



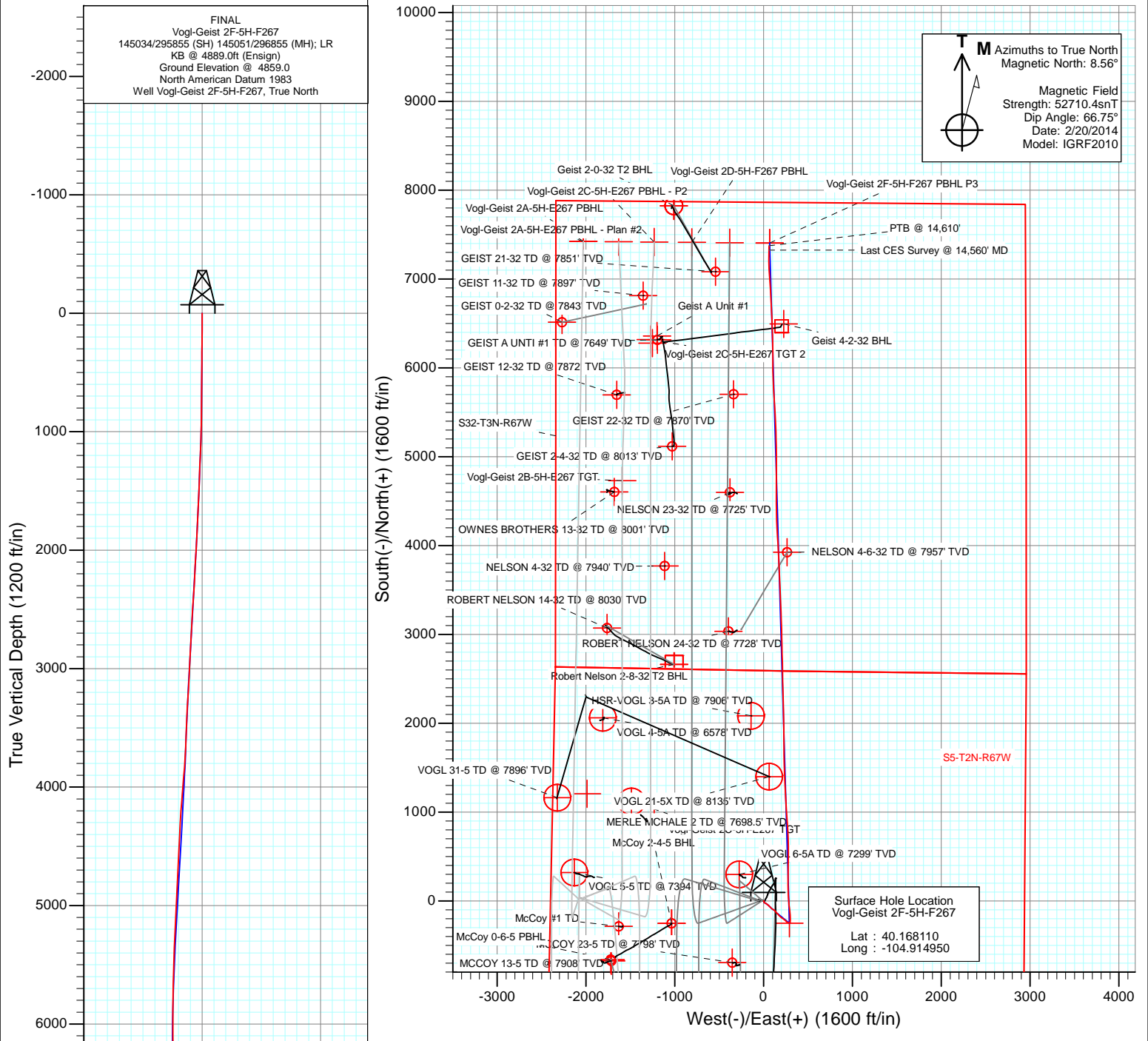
Project: DJ Wattenberg
 Site: S5-T2N-R67W (Vogl-McCoy)
 Well: Vogl-Geist 2F-5H-F267
 Wellbore: Hz
 Design: FINAL



FINAL
 Vogl-Geist 2F-5H-F267
 145034/295855 (SH) 145051/296855 (MH); LR
 KB @ 4889.0ft (Ensign)
 Ground Elevation @ 4859.0
 North American Datum 1983
 Well Vogl-Geist 2F-5H-F267, True North

M Azimuths to True North
 Magnetic North: 8.56°

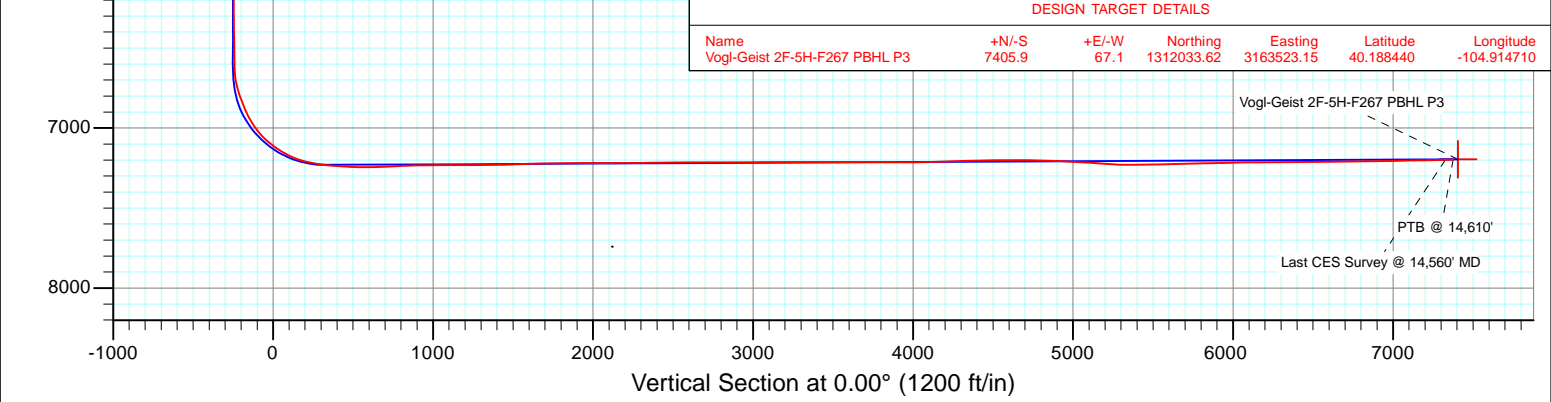
Magnetic Field
 Strength: 52710.4snT
 Dip Angle: 66.75°
 Date: 2/20/2014
 Model: IGRF2010



Surface Hole Location
 Vogl-Geist 2F-5H-F267
 Lat : 40.168110
 Long : -104.914950

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Vogl-Geist 2F-5H-F267 PBHL P3	7405.9	67.1	1312033.62	3163523.15	40.188440	-104.914710

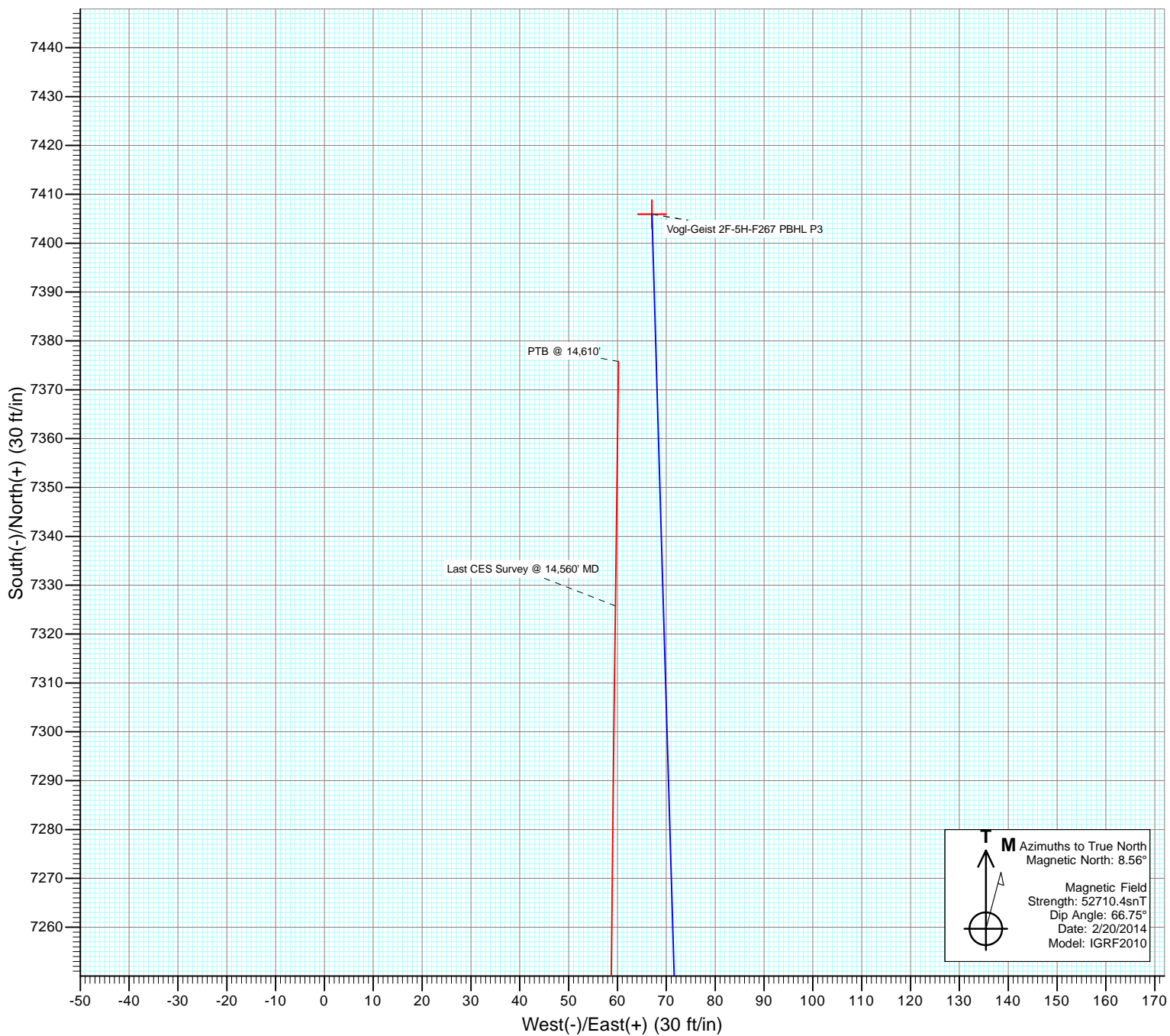


Vogl-Geist 2F-5H-F267 PBHL P3
 PTB @ 14,610'
 Last CES Survey @ 14,560' MD

Vertical Section at 0.00° (1200 ft/in)

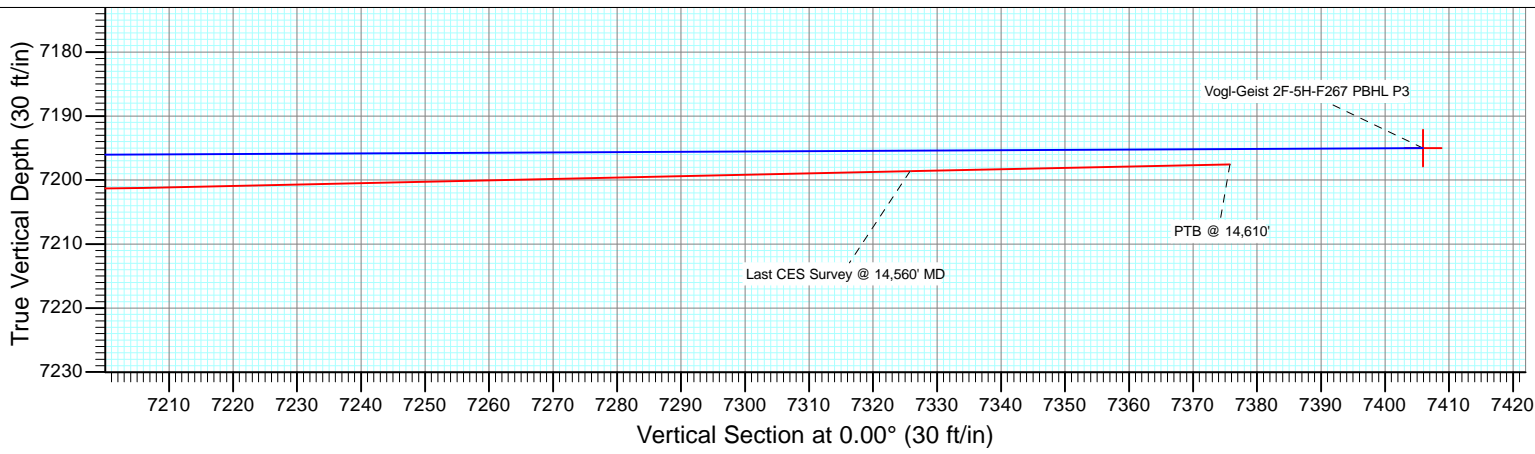


Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-Geist 2F-5H-F267
Wellbore: Hz
Design: FINAL



M Azimuths to True North
Magnetic North: 8.56°

Magnetic Field
Strength: 52710.4snT
Dip Angle: 66.75°
Date: 2/20/2014
Model: IGRF2010



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Vogl-Geist 2F-5H-F267
Project: DJ Wattenberg	TVD Reference: KB @ 4889.0ft (Ensign)
Site: S5-T2N-R67W (Vogl-McCoy)	MD Reference: KB @ 4889.0ft (Ensign)
Well: Vogl-Geist 2F-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 2F-5H-F267				
Well Position	+N/-S	0.0 ft	Northing:	1,304,627.41 ft
	+E/-W	0.0 ft	Easting:	3,163,504.97 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Latitude:	40.168110
			Longitude:	-104.914950
			Ground Level:	4,859.0 ft

Wellbore Hz					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/20/2014	8.56	66.75	52,710

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 3/11/2014
From (ft)	To (ft)	Survey (Wellbore)
143.0	14,610.0	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	135.10	143.0	-0.4	0.4	-0.4	0.28	0.28	
266.0	0.50	161.40	266.0	-1.2	0.8	-1.2	0.18	0.08	
327.0	0.50	160.50	327.0	-1.7	1.0	-1.7	0.01	0.00	
419.0	0.40	157.20	419.0	-2.3	1.3	-2.3	0.11	-0.11	
511.0	0.50	177.30	511.0	-3.0	1.4	-3.0	0.20	0.11	
603.0	0.50	156.90	603.0	-3.8	1.6	-3.8	0.19	0.00	
695.0	0.70	174.60	695.0	-4.7	1.8	-4.7	0.29	0.22	
818.0	0.70	199.50	818.0	-6.2	1.6	-6.2	0.25	0.00	
918.0	0.80	193.50	918.0	-7.5	1.2	-7.5	0.13	0.10	
1,010.0	0.90	195.90	1,010.0	-8.8	0.9	-8.8	0.12	0.11	
1,102.0	2.40	156.60	1,101.9	-11.2	1.5	-11.2	1.95	1.63	
1,194.0	4.20	137.10	1,193.8	-15.5	4.5	-15.5	2.28	1.96	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	TD Reference:	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	MVD Reference:	KB @ 4889.0ft (Ensign)
Well:	Vogl-Geist 2F-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
1,286.0	4.50	121.70	1,285.5	-19.8	9.9	-19.8	1.31	0.33	
1,378.0	3.90	108.80	1,377.3	-22.7	15.9	-22.7	1.21	-0.65	
1,470.0	3.90	125.20	1,469.0	-25.6	21.4	-25.6	1.21	0.00	
1,564.0	5.40	118.90	1,562.7	-29.5	27.9	-29.5	1.68	1.60	
1,659.0	4.90	132.40	1,657.3	-34.4	34.8	-34.4	1.38	-0.53	
1,754.0	4.00	117.50	1,752.1	-38.7	40.8	-38.7	1.53	-0.95	
1,848.0	4.80	136.60	1,845.8	-43.1	46.4	-43.1	1.76	0.85	
1,943.0	3.80	124.90	1,940.5	-47.8	51.7	-47.8	1.40	-1.05	
2,037.0	4.90	133.00	2,034.3	-52.3	57.2	-52.3	1.34	1.17	
2,132.0	5.10	135.00	2,128.9	-58.0	63.1	-58.0	0.28	0.21	
2,227.0	4.70	133.20	2,223.6	-63.7	69.0	-63.7	0.45	-0.42	
2,322.0	4.10	130.70	2,318.3	-68.6	74.4	-68.6	0.66	-0.63	
2,417.0	5.50	139.40	2,412.9	-74.2	79.9	-74.2	1.66	1.47	
2,512.0	5.70	134.10	2,507.5	-81.0	86.3	-81.0	0.58	0.21	
2,606.0	5.00	131.30	2,601.1	-86.9	92.7	-86.9	0.79	-0.74	
2,701.0	5.60	125.00	2,695.7	-92.3	99.6	-92.3	0.88	0.63	
2,796.0	4.80	120.90	2,790.3	-97.0	106.8	-97.0	0.93	-0.84	
2,891.0	5.20	111.60	2,884.9	-100.6	114.2	-100.6	0.95	0.42	
2,985.0	5.80	129.20	2,978.5	-105.2	121.9	-105.2	1.90	0.64	
3,080.0	4.40	128.30	3,073.1	-110.5	128.4	-110.5	1.48	-1.47	
3,174.0	3.80	146.50	3,166.9	-115.3	133.0	-115.3	1.52	-0.64	
3,268.0	4.40	156.00	3,260.6	-121.2	136.2	-121.2	0.96	0.64	
3,363.0	2.70	153.10	3,355.5	-126.6	138.7	-126.6	1.80	-1.79	
3,458.0	3.50	141.70	3,450.3	-130.8	141.5	-130.8	1.06	0.84	
3,553.0	2.90	140.50	3,545.2	-135.0	144.8	-135.0	0.64	-0.63	
3,646.0	3.70	115.30	3,638.0	-138.0	149.0	-138.0	1.76	0.86	
3,741.0	5.80	134.60	3,732.7	-142.7	155.2	-142.7	2.75	2.21	
3,835.0	6.30	137.70	3,826.2	-149.9	162.1	-149.9	0.64	0.53	
3,929.0	6.00	138.90	3,919.6	-157.4	168.8	-157.4	0.35	-0.32	
4,024.0	5.50	139.30	4,014.1	-164.6	175.0	-164.6	0.53	-0.53	
4,119.0	6.50	131.20	4,108.6	-171.6	182.0	-171.6	1.38	1.05	
4,213.0	5.80	131.30	4,202.1	-178.2	189.6	-178.2	0.74	-0.74	
4,308.0	5.10	131.20	4,296.7	-184.2	196.4	-184.2	0.74	-0.74	
4,402.0	5.50	131.70	4,390.3	-189.9	202.9	-189.9	0.43	0.43	
4,497.0	4.20	115.70	4,484.9	-194.5	209.4	-194.5	1.96	-1.37	
4,591.0	4.80	117.90	4,578.6	-197.8	216.0	-197.8	0.66	0.64	
4,686.0	5.70	130.70	4,673.2	-202.7	223.1	-202.7	1.55	0.95	
4,780.0	4.90	128.50	4,766.8	-208.3	229.7	-208.3	0.88	-0.85	
4,875.0	4.30	126.20	4,861.5	-212.9	235.8	-212.9	0.66	-0.63	
4,969.0	3.70	124.70	4,955.3	-216.7	241.1	-216.7	0.65	-0.64	
5,064.0	3.90	140.40	5,050.1	-220.9	245.7	-220.9	1.11	0.21	
5,158.0	4.50	132.80	5,143.8	-225.9	250.5	-225.9	0.87	0.64	
5,253.0	3.40	136.00	5,238.6	-230.5	255.1	-230.5	1.18	-1.16	
5,348.0	3.30	119.60	5,333.4	-233.8	259.5	-233.8	1.01	-0.11	
5,442.0	4.30	124.00	5,427.2	-237.2	264.8	-237.2	1.11	1.06	
5,537.0	2.80	124.60	5,522.1	-240.5	269.6	-240.5	1.58	-1.58	
5,632.0	3.60	119.40	5,616.9	-243.2	274.1	-243.2	0.89	0.84	
5,727.0	4.80	107.30	5,711.7	-245.9	280.5	-245.9	1.56	1.26	
5,821.0	3.90	96.80	5,805.4	-247.4	287.5	-247.4	1.27	-0.96	
5,916.0	2.60	88.20	5,900.2	-247.8	292.8	-247.8	1.46	-1.37	
6,011.0	1.90	66.30	5,995.2	-247.1	296.4	-247.1	1.15	-0.74	
6,106.0	0.40	109.30	6,090.1	-246.5	298.2	-246.5	1.72	-1.58	
6,201.0	0.40	33.30	6,185.1	-246.4	298.7	-246.4	0.52	0.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4889.0ft (Ensign)
Well:	Vogl-Geist 2F-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
6,295.0	0.60	332.30	6,279.1	-245.7	298.6	-245.7	0.57	0.21	
6,390.0	0.70	336.90	6,374.1	-244.7	298.2	-244.7	0.12	0.11	
6,485.0	1.00	337.10	6,469.1	-243.4	297.6	-243.4	0.32	0.32	
6,579.0	1.30	326.80	6,563.1	-241.7	296.7	-241.7	0.39	0.32	
6,611.0	1.40	327.40	6,595.1	-241.1	296.3	-241.1	0.32	0.31	
6,642.0	1.50	326.90	6,626.1	-240.4	295.9	-240.4	0.33	0.32	
6,674.0	3.30	1.90	6,658.0	-239.2	295.7	-239.2	7.01	5.62	
6,721.0	10.70	15.10	6,704.7	-233.6	296.9	-233.6	16.01	15.74	
6,768.0	16.70	7.40	6,750.3	-222.7	298.9	-222.7	13.32	12.77	
6,816.0	18.90	2.10	6,796.0	-208.1	300.0	-208.1	5.69	4.58	
6,863.0	20.40	357.70	6,840.3	-192.3	300.0	-192.3	4.48	3.19	
6,911.0	23.40	355.30	6,884.8	-174.4	298.9	-174.4	6.52	6.25	
6,958.0	27.80	356.50	6,927.2	-154.2	297.4	-154.2	9.43	9.36	
7,005.0	31.60	355.10	6,968.0	-130.9	295.7	-130.9	8.22	8.09	
7,052.0	36.50	353.00	7,006.9	-104.8	293.0	-104.8	10.72	10.43	
7,100.0	42.50	352.00	7,043.9	-74.5	289.0	-74.5	12.57	12.50	
7,147.0	48.10	355.20	7,077.0	-41.3	285.3	-41.3	12.86	11.91	
7,194.0	53.90	356.80	7,106.6	-4.9	282.7	-4.9	12.62	12.34	
7,241.0	57.40	356.50	7,133.1	33.8	280.5	33.8	7.47	7.45	
7,289.0	59.40	356.30	7,158.2	74.6	277.9	74.6	4.18	4.17	
7,336.0	65.40	356.90	7,180.0	116.2	275.4	116.2	12.82	12.77	
7,383.0	72.00	358.70	7,197.1	159.9	273.8	159.9	14.49	14.04	
7,430.0	76.60	0.30	7,209.8	205.1	273.4	205.1	10.32	9.79	
7,478.0	80.60	0.60	7,219.3	252.2	273.8	252.2	8.36	8.33	
7,521.0	81.00	1.60	7,226.1	294.6	274.6	294.6	2.48	0.93	
7,595.0	85.30	1.00	7,235.0	368.0	276.2	368.0	5.87	5.81	
7,658.0	86.30	0.60	7,239.6	430.9	277.1	430.9	1.71	1.59	
7,752.0	88.10	0.40	7,244.2	524.7	277.9	524.7	1.93	1.91	
7,846.0	91.90	359.50	7,244.2	618.7	277.9	618.7	4.15	4.04	
7,941.0	92.90	358.00	7,240.2	713.6	275.8	713.6	1.90	1.05	
8,033.0	92.70	356.70	7,235.7	805.4	271.5	805.4	1.43	-0.22	
8,125.0	90.70	355.70	7,233.0	897.2	265.4	897.2	2.43	-2.17	
8,217.0	90.70	355.60	7,231.8	988.9	258.5	988.9	0.11	0.00	
8,309.0	90.60	356.20	7,230.8	1,080.6	251.9	1,080.6	0.66	-0.11	
8,401.0	89.60	357.00	7,230.6	1,172.5	246.4	1,172.5	1.39	-1.09	
8,495.0	90.00	356.90	7,231.0	1,266.3	241.4	1,266.3	0.44	0.43	
8,590.0	90.80	358.10	7,230.3	1,361.3	237.3	1,361.3	1.52	0.84	
8,685.0	91.80	358.50	7,228.1	1,456.2	234.5	1,456.2	1.13	1.05	
8,779.0	92.20	358.10	7,224.9	1,550.1	231.7	1,550.1	0.60	0.43	
8,874.0	91.10	359.30	7,222.1	1,645.0	229.5	1,645.0	1.71	-1.16	
8,968.0	90.90	359.50	7,220.5	1,739.0	228.5	1,739.0	0.30	-0.21	
9,063.0	91.50	359.20	7,218.5	1,834.0	227.5	1,834.0	0.71	0.63	
9,158.0	89.80	359.80	7,217.4	1,929.0	226.6	1,929.0	1.90	-1.79	
9,253.0	90.20	359.40	7,217.4	2,024.0	226.0	2,024.0	0.60	0.42	
9,348.0	90.00	358.40	7,217.3	2,119.0	224.2	2,119.0	1.07	-0.21	
9,442.0	90.00	358.30	7,217.3	2,212.9	221.4	2,212.9	0.11	0.00	
9,537.0	90.20	358.60	7,217.1	2,307.9	218.9	2,307.9	0.38	0.21	
9,632.0	90.50	358.80	7,216.5	2,402.9	216.7	2,402.9	0.38	0.32	
9,727.0	90.80	358.60	7,215.4	2,497.8	214.6	2,497.8	0.38	0.32	
9,822.0	90.70	359.00	7,214.2	2,592.8	212.6	2,592.8	0.43	-0.11	
9,916.0	89.60	358.50	7,213.9	2,686.8	210.5	2,686.8	1.29	-1.17	
10,010.0	90.00	358.50	7,214.3	2,780.7	208.1	2,780.7	0.43	0.43	
10,105.0	90.00	358.80	7,214.3	2,875.7	205.8	2,875.7	0.32	0.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4889.0ft (Ensign)
Well:	Vogl-Geist 2F-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
10,199.0	90.70	358.50	7,213.7	2,969.7	203.6	2,969.7	0.81	0.74	
10,294.0	90.00	358.60	7,213.1	3,064.6	201.2	3,064.6	0.74	-0.74	
10,388.0	90.20	358.50	7,213.0	3,158.6	198.8	3,158.6	0.24	0.21	
10,483.0	89.70	357.80	7,213.0	3,253.6	195.8	3,253.6	0.91	-0.53	
10,577.0	90.50	357.50	7,212.9	3,347.5	191.9	3,347.5	0.91	0.85	
10,672.0	91.20	358.20	7,211.5	3,442.4	188.3	3,442.4	1.04	0.74	
10,766.0	89.40	357.10	7,211.0	3,536.3	184.5	3,536.3	2.24	-1.91	
10,860.0	89.60	357.20	7,211.8	3,630.2	179.8	3,630.2	0.24	0.21	
10,955.0	89.50	357.20	7,212.5	3,725.1	175.2	3,725.1	0.11	-0.11	
11,050.0	89.50	357.20	7,213.4	3,820.0	170.5	3,820.0	0.00	0.00	
11,144.0	89.70	357.10	7,214.0	3,913.8	165.9	3,913.8	0.24	0.21	
11,239.0	90.50	357.00	7,213.9	4,008.7	161.0	4,008.7	0.85	0.84	
11,333.0	91.30	356.90	7,212.4	4,102.6	156.0	4,102.6	0.86	0.85	
11,428.0	91.90	357.00	7,209.7	4,197.4	150.9	4,197.4	0.64	0.63	
11,522.0	92.40	357.70	7,206.2	4,291.2	146.6	4,291.2	0.91	0.53	
11,617.0	90.90	359.30	7,203.5	4,386.1	144.1	4,386.1	2.31	-1.58	
11,711.0	91.00	359.50	7,201.9	4,480.1	143.1	4,480.1	0.24	0.11	
11,806.0	91.30	359.70	7,200.0	4,575.1	142.4	4,575.1	0.38	0.32	
11,875.0	89.60	0.30	7,199.5	4,644.1	142.4	4,644.1	2.61	-2.46	
11,969.0	89.00	1.10	7,200.6	4,738.1	143.6	4,738.1	1.06	-0.64	
12,064.0	87.90	0.00	7,203.2	4,833.0	144.5	4,833.0	1.64	-1.16	
12,158.0	87.50	359.90	7,207.0	4,927.0	144.4	4,927.0	0.44	-0.43	
12,253.0	87.10	359.20	7,211.4	5,021.9	143.7	5,021.9	0.85	-0.42	
12,347.0	86.30	358.60	7,216.8	5,115.7	141.9	5,115.7	1.06	-0.85	
12,442.0	85.90	358.30	7,223.3	5,210.4	139.3	5,210.4	0.53	-0.42	
12,519.0	86.90	358.00	7,228.1	5,287.2	136.8	5,287.2	1.36	1.30	
12,547.0	89.00	358.00	7,229.1	5,315.2	135.9	5,315.2	7.50	7.50	
12,641.0	90.60	357.50	7,229.5	5,409.1	132.2	5,409.1	1.78	1.70	
12,736.0	91.50	356.80	7,227.7	5,504.0	127.4	5,504.0	1.20	0.95	
12,830.0	91.50	356.40	7,225.3	5,597.8	121.9	5,597.8	0.43	0.00	
12,925.0	91.80	356.40	7,222.5	5,692.6	115.9	5,692.6	0.32	0.32	
13,019.0	90.20	356.20	7,220.9	5,786.3	109.8	5,786.3	1.72	-1.70	
13,114.0	91.70	358.50	7,219.3	5,881.2	105.5	5,881.2	2.89	1.58	
13,209.0	91.80	359.90	7,216.4	5,976.2	104.1	5,976.2	1.48	0.11	
13,303.0	90.70	0.10	7,214.4	6,070.1	104.1	6,070.1	1.19	-1.17	
13,398.0	90.20	359.90	7,213.6	6,165.1	104.1	6,165.1	0.57	-0.53	
13,492.0	90.60	358.50	7,213.0	6,259.1	102.8	6,259.1	1.55	0.43	
13,587.0	91.10	359.00	7,211.5	6,354.1	100.7	6,354.1	0.74	0.53	
13,681.0	90.40	357.40	7,210.3	6,448.0	97.8	6,448.0	1.86	-0.74	
13,776.0	89.10	356.30	7,210.7	6,542.9	92.6	6,542.9	1.79	-1.37	
13,871.0	90.70	357.90	7,210.9	6,637.8	87.8	6,637.8	2.38	1.68	
13,966.0	91.40	357.70	7,209.2	6,732.7	84.1	6,732.7	0.77	0.74	
14,061.0	91.60	356.90	7,206.7	6,827.5	79.6	6,827.5	0.87	0.21	
14,156.0	90.00	355.60	7,205.3	6,922.3	73.4	6,922.3	2.17	-1.68	
14,250.0	91.50	356.30	7,204.1	7,016.1	66.8	7,016.1	1.76	1.60	
14,345.0	90.40	356.60	7,202.5	7,110.9	60.9	7,110.9	1.20	-1.16	
14,440.0	91.20	0.30	7,201.2	7,205.8	58.3	7,205.8	3.98	0.84	
14,535.0	91.30	0.80	7,199.1	7,300.8	59.3	7,300.8	0.54	0.11	
14,560.0	91.20	0.70	7,198.6	7,325.8	59.6	7,325.8	0.57	-0.40	Last CES Survey @ 14,560' MD
14,610.0	91.20	0.70	7,197.5	7,375.8	60.2	7,375.8	0.00	0.00	PTB @ 14,610'

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Vogl-Geist 2F-5H-F267
Project: DJ Wattenberg	TVD Reference: KB @ 4889.0ft (Ensign)
Site: S5-T2N-R67W (Vogl-McCoy)	MD Reference: KB @ 4889.0ft (Ensign)
Well: Vogl-Geist 2F-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 2F-5H-F267 \	0.00	0.00	6,015.2	-250.0	290.0	1,304,379.33	3,163,796.61	40.167424	-104.913912
- actual wellpath misses target center by 7.7ft at 6030.9ft MD (6015.1 TVD, -246.8 N, 297.0 E)									
- Point									
Vogl-Geist 2F-5H-F267 I	0.00	0.00	7,119.0	7,405.9	67.1	1,312,033.62	3,163,523.15	40.188440	-104.914710
- actual wellpath misses target center by 84.4ft at 14610.0ft MD (7197.5 TVD, 7375.8 N, 60.2 E)									
- Point									
Vogl-Geist 2F-5H-F267 I	0.00	0.00	7,195.0	7,405.9	67.1	1,312,033.62	3,163,523.15	40.188440	-104.914710
- actual wellpath misses target center by 31.0ft at 14610.0ft MD (7197.5 TVD, 7375.8 N, 60.2 E)									
- Point									

Design Annotations					
	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	14,560.0	7,198.6	7,325.8	59.6	Last CES Survey @ 14,560' MD
	14,610.0	7,197.5	7,375.8	60.2	PTB @ 14,610'

Checked By: _____	Approved By: _____	Date: _____
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EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S5-T2N-R67W (Vogl-McCoy)

Vogl-Geist 2F-5H-F267

Hz

Design: FINAL

Survey Report - Geographic

11 March, 2014

Cathedral Energy Services

Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Vogl-Geist 2F-5H-F267
Project: DJ Wattenberg	TVD Reference: KB @ 4889.0ft (Ensign)
Site: S5-T2N-R67W (Vogl-McCoy)	MD Reference: KB @ 4889.0ft (Ensign)
Well: Vogl-Geist 2F-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 2F-5H-F267				
Well Position	+N/-S 0.0 ft	Northing: 1,304,627.41 ft	Latitude:	40.168110
	+E/-W 0.0 ft	Easting: 3,163,504.97 ft	Longitude:	-104.914950
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level:	4,859.0 ft

Wellbore Hz					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/20/2014	8.56	66.75	52,710

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 3/11/2014
From (ft)	To (ft)	Survey (Wellbore)
143.0	14,610.0	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	1,304,627.41	3,163,504.97	40.168110	-104.914950	
143.0	0.40	135.10	143.0	-0.4	0.4	1,304,627.06	3,163,505.32	40.168109	-104.914949	
266.0	0.50	161.40	266.0	-1.2	0.8	1,304,626.25	3,163,505.80	40.168107	-104.914947	
327.0	0.50	160.50	327.0	-1.7	1.0	1,304,625.75	3,163,505.98	40.168105	-104.914947	
419.0	0.40	157.20	419.0	-2.3	1.3	1,304,625.08	3,163,506.24	40.168104	-104.914946	
511.0	0.50	177.30	511.0	-3.0	1.4	1,304,624.38	3,163,506.39	40.168102	-104.914945	
603.0	0.50	156.90	603.0	-3.8	1.6	1,304,623.61	3,163,506.57	40.168099	-104.914945	
695.0	0.70	174.60	695.0	-4.7	1.8	1,304,622.69	3,163,506.79	40.168097	-104.914944	
818.0	0.70	199.50	818.0	-6.2	1.6	1,304,621.23	3,163,506.62	40.168093	-104.914945	
918.0	0.80	193.50	918.0	-7.5	1.2	1,304,619.97	3,163,506.26	40.168089	-104.914946	
1,010.0	0.90	195.90	1,010.0	-8.8	0.9	1,304,618.65	3,163,505.92	40.168086	-104.914947	
1,102.0	2.40	156.60	1,101.9	-11.2	1.5	1,304,616.19	3,163,506.50	40.168079	-104.914945	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4889.0ft (Ensign)
Well:	Vogl-Geist 2F-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	
1,194.0	4.20	137.10	1,193.8	-15.5	4.5	1,304,611.97	3,163,509.59	40.168067	-104.914934	
1,286.0	4.50	121.70	1,285.5	-19.8	9.9	1,304,607.64	3,163,514.98	40.168055	-104.914915	
1,378.0	3.90	108.80	1,377.3	-22.7	15.9	1,304,604.78	3,163,521.03	40.168048	-104.914893	
1,470.0	3.90	125.20	1,469.0	-25.6	21.4	1,304,602.00	3,163,526.57	40.168040	-104.914874	
1,564.0	5.40	118.90	1,562.7	-29.5	27.9	1,304,598.07	3,163,533.08	40.168029	-104.914850	
1,659.0	4.90	132.40	1,657.3	-34.4	34.8	1,304,593.22	3,163,540.02	40.168015	-104.914826	
1,754.0	4.00	117.50	1,752.1	-38.7	40.8	1,304,588.99	3,163,545.99	40.168004	-104.914804	
1,848.0	4.80	136.60	1,845.8	-43.1	46.4	1,304,584.65	3,163,551.63	40.167992	-104.914784	
1,943.0	3.80	124.90	1,940.5	-47.8	51.7	1,304,580.00	3,163,556.97	40.167979	-104.914765	
2,037.0	4.90	133.00	2,034.3	-52.3	57.2	1,304,575.52	3,163,562.49	40.167966	-104.914746	
2,132.0	5.10	135.00	2,128.9	-58.0	63.1	1,304,569.80	3,163,568.48	40.167951	-104.914724	
2,227.0	4.70	133.20	2,223.6	-63.7	69.0	1,304,564.19	3,163,574.34	40.167935	-104.914704	
2,322.0	4.10	130.70	2,318.3	-68.6	74.4	1,304,559.35	3,163,579.79	40.167922	-104.914684	
2,417.0	5.50	139.40	2,412.9	-74.2	79.9	1,304,553.71	3,163,585.36	40.167906	-104.914664	
2,512.0	5.70	134.10	2,507.5	-81.0	86.3	1,304,547.02	3,163,591.76	40.167888	-104.914642	
2,606.0	5.00	131.30	2,601.1	-86.9	92.7	1,304,541.11	3,163,598.22	40.167871	-104.914619	
2,701.0	5.60	125.00	2,695.7	-92.3	99.6	1,304,535.76	3,163,605.17	40.167857	-104.914594	
2,796.0	4.80	120.90	2,790.3	-97.0	106.8	1,304,531.11	3,163,612.41	40.167844	-104.914568	
2,891.0	5.20	111.60	2,884.9	-100.6	114.2	1,304,527.53	3,163,619.84	40.167834	-104.914542	
2,985.0	5.80	129.20	2,978.5	-105.2	121.9	1,304,523.01	3,163,627.51	40.167821	-104.914514	
3,080.0	4.40	128.30	3,073.1	-110.5	128.4	1,304,517.76	3,163,634.13	40.167807	-104.914491	
3,174.0	3.80	146.50	3,166.9	-115.3	133.0	1,304,512.96	3,163,638.71	40.167793	-104.914474	
3,268.0	4.40	156.00	3,260.6	-121.2	136.2	1,304,507.09	3,163,641.94	40.167777	-104.914463	
3,363.0	2.70	153.10	3,355.5	-126.6	138.7	1,304,501.78	3,163,644.47	40.167763	-104.914454	
3,458.0	3.50	141.70	3,450.3	-130.8	141.5	1,304,497.53	3,163,647.30	40.167751	-104.914444	
3,553.0	2.90	140.50	3,545.2	-135.0	144.8	1,304,493.42	3,163,650.66	40.167739	-104.914432	
3,646.0	3.70	115.30	3,638.0	-138.0	149.0	1,304,490.35	3,163,654.89	40.167731	-104.914417	
3,741.0	5.80	134.60	3,732.7	-142.7	155.2	1,304,485.71	3,163,661.11	40.167718	-104.914395	
3,835.0	6.30	137.70	3,826.2	-149.9	162.1	1,304,478.61	3,163,668.01	40.167698	-104.914370	
3,929.0	6.00	138.90	3,919.6	-157.4	168.8	1,304,471.13	3,163,674.76	40.167678	-104.914346	
4,024.0	5.50	139.30	4,014.1	-164.6	175.0	1,304,463.98	3,163,681.04	40.167658	-104.914324	
4,119.0	6.50	131.20	4,108.6	-171.6	182.0	1,304,457.03	3,163,688.10	40.167639	-104.914299	
4,213.0	5.80	131.30	4,202.1	-178.2	189.6	1,304,450.44	3,163,695.71	40.167621	-104.914272	
4,308.0	5.10	131.20	4,296.7	-184.2	196.4	1,304,444.54	3,163,702.54	40.167604	-104.914248	
4,402.0	5.50	131.70	4,390.3	-189.9	202.9	1,304,438.83	3,163,709.08	40.167589	-104.914224	
4,497.0	4.20	115.70	4,484.9	-194.5	209.4	1,304,434.34	3,163,715.65	40.167576	-104.914201	
4,591.0	4.80	117.90	4,578.6	-197.8	216.0	1,304,431.05	3,163,722.24	40.167567	-104.914177	
4,686.0	5.70	130.70	4,673.2	-202.7	223.1	1,304,426.16	3,163,729.37	40.167553	-104.914152	
4,780.0	4.90	128.50	4,766.8	-208.3	229.7	1,304,420.66	3,163,736.08	40.167538	-104.914128	
4,875.0	4.30	126.20	4,861.5	-212.9	235.8	1,304,416.07	3,163,742.16	40.167525	-104.914107	
4,969.0	3.70	124.70	4,955.3	-216.7	241.1	1,304,412.30	3,163,747.53	40.167515	-104.914087	
5,064.0	3.90	140.40	5,050.1	-220.9	245.7	1,304,408.10	3,163,752.13	40.167503	-104.914071	
5,158.0	4.50	132.80	5,143.8	-225.9	250.5	1,304,403.16	3,163,756.91	40.167490	-104.914054	
5,253.0	3.40	136.00	5,238.6	-230.5	255.1	1,304,398.63	3,163,761.63	40.167477	-104.914037	
5,348.0	3.30	119.60	5,333.4	-233.8	259.5	1,304,395.28	3,163,765.99	40.167468	-104.914022	
5,442.0	4.30	124.00	5,427.2	-237.2	264.8	1,304,392.01	3,163,771.28	40.167459	-104.914003	
5,537.0	2.80	124.60	5,522.1	-240.5	269.6	1,304,388.73	3,163,776.17	40.167450	-104.913985	
5,632.0	3.60	119.40	5,616.9	-243.2	274.1	1,304,385.98	3,163,780.69	40.167442	-104.913969	
5,727.0	4.80	107.30	5,711.7	-245.9	280.5	1,304,383.38	3,163,787.11	40.167435	-104.913946	
5,821.0	3.90	96.80	5,805.4	-247.4	287.5	1,304,381.87	3,163,794.05	40.167431	-104.913922	
5,916.0	2.60	88.20	5,900.2	-247.8	292.8	1,304,381.59	3,163,799.41	40.167430	-104.913903	
6,011.0	1.90	66.30	5,995.2	-247.1	296.4	1,304,382.32	3,163,803.00	40.167432	-104.913890	
6,106.0	0.40	109.30	6,090.1	-246.5	298.2	1,304,382.85	3,163,804.75	40.167433	-104.913883	
6,201.0	0.40	33.30	6,185.1	-246.4	298.7	1,304,383.02	3,163,805.25	40.167434	-104.913882	
6,295.0	0.60	332.30	6,279.1	-245.7	298.6	1,304,383.73	3,163,805.19	40.167436	-104.913882	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4889.0ft (Ensign)
Well:	Vogl-Geist 2F-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	
6,390.0	0.70	336.90	6,374.1	-244.7	298.2	1,304,384.71	3,163,804.73	40.167438	-104.913883	
6,485.0	1.00	337.10	6,469.1	-243.4	297.6	1,304,386.00	3,163,804.17	40.167442	-104.913885	
6,579.0	1.30	326.80	6,563.1	-241.7	296.7	1,304,387.64	3,163,803.25	40.167446	-104.913889	
6,611.0	1.40	327.40	6,595.1	-241.1	296.3	1,304,388.27	3,163,802.84	40.167448	-104.913890	
6,642.0	1.50	326.90	6,626.1	-240.4	295.9	1,304,388.93	3,163,802.41	40.167450	-104.913892	
6,674.0	3.30	1.90	6,658.0	-239.2	295.7	1,304,390.20	3,163,802.20	40.167453	-104.913892	
6,721.0	10.70	15.10	6,704.7	-233.6	296.9	1,304,395.78	3,163,803.35	40.167469	-104.913888	
6,768.0	16.70	7.40	6,750.3	-222.7	298.9	1,304,406.71	3,163,805.29	40.167499	-104.913881	
6,816.0	18.90	2.10	6,796.0	-208.1	300.0	1,304,421.33	3,163,806.36	40.167539	-104.913877	
6,863.0	20.40	357.70	6,840.3	-192.3	300.0	1,304,437.12	3,163,806.21	40.167582	-104.913877	
6,911.0	23.40	355.30	6,884.8	-174.4	298.9	1,304,454.98	3,163,804.98	40.167631	-104.913881	
6,958.0	27.80	356.50	6,927.2	-154.2	297.4	1,304,475.22	3,163,803.41	40.167687	-104.913886	
7,005.0	31.60	355.10	6,968.0	-130.9	295.7	1,304,498.42	3,163,801.53	40.167750	-104.913892	
7,052.0	36.50	353.00	7,006.9	-104.8	293.0	1,304,524.56	3,163,798.60	40.167822	-104.913902	
7,100.0	42.50	352.00	7,043.9	-74.5	289.0	1,304,554.79	3,163,794.40	40.167905	-104.913916	
7,147.0	48.10	355.20	7,077.0	-41.3	285.3	1,304,587.95	3,163,790.51	40.167996	-104.913929	
7,194.0	53.90	356.80	7,106.6	-4.9	282.7	1,304,624.35	3,163,787.74	40.168096	-104.913939	
7,241.0	57.40	356.50	7,133.1	33.8	280.5	1,304,663.07	3,163,785.22	40.168203	-104.913947	
7,289.0	59.40	356.30	7,158.2	74.6	277.9	1,304,703.86	3,163,782.38	40.168315	-104.913956	
7,336.0	65.40	356.90	7,180.0	116.2	275.4	1,304,745.40	3,163,779.64	40.168429	-104.913965	
7,383.0	72.00	358.70	7,197.1	159.9	273.8	1,304,789.12	3,163,777.69	40.168549	-104.913971	
7,430.0	76.60	0.30	7,209.8	205.1	273.4	1,304,834.35	3,163,777.00	40.168673	-104.913972	
7,478.0	80.60	0.60	7,219.3	252.2	273.8	1,304,881.40	3,163,777.06	40.168802	-104.913971	
7,521.0	81.00	1.60	7,226.1	294.6	274.6	1,304,923.84	3,163,777.60	40.168919	-104.913968	
7,595.0	85.30	1.00	7,235.0	368.0	276.2	1,304,997.27	3,163,778.78	40.169120	-104.913962	
7,658.0	86.30	0.60	7,239.6	430.9	277.1	1,305,060.10	3,163,779.24	40.169293	-104.913959	
7,752.0	88.10	0.40	7,244.2	524.7	277.9	1,305,153.98	3,163,779.44	40.169550	-104.913956	
7,846.0	91.90	359.50	7,244.2	618.7	277.9	1,305,247.96	3,163,778.74	40.169808	-104.913956	
7,941.0	92.90	358.00	7,240.2	713.6	275.8	1,305,342.83	3,163,776.04	40.170069	-104.913963	
8,033.0	92.70	356.70	7,235.7	805.4	271.5	1,305,434.59	3,163,771.19	40.170321	-104.913979	
8,125.0	90.70	355.70	7,233.0	897.2	265.4	1,305,526.30	3,163,764.49	40.170573	-104.914000	
8,217.0	90.70	355.60	7,231.8	988.9	258.5	1,305,617.98	3,163,756.91	40.170825	-104.914025	
8,309.0	90.60	356.20	7,230.8	1,080.6	251.9	1,305,709.70	3,163,749.72	40.171076	-104.914049	
8,401.0	89.60	357.00	7,230.6	1,172.5	246.4	1,305,801.49	3,163,743.66	40.171329	-104.914068	
8,495.0	90.00	356.90	7,231.0	1,266.3	241.4	1,305,895.32	3,163,738.04	40.171586	-104.914086	
8,590.0	90.80	358.10	7,230.3	1,361.3	237.3	1,305,990.20	3,163,733.27	40.171847	-104.914101	
8,685.0	91.80	358.50	7,228.1	1,456.2	234.5	1,306,085.11	3,163,729.83	40.172107	-104.914111	
8,779.0	92.20	358.10	7,224.9	1,550.1	231.7	1,306,178.99	3,163,726.42	40.172365	-104.914121	
8,874.0	91.10	359.30	7,222.1	1,645.0	229.5	1,306,273.91	3,163,723.64	40.172626	-104.914129	
8,968.0	90.90	359.50	7,220.5	1,739.0	228.5	1,306,367.90	3,163,722.04	40.172884	-104.914132	
9,063.0	91.50	359.20	7,218.5	1,834.0	227.5	1,306,462.86	3,163,720.33	40.173144	-104.914136	
9,158.0	89.80	359.80	7,217.4	1,929.0	226.6	1,306,557.84	3,163,718.88	40.173405	-104.914139	
9,253.0	90.20	359.40	7,217.4	2,024.0	226.0	1,306,652.83	3,163,717.59	40.173666	-104.914142	
9,348.0	90.00	358.40	7,217.3	2,119.0	224.2	1,306,747.80	3,163,715.14	40.173927	-104.914148	
9,442.0	90.00	358.30	7,217.3	2,212.9	221.4	1,306,841.74	3,163,711.81	40.174185	-104.914158	
9,537.0	90.20	358.60	7,217.1	2,307.9	218.9	1,306,936.69	3,163,708.61	40.174445	-104.914167	
9,632.0	90.50	358.80	7,216.5	2,402.9	216.7	1,307,031.64	3,163,705.83	40.174706	-104.914175	
9,727.0	90.80	358.60	7,215.4	2,497.8	214.6	1,307,126.60	3,163,703.05	40.174967	-104.914182	
9,822.0	90.70	359.00	7,214.2	2,592.8	212.6	1,307,221.55	3,163,700.43	40.175227	-104.914190	
9,916.0	89.60	358.50	7,213.9	2,686.8	210.5	1,307,315.51	3,163,697.76	40.175485	-104.914197	
10,010.0	90.00	358.50	7,214.3	2,780.7	208.1	1,307,409.46	3,163,694.68	40.175743	-104.914206	
10,105.0	90.00	358.80	7,214.3	2,875.7	205.8	1,307,504.42	3,163,691.82	40.176004	-104.914214	
10,199.0	90.70	358.50	7,213.7	2,969.7	203.6	1,307,598.37	3,163,688.98	40.176262	-104.914222	
10,294.0	90.00	358.60	7,213.1	3,064.6	201.2	1,307,693.32	3,163,685.95	40.176523	-104.914230	
10,388.0	90.20	358.50	7,213.0	3,158.6	198.8	1,307,787.28	3,163,682.95	40.176781	-104.914239	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4889.0ft (Ensign)
Well:	Vogl-Geist 2F-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	
10,483.0	89.70	357.80	7,213.0	3,253.6	195.8	1,307,882.20	3,163,679.26	40.177041	-104.914250	
10,577.0	90.50	357.50	7,212.9	3,347.5	191.9	1,307,976.10	3,163,674.79	40.177299	-104.914263	
10,672.0	91.20	358.20	7,211.5	3,442.4	188.3	1,308,070.97	3,163,670.60	40.177560	-104.914276	
10,766.0	89.40	357.10	7,211.0	3,536.3	184.5	1,308,164.86	3,163,666.13	40.177818	-104.914290	
10,860.0	89.60	357.20	7,211.8	3,630.2	179.8	1,308,258.70	3,163,660.83	40.178075	-104.914307	
10,955.0	89.50	357.20	7,212.5	3,725.1	175.2	1,308,353.56	3,163,655.57	40.178336	-104.914323	
11,050.0	89.50	357.20	7,213.4	3,820.0	170.5	1,308,448.41	3,163,650.30	40.178596	-104.914340	
11,144.0	89.70	357.10	7,214.0	3,913.8	165.9	1,308,542.25	3,163,645.01	40.178854	-104.914357	
11,239.0	90.50	357.00	7,213.9	4,008.7	161.0	1,308,637.09	3,163,639.49	40.179114	-104.914374	
11,333.0	91.30	356.90	7,212.4	4,102.6	156.0	1,308,730.91	3,163,633.87	40.179372	-104.914392	
11,428.0	91.90	357.00	7,209.7	4,197.4	150.9	1,308,825.71	3,163,628.19	40.179632	-104.914410	
11,522.0	92.40	357.70	7,206.2	4,291.2	146.6	1,308,919.51	3,163,623.23	40.179890	-104.914426	
11,617.0	90.90	359.30	7,203.5	4,386.1	144.1	1,309,014.41	3,163,620.12	40.180150	-104.914435	
11,711.0	91.00	359.50	7,201.9	4,480.1	143.1	1,309,108.38	3,163,618.52	40.180408	-104.914438	
11,806.0	91.30	359.70	7,200.0	4,575.1	142.4	1,309,203.36	3,163,617.23	40.180669	-104.914440	
11,875.0	89.60	0.30	7,199.5	4,644.1	142.4	1,309,272.35	3,163,616.77	40.180859	-104.914440	
11,969.0	89.00	1.10	7,200.6	4,738.1	143.6	1,309,366.34	3,163,617.30	40.181117	-104.914436	
12,064.0	87.90	0.00	7,203.2	4,833.0	144.5	1,309,461.30	3,163,617.58	40.181377	-104.914433	
12,158.0	87.50	359.90	7,207.0	4,927.0	144.4	1,309,555.22	3,163,616.88	40.181635	-104.914433	
12,253.0	87.10	359.20	7,211.4	5,021.9	143.7	1,309,650.11	3,163,615.51	40.181896	-104.914436	
12,347.0	86.30	358.60	7,216.8	5,115.7	141.9	1,309,743.92	3,163,613.09	40.182153	-104.914442	
12,442.0	85.90	358.30	7,223.3	5,210.4	139.3	1,309,838.65	3,163,609.90	40.182413	-104.914452	
12,519.0	86.90	358.00	7,228.1	5,287.2	136.8	1,309,915.43	3,163,606.91	40.182624	-104.914461	
12,547.0	89.00	358.00	7,229.1	5,315.2	135.9	1,309,943.39	3,163,605.75	40.182701	-104.914464	
12,641.0	90.60	357.50	7,229.5	5,409.1	132.2	1,310,037.29	3,163,601.44	40.182959	-104.914477	
12,736.0	91.50	356.80	7,227.7	5,504.0	127.4	1,310,132.12	3,163,596.10	40.183219	-104.914494	
12,830.0	91.50	356.40	7,225.3	5,597.8	121.9	1,310,225.88	3,163,589.90	40.183477	-104.914514	
12,925.0	91.80	356.40	7,222.5	5,692.6	115.9	1,310,320.61	3,163,583.32	40.183737	-104.914535	
13,019.0	90.20	356.20	7,220.9	5,786.3	109.8	1,310,414.36	3,163,576.63	40.183994	-104.914557	
13,114.0	91.70	358.50	7,219.3	5,881.2	105.5	1,310,509.20	3,163,571.61	40.184255	-104.914573	
13,209.0	91.80	359.90	7,216.4	5,976.2	104.1	1,310,604.14	3,163,569.66	40.184515	-104.914578	
13,303.0	90.70	0.10	7,214.4	6,070.1	104.1	1,310,698.11	3,163,569.04	40.184773	-104.914578	
13,398.0	90.20	359.90	7,213.6	6,165.1	104.1	1,310,793.11	3,163,568.42	40.185034	-104.914578	
13,492.0	90.60	358.50	7,213.0	6,259.1	102.8	1,310,887.08	3,163,566.48	40.185292	-104.914582	
13,587.0	91.10	359.00	7,211.5	6,354.1	100.7	1,310,982.03	3,163,563.78	40.185553	-104.914590	
13,681.0	90.40	357.40	7,210.3	6,448.0	97.8	1,311,075.95	3,163,560.21	40.185811	-104.914600	
13,776.0	89.10	356.30	7,210.7	6,542.9	92.6	1,311,170.77	3,163,554.37	40.186071	-104.914619	
13,871.0	90.70	357.90	7,210.9	6,637.8	87.8	1,311,265.61	3,163,548.94	40.186331	-104.914636	
13,966.0	91.40	357.70	7,209.2	6,732.7	84.1	1,311,360.49	3,163,544.66	40.186592	-104.914649	
14,061.0	91.60	356.90	7,206.7	6,827.5	79.6	1,311,455.32	3,163,539.56	40.186852	-104.914665	
14,156.0	90.00	355.60	7,205.3	6,922.3	73.4	1,311,550.06	3,163,532.73	40.187113	-104.914687	
14,250.0	91.50	356.30	7,204.1	7,016.1	66.8	1,311,643.77	3,163,525.47	40.187370	-104.914711	
14,345.0	90.40	356.60	7,202.5	7,110.9	60.9	1,311,738.56	3,163,518.96	40.187630	-104.914732	
14,440.0	91.20	0.30	7,201.2	7,205.8	58.3	1,311,833.48	3,163,515.77	40.187891	-104.914741	
14,535.0	91.30	0.80	7,199.1	7,300.8	59.3	1,311,928.46	3,163,516.05	40.188152	-104.914738	
14,560.0	91.20	0.70	7,198.6	7,325.8	59.6	1,311,953.42	3,163,516.21	40.188220	-104.914737	
Last CES Survey @ 14,560' MD										
14,610.0	91.20	0.70	7,197.5	7,375.8	60.2	1,312,003.41	3,163,516.49	40.188357	-104.914735	
PTB @ 14,610'										

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Vogl-Geist 2F-5H-F267
Project:	DJ Wattenberg	TVD Reference:	KB @ 4889.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	MD Reference:	KB @ 4889.0ft (Ensign)
Well:	Vogl-Geist 2F-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 2F-5H-F267 I	0.00	0.00	7,195.0	7,405.9	67.1	1,312,033.62	3,163,523.15	40.188440	-104.914710
- actual wellpath misses target center by 31.0ft at 14610.0ft MD (7197.5 TVD, 7375.8 N, 60.2 E)									
- Point									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
14,560.0	7,198.6	7,325.8	59.6		Last CES Survey @ 14,560' MD
14,610.0	7,197.5	7,375.8	60.2		PTB @ 14,610'

Checked By: _____ Approved By: _____ Date: _____