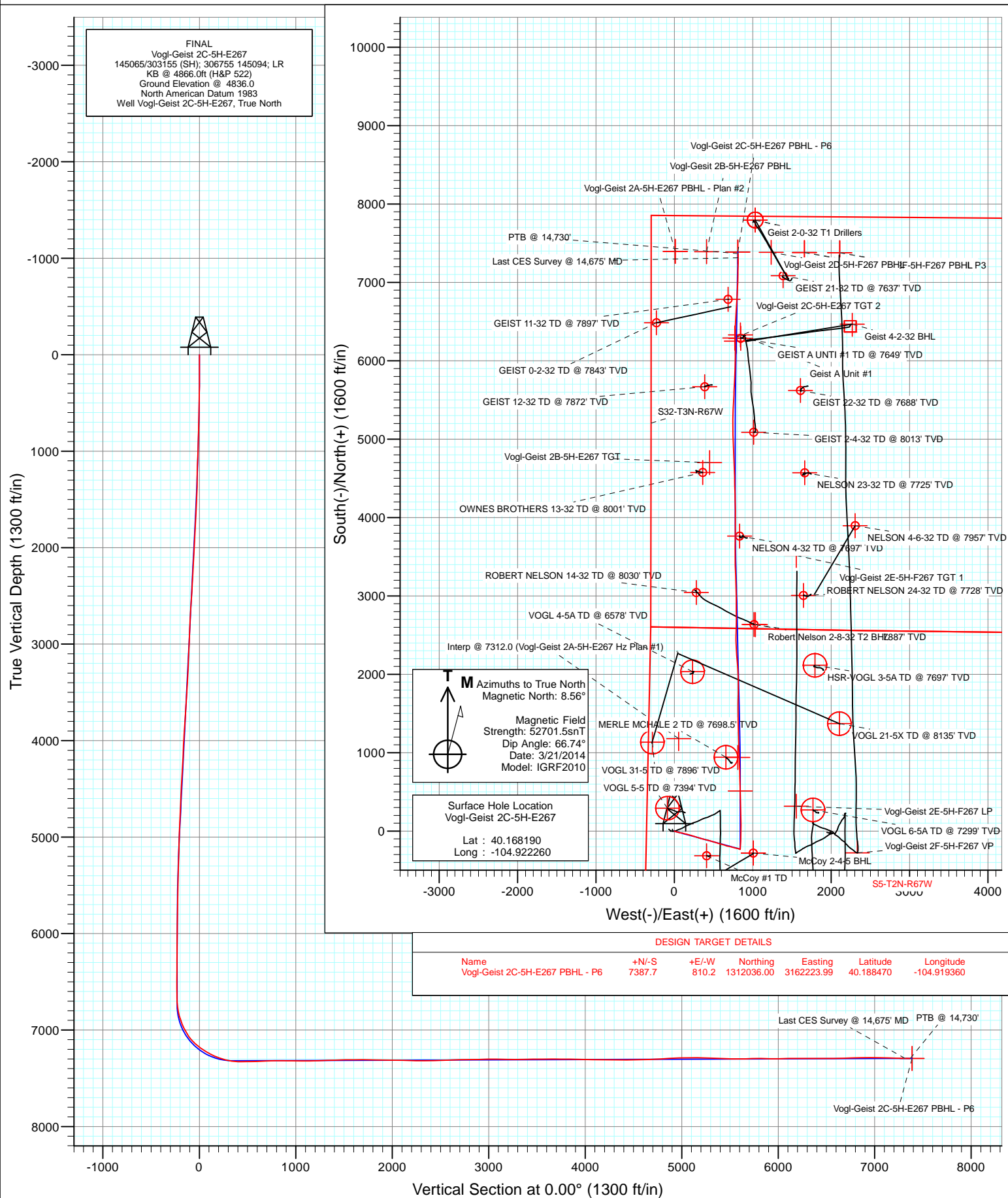


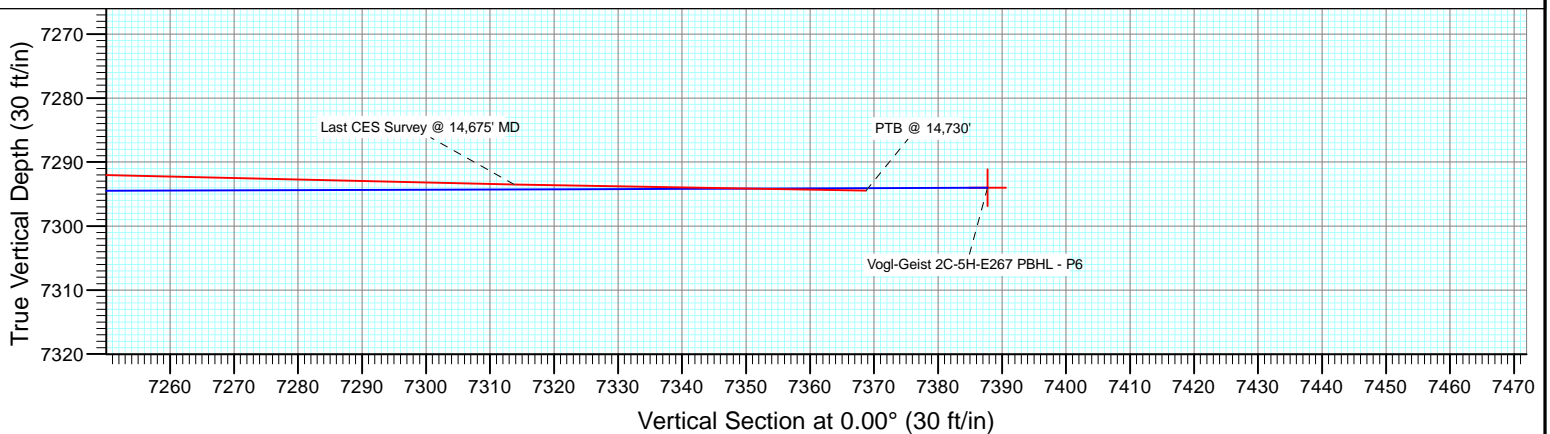
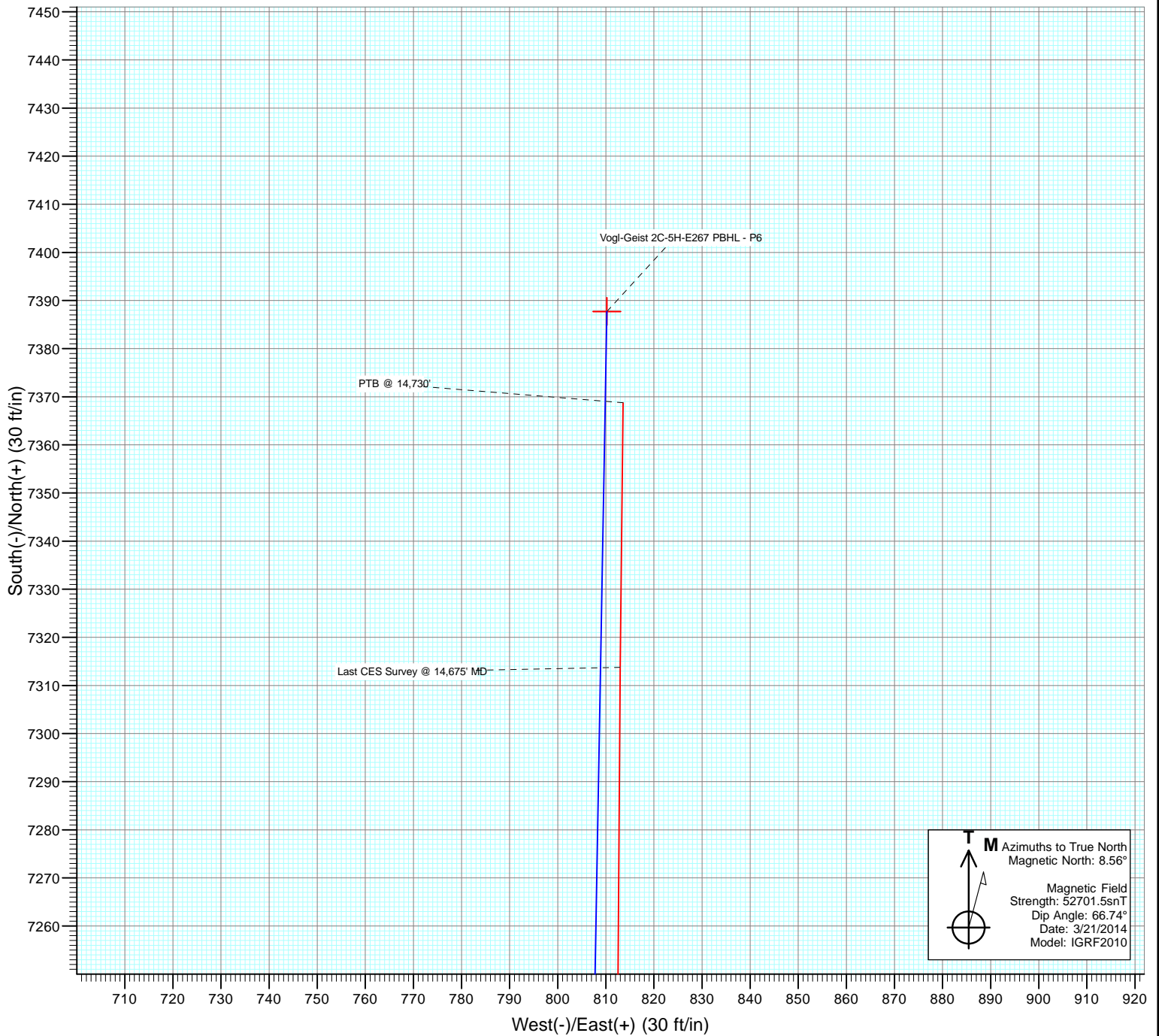


Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2C-5H-E267
Wellbore: HZ
Design: FINAL





Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2C-5H-E267
Wellbore: HZ
Design: FINAL



Cathedral Energy Services

Survey 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 (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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)
	IGRF2010	3/21/2014	8.56	66.74	52,701

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	0.00	

Survey Program	Date	4/7/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
143.0	14,730.0	Survey #1 (HZ)	Geolink MWD	Geolink MWD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
143.0	0.18	22.18	143.0	0.2	0.1	0.2	0.13	0.13		
235.0	0.09	313.36	235.0	0.4	0.1	0.4	0.18	-0.10		
327.0	0.57	134.16	327.0	0.1	0.4	0.1	0.72	0.52		
419.0	1.23	111.48	419.0	-0.6	1.6	-0.6	0.80	0.72		
511.0	2.29	120.97	510.9	-1.9	4.1	-1.9	1.19	1.15		
603.0	3.65	110.25	602.8	-3.8	8.4	-3.8	1.59	1.48		
695.0	4.39	107.17	694.6	-5.9	14.5	-5.9	0.84	0.80		
787.0	4.35	102.95	786.3	-7.7	21.3	-7.7	0.35	-0.04		
827.0	4.83	103.92	826.2	-8.4	24.4	-8.4	1.22	1.20		
915.0	6.50	106.30	913.8	-10.7	32.8	-10.7	1.92	1.90		
1,007.0	6.90	109.70	1,005.1	-14.1	43.0	-14.1	0.61	0.43		
1,099.0	7.20	110.60	1,096.4	-17.9	53.6	-17.9	0.35	0.33		

Cathedral Energy Services

Survey 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 (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,191.0	7.70	98.40	1,187.7	-20.9	65.1	-20.9	1.80	0.54	
1,283.0	7.20	94.00	1,278.9	-22.2	76.9	-22.2	0.82	-0.54	
1,375.0	7.80	96.10	1,370.1	-23.2	88.9	-23.2	0.72	0.65	
1,467.0	8.50	105.50	1,461.2	-25.7	101.7	-25.7	1.63	0.76	
1,559.0	10.20	108.50	1,552.0	-30.1	115.9	-30.1	1.92	1.85	
1,651.0	11.60	104.60	1,642.3	-35.0	132.6	-35.0	1.72	1.52	
1,742.0	10.90	102.00	1,731.5	-39.1	149.9	-39.1	0.95	-0.77	
1,834.0	11.30	102.80	1,821.8	-42.9	167.2	-42.9	0.47	0.43	
1,926.0	11.60	107.70	1,912.0	-47.8	184.8	-47.8	1.11	0.33	
2,018.0	11.10	106.90	2,002.2	-53.1	202.1	-53.1	0.57	-0.54	
2,110.0	10.50	106.40	2,092.6	-58.1	218.6	-58.1	0.66	-0.65	
2,202.0	11.00	105.80	2,182.9	-62.8	235.1	-62.8	0.56	0.54	
2,294.0	10.10	104.60	2,273.4	-67.3	251.3	-67.3	1.01	-0.98	
2,386.0	11.00	106.20	2,363.8	-71.7	267.6	-71.7	1.03	0.98	
2,481.0	11.70	108.30	2,457.0	-77.3	285.4	-77.3	0.86	0.74	
2,575.0	11.50	110.60	2,549.1	-83.6	303.2	-83.6	0.54	-0.21	
2,669.0	11.30	108.50	2,641.2	-89.8	320.7	-89.8	0.49	-0.21	
2,763.0	10.20	102.10	2,733.6	-94.5	337.6	-94.5	1.73	-1.17	
2,857.0	9.10	105.50	2,826.2	-98.2	352.9	-98.2	1.32	-1.17	
2,951.0	10.30	105.20	2,918.9	-102.4	368.2	-102.4	1.28	1.28	
3,046.0	10.50	103.60	3,012.3	-106.7	384.8	-106.7	0.37	0.21	
3,140.0	8.90	102.80	3,105.0	-110.3	400.2	-110.3	1.71	-1.70	
3,235.0	9.90	101.50	3,198.7	-113.5	415.4	-113.5	1.08	1.05	
3,329.0	12.00	106.60	3,291.0	-117.9	432.7	-117.9	2.46	2.23	
3,424.0	10.20	105.20	3,384.2	-123.0	450.2	-123.0	1.92	-1.89	
3,519.0	12.00	107.70	3,477.4	-128.2	467.8	-128.2	1.96	1.89	
3,613.0	13.00	105.60	3,569.2	-134.0	487.3	-134.0	1.17	1.06	
3,708.0	12.40	104.30	3,661.9	-139.4	507.4	-139.4	0.70	-0.63	
3,803.0	12.50	107.70	3,754.6	-145.0	527.1	-145.0	0.78	0.11	
3,897.0	12.10	109.10	3,846.5	-151.3	546.1	-151.3	0.53	-0.43	
3,992.0	11.50	111.00	3,939.5	-158.0	564.4	-158.0	0.75	-0.63	
4,086.0	10.10	104.30	4,031.8	-163.4	581.1	-163.4	2.00	-1.49	
4,181.0	9.40	102.30	4,125.4	-167.1	596.8	-167.1	0.82	-0.74	
4,276.0	10.70	106.30	4,219.0	-171.2	612.8	-171.2	1.55	1.37	
4,370.0	10.20	108.30	4,311.4	-176.3	629.1	-176.3	0.66	-0.53	
4,465.0	9.80	109.20	4,405.0	-181.6	644.7	-181.6	0.45	-0.42	
4,559.0	11.30	106.00	4,497.4	-186.8	661.1	-186.8	1.71	1.60	
4,654.0	10.40	103.80	4,590.7	-191.4	678.4	-191.4	1.04	-0.95	
4,749.0	10.40	102.60	4,684.1	-195.3	695.1	-195.3	0.23	0.00	
4,843.0	10.00	103.90	4,776.6	-199.1	711.3	-199.1	0.49	-0.43	
4,938.0	9.80	104.00	4,870.2	-203.0	727.1	-203.0	0.21	-0.21	
5,032.0	8.90	104.40	4,963.0	-206.8	741.9	-206.8	0.96	-0.96	
5,127.0	7.50	102.30	5,057.0	-209.9	755.1	-209.9	1.51	-1.47	
5,222.0	7.90	103.30	5,151.1	-212.8	767.5	-212.8	0.44	0.42	
5,316.0	7.00	105.20	5,244.3	-215.7	779.3	-215.7	0.99	-0.96	
5,411.0	5.70	102.30	5,338.8	-218.3	789.5	-218.3	1.41	-1.37	
5,506.0	4.60	102.30	5,433.4	-220.1	797.9	-220.1	1.16	-1.16	
5,600.0	3.80	99.10	5,527.1	-221.4	804.6	-221.4	0.89	-0.85	
5,695.0	4.30	109.10	5,621.9	-223.0	811.1	-223.0	0.91	0.53	
5,789.0	4.10	112.10	5,715.6	-225.5	817.5	-225.5	0.32	-0.21	
5,884.0	2.80	106.60	5,810.5	-227.4	822.9	-227.4	1.41	-1.37	
5,978.0	2.00	96.40	5,904.4	-228.2	826.7	-228.2	0.96	-0.85	
6,073.0	2.90	101.70	5,999.3	-228.9	830.7	-228.9	0.98	0.95	

Cathedral Energy Services

Survey 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 (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,168.0	2.20	100.10	6,094.2	-229.7	834.9	-229.7	0.74	-0.74	
6,262.0	0.90	156.70	6,188.2	-230.7	837.0	-230.7	1.98	-1.38	
6,357.0	0.50	147.40	6,283.2	-231.7	837.5	-231.7	0.44	-0.42	
6,452.0	0.50	161.60	6,378.2	-232.5	837.8	-232.5	0.13	0.00	
6,546.0	0.30	182.10	6,472.2	-233.1	838.0	-233.1	0.26	-0.21	
6,641.0	0.90	38.00	6,567.1	-232.8	838.4	-232.8	1.22	0.63	
6,704.0	0.60	43.20	6,630.1	-232.2	838.9	-232.2	0.49	-0.48	
6,735.0	0.60	32.10	6,661.1	-231.9	839.1	-231.9	0.37	0.00	
6,782.0	3.50	3.80	6,708.1	-230.3	839.4	-230.3	6.35	6.17	
6,830.0	7.20	3.00	6,755.9	-225.8	839.6	-225.8	7.71	7.71	
6,877.0	10.90	4.80	6,802.3	-218.4	840.1	-218.4	7.89	7.87	
6,924.0	14.30	4.70	6,848.2	-208.2	841.0	-208.2	7.23	7.23	
6,971.0	18.50	3.10	6,893.2	-195.0	841.9	-195.0	8.99	8.94	
7,019.0	22.50	4.50	6,938.2	-178.2	843.0	-178.2	8.40	8.33	
7,066.0	26.20	3.30	6,981.0	-158.9	844.3	-158.9	7.94	7.87	
7,114.0	30.00	1.70	7,023.3	-136.3	845.3	-136.3	8.07	7.92	
7,161.0	35.20	1.50	7,062.9	-111.0	846.0	-111.0	11.07	11.06	
7,208.0	39.70	2.10	7,100.2	-82.4	846.9	-82.4	9.61	9.57	
7,255.0	46.30	2.80	7,134.6	-50.4	848.3	-50.4	14.08	14.04	
7,303.0	52.10	2.60	7,165.9	-14.1	850.0	-14.1	12.09	12.08	
7,350.0	55.60	0.40	7,193.6	23.8	850.9	23.8	8.35	7.45	
7,397.0	58.10	359.20	7,219.3	63.1	850.8	63.1	5.73	5.32	
7,444.0	61.10	359.00	7,243.1	103.7	850.2	103.7	6.39	6.38	
7,492.0	64.90	358.70	7,264.9	146.4	849.3	146.4	7.94	7.92	
7,539.0	69.50	357.60	7,283.1	189.7	847.9	189.7	10.02	9.79	
7,586.0	73.10	358.60	7,298.2	234.2	846.4	234.2	7.92	7.66	
7,611.0	74.50	358.50	7,305.2	258.2	845.8	258.2	5.61	5.60	
7,666.0	78.40	359.10	7,318.1	311.6	844.7	311.6	7.17	7.09	
7,697.0	82.40	358.50	7,323.2	342.2	844.1	342.2	13.04	12.90	
7,729.0	86.90	358.50	7,326.2	374.0	843.2	374.0	14.06	14.06	
7,760.0	89.00	358.40	7,327.3	405.0	842.4	405.0	6.78	6.77	
7,792.0	89.40	358.10	7,327.8	437.0	841.4	437.0	1.56	1.25	
7,855.0	91.30	358.80	7,327.4	500.0	839.7	500.0	3.21	3.02	
7,885.0	89.50	357.70	7,327.2	529.9	838.8	529.9	7.03	-6.00	
7,947.0	92.10	358.70	7,326.3	591.9	836.8	591.9	4.49	4.19	
8,039.0	92.90	359.50	7,322.3	683.8	835.4	683.8	1.23	0.87	
8,131.0	92.20	357.80	7,318.2	775.7	833.2	775.7	2.00	-0.76	
8,223.0	88.30	357.40	7,317.8	867.6	829.4	867.6	4.26	-4.24	
8,315.0	89.60	357.10	7,319.5	959.5	825.0	959.5	1.45	1.41	
8,407.0	89.40	358.50	7,320.3	1,051.4	821.4	1,051.4	1.54	-0.22	
8,499.0	90.50	358.40	7,320.4	1,143.3	819.0	1,143.3	1.20	1.20	
8,591.0	92.20	359.20	7,318.2	1,235.3	817.0	1,235.3	2.04	1.85	
8,682.0	92.40	358.50	7,314.5	1,326.2	815.2	1,326.2	0.80	0.22	
8,774.0	91.90	359.30	7,311.1	1,418.1	813.4	1,418.1	1.02	-0.54	
8,866.0	90.20	358.80	7,309.4	1,510.1	811.9	1,510.1	1.93	-1.85	
8,958.0	90.50	0.40	7,308.8	1,602.1	811.3	1,602.1	1.77	0.33	
9,050.0	90.40	1.70	7,308.1	1,694.1	813.0	1,694.1	1.42	-0.11	
9,142.0	88.10	359.70	7,309.3	1,786.0	814.1	1,786.0	3.31	-2.50	
9,234.0	90.00	0.00	7,310.8	1,878.0	813.8	1,878.0	2.09	2.07	
9,326.0	89.50	358.90	7,311.2	1,970.0	813.0	1,970.0	1.31	-0.54	
9,418.0	88.50	357.20	7,312.9	2,061.9	809.8	2,061.9	2.14	-1.09	
9,510.0	87.90	354.90	7,315.7	2,153.7	803.5	2,153.7	2.58	-0.65	
9,602.0	89.30	355.40	7,318.0	2,245.3	795.7	2,245.3	1.62	1.52	

Cathedral Energy Services

Survey 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 (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
9,693.0	90.60	356.60	7,318.1	2,336.1	789.4	2,336.1	1.94	1.43	
9,785.0	91.30	359.60	7,316.5	2,428.0	786.3	2,428.0	3.35	0.76	
9,877.0	92.00	1.40	7,313.9	2,520.0	787.1	2,520.0	2.10	0.76	
9,969.0	92.70	1.40	7,310.1	2,611.9	789.4	2,611.9	0.76	0.76	
10,061.0	91.00	0.70	7,307.2	2,703.8	791.1	2,703.8	2.00	-1.85	
10,156.0	89.60	357.50	7,306.7	2,798.8	789.6	2,798.8	3.68	-1.47	
10,250.0	92.40	0.70	7,305.0	2,892.7	788.1	2,892.7	4.52	2.98	
10,345.0	91.40	0.10	7,301.9	2,987.7	788.7	2,987.7	1.23	-1.05	
10,439.0	88.40	358.60	7,302.0	3,081.6	787.7	3,081.6	3.57	-3.19	
10,534.0	89.30	357.90	7,303.9	3,176.6	784.8	3,176.6	1.20	0.95	
10,629.0	90.10	357.10	7,304.4	3,271.5	780.6	3,271.5	1.19	0.84	
10,723.0	90.90	358.30	7,303.6	3,365.4	776.9	3,365.4	1.53	0.85	
10,818.0	89.90	0.20	7,303.0	3,460.4	775.6	3,460.4	2.26	-1.05	
10,913.0	90.90	359.10	7,302.3	3,555.4	775.0	3,555.4	1.56	1.05	
11,007.0	90.30	0.10	7,301.3	3,649.4	774.4	3,649.4	1.24	-0.64	
11,102.0	89.00	1.60	7,301.9	3,744.3	775.8	3,744.3	2.09	-1.37	
11,197.0	90.20	0.80	7,302.5	3,839.3	777.8	3,839.3	1.52	1.26	
11,291.0	88.70	0.30	7,303.4	3,933.3	778.7	3,933.3	1.68	-1.60	
11,386.0	88.70	359.50	7,305.6	4,028.3	778.5	4,028.3	0.84	0.00	
11,480.0	89.50	358.70	7,307.1	4,122.3	777.0	4,122.3	1.20	0.85	
11,575.0	89.10	358.50	7,308.2	4,217.2	774.7	4,217.2	0.47	-0.42	
11,669.0	89.00	358.20	7,309.8	4,311.2	772.0	4,311.2	0.34	-0.11	
11,764.0	91.30	358.50	7,309.6	4,406.1	769.3	4,406.1	2.44	2.42	
11,859.0	90.40	358.50	7,308.1	4,501.1	766.8	4,501.1	0.95	-0.95	
11,953.0	90.50	358.30	7,307.4	4,595.0	764.2	4,595.0	0.24	0.11	
12,048.0	92.00	358.80	7,305.3	4,690.0	761.8	4,690.0	1.66	1.58	
12,142.0	94.80	358.90	7,299.8	4,783.8	759.9	4,783.8	2.98	2.98	
12,237.0	93.10	356.10	7,293.2	4,878.5	755.7	4,878.5	3.44	-1.79	
12,331.0	91.80	356.50	7,289.2	4,972.2	749.7	4,972.2	1.45	-1.38	
12,426.0	89.70	357.70	7,288.0	5,067.0	744.9	5,067.0	2.55	-2.21	
12,520.0	91.00	1.70	7,287.4	5,161.0	744.4	5,161.0	4.47	1.38	
12,615.0	87.20	1.70	7,288.9	5,256.0	747.2	5,256.0	4.00	-4.00	
12,709.0	87.40	1.90	7,293.3	5,349.8	750.2	5,349.8	0.30	0.21	
12,804.0	88.40	2.30	7,296.8	5,444.7	753.6	5,444.7	1.13	1.05	
12,899.0	89.60	2.90	7,298.4	5,539.6	757.9	5,539.6	1.41	1.26	
12,993.0	91.30	1.80	7,297.7	5,633.5	761.8	5,633.5	2.15	1.81	
13,088.0	91.40	4.10	7,295.5	5,728.3	766.7	5,728.3	2.42	0.11	
13,182.0	89.30	2.10	7,294.9	5,822.2	771.8	5,822.2	3.08	-2.23	
13,277.0	88.70	1.40	7,296.5	5,917.1	774.7	5,917.1	0.97	-0.63	
13,371.0	91.00	1.00	7,296.8	6,011.1	776.6	6,011.1	2.48	2.45	
13,466.0	91.60	0.20	7,294.6	6,106.0	777.6	6,106.0	1.05	0.63	
13,560.0	89.10	357.80	7,294.1	6,200.0	776.0	6,200.0	3.69	-2.66	
13,655.0	90.00	359.50	7,294.8	6,295.0	773.8	6,295.0	2.02	0.95	
13,749.0	89.90	1.60	7,294.9	6,389.0	774.7	6,389.0	2.24	-0.11	
13,844.0	89.80	3.80	7,295.1	6,483.9	779.1	6,483.9	2.32	-0.11	
13,938.0	91.20	3.70	7,294.3	6,577.7	785.3	6,577.7	1.49	1.49	
14,033.0	92.00	3.30	7,291.7	6,672.4	791.1	6,672.4	0.94	0.84	
14,128.0	91.50	2.90	7,288.8	6,767.3	796.2	6,767.3	0.67	-0.53	
14,222.0	91.00	3.40	7,286.7	6,861.1	801.4	6,861.1	0.75	-0.53	
14,317.0	90.00	2.70	7,285.9	6,955.9	806.4	6,955.9	1.28	-1.05	
14,412.0	89.10	1.60	7,286.6	7,050.9	810.0	7,050.9	1.50	-0.95	
14,506.0	88.10	0.60	7,288.9	7,144.8	811.8	7,144.8	1.50	-1.06	
14,601.0	88.40	0.20	7,291.8	7,239.8	812.5	7,239.8	0.53	0.32	

Cathedral Energy Services

Survey 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 (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
14,675.0	89.00	0.60	7,293.5	7,313.8	813.0	7,313.8	0.97	0.81	Last CES Survey @ 14,675' MD
14,730.0	89.00	0.60	7,294.5	7,368.7	813.6	7,368.7	0.00	0.00	PTB @ 14,730'

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
- actual wellpath misses target center by 21.5ft at 14730.0ft MD (7294.5 TVD, 7368.7 N, 813.6 E)									
- Point									
Vogl-Geist 2C-5H-E267	0.00	0.00	7,294.0	7,387.7	810.2	1,312,036.00	3,162,223.99	40.188470	-104.919360
- actual wellpath misses target center by 19.3ft at 14730.0ft MD (7294.5 TVD, 7368.7 N, 813.6 E)									
- Point									
Vogl-Geist 2C-5H-E267	0.00	0.00	7,318.0	512.7	840.0	1,305,161.28	3,162,298.58	40.169597	-104.919254
- actual wellpath misses target center by 9.2ft at 7867.8ft MD (7327.2 TVD, 512.7 N, 839.4 E)									
- 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
- actual wellpath misses target center by 18.3ft at 13609.6ft MD (7294.6 TVD, 6249.6 N, 774.5 E)									
- Point									
Vogl-Geist 2C-5H-E267	0.00	0.00	7,285.0	939.1	810.2	1,305,587.52	3,162,266.01	40.170768	-104.919361
- actual wellpath misses target center by 37.7ft at 8294.8ft MD (7319.3 TVD, 939.2 N, 826.0 E)									
- Point									
Vogl-Geist 2C-5H-E267	0.00	0.00	7,285.0	6,290.0	771.0	1,310,938.05	3,162,191.94	40.185457	-104.919500
- actual wellpath misses target center by 10.2ft at 13650.0ft MD (7294.8 TVD, 6290.0 N, 773.8 E)									
- Point									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
14,675.0	7,293.5	7,313.8	813.0	Last CES Survey @ 14,675' MD
14,730.0	7,294.5	7,368.7	813.6	PTB @ 14,730'

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S5-T2N-R67W (Vogl-McCoy)

Vogl-Geist 2C-5H-E267

HZ

Design: FINAL

Survey Report - Geographic

07 April, 2014

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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)
	IGRF2010	3/21/2014	8.56	66.74	52,701

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	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	

Survey Program	Date	4/7/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
143.0	14,730.0	Survey #1 (HZ)	Geolink MWD	Geolink MWD	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	1,304,643.16	3,161,461.94	40.168190	-104.922260
143.0	0.18	22.18	143.0	0.2	0.1	1,304,643.37	3,161,462.03	40.168191	-104.922260
235.0	0.09	313.36	235.0	0.4	0.1	1,304,643.55	3,161,462.03	40.168191	-104.922260
327.0	0.57	134.16	327.0	0.1	0.4	1,304,643.28	3,161,462.30	40.168190	-104.922259
419.0	1.23	111.48	419.0	-0.6	1.6	1,304,642.61	3,161,463.56	40.168188	-104.922255
511.0	2.29	120.97	510.9	-1.9	4.1	1,304,641.32	3,161,466.06	40.168185	-104.922246
603.0	3.65	110.25	602.8	-3.8	8.4	1,304,639.39	3,161,470.39	40.168179	-104.922230
695.0	4.39	107.17	694.6	-5.9	14.5	1,304,637.37	3,161,476.52	40.168174	-104.922208
787.0	4.35	102.95	786.3	-7.7	21.3	1,304,635.60	3,161,483.30	40.168169	-104.922184
827.0	4.83	103.92	826.2	-8.4	24.4	1,304,634.87	3,161,486.41	40.168167	-104.922173
915.0	6.50	106.30	913.8	-10.7	32.8	1,304,632.64	3,161,494.81	40.168160	-104.922143
1,007.0	6.90	109.70	1,005.1	-14.1	43.0	1,304,629.38	3,161,505.03	40.168151	-104.922106

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
1,099.0	7.20	110.60	1,096.4	-17.9	53.6	1,304,625.56	3,161,515.65	40.168141	-104.922068
1,191.0	7.70	98.40	1,187.7	-20.9	65.1	1,304,622.70	3,161,527.17	40.168133	-104.922027
1,283.0	7.20	94.00	1,278.9	-22.2	76.9	1,304,621.48	3,161,539.02	40.168129	-104.921985
1,375.0	7.80	96.10	1,370.1	-23.2	88.9	1,304,620.49	3,161,550.99	40.168126	-104.921942
1,467.0	8.50	105.50	1,461.2	-25.7	101.7	1,304,618.09	3,161,563.77	40.168119	-104.921897
1,559.0	10.20	108.50	1,552.0	-30.1	115.9	1,304,613.78	3,161,578.07	40.168107	-104.921845
1,651.0	11.60	104.60	1,642.3	-35.0	132.6	1,304,608.98	3,161,594.78	40.168094	-104.921786
1,742.0	10.90	102.00	1,731.5	-39.1	149.9	1,304,604.99	3,161,612.08	40.168082	-104.921724
1,834.0	11.30	102.80	1,821.8	-42.9	167.2	1,304,601.30	3,161,629.40	40.168072	-104.921662
1,926.0	11.60	107.70	1,912.0	-47.8	184.8	1,304,596.61	3,161,647.03	40.168059	-104.921599
2,018.0	11.10	106.90	2,002.2	-53.1	202.1	1,304,591.33	3,161,664.35	40.168044	-104.921537
2,110.0	10.50	106.40	2,092.6	-58.1	218.6	1,304,586.50	3,161,680.90	40.168030	-104.921478
2,202.0	11.00	105.80	2,182.9	-62.8	235.1	1,304,581.85	3,161,697.42	40.168017	-104.921419
2,294.0	10.10	104.60	2,273.4	-67.3	251.3	1,304,577.53	3,161,713.70	40.168005	-104.921361
2,386.0	11.00	106.20	2,363.8	-71.7	267.6	1,304,573.16	3,161,729.96	40.167993	-104.921303
2,481.0	11.70	108.30	2,457.0	-77.3	285.4	1,304,567.72	3,161,747.85	40.167978	-104.921239
2,575.0	11.50	110.60	2,549.1	-83.6	303.2	1,304,561.54	3,161,765.71	40.167960	-104.921175
2,669.0	11.30	108.50	2,641.2	-89.8	320.7	1,304,555.44	3,161,783.25	40.167943	-104.921113
2,763.0	10.20	102.10	2,733.6	-94.5	337.6	1,304,550.88	3,161,800.16	40.167931	-104.921052
2,857.0	9.10	105.50	2,826.2	-98.2	352.9	1,304,547.25	3,161,815.48	40.167920	-104.920997
2,951.0	10.30	105.20	2,918.9	-102.4	368.2	1,304,543.16	3,161,830.78	40.167909	-104.920943
3,046.0	10.50	103.60	3,012.3	-106.7	384.8	1,304,539.01	3,161,847.42	40.167897	-104.920883
3,140.0	8.90	102.80	3,105.0	-110.3	400.2	1,304,535.48	3,161,862.86	40.167887	-104.920828
3,235.0	9.90	101.50	3,198.7	-113.5	415.4	1,304,532.32	3,161,878.05	40.167878	-104.920774
3,329.0	12.00	106.60	3,291.0	-117.9	432.7	1,304,528.03	3,161,895.36	40.167866	-104.920712
3,424.0	10.20	105.20	3,384.2	-123.0	450.2	1,304,523.12	3,161,912.98	40.167852	-104.920649
3,519.0	12.00	107.70	3,477.4	-128.2	467.8	1,304,518.03	3,161,930.54	40.167838	-104.920586
3,613.0	13.00	105.60	3,569.2	-134.0	487.3	1,304,512.34	3,161,950.07	40.167822	-104.920517
3,708.0	12.40	104.30	3,661.9	-139.4	507.4	1,304,507.08	3,161,970.28	40.167807	-104.920445
3,803.0	12.50	107.70	3,754.6	-145.0	527.1	1,304,501.56	3,161,989.99	40.167792	-104.920374
3,897.0	12.10	109.10	3,846.5	-151.3	546.1	1,304,495.37	3,162,009.04	40.167774	-104.920306
3,992.0	11.50	111.00	3,939.5	-158.0	564.4	1,304,488.84	3,162,027.33	40.167756	-104.920241
4,086.0	10.10	104.30	4,031.8	-163.4	581.1	1,304,483.55	3,162,044.10	40.167741	-104.920181
4,181.0	9.40	102.30	4,125.4	-167.1	596.8	1,304,479.94	3,162,059.78	40.167731	-104.920125
4,276.0	10.70	106.30	4,219.0	-171.2	612.8	1,304,475.92	3,162,075.85	40.167720	-104.920067
4,370.0	10.20	108.30	4,311.4	-176.3	629.1	1,304,470.96	3,162,092.16	40.167706	-104.920009
4,465.0	9.80	109.20	4,405.0	-181.6	644.7	1,304,465.77	3,162,107.81	40.167691	-104.919953
4,559.0	11.30	106.00	4,497.4	-186.8	661.1	1,304,460.70	3,162,124.26	40.167677	-104.919895
4,654.0	10.40	103.80	4,590.7	-191.4	678.4	1,304,456.20	3,162,141.56	40.167665	-104.919833
4,749.0	10.40	102.60	4,684.1	-195.3	695.1	1,304,452.40	3,162,158.28	40.167654	-104.919773
4,843.0	10.00	103.90	4,776.6	-199.1	711.3	1,304,448.69	3,162,174.51	40.167643	-104.919715
4,938.0	9.80	104.00	4,870.2	-203.0	727.1	1,304,444.86	3,162,190.38	40.167633	-104.919658
5,032.0	8.90	104.40	4,963.0	-206.8	741.9	1,304,441.21	3,162,205.21	40.167622	-104.919605
5,127.0	7.50	102.30	5,057.0	-209.9	755.1	1,304,438.15	3,162,218.41	40.167614	-104.919558
5,222.0	7.90	103.30	5,151.1	-212.8	767.5	1,304,435.41	3,162,230.84	40.167606	-104.919514
5,316.0	7.00	105.20	5,244.3	-215.7	779.3	1,304,432.49	3,162,242.67	40.167598	-104.919472
5,411.0	5.70	102.30	5,338.8	-218.3	789.5	1,304,430.04	3,162,252.89	40.167591	-104.919435
5,506.0	4.60	102.30	5,433.4	-220.1	797.9	1,304,428.28	3,162,261.23	40.167586	-104.919405
5,600.0	3.80	99.10	5,527.1	-221.4	804.6	1,304,427.02	3,162,268.00	40.167582	-104.919381
5,695.0	4.30	109.10	5,621.9	-223.0	811.1	1,304,425.40	3,162,274.48	40.167578	-104.919358
5,789.0	4.10	112.10	5,715.6	-225.5	817.5	1,304,423.03	3,162,280.94	40.167571	-104.919335
5,884.0	2.80	106.60	5,810.5	-227.4	822.9	1,304,421.12	3,162,286.32	40.167566	-104.919316
5,978.0	2.00	96.40	5,904.4	-228.2	826.7	1,304,420.31	3,162,290.16	40.167563	-104.919302
6,073.0	2.90	101.70	5,999.3	-228.9	830.7	1,304,419.66	3,162,294.16	40.167562	-104.919288
6,168.0	2.20	100.10	6,094.2	-229.7	834.9	1,304,418.88	3,162,298.32	40.167559	-104.919273

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
6,262.0	0.90	156.70	6,188.2	-230.7	837.0	1,304,417.90	3,162,300.39	40.167557	-104.919265
6,357.0	0.50	147.40	6,283.2	-231.7	837.5	1,304,416.87	3,162,300.92	40.167554	-104.919264
6,452.0	0.50	161.60	6,378.2	-232.5	837.8	1,304,416.13	3,162,301.28	40.167552	-104.919262
6,546.0	0.30	182.10	6,472.2	-233.1	838.0	1,304,415.50	3,162,301.40	40.167550	-104.919262
6,641.0	0.90	38.00	6,567.1	-232.8	838.4	1,304,415.84	3,162,301.85	40.167551	-104.919260
6,704.0	0.60	43.20	6,630.1	-232.2	838.9	1,304,416.47	3,162,302.37	40.167553	-104.919258
6,735.0	0.60	32.10	6,661.1	-231.9	839.1	1,304,416.73	3,162,302.57	40.167553	-104.919258
6,782.0	3.50	3.80	6,708.1	-230.3	839.4	1,304,418.37	3,162,302.79	40.167558	-104.919257
6,830.0	7.20	3.00	6,755.9	-225.8	839.6	1,304,422.84	3,162,303.01	40.167570	-104.919256
6,877.0	10.90	4.80	6,802.3	-218.4	840.1	1,304,430.22	3,162,303.49	40.167590	-104.919254
6,924.0	14.30	4.70	6,848.2	-208.2	841.0	1,304,440.44	3,162,304.27	40.167618	-104.919251
6,971.0	18.50	3.10	6,893.2	-195.0	841.9	1,304,453.68	3,162,305.06	40.167655	-104.919248
7,019.0	22.50	4.50	6,938.2	-178.2	843.0	1,304,470.45	3,162,306.09	40.167701	-104.919244
7,066.0	26.20	3.30	6,981.0	-158.9	844.3	1,304,489.79	3,162,307.26	40.167754	-104.919239
7,114.0	30.00	1.70	7,023.3	-136.3	845.3	1,304,512.38	3,162,308.08	40.167816	-104.919236
7,161.0	35.20	1.50	7,062.9	-111.0	846.0	1,304,537.69	3,162,308.62	40.167885	-104.919233
7,208.0	39.70	2.10	7,100.2	-82.4	846.9	1,304,566.25	3,162,309.34	40.167964	-104.919230
7,255.0	46.30	2.80	7,134.6	-50.4	848.3	1,304,598.26	3,162,310.51	40.168051	-104.919225
7,303.0	52.10	2.60	7,165.9	-14.1	850.0	1,304,634.55	3,162,311.99	40.168151	-104.919219
7,350.0	55.60	0.40	7,193.6	23.8	850.9	1,304,672.49	3,162,312.72	40.168255	-104.919215
7,397.0	58.10	359.20	7,219.3	63.1	850.8	1,304,711.83	3,162,312.32	40.168363	-104.919216
7,444.0	61.10	359.00	7,243.1	103.7	850.2	1,304,752.36	3,162,311.41	40.168474	-104.919218
7,492.0	64.90	358.70	7,264.9	146.4	849.3	1,304,795.10	3,162,310.28	40.168592	-104.919221
7,539.0	69.50	357.60	7,283.1	189.7	847.9	1,304,838.38	3,162,308.59	40.168711	-104.919226
7,586.0	73.10	358.60	7,298.2	234.2	846.4	1,304,882.86	3,162,306.83	40.168833	-104.919231
7,611.0	74.50	358.50	7,305.2	258.2	845.8	1,304,906.85	3,162,306.06	40.168899	-104.919234
7,666.0	78.40	359.10	7,318.0	311.6	844.7	1,304,960.29	3,162,304.60	40.169045	-104.919238
7,697.0	82.40	358.50	7,323.2	342.2	844.1	1,304,990.84	3,162,303.76	40.169129	-104.919240
7,729.0	86.90	358.50	7,326.2	374.0	843.2	1,305,022.68	3,162,302.72	40.169217	-104.919243
7,760.0	89.00	358.40	7,327.3	405.0	842.4	1,305,053.64	3,162,301.68	40.169302	-104.919246
7,792.0	89.40	358.10	7,327.8	437.0	841.4	1,305,085.61	3,162,300.49	40.169389	-104.919249
7,855.0	91.30	358.80	7,327.4	500.0	839.7	1,305,148.57	3,162,298.38	40.169562	-104.919255
7,867.8	90.53	358.33	7,327.2	512.7	839.4	1,305,161.32	3,162,297.97	40.169597	-104.919257
Vogl-Geist 2C-5H-E267 LP									
7,885.0	89.50	357.70	7,327.2	529.9	838.8	1,305,178.55	3,162,297.27	40.169645	-104.919259
7,947.0	92.10	358.70	7,326.3	591.9	836.8	1,305,240.49	3,162,294.91	40.169815	-104.919266
8,039.0	92.90	359.50	7,322.3	683.8	835.4	1,305,332.38	3,162,292.87	40.170067	-104.919271
8,131.0	92.20	357.80	7,318.2	775.7	833.2	1,305,424.24	3,162,290.11	40.170319	-104.919279
8,223.0	88.30	357.40	7,317.8	867.6	829.4	1,305,516.12	3,162,285.66	40.170571	-104.919292
8,294.8	89.31	357.17	7,319.3	939.2	826.0	1,305,587.75	3,162,281.79	40.170768	-104.919305
Vogl-Geist 2C-5H-E267 TGT									
8,315.0	89.60	357.10	7,319.5	959.5	825.0	1,305,607.96	3,162,280.65	40.170824	-104.919308
8,407.0	89.40	358.50	7,320.3	1,051.4	821.4	1,305,699.86	3,162,276.52	40.171076	-104.919321
8,499.0	90.50	358.40	7,320.4	1,143.3	819.0	1,305,791.81	3,162,273.43	40.171329	-104.919330
8,591.0	92.20	359.20	7,318.2	1,235.3	817.0	1,305,883.75	3,162,270.90	40.171581	-104.919337
8,682.0	92.40	358.50	7,314.5	1,326.2	815.2	1,305,974.64	3,162,268.49	40.171830	-104.919343
8,774.0	91.90	359.30	7,311.1	1,418.1	813.4	1,306,066.54	3,162,266.12	40.172083	-104.919349
8,866.0	90.20	358.80	7,309.4	1,510.1	811.9	1,306,158.50	3,162,264.00	40.172335	-104.919355
8,958.0	90.50	0.40	7,308.8	1,602.1	811.3	1,306,250.49	3,162,262.76	40.172588	-104.919357
9,050.0	90.40	1.70	7,308.1	1,694.1	813.0	1,306,342.48	3,162,263.84	40.172840	-104.919351
9,142.0	88.10	359.70	7,309.3	1,786.0	814.1	1,306,434.46	3,162,264.37	40.173093	-104.919347
9,234.0	90.00	0.00	7,310.8	1,878.0	813.8	1,306,526.44	3,162,263.53	40.173345	-104.919348
9,326.0	89.50	358.90	7,311.2	1,970.0	813.0	1,306,618.42	3,162,262.04	40.173598	-104.919351
9,418.0	88.50	357.20	7,312.9	2,061.9	809.8	1,306,710.33	3,162,258.32	40.173850	-104.919362
9,510.0	87.90	354.90	7,315.7	2,153.7	803.5	1,306,802.01	3,162,251.39	40.174102	-104.919385

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
9,602.0	89.30	355.40	7,318.0	2,245.3	795.7	1,306,893.60	3,162,243.01	40.174354	-104.919413
9,693.0	90.60	356.60	7,318.1	2,336.1	789.4	1,306,984.33	3,162,236.07	40.174603	-104.919435
9,785.0	91.30	359.60	7,316.5	2,428.0	786.3	1,307,076.24	3,162,232.43	40.174855	-104.919446
9,877.0	92.00	1.40	7,313.9	2,520.0	787.1	1,307,168.19	3,162,232.63	40.175108	-104.919443
9,969.0	92.70	1.40	7,310.1	2,611.9	789.4	1,307,260.10	3,162,234.28	40.175360	-104.919435
10,061.0	91.00	0.70	7,307.2	2,703.8	791.1	1,307,352.04	3,162,235.36	40.175612	-104.919429
10,156.0	89.60	357.50	7,306.7	2,798.8	789.6	1,307,447.00	3,162,233.25	40.175873	-104.919435
10,250.0	92.40	0.70	7,305.0	2,892.7	788.1	1,307,540.94	3,162,231.16	40.176131	-104.919440
10,345.0	91.40	0.10	7,301.9	2,987.7	788.7	1,307,635.89	3,162,231.21	40.176391	-104.919438
10,439.0	88.40	358.60	7,302.0	3,081.6	787.7	1,307,729.86	3,162,229.53	40.176649	-104.919441
10,534.0	89.30	357.90	7,303.9	3,176.6	784.8	1,307,824.78	3,162,226.01	40.176910	-104.919452
10,629.0	90.10	357.10	7,304.4	3,271.5	780.6	1,307,919.65	3,162,221.25	40.177171	-104.919467
10,723.0	90.90	358.30	7,303.6	3,365.4	776.9	1,308,013.55	3,162,216.86	40.177428	-104.919480
10,818.0	89.90	0.20	7,303.0	3,460.4	775.6	1,308,108.52	3,162,215.00	40.177689	-104.919484
10,913.0	90.90	359.10	7,302.3	3,555.4	775.0	1,308,203.51	3,162,213.80	40.177950	-104.919487
11,007.0	90.30	0.10	7,301.3	3,649.4	774.4	1,308,297.49	3,162,212.53	40.178208	-104.919489
11,102.0	89.00	1.60	7,301.9	3,744.3	775.8	1,308,392.48	3,162,213.32	40.178469	-104.919484
11,197.0	90.20	0.80	7,302.5	3,839.3	777.8	1,308,487.47	3,162,214.69	40.178729	-104.919477
11,291.0	88.70	0.30	7,303.4	3,933.3	778.7	1,308,581.46	3,162,214.98	40.178987	-104.919473
11,386.0	88.70	359.50	7,305.6	4,028.3	778.5	1,308,676.43	3,162,214.20	40.179248	-104.919474
11,480.0	89.50	358.70	7,307.1	4,122.3	777.0	1,308,770.39	3,162,212.11	40.179506	-104.919479
11,575.0	89.10	358.50	7,308.2	4,217.2	774.7	1,308,865.34	3,162,209.17	40.179767	-104.919488
11,669.0	89.00	358.20	7,309.8	4,311.2	772.0	1,308,959.27	3,162,205.85	40.180025	-104.919497
11,764.0	91.30	358.50	7,309.6	4,406.1	769.3	1,309,054.20	3,162,202.50	40.180285	-104.919507
11,859.0	90.40	358.50	7,308.1	4,501.1	766.8	1,309,149.14	3,162,199.39	40.180546	-104.919516
11,953.0	90.50	358.30	7,307.4	4,595.0	764.2	1,309,243.08	3,162,196.16	40.180804	-104.919525
12,048.0	92.00	358.80	7,305.3	4,690.0	761.8	1,309,338.01	3,162,193.13	40.181064	-104.919534
12,142.0	94.80	358.90	7,299.8	4,783.8	759.9	1,309,431.80	3,162,190.64	40.181322	-104.919541
12,237.0	93.10	356.10	7,293.2	4,878.5	755.7	1,309,526.44	3,162,185.89	40.181582	-104.919555
12,331.0	91.80	356.50	7,289.2	4,972.2	749.7	1,309,620.12	3,162,179.22	40.181839	-104.919577
12,426.0	89.70	357.70	7,287.9	5,067.0	744.9	1,309,714.95	3,162,173.79	40.182100	-104.919594
12,520.0	91.00	1.70	7,287.4	5,161.0	744.4	1,309,808.92	3,162,172.69	40.182358	-104.919596
12,615.0	87.20	1.70	7,288.9	5,256.0	747.2	1,309,903.86	3,162,174.89	40.182618	-104.919586
12,709.0	87.40	1.90	7,293.3	5,349.8	750.2	1,309,997.73	3,162,177.23	40.182876	-104.919575
12,804.0	88.40	2.30	7,296.8	5,444.7	753.6	1,310,092.62	3,162,180.09	40.183136	-104.919563
12,899.0	89.60	2.90	7,298.4	5,539.6	757.9	1,310,187.53	3,162,183.78	40.183397	-104.919548
12,993.0	91.30	1.80	7,297.7	5,633.5	761.8	1,310,281.47	3,162,187.02	40.183654	-104.919534
13,088.0	91.40	4.10	7,295.5	5,728.3	766.7	1,310,376.34	3,162,191.29	40.183915	-104.919516
13,182.0	89.30	2.10	7,294.9	5,822.2	771.8	1,310,470.22	3,162,195.76	40.184172	-104.919498
13,277.0	88.70	1.40	7,296.5	5,917.1	774.7	1,310,565.18	3,162,198.04	40.184433	-104.919488
13,371.0	91.00	1.00	7,296.8	6,011.1	776.6	1,310,659.16	3,162,199.40	40.184691	-104.919481
13,466.0	91.60	0.20	7,294.6	6,106.0	777.6	1,310,754.14	3,162,199.77	40.184952	-104.919477
13,560.0	89.10	357.80	7,294.1	6,200.0	776.0	1,310,848.09	3,162,197.52	40.185210	-104.919483
13,609.6	89.57	358.69	7,294.6	6,249.6	774.5	1,310,897.63	3,162,195.68	40.185346	-104.919488
Vogl-Geist 2C Int. Tgt									
13,650.0	89.95	359.41	7,294.8	6,290.0	773.8	1,310,938.08	3,162,194.74	40.185457	-104.919491
Vogl-Geist 2C-5H-E267 TGT 2									
13,655.0	90.00	359.50	7,294.8	6,295.0	773.8	1,310,943.04	3,162,194.66	40.185470	-104.919491
13,749.0	89.90	1.60	7,294.9	6,389.0	774.7	1,311,037.04	3,162,194.95	40.185728	-104.919488
13,844.0	89.80	3.80	7,295.1	6,483.9	779.1	1,311,131.95	3,162,198.81	40.185989	-104.919472
13,938.0	91.20	3.70	7,294.3	6,577.7	785.3	1,311,225.78	3,162,204.35	40.186246	-104.919450
14,033.0	92.00	3.30	7,291.7	6,672.4	791.1	1,311,320.60	3,162,209.53	40.186507	-104.919429
14,128.0	91.50	2.90	7,288.8	6,767.3	796.2	1,311,415.45	3,162,214.04	40.186767	-104.919410
14,222.0	91.00	3.40	7,286.7	6,861.1	801.4	1,311,509.32	3,162,218.60	40.187024	-104.919392
14,317.0	90.00	2.70	7,285.9	6,955.9	806.4	1,311,604.21	3,162,223.03	40.187285	-104.919374

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2C-5H-E267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4866.0ft (H&P 522)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4866.0ft (H&P 522)
Well:	Vogl-Geist 2C-5H-E267	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
14,412.0	89.10	1.60	7,286.6	7,050.9	810.0	1,311,699.16	3,162,225.98	40.187545	-104.919361
14,506.0	88.10	0.60	7,288.9	7,144.8	811.8	1,311,793.12	3,162,227.17	40.187803	-104.919355
14,601.0	88.40	0.20	7,291.8	7,239.8	812.5	1,311,888.08	3,162,227.21	40.188064	-104.919352
14,675.0	89.00	0.60	7,293.5	7,313.8	813.0	1,311,962.06	3,162,227.25	40.188267	-104.919350
Last CES Survey @ 14,675' MD									
14,730.0	89.00	0.60	7,294.5	7,368.7	813.6	1,312,017.05	3,162,227.47	40.188418	-104.919348
PTB @ 14,730' - Vogl-Geist 2C-5H-E267 PBHL - P2 - Vogl-Geist 2C-5H-E267 PBHL - P6									

Design 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	7,294.0	7,387.7	810.2	1,312,036.00	3,162,223.99	40.188470	-104.919360
- actual wellpath misses target center by 19.3ft at 14730.0ft MD (7294.5 TVD, 7368.7 N, 813.6 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
14,675.0	7,293.5	7,313.8	813.0	Last CES Survey @ 14,675' MD	
14,730.0	7,294.5	7,368.7	813.6	PTB @ 14,730'	

Checked By: _____ Approved By: _____ Date: _____