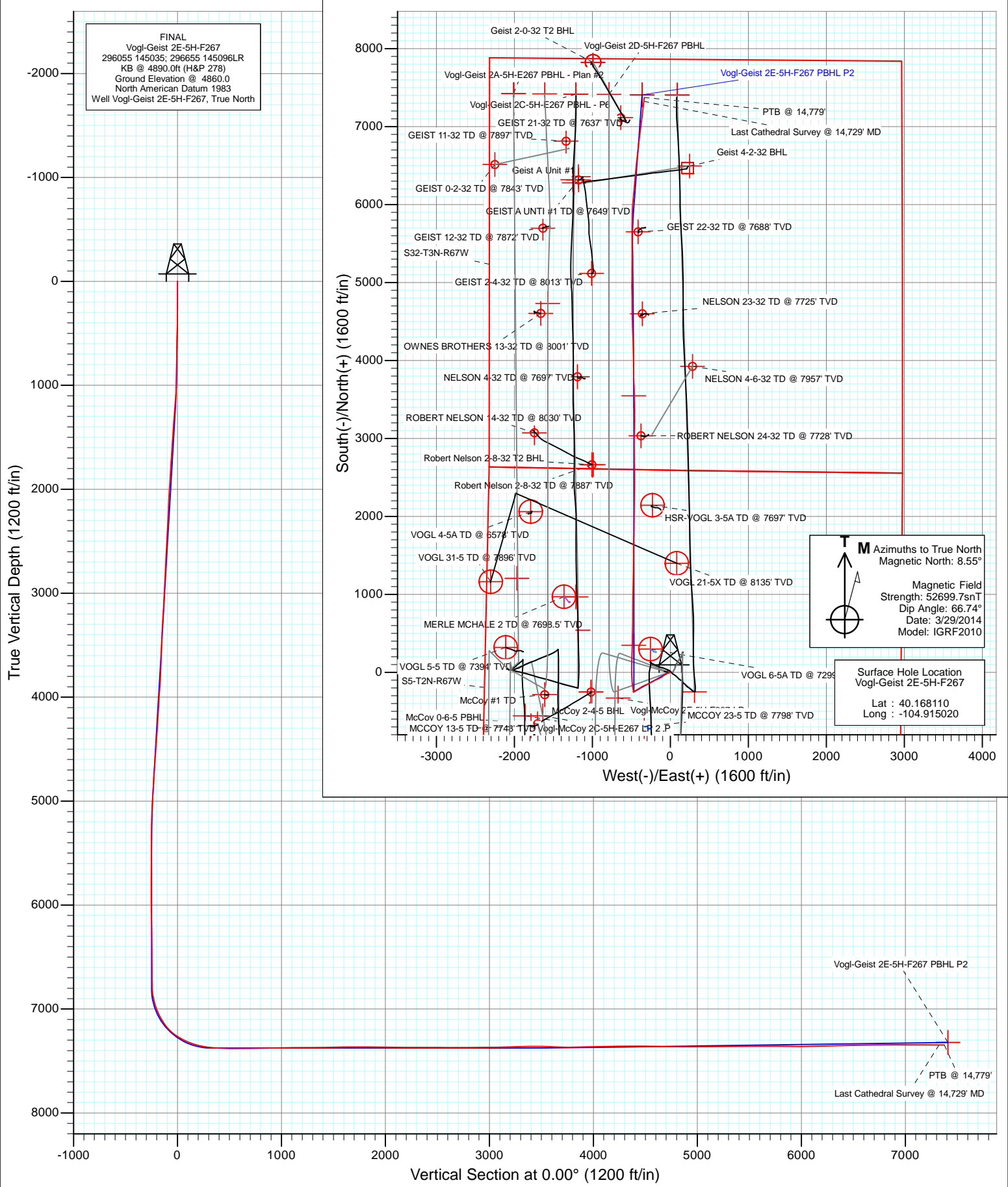


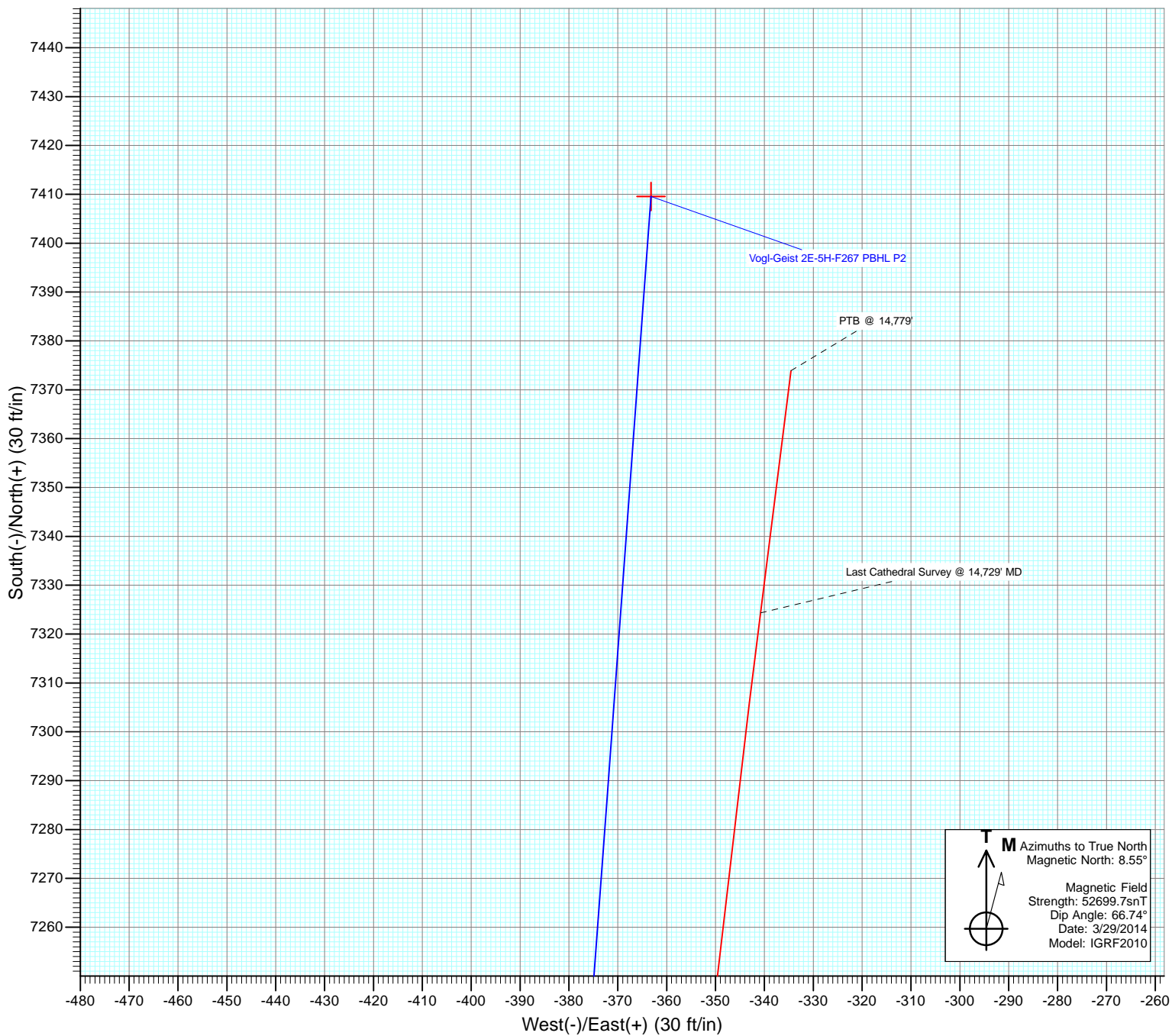


Project: DJ Wattenberg
 Site: S5-T2N-R67W (Vogl-McCoy)
 Well: Vogl-Geist 2E-5H-F267
 Wellbore: Hz
 Design: FINAL



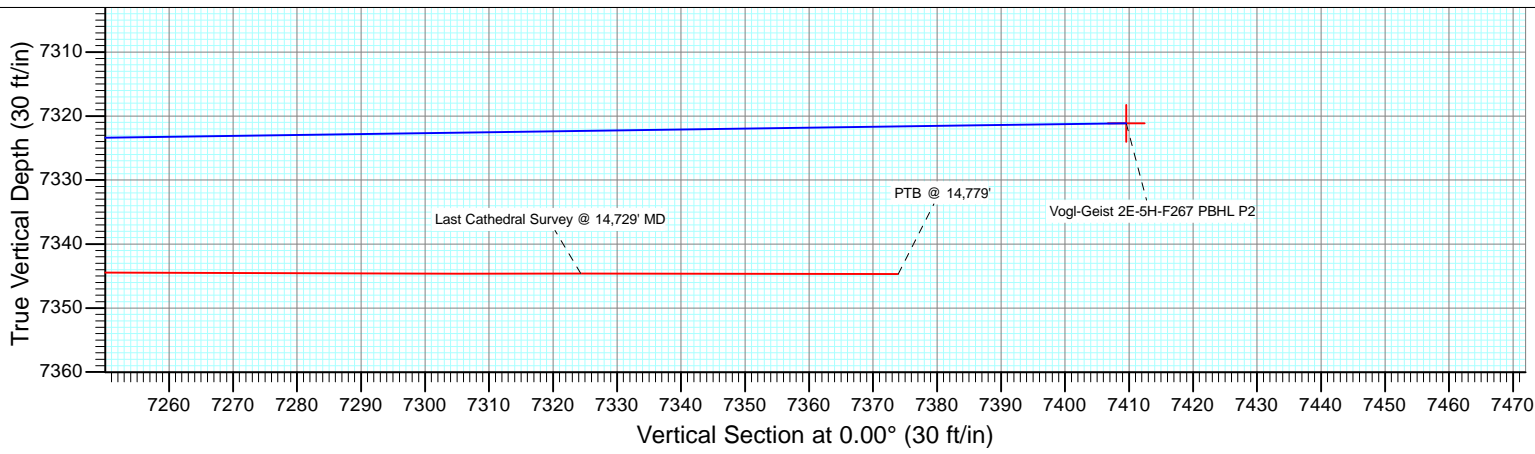


Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2E-5H-F267
Wellbore: Hz
Design: FINAL



T M Azimuths to True North
Magnetic North: 8.55°

Magnetic Field
Strength: 52699.7snT
Dip Angle: 66.74°
Date: 3/29/2014
Model: IGRF2010



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Vogl-Geist 2E-5H-F267
Project: DJ Wattenberg	TVD Reference: KB @ 4890.0ft (H&P 278)
Site: S5-T2N-R67W (Vogl-McCoy)	MD Reference: KB @ 4890.0ft (H&P 278)
Well: Vogl-Geist 2E-5H-F267	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 2E-5H-F267				
Well Position	+N/-S 0.0 ft	Northing: 1,304,627.30 ft	Latitude: 40.168110	
	+E/-W 0.0 ft	Easting: 3,163,485.40 ft	Longitude: -104.915020	
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 4,860.0 ft	

Wellbore Hz					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/29/2014	8.55	66.74	52,700

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 4/14/2014
From (ft)	To (ft)	Survey (Wellbore)
143.0	14,779.0	Survey #1 (Hz)
		Tool Name Geolink MWD
		Description Geolink MWD

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	0.40	304.80	143.0	0.3	-0.4	0.3	0.28	0.28	
266.0	1.80	247.20	266.0	-0.2	-2.5	-0.2	1.32	1.14	
327.0	1.90	262.70	326.9	-0.7	-4.4	-0.7	0.83	0.16	
419.0	2.80	256.30	418.9	-1.4	-8.1	-1.4	1.02	0.98	
511.0	3.00	244.80	510.7	-3.0	-12.5	-3.0	0.67	0.22	
603.0	3.30	246.30	602.6	-5.1	-17.1	-5.1	0.34	0.33	
695.0	3.30	256.50	694.5	-6.8	-22.1	-6.8	0.64	0.00	
815.0	2.90	254.80	814.3	-8.4	-28.4	-8.4	0.34	-0.33	
919.0	3.10	263.40	918.1	-9.4	-33.7	-9.4	0.47	0.19	
1,011.0	5.60	245.50	1,009.9	-11.5	-40.3	-11.5	3.06	2.72	
1,103.0	8.00	237.30	1,101.2	-16.9	-49.7	-16.9	2.81	2.61	
1,195.0	8.40	236.10	1,192.3	-24.1	-60.7	-24.1	0.47	0.43	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2E-5H-F267
Project:	DJ Wattenberg	TD Reference:	KB @ 4890.0ft (H&P 278)
Site:	S5-T2N-R67W (Vogl-McCoy)	MVD Reference:	KB @ 4890.0ft (H&P 278)
Well:	Vogl-Geist 2E-5H-F267	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
1,287.0	7.70	233.40	1,283.4	-31.5	-71.2	-31.5	0.86	-0.76	
1,379.0	7.10	241.00	1,374.6	-37.9	-81.2	-37.9	1.25	-0.65	
1,471.0	5.60	233.10	1,466.0	-43.4	-89.7	-43.4	1.88	-1.63	
1,563.0	6.50	230.90	1,557.5	-49.3	-97.3	-49.3	1.01	0.98	
1,654.0	7.00	228.60	1,647.9	-56.3	-105.5	-56.3	0.62	0.55	
1,746.0	7.00	239.40	1,739.2	-62.8	-114.5	-62.8	1.43	0.00	
1,838.0	6.40	249.00	1,830.6	-67.5	-124.1	-67.5	1.38	-0.65	
1,930.0	7.10	240.20	1,922.0	-72.2	-133.9	-72.2	1.36	0.76	
2,022.0	8.40	239.60	2,013.1	-78.4	-144.6	-78.4	1.42	1.41	
2,114.0	7.90	252.40	2,104.2	-83.7	-156.4	-83.7	2.04	-0.54	
2,206.0	6.50	244.50	2,195.5	-87.9	-167.1	-87.9	1.86	-1.52	
2,301.0	7.20	249.60	2,289.8	-92.3	-177.6	-92.3	0.98	0.74	
2,395.0	6.50	242.10	2,383.1	-96.8	-187.8	-96.8	1.21	-0.74	
2,490.0	6.90	248.60	2,477.5	-101.4	-197.9	-101.4	0.90	0.42	
2,584.0	6.40	244.10	2,570.8	-105.8	-207.8	-105.8	0.77	-0.53	
2,679.0	6.30	242.90	2,665.3	-110.4	-217.2	-110.4	0.17	-0.11	
2,774.0	6.00	236.60	2,759.7	-115.5	-226.0	-115.5	0.78	-0.32	
2,869.0	6.20	233.70	2,854.2	-121.3	-234.3	-121.3	0.39	0.21	
2,963.0	6.10	249.30	2,947.6	-126.1	-243.1	-126.1	1.78	-0.11	
3,058.0	5.20	246.80	3,042.2	-129.6	-251.8	-129.6	0.98	-0.95	
3,153.0	5.40	232.70	3,136.8	-134.0	-259.3	-134.0	1.38	0.21	
3,248.0	6.90	234.60	3,231.2	-140.0	-267.5	-140.0	1.59	1.58	
3,343.0	6.20	241.80	3,325.6	-145.7	-276.6	-145.7	1.13	-0.74	
3,437.0	6.50	252.90	3,419.0	-149.7	-286.2	-149.7	1.34	0.32	
3,532.0	6.80	248.10	3,513.4	-153.4	-296.6	-153.4	0.66	0.32	
3,627.0	7.10	255.30	3,607.7	-157.0	-307.5	-157.0	0.97	0.32	
3,721.0	5.40	250.50	3,701.1	-159.9	-317.2	-159.9	1.89	-1.81	
3,816.0	6.20	240.80	3,795.7	-163.9	-325.9	-163.9	1.33	0.84	
3,910.0	8.60	244.20	3,888.9	-169.4	-336.7	-169.4	2.59	2.55	
4,005.0	8.10	242.60	3,982.9	-175.6	-349.0	-175.6	0.58	-0.53	
4,099.0	6.50	240.40	4,076.1	-181.3	-359.5	-181.3	1.73	-1.70	
4,194.0	7.40	241.60	4,170.4	-186.8	-369.6	-186.8	0.96	0.95	
4,288.0	6.40	238.00	4,263.7	-192.5	-379.4	-192.5	1.16	-1.06	
4,382.0	7.90	238.30	4,357.0	-198.7	-389.3	-198.7	1.60	1.60	
4,477.0	7.20	236.80	4,451.2	-205.4	-399.8	-205.4	0.77	-0.74	
4,571.0	7.90	239.10	4,544.3	-211.9	-410.3	-211.9	0.81	0.74	
4,665.0	6.40	232.60	4,637.6	-218.4	-420.0	-218.4	1.81	-1.60	
4,760.0	7.50	241.60	4,731.9	-224.6	-429.7	-224.6	1.63	1.16	
4,855.0	7.30	242.30	4,826.1	-230.3	-440.5	-230.3	0.23	-0.21	
4,949.0	6.40	239.60	4,919.4	-235.8	-450.3	-235.8	1.02	-0.96	
5,044.0	5.10	234.70	5,014.0	-240.9	-458.3	-240.9	1.46	-1.37	
5,138.0	4.20	233.10	5,107.7	-245.4	-464.5	-245.4	0.97	-0.96	
5,233.0	2.50	222.80	5,202.5	-249.0	-468.7	-249.0	1.89	-1.79	
5,327.0	1.00	265.40	5,296.4	-250.5	-470.9	-250.5	2.01	-1.60	
5,422.0	1.00	265.90	5,391.4	-250.7	-472.5	-250.7	0.01	0.00	
5,516.0	0.90	246.90	5,485.4	-251.0	-474.0	-251.0	0.35	-0.11	
5,611.0	0.60	249.20	5,580.4	-251.5	-475.2	-251.5	0.32	-0.32	
5,706.0	0.70	166.80	5,675.4	-252.2	-475.5	-252.2	0.90	0.11	
5,800.0	0.40	156.70	5,769.4	-253.1	-475.2	-253.1	0.33	-0.32	
5,895.0	0.20	318.20	5,864.4	-253.3	-475.2	-253.3	0.62	-0.21	
5,989.0	0.60	330.00	5,958.4	-252.7	-475.6	-252.7	0.43	0.43	
6,084.0	1.50	56.30	6,053.4	-251.6	-474.8	-251.6	1.66	0.95	
6,230.0	1.30	47.40	6,199.3	-249.4	-472.0	-249.4	0.20	-0.14	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2E-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4890.0ft (H&P 278)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4890.0ft (H&P 278)
Well:	Vogl-Geist 2E-5H-F267	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
6,273.0	0.90	26.00	6,242.3	-248.8	-471.5	-248.8	1.32	-0.93	
6,368.0	0.70	4.00	6,337.3	-247.5	-471.1	-247.5	0.38	-0.21	
6,463.0	0.70	351.90	6,432.3	-246.4	-471.1	-246.4	0.16	0.00	
6,558.0	0.70	315.60	6,527.3	-245.4	-471.6	-245.4	0.46	0.00	
6,652.0	0.70	307.40	6,621.3	-244.6	-472.5	-244.6	0.11	0.00	
6,747.0	0.80	232.10	6,716.3	-244.7	-473.5	-244.7	0.97	0.11	
6,842.0	2.70	333.10	6,811.3	-243.1	-475.0	-243.1	3.11	2.00	
6,889.0	8.50	352.20	6,858.0	-238.7	-476.0	-238.7	12.79	12.34	
6,937.0	13.50	352.60	6,905.1	-229.6	-477.2	-229.6	10.42	10.42	
6,983.0	16.70	348.10	6,949.5	-217.8	-479.2	-217.8	7.40	6.96	
7,031.0	20.30	350.80	6,995.0	-202.8	-482.0	-202.8	7.71	7.50	
7,078.0	24.80	355.30	7,038.4	-184.9	-484.1	-184.9	10.25	9.57	
7,126.0	28.30	359.50	7,081.4	-163.5	-485.0	-163.5	8.27	7.29	
7,173.0	32.60	354.80	7,121.9	-139.7	-486.3	-139.7	10.45	9.15	
7,221.0	37.60	353.40	7,161.2	-112.3	-489.1	-112.3	10.55	10.42	
7,268.0	43.60	354.00	7,196.8	-81.9	-492.5	-81.9	12.79	12.77	
7,315.0	50.50	355.30	7,228.8	-47.7	-495.7	-47.7	14.82	14.68	
7,362.0	56.20	357.60	7,256.9	-10.1	-498.0	-10.1	12.75	12.13	
7,410.0	60.90	359.90	7,281.9	30.9	-498.8	30.9	10.61	9.79	
7,457.0	64.70	1.60	7,303.4	72.6	-498.3	72.6	8.70	8.09	
7,504.0	68.40	2.10	7,322.1	115.7	-496.9	115.7	7.93	7.87	
7,551.0	72.00	2.20	7,338.0	159.9	-495.2	159.9	7.66	7.66	
7,599.0	76.20	2.10	7,351.2	206.0	-493.5	206.0	8.75	8.75	
7,646.0	80.20	2.00	7,360.8	252.0	-491.9	252.0	8.51	8.51	
7,694.0	83.10	1.70	7,367.7	299.5	-490.3	299.5	6.07	6.04	
7,723.0	84.90	1.30	7,370.8	328.3	-489.6	328.3	6.36	6.21	
7,869.0	88.70	0.60	7,378.9	474.0	-487.2	474.0	2.65	2.60	
7,958.0	90.20	2.10	7,379.8	563.0	-485.1	563.0	2.38	1.69	
8,052.0	90.20	0.20	7,379.4	657.0	-483.2	657.0	2.02	0.00	
8,147.0	91.80	0.10	7,377.8	751.9	-482.9	751.9	1.69	1.68	
8,242.0	91.30	359.80	7,375.2	846.9	-483.0	846.9	0.61	-0.53	
8,336.0	91.10	0.80	7,373.2	940.9	-482.5	940.9	1.08	-0.21	
8,431.0	90.40	2.30	7,372.0	1,035.8	-479.9	1,035.8	1.74	-0.74	
8,525.0	90.50	2.40	7,371.3	1,129.8	-476.1	1,129.8	0.15	0.11	
8,620.0	90.20	0.30	7,370.7	1,224.7	-473.9	1,224.7	2.23	-0.32	
8,714.0	90.50	359.70	7,370.1	1,318.7	-473.9	1,318.7	0.71	0.32	
8,809.0	91.30	359.10	7,368.6	1,413.7	-474.8	1,413.7	1.05	0.84	
8,892.0	91.70	0.80	7,366.4	1,496.7	-474.9	1,496.7	2.10	0.48	
8,984.0	90.80	1.20	7,364.4	1,588.6	-473.3	1,588.6	1.07	-0.98	
9,076.0	89.60	1.30	7,364.1	1,680.6	-471.3	1,680.6	1.31	-1.30	
9,168.0	89.60	1.40	7,364.8	1,772.6	-469.1	1,772.6	0.11	0.00	
9,260.0	89.40	1.30	7,365.6	1,864.6	-467.0	1,864.6	0.24	-0.22	
9,352.0	89.40	0.60	7,366.5	1,956.5	-465.4	1,956.5	0.76	0.00	
9,444.0	89.90	1.40	7,367.1	2,048.5	-463.8	2,048.5	1.03	0.54	
9,537.0	89.70	0.50	7,367.4	2,141.5	-462.3	2,141.5	0.99	-0.22	
9,629.0	89.60	0.10	7,368.0	2,233.5	-461.8	2,233.5	0.45	-0.11	
9,721.0	89.80	0.60	7,368.5	2,325.5	-461.3	2,325.5	0.59	0.22	
9,812.0	89.80	0.60	7,368.8	2,416.5	-460.3	2,416.5	0.00	0.00	
9,904.0	89.70	0.10	7,369.2	2,508.5	-459.7	2,508.5	0.55	-0.11	
9,996.0	89.50	359.10	7,369.8	2,600.5	-460.4	2,600.5	1.11	-0.22	
10,089.0	89.90	359.10	7,370.3	2,693.5	-461.8	2,693.5	0.43	0.43	
10,180.0	90.40	359.20	7,370.1	2,784.5	-463.2	2,784.5	0.56	0.55	
10,272.0	90.60	359.80	7,369.3	2,876.5	-464.0	2,876.5	0.69	0.22	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2E-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4890.0ft (H&P 278)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4890.0ft (H&P 278)
Well:	Vogl-Geist 2E-5H-F267	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
10,364.0	90.70	0.40	7,368.2	2,968.4	-463.8	2,968.4	0.66	0.11	
10,457.0	91.10	0.90	7,366.8	3,061.4	-462.8	3,061.4	0.69	0.43	
10,549.0	91.10	0.60	7,365.0	3,153.4	-461.6	3,153.4	0.33	0.00	
10,643.0	91.50	0.70	7,362.9	3,247.4	-460.5	3,247.4	0.44	0.43	
10,738.0	91.70	0.50	7,360.2	3,342.3	-459.5	3,342.3	0.30	0.21	
10,832.0	90.40	359.00	7,358.5	3,436.3	-459.9	3,436.3	2.11	-1.38	
10,927.0	87.30	358.60	7,360.4	3,531.3	-461.9	3,531.3	3.29	-3.26	
11,021.0	88.00	357.60	7,364.2	3,625.1	-465.0	3,625.1	1.30	0.74	
11,116.0	88.80	358.00	7,366.9	3,720.0	-468.7	3,720.0	0.94	0.84	
11,211.0	90.60	359.50	7,367.4	3,815.0	-470.7	3,815.0	2.47	1.89	
11,306.0	91.70	359.40	7,365.5	3,910.0	-471.7	3,910.0	1.16	1.16	
11,400.0	92.10	358.90	7,362.4	4,003.9	-473.1	4,003.9	0.68	0.43	
11,495.0	91.00	359.30	7,359.8	4,098.9	-474.5	4,098.9	1.23	-1.16	
11,590.0	91.20	358.00	7,358.0	4,193.8	-476.8	4,193.8	1.38	0.21	
11,685.0	89.70	357.30	7,357.2	4,288.7	-480.7	4,288.7	1.74	-1.58	
11,780.0	90.50	358.30	7,357.1	4,383.6	-484.3	4,383.6	1.35	0.84	
11,875.0	89.10	358.60	7,357.4	4,478.6	-486.9	4,478.6	1.51	-1.47	
11,969.0	89.20	359.00	7,358.8	4,572.6	-488.9	4,572.6	0.44	0.11	
12,064.0	88.90	359.30	7,360.4	4,667.6	-490.3	4,667.6	0.45	-0.32	
12,158.0	89.30	359.10	7,361.8	4,761.5	-491.6	4,761.5	0.48	0.43	
12,253.0	89.60	359.30	7,362.8	4,856.5	-492.9	4,856.5	0.38	0.32	
12,347.0	89.90	359.80	7,363.2	4,950.5	-493.6	4,950.5	0.62	0.32	
12,442.0	90.90	0.80	7,362.5	5,045.5	-493.2	5,045.5	1.49	1.05	
12,536.0	90.70	0.60	7,361.2	5,139.5	-492.0	5,139.5	0.30	-0.21	
12,630.0	90.50	0.30	7,360.2	5,233.5	-491.3	5,233.5	0.38	-0.21	
12,725.0	90.50	359.80	7,359.4	5,328.5	-491.2	5,328.5	0.53	0.00	
12,819.0	90.80	359.90	7,358.3	5,422.5	-491.4	5,422.5	0.34	0.32	
12,914.0	90.20	359.40	7,357.5	5,517.5	-492.0	5,517.5	0.82	-0.63	
13,008.0	89.90	0.20	7,357.4	5,611.5	-492.3	5,611.5	0.91	-0.32	
13,102.0	89.50	0.30	7,357.9	5,705.5	-491.9	5,705.5	0.44	-0.43	
13,197.0	89.60	1.10	7,358.6	5,800.5	-490.8	5,800.5	0.85	0.11	
13,292.0	89.10	1.90	7,359.7	5,895.4	-488.3	5,895.4	0.99	-0.53	
13,386.0	90.40	3.30	7,360.1	5,989.3	-484.0	5,989.3	2.03	1.38	
13,481.0	91.90	5.50	7,358.2	6,084.0	-476.7	6,084.0	2.80	1.58	
13,575.0	90.70	5.20	7,356.1	6,177.6	-468.0	6,177.6	1.32	-1.28	
13,670.0	91.60	5.50	7,354.2	6,272.1	-459.1	6,272.1	1.00	0.95	
13,764.0	90.90	5.10	7,352.1	6,365.7	-450.4	6,365.7	0.86	-0.74	
13,859.0	91.90	5.70	7,349.8	6,460.3	-441.5	6,460.3	1.23	1.05	
13,953.0	90.90	5.90	7,347.5	6,553.7	-432.0	6,553.7	1.08	-1.06	
14,048.0	90.90	6.40	7,346.0	6,648.2	-421.8	6,648.2	0.53	0.00	
14,143.0	91.10	6.80	7,344.4	6,742.5	-410.9	6,742.5	0.47	0.21	
14,237.0	90.10	7.40	7,343.4	6,835.8	-399.3	6,835.8	1.24	-1.06	
14,332.0	89.90	7.10	7,343.4	6,930.1	-387.3	6,930.1	0.38	-0.21	
14,426.0	89.40	6.50	7,344.0	7,023.4	-376.2	7,023.4	0.83	-0.53	
14,521.0	90.30	6.90	7,344.2	7,117.8	-365.1	7,117.8	1.04	0.95	
14,615.0	89.50	6.50	7,344.4	7,211.1	-354.1	7,211.1	0.95	-0.85	
14,710.0	90.20	6.80	7,344.6	7,305.5	-343.1	7,305.5	0.80	0.74	
14,729.0	89.90	7.20	7,344.6	7,324.3	-340.8	7,324.3	2.63	-1.58	Last Cathedral Survey @ 14,729' MD
14,779.0	89.90	7.20	7,344.7	7,373.9	-334.5	7,373.9	0.00	0.00	PTB @ 14,779'

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Vogl-Geist 2E-5H-F267
Project: DJ Wattenberg	TVD Reference: KB @ 4890.0ft (H&P 278)
Site: S5-T2N-R67W (Vogl-McCoy)	MD Reference: KB @ 4890.0ft (H&P 278)
Well: Vogl-Geist 2E-5H-F267	North Reference: True
Wellbore: Hz	Survey Calculation Method: Minimum Curvature
Design: FINAL	Database: USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Vogl-Geist 2E-5H-F267 I - actual wellpath misses target center by 20.8ft at 7741.1ft MD (7372.3 TVD, 346.3 N, -489.2 E) - Point	0.00	0.00	7,375.0	345.8	-468.6	1,304,969.99	3,163,014.53	40.169059	-104.916697
Vogl-Geist 2E-5H-F267 ` - actual wellpath misses target center by 15.3ft at 10942.2ft MD (7361.1 TVD, 3546.5 N, -462.3 E) - Point	0.00	0.00	7,375.0	3,545.7	-468.6	1,308,169.80	3,162,993.42	40.177843	-104.916697
Vogl-Geist 2E-5H-F267 I - actual wellpath misses target center by 48.0ft at 14779.0ft MD (7344.7 TVD, 7373.9 N, -334.5 E) - Point	0.00	0.00	7,330.0	7,409.6	-363.2	1,312,034.29	3,163,073.34	40.188450	-104.916320
Vogl-Geist 2E-5H-F267 I - actual wellpath misses target center by 51.4ft at 14779.0ft MD (7344.7 TVD, 7373.9 N, -334.5 E) - Point	0.00	0.00	7,321.1	7,409.6	-363.2	1,312,034.29	3,163,073.34	40.188450	-104.916320

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
14,729.0	7,344.6	7,324.3	-340.8	Last Cathedral Survey @ 14,729' MD
14,779.0	7,344.7	7,373.9	-334.5	PTB @ 14,779'

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S5-T2N-R67W (Vogl-McCoy)

Vogl-Geist 2E-5H-F267

Hz

Design: FINAL

Survey Report - Geographic

14 April, 2014

Cathedral Energy Services

Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Vogl-Geist 2E-5H-F267
Project: DJ Wattenberg	TVD Reference: KB @ 4890.0ft (H&P 278)
Site: S5-T2N-R67W (Vogl-McCoy)	MD Reference: KB @ 4890.0ft (H&P 278)
Well: Vogl-Geist 2E-5H-F267	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 2E-5H-F267				
Well Position	+N/-S 0.0 ft	Northing: 1,304,627.30 ft	Latitude: 40.168110	
	+E/-W 0.0 ft	Easting: 3,163,485.40 ft	Longitude: -104.915020	
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 4,860.0 ft	

Wellbore Hz					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	3/29/2014	(°) 8.55	(°) 66.74	(nT) 52,700

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

Survey Program		Date 4/14/2014
From	To	Survey (Wellbore)
(ft) 143.0	(ft) 14,779.0	Survey #1 (Hz)
		Tool Name Geolink MWD
		Description 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	1,304,627.30	3,163,485.40	40.168110	-104.915020	
143.0	0.40	304.80	143.0	0.3	-0.4	1,304,627.58	3,163,484.99	40.168111	-104.915022	
266.0	1.80	247.20	266.0	-0.2	-2.5	1,304,627.06	3,163,482.86	40.168109	-104.915029	
327.0	1.90	262.70	326.9	-0.7	-4.4	1,304,626.55	3,163,480.98	40.168108	-104.915036	
419.0	2.80	256.30	418.9	-1.4	-8.1	1,304,625.80	3,163,477.29	40.168106	-104.915049	
511.0	3.00	244.80	510.7	-3.0	-12.5	1,304,624.21	3,163,472.94	40.168102	-104.915065	
603.0	3.30	246.30	602.6	-5.1	-17.1	1,304,622.09	3,163,468.35	40.168096	-104.915081	
695.0	3.30	256.50	694.5	-6.8	-22.1	1,304,620.38	3,163,463.36	40.168091	-104.915099	
815.0	2.90	254.80	814.3	-8.4	-28.4	1,304,618.73	3,163,457.08	40.168087	-104.915122	
919.0	3.10	263.40	918.1	-9.4	-33.7	1,304,617.69	3,163,451.76	40.168084	-104.915141	
1,011.0	5.60	245.50	1,009.9	-11.5	-40.3	1,304,615.49	3,163,445.21	40.168078	-104.915164	
1,103.0	8.00	237.30	1,101.2	-16.9	-49.7	1,304,610.11	3,163,435.78	40.168064	-104.915198	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2E-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4890.0ft (H&P 278)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4890.0ft (H&P 278)
Well:	Vogl-Geist 2E-5H-F267	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	
1,195.0	8.40	236.10	1,192.3	-24.1	-60.7	1,304,602.83	3,163,424.86	40.168044	-104.915237	
1,287.0	7.70	233.40	1,283.4	-31.5	-71.2	1,304,595.34	3,163,414.38	40.168024	-104.915275	
1,379.0	7.10	241.00	1,374.6	-37.9	-81.2	1,304,588.84	3,163,404.50	40.168006	-104.915311	
1,471.0	5.60	233.10	1,466.0	-43.4	-89.7	1,304,583.34	3,163,395.98	40.167991	-104.915341	
1,563.0	6.50	230.90	1,557.5	-49.3	-97.3	1,304,577.31	3,163,388.39	40.167975	-104.915369	
1,654.0	7.00	228.60	1,647.9	-56.3	-105.5	1,304,570.34	3,163,380.27	40.167956	-104.915398	
1,746.0	7.00	239.40	1,739.2	-62.8	-114.5	1,304,563.72	3,163,371.29	40.167938	-104.915430	
1,838.0	6.40	249.00	1,830.6	-67.5	-124.1	1,304,558.96	3,163,361.71	40.167925	-104.915464	
1,930.0	7.10	240.20	1,922.0	-72.2	-133.9	1,304,554.23	3,163,352.02	40.167912	-104.915499	
2,022.0	8.40	239.60	2,013.1	-78.4	-144.6	1,304,547.94	3,163,341.33	40.167895	-104.915538	
2,114.0	7.90	252.40	2,104.2	-83.7	-156.4	1,304,542.55	3,163,329.54	40.167880	-104.915580	
2,206.0	6.50	244.50	2,195.5	-87.9	-167.1	1,304,538.32	3,163,318.84	40.167869	-104.915618	
2,301.0	7.20	249.60	2,289.8	-92.3	-177.6	1,304,533.86	3,163,308.43	40.167857	-104.915656	
2,395.0	6.50	242.10	2,383.1	-96.8	-187.8	1,304,529.25	3,163,298.24	40.167844	-104.915692	
2,490.0	6.90	248.60	2,477.5	-101.4	-197.9	1,304,524.59	3,163,288.21	40.167832	-104.915728	
2,584.0	6.40	244.10	2,570.8	-105.8	-207.8	1,304,520.17	3,163,278.26	40.167820	-104.915764	
2,679.0	6.30	242.90	2,665.3	-110.4	-217.2	1,304,515.42	3,163,268.89	40.167807	-104.915798	
2,774.0	6.00	236.60	2,759.7	-115.5	-226.0	1,304,510.26	3,163,260.14	40.167793	-104.915829	
2,869.0	6.20	233.70	2,854.2	-121.3	-234.3	1,304,504.43	3,163,251.90	40.167777	-104.915859	
2,963.0	6.10	249.30	2,947.6	-126.1	-243.1	1,304,499.60	3,163,243.17	40.167764	-104.915890	
3,058.0	5.20	246.80	3,042.2	-129.6	-251.8	1,304,496.07	3,163,234.51	40.167754	-104.915921	
3,153.0	5.40	232.70	3,136.8	-134.0	-259.3	1,304,491.61	3,163,227.03	40.167742	-104.915948	
3,248.0	6.90	234.60	3,231.2	-140.0	-267.5	1,304,485.54	3,163,218.86	40.167726	-104.915977	
3,343.0	6.20	241.80	3,325.6	-145.7	-276.6	1,304,479.75	3,163,209.73	40.167710	-104.916010	
3,437.0	6.50	252.90	3,419.0	-149.7	-286.2	1,304,475.73	3,163,200.19	40.167699	-104.916044	
3,532.0	6.80	248.10	3,513.4	-153.4	-296.6	1,304,471.98	3,163,189.86	40.167689	-104.916081	
3,627.0	7.10	255.30	3,607.7	-157.0	-307.5	1,304,468.32	3,163,178.99	40.167679	-104.916120	
3,721.0	5.40	250.50	3,701.1	-159.9	-317.2	1,304,465.31	3,163,169.22	40.167671	-104.916155	
3,816.0	6.20	240.80	3,795.7	-163.9	-325.9	1,304,461.25	3,163,160.55	40.167660	-104.916187	
3,910.0	8.60	244.20	3,888.9	-169.4	-336.7	1,304,455.65	3,163,149.83	40.167645	-104.916225	
4,005.0	8.10	242.60	3,982.9	-175.6	-349.0	1,304,449.39	3,163,137.53	40.167628	-104.916269	
4,099.0	6.50	240.40	4,076.1	-181.3	-359.5	1,304,443.65	3,163,127.06	40.167612	-104.916307	
4,194.0	7.40	241.60	4,170.4	-186.8	-369.6	1,304,438.02	3,163,117.04	40.167597	-104.916343	
4,288.0	6.40	238.00	4,263.7	-192.5	-379.4	1,304,432.30	3,163,107.31	40.167582	-104.916378	
4,382.0	7.90	238.30	4,357.0	-198.7	-389.3	1,304,426.06	3,163,097.41	40.167565	-104.916413	
4,477.0	7.20	236.80	4,451.2	-205.4	-399.8	1,304,419.30	3,163,086.92	40.167546	-104.916451	
4,571.0	7.90	239.10	4,544.3	-211.9	-410.3	1,304,412.69	3,163,076.49	40.167528	-104.916488	
4,665.0	6.40	232.60	4,637.6	-218.4	-420.0	1,304,406.12	3,163,066.83	40.167510	-104.916523	
4,760.0	7.50	241.60	4,731.9	-224.6	-429.7	1,304,399.90	3,163,057.21	40.167493	-104.916558	
4,855.0	7.30	242.30	4,826.1	-230.3	-440.5	1,304,394.07	3,163,046.45	40.167478	-104.916596	
4,949.0	6.40	239.60	4,919.4	-235.8	-450.3	1,304,388.58	3,163,036.68	40.167463	-104.916632	
5,044.0	5.10	234.70	5,014.0	-240.9	-458.3	1,304,383.41	3,163,028.70	40.167449	-104.916660	
5,138.0	4.20	233.10	5,107.7	-245.4	-464.5	1,304,378.88	3,163,022.57	40.167436	-104.916682	
5,233.0	2.50	222.80	5,202.5	-249.0	-468.7	1,304,375.25	3,163,018.40	40.167427	-104.916697	
5,327.0	1.00	265.40	5,296.4	-250.5	-470.9	1,304,373.66	3,163,016.20	40.167422	-104.916705	
5,422.0	1.00	265.90	5,391.4	-250.7	-472.5	1,304,373.53	3,163,014.55	40.167422	-104.916711	
5,516.0	0.90	246.90	5,485.4	-251.0	-474.0	1,304,373.17	3,163,013.05	40.167421	-104.916716	
5,611.0	0.60	249.20	5,580.4	-251.5	-475.2	1,304,372.69	3,163,011.91	40.167420	-104.916721	
5,706.0	0.70	166.80	5,675.4	-252.2	-475.5	1,304,371.95	3,163,011.58	40.167418	-104.916722	
5,800.0	0.40	156.70	5,769.4	-253.1	-475.2	1,304,371.09	3,163,011.84	40.167415	-104.916721	
5,895.0	0.20	318.20	5,864.4	-253.3	-475.2	1,304,370.91	3,163,011.87	40.167415	-104.916721	
5,989.0	0.60	330.00	5,958.4	-252.7	-475.6	1,304,371.45	3,163,011.51	40.167416	-104.916722	
6,084.0	1.50	56.30	6,053.4	-251.6	-474.8	1,304,372.58	3,163,012.29	40.167419	-104.916719	
6,230.0	1.30	47.40	6,199.3	-249.4	-472.0	1,304,374.78	3,163,015.08	40.167425	-104.916709	
6,273.0	0.90	26.00	6,242.3	-248.8	-471.5	1,304,375.42	3,163,015.58	40.167427	-104.916707	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2E-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4890.0ft (H&P 278)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4890.0ft (H&P 278)
Well:	Vogl-Geist 2E-5H-F267	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	
6,368.0	0.70	4.00	6,337.3	-247.5	-471.1	1,304,376.67	3,163,015.94	40.167430	-104.916706	
6,463.0	0.70	351.90	6,432.3	-246.4	-471.1	1,304,377.82	3,163,015.89	40.167434	-104.916706	
6,558.0	0.70	315.60	6,527.3	-245.4	-471.6	1,304,378.81	3,163,015.40	40.167436	-104.916708	
6,652.0	0.70	307.40	6,621.3	-244.6	-472.5	1,304,379.56	3,163,014.54	40.167438	-104.916711	
6,747.0	0.80	232.10	6,716.3	-244.7	-473.5	1,304,379.50	3,163,013.55	40.167438	-104.916714	
6,842.0	2.70	333.10	6,811.3	-243.1	-475.0	1,304,381.08	3,163,012.01	40.167443	-104.916720	
6,889.0	8.50	352.20	6,858.0	-238.7	-476.0	1,304,385.50	3,163,011.00	40.167455	-104.916723	
6,937.0	13.50	352.60	6,905.1	-229.6	-477.2	1,304,394.57	3,163,009.74	40.167480	-104.916728	
6,983.0	16.70	348.10	6,949.5	-217.8	-479.2	1,304,406.35	3,163,007.61	40.167512	-104.916735	
7,031.0	20.30	350.80	6,995.0	-202.8	-482.0	1,304,421.31	3,163,004.75	40.167553	-104.916745	
7,078.0	24.80	355.30	7,038.4	-184.9	-484.1	1,304,439.18	3,163,002.52	40.167602	-104.916753	
7,126.0	28.30	359.50	7,081.4	-163.5	-485.0	1,304,460.59	3,163,001.46	40.167661	-104.916756	
7,173.0	32.60	354.80	7,121.9	-139.7	-486.3	1,304,484.34	3,163,000.06	40.167726	-104.916760	
7,221.0	37.60	353.40	7,161.2	-112.3	-489.1	1,304,511.77	3,162,997.02	40.167802	-104.916771	
7,268.0	43.60	354.00	7,196.8	-81.9	-492.5	1,304,542.13	3,162,993.47	40.167885	-104.916783	
7,315.0	50.50	355.30	7,228.8	-47.7	-495.7	1,304,576.34	3,162,990.06	40.167979	-104.916794	
7,362.0	56.20	357.60	7,256.9	-10.1	-498.0	1,304,613.94	3,162,987.51	40.168082	-104.916802	
7,410.0	60.90	359.90	7,281.9	30.9	-498.8	1,304,654.86	3,162,986.37	40.168195	-104.916805	
7,457.0	64.70	1.60	7,303.4	72.6	-498.3	1,304,696.65	3,162,986.65	40.168309	-104.916803	
7,504.0	68.40	2.10	7,322.1	115.7	-496.9	1,304,739.75	3,162,987.76	40.168428	-104.916798	
7,551.0	72.00	2.20	7,338.0	159.9	-495.2	1,304,783.94	3,162,989.13	40.168549	-104.916792	
7,599.0	76.20	2.10	7,351.2	206.0	-493.5	1,304,830.07	3,162,990.55	40.168676	-104.916786	
7,646.0	80.20	2.00	7,360.8	252.0	-491.9	1,304,876.05	3,162,991.90	40.168802	-104.916780	
7,694.0	83.10	1.70	7,367.7	299.5	-490.3	1,304,923.52	3,162,993.11	40.168932	-104.916775	
7,723.0	84.90	1.30	7,370.8	328.3	-489.6	1,304,952.36	3,162,993.68	40.169011	-104.916772	
7,869.0	88.70	0.60	7,378.9	474.0	-487.2	1,305,098.09	3,162,995.13	40.169411	-104.916763	
7,958.0	90.20	2.10	7,379.8	563.0	-485.1	1,305,187.07	3,162,996.64	40.169655	-104.916756	
8,052.0	90.20	0.20	7,379.4	657.0	-483.2	1,305,281.06	3,162,997.91	40.169913	-104.916749	
8,147.0	91.80	0.10	7,377.8	751.9	-482.9	1,305,376.04	3,162,997.53	40.170174	-104.916748	
8,242.0	91.30	359.80	7,375.2	846.9	-483.0	1,305,471.00	3,162,996.82	40.170435	-104.916749	
8,336.0	91.10	0.80	7,373.2	940.9	-482.5	1,305,564.98	3,162,996.69	40.170693	-104.916747	
8,431.0	90.40	2.30	7,372.0	1,035.8	-479.9	1,305,659.95	3,162,998.64	40.170953	-104.916738	
8,525.0	90.50	2.40	7,371.3	1,129.8	-476.1	1,305,753.89	3,163,001.87	40.171211	-104.916724	
8,620.0	90.20	0.30	7,370.7	1,224.7	-473.9	1,305,848.87	3,163,003.48	40.171472	-104.916716	
8,714.0	90.50	359.70	7,370.1	1,318.7	-473.9	1,305,942.86	3,163,002.86	40.171730	-104.916716	
8,809.0	91.30	359.10	7,368.6	1,413.7	-474.8	1,306,037.84	3,163,001.24	40.171991	-104.916719	
8,892.0	91.70	0.80	7,366.4	1,496.7	-474.9	1,306,120.80	3,163,000.62	40.172219	-104.916720	
8,984.0	90.80	1.20	7,364.4	1,588.6	-473.3	1,306,212.77	3,163,001.62	40.172471	-104.916714	
9,076.0	89.60	1.30	7,364.1	1,680.6	-471.3	1,306,304.76	3,163,003.02	40.172723	-104.916707	
9,168.0	89.60	1.40	7,364.8	1,772.6	-469.1	1,306,396.75	3,163,004.58	40.172976	-104.916699	
9,260.0	89.40	1.30	7,365.6	1,864.6	-467.0	1,306,488.73	3,163,006.14	40.173228	-104.916691	
9,352.0	89.40	0.60	7,366.5	1,956.5	-465.4	1,306,580.72	3,163,007.06	40.173481	-104.916686	
9,444.0	89.90	1.40	7,367.1	2,048.5	-463.8	1,306,672.71	3,163,008.06	40.173733	-104.916680	
9,537.0	89.70	0.50	7,367.4	2,141.5	-462.3	1,306,765.70	3,163,008.99	40.173989	-104.916675	
9,629.0	89.60	0.10	7,368.0	2,233.5	-461.8	1,306,857.70	3,163,008.86	40.174241	-104.916673	
9,721.0	89.80	0.60	7,368.5	2,325.5	-461.3	1,306,949.70	3,163,008.82	40.174494	-104.916671	
9,812.0	89.80	0.60	7,368.8	2,416.5	-460.3	1,307,040.70	3,163,009.17	40.174744	-104.916668	
9,904.0	89.70	0.10	7,369.2	2,508.5	-459.7	1,307,132.70	3,163,009.13	40.174996	-104.916666	
9,996.0	89.50	359.10	7,369.8	2,600.5	-460.4	1,307,224.69	3,163,007.88	40.175249	-104.916668	
10,089.0	89.90	359.10	7,370.3	2,693.5	-461.8	1,307,317.66	3,163,005.80	40.175504	-104.916673	
10,180.0	90.40	359.20	7,370.1	2,784.5	-463.2	1,307,408.64	3,163,003.85	40.175754	-104.916678	
10,272.0	90.60	359.80	7,369.3	2,876.5	-464.0	1,307,500.63	3,163,002.44	40.176006	-104.916681	
10,364.0	90.70	0.40	7,368.2	2,968.4	-463.8	1,307,592.62	3,163,002.00	40.176259	-104.916680	
10,457.0	91.10	0.90	7,366.8	3,061.4	-462.8	1,307,685.61	3,163,002.44	40.176514	-104.916676	
10,549.0	91.10	0.60	7,365.0	3,153.4	-461.6	1,307,777.59	3,163,003.03	40.176766	-104.916672	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2E-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4890.0ft (H&P 278)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4890.0ft (H&P 278)
Well:	Vogl-Geist 2E-5H-F267	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	
10,643.0	91.50	0.70	7,362.9	3,247.4	-460.5	1,307,871.56	3,163,003.48	40.177024	-104.916668	
10,738.0	91.70	0.50	7,360.2	3,342.3	-459.5	1,307,966.52	3,163,003.85	40.177285	-104.916665	
10,832.0	90.40	359.00	7,358.5	3,436.3	-459.9	1,308,060.50	3,163,002.82	40.177543	-104.916666	
10,927.0	87.30	358.60	7,360.4	3,531.3	-461.9	1,308,155.43	3,163,000.20	40.177804	-104.916673	
11,021.0	88.00	357.60	7,364.2	3,625.1	-465.0	1,308,249.28	3,162,996.47	40.178061	-104.916685	
11,116.0	88.80	358.00	7,366.9	3,720.0	-468.7	1,308,344.14	3,162,992.20	40.178322	-104.916698	
11,211.0	90.60	359.50	7,367.4	3,815.0	-470.7	1,308,439.09	3,162,989.50	40.178583	-104.916705	
11,306.0	91.70	359.40	7,365.5	3,910.0	-471.7	1,308,534.06	3,162,987.96	40.178843	-104.916708	
11,400.0	92.10	358.90	7,362.4	4,003.9	-473.1	1,308,627.99	3,162,985.95	40.179101	-104.916713	
11,495.0	91.00	359.30	7,359.8	4,098.9	-474.5	1,308,722.93	3,162,983.83	40.179362	-104.916719	
11,590.0	91.20	358.00	7,358.0	4,193.8	-476.8	1,308,817.87	3,162,980.97	40.179622	-104.916727	
11,685.0	89.70	357.30	7,357.2	4,288.7	-480.7	1,308,912.75	3,162,976.45	40.179883	-104.916741	
11,780.0	90.50	358.30	7,357.1	4,383.6	-484.3	1,309,007.65	3,162,972.17	40.180144	-104.916754	
11,875.0	89.10	358.60	7,357.4	4,478.6	-486.9	1,309,102.60	3,162,968.98	40.180404	-104.916763	
11,969.0	89.20	359.00	7,358.8	4,572.6	-488.9	1,309,196.55	3,162,966.39	40.180662	-104.916770	
12,064.0	88.90	359.30	7,360.4	4,667.6	-490.3	1,309,291.52	3,162,964.35	40.180923	-104.916775	
12,158.0	89.30	359.10	7,361.8	4,761.5	-491.6	1,309,385.48	3,162,962.42	40.181181	-104.916780	
12,253.0	89.60	359.30	7,362.8	4,856.5	-492.9	1,309,480.46	3,162,960.47	40.181442	-104.916784	
12,347.0	89.90	359.80	7,363.2	4,950.5	-493.6	1,309,574.45	3,162,959.11	40.181700	-104.916787	
12,442.0	90.90	0.80	7,362.5	5,045.5	-493.2	1,309,669.44	3,162,958.98	40.181961	-104.916785	
12,536.0	90.70	0.60	7,361.2	5,139.5	-492.0	1,309,763.43	3,162,959.51	40.182218	-104.916781	
12,630.0	90.50	0.30	7,360.2	5,233.5	-491.3	1,309,857.43	3,162,959.63	40.182477	-104.916779	
12,725.0	90.50	359.80	7,359.4	5,328.5	-491.2	1,309,952.42	3,162,959.08	40.182737	-104.916778	
12,819.0	90.80	359.90	7,358.3	5,422.5	-491.4	1,310,046.41	3,162,958.22	40.182995	-104.916779	
12,914.0	90.20	359.40	7,357.5	5,517.5	-492.0	1,310,141.40	3,162,957.01	40.183256	-104.916781	
13,008.0	89.90	0.20	7,357.4	5,611.5	-492.3	1,310,235.39	3,162,956.06	40.183514	-104.916782	
13,102.0	89.50	0.30	7,357.9	5,705.5	-491.9	1,310,329.39	3,162,955.85	40.183772	-104.916781	
13,197.0	89.60	1.10	7,358.6	5,800.5	-490.8	1,310,424.39	3,162,956.39	40.184033	-104.916777	
13,292.0	89.10	1.90	7,359.7	5,895.4	-488.3	1,310,519.36	3,162,958.25	40.184294	-104.916768	
13,386.0	90.40	3.30	7,360.1	5,989.3	-484.0	1,310,613.29	3,162,961.89	40.184551	-104.916753	
13,481.0	91.90	5.50	7,358.2	6,084.0	-476.7	1,310,708.02	3,162,968.55	40.184811	-104.916727	
13,575.0	90.70	5.20	7,356.1	6,177.6	-468.0	1,310,801.64	3,162,976.70	40.185068	-104.916695	
13,670.0	91.60	5.50	7,354.2	6,272.1	-459.1	1,310,896.27	3,162,984.93	40.185328	-104.916664	
13,764.0	90.90	5.10	7,352.1	6,365.7	-450.4	1,310,989.90	3,162,992.99	40.185585	-104.916632	
13,859.0	91.90	5.70	7,349.8	6,460.3	-441.5	1,311,084.50	3,163,001.30	40.185844	-104.916600	
13,953.0	90.90	5.90	7,347.5	6,553.7	-432.0	1,311,178.05	3,163,010.18	40.186101	-104.916566	
14,048.0	90.90	6.40	7,346.0	6,648.2	-421.8	1,311,272.56	3,163,019.74	40.186360	-104.916530	
14,143.0	91.10	6.80	7,344.4	6,742.5	-410.9	1,311,366.98	3,163,030.03	40.186619	-104.916491	
14,237.0	90.10	7.40	7,343.4	6,835.8	-399.3	1,311,460.33	3,163,041.03	40.186875	-104.916449	
14,332.0	89.90	7.10	7,343.4	6,930.1	-387.3	1,311,554.65	3,163,052.40	40.187134	-104.916407	
14,426.0	89.40	6.50	7,344.0	7,023.4	-376.2	1,311,648.06	3,163,062.91	40.187390	-104.916367	
14,521.0	90.30	6.90	7,344.2	7,117.8	-365.1	1,311,742.51	3,163,073.38	40.187649	-104.916327	
14,615.0	89.50	6.50	7,344.4	7,211.1	-354.1	1,311,835.93	3,163,083.73	40.187905	-104.916288	
14,710.0	90.20	6.80	7,344.6	7,305.5	-343.1	1,311,930.36	3,163,094.11	40.188164	-104.916248	
14,729.0	89.90	7.20	7,344.6	7,324.3	-340.8	1,311,949.21	3,163,096.29	40.188216	-104.916240	
Last Cathedral Survey @ 14,729' MD										
14,779.0	89.90	7.20	7,344.7	7,373.9	-334.5	1,311,998.85	3,163,102.23	40.188352	-104.916218	
PTB @ 14,779'										

Cathedral Energy Services

Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Vogl-Geist 2E-5H-F267
Project: DJ Wattenberg	TVD Reference: KB @ 4890.0ft (H&P 278)
Site: S5-T2N-R67W (Vogl-McCoy)	MD Reference: KB @ 4890.0ft (H&P 278)
Well: Vogl-Geist 2E-5H-F267	North Reference: True
Wellbore: Hz	Survey Calculation Method: Minimum Curvature
Design: FINAL	Database: USA EDM 5000 Multi Users DB

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Vogl-Geist 2E-5H-F267 I	0.00	0.00	7,321.1	7,409.6	-363.2	1,312,034.29	3,163,073.34	40.188450	-104.916320
- actual wellpath misses target center by 51.4ft at 14779.0ft MD (7344.7 TVD, 7373.9 N, -334.5 E)									
- Point									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
14,729.0	7,344.6	7,324.3	-340.8	Last Cathedral Survey @ 14,729' MD	
14,779.0	7,344.7	7,373.9	-334.5	PTB @ 14,779'	

Checked By: _____ Approved By: _____ Date: _____