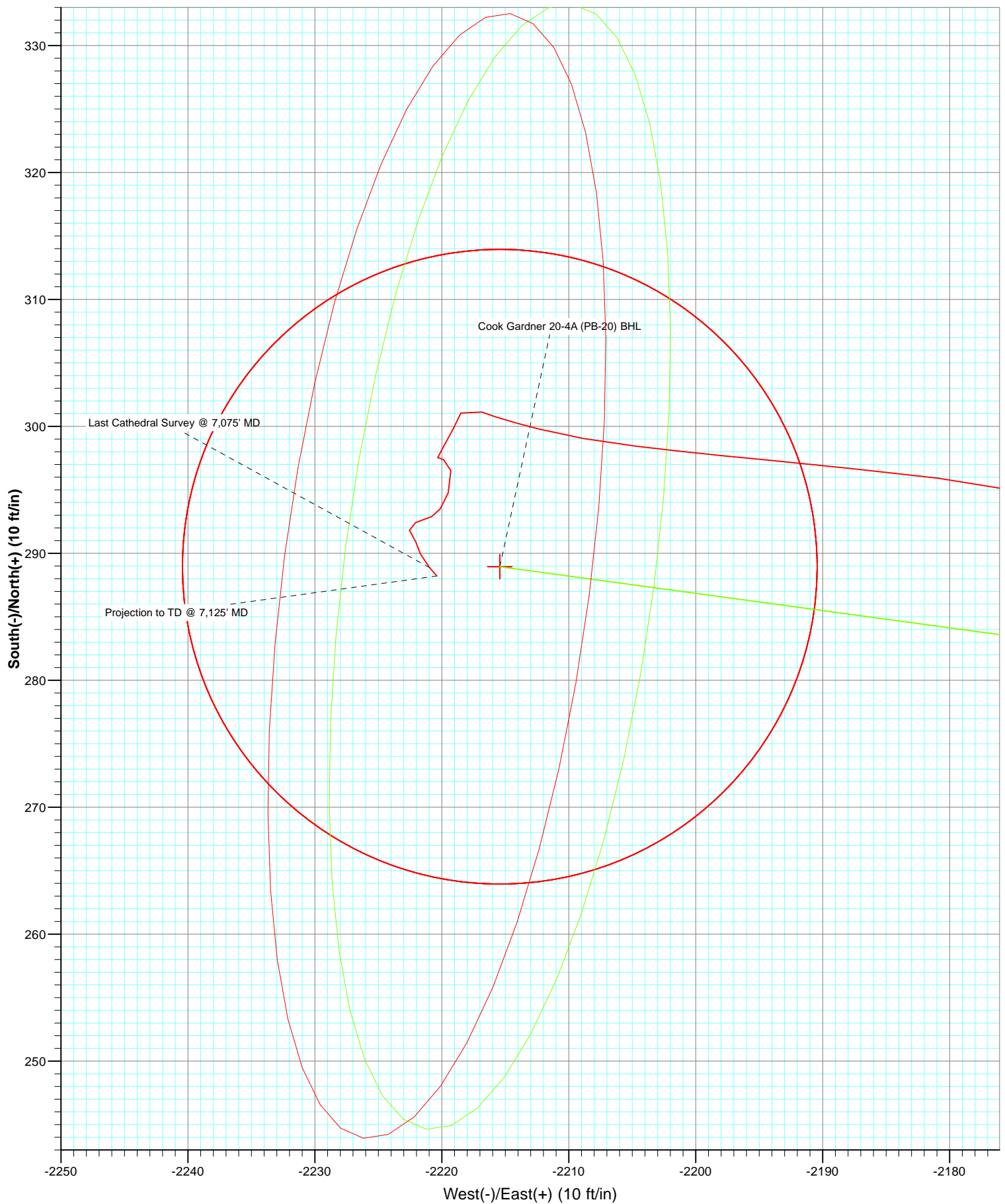


Azimuths to True North  
 Magnetic North: 10.25°

Magnetic Field  
 Strength: 52129.8nT  
 Dip Angle: 65.66°  
 Date: 4/9/2012  
 Model: IGRF2010



## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Cook Gardner 20-4A (PB-20)
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KBE @ 5665.0ft (Original Well Elev)
<b>Site:</b>	PB-20 Pad	<b>MD Reference:</b>	KBE @ 5665.0ft (Original Well Elev)
<b>Well:</b>	Cook Gardner 20-4A (PB-20)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB

<b>Project</b>	S. Piceance (Parachute), Garfield County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

Site	PB-20 Pad				
Site Position:		Northing:	1,590,537.58 ft	Latitude:	39.427690
From:	Lat/Long	Easting:	2,288,393.21 ft	Longitude:	-108.019530
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.59 °

Well	Cook Gardner 20-4A (PB-20)					
Well Position	+N/-S	0.0 ft	Northing:	1,590,519.52 ft	Latitude:	39.427637
	+E/-W	0.0 ft	Easting:	2,288,348.34 ft	Longitude:	-108.019687
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,643.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/9/2012	10.25	65.66	52,130

<b>Design</b>	DD				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	277.43	

<b>Survey Program</b>	<b>Date</b>	4/16/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
82.0	1,061.0	Survey #1 (DD)	MWD	Geolink MWD	
1,168.0	7,125.0	Survey #2 (DD)	MWD	Geolink MWD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
82.0	0.40	322.70	82.0	0.2	-0.2	0.2	0.49	0.49		
113.0	0.70	280.30	113.0	0.3	-0.4	0.5	1.57	0.97		
143.0	1.20	291.20	143.0	0.5	-0.9	1.0	1.76	1.67		
173.0	2.00	282.00	173.0	0.7	-1.7	1.8	2.79	2.67		
204.0	2.40	284.40	204.0	1.0	-2.9	3.0	1.32	1.29		
235.0	3.50	287.50	234.9	1.4	-4.4	4.5	3.58	3.55		
266.0	3.50	285.40	265.9	2.0	-6.2	6.4	0.41	0.00		
297.0	4.10	282.10	296.8	2.5	-8.2	8.5	2.06	1.94		
328.0	4.70	284.20	327.7	3.0	-10.5	10.8	2.00	1.94		
389.0	6.20	280.80	388.4	4.2	-16.2	16.6	2.51	2.46		
420.0	7.20	281.10	419.2	4.9	-19.7	20.2	3.23	3.23		

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Cook Gardner 20-4A (PB-20)
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KBE @ 5665.0ft (Original Well Elev)
<b>Site:</b>	PB-20 Pad	<b>MD Reference:</b>	KBE @ 5665.0ft (Original Well Elev)
<b>Well:</b>	Cook Gardner 20-4A (PB-20)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
451.0	7.70	278.00	449.9	5.6	-23.7	24.2	2.07	1.61	
542.0	10.50	272.40	539.8	6.8	-38.0	38.6	3.22	3.08	
635.0	13.60	272.40	630.7	7.6	-57.4	57.9	3.33	3.33	
727.0	16.70	273.40	719.5	8.8	-81.4	81.9	3.38	3.37	
820.0	19.10	274.70	808.0	10.9	-109.9	110.4	2.62	2.58	
911.0	21.70	275.80	893.3	13.8	-141.5	142.1	2.89	2.86	
1,004.0	23.80	275.10	979.1	17.2	-177.3	178.0	2.28	2.26	
1,061.0	24.60	275.20	1,031.1	19.3	-200.6	201.4	1.41	1.40	Last Cathedral Survey @ 1,061' MD
1,168.0	24.70	274.40	1,128.3	23.0	-245.0	246.0	0.33	0.09	
1,264.0	28.30	279.10	1,214.2	28.2	-287.5	288.8	4.34	3.75	
1,359.0	31.10	280.50	1,296.7	36.2	-333.9	335.8	3.04	2.95	
1,454.0	31.90	279.50	1,377.7	44.8	-382.8	385.4	1.01	0.84	
1,550.0	31.90	279.20	1,459.2	53.1	-432.8	436.1	0.17	0.00	
1,645.0	30.70	278.60	1,540.4	60.7	-481.6	485.4	1.31	-1.26	
1,740.0	31.30	277.00	1,621.8	67.3	-530.1	534.3	1.07	0.63	
1,836.0	32.10	278.00	1,703.5	73.9	-580.1	584.8	1.00	0.83	
1,931.0	31.40	275.40	1,784.3	79.8	-629.7	634.7	1.62	-0.74	
2,027.0	32.90	275.00	1,865.6	84.4	-680.6	685.8	1.58	1.56	
2,123.0	33.60	274.30	1,945.9	88.7	-733.1	738.4	0.83	0.73	
2,218.0	34.30	274.90	2,024.7	92.9	-785.9	791.4	0.82	0.74	
2,313.0	35.30	274.40	2,102.7	97.3	-840.0	845.5	1.09	1.05	
2,408.0	33.80	275.90	2,180.9	102.1	-893.6	899.3	1.82	-1.58	
2,504.0	32.80	277.80	2,261.2	108.4	-946.0	952.0	1.51	-1.04	
2,599.0	32.20	280.30	2,341.3	116.4	-996.4	1,003.0	1.55	-0.63	
2,695.0	32.20	280.60	2,422.5	125.7	-1,046.7	1,054.1	0.17	0.00	
2,790.0	29.90	280.30	2,503.9	134.6	-1,094.8	1,103.1	2.43	-2.42	
2,885.0	28.70	280.40	2,586.7	142.9	-1,140.6	1,149.5	1.26	-1.26	
2,980.0	29.30	280.30	2,669.8	151.2	-1,185.9	1,195.5	0.63	0.63	
3,076.0	28.00	279.60	2,754.1	159.2	-1,231.2	1,241.5	1.40	-1.35	
3,171.0	29.10	279.70	2,837.5	166.8	-1,276.0	1,286.8	1.16	1.16	
3,266.0	31.20	276.80	2,919.7	173.6	-1,323.2	1,334.5	2.69	2.21	
3,362.0	31.70	276.70	3,001.6	179.5	-1,372.9	1,384.6	0.52	0.52	
3,458.0	31.70	276.20	3,083.2	185.1	-1,423.1	1,435.1	0.27	0.00	
3,552.0	31.60	277.90	3,163.3	191.2	-1,472.0	1,484.4	0.95	-0.11	
3,647.0	31.30	278.10	3,244.3	198.1	-1,521.1	1,533.9	0.33	-0.32	
3,743.0	31.60	277.40	3,326.2	204.8	-1,570.7	1,584.0	0.49	0.31	
3,838.0	30.90	278.00	3,407.4	211.4	-1,619.6	1,633.3	0.81	-0.74	
3,933.0	30.40	278.10	3,489.2	218.2	-1,667.5	1,681.7	0.53	-0.53	
4,029.0	30.50	277.60	3,571.9	224.9	-1,715.7	1,730.4	0.28	0.10	
4,124.0	30.80	278.60	3,653.6	231.7	-1,763.7	1,778.8	0.62	0.32	
4,220.0	30.80	278.50	3,736.1	239.0	-1,812.3	1,828.0	0.05	0.00	
4,315.0	28.00	278.50	3,818.9	245.9	-1,858.4	1,874.6	2.95	-2.95	
4,410.0	25.80	278.80	3,903.6	252.4	-1,900.9	1,917.5	2.32	-2.32	
4,506.0	24.80	278.70	3,990.4	258.6	-1,941.4	1,958.6	1.04	-1.04	
4,601.0	23.30	277.90	4,077.1	264.2	-1,979.7	1,997.3	1.62	-1.58	
4,697.0	21.20	278.60	4,166.0	269.4	-2,015.7	2,033.6	2.20	-2.19	
4,792.0	19.10	279.50	4,255.1	274.5	-2,048.0	2,066.3	2.23	-2.21	
4,887.0	18.10	278.80	4,345.2	279.4	-2,077.9	2,096.6	1.08	-1.05	
4,983.0	17.20	278.40	4,436.7	283.7	-2,106.7	2,125.7	0.95	-0.94	
5,078.0	13.20	279.00	4,528.3	287.5	-2,131.3	2,150.6	4.21	-4.21	
5,173.0	10.40	279.80	4,621.3	290.6	-2,150.5	2,170.0	2.95	-2.95	
5,268.0	9.20	281.40	4,714.9	293.6	-2,166.4	2,186.2	1.30	-1.26	
5,363.0	8.60	276.70	4,808.8	295.9	-2,180.9	2,200.8	0.99	-0.63	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Cook Gardner 20-4A (PB-20)
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KBE @ 5665.0ft (Original Well Elev)
<b>Site:</b>	PB-20 Pad	<b>MD Reference:</b>	KBE @ 5665.0ft (Original Well Elev)
<b>Well:</b>	Cook Gardner 20-4A (PB-20)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
5,458.0	7.50	275.40	4,902.8	297.3	-2,194.1	2,214.1	1.17	-1.16	Cook Gardner 20-4A (PB-20) TGT
5,552.0	5.50	276.90	4,996.2	298.4	-2,204.7	2,224.8	2.14	-2.13	
5,566.5	5.25	277.76	5,010.6	298.6	-2,206.0	2,226.1	1.80	-1.72	
5,647.0	3.90	284.50	5,090.9	299.8	-2,212.3	2,232.5	1.80	-1.68	
5,743.0	1.70	290.90	5,186.8	301.1	-2,216.8	2,237.2	2.31	-2.29	
5,838.0	0.80	210.20	5,281.8	301.1	-2,218.5	2,238.8	1.85	-0.95	Cook Gardner 20-4A (PB-20) BHL
5,933.0	0.80	201.70	5,376.8	299.9	-2,219.1	2,239.2	0.12	0.00	
6,029.0	1.20	212.80	5,472.8	298.4	-2,219.9	2,239.8	0.46	0.42	
6,124.0	0.10	100.30	5,567.7	297.5	-2,220.3	2,240.2	1.31	-1.16	
6,219.0	0.50	111.20	5,662.7	297.4	-2,219.9	2,239.7	0.42	0.42	
6,313.0	0.90	165.80	5,756.7	296.5	-2,219.3	2,239.0	0.78	0.43	
6,409.0	1.30	201.20	5,852.7	294.8	-2,219.5	2,239.0	0.80	0.42	
6,504.0	0.40	220.70	5,947.7	293.5	-2,220.1	2,239.4	0.98	-0.95	
6,600.0	0.70	232.80	6,043.7	292.9	-2,220.8	2,240.0	0.33	0.31	
6,695.0	1.00	260.70	6,138.7	292.4	-2,222.1	2,241.2	0.53	0.32	
6,791.0	0.70	142.70	6,234.7	291.8	-2,222.5	2,241.6	1.53	-0.31	
6,885.0	0.60	162.60	6,328.7	290.9	-2,222.0	2,241.0	0.26	-0.11	
6,980.0	0.60	156.70	6,423.7	290.0	-2,221.7	2,240.5	0.07	0.00	
7,075.0	1.00	139.00	6,518.7	288.9	-2,221.0	2,239.7	0.49	0.42	
7,102.4	1.00	139.00	6,546.1	288.5	-2,220.6	2,239.3	0.00	0.00	
7,125.0	1.00	139.00	6,568.6	288.2	-2,220.4	2,239.0	0.00	0.00	Projection to TD @ 7,125' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Interp @ 959.4 (Cook G: - hit/miss target - Shape	0.00	0.00	959.4	14.6	-159.8	1,590,538.58	2,288,189.05	39.427677	-108.020253
- actual wellpath misses target center by 8.4ft at 979.0ft MD (956.2 TVD, 16.3 N, -167.4 E)									
- Point									
Cook Gardner 20-4A (PE - actual wellpath misses target center by 13.5ft at 5566.5ft MD (5010.6 TVD, 298.6 N, -2206.0 E)	0.00	0.00	5,010.0	288.9	-2,215.4	1,590,869.79	2,286,141.78	39.428430	-108.027530
- Circle (radius 25.0)									
Cook Gardner 20-4A (PE - actual wellpath misses target center by 5.2ft at 7102.4ft MD (6546.1 TVD, 288.5 N, -2220.6 E)	0.00	0.00	6,546.0	288.9	-2,215.4	1,590,869.79	2,286,141.78	39.428430	-108.027530
- Circle (radius 25.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,061.0	1,031.1	19.3	-200.6	Last Cathedral Survey @ 1,061' MD	
7,075.0	6,518.7	288.9	-2,221.0	Last Cathedral Survey @ 7,075' MD	
7,125.0	6,568.6	288.2	-2,220.4	Projection to TD @ 7,125' MD	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------