5,855.5	5,855.5	14.9	10.2	101.54	-688.5	321.4	582.2	557.3	24.94	23.347	
5,900.0	5,862.8	5,954.8	5,954.8	15.2	10.4	102.69	-688.5	321.4	584.8	559.4	25.35	23.071	
6,000.0	5,962.1	6,054.1	6,054.1	15.4	10.5	103.82	-688.5	321.4	587.5	561.8	25.75	22.816	
6,100.0	6,061.3	6,153.3	6,153.3	15.7	10.7	104.94	-688.5	321.4	590.5	564.4	26.15	22.581	
6,200.0	6,160.6	6,252.6	6,252.6	16.0	10.9	106.06	-688.5	321.4	593.8	567.2	26.55	22.366	
6,300.0	6,259.9	6,351.9	6,351.9	16.3	11.1	107.16	-688.5	321.4	597.2	570.3	26.94	22.169	
6,400.0	6,359.2	6,451.2	6,451.2	16.5	11.2	108.24	-688.5	321.4	600.9	573.6	27.33	21.989	
6,500.0	6,458.4	6,550.4	6,550.4	16.8	11.4	109.32	-688.5	321.4	604.8	577.1	27.71	21.824	
6,600.0	6,557.7	6,649.7	6,649.7	17.1	11.6	110.38	-688.5	321.4	608.9	580.8	28.09	21.675	
6,700.0	6,657.0	6,749.0	6,749.0	17.4	11.8	111.42	-688.5	321.4	613.2	584.8	28.47	21.541	
6,739.9	6,696.6	6,788.6	6,788.6	17.5	11.8	111.84	-688.5	321.4	615.0	586.4	28.62	21.491	
6,750.0	6,706.6	6,798.6	6,798.6	17.5	11.8	120.23	-688.5	321.4	615.5	586.9	28.64	21.489 SF	
6,800.0	6,756.3	6,848.3	6,848.3	17.6	11.9	160.25	-688.5	321.4	620.2	591.5	28.67	21.629	
6,850.0	6,805.6	6,897.6	6,897.6	17.7	12.0	-176.96	-688.5	321.4	628.2	599.7	28.56	21.999	
6,900.0	6,854.2	6,946.2	6,946.2	17.8	12.1	-165.54	-688.5	321.4	639.6	611.3	28.30	22.601	
6,950.0	6,901.8	6,993.8	6,993.8	17.9	12.2	-159.01	-688.5	321.4	654.2	626.3	27.91	23.441	
7,000.0	6,948.0	7,040.0	7,040.0	18.0	12.3	-154.74	-688.5	321.4	672.0	644.6	27.39	24.531	
7,050.0	6,992.4	7,084.4	7,084.4	18.0	12.3	-151.61	-688.5	321.4	692.9	666.1	26.77	25.881	
7,100.0	7,034.7	7,126.7	7,126.7	18.1	12.4	-149.08	-688.5	321.4	716.9	690.8	26.07	27.502	
7,150.0	7,074.6	7,166.6	7,166.6	18.2	12.5	-146.80	-688.5	321.4	743.8	718.5	25.31	29.392	
7,200.0	7,111.7	7,203.7	7,203.7	18.2	12.6	-144.56	-688.5	321.4	773.7	749.1	24.54	31.529	
7,250.0	7,145.8	7,237.8	7,237.8	18.4	12.6	-142.17	-688.5	321.4	806.2	782.4	23.82	33.844	
7,300.0	7,176.7	7,268.7	7,268.7	18.5	12.7	-139.44	-688.5	321.4	841.4	818.1	23.24	36.206	
7,350.0	7,204.1	7,296.1	7,296.1	18.6	12.7	-136.18	-688.5	321.4	878.9	856.0	22.89	38.394	
7,400.0	7,227.7	7,319.7	7,319.7	18.8	12.8	-132.17	-688.5	321.4	918.5	895.6	22.89	40.120	
7,450.0	7,247.4	7,339.4	7,339.4	19.0	12.8	-127.14	-688.5	321.4	960.0	936.6	23.35	41.118	
7,500.0	7,263.1	7,355.1	7,355.1	19.2	12.8	-120.79	-688.5	321.4	1,003.1	978.8	24.28	41.313	
7,550.0	7,274.7	7,366.7	7,366.7	19.5	12.8	-112.86	-688.5	321.4	1,047.4	1,021.8	25.57	40.961	
7,600.0	7,282.0	7,374.0	7,374.0	19.8	12.9	-103.22	-688.5	321.4	1,092.6	1,065.7	26.89	40.638	
7,650.0	7,284.9	7,376.9	7,376.9	20.1	12.9	-92.16	-688.5	321.4	1,138.4	1,110.7	27.72	41.061	
7,659.3	7,285.0	7,377.0	7,377.0	20.2	12.9	-90.00	-688.5	321.4	1,147.0	1,119.2	27.79	41.275	
7,700.0	7,285.0	7,377.0	7,377.0	20.5	12.9	-90.00	-688.5	321.4	1,184.5	1,156.3	28.19	42.022	
7,800.0	7,285.0	7,377.0	7,377.0	21.3	12.9	-90.00	-688.5	321.4	1,277.6	1,248.3	29.26	43.665	
7,900.0	7,285.0	7,377.0	7,377.0	22.2	12.9	-90.00	-688.5	321.4	1,371.7	1,341.2	30.44	45.060	
8,000.0	7,285.0	7,377.0	7,377.0	23.2	12.9	-90.00	-688.5	321.4	1,466.5	1,434.8	31.71	46.245	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY 13-5 (EXISTING) - ENCANA WELL - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 100-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		
0.0	0.0	0.0	0.0	0.0	0.0	155.04	-703.8	327.5	776.3				
100.0	100.0	100.0	100.0	0.1	0.2	155.06	-703.2	327.1	775.6	775.3	0.28	2,761.634	
200.0	200.0	194.2	194.2	0.3	0.3	155.08	-702.6	326.4	774.7	774.1	0.62	1,250.326	
300.0	300.0	297.6	297.6	0.5	0.5	155.13	-702.3	325.5	774.1	773.2	0.98	793.450	
400.0	400.0	391.9	391.9	0.6	0.7	48.92	-702.3	324.5	773.1	771.7	1.31	588.191	
500.0	500.0	493.9	493.9	0.8	0.8	49.18	-702.6	323.2	771.1	769.5	1.67	461.545	
600.0	599.9	596.4	596.4	1.0	1.0	49.56	-702.7	321.8	767.7	765.7	2.03	377.952	
700.0	699.7	691.9	691.9	1.2	1.2	50.01	-702.7	320.6	763.3	761.0	2.39	319.778	
800.0	799.4	793.5	793.5	1.4	1.4	50.64	-703.2	318.9	758.1	755.3	2.76	274.344	
900.0	898.9	894.6	894.5	1.6	1.6	51.40	-703.4	317.1	751.5	748.4	3.15	238.576	
989.9	988.3	980.7	980.6	1.9	1.7	52.15	-703.6	315.5	744.9	741.4	3.50	212.712	
1,000.0	998.3	990.3	990.2	1.9	1.7	52.24	-703.7	315.4	744.1	740.6	3.54	210.109	
1,100.0	1,097.5	1,083.3	1,083.2	2.1	1.9	53.06	-704.5	313.9	737.1	733.1	3.94	187.278	
1,200.0	1,196.8	1,186.4	1,186.3	2.4	2.1	53.99	-705.8	312.3	730.5	726.1	4.36	167.723	
1,300.0	1,296.1	1,289.6	1,289.5	2.7	2.3	54.97	-706.5	310.1	723.4	718.6	4.78	151.335	
1,400.0	1,395.4	1,382.7	1,382.5	2.9	2.4	55.83	-707.0	308.5	716.6	711.4	5.19	138.107	
1,500.0	1,494.6	1,487.0	1,486.9	3.2	2.6	56.81	-707.9	306.9	710.2	704.6	5.62	126.295	
1,600.0	1,593.9	1,581.4	1,581.2	3.5	2.8	57.73	-708.5	305.2	703.8	697.7	6.04	116.480	
1,700.0	1,693.2	1,685.2	1,685.0	3.7	3.0	58.75	-709.3	303.5	697.8	691.3	6.48	107.611	
1,800.0	1,792.5	1,786.0	1,785.7	4.0	3.1	59.83	-709.7	300.9	691.3	684.4	6.93	99.823	
1,900.0	1,891.7	1,884.6	1,884.3	4.3	3.3	60.90	-710.0	298.4	685.1	677.7	7.37	93.010	
2,000.0	1,991.0	1,981.7	1,981.4	4.5	3.5	61.96	-710.5	296.0	679.2	671.4	7.81	87.006	
2,100.0	2,090.3	2,080.0	2,079.7	4.8	3.7	63.05	-711.1	293.7	673.8	665.6	8.25	81.669	
2,200.0	2,189.6	2,176.1	2,175.7	5.1	3.8	64.12	-711.9	291.7	668.9	660.2	8.69	76.932	
2,300.0	2,288.8	2,273.8	2,273.3	5.3	4.0	65.26	-713.2	289.1	664.6	655.5	9.15	72.673	
2,400.0	2,388.1	2,371.8	2,371.3	5.6	4.2	66.42	-714.6	286.6	660.8	651.2	9.60	68.834	
2,500.0	2,487.4	2,470.2	2,469.6	5.9	4.4	67.61	-716.2	283.9	657.3	647.3	10.06	65.363	
2,600.0	2,586.7	2,567.8	2,567.3	6.2	4.5	68.81	-717.9	281.3	654.3	643.8	10.51	62.232	
2,700.0	2,686.0	2,665.5	2,664.9	6.4	4.7	70.00	-719.7	278.8	651.8	640.8	10.97	59.405	
2,800.0	2,785.2	2,768.4	2,767.7	6.7	4.9	71.26	-721.6	276.2	649.5	638.0	11.44	56.765	
2,900.0	2,884.5	2,869.0	2,868.3	7.0	5.1	72.50	-722.8	273.7	646.8	634.9	11.91	54.329	
3,000.0	2,983.8	2,970.2	2,969.5	7.3	5.3	73.71	-723.9	271.7	644.3	632.0	12.37	52.081	
3,100.0	3,083.1	3,071.9	3,071.2	7.5	5.5	74.95	-724.5	269.5	641.7	628.9	12.84	49.987	
3,200.0	3,182.3	3,173.2	3,172.5	7.8	5.6	76.11	-724.7	268.3	639.0	625.7	13.30	48.044	
3,300.0	3,281.6	3,274.0	3,273.2	8.1	5.8	77.29	-724.7	267.0	636.2	622.4	13.76	46.223	
3,400.0	3,380.9	3,374.3	3,373.5	8.3	6.0	78.52	-724.4	265.2	633.5	619.2	14.23	44.529	
3,500.0	3,480.2	3,475.8	3,475.0	8.6	6.2	79.71	-723.8	264.0	630.8	616.1	14.69	42.942	
3,600.0	3,579.4	3,572.5	3,571.7	8.9	6.3	80.85	-723.2	263.0	628.2	613.1	15.14	41.488	
3,700.0	3,678.7	3,666.7	3,665.9	9.2	6.5	81.98	-723.2	261.8	626.6	611.0	15.59	40.188	
3,794.7	3,772.7	3,755.5	3,754.7	9.4	6.7	83.09	-723.9	260.1	626.1	610.1	16.02	39.093 CC	
3,800.0	3,778.0	3,760.5	3,759.6	9.4	6.7	83.15	-724.0	260.0	626.1	610.1	16.04	39.035	
3,900.0	3,877.3	3,858.0	3,857.1	9.7	6.8	84.34	-725.4	258.4	626.5	610.0	16.49	37.986	
4,000.0	3,976.5	3,956.7	3,955.8	10.0	7.0	85.64	-726.7	255.7	627.3	610.3	16.95	37.005	
4,100.0	4,075.8	4,061.0	4,060.1	10.3	7.2	87.03	-727.8	252.6	628.2	610.8	17.42	36.068	
4,200.0	4,175.1	4,165.7	4,164.7	10.5	7.4	88.44	-727.6	249.7	628.3	610.4	17.88	35.137	
4,300.0	4,274.4	4,270.5	4,269.5	10.8	7.6	89.81	-726.8	247.3	627.9	609.6	18.34	34.237	
4,400.0	4,373.6	4,370.2	4,369.1	11.1	7.8	91.14	-725.2	245.0	627.2	608.4	18.79	33.381	
4,500.0	4,472.9	4,469.5	4,468.4	11.3	7.9	92.47	-723.8	242.7	626.9	607.7	19.23	32.597	
4,564.9	4,537.4	4,533.8	4,532.7	11.5	8.0	93.30	-722.9	241.6	626.8	607.3	19.52	32.116	
4,600.0	4,572.2	4,568.1	4,567.0	11.6	8.1	93.73	-722.5	241.1	626.8	607.2	19.67	31.869 ES	
4,700.0	4,671.5	4,664.5	4,663.4	11.9	8.3	94.93	-721.5	239.8	627.3	607.2	20.10	31.212	
4,800.0	4,770.7	4,761.7	4,760.6	12.2	8.4	96.13	-721.0	238.3	628.6	608.0	20.53	30.620	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY 13-5 (EXISTING) - ENCANA WELL - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 100-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)			
4,900.0	4,870.0	4,864.2	4,863.1	12.4	8.6	97.40	-720.4	236.7	630.1	609.1	20.96	30.059	
5,000.0	4,969.3	4,965.6	4,964.4	12.7	8.8	98.64	-719.2	235.4	631.2	609.8	21.39	29.510	
5,100.0	5,068.6	5,064.4	5,063.2	13.0	9.0	99.83	-718.0	234.5	632.5	610.7	21.81	29.002	
5,200.0	5,167.8	5,164.3	5,163.1	13.3	9.1	101.03	-716.8	233.4	634.1	611.8	22.22	28.530	
5,300.0	5,267.1	5,262.7	5,261.5	13.5	9.3	102.18	-715.7	232.7	635.8	613.2	22.64	28.091	
5,400.0	5,366.4	5,361.3	5,360.1	13.8	9.5	103.32	-714.8	231.9	638.1	615.0	23.04	27.692	
5,500.0	5,465.7	5,459.5	5,458.3	14.1	9.7	104.42	-714.1	231.4	640.6	617.1	23.44	27.323	
5,600.0	5,564.9	5,554.3	5,553.1	14.4	9.8	105.47	-713.7	230.8	643.7	619.9	23.84	27.003	
5,700.0	5,664.2	5,649.3	5,648.1	14.6	10.0	106.48	-714.1	229.9	647.9	623.7	24.23	26.738	
5,800.0	5,763.5	5,747.6	5,746.4	14.9	10.2	107.52	-714.9	228.9	652.7	628.1	24.62	26.506	
5,900.0	5,862.8	5,851.0	5,849.8	15.2	10.3	108.60	-715.5	227.8	657.5	632.5	25.02	26.280	
6,000.0	5,962.1	5,954.2	5,952.9	15.4	10.5	109.68	-715.2	227.2	661.6	636.2	25.41	26.037	
6,100.0	6,061.3	6,054.7	6,053.5	15.7	10.7	110.77	-714.4	226.1	665.8	640.0	25.79	25.811	
6,200.0	6,160.6	6,154.4	6,153.2	16.0	10.9	111.82	-713.5	225.4	669.9	643.7	26.17	25.597	
6,300.0	6,259.9	6,253.4	6,252.1	16.3	11.0	112.79	-713.1	225.2	674.3	647.7	26.55	25.399	
6,400.0	6,359.2	6,350.0	6,348.7	16.5	11.2	113.78	-712.4	224.5	679.0	652.1	26.92	25.227	
6,500.0	6,458.4	6,446.6	6,445.3	16.8	11.4	114.72	-712.5	223.8	684.5	657.2	27.28	25.090	
6,600.0	6,557.7	6,545.7	6,544.5	17.1	11.6	115.61	-712.9	223.4	690.2	662.6	27.65	24.963	
6,700.0	6,657.0	6,646.6	6,645.3	17.4	11.7	116.58	-712.8	222.5	696.1	668.1	28.01	24.849	
6,739.9	6,696.6	6,687.9	6,686.6	17.5	11.8	116.96	-712.7	222.2	698.4	670.2	28.16	24.801 SF	
6,750.0	6,706.6	6,698.3	6,697.0	17.5	11.8	125.35	-712.7	222.2	699.0	670.8	28.18	24.803	
6,800.0	6,756.3	6,746.6	6,745.4	17.6	11.9	165.37	-712.7	222.0	704.1	675.9	28.20	24.970	
6,850.0	6,805.6	6,794.5	6,793.2	17.7	12.0	-171.84	-712.8	221.8	712.3	684.3	28.07	25.374	
6,900.0	6,854.2	6,843.5	6,842.3	17.8	12.1	-160.41	-712.9	221.7	723.7	695.9	27.83	26.009	
6,950.0	6,901.8	6,891.8	6,890.5	17.9	12.2	-153.85	-713.0	221.5	738.0	710.6	27.46	26.880	
7,000.0	6,948.0	6,938.8	6,937.5	18.0	12.2	-149.54	-713.0	221.3	755.3	728.3	26.98	27.995	
7,050.0	6,992.4	6,984.1	6,982.8	18.0	12.3	-146.37	-712.9	221.1	775.4	749.0	26.41	29.361	
7,100.0	7,034.7	7,027.1	7,025.8	18.1	12.4	-143.80	-712.7	220.9	798.3	772.5	25.77	30.979	
7,150.0	7,074.6	7,067.4	7,066.1	18.2	12.5	-141.50	-712.8	221.0	824.0	798.9	25.09	32.839	
7,200.0	7,111.7	7,105.6	7,104.3	18.2	12.5	-139.28	-713.0	221.3	852.5	828.1	24.43	34.901	
7,250.0	7,145.8	7,146.0	7,144.8	18.4	12.6	-137.19	-713.2	221.9	883.4	859.6	23.82	37.081	
7,300.0	7,176.7	7,182.9	7,181.6	18.5	12.6	-134.85	-713.3	222.8	916.7	893.3	23.35	39.264	
7,350.0	7,204.1	7,217.3	7,216.0	18.6	12.7	-132.18	-713.3	223.9	952.1	929.1	23.07	41.268	
7,400.0	7,227.7	7,248.9	7,247.6	18.8	12.8	-129.03	-713.2	225.2	989.6	966.5	23.08	42.875	
7,450.0	7,247.4	7,275.8	7,274.4	19.0	12.8	-125.11	-713.0	226.5	1,028.9	1,005.5	23.45	43.874	
7,500.0	7,263.1	7,297.7	7,296.3	19.2	12.8	-120.18	-712.8	227.7	1,069.9	1,045.7	24.21	44.185	
7,550.0	7,274.7	7,308.7	7,307.3	19.5	12.8	-113.50	-712.7	228.4	1,112.3	1,086.9	25.36	43.867	
7,600.0	7,282.0	7,315.3	7,313.8	19.8	12.9	-105.41	-712.6	228.8	1,155.8	1,129.2	26.59	43.461	
7,650.0	7,284.9	7,318.2	7,316.7	20.1	12.9	-96.14	-712.6	228.9	1,200.1	1,172.6	27.56	43.541	
7,659.3	7,285.0	7,318.3	7,316.9	20.2	12.9	-94.31	-712.6	228.9	1,208.5	1,180.8	27.68	43.652	
7,700.0	7,285.0	7,318.7	7,317.2	20.5	12.9	-94.35	-712.6	229.0	1,244.9	1,216.9	28.08	44.335	
7,800.0	7,285.0	7,319.5	7,318.0	21.3	12.9	-94.43	-712.6	229.0	1,335.6	1,306.5	29.15	45.826	
7,900.0	7,285.0	7,320.3	7,318.8	22.2	12.9	-94.52	-712.5	229.0	1,427.5	1,397.2	30.32	47.083	
8,000.0	7,285.0	7,321.0	7,319.6	23.2	12.9	-94.60	-712.5	229.1	1,520.5	1,488.9	31.58	48.143	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY 23-5 (EXISTING) - ENCANA WELL - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 100-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		
3,500.0	3,480.2	3,515.6	3,515.2	8.6	6.2	8.81	-751.9	1,731.2	1,547.9	1,535.7	12.25	126.374	
3,600.0	3,579.4	3,600.0	3,599.5	8.9	6.3	8.80	-749.7	1,730.8	1,534.6	1,522.0	12.57	122.076	
3,700.0	3,678.7	3,694.6	3,694.1	9.2	6.5	8.79	-747.6	1,730.9	1,521.9	1,508.9	12.91	117.879	
3,800.0	3,778.0	3,789.4	3,788.8	9.4	6.6	8.76	-745.1	1,731.6	1,509.5	1,496.3	13.25	113.927	
3,900.0	3,877.3	3,887.9	3,887.3	9.7	6.8	8.71	-742.2	1,732.6	1,497.4	1,483.8	13.60	110.133	
4,000.0	3,976.5	3,991.2	3,990.5	10.0	7.0	8.67	-739.6	1,733.4	1,485.1	1,471.2	13.95	106.451	
4,100.0	4,075.8	4,098.1	4,097.5	10.3	7.2	8.68	-737.5	1,733.4	1,472.4	1,458.1	14.31	102.867	
4,200.0	4,175.1	4,210.3	4,209.7	10.5	7.4	8.69	-735.2	1,732.5	1,459.0	1,444.3	14.69	99.345	
4,300.0	4,274.4	4,300.4	4,299.7	10.8	7.5	8.69	-733.2	1,731.8	1,445.5	1,430.5	15.02	96.238	
4,400.0	4,373.6	4,415.6	4,414.8	11.1	7.7	8.71	-730.6	1,730.4	1,431.5	1,416.1	15.40	92.970	
4,500.0	4,472.9	4,500.0	4,499.2	11.3	7.9	8.73	-728.9	1,729.5	1,417.8	1,402.1	15.72	90.182	
4,600.0	4,572.2	4,589.4	4,588.6	11.6	8.0	8.74	-727.5	1,729.3	1,405.0	1,388.9	16.05	87.512	
4,700.0	4,671.5	4,703.6	4,702.8	11.9	8.2	8.78	-725.9	1,728.4	1,391.9	1,375.5	16.43	84.709	
4,800.0	4,770.7	4,800.0	4,799.2	12.2	8.4	8.83	-724.5	1,727.3	1,378.3	1,361.6	16.78	82.153	
4,900.0	4,870.0	4,891.2	4,890.4	12.4	8.6	8.87	-723.5	1,726.4	1,365.2	1,348.1	17.11	79.765	
5,000.0	4,969.3	4,991.3	4,990.5	12.7	8.8	8.94	-722.7	1,725.6	1,352.2	1,334.8	17.47	77.411	
5,100.0	5,068.6	5,090.7	5,089.9	13.0	8.9	8.98	-721.5	1,725.0	1,339.2	1,321.4	17.82	75.155	
5,200.0	5,167.8	5,185.4	5,184.5	13.3	9.1	9.05	-720.8	1,724.2	1,326.4	1,308.2	18.16	73.024	
5,300.0	5,267.1	5,281.6	5,280.8	13.5	9.3	9.14	-720.8	1,723.5	1,313.9	1,295.3	18.51	70.975	
5,400.0	5,366.4	5,386.1	5,385.3	13.8	9.4	9.24	-720.7	1,722.7	1,301.3	1,282.4	18.87	68.946	
5,500.0	5,465.7	5,495.6	5,494.7	14.1	9.6	9.34	-720.2	1,721.3	1,288.1	1,268.8	19.25	66.929	
5,600.0	5,564.9	5,597.1	5,596.2	14.4	9.8	9.45	-719.7	1,719.4	1,274.3	1,254.7	19.60	65.008	
5,700.0	5,664.2	5,686.9	5,686.0	14.6	10.0	9.59	-720.3	1,717.5	1,260.9	1,240.9	19.94	63.228	
5,800.0	5,763.5	5,795.1	5,794.1	14.9	10.2	9.79	-721.5	1,715.1	1,247.5	1,227.2	20.31	61.411	
5,900.0	5,862.8	5,879.4	5,878.4	15.2	10.3	9.94	-722.3	1,713.4	1,234.3	1,213.6	20.64	59.787	
6,000.0	5,962.1	5,983.3	5,982.4	15.4	10.5	10.11	-723.3	1,711.9	1,221.7	1,200.7	21.01	58.146	
6,100.0	6,061.3	6,086.1	6,085.1	15.7	10.7	10.30	-724.2	1,709.9	1,208.5	1,187.1	21.37	56.538	
6,200.0	6,160.6	6,183.5	6,182.5	16.0	10.8	10.46	-724.7	1,708.1	1,195.3	1,173.5	21.73	55.006	
6,300.0	6,259.9	6,280.4	6,279.3	16.3	11.0	10.61	-725.1	1,706.6	1,182.2	1,160.1	22.08	53.535	
6,400.0	6,359.2	6,378.2	6,377.2	16.5	11.2	10.77	-725.5	1,705.2	1,169.4	1,146.9	22.44	52.113	
6,500.0	6,458.4	6,477.1	6,476.1	16.8	11.4	10.91	-725.6	1,704.0	1,156.6	1,133.8	22.80	50.734	
6,600.0	6,557.7	6,571.5	6,570.4	17.1	11.5	11.04	-725.6	1,703.1	1,143.9	1,120.8	23.15	49.423	
6,700.0	6,657.0	6,670.7	6,669.6	17.4	11.7	11.20	-726.1	1,702.4	1,131.6	1,108.1	23.50	48.145	
6,739.9	6,696.6	6,711.5	6,710.4	17.5	11.8	11.25	-726.1	1,702.1	1,126.7	1,103.0	23.65	47.640	
6,750.0	6,706.6	6,721.8	6,720.7	17.5	11.8	11.64	-726.1	1,702.0	1,125.5	1,101.8	23.70	47.486	
6,800.0	6,756.3	6,773.3	6,772.2	17.6	11.9	11.69	-726.2	1,701.4	1,120.6	1,096.6	23.95	46.788	
6,850.0	6,805.6	6,825.1	6,824.0	17.7	12.0	11.75	-726.4	1,700.7	1,117.7	1,093.5	24.18	46.218	
6,893.9	6,848.3	6,870.8	6,869.7	17.8	12.1	11.84	-726.5	1,700.0	1,116.9	1,092.5	24.37	45.827 CC	
6,900.0	6,854.2	6,877.1	6,876.0	17.8	12.1	11.92	-726.5	1,699.9	1,116.9	1,092.5	24.40	45.784 ES	
6,950.0	6,901.8	6,925.0	6,923.9	17.9	12.2	11.97	-726.5	1,699.1	1,118.3	1,093.8	24.57	45.514	
7,000.0	6,948.0	6,969.0	6,967.9	18.0	12.2	12.02	-726.5	1,698.5	1,122.3	1,097.6	24.71	45.420 SF	
7,050.0	6,992.4	7,010.5	7,009.4	18.0	12.3	12.07	-726.6	1,697.9	1,128.9	1,104.1	24.81	45.500	
7,100.0	7,034.7	7,048.0	7,046.9	18.1	12.4	12.13	-726.6	1,697.5	1,138.4	1,113.5	24.88	45.759	
7,150.0	7,074.6	7,083.3	7,082.2	18.2	12.4	12.18	-726.7	1,697.3	1,150.9	1,126.0	24.93	46.173	
7,200.0	7,111.7	7,118.5	7,117.4	18.2	12.5	12.23	-726.8	1,697.2	1,166.4	1,141.4	24.97	46.713	
7,250.0	7,145.8	7,152.5	7,151.4	18.4	12.5	12.28	-727.0	1,697.1	1,184.8	1,159.8	25.02	47.350	
7,300.0	7,176.7	7,183.0	7,181.9	18.5	12.6	12.33	-727.3	1,696.9	1,206.2	1,181.1	25.10	48.053	
7,350.0	7,204.1	7,211.6	7,210.5	18.6	12.7	12.38	-727.6	1,696.6	1,230.5	1,205.2	25.23	48.772	
7,400.0	7,227.7	7,239.2	7,238.0	18.8	12.7	12.43	-727.9	1,696.4	1,257.4	1,232.0	25.42	49.462	
7,450.0	7,247.4	7,262.5	7,261.4	19.0	12.7	12.48	-728.0	1,696.1	1,286.9	1,261.2	25.70	50.077	
7,500.0	7,263.1	7,281.4	7,280.3	19.2	12.8	12.53	-728.0	1,695.9	1,318.7	1,292.7	26.07	50.588	
7,550.0	7,274.7	7,295.6	7,294.5	19.5	12.8	12.58	-728.0	1,695.7	1,352.7	1,326.2	26.53	50.997	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY 23-5 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 100-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		
7,600.0	7,282.0	7,305.0	7,303.9	19.8	12.8	97.36	-727.9	1,695.6	1,388.5	1,361.5	27.04	51.342		
7,650.0	7,284.9	7,309.2	7,308.1	20.1	12.8	92.14	-727.9	1,695.6	1,425.8	1,398.3	27.58	51.701		
7,659.3	7,285.0	7,309.4	7,308.2	20.2	12.8	91.07	-727.9	1,695.6	1,432.9	1,405.3	27.67	51.777		
7,700.0	7,285.0	7,309.6	7,308.5	20.5	12.8	91.08	-727.9	1,695.6	1,464.3	1,436.2	28.07	52.156		
7,800.0	7,285.0	7,310.3	7,309.2	21.3	12.8	91.12	-727.9	1,695.6	1,543.1	1,513.9	29.15	52.942		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 718-MWD		Offset Well Error: 0.0 ft												
Reference		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	150.54	-663.0	374.5	761.4					
100.0	100.0	99.8	99.8	0.1	0.2	150.54	-662.8	374.5	761.3	761.0	0.29	2,583.680		
200.0	200.0	201.6	201.6	0.3	0.3	150.53	-662.5	374.4	760.9	760.3	0.65	1,179.440		
300.0	300.0	303.5	303.5	0.5	0.5	150.52	-661.9	374.2	760.3	759.4	1.00	763.643		
400.0	400.0	405.3	405.3	0.6	0.7	44.23	-661.0	374.0	758.9	757.5	1.34	566.620		
500.0	500.0	507.0	507.0	0.8	0.9	44.37	-659.9	373.7	755.9	754.2	1.69	447.330		
600.0	599.9	608.7	608.7	1.0	1.1	44.61	-658.6	373.3	751.5	749.5	2.04	367.717		
700.0	699.7	710.3	710.2	1.2	1.2	44.96	-657.0	372.8	745.6	743.2	2.40	310.322		
800.0	799.4	804.8	804.8	1.4	1.4	45.33	-655.5	373.2	738.8	736.0	2.76	267.552		
900.0	898.9	903.7	903.6	1.6	1.6	45.70	-653.3	375.2	731.1	727.9	3.14	232.829		
989.9	988.3	991.2	991.0	1.9	1.7	45.94	-650.5	379.0	723.3	719.8	3.49	206.999		
1,000.0	998.3	1,000.9	1,000.7	1.9	1.8	45.96	-650.1	379.5	722.4	718.8	3.53	204.386		
1,100.0	1,097.5	1,095.8	1,095.3	2.1	1.9	46.03	-646.5	385.8	713.7	709.7	3.94	181.076		
1,200.0	1,196.8	1,197.4	1,196.3	2.4	2.2	45.91	-641.7	394.9	705.4	701.0	4.38	160.993		
1,300.0	1,296.1	1,295.7	1,293.9	2.7	2.4	45.60	-635.8	405.6	696.7	691.9	4.84	144.047		
1,400.0	1,395.4	1,395.4	1,392.6	2.9	2.7	45.13	-629.1	418.1	688.4	683.1	5.32	129.501		
1,500.0	1,494.6	1,496.7	1,492.6	3.2	2.9	44.52	-621.5	431.9	679.9	674.1	5.82	116.828		
1,600.0	1,593.9	1,599.6	1,594.1	3.5	3.3	43.78	-612.8	446.8	671.1	664.8	6.34	105.780		
1,700.0	1,693.2	1,701.0	1,694.0	3.7	3.6	43.02	-603.8	461.3	661.9	655.0	6.87	96.403		
1,800.0	1,792.5	1,797.5	1,789.3	4.0	3.9	42.35	-595.5	474.5	652.8	645.5	7.37	88.612		
1,900.0	1,891.7	1,892.3	1,882.9	4.3	4.1	41.72	-588.3	487.2	644.5	636.6	7.86	81.969		
2,000.0	1,991.0	1,986.5	1,976.0	4.5	4.4	41.09	-581.8	500.3	637.0	628.6	8.37	76.140		
2,100.0	2,090.3	2,084.0	2,072.2	4.8	4.7	40.34	-575.0	514.8	630.3	621.4	8.88	70.996		
2,200.0	2,189.6	2,186.6	2,173.5	5.1	5.1	39.59	-568.2	529.5	623.5	614.1	9.39	66.372		
2,300.0	2,288.8	2,291.8	2,277.5	5.3	5.4	38.87	-560.8	543.5	615.9	606.0	9.92	62.118		
2,400.0	2,388.1	2,389.9	2,374.3	5.6	5.7	38.11	-553.4	557.1	608.4	598.0	10.42	58.371		
2,500.0	2,487.4	2,496.1	2,479.2	5.9	6.0	37.23	-544.7	571.8	600.4	589.4	10.95	54.815		
2,600.0	2,586.7	2,598.1	2,579.8	6.2	6.4	36.35	-535.5	585.4	591.6	580.2	11.46	51.606		
2,700.0	2,686.0	2,693.3	2,673.9	6.4	6.7	35.56	-527.5	597.8	583.2	571.2	11.94	48.825		
2,800.0	2,785.2	2,791.5	2,771.0	6.7	7.0	34.81	-520.0	610.1	575.3	562.9	12.42	46.310		
2,900.0	2,884.5	2,887.4	2,865.8	7.0	7.3	34.05	-512.9	622.5	567.8	554.9	12.91	43.982		
3,000.0	2,983.8	2,987.3	2,964.4	7.3	7.6	33.06	-504.7	637.0	560.9	547.5	13.40	41.854		
3,100.0	3,083.1	3,088.3	3,064.1	7.5	7.9	32.10	-496.6	650.9	553.8	539.9	13.88	39.887		
3,200.0	3,182.3	3,185.7	3,160.2	7.8	8.2	31.16	-488.9	664.3	546.9	532.6	14.35	38.106		
3,300.0	3,281.6	3,286.1	3,259.4	8.1	8.6	30.15	-481.0	678.3	540.4	525.5	14.82	36.454		
3,400.0	3,380.9	3,387.7	3,359.6	8.3	8.9	29.12	-472.6	692.0	533.4	518.1	15.29	34.889		
3,500.0	3,480.2	3,486.5	3,457.3	8.6	9.2	28.09	-464.6	705.4	526.8	511.1	15.74	33.473		
3,600.0	3,579.4	3,587.1	3,556.7	8.9	9.5	27.08	-456.6	718.4	520.0	503.8	16.18	32.129		
3,700.0	3,678.7	3,686.0	3,654.4	9.2	9.9	26.02	-448.6	731.5	513.5	496.8	16.62	30.887		
3,800.0	3,778.0	3,785.1	3,752.1	9.4	10.2	24.84	-439.8	745.1	507.0	489.9	17.06	29.721		
3,900.0	3,877.3	3,882.3	3,848.0	9.7	10.5	23.62	-431.3	758.9	501.1	483.7	17.48	28.669		
4,000.0	3,976.5	3,980.9	3,945.1	10.0	10.8	22.34	-422.6	773.1	495.7	477.8	17.89	27.703		
4,100.0	4,075.8	4,078.2	4,041.1	10.3	11.2	21.13	-414.9	787.0	491.0	472.7	18.28	26.855		
4,200.0	4,175.1	4,182.4	4,144.2	10.5	11.5	20.03	-407.8	800.4	485.9	467.2	18.67	26.024		
4,300.0	4,274.4	4,285.2	4,246.1	10.8	11.8	19.00	-400.8	812.7	480.4	461.3	19.06	25.209		
4,400.0	4,373.6	4,384.9	4,344.8	11.1	12.1	17.98	-393.9	824.1	474.4	455.0	19.43	24.416		
4,500.0	4,472.9	4,486.4	4,445.5	11.3	12.4	16.95	-386.9	835.6	468.5	448.7	19.79	23.673		
4,600.0	4,572.2	4,587.9	4,546.2	11.6	12.6	15.99	-380.4	846.1	462.3	442.1	20.15	22.944		
4,700.0	4,671.5	4,685.7	4,643.2	11.9	12.9	15.02	-373.9	856.4	456.2	435.7	20.50	22.256		
4,800.0	4,770.7	4,786.4	4,743.2	12.2	13.2	14.00	-367.4	867.1	450.3	429.5	20.84	21.611		
4,900.0	4,870.0	4,886.0	4,842.0	12.4	13.5	12.99	-361.0	877.3	444.3	423.2	21.17	20.985		
5,000.0	4,969.3	4,984.9	4,940.2	12.7	13.7	11.97	-354.7	887.6	438.7	417.2	21.50	20.401		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 718-MWD													Offset Well Error: 0.0 ft	
Reference		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	5,068.6	5,083.1	5,037.6	13.0	14.0	10.88	-348.2	898.0	433.3	411.4	21.82	19.854		
5,200.0	5,167.8	5,181.6	5,135.3	13.3	14.3	9.77	-342.0	908.9	428.5	406.3	22.13	19.358		
5,300.0	5,267.1	5,284.3	5,237.2	13.5	14.6	8.65	-335.7	919.6	423.3	400.9	22.45	18.857		
5,400.0	5,366.4	5,383.0	5,335.2	13.8	14.8	7.53	-329.5	929.8	418.3	395.6	22.75	18.387		
5,500.0	5,465.7	5,482.7	5,434.2	14.1	15.1	6.41	-323.5	940.0	413.4	390.4	23.05	17.934		
5,600.0	5,564.9	5,585.2	5,536.0	14.4	15.4	5.24	-317.3	950.3	408.4	385.1	23.34	17.496		
5,700.0	5,664.2	5,682.8	5,633.0	14.6	15.6	4.21	-311.9	959.3	403.1	379.5	23.63	17.059		
5,800.0	5,763.5	5,778.1	5,727.7	14.9	15.9	3.24	-307.5	969.0	399.1	375.2	23.92	16.686		
5,900.0	5,862.8	5,884.5	5,833.6	15.2	16.1	2.23	-303.0	979.3	394.9	370.7	24.20	16.313		
6,000.0	5,962.1	5,992.9	5,941.5	15.4	16.4	1.32	-298.6	987.3	388.6	364.1	24.50	15.861		
6,100.0	6,061.3	6,093.8	6,042.2	15.7	16.6	0.41	-294.0	993.4	381.0	356.2	24.79	15.371		
6,200.0	6,160.6	6,197.1	6,145.3	16.0	16.8	-0.39	-290.1	999.1	373.2	348.1	25.07	14.886		
6,300.0	6,259.9	6,301.7	6,249.7	16.3	17.0	-1.00	-287.3	1,003.0	364.1	338.7	25.36	14.353		
6,400.0	6,359.2	6,405.2	6,353.2	16.5	17.1	-1.47	-285.2	1,005.3	353.6	328.0	25.66	13.784		
6,500.0	6,458.4	6,506.4	6,454.3	16.8	17.2	-1.78	-283.9	1,006.5	342.5	316.6	25.95	13.198		
6,600.0	6,557.7	6,607.2	6,555.2	17.1	17.4	-2.01	-283.1	1,007.1	330.9	304.6	26.25	12.604		
6,700.0	6,657.0	6,707.5	6,655.5	17.4	17.5	-2.18	-282.6	1,007.2	318.8	292.3	26.55	12.010		
6,739.9	6,696.6	6,747.5	6,695.5	17.5	17.5	-2.24	-282.5	1,007.2	314.0	287.3	26.67	11.773		
6,750.0	6,706.6	6,757.6	6,705.6	17.5	17.5	6.14	-282.4	1,007.1	312.8	286.0	26.72	11.707		
6,800.0	6,756.3	6,807.8	6,755.8	17.6	17.6	46.57	-282.3	1,007.0	307.3	280.3	26.97	11.393		
6,850.0	6,805.6	6,857.7	6,805.7	17.7	17.7	70.51	-282.3	1,006.7	303.0	275.7	27.28	11.105		
6,900.0	6,854.2	6,906.3	6,854.3	17.8	17.7	83.72	-282.3	1,006.3	300.2	272.6	27.65	10.859		
6,941.3	6,893.6	6,945.8	6,893.7	17.9	17.8	91.20	-282.2	1,006.1	299.4	271.4	27.97	10.704 CC		
6,950.0	6,901.8	6,953.9	6,901.9	17.9	17.8	92.55	-282.2	1,006.0	299.4	271.4	28.04	10.679 ES		
7,000.0	6,948.0	7,000.0	6,948.0	18.0	17.8	99.41	-282.1	1,005.7	301.3	272.9	28.42	10.601 SF		
7,050.0	6,992.4	7,044.4	6,992.4	18.0	17.9	105.19	-282.1	1,005.4	306.5	277.8	28.74	10.664		
7,100.0	7,034.7	7,086.1	7,034.0	18.1	17.9	110.09	-282.1	1,005.1	315.6	286.7	28.93	10.911		
7,150.0	7,074.6	7,125.3	7,073.3	18.2	18.0	114.25	-282.1	1,005.0	329.2	300.3	28.95	11.374		
7,200.0	7,111.7	7,161.9	7,109.9	18.2	18.0	117.63	-282.1	1,004.9	347.5	318.7	28.79	12.072		
7,250.0	7,145.8	7,196.0	7,144.0	18.4	18.0	120.24	-282.1	1,004.9	370.5	342.1	28.47	13.016		
7,300.0	7,176.7	7,227.0	7,174.9	18.5	18.1	122.00	-282.1	1,004.9	398.1	370.0	28.04	14.196		
7,350.0	7,204.1	7,254.4	7,202.4	18.6	18.1	122.80	-282.1	1,004.9	429.8	402.2	27.57	15.586		
7,400.0	7,227.7	7,278.3	7,226.3	18.8	18.1	122.54	-282.1	1,004.8	465.2	438.1	27.17	17.125		
7,450.0	7,247.4	7,298.7	7,246.6	19.0	18.2	121.01	-282.1	1,004.8	503.9	477.0	26.93	18.716		
7,500.0	7,263.1	7,314.9	7,262.8	19.2	18.2	117.87	-282.1	1,004.7	545.3	518.4	26.97	20.218		
7,550.0	7,274.7	7,326.8	7,274.8	19.5	18.2	112.61	-282.0	1,004.7	589.0	561.6	27.41	21.486		
7,600.0	7,282.0	7,334.4	7,282.4	19.8	18.2	104.57	-282.0	1,004.6	634.3	606.0	28.24	22.457		
7,650.0	7,284.9	7,337.6	7,285.6	20.1	18.2	93.16	-282.0	1,004.6	680.8	651.6	29.21	23.302		
7,659.3	7,285.0	7,337.7	7,285.7	20.2	18.2	90.66	-282.0	1,004.6	689.5	660.2	29.37	23.481		
7,700.0	7,285.0	7,337.8	7,285.8	20.5	18.2	90.68	-282.0	1,004.6	727.9	698.2	29.76	24.457		
7,800.0	7,285.0	7,338.1	7,286.0	21.3	18.2	90.74	-282.0	1,004.6	823.3	792.4	30.83	26.700		
7,900.0	7,285.0	7,338.3	7,286.3	22.2	18.2	90.80	-282.0	1,004.6	919.6	887.6	32.02	28.724		
8,000.0	7,285.0	7,338.6	7,286.5	23.2	18.2	90.87	-282.0	1,004.6	1,016.6	983.3	33.28	30.543		
8,100.0	7,285.0	7,338.8	7,286.8	24.3	18.2	90.93	-282.0	1,004.6	1,114.2	1,079.6	34.63	32.177		
8,200.0	7,285.0	7,339.1	7,287.0	25.5	18.2	90.99	-282.0	1,004.6	1,212.2	1,176.1	36.03	33.644		
8,300.0	7,285.0	7,339.3	7,287.3	26.8	18.2	91.05	-282.0	1,004.6	1,310.4	1,272.9	37.48	34.965		
8,400.0	7,285.0	7,339.6	7,287.6	28.0	18.2	91.11	-282.0	1,004.6	1,408.9	1,370.0	38.97	36.157		
8,500.0	7,285.0	7,339.9	7,287.8	29.4	18.2	91.18	-282.0	1,004.6	1,507.6	1,467.1	40.49	37.236		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - NELSON 23-32 (EXISTING) - ENCANA WELL - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 100-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
10,600.0	7,285.0	7,190.4	7,188.0	62.5	12.6	87.55	4,570.4	1,657.2	1,543.4	1,469.9	73.48	21.003	
10,700.0	7,285.0	7,192.3	7,189.9	64.2	12.6	87.67	4,570.5	1,657.2	1,462.7	1,387.5	75.21	19.449	
10,800.0	7,285.0	7,194.2	7,191.8	65.8	12.6	87.79	4,570.5	1,657.3	1,384.5	1,307.6	76.93	17.996	
10,900.0	7,285.0	7,196.0	7,193.6	67.5	12.7	87.91	4,570.5	1,657.3	1,309.3	1,230.6	78.66	16.644	
11,000.0	7,285.0	7,197.8	7,195.4	69.2	12.7	88.02	4,570.6	1,657.3	1,237.6	1,157.2	80.39	15.394	
11,100.0	7,285.0	7,199.6	7,197.2	70.9	12.7	88.14	4,570.6	1,657.4	1,170.0	1,087.9	82.12	14.247	
11,200.0	7,285.0	7,201.2	7,198.8	72.6	12.7	88.25	4,570.6	1,657.4	1,107.4	1,023.5	83.86	13.206	
11,300.0	7,285.0	7,202.8	7,200.4	74.3	12.7	88.35	4,570.6	1,657.4	1,050.6	965.0	85.59	12.274	
11,400.0	7,285.0	7,204.4	7,202.0	76.0	12.7	88.45	4,570.7	1,657.5	1,000.5	913.2	87.32	11.457	
11,500.0	7,285.0	7,205.9	7,203.5	77.7	12.7	88.55	4,570.7	1,657.5	958.3	869.3	89.06	10.760	
11,600.0	7,285.0	7,207.4	7,205.0	79.4	12.7	88.65	4,570.7	1,657.5	925.0	834.3	90.79	10.188	
11,700.0	7,285.0	7,208.9	7,206.5	81.1	12.7	88.74	4,570.7	1,657.6	901.7	809.2	92.53	9.745	
11,800.0	7,285.0	7,210.3	7,207.9	82.8	12.7	88.83	4,570.7	1,657.6	889.0	794.8	94.27	9.431	
11,863.3	7,285.0	7,211.2	7,208.8	83.9	12.7	88.89	4,570.8	1,657.6	886.8	791.4	95.37	9.298 CC, ES	
11,900.0	7,285.0	7,211.7	7,209.3	84.5	12.7	88.92	4,570.8	1,657.6	887.5	791.5	96.01	9.244	
12,000.0	7,285.0	7,213.1	7,210.7	86.2	12.7	89.01	4,570.8	1,657.6	897.2	799.5	97.75	9.179 SF	
12,100.0	7,285.0	7,214.4	7,212.1	88.0	12.7	89.10	4,570.8	1,657.7	917.8	818.3	99.49	9.225	
12,200.0	7,285.0	7,215.8	7,213.4	89.7	12.7	89.18	4,570.8	1,657.7	948.5	847.3	101.23	9.370	
12,300.0	7,285.0	7,217.1	7,214.7	91.4	12.7	89.27	4,570.8	1,657.7	988.4	885.5	102.97	9.600	
12,400.0	7,285.0	7,218.3	7,215.9	93.1	12.7	89.35	4,570.8	1,657.7	1,036.5	931.8	104.71	9.899	
12,500.0	7,285.0	7,219.6	7,217.2	94.8	12.7	89.43	4,570.9	1,657.8	1,091.6	985.2	106.45	10.255	
12,600.0	7,285.0	7,220.8	7,218.4	96.5	12.7	89.51	4,570.9	1,657.8	1,152.8	1,044.6	108.19	10.655	
12,700.0	7,285.0	7,222.0	7,219.6	98.3	12.7	89.59	4,570.9	1,657.8	1,219.1	1,109.2	109.93	11.090	
12,800.0	7,285.0	7,223.1	7,220.8	100.0	12.7	89.66	4,570.9	1,657.8	1,289.8	1,178.1	111.68	11.549	
12,900.0	7,285.0	7,224.3	7,221.9	101.7	12.7	89.74	4,570.9	1,657.9	1,364.1	1,250.7	113.42	12.027	
13,000.0	7,285.0	7,225.4	7,223.0	103.4	12.7	89.81	4,570.9	1,657.9	1,441.6	1,326.4	115.16	12.518	
13,100.0	7,285.0	7,226.5	7,224.1	105.2	12.7	89.88	4,571.0	1,657.9	1,521.7	1,404.8	116.90	13.016	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design		S5-T2N-R67W (Vogl-McCoy) - NELSON 4-32 (EXISTING) - ENCANA WELL - NO SURVEYS										Offset Site Error: 0.0 ft	
Survey Program: 7940-MWD												Offset Well Error: 0.0 ft	
Reference		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	
9,500.0	7,285.0	7,229.0	7,229.0	44.4	12.6	90.00	3,741.6	927.7	1,542.2	1,487.3	54.91	28.087	
9,600.0	7,285.0	7,229.0	7,229.0	46.0	12.6	90.00	3,741.6	927.7	1,442.7	1,386.1	56.59	25.496	
9,700.0	7,285.0	7,229.0	7,229.0	47.6	12.6	90.00	3,741.6	927.7	1,343.4	1,285.1	58.27	23.054	
9,800.0	7,285.0	7,229.0	7,229.0	49.2	12.6	90.00	3,741.6	927.7	1,244.1	1,184.1	59.96	20.749	
9,900.0	7,285.0	7,229.0	7,229.0	50.9	12.6	90.00	3,741.6	927.7	1,145.0	1,083.3	61.65	18.571	
10,000.0	7,285.0	7,229.0	7,229.0	52.5	12.6	90.00	3,741.6	927.7	1,046.0	982.6	63.35	16.511	
10,100.0	7,285.0	7,229.0	7,229.0	54.2	12.6	90.00	3,741.6	927.7	947.2	882.2	65.05	14.562	
10,200.0	7,285.0	7,229.0	7,229.0	55.8	12.6	90.00	3,741.6	927.7	848.8	782.0	66.76	12.715	
10,300.0	7,285.0	7,229.0	7,229.0	57.5	12.6	90.00	3,741.6	927.7	750.7	682.3	68.46	10.965	
10,400.0	7,285.0	7,229.0	7,229.0	59.1	12.6	90.00	3,741.6	927.7	653.3	583.1	70.17	9.309	
10,500.0	7,285.0	7,229.0	7,229.0	60.8	12.6	90.00	3,741.6	927.7	556.7	484.8	71.89	7.744	
10,600.0	7,285.0	7,229.0	7,229.0	62.5	12.6	90.00	3,741.6	927.7	461.6	388.0	73.60	6.271	
10,700.0	7,285.0	7,229.0	7,229.0	64.2	12.6	90.00	3,741.6	927.7	369.1	293.8	75.32	4.900	
10,800.0	7,285.0	7,229.0	7,229.0	65.8	12.6	90.00	3,741.6	927.7	281.8	204.7	77.04	3.657	
10,900.0	7,285.0	7,229.0	7,229.0	67.5	12.6	90.00	3,741.6	927.7	206.3	127.5	78.76	2.619	
11,000.0	7,285.0	7,229.0	7,229.0	69.2	12.6	90.00	3,741.6	927.7	160.4	79.9	80.48	1.993	
11,034.2	7,285.0	7,229.0	7,229.0	69.8	12.6	90.00	3,741.6	927.7	156.7	75.6	81.07	1.933 CC, ES, SF	
11,100.0	7,285.0	7,229.0	7,229.0	70.9	12.6	90.00	3,741.6	927.7	169.9	87.7	82.21	2.067	
11,200.0	7,285.0	7,229.0	7,229.0	72.6	12.6	90.00	3,741.6	927.7	228.1	144.2	83.93	2.718	
11,300.0	7,285.0	7,229.0	7,229.0	74.3	12.6	90.00	3,741.6	927.7	308.5	222.9	85.66	3.602	
11,400.0	7,285.0	7,229.0	7,229.0	76.0	12.6	90.00	3,741.6	927.7	397.9	310.6	87.39	4.554	
11,500.0	7,285.0	7,229.0	7,229.0	77.7	12.6	90.00	3,741.6	927.7	491.5	402.3	89.12	5.514	
11,600.0	7,285.0	7,229.0	7,229.0	79.4	12.6	90.00	3,741.6	927.7	587.1	496.2	90.85	6.462	
11,700.0	7,285.0	7,229.0	7,229.0	81.1	12.6	90.00	3,741.6	927.7	684.0	591.4	92.58	7.388	
11,800.0	7,285.0	7,229.0	7,229.0	82.8	12.6	90.00	3,741.6	927.7	781.7	687.4	94.32	8.288	
11,900.0	7,285.0	7,229.0	7,229.0	84.5	12.6	90.00	3,741.6	927.7	879.9	783.8	96.05	9.161	
12,000.0	7,285.0	7,229.0	7,229.0	86.2	12.6	90.00	3,741.6	927.7	978.4	880.6	97.78	10.006	
12,100.0	7,285.0	7,229.0	7,229.0	88.0	12.6	90.00	3,741.6	927.7	1,077.3	977.7	99.52	10.825	
12,200.0	7,285.0	7,229.0	7,229.0	89.7	12.6	90.00	3,741.6	927.7	1,176.3	1,075.0	101.26	11.617	
12,300.0	7,285.0	7,229.0	7,229.0	91.4	12.6	90.00	3,741.6	927.7	1,275.5	1,172.5	102.99	12.384	
12,400.0	7,285.0	7,229.0	7,229.0	93.1	12.6	90.00	3,741.6	927.7	1,374.8	1,270.0	104.73	13.127	
12,500.0	7,285.0	7,229.0	7,229.0	94.8	12.6	90.00	3,741.6	927.7	1,474.2	1,367.7	106.47	13.846	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - NELSON 4-6-32 (EXISTING) - ENCANA WELL - PLAN ONLY													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		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		
11,000.0	7,285.0	7,307.5	7,225.0	69.2	21.8	90.00	3,896.3	2,306.1	1,546.7	1,458.9	87.72	17.632		
11,100.0	7,285.0	7,307.5	7,225.0	70.9	21.8	90.00	3,896.3	2,306.1	1,537.7	1,448.2	89.45	17.191		
11,188.9	7,285.0	7,307.5	7,225.0	72.4	21.8	90.00	3,896.3	2,306.1	1,535.1	1,444.1	90.98	16.873 CC		
11,200.0	7,285.0	7,307.5	7,225.0	72.6	21.8	90.00	3,896.3	2,306.1	1,535.1	1,443.9	91.17	16.838 ES		
11,300.0	7,285.0	7,307.5	7,225.0	74.3	21.8	90.00	3,896.3	2,306.1	1,539.1	1,446.2	92.90	16.567		
11,400.0	7,285.0	7,307.5	7,225.0	76.0	21.8	90.00	3,896.3	2,306.1	1,549.5	1,454.9	94.63	16.375 SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - OWENS BROTHERS 13-32 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 100-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		
10,500.0	7,285.0	7,265.7	7,264.0	60.8	12.8	-94.93	4,582.8	284.0	1,459.6	1,387.9	71.73	20.350		
10,600.0	7,285.0	7,261.8	7,260.0	62.5	12.7	-94.47	4,582.9	284.1	1,365.8	1,292.3	73.47	18.590		
10,700.0	7,285.0	7,257.9	7,256.1	64.2	12.7	-94.01	4,583.0	284.2	1,272.9	1,197.7	75.22	16.924		
10,800.0	7,285.0	7,254.0	7,252.3	65.8	12.7	-93.56	4,583.2	284.2	1,181.2	1,104.2	76.96	15.348		
10,900.0	7,285.0	7,250.3	7,248.5	67.5	12.7	-93.12	4,583.3	284.3	1,090.9	1,012.2	78.70	13.861		
11,000.0	7,285.0	7,246.6	7,244.9	69.2	12.7	-92.69	4,583.4	284.3	1,002.4	921.9	80.44	12.461		
11,100.0	7,285.0	7,243.0	7,241.2	70.9	12.7	-92.26	4,583.6	284.4	916.3	834.1	82.18	11.150		
11,200.0	7,285.0	7,239.4	7,237.7	72.6	12.7	-91.85	4,583.7	284.4	833.3	749.3	83.92	9.930		
11,300.0	7,285.0	7,235.9	7,234.2	74.3	12.7	-91.44	4,583.8	284.5	754.4	668.7	85.65	8.807		
11,400.0	7,285.0	7,232.5	7,230.8	76.0	12.7	-91.04	4,583.9	284.5	681.0	593.6	87.39	7.793		
11,500.0	7,285.0	7,229.2	7,227.4	77.7	12.7	-90.64	4,584.0	284.6	615.2	526.1	89.12	6.903		
11,600.0	7,285.0	7,225.9	7,224.1	79.4	12.7	-90.25	4,584.1	284.6	559.6	468.7	90.85	6.160		
11,700.0	7,285.0	7,222.6	7,220.9	81.1	12.7	-89.87	4,584.2	284.7	517.5	424.9	92.57	5.590		
11,800.0	7,285.0	7,219.4	7,217.7	82.8	12.7	-89.50	4,584.3	284.7	492.3	398.0	94.30	5.221		
11,877.0	7,285.0	7,217.0	7,215.3	84.1	12.7	-89.21	4,584.4	284.8	486.3	390.7	95.62	5.086 CC, ES		
11,900.0	7,285.0	7,216.3	7,214.6	84.5	12.7	-89.13	4,584.4	284.8	486.8	390.8	96.02	5.070 SF		
12,000.0	7,285.0	7,213.2	7,211.5	86.2	12.7	-88.77	4,584.5	284.8	501.6	403.9	97.73	5.132		
12,100.0	7,285.0	7,210.2	7,208.5	88.0	12.7	-88.41	4,584.6	284.8	534.9	435.5	99.45	5.379		
12,200.0	7,285.0	7,207.2	7,205.5	89.7	12.7	-88.06	4,584.7	284.9	583.7	482.5	101.16	5.770		
12,300.0	7,285.0	7,204.3	7,202.6	91.4	12.6	-87.72	4,584.8	284.9	644.4	541.5	102.87	6.264		
12,400.0	7,285.0	7,200.0	7,198.3	93.1	12.6	-87.21	4,584.9	285.0	714.0	609.4	104.56	6.828		
12,500.0	7,285.0	7,200.0	7,198.3	94.8	12.6	-87.21	4,584.9	285.0	790.1	683.8	106.30	7.433		
12,600.0	7,285.0	7,195.7	7,194.0	96.5	12.6	-86.71	4,585.1	285.0	871.0	763.1	107.98	8.067		
12,700.0	7,285.0	7,192.9	7,191.2	98.3	12.6	-86.37	4,585.2	285.1	955.6	845.9	109.68	8.713		
12,800.0	7,285.0	7,190.1	7,188.4	100.0	12.6	-86.04	4,585.2	285.1	1,042.9	931.5	111.37	9.365		
12,900.0	7,285.0	7,187.3	7,185.6	101.7	12.6	-85.71	4,585.3	285.1	1,132.3	1,019.2	113.05	10.015		
13,000.0	7,285.0	7,184.5	7,182.8	103.4	12.6	-85.39	4,585.4	285.2	1,223.3	1,108.6	114.74	10.662		
13,100.0	7,285.0	7,181.8	7,180.1	105.2	12.6	-85.07	4,585.5	285.2	1,315.6	1,199.2	116.42	11.301		
13,200.0	7,285.0	7,179.0	7,177.3	106.9	12.6	-84.75	4,585.6	285.2	1,409.0	1,290.9	118.09	11.931		
13,300.0	7,285.0	7,176.3	7,174.6	108.6	12.6	-84.43	4,585.6	285.3	1,503.2	1,383.4	119.77	12.551		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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 (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	
8,900.0	7,285.0	7,225.0	7,225.0	35.1	12.6	-90.00	3,043.3	279.4	1,517.7	1,472.7	45.00	33.726	
9,000.0	7,285.0	7,225.0	7,225.0	36.6	12.6	-90.00	3,043.3	279.4	1,423.4	1,376.8	46.62	30.530	
9,100.0	7,285.0	7,225.0	7,225.0	38.1	12.6	-90.00	3,043.3	279.4	1,330.0	1,281.8	48.26	27.559	
9,200.0	7,285.0	7,225.0	7,225.0	39.7	12.6	-90.00	3,043.3	279.4	1,237.7	1,187.7	49.91	24.799	
9,300.0	7,285.0	7,225.0	7,225.0	41.2	12.6	-90.00	3,043.3	279.4	1,146.6	1,095.0	51.56	22.236	
9,400.0	7,285.0	7,225.0	7,225.0	42.8	12.6	-90.00	3,043.3	279.4	1,057.1	1,003.9	53.23	19.860	
9,500.0	7,285.0	7,225.0	7,225.0	44.4	12.6	-90.00	3,043.3	279.4	969.7	914.8	54.90	17.663	
9,600.0	7,285.0	7,225.0	7,225.0	46.0	12.6	-90.00	3,043.3	279.4	884.9	828.4	56.58	15.641	
9,700.0	7,285.0	7,225.0	7,225.0	47.6	12.6	-90.00	3,043.3	279.4	803.7	745.4	58.26	13.795	
9,800.0	7,285.0	7,225.0	7,225.0	49.2	12.6	-90.00	3,043.3	279.4	727.2	667.2	59.95	12.129	
9,900.0	7,285.0	7,225.0	7,225.0	50.9	12.6	-90.00	3,043.3	279.4	657.0	595.3	61.64	10.657	
10,000.0	7,285.0	7,225.0	7,225.0	52.5	12.6	-90.00	3,043.3	279.4	595.3	532.0	63.34	9.399	
10,100.0	7,285.0	7,225.0	7,225.0	54.2	12.6	-90.00	3,043.3	279.4	545.2	480.2	65.04	8.382	
10,200.0	7,285.0	7,225.0	7,225.0	55.8	12.6	-90.00	3,043.3	279.4	510.0	443.2	66.75	7.641	
10,300.0	7,285.0	7,225.0	7,225.0	57.5	12.6	-90.00	3,043.3	279.4	492.9	424.4	68.46	7.200	
10,335.8	7,285.0	7,225.0	7,225.0	58.1	12.6	-90.00	3,043.3	279.4	491.6	422.5	69.07	7.117 CC, ES	
10,400.0	7,285.0	7,225.0	7,225.0	59.1	12.6	-90.00	3,043.3	279.4	495.7	425.6	70.17	7.065 SF	
10,500.0	7,285.0	7,225.0	7,225.0	60.8	12.6	-90.00	3,043.3	279.4	518.3	446.4	71.88	7.210	
10,600.0	7,285.0	7,225.0	7,225.0	62.5	12.6	-90.00	3,043.3	279.4	558.1	484.5	73.60	7.583	
10,700.0	7,285.0	7,225.0	7,225.0	64.2	12.6	-90.00	3,043.3	279.4	611.8	536.4	75.31	8.123	
10,800.0	7,285.0	7,225.0	7,225.0	65.8	12.6	-90.00	3,043.3	279.4	676.1	599.0	77.03	8.777	
10,900.0	7,285.0	7,225.0	7,225.0	67.5	12.6	-90.00	3,043.3	279.4	748.3	669.5	78.75	9.501	
11,000.0	7,285.0	7,225.0	7,225.0	69.2	12.6	-90.00	3,043.3	279.4	826.3	745.8	80.48	10.267	
11,100.0	7,285.0	7,225.0	7,225.0	70.9	12.6	-90.00	3,043.3	279.4	908.6	826.4	82.20	11.053	
11,200.0	7,285.0	7,225.0	7,225.0	72.6	12.6	-90.00	3,043.3	279.4	994.2	910.3	83.93	11.846	
11,300.0	7,285.0	7,225.0	7,225.0	74.3	12.6	-90.00	3,043.3	279.4	1,082.2	996.6	85.66	12.635	
11,400.0	7,285.0	7,225.0	7,225.0	76.0	12.6	-90.00	3,043.3	279.4	1,172.2	1,084.8	87.38	13.415	
11,500.0	7,285.0	7,225.0	7,225.0	77.7	12.6	-90.00	3,043.3	279.4	1,263.7	1,174.6	89.11	14.181	
11,600.0	7,285.0	7,225.0	7,225.0	79.4	12.6	-90.00	3,043.3	279.4	1,356.4	1,265.5	90.84	14.931	
11,700.0	7,285.0	7,225.0	7,225.0	81.1	12.6	-90.00	3,043.3	279.4	1,450.0	1,357.4	92.58	15.663	
11,800.0	7,285.0	7,225.0	7,225.0	82.8	12.6	-90.00	3,043.3	279.4	1,544.5	1,450.2	94.31	16.377	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design		S5-T2N-R67W (Vogl-McCoy) - ROBERT NELSON 24-32 (EXISTING) - ENCANA WELL - SURVEYS										Offset Site Error:		0.0 ft	
Survey Program:		100-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			
9,100.0	7,285.0	7,243.7	7,242.3	38.1	12.7	90.22	3,004.8	1,648.3	1,484.3	1,436.1	48.27	30.754			
9,200.0	7,285.0	7,243.8	7,242.4	39.7	12.7	90.22	3,004.8	1,648.3	1,404.9	1,355.0	49.91	28.147			
9,300.0	7,285.0	7,243.9	7,242.5	41.2	12.7	90.23	3,004.8	1,648.3	1,328.3	1,276.7	51.57	25.757			
9,400.0	7,285.0	7,244.0	7,242.7	42.8	12.7	90.24	3,004.8	1,648.3	1,254.9	1,201.7	53.23	23.574			
9,500.0	7,285.0	7,244.1	7,242.8	44.4	12.7	90.24	3,004.8	1,648.3	1,185.5	1,130.6	54.91	21.591			
9,600.0	7,285.0	7,244.2	7,242.9	46.0	12.7	90.25	3,004.8	1,648.3	1,120.7	1,064.1	56.58	19.806			
9,700.0	7,285.0	7,244.3	7,243.0	47.6	12.7	90.26	3,004.8	1,648.3	1,061.4	1,003.1	58.27	18.215			
9,800.0	7,285.0	7,244.4	7,243.1	49.2	12.7	90.26	3,004.8	1,648.3	1,008.5	948.5	59.96	16.820			
9,900.0	7,285.0	7,244.5	7,243.2	50.9	12.7	90.27	3,004.8	1,648.3	963.1	901.4	61.65	15.622			
10,000.0	7,285.0	7,244.6	7,243.3	52.5	12.7	90.28	3,004.8	1,648.3	926.3	863.0	63.35	14.622			
10,100.0	7,285.0	7,244.7	7,243.4	54.2	12.7	90.28	3,004.8	1,648.3	899.2	834.2	65.05	13.823			
10,200.0	7,285.0	7,244.8	7,243.5	55.8	12.7	90.29	3,004.8	1,648.3	882.7	815.9	66.76	13.223			
10,297.3	7,285.0	7,244.9	7,243.6	57.4	12.7	90.30	3,004.8	1,648.3	877.3	808.9	68.42	12.823 CC			
10,300.0	7,285.0	7,244.9	7,243.6	57.5	12.7	90.30	3,004.8	1,648.3	877.3	808.8	68.46	12.814 ES			
10,400.0	7,285.0	7,245.0	7,243.7	59.1	12.7	90.30	3,004.8	1,648.3	883.3	813.1	70.17	12.587			
10,500.0	7,285.0	7,245.1	7,243.8	60.8	12.7	90.31	3,004.8	1,648.3	900.4	828.5	71.89	12.525 SF			
10,600.0	7,285.0	7,245.2	7,243.9	62.5	12.7	90.32	3,004.8	1,648.3	928.0	854.4	73.60	12.609			
10,700.0	7,285.0	7,245.3	7,243.9	64.2	12.7	90.32	3,004.8	1,648.3	965.3	890.0	75.32	12.816			
10,800.0	7,285.0	7,245.4	7,244.0	65.8	12.7	90.33	3,004.8	1,648.3	1,011.1	934.1	77.04	13.124			
10,900.0	7,285.0	7,245.5	7,244.1	67.5	12.7	90.34	3,004.8	1,648.3	1,064.4	985.6	78.76	13.514			
11,000.0	7,285.0	7,245.6	7,244.2	69.2	12.7	90.34	3,004.8	1,648.3	1,124.0	1,043.5	80.49	13.965			
11,100.0	7,285.0	7,245.7	7,244.3	70.9	12.7	90.35	3,004.8	1,648.3	1,189.1	1,106.9	82.21	14.464			
11,200.0	7,285.0	7,245.8	7,244.4	72.6	12.7	90.35	3,004.8	1,648.3	1,258.8	1,174.8	83.94	14.997			
11,300.0	7,285.0	7,245.9	7,244.5	74.3	12.7	90.36	3,004.8	1,648.3	1,332.3	1,246.6	85.66	15.553			
11,400.0	7,285.0	7,246.0	7,244.6	76.0	12.7	90.37	3,004.8	1,648.3	1,409.1	1,321.7	87.39	16.124			
11,500.0	7,285.0	7,246.1	7,244.7	77.7	12.7	90.37	3,004.8	1,648.3	1,488.6	1,399.5	89.12	16.703			



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design		S5-T2N-R67W (Vogl-McCoy) - ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL - Plan #2										Offset Site Error:		0.0 ft		
Survey Program:		0-MWD												Offset Well Error:		0.0 ft
Reference		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				
8,400.0	7,285.0	7,343.2	7,241.0	28.0	20.1	90.00	2,633.8	1,033.9	1,548.9	1,509.4	39.45	39.259				
8,500.0	7,285.0	7,343.2	7,241.0	29.4	20.1	90.00	2,633.8	1,033.9	1,450.4	1,409.5	40.98	35.397				
8,600.0	7,285.0	7,343.2	7,241.0	30.8	20.1	90.00	2,633.8	1,033.9	1,352.2	1,309.7	42.53	31.797				
8,700.0	7,285.0	7,343.2	7,241.0	32.2	20.1	90.00	2,633.8	1,033.9	1,254.3	1,210.2	44.10	28.442				
8,800.0	7,285.0	7,343.2	7,241.0	33.6	20.1	90.00	2,633.8	1,033.9	1,156.7	1,111.0	45.69	25.314				
8,900.0	7,285.0	7,343.2	7,241.0	35.1	20.1	90.00	2,633.8	1,033.9	1,059.6	1,012.2	47.30	22.399				
9,000.0	7,285.0	7,343.2	7,241.0	36.6	20.1	90.00	2,633.8	1,033.9	963.0	914.1	48.93	19.682				
9,100.0	7,285.0	7,343.2	7,241.0	38.1	20.1	90.00	2,633.8	1,033.9	867.2	816.7	50.56	17.151				
9,200.0	7,285.0	7,343.2	7,241.0	39.7	20.1	90.00	2,633.8	1,033.9	772.5	720.3	52.21	14.797				
9,300.0	7,285.0	7,343.2	7,241.0	41.2	20.1	90.00	2,633.8	1,033.9	679.3	625.5	53.87	12.612				
9,400.0	7,285.0	7,343.2	7,241.0	42.8	20.1	90.00	2,633.8	1,033.9	588.4	532.9	55.53	10.596				
9,500.0	7,285.0	7,343.2	7,241.0	44.4	20.1	90.00	2,633.8	1,033.9	500.9	443.7	57.20	8.757				
9,600.0	7,285.0	7,343.2	7,241.0	46.0	20.1	90.00	2,633.8	1,033.9	419.1	360.2	58.88	7.118				
9,700.0	7,285.0	7,343.2	7,241.0	47.6	20.1	90.00	2,633.8	1,033.9	347.0	286.4	60.56	5.729				
9,800.0	7,285.0	7,343.2	7,241.0	49.2	20.1	90.00	2,633.8	1,033.9	291.7	229.5	62.25	4.686				
9,900.0	7,285.0	7,343.2	7,241.0	50.9	20.1	90.00	2,633.8	1,033.9	264.2	200.3	63.95	4.132				
9,926.4	7,285.0	7,343.2	7,241.0	51.3	20.1	90.00	2,633.8	1,033.9	262.9	198.5	64.40	4.083 CC, ES, SF				
10,000.0	7,285.0	7,343.2	7,241.0	52.5	20.1	90.00	2,633.8	1,033.9	273.0	207.4	65.65	4.159				
10,100.0	7,285.0	7,343.2	7,241.0	54.2	20.1	90.00	2,633.8	1,033.9	315.0	247.7	67.35	4.678				
10,200.0	7,285.0	7,343.2	7,241.0	55.8	20.1	90.00	2,633.8	1,033.9	379.4	310.4	69.05	5.495				
10,300.0	7,285.0	7,343.2	7,241.0	57.5	20.1	90.00	2,633.8	1,033.9	456.8	386.1	70.76	6.456				
10,400.0	7,285.0	7,343.2	7,241.0	59.1	20.1	90.00	2,633.8	1,033.9	541.7	469.2	72.47	7.474				
10,500.0	7,285.0	7,343.2	7,241.0	60.8	20.1	90.00	2,633.8	1,033.9	631.0	556.8	74.18	8.506				
10,600.0	7,285.0	7,343.2	7,241.0	62.5	20.1	90.00	2,633.8	1,033.9	723.1	647.2	75.90	9.527				
10,700.0	7,285.0	7,343.2	7,241.0	64.2	20.1	90.00	2,633.8	1,033.9	817.0	739.4	77.62	10.527				
10,800.0	7,285.0	7,343.2	7,241.0	65.8	20.1	90.00	2,633.8	1,033.9	912.3	833.0	79.34	11.499				
10,900.0	7,285.0	7,343.2	7,241.0	67.5	20.1	90.00	2,633.8	1,033.9	1,008.5	927.4	81.06	12.441				
11,000.0	7,285.0	7,343.2	7,241.0	69.2	20.1	90.00	2,633.8	1,033.9	1,105.3	1,022.5	82.78	13.352				
11,100.0	7,285.0	7,343.2	7,241.0	70.9	20.1	90.00	2,633.8	1,033.9	1,202.7	1,118.2	84.50	14.232				
11,200.0	7,285.0	7,343.2	7,241.0	72.6	20.1	90.00	2,633.8	1,033.9	1,300.4	1,214.2	86.23	15.081				
11,300.0	7,285.0	7,343.2	7,241.0	74.3	20.1	90.00	2,633.8	1,033.9	1,398.5	1,310.6	87.96	15.900				
11,400.0	7,285.0	7,343.2	7,241.0	76.0	20.1	90.00	2,633.8	1,033.9	1,496.9	1,407.2	89.69	16.690				

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - ROBERT NELSON 2-8-32 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 100-MWD													Offset Well Error:	0.0 ft
Reference		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			
8,500.0	7,285.0	7,351.5	7,252.3	29.4	19.6	92.69	2,640.4	1,010.8	1,452.9	1,412.2	40.78	35.626		
8,600.0	7,285.0	7,350.4	7,251.1	30.8	19.6	92.42	2,640.4	1,010.8	1,354.4	1,312.1	42.34	31.986		
8,700.0	7,285.0	7,349.3	7,250.0	32.2	19.6	92.14	2,640.4	1,010.7	1,256.1	1,212.2	43.93	28.595		
8,800.0	7,285.0	7,348.1	7,248.8	33.6	19.6	91.87	2,640.4	1,010.7	1,158.1	1,112.6	45.53	25.436		
8,900.0	7,285.0	7,347.0	7,247.7	35.1	19.6	91.60	2,640.4	1,010.7	1,060.5	1,013.3	47.15	22.492		
9,000.0	7,285.0	7,345.8	7,246.5	36.6	19.6	91.32	2,640.4	1,010.7	963.3	914.6	48.78	19.748		
9,100.0	7,285.0	7,344.7	7,245.4	38.1	19.6	91.05	2,640.5	1,010.6	866.8	816.4	50.43	17.191		
9,200.0	7,285.0	7,343.5	7,244.2	39.7	19.6	90.77	2,640.5	1,010.6	771.2	719.2	52.08	14.809		
9,300.0	7,285.0	7,342.3	7,243.1	41.2	19.6	90.49	2,640.5	1,010.6	676.9	623.2	53.74	12.595		
9,400.0	7,285.0	7,341.2	7,241.9	42.8	19.6	90.21	2,640.5	1,010.6	584.4	529.0	55.41	10.547		
9,500.0	7,285.0	7,340.0	7,240.7	44.4	19.6	89.93	2,640.5	1,010.5	494.9	437.8	57.09	8.670		
9,600.0	7,285.0	7,338.8	7,239.5	46.0	19.6	89.65	2,640.5	1,010.5	410.3	351.5	58.77	6.982		
9,700.0	7,285.0	7,337.6	7,238.4	47.6	19.6	89.37	2,640.5	1,010.5	334.2	273.8	60.45	5.529		
9,800.0	7,285.0	7,336.5	7,237.2	49.2	19.6	89.08	2,640.6	1,010.4	274.0	211.9	62.14	4.409		
9,900.0	7,285.0	7,335.3	7,236.0	50.9	19.6	88.80	2,640.6	1,010.4	241.8	177.9	63.83	3.788		
9,933.2	7,285.0	7,334.9	7,235.6	51.4	19.6	88.70	2,640.6	1,010.4	239.5	175.1	64.39	3.719 CC, ES, SF		
10,000.0	7,285.0	7,334.1	7,234.8	52.5	19.6	88.51	2,640.6	1,010.4	248.6	183.1	65.52	3.794		
10,100.0	7,285.0	7,332.9	7,233.6	54.2	19.6	88.22	2,640.6	1,010.4	291.9	224.6	67.22	4.342		
10,200.0	7,285.0	7,331.7	7,232.4	55.8	19.6	87.94	2,640.6	1,010.3	358.5	289.6	68.92	5.202		
10,300.0	7,285.0	7,330.5	7,231.2	57.5	19.6	87.65	2,640.6	1,010.3	438.1	367.4	70.61	6.204		
10,400.0	7,285.0	7,329.2	7,230.0	59.1	19.6	87.36	2,640.6	1,010.3	524.6	452.3	72.31	7.255		
10,500.0	7,285.0	7,328.0	7,228.7	60.8	19.6	87.06	2,640.7	1,010.3	615.3	541.3	74.01	8.314		
10,600.0	7,285.0	7,326.8	7,227.5	62.5	19.6	86.77	2,640.7	1,010.2	708.5	632.8	75.71	9.359		
10,700.0	7,285.0	7,325.6	7,226.3	64.2	19.6	86.48	2,640.7	1,010.2	803.3	725.9	77.40	10.378		
10,800.0	7,285.0	7,324.3	7,225.0	65.8	19.6	86.18	2,640.7	1,010.2	899.2	820.2	79.10	11.369		
10,900.0	7,285.0	7,323.1	7,223.8	67.5	19.6	85.89	2,640.7	1,010.1	996.0	915.2	80.79	12.328		
11,000.0	7,285.0	7,321.8	7,222.6	69.2	19.6	85.59	2,640.7	1,010.1	1,093.3	1,010.8	82.48	13.255		
11,100.0	7,285.0	7,320.6	7,221.3	70.9	19.5	85.29	2,640.7	1,010.1	1,191.1	1,106.9	84.17	14.150		
11,200.0	7,285.0	7,319.3	7,220.1	72.6	19.5	84.99	2,640.8	1,010.1	1,289.2	1,203.3	85.86	15.015		
11,300.0	7,285.0	7,318.1	7,218.8	74.3	19.5	84.69	2,640.8	1,010.0	1,387.6	1,300.0	87.55	15.849		
11,400.0	7,285.0	7,316.8	7,217.5	76.0	19.5	84.39	2,640.8	1,010.0	1,486.2	1,396.9	89.23	16.655		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design		S5-T2N-R67W (Vogl-McCoy) - VOGL 21-5X (EXISTING) - KMG WELL - NO SURVEYS											Offset Site Error:		0.0 ft		
Survey Program: 500-MWD															Offset Well Error:		0.0 ft
Reference		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				
7,900.0	7,285.0	7,574.1	7,176.2	22.2	40.0	86.86	1,372.9	2,097.5	1,533.3	1,495.8	37.55	40.834					
8,000.0	7,285.0	7,570.3	7,172.3	23.2	39.9	86.69	1,373.1	2,097.2	1,485.9	1,447.1	38.81	38.283					
8,100.0	7,285.0	7,566.3	7,168.4	24.3	39.9	86.52	1,373.2	2,097.0	1,443.9	1,403.7	40.15	35.963					
8,200.0	7,285.0	7,562.3	7,164.4	25.5	39.9	86.35	1,373.3	2,096.7	1,407.7	1,366.1	41.54	33.886					
8,300.0	7,285.0	7,558.2	7,160.3	26.8	39.9	86.17	1,373.4	2,096.3	1,377.8	1,334.8	42.98	32.056					
8,400.0	7,285.0	7,554.1	7,156.2	28.0	39.9	85.99	1,373.6	2,096.0	1,354.7	1,310.2	44.46	30.469					
8,500.0	7,285.0	7,549.8	7,151.9	29.4	39.9	85.81	1,373.7	2,095.7	1,338.6	1,292.7	45.97	29.119					
8,600.0	7,285.0	7,545.5	7,147.6	30.8	39.9	85.62	1,373.9	2,095.4	1,329.9	1,282.4	47.51	27.993					
8,666.6	7,285.0	7,542.6	7,144.7	31.7	39.9	85.50	1,374.0	2,095.1	1,328.2	1,279.7	48.55	27.361	CC				
8,700.0	7,285.0	7,541.1	7,143.2	32.2	39.9	85.43	1,374.0	2,095.0	1,328.7	1,279.6	49.07	27.079	ES				
8,800.0	7,285.0	7,536.6	7,138.7	33.6	39.9	85.24	1,374.2	2,094.7	1,334.9	1,284.3	50.64	26.360					
8,900.0	7,285.0	7,532.0	7,134.2	35.1	39.9	85.04	1,374.3	2,094.3	1,348.6	1,296.3	52.23	25.818					
9,000.0	7,285.0	7,527.3	7,129.5	36.6	39.9	84.84	1,374.5	2,093.9	1,369.4	1,315.6	53.84	25.436					
9,100.0	7,285.0	7,522.6	7,124.8	38.1	39.9	84.63	1,374.7	2,093.5	1,397.1	1,341.6	55.45	25.195					
9,200.0	7,285.0	7,517.7	7,119.9	39.7	39.9	84.42	1,374.8	2,093.1	1,431.2	1,374.1	57.07	25.076					
9,300.0	7,285.0	7,512.7	7,115.0	41.2	39.9	84.21	1,375.0	2,092.7	1,471.3	1,412.6	58.70	25.064	SF				
9,400.0	7,285.0	7,507.7	7,109.9	42.8	39.9	83.99	1,375.2	2,092.3	1,517.0	1,456.7	60.34	25.141					



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - VOGL 31-5 (EXISTING) - KMG WELL - NO SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 500-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
3,500.0	3,480.2	4,039.5	3,866.2	8.6	22.4	-130.28	1,273.6	-242.6	1,543.4	1,520.5	22.92	67.350	
3,600.0	3,579.4	4,132.8	3,953.8	8.9	22.9	-131.37	1,243.0	-251.4	1,523.9	1,500.1	23.78	64.093	
3,700.0	3,678.7	4,226.1	4,041.5	9.2	23.5	-132.49	1,212.3	-260.2	1,504.9	1,480.2	24.65	61.057	
3,800.0	3,778.0	4,319.4	4,129.2	9.4	24.1	-133.63	1,181.6	-269.0	1,486.5	1,461.0	25.53	58.225	
3,900.0	3,877.3	4,400.0	4,204.9	9.7	24.6	-134.64	1,155.1	-276.6	1,468.9	1,442.6	26.33	55.778	
4,000.0	3,976.5	4,400.0	4,204.9	10.0	24.6	-134.64	1,155.1	-276.6	1,455.7	1,429.1	26.56	54.799	
4,100.0	4,075.8	4,470.9	4,272.9	10.3	24.7	-135.43	1,135.8	-282.1	1,444.4	1,417.4	27.01	53.476	
4,200.0	4,175.1	4,505.6	4,306.9	10.5	24.7	-135.73	1,129.4	-284.0	1,439.0	1,411.7	27.33	52.662	
4,215.6	4,190.5	4,511.1	4,312.3	10.6	24.7	-135.78	1,128.5	-284.2	1,438.6	1,411.2	27.37	52.553	
4,300.0	4,274.4	4,600.0	4,400.9	10.8	24.7	-136.27	1,121.9	-286.1	1,441.5	1,413.8	27.73	51.986	
4,337.7	4,311.8	4,600.0	4,400.9	10.9	24.7	-136.27	1,121.9	-286.1	1,441.0	1,413.2	27.81	51.808	
4,400.0	4,373.6	4,600.0	4,400.9	11.1	24.7	-136.27	1,121.9	-286.1	1,442.4	1,414.4	27.96	51.594	
4,500.0	4,472.9	4,636.0	4,436.9	11.3	24.8	-136.39	1,121.9	-286.1	1,449.7	1,421.4	28.24	51.339	
4,600.0	4,572.2	4,735.3	4,536.2	11.6	24.8	-136.71	1,121.9	-286.1	1,458.4	1,429.8	28.61	50.971	
4,700.0	4,671.5	4,834.6	4,635.5	11.9	24.9	-137.03	1,121.9	-286.1	1,467.2	1,438.2	28.99	50.619	
4,800.0	4,770.7	4,933.9	4,734.7	12.2	25.0	-137.35	1,121.9	-286.1	1,476.1	1,446.7	29.36	50.280	
4,900.0	4,870.0	5,033.1	4,834.0	12.4	25.0	-137.66	1,121.9	-286.1	1,485.0	1,455.2	29.73	49.956	
5,000.0	4,969.3	5,132.4	4,933.3	12.7	25.1	-137.97	1,121.9	-286.1	1,493.9	1,463.8	30.09	49.644	
5,100.0	5,068.6	5,231.7	5,032.6	13.0	25.2	-138.28	1,121.9	-286.1	1,502.9	1,472.4	30.46	49.345	
5,200.0	5,167.8	5,331.0	5,131.8	13.3	25.3	-138.58	1,121.9	-286.1	1,511.9	1,481.1	30.82	49.058	
5,300.0	5,267.1	5,430.2	5,231.1	13.5	25.3	-138.88	1,121.9	-286.1	1,520.9	1,489.8	31.18	48.781	
5,400.0	5,366.4	5,529.5	5,330.4	13.8	25.4	-139.17	1,121.9	-286.1	1,530.0	1,498.5	31.54	48.516	
5,500.0	5,465.7	5,628.8	5,429.7	14.1	25.5	-139.46	1,121.9	-286.1	1,539.2	1,507.3	31.89	48.260	
5,600.0	5,564.9	5,728.1	5,528.9	14.4	25.6	-139.75	1,121.9	-286.1	1,548.3	1,516.1	32.25	48.015	
7,250.0	7,145.8	7,309.0	7,109.8	18.4	26.7	-59.94	1,121.9	-286.1	1,536.8	1,499.3	37.49	40.994	
7,300.0	7,176.7	7,339.8	7,140.7	18.5	26.8	-62.74	1,121.9	-286.1	1,510.7	1,472.9	37.81	39.954	
7,350.0	7,204.1	7,367.2	7,168.1	18.6	26.8	-65.99	1,121.9	-286.1	1,483.1	1,444.9	38.21	38.809	
7,400.0	7,227.7	7,390.8	7,191.7	18.8	26.8	-69.62	1,121.9	-286.1	1,454.3	1,415.6	38.68	37.600	
7,450.0	7,247.4	7,410.6	7,211.4	19.0	26.8	-73.51	1,121.9	-286.1	1,424.6	1,385.5	39.17	36.373	
7,500.0	7,263.1	7,426.3	7,227.1	19.2	26.8	-77.56	1,121.9	-286.1	1,394.5	1,354.9	39.65	35.171	
7,550.0	7,274.7	7,437.8	7,238.7	19.5	26.8	-81.63	1,121.9	-286.1	1,364.2	1,324.1	40.10	34.018	
7,600.0	7,282.0	7,445.1	7,246.0	19.8	26.8	-85.59	1,121.9	-286.1	1,334.1	1,293.6	40.52	32.924	
7,650.0	7,284.9	7,448.0	7,248.9	20.1	26.8	-89.33	1,121.9	-286.1	1,304.6	1,263.6	40.92	31.882	
7,659.3	7,285.0	7,448.1	7,249.0	20.2	26.8	-90.00	1,121.9	-286.1	1,299.1	1,258.1	40.99	31.693	
7,700.0	7,285.0	7,448.1	7,249.0	20.5	26.8	-90.00	1,121.9	-286.1	1,275.9	1,234.5	41.39	30.826	
7,800.0	7,285.0	7,448.1	7,249.0	21.3	26.8	-90.00	1,121.9	-286.1	1,222.7	1,180.3	42.46	28.796	
7,900.0	7,285.0	7,448.1	7,249.0	22.2	26.8	-90.00	1,121.9	-286.1	1,175.7	1,132.0	43.64	26.938	
8,000.0	7,285.0	7,448.1	7,249.0	23.2	26.8	-90.00	1,121.9	-286.1	1,135.5	1,090.5	44.91	25.280	
8,100.0	7,285.0	7,448.1	7,249.0	24.3	26.8	-90.00	1,121.9	-286.1	1,102.9	1,056.6	46.26	23.842	
8,200.0	7,285.0	7,448.1	7,249.0	25.5	26.8	-90.00	1,121.9	-286.1	1,078.6	1,031.0	47.66	22.632	
8,300.0	7,285.0	7,448.1	7,249.0	26.8	26.8	-90.00	1,121.9	-286.1	1,063.3	1,014.2	49.11	21.651	
8,400.0	7,285.0	7,448.1	7,249.0	28.0	26.8	-90.00	1,121.9	-286.1	1,057.2	1,006.6	50.60	20.893	
8,414.5	7,285.0	7,448.1	7,249.0	28.2	26.8	-90.00	1,121.9	-286.1	1,057.1	1,006.3	50.82	20.800 CC, ES	
8,500.0	7,285.0	7,448.1	7,249.0	29.4	26.8	-90.00	1,121.9	-286.1	1,060.6	1,008.4	52.12	20.347	
8,600.0	7,285.0	7,448.1	7,249.0	30.8	26.8	-90.00	1,121.9	-286.1	1,073.3	1,019.6	53.67	19.996	
8,700.0	7,285.0	7,448.1	7,249.0	32.2	26.8	-90.00	1,121.9	-286.1	1,095.0	1,039.7	55.25	19.819	
8,800.0	7,285.0	7,448.1	7,249.0	33.6	26.8	-90.00	1,121.9	-286.1	1,125.2	1,068.4	56.84	19.796 SF	
8,900.0	7,285.0	7,448.1	7,249.0	35.1	26.8	-90.00	1,121.9	-286.1	1,163.3	1,104.8	58.45	19.902	
9,000.0	7,285.0	7,448.1	7,249.0	36.6	26.8	-90.00	1,121.9	-286.1	1,208.4	1,148.4	60.07	20.115	
9,100.0	7,285.0	7,448.1	7,249.0	38.1	26.8	-90.00	1,121.9	-286.1	1,259.9	1,198.2	61.71	20.416	
9,200.0	7,285.0	7,448.1	7,249.0	39.7	26.8	-90.00	1,121.9	-286.1	1,317.0	1,253.6	63.36	20.787	
9,300.0	7,285.0	7,448.1	7,249.0	41.2	26.8	-90.00	1,121.9	-286.1	1,379.0	1,314.0	65.01	21.210	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - VOGL 31-5 (EXISTING) - KMG WELL - NO SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 500-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	
9,400.0	7,285.0	7,448.1	7,249.0	42.8	26.8	-90.00	1,121.9	-286.1	1,445.2	1,378.6	66.68	21.675	
9,500.0	7,285.0	7,448.1	7,249.0	44.4	26.8	-90.00	1,121.9	-286.1	1,515.2	1,446.8	68.35	22.168	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design		S5-T2N-R67W (Vogl-McCoy) - VOGL 4-5A (EXISTING) - KMG WELL - GYRO											Offset Site Error: 0.0 ft	
Survey Program: 100-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		
8,100.0	7,285.0	6,580.0	6,578.7	24.3	11.5	-38.82	2,032.9	231.7	1,497.4	1,474.3	23.10	64.822		
8,200.0	7,285.0	6,580.0	6,578.7	25.5	11.5	-38.82	2,032.9	231.7	1,416.7	1,392.7	23.99	59.064		
8,300.0	7,285.0	6,580.0	6,578.7	26.8	11.5	-38.82	2,032.9	231.7	1,338.6	1,313.7	24.90	53.762		
8,400.0	7,285.0	6,580.0	6,578.7	28.0	11.5	-38.82	2,032.9	231.7	1,263.6	1,237.8	25.84	48.910		
8,500.0	7,285.0	6,580.0	6,578.7	29.4	11.5	-38.82	2,032.9	231.7	1,192.3	1,165.5	26.79	44.502		
8,600.0	7,285.0	6,580.0	6,578.7	30.8	11.5	-38.82	2,032.9	231.7	1,125.4	1,097.6	27.77	40.532		
8,700.0	7,285.0	6,580.0	6,578.7	32.2	11.5	-38.82	2,032.9	231.7	1,063.7	1,034.9	28.75	36.993		
8,800.0	7,285.0	6,580.0	6,578.7	33.6	11.5	-38.82	2,032.9	231.7	1,008.1	978.4	29.75	33.883		
8,900.0	7,285.0	6,580.0	6,578.7	35.1	11.5	-38.82	2,032.9	231.7	959.8	929.0	30.76	31.199		
9,000.0	7,285.0	6,580.0	6,578.7	36.6	11.5	-38.82	2,032.9	231.7	919.9	888.1	31.78	28.941		
9,100.0	7,285.0	6,580.0	6,578.7	38.1	11.5	-38.82	2,032.9	231.7	889.4	856.6	32.81	27.106		
9,200.0	7,285.0	6,580.0	6,578.7	39.7	11.5	-38.82	2,032.9	231.7	869.4	835.6	33.85	25.688		
9,300.0	7,285.0	6,580.0	6,578.7	41.2	11.5	-38.82	2,032.9	231.7	860.7	825.8	34.89	24.671		
9,325.5	7,285.0	6,580.0	6,578.7	41.6	11.5	-38.82	2,032.9	231.7	860.3	825.2	35.15	24.473	CC, ES	
9,400.0	7,285.0	6,580.0	6,578.7	42.8	11.5	-38.82	2,032.9	231.7	863.5	827.6	35.93	24.032		
9,500.0	7,285.0	6,580.0	6,578.7	44.4	11.5	-38.82	2,032.9	231.7	877.8	840.9	36.99	23.735	SF	
9,600.0	7,285.0	6,580.0	6,578.7	46.0	11.5	-38.82	2,032.9	231.7	903.1	865.0	38.04	23.739		
9,700.0	7,285.0	6,580.0	6,578.7	47.6	11.5	-38.82	2,032.9	231.7	938.3	899.2	39.10	23.997		
9,800.0	7,285.0	6,580.0	6,578.7	49.2	11.5	-38.82	2,032.9	231.7	982.5	942.3	40.16	24.463		
9,900.0	7,285.0	6,580.0	6,578.7	50.9	11.5	-38.82	2,032.9	231.7	1,034.5	993.3	41.23	25.091		
10,000.0	7,285.0	6,580.0	6,578.7	52.5	11.5	-38.82	2,032.9	231.7	1,093.2	1,050.9	42.30	25.845		
10,100.0	7,285.0	6,580.0	6,578.7	54.2	11.5	-38.82	2,032.9	231.7	1,157.6	1,114.2	43.37	26.691		
10,200.0	7,285.0	6,580.0	6,578.7	55.8	11.5	-38.82	2,032.9	231.7	1,226.7	1,182.3	44.44	27.602		
10,300.0	7,285.0	6,580.0	6,578.7	57.5	11.5	-38.82	2,032.9	231.7	1,299.9	1,254.4	45.52	28.557		
10,400.0	7,285.0	6,580.0	6,578.7	59.1	11.5	-38.82	2,032.9	231.7	1,376.5	1,329.9	46.60	29.539		
10,500.0	7,285.0	6,580.0	6,578.7	60.8	11.5	-38.82	2,032.9	231.7	1,455.9	1,408.2	47.68	30.536		
10,600.0	7,285.0	6,580.0	6,578.7	62.5	11.5	-38.82	2,032.9	231.7	1,537.7	1,488.9	48.76	31.536		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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				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	30.04	236.8	136.9	274.8					
100.0	100.0	74.0	74.0	0.1	0.1	30.04	236.8	136.9	273.6	273.3	0.25	1,087.636		
200.0	200.0	174.0	174.0	0.3	0.3	30.04	236.8	136.9	273.6	273.0	0.60	455.500		
300.0	300.0	274.0	274.0	0.5	0.5	30.04	236.8	136.9	273.6	272.6	0.95	288.072		
400.0	400.0	374.0	374.0	0.6	0.7	-76.48	236.8	136.9	273.4	272.1	1.30	210.380		
500.0	500.0	474.0	474.0	0.8	0.8	-77.02	236.8	136.9	272.8	271.1	1.65	165.060		
600.0	599.9	573.9	573.9	1.0	1.0	-77.92	236.8	136.9	271.8	269.8	2.01	135.065		
700.0	699.7	673.7	673.7	1.2	1.2	-79.19	236.8	136.9	270.6	268.2	2.38	113.557		
800.0	799.4	773.4	773.4	1.4	1.3	-80.84	236.8	136.9	269.2	266.5	2.77	97.282		
900.0	898.9	872.9	872.9	1.6	1.5	-82.87	236.8	136.9	267.9	264.7	3.17	84.510		
989.9	988.3	962.3	962.3	1.9	1.7	-85.02	236.8	136.9	266.8	263.3	3.55	75.195		
1,000.0	998.3	972.3	972.3	1.9	1.7	-85.28	236.8	136.9	266.7	263.1	3.59	74.273		
1,100.0	1,097.5	1,071.5	1,071.5	2.1	1.9	-87.84	236.8	136.9	266.0	262.0	4.02	66.185		
1,184.1	1,181.0	1,155.0	1,155.0	2.4	2.0	-90.00	236.8	136.9	265.8	261.4	4.38	60.659 CC		
1,200.0	1,196.8	1,170.8	1,170.8	2.4	2.0	-90.41	236.8	136.9	265.8	261.3	4.45	59.724		
1,300.0	1,296.1	1,270.1	1,270.1	2.7	2.2	-92.98	236.8	136.9	266.1	261.3	4.88	54.498 ES		
1,400.0	1,395.4	1,369.4	1,369.4	2.9	2.4	-95.53	236.8	136.9	267.0	261.7	5.32	50.227		
1,500.0	1,494.6	1,468.6	1,468.6	3.2	2.6	-98.07	236.8	136.9	268.5	262.7	5.75	46.704		
1,600.0	1,593.9	1,567.9	1,567.9	3.5	2.7	-100.57	236.8	136.9	270.4	264.3	6.18	43.778		
1,700.0	1,693.2	1,667.2	1,667.2	3.7	2.9	-103.03	236.8	136.9	272.9	266.3	6.60	41.333		
1,800.0	1,792.5	1,766.5	1,766.5	4.0	3.1	-105.45	236.8	136.9	275.9	268.9	7.02	39.279		
1,900.0	1,891.7	1,865.7	1,865.7	4.3	3.3	-107.81	236.8	136.9	279.3	271.9	7.44	37.548		
2,000.0	1,991.0	1,965.0	1,965.0	4.5	3.4	-110.11	236.8	136.9	283.3	275.4	7.85	36.085		
2,100.0	2,090.3	2,064.3	2,064.3	4.8	3.6	-112.34	236.8	136.9	287.7	279.4	8.26	34.845		
2,200.0	2,189.6	2,163.6	2,163.6	5.1	3.8	-114.51	236.8	136.9	292.5	283.8	8.65	33.793		
2,300.0	2,288.8	2,262.8	2,262.8	5.3	3.9	-116.60	236.8	136.9	297.7	288.6	9.05	32.899		
2,400.0	2,388.1	2,362.1	2,362.1	5.6	4.1	-118.62	236.8	136.9	303.3	293.8	9.44	32.140		
2,500.0	2,487.4	2,461.4	2,461.4	5.9	4.3	-120.56	236.8	136.9	309.2	299.4	9.82	31.496		
2,600.0	2,586.7	2,560.7	2,560.7	6.2	4.5	-122.43	236.8	136.9	315.5	305.4	10.20	30.949		
2,700.0	2,686.0	2,660.0	2,660.0	6.4	4.6	-124.22	236.8	136.9	322.2	311.6	10.57	30.485		
2,800.0	2,785.2	2,759.2	2,759.2	6.7	4.8	-125.95	236.8	136.9	329.1	318.2	10.94	30.094		
2,900.0	2,884.5	2,858.5	2,858.5	7.0	5.0	-127.59	236.8	136.9	336.3	325.0	11.30	29.764		
3,000.0	2,983.8	2,957.8	2,957.8	7.3	5.2	-129.17	236.8	136.9	343.8	332.2	11.66	29.488		
3,100.0	3,083.1	3,057.1	3,057.1	7.5	5.3	-130.69	236.8	136.9	351.6	339.6	12.02	29.258		
3,200.0	3,182.3	3,156.3	3,156.3	7.8	5.5	-132.13	236.8	136.9	359.6	347.2	12.37	29.067		
3,300.0	3,281.6	3,255.6	3,255.6	8.1	5.7	-133.51	236.8	136.9	367.8	355.0	12.72	28.910		
3,400.0	3,380.9	3,354.9	3,354.9	8.3	5.9	-134.84	236.8	136.9	376.2	363.1	13.07	28.784		
3,500.0	3,480.2	3,454.2	3,454.2	8.6	6.0	-136.10	236.8	136.9	384.8	371.3	13.41	28.682		
3,600.0	3,579.4	3,553.4	3,553.4	8.9	6.2	-137.31	236.8	136.9	393.5	379.8	13.76	28.604		
3,700.0	3,678.7	3,652.7	3,652.7	9.2	6.4	-138.47	236.8	136.9	402.5	388.4	14.10	28.544		
3,800.0	3,778.0	3,752.0	3,752.0	9.4	6.5	-139.57	236.8	136.9	411.6	397.1	14.44	28.501		
3,900.0	3,877.3	3,851.3	3,851.3	9.7	6.7	-140.63	236.8	136.9	420.8	406.0	14.78	28.472		
4,000.0	3,976.5	3,950.5	3,950.5	10.0	6.9	-141.64	236.8	136.9	430.2	415.1	15.12	28.456		
4,100.0	4,075.8	4,049.8	4,049.8	10.3	7.1	-142.61	236.8	136.9	439.7	424.2	15.45	28.451		
4,200.0	4,175.1	4,149.1	4,149.1	10.5	7.2	-143.54	236.8	136.9	449.3	433.5	15.79	28.455		
4,300.0	4,274.4	4,248.4	4,248.4	10.8	7.4	-144.43	236.8	136.9	459.1	442.9	16.13	28.467		
4,400.0	4,373.6	4,347.6	4,347.6	11.1	7.6	-145.28	236.8	136.9	468.9	452.5	16.46	28.486		
4,500.0	4,472.9	4,446.9	4,446.9	11.3	7.8	-146.10	236.8	136.9	478.9	462.1	16.80	28.511		
4,600.0	4,572.2	4,546.2	4,546.2	11.6	7.9	-146.88	236.8	136.9	488.9	471.8	17.13	28.541		
4,700.0	4,671.5	4,645.5	4,645.5	11.9	8.1	-147.63	236.8	136.9	499.0	481.6	17.46	28.575		
4,800.0	4,770.7	4,744.7	4,744.7	12.2	8.3	-148.35	236.8	136.9	509.2	491.4	17.80	28.613		
4,900.0	4,870.0	4,844.0	4,844.0	12.4	8.5	-149.05	236.8	136.9	519.5	501.4	18.13	28.655		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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							
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	
5,000.0	4,969.3	4,943.3	4,943.3	12.7	8.6	-149.71	236.8	136.9	529.9	511.4	18.46	28.699		
5,100.0	5,068.6	5,042.6	5,042.6	13.0	8.8	-150.36	236.8	136.9	540.3	521.5	18.80	28.745		
5,200.0	5,167.8	5,141.8	5,141.8	13.3	9.0	-150.97	236.8	136.9	550.8	531.7	19.13	28.792		
5,300.0	5,267.1	5,241.1	5,241.1	13.5	9.1	-151.57	236.8	136.9	561.3	541.9	19.46	28.842		
5,400.0	5,366.4	5,340.4	5,340.4	13.8	9.3	-152.14	236.8	136.9	572.0	552.2	19.80	28.892		
5,500.0	5,465.7	5,439.7	5,439.7	14.1	9.5	-152.69	236.8	136.9	582.6	562.5	20.13	28.944		
5,600.0	5,564.9	5,538.9	5,538.9	14.4	9.7	-153.22	236.8	136.9	593.3	572.9	20.46	28.996		
5,700.0	5,664.2	5,638.2	5,638.2	14.6	9.8	-153.73	236.8	136.9	604.1	583.3	20.80	29.048		
5,800.0	5,763.5	5,737.5	5,737.5	14.9	10.0	-154.23	236.8	136.9	614.9	593.8	21.13	29.101		
5,900.0	5,862.8	5,836.8	5,836.8	15.2	10.2	-154.71	236.8	136.9	625.8	604.3	21.46	29.154		
6,000.0	5,962.1	5,936.1	5,936.1	15.4	10.4	-155.17	236.8	136.9	636.7	614.9	21.80	29.208		
6,100.0	6,061.3	6,035.3	6,035.3	15.7	10.5	-155.61	236.8	136.9	647.6	625.5	22.13	29.261		
6,200.0	6,160.6	6,134.6	6,134.6	16.0	10.7	-156.04	236.8	136.9	658.6	636.1	22.47	29.314		
6,300.0	6,259.9	6,233.9	6,233.9	16.3	10.9	-156.46	236.8	136.9	669.6	646.8	22.80	29.367		
6,400.0	6,359.2	6,333.2	6,333.2	16.5	11.1	-156.86	236.8	136.9	680.6	657.5	23.14	29.419		
6,500.0	6,458.4	6,432.4	6,432.4	16.8	11.2	-157.25	236.8	136.9	691.7	668.2	23.47	29.471		
6,600.0	6,557.7	6,531.7	6,531.7	17.1	11.4	-157.63	236.8	136.9	702.8	679.0	23.81	29.523		
6,700.0	6,657.0	6,631.0	6,631.0	17.4	11.6	-158.00	236.8	136.9	713.9	689.8	24.14	29.574		
6,739.9	6,696.6	6,670.6	6,670.6	17.5	11.6	-158.14	236.8	136.9	718.4	694.1	24.27	29.595		
6,750.0	6,706.6	6,680.6	6,680.6	17.5	11.7	-149.84	236.8	136.9	719.5	695.1	24.32	29.578		
6,800.0	6,756.3	6,730.3	6,730.3	17.6	11.7	-110.52	236.8	136.9	723.2	698.6	24.53	29.478		
6,850.0	6,805.6	6,779.6	6,779.6	17.7	11.8	-88.87	236.8	136.9	724.3	699.6	24.66	29.367		
6,900.0	6,854.2	6,828.2	6,828.2	17.8	11.9	-79.02	236.8	136.9	722.8	698.1	24.72	29.236		
6,950.0	6,901.8	6,875.8	6,875.8	17.9	12.0	-74.49	236.8	136.9	719.0	694.3	24.74	29.069		
7,000.0	6,948.0	6,922.0	6,922.0	18.0	12.1	-72.67	236.8	136.9	713.2	688.4	24.72	28.846		
7,050.0	6,992.4	6,966.4	6,966.4	18.0	12.2	-72.47	236.8	136.9	705.5	680.7	24.71	28.547		
7,100.0	7,034.7	7,008.7	7,008.7	18.1	12.2	-73.33	236.8	136.9	696.3	671.6	24.73	28.158		
7,150.0	7,074.6	7,048.6	7,048.6	18.2	12.3	-74.94	236.8	136.9	686.2	661.4	24.79	27.675		
7,200.0	7,111.7	7,085.7	7,085.7	18.2	12.4	-77.05	236.8	136.9	675.5	650.6	24.91	27.115		
7,250.0	7,145.8	7,119.8	7,119.8	18.4	12.4	-79.46	236.8	136.9	664.9	639.8	25.09	26.505		
7,300.0	7,176.7	7,150.7	7,150.7	18.5	12.5	-81.98	236.8	136.9	654.8	629.5	25.30	25.886		
7,350.0	7,204.1	7,178.1	7,178.1	18.6	12.5	-84.43	236.8	136.9	646.0	620.5	25.54	25.295		
7,400.0	7,227.7	7,201.7	7,201.7	18.8	12.6	-86.65	236.8	136.9	638.9	613.1	25.80	24.764		
7,450.0	7,247.4	7,221.4	7,221.4	19.0	12.6	-88.49	236.8	136.9	634.1	608.0	26.08	24.311		
7,500.0	7,263.1	7,237.1	7,237.1	19.2	12.6	-89.84	236.8	136.9	632.1	605.7	26.40	23.948		
7,507.9	7,265.3	7,239.3	7,239.3	19.3	12.6	-90.00	236.8	136.9	632.1	605.6	26.45	23.896		
7,550.0	7,274.7	7,248.7	7,248.7	19.5	12.7	-90.60	236.8	136.9	633.2	606.5	26.74	23.678		
7,600.0	7,282.0	7,256.0	7,256.0	19.8	12.7	-90.73	236.8	136.9	637.6	610.5	27.12	23.508		
7,650.0	7,284.9	7,258.9	7,258.9	20.1	12.7	-90.18	236.8	136.9	645.4	617.9	27.53	23.448 SF		
7,659.3	7,285.0	7,259.0	7,259.0	20.2	12.7	-90.00	236.8	136.9	647.2	619.6	27.60	23.450		
7,700.0	7,285.0	7,259.0	7,259.0	20.5	12.7	-90.00	236.8	136.9	656.6	628.6	28.00	23.451		
7,800.0	7,285.0	7,259.0	7,259.0	21.3	12.7	-90.00	236.8	136.9	689.4	660.3	29.07	23.714		
7,900.0	7,285.0	7,259.0	7,259.0	22.2	12.7	-90.00	236.8	136.9	734.4	704.2	30.25	24.276		
8,000.0	7,285.0	7,259.0	7,259.0	23.2	12.7	-90.00	236.8	136.9	789.6	758.1	31.52	25.049		
8,100.0	7,285.0	7,259.0	7,259.0	24.3	12.7	-90.00	236.8	136.9	853.0	820.1	32.87	25.953		
8,200.0	7,285.0	7,259.0	7,259.0	25.5	12.7	-90.00	236.8	136.9	922.9	888.6	34.27	26.931		
8,300.0	7,285.0	7,259.0	7,259.0	26.8	12.7	-90.00	236.8	136.9	997.9	962.2	35.72	27.938		
8,400.0	7,285.0	7,259.0	7,259.0	28.0	12.7	-90.00	236.8	136.9	1,077.0	1,039.8	37.21	28.944		
8,500.0	7,285.0	7,259.0	7,259.0	29.4	12.7	-90.00	236.8	136.9	1,159.3	1,120.6	38.73	29.932		
8,600.0	7,285.0	7,259.0	7,259.0	30.8	12.7	-90.00	236.8	136.9	1,244.3	1,204.0	40.28	30.888		
8,700.0	7,285.0	7,259.0	7,259.0	32.2	12.7	-90.00	236.8	136.9	1,331.3	1,289.4	41.86	31.806		
8,800.0	7,285.0	7,259.0	7,259.0	33.6	12.7	-90.00	236.8	136.9	1,420.0	1,376.6	43.45	32.682		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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	
8,900.0	7,285.0	7,259.0	7,259.0	35.1	12.7	-90.00	236.8	136.9	1,510.1	1,465.1	45.06	33.514	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2A-5H-E267 - Hz - Plan #2													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	-89.95	0.0	-39.1	39.1					
100.0	100.0	100.0	100.0	0.1	0.1	-89.95	0.0	-39.1	39.1	38.9	0.24	160.120		
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-39.1	39.1	38.5	0.59	65.932		
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-39.1	39.1	38.2	0.94	41.513 CC, ES		
400.0	400.0	400.0	400.0	0.6	0.6	164.06	0.0	-39.1	40.0	38.7	1.29	30.944		
500.0	500.0	499.5	499.5	0.8	0.8	162.83	-1.6	-39.7	43.0	41.4	1.64	26.212		
600.0	599.9	599.3	599.2	1.0	1.0	160.17	-5.1	-40.9	48.5	46.5	2.00	24.306		
700.0	699.7	699.0	698.8	1.2	1.2	158.71	-8.7	-42.1	55.7	53.4	2.35	23.674		
800.0	799.4	798.6	798.4	1.4	1.4	158.16	-12.2	-43.3	64.5	61.8	2.71	23.793		
900.0	898.9	898.1	897.8	1.6	1.5	158.23	-15.7	-44.5	75.0	71.9	3.07	24.395		
989.9	988.3	987.4	987.0	1.9	1.7	158.64	-18.9	-45.6	85.7	82.3	3.40	25.225		
1,000.0	998.3	997.3	996.9	1.9	1.7	158.71	-19.3	-45.7	87.0	83.6	3.44	25.327		
1,100.0	1,097.5	1,096.5	1,096.1	2.1	1.9	159.24	-22.8	-46.9	99.7	95.9	3.80	26.233		
1,200.0	1,196.8	1,195.7	1,195.2	2.4	2.1	159.65	-26.3	-48.1	112.4	108.3	4.17	26.978		
1,300.0	1,296.1	1,294.9	1,294.3	2.7	2.3	159.98	-29.8	-49.3	125.1	120.6	4.53	27.602		
1,400.0	1,395.4	1,394.1	1,393.4	2.9	2.5	160.25	-33.3	-50.5	137.9	133.0	4.90	28.131		
1,500.0	1,494.6	1,493.2	1,492.5	3.2	2.7	160.47	-36.9	-51.8	150.6	145.3	5.27	28.586		
1,600.0	1,593.9	1,592.4	1,591.6	3.5	2.8	160.66	-40.4	-53.0	163.3	157.7	5.64	28.982		
1,700.0	1,693.2	1,691.6	1,690.8	3.7	3.0	160.82	-43.9	-54.2	176.0	170.0	6.00	29.328		
1,800.0	1,792.5	1,790.8	1,789.9	4.0	3.2	160.96	-47.4	-55.4	188.8	182.4	6.37	29.635		
1,900.0	1,891.7	1,890.0	1,889.0	4.3	3.4	161.08	-51.0	-56.6	201.5	194.8	6.74	29.908		
2,000.0	1,991.0	1,989.2	1,988.1	4.5	3.6	161.19	-54.5	-57.8	214.2	207.1	7.10	30.152		
2,100.0	2,090.3	2,088.4	2,087.2	4.8	3.8	161.28	-58.0	-59.0	227.0	219.5	7.47	30.372		
2,200.0	2,189.6	2,187.5	2,186.3	5.1	3.9	161.37	-61.5	-60.2	239.7	231.8	7.84	30.572		
2,300.0	2,288.8	2,286.7	2,285.5	5.3	4.1	161.44	-65.0	-61.4	252.4	244.2	8.21	30.753		
2,400.0	2,388.1	2,385.9	2,384.6	5.6	4.3	161.51	-68.6	-62.6	265.1	256.6	8.58	30.919		
2,500.0	2,487.4	2,485.1	2,483.7	5.9	4.5	161.58	-72.1	-63.8	277.9	268.9	8.94	31.071		
2,600.0	2,586.7	2,584.3	2,582.8	6.2	4.7	161.63	-75.6	-65.0	290.6	281.3	9.31	31.211		
2,700.0	2,686.0	2,683.5	2,681.9	6.4	4.9	161.69	-79.1	-66.2	303.3	293.7	9.68	31.340		
2,800.0	2,785.2	2,782.7	2,781.0	6.7	5.1	161.73	-82.6	-67.4	316.1	306.0	10.05	31.460		
2,900.0	2,884.5	2,881.9	2,880.2	7.0	5.2	161.78	-86.2	-68.6	328.8	318.4	10.41	31.572		
3,000.0	2,983.8	2,981.0	2,979.3	7.3	5.4	161.82	-89.7	-69.8	341.5	330.8	10.78	31.675		
3,100.0	3,083.1	3,080.2	3,078.4	7.5	5.6	161.86	-93.2	-71.0	354.3	343.1	11.15	31.772		
3,200.0	3,182.3	3,179.4	3,177.5	7.8	5.8	161.89	-96.7	-72.2	367.0	355.5	11.52	31.863		
3,300.0	3,281.6	3,278.6	3,276.6	8.1	6.0	161.93	-100.2	-73.4	379.7	367.8	11.89	31.948		
3,400.0	3,380.9	3,377.8	3,375.7	8.3	6.2	161.96	-103.8	-74.6	392.5	380.2	12.25	32.028		
3,500.0	3,480.2	3,477.0	3,474.8	8.6	6.3	161.99	-107.3	-75.8	405.2	392.6	12.62	32.103		
3,600.0	3,579.4	3,576.2	3,574.0	8.9	6.5	162.01	-110.8	-77.0	417.9	404.9	12.99	32.174		
3,700.0	3,678.7	3,675.3	3,673.1	9.2	6.7	162.04	-114.3	-78.3	430.7	417.3	13.36	32.241		
3,800.0	3,778.0	3,774.5	3,772.2	9.4	6.9	162.06	-117.9	-79.5	443.4	429.7	13.73	32.304		
3,900.0	3,877.3	3,873.7	3,871.3	9.7	7.1	162.09	-121.4	-80.7	456.1	442.0	14.09	32.364		
4,000.0	3,976.5	3,972.9	3,970.4	10.0	7.3	162.11	-124.9	-81.9	468.9	454.4	14.46	32.421		
4,100.0	4,075.8	4,072.1	4,069.5	10.3	7.5	162.13	-128.4	-83.1	481.6	466.8	14.83	32.475		
4,200.0	4,175.1	4,171.3	4,168.7	10.5	7.6	162.15	-131.9	-84.3	494.3	479.1	15.20	32.527		
4,300.0	4,274.4	4,270.5	4,267.8	10.8	7.8	162.17	-135.5	-85.5	507.1	491.5	15.57	32.576		
4,400.0	4,373.6	4,369.6	4,366.9	11.1	8.0	162.18	-139.0	-86.7	519.8	503.9	15.93	32.623		
4,500.0	4,472.9	4,468.8	4,466.0	11.3	8.2	162.20	-142.5	-87.9	532.5	516.2	16.30	32.667		
4,600.0	4,572.2	4,568.0	4,565.1	11.6	8.4	162.22	-146.0	-89.1	545.3	528.6	16.67	32.710		
4,700.0	4,671.5	4,667.2	4,664.2	11.9	8.6	162.23	-149.5	-90.3	558.0	541.0	17.04	32.751		
4,800.0	4,770.7	4,766.4	4,763.4	12.2	8.7	162.25	-153.1	-91.5	570.7	553.3	17.41	32.790		
4,900.0	4,870.0	4,865.6	4,862.5	12.4	8.9	162.26	-156.6	-92.7	583.5	565.7	17.77	32.828		
5,000.0	4,969.3	4,964.8	4,961.6	12.7	9.1	162.27	-160.1	-93.9	596.2	578.1	18.14	32.864		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2A-5H-E267 - Hz - Plan #2												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	
5,100.0	5,068.6	5,063.9	5,060.7	13.0	9.3	162.29	-163.6	-95.1	608.9	590.4	18.51	32.898	
5,200.0	5,167.8	5,163.1	5,159.8	13.3	9.5	162.30	-167.1	-96.3	621.7	602.8	18.88	32.931	
5,300.0	5,267.1	5,262.3	5,258.9	13.5	9.7	162.31	-170.7	-97.5	634.4	615.2	19.25	32.963	
5,400.0	5,366.4	5,361.5	5,358.1	13.8	9.9	162.32	-174.2	-98.7	647.1	627.5	19.61	32.994	
5,500.0	5,465.7	5,460.7	5,457.2	14.1	10.0	162.33	-177.7	-99.9	659.9	639.9	19.98	33.024	
5,600.0	5,564.9	5,559.9	5,556.3	14.4	10.2	162.34	-181.2	-101.1	672.6	652.3	20.35	33.052	
5,700.0	5,664.2	5,659.1	5,655.4	14.6	10.4	162.35	-184.7	-102.3	685.3	664.6	20.72	33.080	
5,800.0	5,763.5	5,758.2	5,754.5	14.9	10.6	162.36	-188.3	-103.6	698.1	677.0	21.09	33.106	
5,900.0	5,862.8	5,857.4	5,853.6	15.2	10.8	162.37	-191.8	-104.8	710.8	689.4	21.45	33.132	
6,000.0	5,962.1	5,956.6	5,952.8	15.4	11.0	162.38	-195.3	-106.0	723.5	701.7	21.82	33.156	
6,100.0	6,061.3	6,055.8	6,051.9	15.7	11.2	162.39	-198.8	-107.2	736.3	714.1	22.19	33.180	
6,200.0	6,160.6	6,155.0	6,151.0	16.0	11.3	162.40	-202.4	-108.4	749.0	726.5	22.56	33.204	
6,300.0	6,259.9	6,254.2	6,250.1	16.3	11.5	162.41	-205.9	-109.6	761.7	738.8	22.93	33.226	
6,400.0	6,359.2	6,353.4	6,349.2	16.5	11.7	162.41	-209.4	-110.8	774.5	751.2	23.29	33.248	
6,500.0	6,458.4	6,452.5	6,448.3	16.8	11.9	162.42	-212.9	-112.0	787.2	763.5	23.66	33.269	
6,600.0	6,557.7	6,551.7	6,547.4	17.1	12.1	162.43	-216.4	-113.2	799.9	775.9	24.03	33.289	
6,700.0	6,657.0	6,650.9	6,646.6	17.4	12.3	162.44	-220.0	-114.4	812.7	788.3	24.40	33.309	
6,739.9	6,696.6	6,690.5	6,686.2	17.5	12.3	162.44	-221.4	-114.9	817.8	793.2	24.55	33.317	
6,750.0	6,706.6	6,700.8	6,696.4	17.5	12.4	170.82	-221.7	-115.0	819.0	794.5	24.57	33.331	
6,800.0	6,756.3	6,753.1	6,748.7	17.6	12.4	-149.17	-220.7	-115.6	825.4	800.7	24.67	33.458	
6,850.0	6,805.6	6,805.5	6,800.8	17.7	12.5	-126.37	-215.0	-116.1	831.6	806.9	24.72	33.633	
6,900.0	6,854.2	6,858.0	6,852.2	17.8	12.5	-114.91	-204.5	-116.5	837.6	812.9	24.75	33.843	
6,950.0	6,901.8	6,910.5	6,902.4	17.9	12.5	-108.35	-189.3	-116.8	843.4	818.7	24.76	34.071	
7,000.0	6,948.0	6,963.0	6,951.1	18.0	12.5	-104.09	-169.6	-117.0	849.0	824.2	24.75	34.296	
7,050.0	6,992.4	7,015.5	6,997.7	18.0	12.5	-101.07	-145.6	-117.1	854.3	829.5	24.76	34.498	
7,100.0	7,034.7	7,068.1	7,042.0	18.1	12.5	-98.79	-117.3	-117.2	859.2	834.4	24.79	34.653	
7,150.0	7,074.6	7,120.6	7,083.5	18.2	12.5	-96.99	-85.2	-117.1	863.7	838.9	24.86	34.737	
7,200.0	7,111.7	7,173.0	7,121.8	18.2	12.6	-95.54	-49.4	-116.9	867.8	842.9	24.99	34.730	
7,250.0	7,145.8	7,225.3	7,156.6	18.4	12.6	-94.33	-10.4	-116.6	871.5	846.3	25.18	34.611	
7,300.0	7,176.7	7,277.6	7,187.7	18.5	12.8	-93.33	31.6	-116.2	874.7	849.3	25.45	34.370	
7,350.0	7,204.1	7,329.7	7,214.7	18.6	12.9	-92.49	76.2	-115.8	877.5	851.6	25.81	33.999	
7,400.0	7,227.7	7,381.7	7,237.6	18.8	13.1	-91.79	122.8	-115.2	879.7	853.4	26.26	33.500	
7,450.0	7,247.4	7,433.5	7,256.0	19.0	13.4	-91.21	171.2	-114.6	881.3	854.5	26.80	32.883	
7,500.0	7,263.1	7,485.1	7,270.0	19.2	13.8	-90.74	220.9	-113.9	882.5	855.0	27.44	32.162	
7,550.0	7,274.7	7,536.5	7,279.4	19.5	14.1	-90.38	271.4	-113.1	883.0	854.9	28.16	31.357	
7,600.0	7,282.0	7,587.7	7,284.3	19.8	14.6	-90.12	322.3	-112.3	883.1	854.1	28.96	30.490	
7,650.0	7,284.9	7,638.2	7,285.0	20.1	15.0	-89.99	372.8	-111.4	882.5	852.7	29.83	29.581	
7,659.3	7,285.0	7,647.5	7,285.0	20.2	15.1	-90.00	382.1	-111.2	882.4	852.4	30.00	29.409	
7,700.0	7,285.0	7,688.2	7,285.0	20.5	15.5	-90.00	422.8	-110.5	881.7	850.9	30.81	28.621	
7,800.0	7,285.0	7,788.2	7,285.0	21.3	16.6	-90.00	522.8	-108.8	879.9	847.0	32.97	26.691	
7,900.0	7,285.0	7,888.2	7,285.0	22.2	17.8	-90.00	622.7	-107.0	878.2	842.8	35.34	24.846	
8,000.0	7,285.0	7,988.2	7,285.0	23.2	19.1	-90.00	722.7	-105.3	876.4	838.5	37.90	23.126	
8,100.0	7,285.0	8,088.2	7,285.0	24.3	20.4	-90.00	822.7	-103.6	874.7	834.1	40.59	21.547	
8,200.0	7,285.0	8,188.1	7,285.0	25.5	21.8	-90.00	922.7	-101.8	872.9	829.5	43.41	20.111	
8,300.0	7,285.0	8,288.1	7,285.0	26.8	23.3	-90.00	1,022.6	-100.1	871.2	824.9	46.31	18.811	
8,400.0	7,285.0	8,388.1	7,285.0	28.0	24.8	-90.00	1,122.6	-98.3	869.5	820.2	49.30	17.636	
8,500.0	7,285.0	8,488.1	7,285.0	29.4	26.3	-90.00	1,222.6	-96.6	867.7	815.4	52.35	16.575	
8,600.0	7,285.0	8,588.1	7,285.0	30.8	27.9	-90.00	1,322.5	-94.8	866.0	810.5	55.46	15.616	
8,700.0	7,285.0	8,688.1	7,285.0	32.2	29.4	-90.00	1,422.5	-93.1	864.2	805.6	58.61	14.746	
8,800.0	7,285.0	8,788.1	7,285.0	33.6	31.0	-90.00	1,522.5	-91.3	862.5	800.7	61.79	13.957	
8,900.0	7,285.0	8,888.0	7,285.0	35.1	32.6	-90.00	1,622.4	-89.6	860.7	795.7	65.02	13.239	
9,000.0	7,285.0	8,988.0	7,285.0	36.6	34.3	-90.00	1,722.4	-87.8	859.0	790.7	68.27	12.583	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2A-5H-E267 - Hz - Plan #2												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
9,100.0	7,285.0	9,088.0	7,285.0	38.1	35.9	-90.00	1,822.4	-86.1	857.2	785.7	71.54	11.983	
9,200.0	7,285.0	9,188.0	7,285.0	39.7	37.5	-90.00	1,922.3	-84.4	855.5	780.7	74.84	11.432	
9,300.0	7,285.0	9,288.0	7,285.0	41.2	39.2	-90.00	2,022.3	-82.6	853.7	775.6	78.15	10.925	
9,400.0	7,285.0	9,388.0	7,285.0	42.8	40.9	-90.00	2,122.3	-80.9	852.0	770.5	81.48	10.457	
9,500.0	7,285.0	9,487.9	7,285.0	44.4	42.5	-90.00	2,222.3	-79.1	850.3	765.4	84.82	10.024	
9,600.0	7,285.0	9,587.9	7,285.0	46.0	44.2	-90.00	2,322.2	-77.4	848.5	760.3	88.18	9.622	
9,700.0	7,285.0	9,687.9	7,285.0	47.6	45.9	-90.00	2,422.2	-75.6	846.8	755.2	91.55	9.249	
9,800.0	7,285.0	9,787.9	7,285.0	49.2	47.6	-90.00	2,522.2	-73.9	845.0	750.1	94.93	8.902	
9,900.0	7,285.0	9,887.9	7,285.0	50.9	49.3	-90.00	2,622.1	-72.1	843.3	745.0	98.32	8.577	
10,000.0	7,285.0	9,987.9	7,285.0	52.5	51.0	-90.00	2,722.1	-70.4	841.5	739.8	101.71	8.274	
10,100.0	7,285.0	10,087.9	7,285.0	54.2	52.7	-90.00	2,822.1	-68.7	839.8	734.7	105.11	7.989	
10,200.0	7,285.0	10,187.8	7,285.0	55.8	54.4	-90.00	2,922.0	-66.9	838.0	729.5	108.52	7.722	
10,300.0	7,285.0	10,287.8	7,285.0	57.5	56.1	-90.00	3,022.0	-65.2	836.3	724.3	111.94	7.471	
10,400.0	7,285.0	10,387.8	7,285.0	59.1	57.8	-90.00	3,122.0	-63.4	834.5	719.2	115.36	7.234	
10,500.0	7,285.0	10,487.8	7,285.0	60.8	59.5	-90.00	3,222.0	-61.7	832.8	714.0	118.79	7.011	
10,600.0	7,285.0	10,587.8	7,285.0	62.5	61.2	-90.00	3,321.9	-59.9	831.1	708.8	122.22	6.800	
10,700.0	7,285.0	10,687.8	7,285.0	64.2	63.0	-90.00	3,421.9	-58.2	829.3	703.7	125.65	6.600	
10,800.0	7,285.0	10,787.7	7,285.0	65.8	64.7	-90.00	3,521.9	-56.4	827.6	698.5	129.09	6.411	
10,900.0	7,285.0	10,887.7	7,285.0	67.5	66.4	-90.00	3,621.8	-54.7	825.8	693.3	132.54	6.231	
11,000.0	7,285.0	10,987.7	7,285.0	69.2	68.1	-90.00	3,721.8	-52.9	824.1	688.1	135.98	6.060	
11,100.0	7,285.0	11,087.7	7,285.0	70.9	69.8	-90.00	3,821.8	-51.2	822.3	682.9	139.43	5.898	
11,200.0	7,285.0	11,187.7	7,285.0	72.6	71.6	-90.00	3,921.7	-49.5	820.6	677.7	142.88	5.743	
11,300.0	7,285.0	11,287.7	7,285.0	74.3	73.3	-90.00	4,021.7	-47.7	818.8	672.5	146.34	5.595	
11,400.0	7,285.0	11,387.7	7,285.0	76.0	75.0	-90.00	4,121.7	-46.0	817.1	667.3	149.80	5.455	
11,500.0	7,285.0	11,487.6	7,285.0	77.7	76.8	-90.00	4,221.6	-44.2	815.3	662.1	153.26	5.320	
11,600.0	7,285.0	11,587.6	7,285.0	79.4	78.5	-90.00	4,321.6	-42.5	813.6	656.9	156.72	5.192	
11,700.0	7,285.0	11,687.6	7,285.0	81.1	80.2	-90.00	4,421.6	-40.7	811.9	651.7	160.18	5.068	
11,800.0	7,285.0	11,787.6	7,285.0	82.8	81.9	-90.00	4,521.6	-39.0	810.1	646.5	163.65	4.950	
11,900.0	7,285.0	11,887.6	7,285.0	84.5	83.7	-90.00	4,621.5	-37.2	808.4	641.3	167.11	4.837	
12,000.0	7,285.0	11,987.6	7,285.0	86.2	85.4	-90.00	4,721.5	-35.5	806.6	636.0	170.58	4.729	
12,100.0	7,285.0	12,087.5	7,285.0	88.0	87.2	-90.00	4,821.5	-33.7	804.9	630.8	174.05	4.624	
12,200.0	7,285.0	12,187.5	7,285.0	89.7	88.9	-90.00	4,921.4	-32.0	803.1	625.6	177.52	4.524	
12,300.0	7,285.0	12,287.5	7,285.0	91.4	90.6	-90.00	5,021.4	-30.3	801.4	620.4	181.00	4.428	
12,400.0	7,285.0	12,387.5	7,285.0	93.1	92.4	-90.00	5,121.4	-28.5	799.6	615.2	184.47	4.335	
12,500.0	7,285.0	12,487.5	7,285.0	94.8	94.1	-90.00	5,221.3	-26.8	797.9	609.9	187.95	4.245	
12,600.0	7,285.0	12,587.5	7,285.0	96.5	95.8	-90.00	5,321.3	-25.0	796.1	604.7	191.43	4.159	
12,700.0	7,285.0	12,687.5	7,285.0	98.3	97.6	-90.00	5,421.3	-23.3	794.4	599.5	194.90	4.076	
12,800.0	7,285.0	12,787.4	7,285.0	100.0	99.3	-90.00	5,521.3	-21.5	792.7	594.3	198.38	3.996	
12,900.0	7,285.0	12,887.4	7,285.0	101.7	101.1	-90.00	5,621.2	-19.8	790.9	589.0	201.86	3.918	
13,000.0	7,285.0	12,987.4	7,285.0	103.4	102.8	-90.00	5,721.2	-18.0	789.2	583.8	205.34	3.843	
13,100.0	7,285.0	13,087.4	7,285.0	105.2	104.5	-90.00	5,821.2	-16.3	787.4	578.6	208.83	3.771	
13,200.0	7,285.0	13,187.4	7,285.0	106.9	106.3	-90.00	5,921.1	-14.6	785.7	573.4	212.31	3.701	
13,300.0	7,285.0	13,287.4	7,285.0	108.6	108.0	-90.00	6,021.1	-12.8	783.9	568.1	215.79	3.633	
13,400.0	7,285.0	13,387.3	7,285.0	110.4	109.8	-90.00	6,121.1	-11.1	782.2	562.9	219.28	3.567	
13,500.0	7,285.0	13,487.3	7,285.0	112.1	111.5	-90.00	6,221.0	-9.3	780.4	557.7	222.76	3.503	
13,582.6	7,285.0	13,569.9	7,285.0	113.5	112.9	-90.00	6,303.6	-7.9	779.0	553.4	225.64	3.452	
13,600.0	7,285.0	13,587.3	7,285.0	113.8	113.2	-90.00	6,321.0	-7.6	778.7	552.4	226.29	3.441	
13,682.6	7,285.0	13,669.9	7,285.0	115.2	114.7	-90.00	6,403.6	-6.1	778.1	548.8	229.34	3.393	
13,700.0	7,285.0	13,687.3	7,285.0	115.5	115.0	-90.00	6,421.0	-5.8	778.1	548.2	229.97	3.384	
13,800.0	7,285.0	13,787.3	7,285.0	117.3	116.7	-90.00	6,521.0	-4.1	779.3	545.7	233.59	3.336	
13,810.8	7,285.0	13,798.1	7,285.0	117.5	116.9	-90.00	6,531.8	-3.9	779.6	545.6	233.98	3.332	
13,900.0	7,285.0	13,887.3	7,285.0	119.0	118.5	-90.00	6,620.9	-2.3	781.6	544.5	237.09	3.296	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2A-5H-E267 - Hz - Plan #2													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		
14,000.0	7,285.0	13,987.3	7,285.0	120.8	120.2	-90.00	6,720.9	-0.6	783.8	543.2	240.58	3.258		
14,100.0	7,285.0	14,087.2	7,285.0	122.5	122.0	-90.00	6,820.8	1.2	786.0	542.0	244.07	3.221		
14,200.0	7,285.0	14,187.2	7,285.0	124.2	123.7	-90.00	6,920.8	2.9	788.3	540.7	247.55	3.184		
14,300.0	7,285.0	14,287.2	7,285.0	126.0	125.5	-90.00	7,020.8	4.6	790.5	539.5	251.04	3.149		
14,400.0	7,285.0	14,387.2	7,285.0	127.7	127.2	-90.00	7,120.7	6.4	792.7	538.2	254.54	3.114		
14,500.0	7,285.0	14,487.1	7,285.0	129.5	128.9	-90.00	7,220.7	8.1	795.0	537.0	258.03	3.081		
14,600.0	7,285.0	14,587.1	7,285.0	131.2	130.7	-90.00	7,320.6	9.9	797.2	535.7	261.52	3.048		
14,681.1	7,285.0	14,661.5	7,285.0	132.6	132.0	-90.00	7,395.0	11.2	799.1	534.8	264.23	3.024 SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2B-5H-E267 - Hz - Plan #2													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	-89.95	0.0	-19.6	19.6					
100.0	100.0	100.0	100.0	0.1	0.1	-89.95	0.0	-19.6	19.6	19.3	0.24	80.060		
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-19.6	19.6	19.0	0.59	32.966		
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-19.6	19.6	18.6	0.94	20.756 CC, ES		
400.0	400.0	400.0	400.0	0.6	0.6	164.40	0.0	-19.6	20.4	19.1	1.29	15.797		
500.0	500.0	500.0	500.0	0.8	0.8	166.15	0.0	-19.6	22.9	21.3	1.64	13.981		
600.0	599.9	599.9	599.9	1.0	1.0	168.35	0.0	-19.6	27.2	25.2	1.99	13.671		
700.0	699.7	700.2	700.2	1.2	1.2	169.88	-0.4	-18.8	32.4	30.1	2.34	13.855		
800.0	799.4	800.6	800.6	1.4	1.3	170.39	-1.7	-16.5	37.7	35.0	2.69	14.034		
900.0	898.9	901.1	901.0	1.6	1.5	170.25	-3.9	-12.7	43.1	40.1	3.04	14.201		
989.9	988.3	991.6	991.3	1.9	1.7	169.75	-6.6	-7.9	48.1	44.8	3.35	14.339		
1,000.0	998.3	1,001.7	1,001.4	1.9	1.7	169.68	-6.9	-7.3	48.7	45.3	3.39	14.350		
1,100.0	1,097.5	1,102.4	1,101.7	2.1	1.9	168.60	-10.8	-0.4	53.3	49.5	3.75	14.203		
1,200.0	1,196.8	1,202.3	1,201.3	2.4	2.1	167.39	-15.1	7.1	57.3	53.1	4.12	13.912		
1,300.0	1,296.1	1,302.2	1,300.8	2.7	2.3	166.33	-19.3	14.5	61.3	56.8	4.48	13.664		
1,400.0	1,395.4	1,402.1	1,400.3	2.9	2.6	165.41	-23.6	22.0	65.3	60.4	4.85	13.448		
1,500.0	1,494.6	1,502.0	1,499.9	3.2	2.8	164.59	-27.8	29.5	69.3	64.1	5.23	13.258		
1,600.0	1,593.9	1,601.9	1,599.4	3.5	3.0	163.86	-32.1	37.0	73.4	67.8	5.60	13.090		
1,700.0	1,693.2	1,701.8	1,699.0	3.7	3.2	163.21	-36.3	44.5	77.4	71.4	5.98	12.940		
1,800.0	1,792.5	1,801.8	1,798.5	4.0	3.4	162.62	-40.6	52.0	81.5	75.1	6.36	12.805		
1,900.0	1,891.7	1,901.7	1,898.1	4.3	3.7	162.09	-44.8	59.4	85.5	78.8	6.74	12.683		
2,000.0	1,991.0	2,001.6	1,997.6	4.5	3.9	161.61	-49.1	66.9	89.6	82.5	7.13	12.572		
2,100.0	2,090.3	2,101.5	2,097.1	4.8	4.1	161.17	-53.3	74.4	93.7	86.2	7.51	12.471		
2,200.0	2,189.6	2,201.4	2,196.7	5.1	4.3	160.77	-57.5	81.9	97.8	89.9	7.90	12.379		
2,300.0	2,288.8	2,301.3	2,296.2	5.3	4.6	160.39	-61.8	89.4	101.9	93.6	8.29	12.294		
2,400.0	2,388.1	2,401.2	2,395.8	5.6	4.8	160.05	-66.0	96.9	106.0	97.3	8.68	12.215		
2,500.0	2,487.4	2,501.2	2,495.3	5.9	5.0	159.73	-70.3	104.4	110.1	101.0	9.07	12.142		
2,600.0	2,586.7	2,601.1	2,594.9	6.2	5.2	159.44	-74.5	111.8	114.2	104.7	9.46	12.075		
2,700.0	2,686.0	2,701.0	2,694.4	6.4	5.5	159.17	-78.8	119.3	118.3	108.5	9.85	12.012		
2,800.0	2,785.2	2,800.9	2,793.9	6.7	5.7	158.91	-83.0	126.8	122.4	112.2	10.24	11.954		
2,900.0	2,884.5	2,900.8	2,893.5	7.0	5.9	158.67	-87.3	134.3	126.5	115.9	10.63	11.899		
3,000.0	2,983.8	3,000.7	2,993.0	7.3	6.2	158.45	-91.5	141.8	130.6	119.6	11.03	11.848		
3,100.0	3,083.1	3,100.6	3,092.6	7.5	6.4	158.24	-95.8	149.3	134.8	123.3	11.42	11.800		
3,200.0	3,182.3	3,200.5	3,192.1	7.8	6.6	158.04	-100.0	156.7	138.9	127.1	11.81	11.754		
3,300.0	3,281.6	3,300.5	3,291.7	8.1	6.8	157.85	-104.2	164.2	143.0	130.8	12.21	11.712		
3,400.0	3,380.9	3,400.4	3,391.2	8.3	7.1	157.68	-108.5	171.7	147.1	134.5	12.60	11.671		
3,500.0	3,480.2	3,500.3	3,490.7	8.6	7.3	157.51	-112.7	179.2	151.2	138.2	13.00	11.633		
3,600.0	3,579.4	3,600.2	3,590.3	8.9	7.5	157.35	-117.0	186.7	155.4	142.0	13.40	11.597		
3,700.0	3,678.7	3,700.1	3,689.8	9.2	7.8	157.20	-121.2	194.2	159.5	145.7	13.79	11.563		
3,800.0	3,778.0	3,800.0	3,789.4	9.4	8.0	157.06	-125.5	201.6	163.6	149.4	14.19	11.531		
3,900.0	3,877.3	3,899.9	3,888.9	9.7	8.2	156.93	-129.7	209.1	167.7	153.1	14.59	11.500		
4,000.0	3,976.5	3,999.9	3,988.5	10.0	8.4	156.80	-134.0	216.6	171.9	156.9	14.98	11.471		
4,100.0	4,075.8	4,099.8	4,088.0	10.3	8.7	156.68	-138.2	224.1	176.0	160.6	15.38	11.443		
4,200.0	4,175.1	4,199.7	4,187.5	10.5	8.9	156.56	-142.5	231.6	180.1	164.3	15.78	11.416		
4,300.0	4,274.4	4,299.6	4,287.1	10.8	9.1	156.45	-146.7	239.1	184.2	168.1	16.17	11.391		
4,400.0	4,373.6	4,399.5	4,386.6	11.1	9.4	156.34	-151.0	246.6	188.4	171.8	16.57	11.366		
4,500.0	4,472.9	4,499.4	4,486.2	11.3	9.6	156.24	-155.2	254.0	192.5	175.5	16.97	11.343		
4,600.0	4,572.2	4,599.3	4,585.7	11.6	9.8	156.14	-159.4	261.5	196.6	179.3	17.37	11.321		
4,700.0	4,671.5	4,699.3	4,685.3	11.9	10.0	156.05	-163.7	269.0	200.8	183.0	17.77	11.299		
4,800.0	4,770.7	4,799.2	4,784.8	12.2	10.3	155.96	-167.9	276.5	204.9	186.7	18.17	11.279		
4,900.0	4,870.0	4,899.1	4,884.3	12.4	10.5	155.87	-172.2	284.0	209.0	190.5	18.57	11.259		
5,000.0	4,969.3	4,999.0	4,983.9	12.7	10.7	155.79	-176.4	291.5	213.2	194.2	18.96	11.240		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2B-5H-E267 - Hz - Plan #2												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	
5,100.0	5,068.6	5,098.9	5,083.4	13.0	11.0	155.71	-180.7	298.9	217.3	197.9	19.36	11.222	
5,200.0	5,167.8	5,198.8	5,183.0	13.3	11.2	155.63	-184.9	306.4	221.4	201.7	19.76	11.205	
5,300.0	5,267.1	5,298.7	5,282.5	13.5	11.4	155.56	-189.2	313.9	225.6	205.4	20.16	11.188	
5,400.0	5,366.4	5,398.7	5,382.1	13.8	11.7	155.49	-193.4	321.4	229.7	209.1	20.56	11.171	
5,500.0	5,465.7	5,498.6	5,481.6	14.1	11.9	155.42	-197.7	328.9	233.8	212.9	20.96	11.156	
5,600.0	5,564.9	5,598.5	5,581.1	14.4	12.1	155.35	-201.9	336.4	238.0	216.6	21.36	11.141	
5,700.0	5,664.2	5,698.4	5,680.7	14.6	12.3	155.29	-206.1	343.9	242.1	220.3	21.76	11.126	
5,800.0	5,763.5	5,798.3	5,780.2	14.9	12.6	155.22	-210.4	351.3	246.2	224.1	22.16	11.112	
5,900.0	5,862.8	5,898.2	5,879.8	15.2	12.8	155.16	-214.6	358.8	250.4	227.8	22.56	11.098	
6,000.0	5,962.1	5,998.1	5,979.3	15.4	13.0	155.11	-218.9	366.3	254.5	231.6	22.96	11.085	
6,100.0	6,061.3	6,098.1	6,078.9	15.7	13.3	155.05	-223.1	373.8	258.7	235.3	23.36	11.072	
6,200.0	6,160.6	6,198.0	6,178.4	16.0	13.5	155.00	-227.4	381.3	262.8	239.0	23.76	11.060	
6,300.0	6,259.9	6,297.9	6,277.9	16.3	13.7	154.94	-231.6	388.8	266.9	242.8	24.16	11.048	
6,400.0	6,359.2	6,397.8	6,377.5	16.5	14.0	154.89	-235.9	396.2	271.1	246.5	24.56	11.036	
6,500.0	6,458.4	6,497.7	6,477.0	16.8	14.2	154.84	-240.1	403.7	275.2	250.2	24.96	11.025	
6,600.0	6,557.7	6,603.5	6,582.3	17.1	14.4	156.08	-238.3	411.6	278.5	253.4	25.13	11.081	
6,700.0	6,657.0	6,705.5	6,682.0	17.4	14.5	160.89	-218.5	419.1	280.4	255.7	24.74	11.334	
6,739.9	6,696.6	6,743.5	6,718.0	17.5	14.5	163.56	-206.6	421.8	281.6	257.1	24.51	11.490	
6,750.0	6,706.6	6,752.8	6,726.7	17.5	14.5	172.57	-203.3	422.5	282.1	257.6	24.45	11.536	
6,800.0	6,756.3	6,798.2	6,768.3	17.6	14.5	-144.36	-185.4	425.6	284.9	260.7	24.19	11.776	
6,850.0	6,805.6	6,842.4	6,807.3	17.7	14.5	-118.62	-164.8	428.6	288.8	264.8	24.05	12.012	
6,900.0	6,854.2	6,885.6	6,843.7	17.8	14.5	-104.38	-141.8	431.3	293.7	269.7	24.02	12.226	
6,950.0	6,901.8	6,927.7	6,877.5	17.9	14.6	-95.20	-116.8	433.8	299.3	275.2	24.12	12.412	
7,000.0	6,948.0	6,969.0	6,908.8	18.0	14.6	-88.51	-89.9	436.2	305.6	281.3	24.31	12.572	
7,050.0	6,992.4	7,009.6	6,937.5	18.0	14.6	-83.26	-61.4	438.3	312.2	287.7	24.55	12.716	
7,100.0	7,034.7	7,050.0	6,964.1	18.1	14.7	-78.93	-31.1	440.3	319.1	294.3	24.82	12.859	
7,150.0	7,074.6	7,088.7	6,987.5	18.2	14.8	-75.32	-0.3	442.1	326.1	301.0	25.06	13.015	
7,200.0	7,111.7	7,127.5	7,008.8	18.2	14.9	-72.22	32.1	443.7	333.0	307.7	25.31	13.156	
7,250.0	7,145.8	7,165.8	7,027.6	18.4	15.0	-69.56	65.3	445.1	339.7	314.2	25.51	13.316	
7,300.0	7,176.7	7,200.0	7,042.6	18.5	15.1	-67.37	96.1	446.2	346.1	320.4	25.63	13.502	
7,350.0	7,204.1	7,241.1	7,058.1	18.6	15.3	-65.31	134.2	447.4	352.0	326.2	25.75	13.668	
7,400.0	7,227.7	7,278.4	7,069.7	18.8	15.5	-63.65	169.6	448.3	357.4	331.5	25.81	13.845	
7,450.0	7,247.4	7,315.3	7,079.0	19.0	15.7	-62.26	205.3	449.0	362.2	336.3	25.84	14.014	
7,500.0	7,263.1	7,350.0	7,085.6	19.2	15.9	-61.16	239.4	449.5	366.3	340.5	25.85	14.172	
7,550.0	7,274.7	7,388.6	7,090.5	19.5	16.1	-60.23	277.7	449.8	369.7	343.8	25.89	14.279	
7,600.0	7,282.0	7,425.0	7,092.7	19.8	16.4	-59.55	314.0	450.0	372.4	346.4	25.94	14.353	
7,650.0	7,284.9	7,468.5	7,093.0	20.1	16.8	-59.13	357.4	450.0	374.0	347.9	26.10	14.328	
7,659.3	7,285.0	7,477.8	7,093.0	20.2	16.8	-59.11	366.7	450.0	374.0	347.9	26.15	14.300	
7,700.0	7,285.0	7,518.5	7,093.0	20.5	17.2	-59.11	407.4	450.0	374.0	347.1	26.86	13.923	
7,800.0	7,285.0	7,618.5	7,093.0	21.3	18.1	-59.11	507.4	450.0	374.0	345.3	28.75	13.010	
7,900.0	7,285.0	7,718.5	7,093.0	22.2	19.2	-59.11	607.4	450.0	374.0	343.2	30.81	12.139	
8,000.0	7,285.0	7,818.5	7,093.0	23.2	20.4	-59.11	707.4	450.0	374.0	341.0	33.02	11.326	
8,100.0	7,285.0	7,918.5	7,093.0	24.3	21.6	-59.11	807.4	450.0	374.0	338.7	35.35	10.579	
8,200.0	7,285.0	8,018.5	7,093.0	25.5	22.9	-59.11	907.4	450.0	374.0	336.2	37.78	9.899	
8,300.0	7,285.0	8,118.5	7,093.0	26.8	24.3	-59.11	1,007.4	450.0	374.0	333.7	40.29	9.283	
8,400.0	7,285.0	8,218.5	7,093.0	28.0	25.7	-59.11	1,107.4	450.0	374.0	331.1	42.86	8.725	
8,500.0	7,285.0	8,318.5	7,093.0	29.4	27.2	-59.11	1,207.4	450.0	374.0	328.5	45.49	8.221	
8,600.0	7,285.0	8,418.5	7,093.0	30.8	28.7	-59.11	1,307.4	450.0	374.0	325.8	48.17	7.765	
8,700.0	7,285.0	8,518.5	7,093.0	32.2	30.2	-59.11	1,407.4	450.0	374.0	323.1	50.88	7.351	
8,800.0	7,285.0	8,618.5	7,093.0	33.6	31.7	-59.11	1,507.4	450.0	374.0	320.4	53.62	6.975	
8,900.0	7,285.0	8,718.5	7,093.0	35.1	33.3	-59.11	1,607.4	450.0	374.0	317.6	56.40	6.632	
9,000.0	7,285.0	8,818.5	7,093.0	36.6	34.9	-59.11	1,707.4	450.0	374.0	314.8	59.19	6.318	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2B-5H-E267 - Hz - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-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
9,100.0	7,285.0	8,918.5	7,093.0	38.1	36.5	-59.11	1,807.4	450.0	374.0	312.0	62.01	6.031	
9,200.0	7,285.0	9,018.5	7,093.0	39.7	38.1	-59.11	1,907.4	450.0	374.0	309.2	64.85	5.768	
9,300.0	7,285.0	9,118.5	7,093.0	41.2	39.7	-59.11	2,007.4	450.0	374.0	306.3	67.70	5.525	
9,400.0	7,285.0	9,218.5	7,093.0	42.8	41.3	-59.11	2,107.4	450.0	374.0	303.4	70.56	5.300	
9,500.0	7,285.0	9,318.5	7,093.0	44.4	43.0	-59.11	2,207.4	450.0	374.0	300.6	73.44	5.093	
9,600.0	7,285.0	9,418.5	7,093.0	46.0	44.6	-59.11	2,307.4	450.0	374.0	297.7	76.33	4.900	
9,700.0	7,285.0	9,518.5	7,093.0	47.6	46.3	-59.11	2,407.4	450.0	374.0	294.8	79.22	4.721	
9,800.0	7,285.0	9,618.5	7,093.0	49.2	47.9	-59.11	2,507.4	450.0	374.0	291.9	82.13	4.554	
9,900.0	7,285.0	9,718.5	7,093.0	50.9	49.6	-59.11	2,607.4	450.0	374.0	289.0	85.05	4.398	
10,000.0	7,285.0	9,818.5	7,093.0	52.5	51.3	-59.11	2,707.4	450.0	374.0	286.0	87.97	4.252	
10,100.0	7,285.0	9,918.5	7,093.0	54.2	53.0	-59.11	2,807.4	450.0	374.0	283.1	90.89	4.115	
10,200.0	7,285.0	10,018.5	7,093.0	55.8	54.7	-59.11	2,907.4	450.0	374.0	280.2	93.83	3.986	
10,300.0	7,285.0	10,118.5	7,093.0	57.5	56.4	-59.11	3,007.4	450.0	374.0	277.2	96.76	3.865	
10,400.0	7,285.0	10,218.5	7,093.0	59.1	58.0	-59.11	3,107.4	450.0	374.0	274.3	99.71	3.751	
10,500.0	7,285.0	10,318.5	7,093.0	60.8	59.7	-59.11	3,207.4	450.0	374.0	271.4	102.65	3.643	
10,600.0	7,285.0	10,418.5	7,093.0	62.5	61.4	-59.11	3,307.4	450.0	374.0	268.4	105.61	3.542	
10,700.0	7,285.0	10,518.5	7,093.0	64.2	63.1	-59.11	3,407.4	450.0	374.0	265.4	108.56	3.445	
10,800.0	7,285.0	10,618.5	7,093.0	65.8	64.9	-59.11	3,507.4	450.0	374.0	262.5	111.52	3.354	
10,900.0	7,285.0	10,718.5	7,093.0	67.5	66.6	-59.11	3,607.4	450.0	374.0	259.5	114.48	3.267	
11,000.0	7,285.0	10,818.5	7,093.0	69.2	68.3	-59.11	3,707.4	450.0	374.0	256.6	117.44	3.185	
11,100.0	7,285.0	10,918.5	7,093.0	70.9	70.0	-59.11	3,807.4	450.0	374.0	253.6	120.41	3.106	
11,200.0	7,285.0	11,018.5	7,093.0	72.6	71.7	-59.11	3,907.4	450.0	374.0	250.6	123.38	3.031	
11,300.0	7,285.0	11,118.5	7,093.0	74.3	73.4	-59.11	4,007.4	450.0	374.0	247.7	126.35	2.960	
11,400.0	7,285.0	11,218.5	7,093.0	76.0	75.1	-59.11	4,107.4	450.0	374.0	244.7	129.32	2.892	
11,500.0	7,285.0	11,318.5	7,093.0	77.7	76.9	-59.11	4,207.4	450.0	374.0	241.7	132.30	2.827	
11,600.0	7,285.0	11,418.5	7,093.0	79.4	78.6	-59.11	4,307.4	450.0	374.0	238.7	135.28	2.765	
11,700.0	7,285.0	11,518.5	7,093.0	81.1	80.3	-59.11	4,407.4	450.0	374.0	235.7	138.26	2.705	
11,800.0	7,285.0	11,618.5	7,093.0	82.8	82.0	-59.11	4,507.4	450.0	374.0	232.8	141.24	2.648	
11,900.0	7,285.0	11,718.5	7,093.0	84.5	83.8	-59.11	4,607.4	450.0	374.0	229.8	144.22	2.593	
12,000.0	7,285.0	11,819.2	7,093.0	86.2	85.5	-59.11	4,708.2	450.0	374.0	226.8	147.21	2.541	
12,100.0	7,285.0	11,926.8	7,093.0	88.0	87.4	-58.95	4,815.8	452.1	372.4	222.3	150.08	2.481	
12,200.0	7,285.0	12,026.8	7,093.0	89.7	89.1	-58.74	4,915.7	454.7	370.1	217.4	152.74	2.423	
12,300.0	7,285.0	12,126.8	7,093.0	91.4	90.8	-58.53	5,015.6	457.3	367.9	212.5	155.38	2.368	
12,400.0	7,285.0	12,226.7	7,093.0	93.1	92.6	-58.32	5,115.6	459.9	365.7	207.7	158.01	2.314	
12,500.0	7,285.0	12,326.7	7,093.0	94.8	94.3	-58.10	5,215.5	462.5	363.4	202.8	160.62	2.263	
12,600.0	7,285.0	12,426.7	7,093.0	96.5	96.0	-57.88	5,315.4	465.1	361.2	198.0	163.21	2.213	
12,700.0	7,285.0	12,526.6	7,093.0	98.3	97.8	-57.66	5,415.4	467.8	359.0	193.2	165.78	2.166	
12,800.0	7,285.0	12,626.6	7,093.0	100.0	99.5	-57.44	5,515.3	470.4	356.8	188.5	168.32	2.120	
12,900.0	7,285.0	12,726.6	7,093.0	101.7	101.2	-57.21	5,615.2	473.0	354.6	183.7	170.85	2.075	
13,000.0	7,285.0	12,826.5	7,093.0	103.4	103.0	-56.98	5,715.2	475.6	352.4	179.0	173.36	2.033	
13,100.0	7,285.0	12,922.9	7,093.0	105.2	104.7	-56.77	5,811.5	477.9	350.4	174.6	175.84	1.993	
13,143.7	7,285.0	12,962.5	7,093.0	105.9	105.3	-56.75	5,851.1	478.2	350.2	173.1	177.01	1.978	
13,200.0	7,285.0	13,013.6	7,093.0	106.9	106.2	-56.79	5,902.2	477.7	350.6	171.9	178.66	1.962	
13,300.0	7,285.0	13,105.3	7,093.0	108.6	107.8	-57.06	5,993.9	474.6	353.4	171.4	181.99	1.942	
13,400.0	7,285.0	13,205.2	7,093.0	110.4	109.5	-57.46	6,093.6	470.1	357.2	171.5	185.71	1.924	
13,500.0	7,285.0	13,305.1	7,093.0	112.1	111.3	-57.85	6,193.4	465.5	361.1	171.7	189.43	1.906	
13,582.6	7,285.0	13,387.6	7,093.0	113.5	112.7	-58.17	6,275.9	461.7	364.3	171.8	192.50	1.892	
13,600.0	7,285.0	13,405.0	7,093.0	113.8	113.0	-58.23	6,293.2	460.9	365.0	171.8	193.20	1.889	
13,700.0	7,285.0	13,504.8	7,093.0	115.5	114.7	-58.67	6,393.0	456.4	369.9	172.5	197.35	1.874	
13,800.0	7,285.0	13,604.5	7,093.0	117.3	116.5	-59.23	6,492.6	451.8	376.3	174.6	201.69	1.866	
13,810.8	7,285.0	13,615.3	7,093.0	117.5	116.6	-59.30	6,503.4	451.3	377.1	174.9	202.17	1.865	
13,900.0	7,285.0	13,704.2	7,093.0	119.0	118.2	-59.88	6,592.1	447.3	383.7	177.7	206.01	1.862	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design													S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2B-5H-E267 - Hz - Plan #2		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					
14,000.0	7,285.0	13,803.8	7,093.0	120.8	119.9	-60.51	6,691.6	442.7	391.1	180.8	210.28	1.860					
14,100.0	7,285.0	13,903.4	7,093.0	122.5	121.6	-61.11	6,791.2	438.2	398.6	184.0	214.51	1.858					
14,200.0	7,285.0	14,003.1	7,093.0	124.2	123.4	-61.69	6,890.7	433.6	406.1	187.4	218.72	1.857					
14,300.0	7,285.0	14,102.7	7,093.0	126.0	125.1	-62.26	6,990.2	429.0	413.6	190.7	222.90	1.856					
14,400.0	7,285.0	14,202.4	7,093.0	127.7	126.8	-62.80	7,089.7	424.5	421.2	194.2	227.05	1.855					
14,500.0	7,285.0	14,302.0	7,093.0	129.5	128.6	-63.32	7,189.3	419.9	428.8	197.7	231.17	1.855 SF					
14,600.0	7,285.0	14,401.6	7,093.0	131.2	130.3	-63.82	7,288.8	415.4	436.5	201.2	235.27	1.855					
14,681.1	7,285.0	14,482.4	7,093.0	132.6	131.7	-64.22	7,369.5	411.7	442.7	204.2	238.57	1.856					



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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			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	-47.5	47.5					
100.0	100.0	99.0	99.0	0.1	0.1	-89.95	0.0	-47.5	47.5	47.3	0.24	195.409		
200.0	200.0	199.0	199.0	0.3	0.3	-89.95	0.0	-47.5	47.5	46.9	0.59	80.296 CC, ES		
300.0	300.0	298.4	298.4	0.5	0.5	-89.27	0.6	-48.1	48.1	47.2	0.94	51.216		
400.0	400.0	397.7	397.6	0.6	0.6	166.57	2.3	-50.0	50.9	49.7	1.29	39.494		
500.0	500.0	496.7	496.6	0.8	0.8	169.92	5.2	-53.2	56.9	55.3	1.64	34.678		
600.0	599.9	595.8	595.5	1.0	1.0	173.53	9.1	-57.4	66.0	64.0	1.99	33.134		
700.0	699.7	695.1	694.7	1.2	1.2	176.42	13.1	-61.8	77.2	74.9	2.34	32.967 SF		
800.0	799.4	794.2	793.6	1.4	1.4	178.61	17.1	-66.2	90.3	87.6	2.69	33.567		
900.0	898.9	893.1	892.2	1.6	1.6	-179.76	21.1	-70.5	105.2	102.1	3.04	34.650		
989.9	988.3	981.7	980.8	1.9	1.8	-178.65	24.7	-74.5	120.1	116.8	3.35	35.904		
1,000.0	998.3	991.6	990.6	1.9	1.8	-178.55	25.1	-74.9	121.9	118.5	3.38	36.049		
1,100.0	1,097.5	1,090.1	1,088.9	2.1	2.0	-177.64	29.1	-79.3	139.3	135.5	3.73	37.350		
1,200.0	1,196.8	1,188.5	1,187.2	2.4	2.2	-176.94	33.1	-83.6	156.7	152.6	4.08	38.434		
1,300.0	1,296.1	1,287.0	1,285.5	2.7	2.4	-176.38	37.1	-87.9	174.2	169.7	4.43	39.349		
1,400.0	1,395.4	1,385.4	1,383.7	2.9	2.6	-175.92	41.0	-92.3	191.6	186.9	4.78	40.132		
1,500.0	1,494.6	1,483.9	1,482.0	3.2	2.8	-175.54	45.0	-96.6	209.1	204.0	5.12	40.809		
1,600.0	1,593.9	1,582.3	1,580.3	3.5	3.0	-175.21	49.0	-101.0	226.6	221.1	5.47	41.400		
1,700.0	1,693.2	1,680.8	1,678.6	3.7	3.2	-174.93	53.0	-105.3	244.1	238.3	5.82	41.920		
1,800.0	1,792.5	1,779.3	1,776.8	4.0	3.4	-174.69	57.0	-109.7	261.6	255.4	6.17	42.382		
1,900.0	1,891.7	1,877.7	1,875.1	4.3	3.6	-174.48	60.9	-114.0	279.1	272.6	6.52	42.794		
2,000.0	1,991.0	1,976.2	1,973.4	4.5	3.8	-174.30	64.9	-118.4	296.6	289.7	6.87	43.164		
2,100.0	2,090.3	2,074.6	2,071.7	4.8	4.0	-174.13	68.9	-122.7	314.1	306.9	7.22	43.498		
2,200.0	2,189.6	2,173.1	2,169.9	5.1	4.2	-173.99	72.9	-127.1	331.6	324.0	7.57	43.801		
2,300.0	2,288.8	2,271.5	2,268.2	5.3	4.4	-173.85	76.9	-131.4	349.1	341.2	7.92	44.077		
2,400.0	2,388.1	2,370.0	2,366.5	5.6	4.6	-173.73	80.9	-135.8	366.6	358.4	8.27	44.330		
2,500.0	2,487.4	2,468.4	2,464.8	5.9	4.8	-173.62	84.8	-140.1	384.2	375.5	8.62	44.562		
2,600.0	2,586.7	2,566.9	2,563.0	6.2	5.0	-173.52	88.8	-144.5	401.7	392.7	8.97	44.776		
2,700.0	2,686.0	2,665.3	2,661.3	6.4	5.2	-173.43	92.8	-148.8	419.2	409.9	9.32	44.974		
2,800.0	2,785.2	2,763.8	2,759.6	6.7	5.4	-173.35	96.8	-153.2	436.7	427.0	9.67	45.157		
2,900.0	2,884.5	2,862.2	2,857.9	7.0	5.6	-173.27	100.8	-157.5	454.2	444.2	10.02	45.328		
3,000.0	2,983.8	2,960.7	2,956.1	7.3	5.8	-173.20	104.7	-161.9	471.7	461.4	10.37	45.487		
3,100.0	3,083.1	3,059.1	3,054.4	7.5	6.0	-173.13	108.7	-166.2	489.3	478.5	10.72	45.636		
3,200.0	3,182.3	3,157.6	3,152.7	7.8	6.2	-173.07	112.7	-170.6	506.8	495.7	11.07	45.775		
3,300.0	3,281.6	3,256.0	3,251.0	8.1	6.4	-173.01	116.7	-174.9	524.3	512.9	11.42	45.905		
3,400.0	3,380.9	3,354.5	3,349.2	8.3	6.6	-172.96	120.7	-179.3	541.8	530.1	11.77	46.028		
3,500.0	3,480.2	3,452.9	3,447.5	8.6	6.8	-172.91	124.6	-183.6	559.4	547.2	12.12	46.144		
3,600.0	3,579.4	3,551.4	3,545.8	8.9	7.0	-172.86	128.6	-188.0	576.9	564.4	12.47	46.253		
3,700.0	3,678.7	3,649.8	3,644.1	9.2	7.2	-172.82	132.6	-192.3	594.4	581.6	12.82	46.356		
3,800.0	3,778.0	3,748.3	3,742.3	9.4	7.4	-172.78	136.6	-196.7	611.9	598.7	13.17	46.454		
3,900.0	3,877.3	3,846.7	3,840.6	9.7	7.6	-172.74	140.6	-201.0	629.4	615.9	13.52	46.546		
4,000.0	3,976.5	3,945.2	3,938.9	10.0	7.8	-172.70	144.6	-205.4	647.0	633.1	13.87	46.634		
4,100.0	4,075.8	4,043.6	4,037.2	10.3	8.0	-172.66	148.5	-209.7	664.5	650.3	14.22	46.717		
4,200.0	4,175.1	4,142.1	4,135.4	10.5	8.2	-172.63	152.5	-214.1	682.0	667.4	14.57	46.797		
4,300.0	4,274.4	4,240.5	4,233.7	10.8	8.4	-172.60	156.5	-218.4	699.5	684.6	14.92	46.873		
4,400.0	4,373.6	4,339.0	4,332.0	11.1	8.6	-172.57	160.5	-222.8	717.1	701.8	15.27	46.945		
4,500.0	4,472.9	4,437.4	4,430.3	11.3	8.8	-172.54	164.5	-227.1	734.6	719.0	15.62	47.014		
4,600.0	4,572.2	4,535.9	4,528.5	11.6	9.0	-172.51	168.4	-231.5	752.1	736.1	15.98	47.080		
4,700.0	4,671.5	4,634.4	4,626.8	11.9	9.2	-172.48	172.4	-235.8	769.6	753.3	16.33	47.143		
4,800.0	4,770.7	4,732.8	4,725.1	12.2	9.4	-172.46	176.4	-240.2	787.2	770.5	16.68	47.203		
4,900.0	4,870.0	4,831.3	4,823.4	12.4	9.6	-172.43	180.4	-244.5	804.7	787.7	17.03	47.261		
5,000.0	4,969.3	4,929.7	4,921.6	12.7	9.8	-172.41	184.4	-248.9	822.2	804.8	17.38	47.317		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	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		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		
5,100.0	5,068.6	5,028.2	5,019.9	13.0	10.0	-172.39	188.3	-253.2	839.7	822.0	17.73	47.370	
5,200.0	5,167.8	5,126.6	5,118.2	13.3	10.2	-172.37	192.3	-257.6	857.3	839.2	18.08	47.422	
5,300.0	5,267.1	5,225.1	5,216.5	13.5	10.4	-172.34	196.3	-261.9	874.8	856.4	18.43	47.471	
5,400.0	5,366.4	5,323.5	5,314.7	13.8	10.6	-172.33	200.3	-266.3	892.3	873.5	18.78	47.518	
5,500.0	5,465.7	5,422.0	5,413.0	14.1	10.8	-172.31	204.3	-270.6	909.9	890.7	19.13	47.564	
5,600.0	5,564.9	5,520.4	5,511.3	14.4	11.0	-172.29	208.3	-275.0	927.4	907.9	19.48	47.608	
5,700.0	5,664.2	5,618.9	5,609.6	14.6	11.2	-172.27	212.2	-279.3	944.9	925.1	19.83	47.651	
5,800.0	5,763.5	5,717.3	5,707.8	14.9	11.4	-172.25	216.2	-283.7	962.4	942.3	20.18	47.692	
5,900.0	5,862.8	5,815.8	5,806.1	15.2	11.6	-172.24	220.2	-288.0	980.0	959.4	20.53	47.731	
6,000.0	5,962.1	5,914.2	5,904.4	15.4	11.8	-172.22	224.2	-292.4	997.5	976.6	20.88	47.770	
6,100.0	6,061.3	6,012.7	6,002.7	15.7	12.0	-172.21	228.2	-296.7	1,015.0	993.8	21.23	47.807	
6,200.0	6,160.6	6,111.1	6,100.9	16.0	12.2	-172.19	232.1	-301.1	1,032.5	1,011.0	21.58	47.843	
6,300.0	6,259.9	6,209.6	6,199.2	16.3	12.4	-172.18	236.1	-305.4	1,050.1	1,028.1	21.93	47.877	
6,400.0	6,359.2	6,308.0	6,297.5	16.5	12.6	-172.16	240.1	-309.8	1,067.6	1,045.3	22.28	47.911	
6,500.0	6,458.4	6,406.5	6,395.8	16.8	12.8	-172.15	244.1	-314.1	1,085.1	1,062.5	22.63	47.943	
6,600.0	6,557.7	6,504.9	6,494.0	17.1	13.0	-172.14	248.1	-318.5	1,102.6	1,079.7	22.98	47.975	
6,700.0	6,657.0	6,610.9	6,599.5	17.4	13.3	-174.94	199.7	-331.7	1,114.7	1,091.2	23.51	47.419	
6,739.9	6,696.6	6,652.6	6,641.1	17.5	13.3	-178.64	126.3	-337.0	1,112.9	1,089.2	23.71	46.936	
6,750.0	6,706.6	6,681.9	6,670.5	17.5	13.3	-171.41	107.5	-338.0	1,112.1	1,088.3	23.78	46.757	
6,800.0	6,756.3	6,729.2	6,717.6	17.6	13.4	-136.80	28.7	-341.3	1,106.2	1,082.0	24.16	45.794	
6,850.0	6,805.6	6,775.4	6,763.0	17.7	13.5	-118.14	-22.4	-342.9	1,099.5	1,075.0	24.48	44.920	
6,900.0	6,854.2	6,824.4	6,812.0	17.8	13.6	-109.59	-51.9	-343.6	1,093.5	1,068.8	24.71	44.247	
6,950.0	6,901.8	6,870.4	6,857.8	17.9	13.6	-104.95	-66.9	-344.0	1,089.1	1,064.2	24.85	43.821	
7,000.0	6,948.0	6,916.5	6,903.9	18.0	13.7	-101.85	-72.4	-344.1	1,086.5	1,061.6	24.93	43.585	
7,040.1	6,983.7	6,951.1	6,938.4	18.0	13.7	-99.86	-72.0	-344.1	1,085.9	1,060.9	24.96	43.506	
7,050.0	6,992.4	6,959.4	6,946.0	18.0	13.7	-99.40	-71.4	-344.1	1,085.9	1,060.9	24.96	43.500	
7,100.0	7,034.7	7,002.3	6,989.3	18.1	13.6	-97.22	-66.0	-343.9	1,087.3	1,062.3	24.99	43.516	
7,150.0	7,074.6	7,042.7	7,029.3	18.2	13.6	-95.12	-57.4	-343.7	1,090.5	1,065.5	25.02	43.582	
7,200.0	7,111.7	7,078.5	7,065.1	18.2	13.6	-93.03	-46.7	-343.5	1,095.6	1,070.5	25.09	43.670	
7,250.0	7,145.8	7,112.3	7,098.9	18.4	13.5	-90.91	-34.3	-343.2	1,102.2	1,077.0	25.18	43.767	
7,300.0	7,176.7	7,143.0	7,129.3	18.5	13.5	-88.73	-20.3	-342.8	1,110.3	1,085.0	25.31	43.871	
7,350.0	7,204.1	7,170.7	7,156.3	18.6	13.4	-86.58	-6.6	-342.4	1,119.5	1,094.1	25.46	43.970	
7,400.0	7,227.7	7,193.8	7,179.4	18.8	13.4	-84.38	8.1	-342.0	1,129.8	1,104.1	25.63	44.078	
7,450.0	7,247.4	7,212.0	7,197.6	19.0	13.4	-82.32	20.9	-341.6	1,140.8	1,114.9	25.81	44.197	
7,500.0	7,263.1	7,227.9	7,213.0	19.2	13.3	-80.04	38.3	-341.0	1,152.3	1,126.3	25.97	44.374	
7,550.0	7,274.7	7,239.0	7,224.1	19.5	13.3	-77.62	59.6	-340.2	1,164.2	1,138.1	26.07	44.661	
7,600.0	7,282.0	7,246.0	7,231.1	19.8	13.3	-75.93	68.5	-339.8	1,176.2	1,150.0	26.21	44.874	
7,650.0	7,284.9	7,248.4	7,233.5	20.1	13.3	-74.01	83.2	-339.2	1,188.1	1,161.8	26.30	45.176	
7,659.3	7,285.0	7,248.5	7,233.6	20.2	13.3	-73.67	85.9	-339.0	1,190.3	1,164.0	26.31	45.236	
7,700.0	7,285.0	7,248.5	7,233.6	20.5	13.3	-73.20	95.3	-338.6	1,200.4	1,173.7	26.65	45.049	
7,800.0	7,285.0	6,950.0	6,911.1	21.3	13.3	-71.40	127.9	-336.9	1,229.1	1,201.6	27.48	44.733	
7,900.0	7,285.0	6,929.2	6,894.6	22.2	13.3	-70.62	140.4	-336.2	1,263.2	1,234.7	28.51	44.300	
8,000.0	7,285.0	6,900.0	6,870.5	23.2	13.3	-69.50	157.0	-335.1	1,302.9	1,273.3	29.58	44.053	
8,100.0	7,285.0	6,878.0	6,851.9	24.3	13.3	-68.65	168.7	-334.3	1,347.8	1,317.0	30.72	43.872	
8,200.0	7,285.0	6,850.0	6,827.6	25.5	13.3	-67.54	182.5	-333.2	1,397.6	1,365.7	31.86	43.869	
8,300.0	7,285.0	6,850.0	6,827.6	26.8	13.3	-67.54	182.5	-333.2	1,452.0	1,418.8	33.21	43.725	
8,400.0	7,285.0	6,822.0	6,802.6	28.0	13.3	-66.42	195.0	-332.1	1,510.3	1,475.9	34.38	43.929	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2B-5H-E267 - Hz - Plan #3													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	-27.9	28.0					
100.0	100.0	99.0	99.0	0.1	0.1	-89.95	0.0	-27.9	27.9	27.7	0.24	114.946		
200.0	200.0	199.0	199.0	0.3	0.3	-89.95	0.0	-27.9	27.9	27.4	0.59	47.233		
300.0	300.0	299.0	299.0	0.5	0.5	-89.95	0.0	-27.9	27.9	27.0	0.94	29.707 CC, ES		
400.0	400.0	399.0	399.0	0.6	0.6	164.20	0.0	-27.9	28.8	27.5	1.29	22.319		
500.0	500.0	499.0	499.0	0.8	0.8	165.50	0.0	-27.9	31.3	29.7	1.64	19.109		
600.0	599.9	598.9	598.9	1.0	1.0	167.25	0.0	-27.9	35.6	33.6	1.99	17.891		
700.0	699.7	698.7	698.7	1.2	1.2	169.10	0.0	-27.9	41.5	39.2	2.34	17.784 SF		
800.0	799.4	798.4	798.4	1.4	1.3	170.81	0.0	-27.9	49.3	46.6	2.68	18.364		
900.0	898.9	897.9	897.9	1.6	1.5	172.29	0.0	-27.9	58.7	55.7	3.03	19.398		
989.9	988.3	987.3	987.3	1.9	1.7	173.41	0.0	-27.9	68.8	65.4	3.34	20.601		
1,000.0	998.3	997.3	997.3	1.9	1.7	173.52	0.0	-27.9	70.0	66.6	3.37	20.744		
1,100.0	1,097.5	1,096.5	1,096.5	2.1	1.9	174.47	0.0	-27.9	81.9	78.2	3.72	22.017		
1,200.0	1,196.8	1,195.8	1,195.8	2.4	2.0	175.18	0.0	-27.9	93.9	89.8	4.07	23.078		
1,300.0	1,296.1	1,295.1	1,295.1	2.7	2.2	175.72	0.0	-27.9	105.9	101.4	4.42	23.975		
1,400.0	1,395.4	1,394.4	1,394.4	2.9	2.4	176.16	0.0	-27.9	117.8	113.1	4.76	24.742		
1,500.0	1,494.6	1,493.6	1,493.6	3.2	2.6	176.51	0.0	-27.9	129.8	124.7	5.11	25.407		
1,600.0	1,593.9	1,592.9	1,592.9	3.5	2.7	176.81	0.0	-27.9	141.8	136.4	5.46	25.988		
1,700.0	1,693.2	1,692.2	1,692.2	3.7	2.9	177.06	0.0	-27.9	153.8	148.0	5.80	26.499		
1,800.0	1,792.5	1,791.5	1,791.5	4.0	3.1	177.27	0.0	-27.9	165.8	159.7	6.15	26.954		
1,900.0	1,891.7	1,890.7	1,890.7	4.3	3.2	177.46	0.0	-27.9	177.8	171.3	6.50	27.360		
2,000.0	1,991.0	1,990.0	1,990.0	4.5	3.4	177.62	0.0	-27.9	189.8	183.0	6.85	27.726		
2,100.0	2,090.3	2,089.3	2,089.3	4.8	3.6	177.76	0.0	-27.9	201.8	194.6	7.19	28.056		
2,200.0	2,189.6	2,188.6	2,188.6	5.1	3.8	177.88	0.0	-27.9	213.8	206.3	7.54	28.356		
2,300.0	2,288.8	2,287.8	2,287.8	5.3	3.9	178.00	0.0	-27.9	225.8	217.9	7.89	28.629		
2,400.0	2,388.1	2,387.1	2,387.1	5.6	4.1	178.10	0.0	-27.9	237.8	229.6	8.24	28.880		
2,500.0	2,487.4	2,486.4	2,486.4	5.9	4.3	178.19	0.0	-27.9	249.8	241.3	8.58	29.110		
2,600.0	2,586.7	2,585.7	2,585.7	6.2	4.5	178.27	0.0	-27.9	261.8	252.9	8.93	29.323		
2,700.0	2,686.0	2,685.0	2,685.0	6.4	4.6	178.35	0.0	-27.9	273.9	264.6	9.28	29.520		
2,800.0	2,785.2	2,784.2	2,784.2	6.7	4.8	178.42	0.0	-27.9	285.9	276.2	9.62	29.702		
2,900.0	2,884.5	2,883.5	2,883.5	7.0	5.0	178.48	0.0	-27.9	297.9	287.9	9.97	29.872		
3,000.0	2,983.8	2,982.8	2,982.8	7.3	5.2	178.54	0.0	-27.9	309.9	299.6	10.32	30.031		
3,100.0	3,083.1	3,082.1	3,082.1	7.5	5.3	178.60	0.0	-27.9	321.9	311.2	10.67	30.179		
3,200.0	3,182.3	3,181.3	3,181.3	7.8	5.5	178.65	0.0	-27.9	333.9	322.9	11.01	30.318		
3,300.0	3,281.6	3,280.6	3,280.6	8.1	5.7	178.69	0.0	-27.9	345.9	334.5	11.36	30.448		
3,400.0	3,380.9	3,379.9	3,379.9	8.3	5.8	178.74	0.0	-27.9	357.9	346.2	11.71	30.571		
3,500.0	3,480.2	3,479.2	3,479.2	8.6	6.0	178.78	0.0	-27.9	369.9	357.9	12.06	30.687		
3,600.0	3,579.4	3,578.4	3,578.4	8.9	6.2	178.82	0.0	-27.9	381.9	369.5	12.40	30.796		
3,700.0	3,678.7	3,677.7	3,677.7	9.2	6.4	178.85	0.0	-27.9	393.9	381.2	12.75	30.899		
3,800.0	3,778.0	3,777.0	3,777.0	9.4	6.5	178.89	0.0	-27.9	406.0	392.9	13.10	30.997		
3,900.0	3,877.3	3,876.3	3,876.3	9.7	6.7	178.92	0.0	-27.9	418.0	404.5	13.44	31.089		
4,000.0	3,976.5	3,975.5	3,975.5	10.0	6.9	178.95	0.0	-27.9	430.0	416.2	13.79	31.178		
4,100.0	4,075.8	4,072.1	4,072.1	10.3	7.1	179.07	0.8	-28.0	442.2	428.1	14.13	31.288		
4,200.0	4,175.1	4,167.5	4,167.4	10.5	7.2	179.52	4.2	-28.0	455.3	440.8	14.47	31.453		
4,300.0	4,274.4	4,262.4	4,262.1	10.8	7.4	-179.75	10.4	-28.1	469.2	454.4	14.82	31.666		
4,400.0	4,373.6	4,358.3	4,357.6	11.1	7.6	-178.76	19.1	-28.3	484.0	468.9	15.17	31.915		
4,500.0	4,472.9	4,456.8	4,455.6	11.3	7.7	-177.74	28.6	-28.5	499.2	483.7	15.53	32.153		
4,600.0	4,572.2	4,555.2	4,553.6	11.6	7.9	-176.78	38.1	-28.7	514.5	498.6	15.89	32.380		
4,700.0	4,671.5	4,653.7	4,651.6	11.9	8.1	-175.88	47.6	-28.9	529.9	513.7	16.26	32.596		
4,800.0	4,770.7	4,752.2	4,749.6	12.2	8.3	-175.03	57.1	-29.0	545.5	528.9	16.63	32.801		
4,900.0	4,870.0	4,850.6	4,847.6	12.4	8.5	-174.23	66.6	-29.2	561.2	544.2	17.01	32.998		
5,000.0	4,969.3	4,949.1	4,945.7	12.7	8.7	-173.47	76.1	-29.4	576.9	559.5	17.39	33.186		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2B-5H-E267 - Hz - Plan #3												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		
5,100.0	5,068.6	5,047.6	5,043.7	13.0	8.9	-172.75	85.6	-29.6	592.8	575.0	17.77	33.365	
5,200.0	5,167.8	5,146.0	5,141.7	13.3	9.1	-172.07	95.1	-29.8	608.8	590.6	18.15	33.538	
5,300.0	5,267.1	5,244.5	5,239.7	13.5	9.3	-171.42	104.6	-29.9	624.8	606.3	18.54	33.703	
5,400.0	5,366.4	5,342.9	5,337.7	13.8	9.5	-170.80	114.2	-30.1	640.9	622.0	18.93	33.862	
5,500.0	5,465.7	5,441.4	5,435.7	14.1	9.7	-170.22	123.7	-30.3	657.1	637.8	19.32	34.014	
5,600.0	5,564.9	5,539.9	5,533.7	14.4	9.9	-169.66	133.2	-30.5	673.3	653.6	19.71	34.161	
5,700.0	5,664.2	5,638.3	5,631.7	14.6	10.1	-169.13	142.7	-30.7	689.6	669.5	20.10	34.303	
5,800.0	5,763.5	5,736.8	5,729.7	14.9	10.3	-168.63	152.2	-30.9	706.0	685.5	20.50	34.439	
5,900.0	5,862.8	5,835.3	5,827.7	15.2	10.5	-168.14	161.7	-31.0	722.4	701.5	20.90	34.571	
6,000.0	5,962.1	5,933.7	5,925.7	15.4	10.8	-167.68	171.2	-31.2	738.9	717.6	21.29	34.698	
6,100.0	6,061.3	6,032.2	6,023.7	15.7	11.0	-167.24	180.7	-31.4	755.4	733.7	21.69	34.822	
6,200.0	6,160.6	6,130.7	6,121.7	16.0	11.2	-166.81	190.2	-31.6	771.9	749.8	22.09	34.941	
6,300.0	6,259.9	6,229.1	6,219.7	16.3	11.4	-166.41	199.7	-31.8	788.5	766.0	22.49	35.056	
6,400.0	6,359.2	6,327.6	6,317.7	16.5	11.6	-166.02	209.2	-31.9	805.1	782.2	22.89	35.168	
6,500.0	6,458.4	6,426.1	6,415.7	16.8	11.8	-165.65	218.7	-32.1	821.8	798.5	23.29	35.277	
6,600.0	6,557.7	6,524.5	6,513.7	17.1	12.0	-165.29	228.2	-32.3	838.4	814.7	23.70	35.382	
6,700.0	6,657.0	6,623.0	6,611.7	17.4	12.3	-164.95	237.7	-32.5	855.2	831.1	24.10	35.484	
6,739.9	6,696.6	6,662.3	6,650.9	17.5	12.3	-164.81	241.5	-32.6	861.8	837.6	24.26	35.524	
6,750.0	6,706.6	6,672.2	6,660.7	17.5	12.4	-156.38	242.5	-32.6	863.5	839.2	24.32	35.506	
6,800.0	6,756.3	6,817.7	6,805.9	17.6	12.6	-117.42	243.3	-33.0	868.7	844.1	24.66	35.234	
6,850.0	6,805.6	7,008.2	6,987.8	17.7	12.6	-100.63	190.0	-33.9	863.9	839.3	24.61	35.097	
6,900.0	6,854.2	7,132.8	7,093.2	17.8	12.5	-96.61	123.9	-34.8	852.5	827.9	24.54	34.734	
6,950.0	6,901.8	7,205.4	7,147.2	17.9	12.6	-96.29	75.4	-35.4	838.9	814.3	24.63	34.056	
7,000.0	6,948.0	7,245.9	7,174.5	18.0	12.6	-96.65	45.6	-35.7	825.6	800.9	24.78	33.319	
7,050.0	6,992.4	7,266.8	7,187.8	18.0	12.6	-96.85	29.4	-35.9	814.0	789.1	24.91	32.677	
7,100.0	7,034.7	7,275.6	7,193.1	18.1	12.7	-96.69	22.5	-35.9	804.7	779.7	25.00	32.183	
7,150.0	7,074.6	7,276.3	7,193.6	18.2	12.7	-96.15	21.9	-36.0	798.0	772.9	25.08	31.822	
7,200.0	7,111.7	7,271.6	7,190.7	18.2	12.6	-95.24	25.6	-35.9	794.0	768.8	25.15	31.566	
7,247.2	7,144.0	7,263.5	7,185.7	18.3	12.6	-94.08	31.9	-35.8	792.8	767.5	25.25	31.398	
7,250.0	7,145.8	7,263.0	7,185.4	18.4	12.6	-94.01	32.4	-35.8	792.8	767.5	25.26	31.390	
7,300.0	7,176.7	7,251.5	7,178.1	18.5	12.6	-92.48	41.2	-35.7	794.2	768.8	25.40	31.274	
7,350.0	7,204.1	7,238.0	7,169.3	18.6	12.6	-90.69	51.5	-35.6	798.2	772.6	25.59	31.197	
7,400.0	7,227.7	7,222.8	7,159.2	18.8	12.6	-88.69	62.8	-35.5	804.5	778.7	25.81	31.169	
7,450.0	7,247.4	7,206.3	7,147.8	19.0	12.6	-86.50	74.8	-35.4	812.7	786.7	26.05	31.201	
7,500.0	7,263.1	7,188.8	7,135.4	19.2	12.6	-84.19	87.1	-35.2	822.8	796.5	26.29	31.301	
7,550.0	7,274.7	7,170.5	7,122.0	19.5	12.6	-81.78	99.6	-35.1	834.2	807.7	26.50	31.485	
7,600.0	7,282.0	7,150.0	7,106.5	19.8	12.5	-79.25	113.1	-34.9	846.9	820.2	26.65	31.775	
7,650.0	7,284.9	7,132.1	7,092.6	20.1	12.5	-76.89	124.4	-34.8	860.3	833.6	26.77	32.144	
7,659.3	7,285.0	7,128.4	7,089.7	20.2	12.5	-76.44	126.7	-34.8	862.9	836.1	26.78	32.224	
7,700.0	7,285.0	7,112.8	7,077.3	20.5	12.6	-75.61	136.1	-34.6	874.9	847.8	27.09	32.291	
7,800.0	7,285.0	7,078.9	7,049.4	21.3	12.6	-73.76	155.3	-34.4	909.8	881.8	27.96	32.543	
7,900.0	7,285.0	7,050.0	7,024.8	22.2	12.6	-72.15	170.4	-34.2	952.1	923.2	28.92	32.927	
8,000.0	7,285.0	7,025.7	7,003.5	23.2	12.6	-70.79	182.1	-34.0	1,001.4	971.4	29.96	33.424	
8,100.0	7,285.0	7,000.0	6,980.4	24.3	12.6	-69.34	193.5	-33.9	1,056.8	1,025.8	31.02	34.064	
8,200.0	7,285.0	7,000.0	6,980.4	25.5	12.6	-69.34	193.5	-33.9	1,117.9	1,085.5	32.35	34.561	
8,300.0	7,285.0	6,970.6	6,953.5	26.8	12.6	-67.67	205.2	-33.7	1,183.3	1,149.9	33.42	35.411	
8,400.0	7,285.0	6,950.0	6,934.3	28.0	12.6	-66.51	212.6	-33.6	1,253.1	1,218.5	34.57	36.246	
8,500.0	7,285.0	6,950.0	6,934.3	29.4	12.6	-66.51	212.6	-33.6	1,326.4	1,290.4	35.98	36.868	
8,600.0	7,285.0	6,933.2	6,918.4	30.8	12.6	-65.56	218.2	-33.5	1,402.6	1,365.4	37.19	37.720	
8,700.0	7,285.0	6,923.3	6,909.0	32.2	12.6	-65.00	221.2	-33.4	1,481.5	1,443.0	38.49	38.496	

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2C-5H-E267 - Hz - Plan #2														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	-89.94	0.0	-8.4	8.4						
100.0	100.0	100.0	100.0	0.1	0.1	-89.94	0.0	-8.4	8.4	8.1	0.24	34.312			
200.0	200.0	200.0	200.0	0.3	0.3	-89.94	0.0	-8.4	8.4	7.8	0.59	14.128			
300.0	300.0	300.0	300.0	0.5	0.5	-89.94	0.0	-8.4	8.4	7.4	0.94	8.896 CC, ES			
400.0	400.0	400.0	400.0	0.6	0.6	165.24	0.0	-8.4	9.2	7.9	1.29	7.143 SF			
500.0	500.0	500.0	500.0	0.8	0.8	168.48	0.0	-8.4	11.8	10.1	1.64	7.179			
600.0	599.9	600.1	600.1	1.0	1.0	173.15	0.3	-7.6	15.3	13.3	1.99	7.698			
700.0	699.7	700.3	700.2	1.2	1.2	179.24	1.2	-5.1	19.2	16.9	2.34	8.218			
800.0	799.4	800.4	800.3	1.4	1.4	-174.26	2.8	-1.0	23.7	21.0	2.69	8.801			
900.0	898.9	900.3	900.0	1.6	1.5	-168.79	4.7	4.2	29.3	26.2	3.05	9.598			
989.9	988.3	990.0	989.5	1.9	1.7	-165.96	6.4	8.9	35.9	32.5	3.38	10.623			
1,000.0	998.3	1,000.0	999.5	1.9	1.7	-165.74	6.6	9.4	36.7	33.3	3.41	10.748			
1,100.0	1,097.5	1,099.7	1,099.1	2.1	1.9	-163.99	8.6	14.6	44.9	41.1	3.79	11.852			
1,200.0	1,196.8	1,199.3	1,198.6	2.4	2.1	-162.78	10.5	19.8	53.1	48.9	4.16	12.758			
1,300.0	1,296.1	1,299.0	1,298.1	2.7	2.3	-161.89	12.5	25.0	61.3	56.8	4.54	13.512			
1,400.0	1,395.4	1,398.6	1,397.6	2.9	2.5	-161.21	14.4	30.2	69.5	64.6	4.91	14.147			
1,500.0	1,494.6	1,498.3	1,497.1	3.2	2.7	-160.68	16.3	35.4	77.8	72.5	5.29	14.689			
1,600.0	1,593.9	1,597.9	1,596.6	3.5	2.9	-160.25	18.3	40.6	86.0	80.3	5.67	15.157			
1,700.0	1,693.2	1,697.6	1,696.1	3.7	3.1	-159.89	20.2	45.8	94.3	88.2	6.06	15.564			
1,800.0	1,792.5	1,797.3	1,795.6	4.0	3.3	-159.59	22.2	51.0	102.5	96.1	6.44	15.922			
1,900.0	1,891.7	1,896.9	1,895.1	4.3	3.5	-159.34	24.1	56.2	110.8	103.9	6.82	16.239			
2,000.0	1,991.0	1,996.6	1,994.6	4.5	3.7	-159.12	26.1	61.4	119.0	111.8	7.20	16.521			
2,100.0	2,090.3	2,096.2	2,094.1	4.8	3.9	-158.93	28.0	66.6	127.3	119.7	7.59	16.774			
2,200.0	2,189.6	2,195.9	2,193.6	5.1	4.1	-158.76	29.9	71.9	135.5	127.6	7.97	17.002			
2,300.0	2,288.8	2,295.5	2,293.1	5.3	4.3	-158.61	31.9	77.1	143.8	135.4	8.36	17.208			
2,400.0	2,388.1	2,395.2	2,392.6	5.6	4.5	-158.48	33.8	82.3	152.0	143.3	8.74	17.396			
2,500.0	2,487.4	2,494.9	2,492.1	5.9	4.7	-158.36	35.8	87.5	160.3	151.2	9.12	17.568			
2,600.0	2,586.7	2,594.5	2,591.6	6.2	4.9	-158.25	37.7	92.7	168.6	159.1	9.51	17.725			
2,700.0	2,686.0	2,694.2	2,691.1	6.4	5.1	-158.16	39.6	97.9	176.8	166.9	9.89	17.870			
2,800.0	2,785.2	2,793.8	2,790.6	6.7	5.3	-158.07	41.6	103.1	185.1	174.8	10.28	18.004			
2,900.0	2,884.5	2,893.5	2,890.1	7.0	5.5	-157.99	43.5	108.3	193.3	182.7	10.67	18.128			
3,000.0	2,983.8	2,993.2	2,989.6	7.3	5.7	-157.91	45.5	113.5	201.6	190.6	11.05	18.243			
3,100.0	3,083.1	3,092.8	3,089.1	7.5	5.9	-157.85	47.4	118.7	209.9	198.4	11.44	18.350			
3,200.0	3,182.3	3,192.5	3,188.6	7.8	6.1	-157.78	49.3	123.9	218.1	206.3	11.82	18.450			
3,300.0	3,281.6	3,292.1	3,288.1	8.1	6.3	-157.72	51.3	129.1	226.4	214.2	12.21	18.544			
3,400.0	3,380.9	3,391.8	3,387.6	8.3	6.5	-157.67	53.2	134.3	234.7	222.1	12.59	18.631			
3,500.0	3,480.2	3,491.4	3,487.1	8.6	6.7	-157.62	55.2	139.5	242.9	229.9	12.98	18.714			
3,600.0	3,579.4	3,591.1	3,586.6	8.9	6.9	-157.57	57.1	144.7	251.2	237.8	13.37	18.791			
3,700.0	3,678.7	3,690.8	3,686.1	9.2	7.1	-157.53	59.1	149.9	259.4	245.7	13.75	18.865			
3,800.0	3,778.0	3,790.4	3,785.6	9.4	7.3	-157.49	61.0	155.1	267.7	253.6	14.14	18.934			
3,900.0	3,877.3	3,890.1	3,885.1	9.7	7.5	-157.45	62.9	160.3	276.0	261.5	14.53	18.999			
4,000.0	3,976.5	3,989.7	3,984.6	10.0	7.7	-157.41	64.9	165.5	284.2	269.3	14.91	19.061			
4,100.0	4,075.8	4,089.4	4,084.1	10.3	7.9	-157.38	66.8	170.7	292.5	277.2	15.30	19.119			
4,200.0	4,175.1	4,189.0	4,183.6	10.5	8.1	-157.34	68.8	176.0	300.8	285.1	15.69	19.175			
4,300.0	4,274.4	4,288.7	4,283.1	10.8	8.3	-157.31	70.7	181.2	309.0	293.0	16.07	19.228			
4,400.0	4,373.6	4,388.4	4,382.6	11.1	8.4	-157.28	72.6	186.4	317.3	300.8	16.46	19.279			
4,500.0	4,472.9	4,488.0	4,482.1	11.3	8.6	-157.25	74.6	191.6	325.6	308.7	16.85	19.327			
4,600.0	4,572.2	4,587.7	4,581.7	11.6	8.8	-157.23	76.5	196.8	333.8	316.6	17.23	19.373			
4,700.0	4,671.5	4,687.3	4,681.2	11.9	9.0	-157.20	78.5	202.0	342.1	324.5	17.62	19.417			
4,800.0	4,770.7	4,787.0	4,780.7	12.2	9.2	-157.18	80.4	207.2	350.4	332.4	18.01	19.459			
4,900.0	4,870.0	4,886.6	4,880.2	12.4	9.4	-157.16	82.4	212.4	358.6	340.2	18.39	19.499			
5,000.0	4,969.3	4,986.3	4,979.7	12.7	9.6	-157.13	84.3	217.6	366.9	348.1	18.78	19.537			

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2C-5H-E267 - Hz - Plan #2													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		
5,100.0	5,068.6	5,086.0	5,079.2	13.0	9.8	-157.11	86.2	222.8	375.2	356.0	19.17	19.574		
5,200.0	5,167.8	5,185.6	5,178.7	13.3	10.0	-157.09	88.2	228.0	383.4	363.9	19.55	19.610		
5,300.0	5,267.1	5,285.3	5,278.2	13.5	10.2	-157.07	90.1	233.2	391.7	371.7	19.94	19.644		
5,400.0	5,366.4	5,384.9	5,377.7	13.8	10.4	-157.05	92.1	238.4	399.9	379.6	20.33	19.677		
5,500.0	5,465.7	5,484.6	5,477.2	14.1	10.6	-157.04	94.0	243.6	408.2	387.5	20.71	19.708		
5,600.0	5,564.9	5,584.3	5,576.7	14.4	10.8	-157.02	95.9	248.8	416.5	395.4	21.10	19.738		
5,700.0	5,664.2	5,683.9	5,676.2	14.6	11.0	-157.00	97.9	254.0	424.7	403.3	21.49	19.768		
5,800.0	5,763.5	5,783.6	5,775.7	14.9	11.2	-156.99	99.8	259.2	433.0	411.1	21.87	19.796		
5,900.0	5,862.8	5,883.2	5,875.2	15.2	11.4	-156.97	101.8	264.4	441.3	419.0	22.26	19.823		
6,000.0	5,962.1	5,982.9	5,974.7	15.4	11.6	-156.96	103.7	269.6	449.5	426.9	22.65	19.849		
6,100.0	6,061.3	6,082.5	6,074.2	15.7	11.8	-156.94	105.6	274.9	457.8	434.8	23.03	19.875		
6,200.0	6,160.6	6,182.2	6,173.7	16.0	12.0	-156.93	107.6	280.1	466.1	442.6	23.42	19.899		
6,300.0	6,259.9	6,281.9	6,273.2	16.3	12.2	-156.92	109.5	285.3	474.3	450.5	23.81	19.923		
6,400.0	6,359.2	6,381.5	6,372.7	16.5	12.4	-156.90	111.5	290.5	482.6	458.4	24.20	19.946		
6,500.0	6,458.4	6,481.2	6,472.2	16.8	12.6	-156.89	113.4	295.7	490.9	466.3	24.58	19.968		
6,600.0	6,557.7	6,615.1	6,605.9	17.1	12.9	-157.11	113.2	302.9	498.4	473.4	24.99	19.946		
6,700.0	6,657.0	6,847.5	6,826.9	17.4	13.3	-163.12	49.1	319.8	486.1	461.4	24.68	19.691		
6,739.9	6,696.6	6,923.3	6,891.2	17.5	13.4	-167.14	9.5	326.4	475.2	450.8	24.43	19.453		
6,750.0	6,706.6	6,940.5	6,905.0	17.5	13.4	-160.27	-0.7	328.0	472.1	447.7	24.35	19.384		
6,800.0	6,756.3	7,012.6	6,959.3	17.6	13.7	-128.37	-47.5	334.6	454.6	430.5	24.11	18.857		
6,850.0	6,805.6	7,064.2	6,994.4	17.7	13.8	-113.57	-85.1	339.4	435.8	411.6	24.22	17.993		
6,900.0	6,854.2	7,099.5	7,016.3	17.8	14.0	-108.92	-112.5	342.8	418.6	394.0	24.58	17.030		
6,950.0	6,901.8	7,122.3	7,029.5	17.9	14.1	-107.47	-130.9	344.9	404.8	379.8	24.96	16.219		
7,000.0	6,948.0	7,135.7	7,037.0	18.0	14.2	-106.59	-142.0	346.2	396.1	370.9	25.20	15.715		
7,046.0	6,988.9	7,141.9	7,040.4	18.0	14.2	-105.46	-147.2	346.8	393.4	368.1	25.29	15.552		
7,050.0	6,992.4	7,142.2	7,040.5	18.0	14.2	-105.34	-147.4	346.8	393.4	368.1	25.30	15.551		
7,100.0	7,034.7	7,143.4	7,041.1	18.1	14.2	-103.41	-148.4	346.9	397.1	371.9	25.28	15.707		
7,150.0	7,074.6	7,140.4	7,039.6	18.2	14.2	-100.69	-146.0	346.6	407.1	381.9	25.23	16.134		
7,200.0	7,111.7	7,134.3	7,036.3	18.2	14.2	-97.20	-140.9	346.1	422.8	397.6	25.21	16.771		
7,250.0	7,145.8	7,125.7	7,031.5	18.4	14.1	-93.00	-133.7	345.2	443.3	418.0	25.24	17.560		
7,300.0	7,176.7	7,115.1	7,025.4	18.5	14.1	-88.22	-125.0	344.2	467.6	442.3	25.32	18.465		
7,350.0	7,204.1	7,100.0	7,016.6	18.6	14.0	-82.66	-112.9	342.8	494.8	469.4	25.37	19.501		
7,400.0	7,227.7	7,089.2	7,010.1	18.8	14.0	-77.59	-104.3	341.8	524.0	498.6	25.38	20.645		
7,450.0	7,247.4	7,074.4	7,000.9	19.0	13.9	-72.16	-92.9	340.4	554.5	529.3	25.22	21.988		
7,500.0	7,263.1	7,050.0	6,985.1	19.2	13.8	-66.12	-74.4	338.1	585.8	561.0	24.76	23.657		
7,550.0	7,274.7	7,050.0	6,985.1	19.5	13.8	-62.59	-74.4	338.1	617.1	592.7	24.44	25.250		
7,600.0	7,282.0	7,025.1	6,968.1	19.8	13.7	-57.50	-56.3	335.7	648.1	624.4	23.70	27.345		
7,650.0	7,284.9	7,000.0	6,950.3	20.1	13.6	-53.08	-38.8	333.4	678.6	655.7	22.91	29.626		
7,659.3	7,285.0	7,000.0	6,950.3	20.2	13.6	-52.59	-38.8	333.4	684.1	661.3	22.82	29.978		
7,700.0	7,285.0	7,000.0	6,950.3	20.5	13.6	-52.59	-38.8	333.4	709.0	685.9	23.15	30.627		
7,800.0	7,285.0	6,950.0	6,912.5	21.3	13.5	-49.89	-6.4	328.8	773.5	750.2	23.36	33.111		
7,900.0	7,285.0	6,929.6	6,896.3	22.2	13.4	-48.80	5.8	327.0	842.7	818.7	24.01	35.103		
8,000.0	7,285.0	6,900.0	6,872.0	23.2	13.4	-47.24	22.5	324.4	916.0	891.5	24.55	37.309		
8,100.0	7,285.0	6,882.9	6,857.6	24.3	13.3	-46.36	31.6	322.9	992.6	967.4	25.30	39.242		
8,200.0	7,285.0	6,850.0	6,829.1	25.5	13.3	-44.69	47.9	320.1	1,072.4	1,046.6	25.81	41.556		
8,300.0	7,285.0	6,850.0	6,829.1	26.8	13.3	-44.69	47.9	320.1	1,154.1	1,127.2	26.83	43.012		
8,400.0	7,285.0	6,830.4	6,811.8	28.0	13.2	-43.72	56.8	318.4	1,238.0	1,210.5	27.55	44.936		
8,500.0	7,285.0	6,800.0	6,784.2	29.4	13.2	-42.26	69.4	315.9	1,324.0	1,295.9	28.07	47.172		
8,600.0	7,285.0	6,800.0	6,784.2	30.8	13.2	-42.26	69.4	315.9	1,410.9	1,381.8	29.11	48.463		
8,700.0	7,285.0	6,800.0	6,784.2	32.2	13.2	-42.26	69.4	315.9	1,499.4	1,469.2	30.17	49.694		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2D-5H-E267 - Hz - Plan #2													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	90.04	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	CC, ES			
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	299.8	299.8	0.5	0.5	88.39	0.3	12.0	12.0	11.0	0.94	12.706				
400.0	400.0	399.6	399.5	0.6	0.7	-23.13	1.4	14.4	13.6	12.3	1.29	10.559				
500.0	500.0	499.3	499.2	0.8	0.8	-31.48	3.1	18.4	15.6	13.9	1.64	9.486				
600.0	599.9	598.9	598.6	1.0	1.0	-41.42	5.5	23.9	18.2	16.2	1.99	9.099				
700.0	699.7	698.5	697.8	1.2	1.3	-51.43	8.6	31.1	21.7	19.4	2.36	9.196				
800.0	799.4	798.0	796.9	1.4	1.5	-60.45	12.3	39.8	26.5	23.7	2.76	9.602				
900.0	898.9	897.7	896.1	1.6	1.7	-69.06	16.3	49.0	31.6	28.4	3.20	9.875				
989.9	988.3	987.4	985.4	1.9	1.9	-76.92	19.9	57.3	36.2	32.6	3.63	9.976				
1,000.0	998.3	997.5	995.4	1.9	2.0	-77.79	20.3	58.2	36.8	33.1	3.68	9.987				
1,100.0	1,097.5	1,097.2	1,094.5	2.1	2.2	-85.24	24.3	67.5	42.5	38.3	4.18	10.162				
1,200.0	1,196.8	1,196.9	1,193.7	2.4	2.4	-90.84	28.3	76.7	48.8	44.1	4.69	10.406				
1,300.0	1,296.1	1,296.6	1,292.9	2.7	2.7	-95.13	32.3	85.9	55.5	50.3	5.20	10.672				
1,400.0	1,395.4	1,396.3	1,392.1	2.9	2.9	-98.49	36.3	95.1	62.4	56.7	5.71	10.936				
1,500.0	1,494.6	1,496.0	1,491.3	3.2	3.2	-101.17	40.3	104.4	69.5	63.3	6.21	11.188				
1,600.0	1,593.9	1,595.7	1,590.5	3.5	3.4	-103.36	44.2	113.6	76.7	70.0	6.71	11.423				
1,700.0	1,693.2	1,695.4	1,689.7	3.7	3.7	-105.16	48.2	122.8	84.0	76.8	7.21	11.640				
1,800.0	1,792.5	1,795.1	1,788.9	4.0	3.9	-106.68	52.2	132.1	91.3	83.6	7.71	11.840				
1,900.0	1,891.7	1,894.8	1,888.1	4.3	4.1	-107.97	56.2	141.3	98.8	90.5	8.21	12.023				
2,000.0	1,991.0	1,994.5	1,987.3	4.5	4.4	-109.08	60.2	150.5	106.2	97.5	8.71	12.192				
2,100.0	2,090.3	2,094.2	2,086.5	4.8	4.6	-110.04	64.2	159.7	113.7	104.5	9.21	12.346				
2,200.0	2,189.6	2,193.9	2,185.7	5.1	4.9	-110.89	68.2	169.0	121.2	111.5	9.71	12.488				
2,300.0	2,288.8	2,293.6	2,284.9	5.3	5.1	-111.63	72.2	178.2	128.8	118.6	10.20	12.619				
2,400.0	2,388.1	2,393.3	2,384.1	5.6	5.4	-112.29	76.2	187.4	136.3	125.6	10.70	12.740				
2,500.0	2,487.4	2,493.0	2,483.3	5.9	5.6	-112.89	80.1	196.6	143.9	132.7	11.20	12.852				
2,600.0	2,586.7	2,592.7	2,582.5	6.2	5.9	-113.42	84.1	205.9	151.5	139.8	11.69	12.956				
2,700.0	2,686.0	2,692.4	2,681.6	6.4	6.1	-113.90	88.1	215.1	159.1	146.9	12.19	13.053				
2,800.0	2,785.2	2,792.1	2,780.8	6.7	6.4	-114.34	92.1	224.3	166.7	154.0	12.69	13.143				
2,900.0	2,884.5	2,891.8	2,880.0	7.0	6.6	-114.74	96.1	233.6	174.4	161.2	13.18	13.228				
3,000.0	2,983.8	2,991.5	2,979.2	7.3	6.9	-115.11	100.1	242.8	182.0	168.3	13.68	13.306				
3,100.0	3,083.1	3,091.2	3,078.4	7.5	7.1	-115.45	104.1	252.0	189.6	175.5	14.17	13.380				
3,200.0	3,182.3	3,190.9	3,177.6	7.8	7.4	-115.76	108.1	261.2	197.3	182.6	14.67	13.450				
3,300.0	3,281.6	3,290.6	3,276.8	8.1	7.6	-116.04	112.0	270.5	204.9	189.8	15.16	13.515				
3,400.0	3,380.9	3,390.3	3,376.0	8.3	7.8	-116.31	116.0	279.7	212.6	196.9	15.66	13.576				
3,500.0	3,480.2	3,490.0	3,475.2	8.6	8.1	-116.56	120.0	288.9	220.2	204.1	16.15	13.634				
3,600.0	3,579.4	3,589.7	3,574.4	8.9	8.3	-116.79	124.0	298.2	227.9	211.3	16.65	13.689				
3,700.0	3,678.7	3,689.4	3,673.6	9.2	8.6	-117.01	128.0	307.4	235.6	218.4	17.14	13.741				
3,800.0	3,778.0	3,789.1	3,772.8	9.4	8.8	-117.21	132.0	316.6	243.2	225.6	17.64	13.790				
3,900.0	3,877.3	3,888.8	3,872.0	9.7	9.1	-117.40	136.0	325.8	250.9	232.8	18.13	13.837				
4,000.0	3,976.5	3,988.5	3,971.2	10.0	9.3	-117.58	140.0	335.1	258.6	240.0	18.63	13.882				
4,100.0	4,075.8	4,088.2	4,070.4	10.3	9.6	-117.75	143.9	344.3	266.3	247.1	19.12	13.924				
4,200.0	4,175.1	4,187.9	4,169.6	10.5	9.8	-117.91	147.9	353.5	274.0	254.3	19.62	13.964				
4,300.0	4,274.4	4,287.6	4,268.7	10.8	10.1	-118.06	151.9	362.7	281.6	261.5	20.11	14.003				
4,400.0	4,373.6	4,387.3	4,367.9	11.1	10.3	-118.20	155.9	372.0	289.3	268.7	20.61	14.039				
4,500.0	4,472.9	4,487.0	4,467.1	11.3	10.6	-118.34	159.9	381.2	297.0	275.9	21.10	14.074				
4,600.0	4,572.2	4,586.7	4,566.3	11.6	10.8	-118.47	163.9	390.4	304.7	283.1	21.60	14.108				
4,700.0	4,671.5	4,686.4	4,665.5	11.9	11.1	-118.59	167.9	399.7	312.4	290.3	22.09	14.140				
4,800.0	4,770.7	4,786.1	4,764.7	12.2	11.3	-118.71	171.9	408.9	320.1	297.5	22.59	14.171				
4,900.0	4,870.0	4,885.8	4,863.9	12.4	11.6	-118.82	175.8	418.1	327.8	304.7	23.08	14.200				
5,000.0	4,969.3	4,985.5	4,963.1	12.7	11.8	-118.92	179.8	427.3	335.5	311.9	23.58	14.229				

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2D-5H-E267 - Hz - Plan #2													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)				
5,100.0	5,068.6	5,085.2	5,062.3	13.0	12.0	-119.02	183.8	436.6	343.2	319.1	24.07	14.256		
5,200.0	5,167.8	5,184.9	5,161.5	13.3	12.3	-119.12	187.8	445.8	350.8	326.3	24.57	14.282		
5,300.0	5,267.1	5,284.6	5,260.7	13.5	12.5	-119.21	191.8	455.0	358.5	333.5	25.06	14.307		
5,400.0	5,366.4	5,384.3	5,359.9	13.8	12.8	-119.30	195.8	464.3	366.2	340.7	25.55	14.332		
5,500.0	5,465.7	5,484.0	5,459.1	14.1	13.0	-119.39	199.8	473.5	373.9	347.9	26.05	14.355		
5,600.0	5,564.9	5,583.7	5,558.3	14.4	13.3	-119.47	203.8	482.7	381.6	355.1	26.54	14.378		
5,700.0	5,664.2	5,683.4	5,657.5	14.6	13.5	-119.55	207.7	491.9	389.3	362.3	27.04	14.399		
5,800.0	5,763.5	5,783.1	5,756.7	14.9	13.8	-119.62	211.7	501.2	397.0	369.5	27.53	14.420		
5,900.0	5,862.8	5,882.8	5,855.8	15.2	14.0	-119.69	215.7	510.4	404.7	376.7	28.03	14.441		
6,000.0	5,962.1	5,982.5	5,955.0	15.4	14.3	-119.76	219.7	519.6	412.4	383.9	28.52	14.460		
6,100.0	6,061.3	6,082.2	6,054.2	15.7	14.5	-119.83	223.7	528.8	420.1	391.1	29.02	14.479		
6,200.0	6,160.6	6,181.9	6,153.4	16.0	14.8	-119.90	227.7	538.1	427.8	398.3	29.51	14.498		
6,300.0	6,259.9	6,281.6	6,252.6	16.3	15.0	-119.96	231.7	547.3	435.5	405.5	30.01	14.515		
6,400.0	6,359.2	6,381.4	6,351.8	16.5	15.3	-120.02	235.7	556.5	443.2	412.7	30.50	14.533		
6,500.0	6,458.4	6,481.1	6,451.0	16.8	15.5	-120.08	239.6	565.8	450.9	420.0	30.99	14.549		
6,600.0	6,557.7	6,580.8	6,550.2	17.1	15.8	-120.13	243.6	575.0	458.7	427.2	31.49	14.565		
6,700.0	6,657.0	6,680.5	6,649.4	17.4	16.0	-120.19	247.6	584.2	466.4	434.4	31.98	14.581		
6,739.9	6,696.6	6,720.3	6,689.0	17.5	16.1	-120.21	249.2	587.9	469.4	437.3	32.18	14.587		
6,750.0	6,706.6	6,730.3	6,699.0	17.5	16.1	-111.94	249.6	588.8	470.1	437.9	32.25	14.579		
6,800.0	6,756.3	6,899.3	6,866.2	17.6	16.4	-73.70	236.7	604.4	467.0	434.4	32.60	14.325		
6,850.0	6,805.6	7,089.5	7,040.7	17.7	16.6	-56.86	165.1	620.6	443.7	411.5	32.19	13.786		
6,900.0	6,854.2	7,204.3	7,131.3	17.8	16.7	-55.77	95.3	629.0	407.5	376.9	30.66	13.293		
6,950.0	6,901.8	7,267.8	7,174.8	17.9	16.7	-64.00	49.4	633.1	365.4	337.2	28.21	12.955		
7,000.0	6,948.0	7,301.5	7,195.8	18.0	16.8	-77.27	23.1	635.0	321.0	295.0	25.98	12.356		
7,050.0	6,992.4	7,317.5	7,205.3	18.0	16.8	-90.38	10.2	635.9	276.3	251.2	25.13	10.996		
7,100.0	7,034.7	7,322.7	7,208.2	18.1	16.8	-99.62	5.9	636.2	232.9	207.7	25.17	9.253		
7,150.0	7,074.6	7,320.8	7,207.1	18.2	16.8	-104.31	7.5	636.1	192.6	167.3	25.30	7.614		
7,200.0	7,111.7	7,314.0	7,203.2	18.2	16.8	-105.09	13.1	635.7	158.1	132.8	25.30	6.248		
7,250.0	7,145.8	7,303.7	7,197.2	18.4	16.8	-102.61	21.3	635.2	133.6	108.3	25.30	5.281		
7,299.7	7,176.6	7,291.1	7,189.5	18.5	16.8	-97.32	31.4	634.5	124.6	99.2	25.43	4.900		
7,300.0	7,176.7	7,291.0	7,189.4	18.5	16.8	-97.29	31.4	634.4	124.6	99.2	25.43	4.900 SF		
7,350.0	7,204.1	7,276.3	7,180.3	18.6	16.7	-89.55	42.8	633.6	133.5	107.8	25.68	5.197		
7,400.0	7,227.7	7,260.2	7,169.9	18.8	16.7	-80.08	55.1	632.6	156.3	130.5	25.81	6.055		
7,450.0	7,247.4	7,242.9	7,158.4	19.0	16.7	-69.92	68.0	631.6	187.2	161.7	25.49	7.345		
7,500.0	7,263.1	7,224.7	7,145.8	19.2	16.7	-60.19	81.1	630.4	222.1	197.5	24.56	9.043		
7,550.0	7,274.7	7,200.0	7,128.1	19.5	16.7	-50.51	98.3	628.7	258.7	235.7	22.99	11.252		
7,600.0	7,282.0	7,186.3	7,118.0	19.8	16.6	-44.60	107.5	627.8	295.5	273.9	21.62	13.666		
7,650.0	7,284.9	7,166.2	7,102.8	20.1	16.6	-38.96	120.5	626.4	332.0	311.8	20.19	16.445		
7,659.3	7,285.0	7,162.4	7,099.9	20.2	16.6	-38.05	122.9	626.1	338.7	318.8	19.95	16.976		
7,700.0	7,285.0	7,150.0	7,090.2	20.5	16.6	-36.80	130.6	625.2	368.6	348.6	19.94	18.481		
7,800.0	7,285.0	7,111.6	7,059.2	21.3	16.6	-33.36	153.1	622.3	445.7	425.9	19.82	22.482		
7,900.0	7,285.0	7,082.1	7,034.4	22.2	16.6	-31.07	169.0	620.0	527.1	507.2	19.94	26.432		
8,000.0	7,285.0	7,050.0	7,006.6	23.2	16.5	-28.88	184.7	617.4	611.8	591.8	20.05	30.510		
8,100.0	7,285.0	7,035.2	6,993.4	24.3	16.5	-27.96	191.4	616.2	698.9	678.4	20.47	34.147		
8,200.0	7,285.0	7,016.4	6,976.5	25.5	16.5	-26.88	199.5	614.6	787.9	767.1	20.82	37.847		
8,300.0	7,285.0	7,000.0	6,961.6	26.8	16.5	-26.00	206.1	613.3	878.4	857.2	21.21	41.419		
8,400.0	7,285.0	7,000.0	6,961.6	28.0	16.5	-26.00	206.1	613.3	970.5	948.7	21.87	44.383		
8,500.0	7,285.0	6,972.7	6,936.2	29.4	16.5	-24.66	216.0	610.9	1,063.1	1,041.0	22.07	48.173		
8,600.0	7,285.0	6,950.0	6,914.9	30.8	16.5	-23.65	223.4	608.9	1,156.9	1,134.5	22.35	51.771		
8,700.0	7,285.0	6,950.0	6,914.9	32.2	16.5	-23.65	223.4	608.9	1,251.1	1,228.1	22.98	54.435		
8,800.0	7,285.0	6,950.0	6,914.9	33.6	16.5	-23.65	223.4	608.9	1,346.1	1,322.5	23.63	56.973		
8,900.0	7,285.0	6,950.0	6,914.9	35.1	16.5	-23.65	223.4	608.9	1,441.8	1,417.5	24.28	59.387		

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 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design											S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2D-5H-E267 - Hz - Plan #2		Offset Site Error:		0.0 ft	
Survey Program:											0-MWD		Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)						
9,000.0	7,285.0	6,925.9	6,891.9	36.6	16.5	-22.67	230.3	606.8	1,537.3	1,512.9	24.48	62.796				



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2H-5H-F267 - Hz - Hz											Offset Site Error: 0.0 ft			
Survey Program: 143-Geolink MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
6,700.0	6,657.0	6,696.2	6,685.6	17.4	12.6	-32.72	224.9	2,177.9	1,540.9	1,515.1	25.74	59.862		
6,739.9	6,696.6	6,735.2	6,724.6	17.5	12.7	-32.83	225.2	2,177.7	1,536.7	1,510.8	25.90	59.334		
6,750.0	6,706.6	6,745.0	6,734.4	17.5	12.7	-24.49	225.3	2,177.6	1,535.6	1,509.7	25.92	59.234		
6,800.0	6,756.3	6,821.4	6,810.8	17.6	12.8	15.55	224.3	2,177.2	1,529.3	1,503.3	26.00	58.817		
6,850.0	6,805.6	6,942.4	6,930.2	17.7	12.9	39.67	206.3	2,176.8	1,520.0	1,494.1	25.92	58.639		
6,900.0	6,854.2	7,088.3	7,064.0	17.8	12.8	54.83	149.3	2,178.4	1,507.8	1,482.2	25.57	58.968		
6,950.0	6,901.8	7,269.4	7,205.6	17.9	12.8	68.20	37.6	2,176.5	1,492.2	1,467.0	25.17	59.285		
7,000.0	6,948.0	7,287.1	7,217.4	18.0	12.9	74.21	24.4	2,176.2	1,476.3	1,451.2	25.09	58.849		
7,050.0	6,992.4	7,296.9	7,223.8	18.0	12.9	78.56	17.0	2,176.0	1,461.8	1,436.8	25.06	58.329		
7,100.0	7,034.7	7,302.5	7,227.4	18.1	12.9	81.84	12.8	2,175.9	1,449.0	1,424.0	25.08	57.774		
7,150.0	7,074.6	7,304.5	7,228.7	18.2	12.9	84.31	11.2	2,175.9	1,438.1	1,413.0	25.14	57.210		
7,200.0	7,111.7	7,303.4	7,228.0	18.2	12.9	86.12	12.1	2,175.9	1,429.2	1,404.0	25.23	56.656		
7,250.0	7,145.8	7,299.4	7,225.4	18.4	12.9	87.39	15.1	2,176.0	1,422.5	1,397.1	25.34	56.126		
7,300.0	7,176.7	7,289.0	7,218.6	18.5	12.9	88.01	23.0	2,176.1	1,417.9	1,392.4	25.48	55.640		
7,350.0	7,204.1	7,289.0	7,218.6	18.6	12.9	88.70	23.0	2,176.1	1,415.4	1,389.7	25.67	55.139		
7,382.6	7,219.9	7,276.9	7,210.6	18.7	12.8	88.53	32.1	2,176.4	1,415.0	1,389.2	25.80	54.844 CC, ES		
7,400.0	7,227.7	7,272.9	7,207.9	18.8	12.8	88.47	35.1	2,176.4	1,415.1	1,389.2	25.87	54.699		
7,450.0	7,247.4	7,260.3	7,199.3	19.0	12.8	88.10	44.3	2,176.8	1,416.8	1,390.7	26.11	54.263		
7,500.0	7,263.1	7,241.0	7,185.9	19.2	12.8	87.25	58.1	2,177.3	1,420.5	1,394.1	26.38	53.852		
7,550.0	7,274.7	7,220.4	7,171.0	19.5	12.8	86.14	72.4	2,177.9	1,425.9	1,399.2	26.69	53.419		
7,600.0	7,282.0	7,190.6	7,148.5	19.8	12.8	84.52	91.8	2,178.4	1,432.7	1,405.7	27.04	52.985		
7,650.0	7,284.9	7,166.3	7,129.2	20.1	12.8	82.93	106.7	2,178.5	1,440.8	1,413.4	27.44	52.504		
7,659.3	7,285.0	7,161.7	7,125.6	20.2	12.8	82.62	109.4	2,178.5	1,442.5	1,414.9	27.52	52.411		
7,700.0	7,285.0	7,147.0	7,113.6	20.5	12.8	82.14	117.9	2,178.6	1,450.1	1,422.2	27.90	51.972		
7,800.0	7,285.0	7,100.0	7,074.1	21.3	12.8	80.56	143.4	2,178.4	1,472.5	1,443.5	28.91	50.937		
7,900.0	7,285.0	7,071.2	7,049.1	22.2	12.8	79.57	157.7	2,178.3	1,499.9	1,469.8	30.03	49.953		
8,000.0	7,285.0	7,052.0	7,032.2	23.2	12.8	78.91	166.7	2,178.1	1,532.4	1,501.2	31.23	49.064 SF		



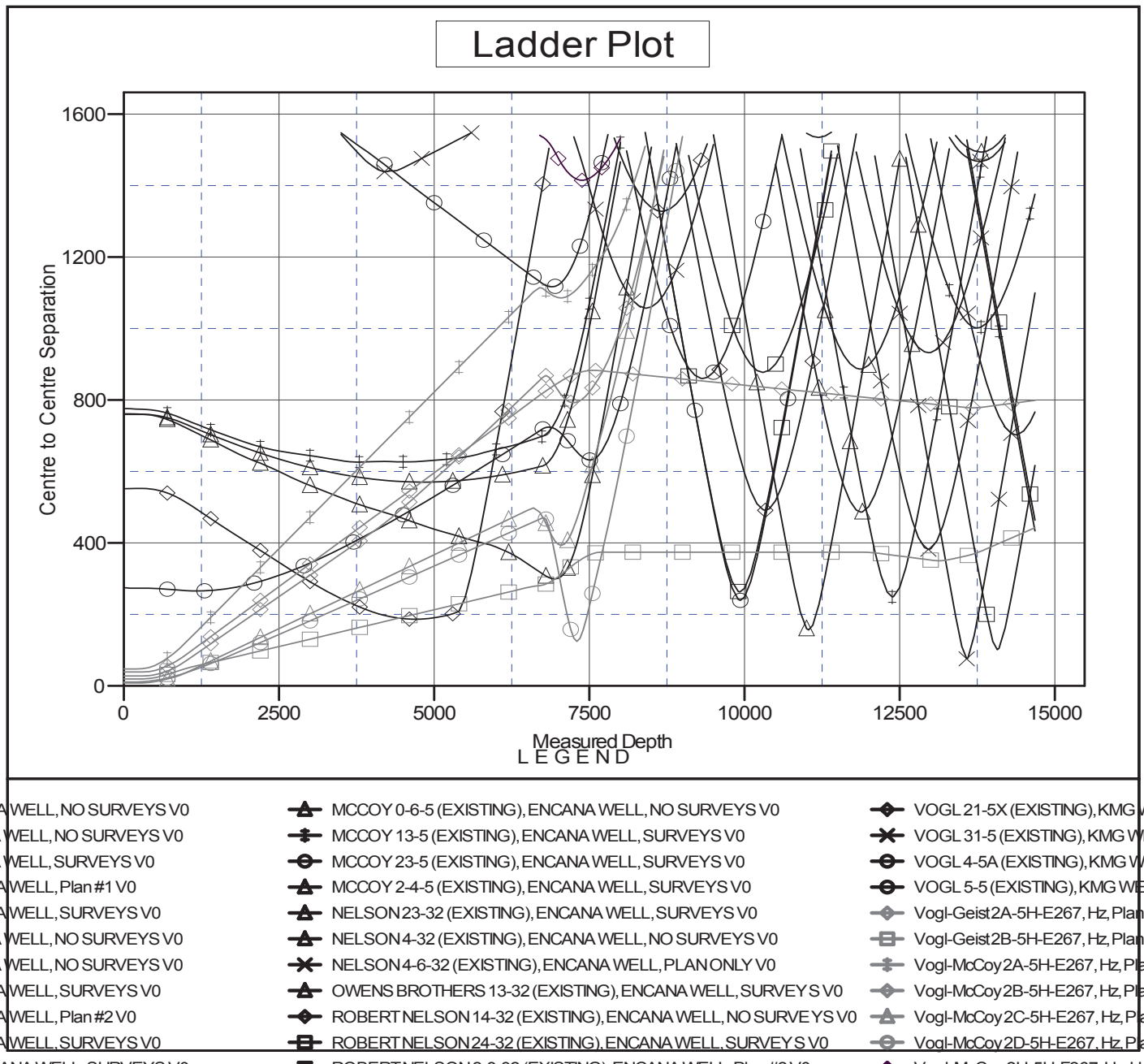
Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (Ensign)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Vogl-Geist 2C-5H-E267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4866.0ft (Ensign)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

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



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