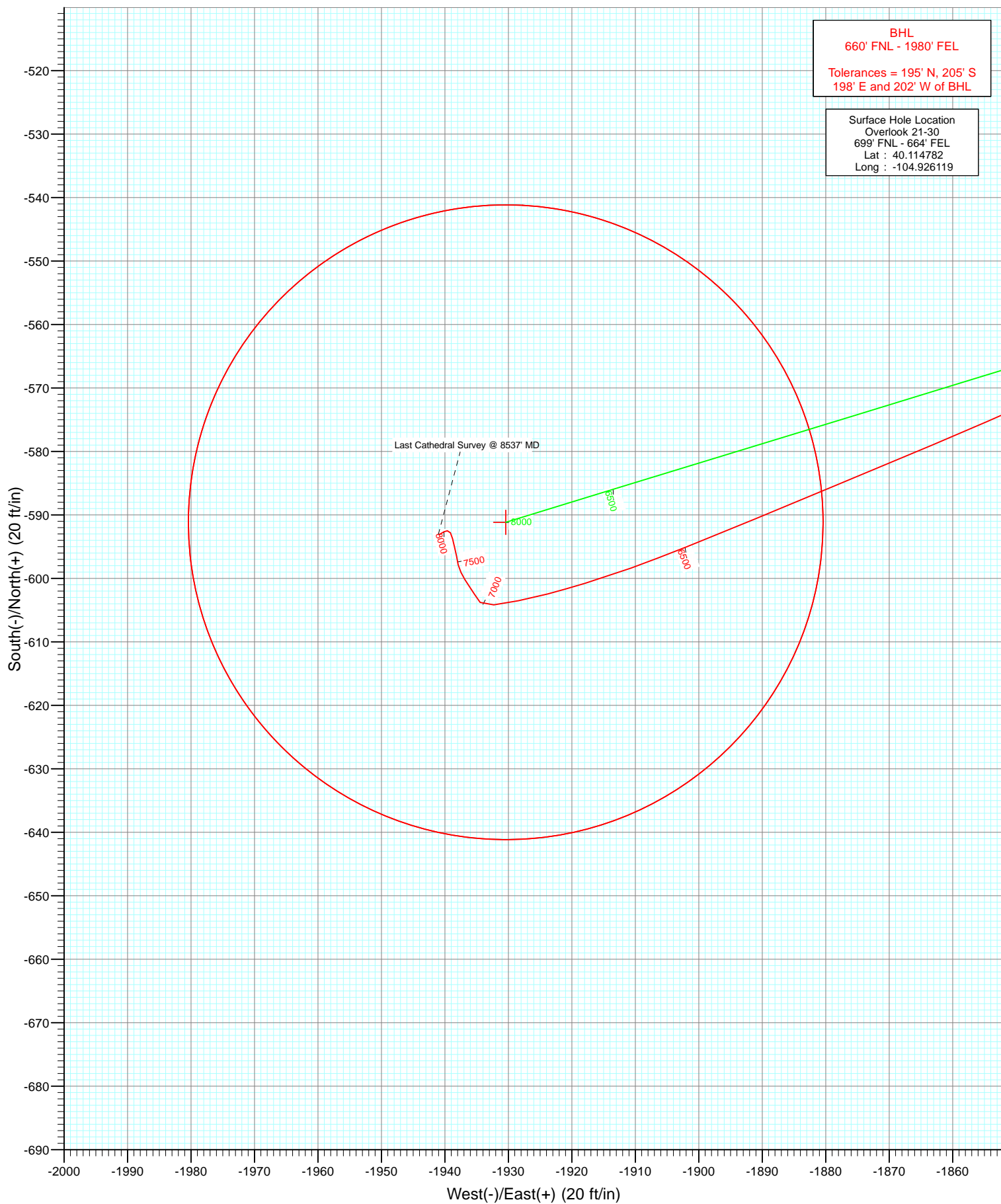


Azimuths to True North
Magnetic North: 8.83°

Magnetic Field
Strength: 52891.0snT
Dip Angle: 66.77°
Date: 2/17/2012
Model: IGRF2010

FINAL Overlook 21-30 125335/166355; LR KB=15' @ 5025.0ft (Xtreme 14) North American Datum 1983 Well Overlook 21-30, True North							
Type Target	Target Overlook 21-30 PBHL	Azimuth 252.97	Origin Type Slot	N/S 0.0	E/W 0.0	From TVD 0.0	
Name Overlook 21-30 PBHL	TVD 8183.0	+N/-S -591.1	+E/-W -1930.4	Latitude 40.113159	Longitude -104.933021		



Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Overlook 21-30
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Site:	NENE Sec30-T2N-R67W (Overlook 1-30 pad)	MD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Well:	Overlook 21-30	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		NENE Sec30-T2N-R67W (Overlook 1-30 pad)			
Site Position:		Northing:	1,285,208.05 ft	Latitude:	40.114856
From:	Lat/Long	Easting:	3,160,505.89 ft	Longitude:	-104.926131
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.37 °

Well	Overlook 21-30					
Well Position	+N/-S	0.0 ft	Northing:	1,285,181.11 ft	Latitude:	40.114782
	+E/-W	0.0 ft	Easting:	3,160,509.43 ft	Longitude:	-104.926119
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,010.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/17/2012	8.83	66.77	52,891

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	252.97	

Survey Program	Date	6/5/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
298.0	8,537.0	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		
298.0	0.40	23.20	298.0	1.0	0.4	-0.7	0.13	0.13		
405.0	0.30	347.20	405.0	1.6	0.5	-0.9	0.22	-0.09		
494.0	1.00	277.50	494.0	1.9	-0.3	-0.2	1.06	0.79		
583.0	2.20	247.40	583.0	1.3	-2.7	2.2	1.60	1.35		
671.0	4.00	245.10	670.8	-0.6	-7.0	6.9	2.05	2.05		
759.0	6.00	242.90	758.5	-4.0	-13.9	14.5	2.28	2.27		
854.0	7.20	244.10	852.9	-8.8	-23.7	25.2	1.27	1.26		
921.0	7.30	243.90	919.3	-12.6	-31.3	33.6	0.15	0.15		
1,010.0	9.40	246.70	1,007.4	-17.9	-43.0	46.4	2.40	2.36		
1,098.0	11.20	249.90	1,093.9	-23.7	-57.7	62.1	2.15	2.05		
1,186.0	12.80	253.70	1,180.0	-29.4	-75.0	80.3	2.03	1.82		
1,274.0	15.20	256.20	1,265.4	-34.9	-95.6	101.6	2.81	2.73		

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Overlook 21-30
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Site:	NENE Sec30-T2N-R67W (Overlook 1-30 pad)	MD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Well:	Overlook 21-30	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
1,363.0	17.40	256.50	1,350.8	-40.7	-119.9	126.6	2.47	2.47	
1,452.0	18.60	261.50	1,435.5	-46.0	-146.9	153.9	2.20	1.35	
1,541.0	20.10	262.00	1,519.4	-50.2	-176.0	183.0	1.70	1.69	
1,630.0	22.20	260.00	1,602.4	-55.2	-207.7	214.8	2.49	2.36	
1,718.0	24.20	257.10	1,683.3	-62.1	-241.7	249.3	2.62	2.27	
1,808.0	23.60	253.10	1,765.6	-71.5	-276.9	285.7	1.92	-0.67	
1,896.0	24.20	249.40	1,846.1	-83.0	-310.7	321.3	1.83	0.68	
1,985.0	25.40	250.50	1,926.9	-95.8	-345.7	358.6	1.44	1.35	
2,075.0	25.40	248.90	2,008.2	-109.1	-381.9	397.2	0.76	0.00	
2,164.0	25.30	248.80	2,088.6	-122.9	-417.5	435.2	0.12	-0.11	
2,253.0	25.10	249.30	2,169.1	-136.4	-452.9	473.0	0.33	-0.22	
2,343.0	24.70	246.40	2,250.8	-150.7	-488.0	510.7	1.43	-0.44	
2,432.0	23.90	250.40	2,331.9	-164.2	-522.0	547.2	2.06	-0.90	
2,522.0	21.90	249.60	2,414.8	-176.2	-554.9	582.2	2.25	-2.22	
2,610.0	20.90	251.20	2,496.7	-187.0	-585.1	614.2	1.32	-1.14	
2,699.0	20.00	250.60	2,580.1	-197.1	-614.5	645.3	1.04	-1.01	
2,787.0	20.20	254.90	2,662.7	-206.1	-643.4	675.5	1.69	0.23	
2,877.0	21.70	254.20	2,746.8	-214.7	-674.4	707.7	1.69	1.67	
2,966.0	22.50	255.70	2,829.3	-223.4	-706.7	741.2	1.10	0.90	
3,055.0	20.90	254.30	2,911.9	-231.9	-738.5	774.0	1.89	-1.80	
3,143.0	20.20	254.60	2,994.3	-240.1	-768.3	804.9	0.80	-0.80	
3,233.0	19.90	255.50	3,078.9	-248.1	-798.1	835.8	0.48	-0.33	
3,320.0	20.90	257.30	3,160.4	-255.2	-827.6	866.0	1.36	1.15	
3,407.0	21.10	254.60	3,241.7	-262.8	-857.8	897.1	1.14	0.23	
3,496.0	20.30	252.80	3,324.9	-271.6	-888.0	928.6	1.15	-0.90	
3,586.0	18.40	248.20	3,409.8	-281.5	-916.1	958.4	2.70	-2.11	
3,674.0	18.30	251.40	3,493.4	-291.1	-942.1	986.0	1.15	-0.11	
3,763.0	18.60	253.90	3,577.8	-299.5	-969.0	1,014.2	0.95	0.34	
3,851.0	19.10	253.50	3,661.1	-307.4	-996.3	1,042.6	0.59	0.57	
3,938.0	20.10	254.10	3,743.0	-315.6	-1,024.3	1,071.8	1.17	1.15	
4,026.0	19.20	251.00	3,825.9	-324.4	-1,052.5	1,101.4	1.56	-1.02	
4,115.0	20.00	250.60	3,909.7	-334.3	-1,080.7	1,131.2	0.91	0.90	
4,204.0	20.30	251.60	3,993.3	-344.2	-1,109.7	1,161.8	0.51	0.34	
4,291.0	20.50	250.30	4,074.8	-354.1	-1,138.4	1,192.2	0.57	0.23	
4,379.0	21.00	253.30	4,157.1	-363.8	-1,168.0	1,223.3	1.33	0.57	
4,467.0	21.00	253.00	4,239.3	-373.0	-1,198.2	1,254.9	0.12	0.00	
4,555.0	21.30	254.10	4,321.4	-381.9	-1,228.6	1,286.6	0.57	0.34	
4,641.0	20.80	254.60	4,401.6	-390.3	-1,258.4	1,317.5	0.62	-0.58	
4,728.0	21.10	252.30	4,482.9	-399.1	-1,288.2	1,348.6	1.01	0.34	
4,818.0	21.60	252.30	4,566.7	-409.1	-1,319.4	1,381.3	0.56	0.56	
4,908.0	20.70	251.60	4,650.6	-419.2	-1,350.3	1,413.8	1.04	-1.00	
4,994.0	21.20	251.70	4,730.9	-428.8	-1,379.4	1,444.6	0.58	0.58	
5,082.0	19.20	251.50	4,813.5	-438.4	-1,408.3	1,474.9	2.27	-2.27	
5,170.0	18.90	255.50	4,896.7	-446.6	-1,435.8	1,503.6	1.52	-0.34	
5,259.0	20.60	255.70	4,980.5	-454.1	-1,464.9	1,533.7	1.91	1.91	
5,347.0	22.50	256.30	5,062.3	-461.9	-1,496.3	1,566.0	2.17	2.16	
5,437.0	22.60	257.70	5,145.4	-469.6	-1,529.9	1,600.4	0.61	0.11	
5,525.0	21.90	259.50	5,226.9	-476.2	-1,562.6	1,633.5	1.11	-0.80	
5,615.0	21.00	254.00	5,310.7	-483.7	-1,594.6	1,666.3	2.45	-1.00	
5,704.0	20.00	247.00	5,394.0	-494.1	-1,623.9	1,697.4	2.97	-1.12	
5,793.0	19.50	252.40	5,477.8	-504.5	-1,652.1	1,727.4	2.13	-0.56	
5,881.0	19.50	251.00	5,560.8	-513.7	-1,680.0	1,756.8	0.53	0.00	
5,969.0	18.50	250.70	5,644.0	-523.1	-1,707.1	1,785.4	1.14	-1.14	

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Overlook 21-30
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Site:	NENE Sec30-T2N-R67W (Overlook 1-30 pad)	MD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Well:	Overlook 21-30	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
6,056.0	18.60	252.80	5,726.4	-531.8	-1,733.3	1,813.1	0.78	0.11	
6,144.0	18.00	252.60	5,810.0	-540.0	-1,759.7	1,840.7	0.69	-0.68	
6,231.0	16.50	253.70	5,893.1	-547.5	-1,784.4	1,866.5	1.76	-1.72	
6,319.0	15.10	250.60	5,977.8	-554.8	-1,807.2	1,890.5	1.86	-1.59	
6,405.0	13.20	245.10	6,061.1	-562.7	-1,826.7	1,911.4	2.70	-2.21	
6,495.0	13.40	245.80	6,148.7	-571.3	-1,845.5	1,931.9	0.29	0.22	
6,583.0	11.90	247.20	6,234.6	-579.0	-1,863.2	1,951.1	1.74	-1.70	
6,672.0	9.60	247.50	6,322.0	-585.4	-1,878.5	1,967.6	2.59	-2.58	
6,761.0	8.20	247.40	6,410.0	-590.7	-1,891.2	1,981.3	1.57	-1.57	
6,849.0	6.80	248.30	6,497.2	-595.0	-1,901.9	1,992.7	1.60	-1.59	
6,938.0	5.40	250.10	6,585.7	-598.4	-1,910.7	2,002.2	1.59	-1.57	
7,026.0	4.50	253.50	6,673.4	-600.8	-1,917.9	2,009.7	1.08	-1.02	
7,115.0	3.40	254.80	6,762.2	-602.4	-1,923.8	2,015.9	1.24	-1.24	
7,203.0	2.80	259.50	6,850.0	-603.5	-1,928.4	2,020.6	0.74	-0.68	
7,293.0	2.20	261.90	6,939.9	-604.2	-1,932.3	2,024.5	0.68	-0.67	
7,382.0	1.00	323.50	7,028.9	-603.8	-1,934.4	2,026.4	2.17	-1.35	
7,470.0	1.00	326.40	7,116.9	-602.5	-1,935.3	2,026.9	0.06	0.00	
7,558.0	0.90	327.10	7,204.9	-601.3	-1,936.1	2,027.3	0.11	-0.11	
7,647.0	0.80	326.70	7,293.9	-600.2	-1,936.8	2,027.7	0.11	-0.11	
7,735.0	0.90	335.00	7,381.9	-599.1	-1,937.5	2,028.0	0.18	0.11	
7,823.0	0.80	346.70	7,469.9	-597.8	-1,937.9	2,028.0	0.23	-0.11	
7,910.0	1.00	350.60	7,556.8	-596.5	-1,938.2	2,027.9	0.24	0.23	
7,997.0	1.00	345.20	7,643.8	-595.0	-1,938.5	2,027.7	0.11	0.00	
8,086.0	0.70	348.80	7,732.8	-593.7	-1,938.8	2,027.7	0.34	-0.34	
8,173.0	0.60	327.90	7,819.8	-592.8	-1,939.1	2,027.7	0.29	-0.11	
8,261.0	0.30	255.20	7,907.8	-592.5	-1,939.6	2,028.1	0.67	-0.34	
8,349.0	0.40	255.20	7,995.8	-592.6	-1,940.1	2,028.6	0.11	0.11	
8,438.0	0.30	219.20	8,084.8	-592.9	-1,940.6	2,029.1	0.27	-0.11	
8,479.0	0.30	245.80	8,125.8	-593.0	-1,940.7	2,029.3	0.34	0.00	
8,536.1	0.30	282.88	8,182.9	-593.0	-1,941.0	2,029.6	0.33	0.00	Overlook 21-30 PBHL
8,537.0	0.30	283.40	8,183.8	-593.0	-1,941.0	2,029.6	0.33	0.11	Last Cathedral Survey @ 8537' 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									
Overlook 21-30 PBHL	0.00	0.00	8,183.0	-591.1	-1,930.4	1,284,577.48	3,158,582.88	40.113159	-104.933021
- actual wellpath misses target center by 10.8ft at 8536.1ft MD (8182.9 TVD, -593.0 N, -1941.0 E)									
- Circle (radius 50.0)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates	Comment
+N/-S (ft)	+E/-W (ft)		
8,537.0	8,183.8	-593.0	-1,941.0
Last Cathedral Survey @ 8537' MD			

Checked By: _____ Approved By: _____ Date: _____