
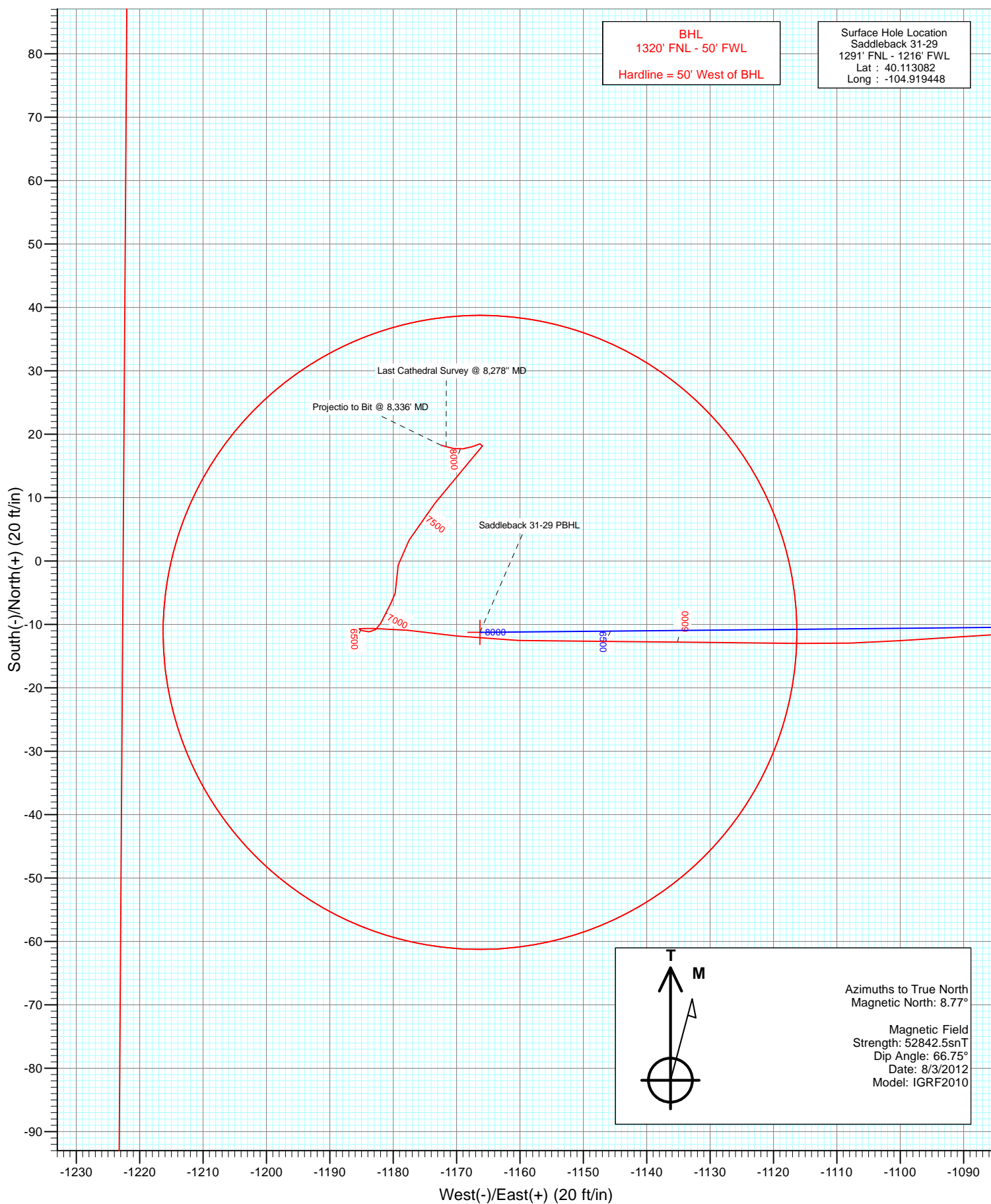


<h2 style="margin: 0;">DETAILS</h2>							
<p>No casing data is available</p>							
<h2 style="margin: 0;">FORMATION TOP DETAILS</h2>							
<p>No formation data is available</p>							
<div style="display: flex; align-items: center; justify-content: center; gap: 20px;">  <div style="text-align: left;"> <p>Azimuths to True North Magnetic North: 8.77°</p> <p>Magnetic Field Strength: 52842.5snT Dip Angle: 66.75° Date: 8/3/2012 Model: IGRF2010</p> </div> </div>							
<p>FINAL Saddleback 31-29 125479; 182955; DN WELL @ 5030.0ft (Xtreme 11) GL @ 5015.0 North American Datum 1983 Well Saddleback 31-29, True North</p>							
Type Target	Target Saddleback 31-29 PBHL	Azimuth 269.45	Origin Slot	Type N/S	0.0	E/W 0.0	From TVD 0.0
		TVD 8196.0	+N/-S -11.3	+E/-W -1166.3	Latitude 40 11 30.5	Longitude -104 22 28.8	
<p>Saddleback 31-29 PBHL</p>							



Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Saddleback 31-29
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5030.0ft (Xtreme 11)
Site:	S29-T2N-R67W (Saddleback)	MD Reference:	WELL @ 5030.0ft (Xtreme 11)
Well:	Saddleback 31-29	North Reference:	True
Wellbore:	DD	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		S29-T2N-R67W (Saddleback)			
Site Position:		Northing:	1,284,564.16 ft	Latitude:	40.113055
From:	Lat/Long	Easting:	3,162,379.27 ft	Longitude:	-104.919448
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.38 °

Well	Saddleback 31-29					
Well Position	+N/-S	0.0 ft	Northing:	1,284,573.99 ft	Latitude:	40.113082
	+E/-W	0.0 ft	Easting:	3,162,379.20 ft	Longitude:	-104.919448
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,015.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/3/2012	8.77	66.75	52,843

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)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	269.45	

Survey Program	Date	8/8/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
77.0	8,336.0	Survey #1 (DD)	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		
77.0	0.40	126.40	77.0	-0.2	0.2	-0.2	0.52	0.52		
164.0	0.50	241.80	164.0	-0.5	0.1	-0.1	0.88	0.11		
253.0	2.00	284.10	253.0	-0.3	-1.7	1.7	1.87	1.69		
340.0	3.10	286.70	339.9	0.7	-5.4	5.4	1.27	1.26		
462.0	4.40	283.60	461.6	2.8	-13.2	13.1	1.08	1.07		
553.0	6.00	274.20	552.2	3.9	-21.3	21.3	1.99	1.76		
643.0	7.30	273.40	641.6	4.6	-31.7	31.6	1.45	1.44		
734.0	9.10	275.50	731.7	5.7	-44.6	44.6	2.00	1.98		
825.0	10.10	273.80	821.4	6.9	-59.8	59.7	1.14	1.10		
840.0	10.00	272.70	836.2	7.0	-62.4	62.3	1.44	-0.67		
911.0	10.30	273.70	906.1	7.7	-74.9	74.8	0.49	0.42		
1,018.0	11.40	262.60	1,011.2	7.0	-94.9	94.8	2.20	1.03		

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Saddleback 31-29
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5030.0ft (Xtreme 11)
Site:	S29-T2N-R67W (Saddleback)	MD Reference:	WELL @ 5030.0ft (Xtreme 11)
Well:	Saddleback 31-29	North Reference:	True
Wellbore:	DD	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
1,109.0	12.00	262.20	1,100.3	4.5	-113.2	113.1	0.67	0.66	
1,200.0	11.20	259.30	1,189.4	1.6	-131.2	131.2	1.09	-0.88	
1,290.0	12.80	264.40	1,277.5	-1.0	-149.8	149.8	2.13	1.78	
1,381.0	12.50	265.00	1,366.3	-2.8	-169.6	169.6	0.36	-0.33	
1,472.0	11.60	263.40	1,455.3	-4.7	-188.5	188.5	1.05	-0.99	
1,563.0	11.70	267.70	1,544.4	-6.2	-206.8	206.9	0.96	0.11	
1,653.0	12.30	270.00	1,632.4	-6.5	-225.5	225.6	0.85	0.67	
1,744.0	11.30	266.80	1,721.5	-7.0	-244.1	244.2	1.31	-1.10	
1,835.0	11.80	267.80	1,810.7	-7.9	-262.3	262.4	0.59	0.55	
1,926.0	12.80	273.10	1,899.6	-7.7	-281.7	281.7	1.66	1.10	
2,017.0	11.60	272.40	1,988.5	-6.8	-300.9	300.9	1.33	-1.32	
2,107.0	12.10	275.20	2,076.6	-5.5	-319.3	319.3	0.85	0.56	
2,198.0	11.40	273.60	2,165.7	-4.1	-337.8	337.8	0.85	-0.77	
2,289.0	11.50	267.60	2,254.9	-3.9	-355.8	355.8	1.31	0.11	
2,380.0	12.90	273.10	2,343.8	-3.7	-375.0	375.1	2.00	1.54	
2,470.0	11.10	271.30	2,431.8	-3.0	-393.7	393.7	2.04	-2.00	
2,561.0	11.90	264.90	2,521.0	-3.6	-411.8	411.8	1.65	0.88	
2,652.0	12.70	271.40	2,609.9	-4.2	-431.2	431.2	1.76	0.88	
2,742.0	11.90	269.30	2,697.9	-4.1	-450.3	450.4	1.02	-0.89	
2,833.0	11.70	267.10	2,787.0	-4.7	-468.9	469.0	0.54	-0.22	
2,924.0	12.30	275.40	2,876.0	-4.2	-487.8	487.8	2.01	0.66	
3,015.0	11.00	275.10	2,965.1	-2.6	-506.1	506.1	1.43	-1.43	
3,105.0	10.90	270.70	3,053.5	-1.7	-523.2	523.2	0.94	-0.11	
3,196.0	11.40	269.60	3,142.7	-1.6	-540.8	540.8	0.60	0.55	
3,287.0	11.30	267.00	3,232.0	-2.2	-558.7	558.7	0.57	-0.11	
3,378.0	11.90	265.10	3,321.1	-3.4	-576.9	576.9	0.78	0.66	
3,468.0	12.70	265.40	3,409.0	-5.0	-596.0	596.0	0.89	0.89	
3,559.0	11.20	266.20	3,498.1	-6.4	-614.8	614.8	1.66	-1.65	
3,650.0	10.40	265.70	3,587.4	-7.6	-631.8	631.9	0.89	-0.88	
3,741.0	12.40	269.90	3,676.6	-8.2	-649.8	649.8	2.38	2.20	
3,832.0	13.00	266.60	3,765.4	-8.9	-669.8	669.8	1.03	0.66	
3,922.0	12.70	269.50	3,853.2	-9.6	-689.8	689.8	0.79	-0.33	
4,013.0	13.60	275.70	3,941.8	-8.6	-710.4	710.5	1.84	0.99	
4,104.0	14.10	275.50	4,030.1	-6.5	-732.1	732.1	0.55	0.55	
4,195.0	11.90	275.70	4,118.8	-4.5	-752.5	752.5	2.42	-2.42	
4,286.0	12.30	271.10	4,207.8	-3.3	-771.5	771.5	1.15	0.44	
4,376.0	12.70	267.40	4,295.7	-3.6	-791.0	791.0	0.99	0.44	
4,467.0	11.90	269.50	4,384.6	-4.1	-810.3	810.3	1.01	-0.88	
4,558.0	12.40	266.30	4,473.5	-4.9	-829.5	829.5	0.92	0.55	
4,648.0	12.60	270.60	4,561.4	-5.4	-848.9	848.9	1.06	0.22	
4,739.0	10.80	270.20	4,650.5	-5.2	-867.4	867.4	1.98	-1.98	
4,830.0	12.80	268.10	4,739.6	-5.6	-886.0	886.0	2.25	2.20	
4,921.0	11.90	272.50	4,828.5	-5.5	-905.4	905.4	1.43	-0.99	
5,012.0	10.90	268.00	4,917.7	-5.4	-923.4	923.4	1.47	-1.10	
5,102.0	11.00	263.40	5,006.0	-6.7	-940.4	940.5	0.98	0.11	
5,193.0	12.80	265.10	5,095.1	-8.5	-959.1	959.2	2.01	1.98	
5,284.0	11.60	266.60	5,184.0	-9.9	-978.3	978.3	1.36	-1.32	
5,374.0	10.90	271.90	5,272.3	-10.2	-995.8	995.9	1.39	-0.78	
5,465.0	11.20	264.90	5,361.6	-10.7	-1,013.2	1,013.3	1.51	0.33	
5,556.0	11.30	269.10	5,450.9	-11.6	-1,030.9	1,031.0	0.91	0.11	
5,647.0	13.00	270.90	5,539.8	-11.6	-1,050.1	1,050.2	1.91	1.87	
5,737.0	10.30	271.00	5,628.0	-11.3	-1,068.3	1,068.3	3.00	-3.00	
5,828.0	10.10	266.80	5,717.5	-11.6	-1,084.4	1,084.4	0.85	-0.22	

Cathedral Energy Services

Survey Report

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Site:	S29-T2N-R67W (Saddleback)	MD Reference:	WELL @ 5030.0ft (Xtreme 11)
Well:	Saddleback 31-29	North Reference:	True
Wellbore:	DD	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
5,919.0	9.90	266.00	5,807.1	-12.6	-1,100.1	1,100.2	0.27	-0.22	
6,009.0	10.50	270.80	5,895.7	-13.0	-1,116.1	1,116.1	1.16	0.67	
6,100.0	10.30	270.50	5,985.2	-12.8	-1,132.5	1,132.6	0.23	-0.22	
6,191.0	9.00	270.60	6,074.9	-12.7	-1,147.7	1,147.8	1.43	-1.43	
6,282.0	6.70	270.70	6,165.1	-12.5	-1,160.2	1,160.2	2.53	-2.53	
6,372.0	5.80	278.00	6,254.5	-11.8	-1,169.9	1,170.0	1.33	-1.00	
6,463.0	4.20	274.60	6,345.2	-10.9	-1,177.8	1,177.8	1.79	-1.76	
6,554.0	2.50	270.20	6,436.0	-10.6	-1,183.1	1,183.1	1.89	-1.87	
6,644.0	0.40	259.60	6,526.0	-10.7	-1,185.4	1,185.4	2.34	-2.33	
6,735.0	0.90	107.80	6,617.0	-11.0	-1,185.0	1,185.1	1.39	0.55	
6,826.0	0.70	88.30	6,708.0	-11.2	-1,183.8	1,183.8	0.37	-0.22	
6,917.0	0.70	51.90	6,799.0	-10.8	-1,182.8	1,182.8	0.48	0.00	
7,007.0	0.90	30.50	6,889.0	-9.9	-1,182.0	1,182.0	0.40	0.22	
7,098.0	1.00	23.70	6,980.0	-8.5	-1,181.3	1,181.3	0.17	0.11	
7,189.0	1.30	29.80	7,070.9	-6.9	-1,180.5	1,180.5	0.36	0.33	
7,279.0	1.20	16.20	7,160.9	-5.1	-1,179.7	1,179.7	0.35	-0.11	
7,370.0	1.30	358.10	7,251.9	-3.2	-1,179.5	1,179.4	0.45	0.11	
7,461.0	1.90	10.80	7,342.9	-0.6	-1,179.2	1,179.2	0.76	0.66	
7,552.0	3.60	30.50	7,433.8	3.3	-1,177.5	1,177.4	2.11	1.87	
7,643.0	5.40	38.10	7,524.5	9.1	-1,173.4	1,173.3	2.08	1.98	
7,733.0	4.30	41.60	7,614.1	15.0	-1,168.5	1,168.3	1.27	-1.22	
7,824.0	0.90	30.90	7,705.0	18.1	-1,165.9	1,165.7	3.76	-3.74	
7,915.0	1.00	249.60	7,796.0	18.5	-1,166.3	1,166.1	1.97	0.11	
8,006.0	0.80	252.10	7,887.0	18.0	-1,167.6	1,167.4	0.22	-0.22	
8,096.0	1.00	262.10	7,977.0	17.7	-1,169.0	1,168.8	0.28	0.22	
8,187.0	0.80	281.80	8,068.0	17.7	-1,170.4	1,170.2	0.40	-0.22	
8,278.0	0.80	285.20	8,159.0	18.0	-1,171.7	1,171.4	0.05	0.00	Last Cathedral Survey @ 8,278" MD
8,314.8	0.80	286.58	8,195.8	18.2	-1,172.1	1,171.9	0.05	0.00	Saddleback 31-29 PBHL
8,336.0	0.80	287.37	8,217.0	18.3	-1,172.4	1,172.2	0.05	0.00	Projectio to Bit @ 8,336' MD

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Saddleback 31-29 PBHL	0.00	0.00	8,196.0	-11.3	-1,166.3	1,284,555.10	3,161,213.00	40.113051	-104.923618
- actual wellpath misses target center by 30.0ft at 8314.8ft MD (8195.8 TVD, 18.2 N, -1172.1 E)									
- Circle (radius 50.0)									

Design Annotations

	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	8,278.0	8,159.0	18.0	-1,171.7	Last Cathedral Survey @ 8,278" MD
	8,336.0	8,217.0	18.3	-1,172.4	Projectio to Bit @ 8,336' MD

Checked By: _____ Approved By: _____ Date: _____