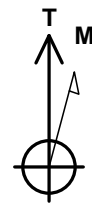
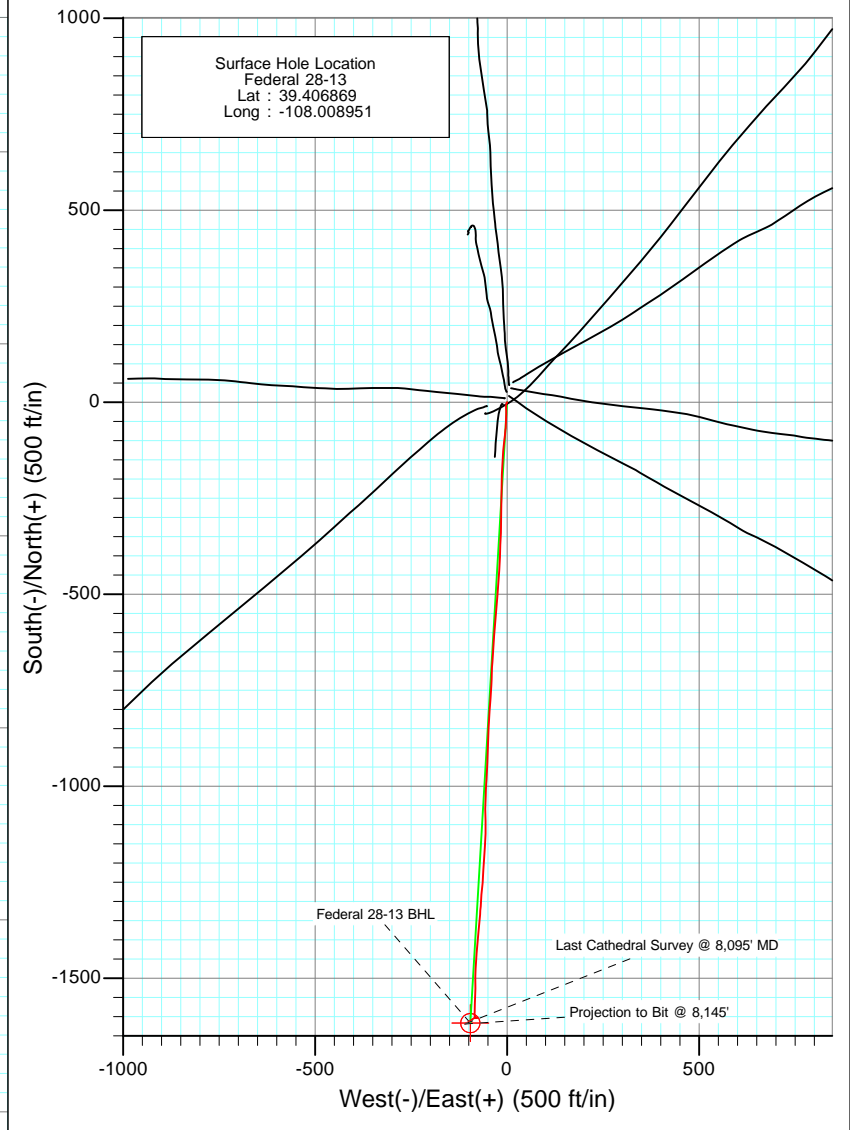
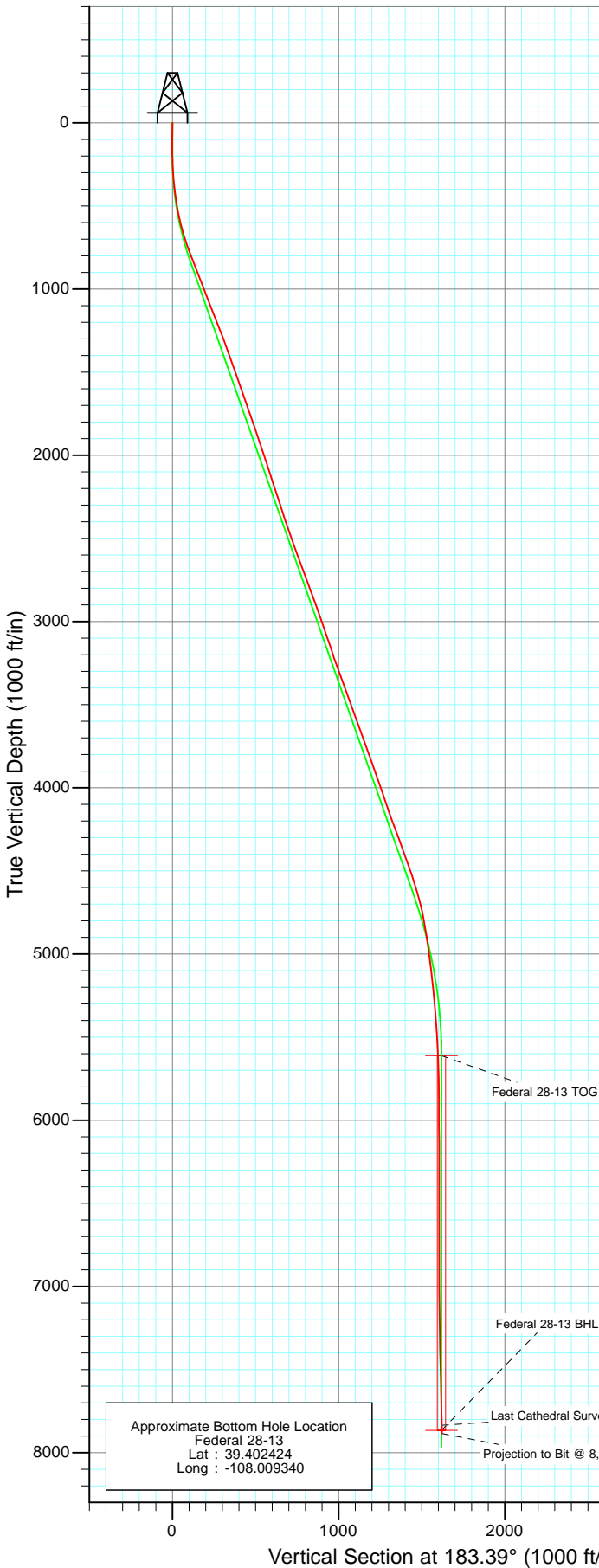




Project: S. Piceance (Parachute)
 Site: PL 28 Pad (S28-T7S-R95W)
 Well: Federal 28-13
 Wellbore: DD
 Design: FINAL

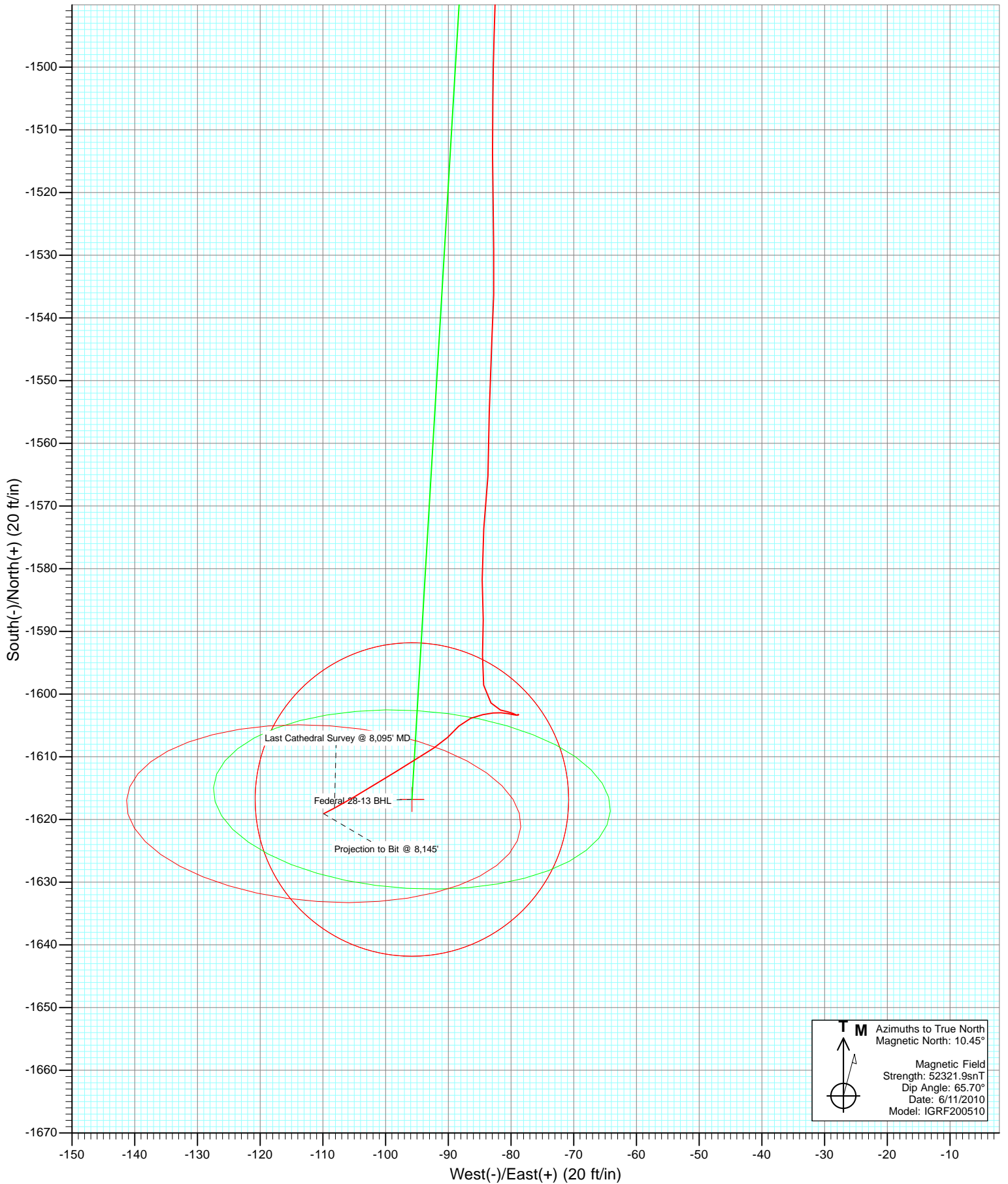


Azimuths to True North
 Magnetic North: 10.45°
 Magnetic Field
 Strength: 52321.9snT
 Dip Angle: 65.70°
 Date: 6/11/2010
 Model: IGRF200510

DD Federal 28-13 115429/114455 (SH) 115429/114455 (MH); SC					
WELL @ 7186.0ft (Original Well Elev) North American Datum 1983 Well Federal 28-13, True North					
Target		Azimuth	Origin Type	N/S	E/W
Federal 28-13 BHL		183.39	Slot	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Federal 28-13 BHL	7866.0	-1616.8	-95.8	39.402430	-108.009290

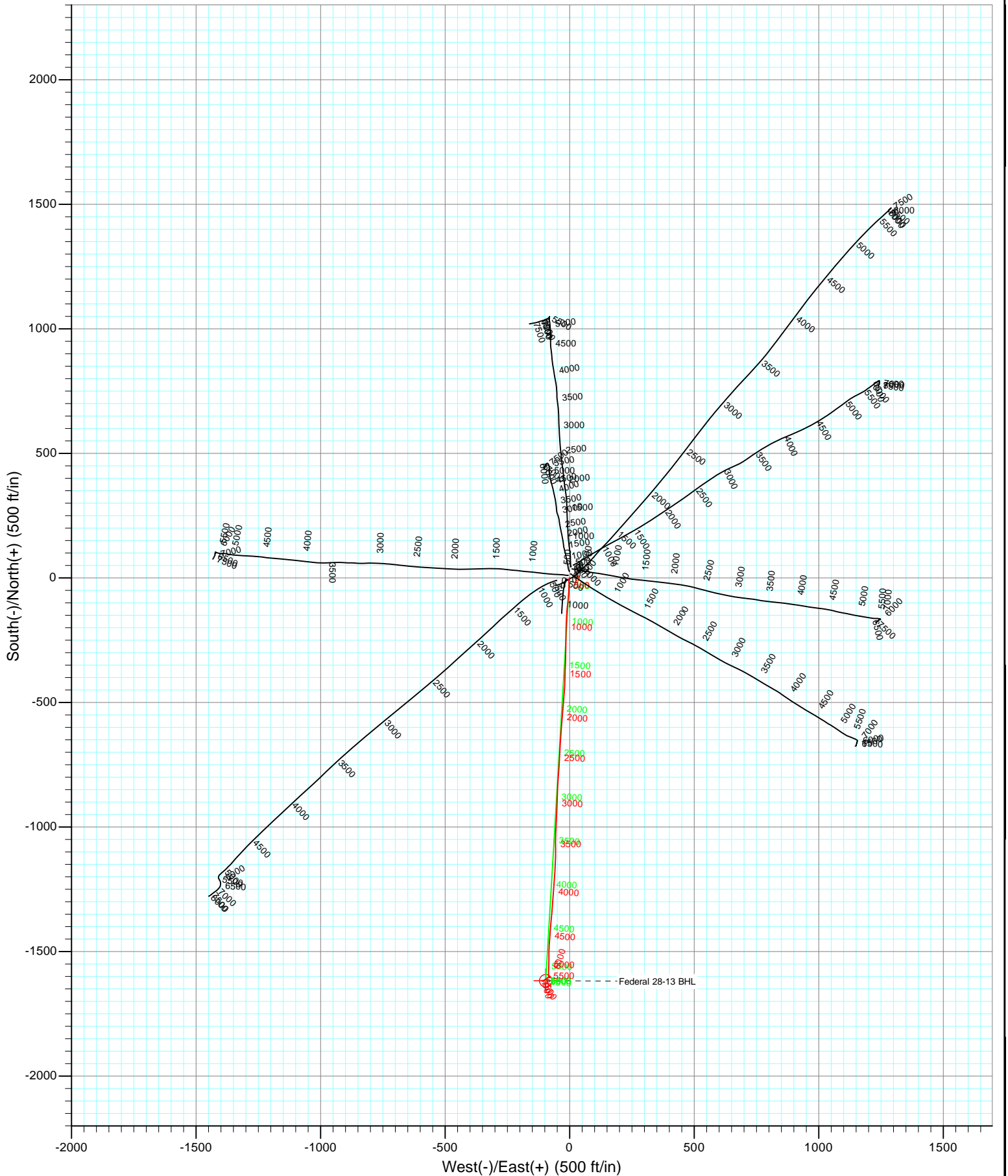


Project: S. Piceance (Parachute)
Site: PL 28 Pad (S28-T7S-R95W)
Well: Federal 28-13
Wellbore: DD
Design: FINAL





Project: S. Piceance (Parachute)
Site: PL 28 Pad (S28-T7S-R95W)
Well: Federal 28-13
Wellbore: DD
Design: DD



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Federal 28-13
Project: S. Piceance (Parachute)	TVD Reference: WELL @ 7186.0ft (Original Well Elev)
Site: PL 28 Pad (S28-T7S-R95W)	MD Reference: WELL @ 7186.0ft (Original Well Elev)
Well: Federal 28-13	North Reference: True
Wellbore: DD	Survey Calculation Method: Minimum Curvature
Design: DD	Database: USA EDM 5000 Multi Users DB

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

Site PL 28 Pad (S28-T7S-R95W)				
Site Position:	Northing: 1,582,914.36 ft	Latitude: 39.406980		
From: Lat/Long	Easting: 2,291,178.00 ft	Longitude: -108.008930		
Position Uncertainty: 0.0 ft	Slot Radius: 13.200 in	Grid Convergence: -1.58 °		

Well Federal 28-13				
Well Position	+N/-S 0.0 ft	Northing: 1,582,874.09 ft	Latitude: 39.406869	
	+E/-W 0.0 ft	Easting: 2,291,170.95 ft	Longitude: -108.008951	
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 7,164.0 ft	

Wellbore DD					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/11/2010	10.45	65.70	52,322

Design DD				
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	183.39

Survey Program		Date 12/27/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
125.0	1,210.0	Survey #1 (DD)	MWD	Geolink MWD
1,352.0	8,145.0	Survey #2 (DD)	MWD	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	
125.0	0.30	340.80	125.0	0.3	-0.1	-0.3	0.24	0.24	
156.0	0.20	280.30	156.0	0.4	-0.2	-0.4	0.86	-0.32	
187.0	0.80	212.60	187.0	0.2	-0.4	-0.2	2.41	1.94	
217.0	1.70	197.70	217.0	-0.4	-0.6	0.4	3.16	3.00	
248.0	2.50	201.30	248.0	-1.4	-1.0	1.5	2.61	2.58	
278.0	3.30	196.50	277.9	-2.9	-1.5	3.0	2.78	2.67	
309.0	4.00	189.40	308.9	-4.8	-1.9	4.9	2.68	2.26	
340.0	5.10	193.90	339.8	-7.2	-2.4	7.3	3.73	3.55	
371.0	5.90	180.50	370.6	-10.1	-2.8	10.3	4.86	2.58	
402.0	6.70	183.40	401.4	-13.5	-2.9	13.7	2.78	2.58	
433.0	7.70	173.30	432.2	-17.4	-2.7	17.5	5.19	3.23	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 28-13
Project:	S. Piceance (Parachute)	TVD Reference:	WELL @ 7186.0ft (Original Well Elev)
Site:	PL 28 Pad (S28-T7S-R95W)	MD Reference:	WELL @ 7186.0ft (Original Well Elev)
Well:	Federal 28-13	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
464.0	8.60	178.40	462.9	-21.8	-2.4	21.9	3.72	2.90	
495.0	9.40	178.70	493.5	-26.6	-2.3	26.7	2.59	2.58	
525.0	10.50	181.30	523.0	-31.8	-2.3	31.9	3.96	3.67	
555.0	11.70	182.60	552.5	-37.6	-2.5	37.7	4.09	4.00	
586.0	12.60	182.60	582.8	-44.1	-2.8	44.2	2.90	2.90	
616.0	14.00	181.60	612.0	-51.0	-3.1	51.1	4.73	4.67	
647.0	15.20	182.70	642.0	-58.8	-3.4	58.9	3.97	3.87	
678.0	16.60	184.30	671.8	-67.3	-3.9	67.4	4.73	4.52	
709.0	18.00	185.90	701.4	-76.5	-4.7	76.6	4.77	4.52	
740.0	19.20	186.20	730.8	-86.3	-5.8	86.5	3.88	3.87	
770.0	20.00	187.50	759.0	-96.3	-7.0	96.5	3.04	2.67	
862.0	21.50	183.80	845.1	-128.7	-10.1	129.1	2.16	1.63	
953.0	21.10	182.80	929.9	-161.7	-12.0	162.1	0.59	-0.44	
1,045.0	21.40	182.30	1,015.6	-195.0	-13.5	195.5	0.38	0.33	
1,136.0	21.30	181.30	1,100.4	-228.1	-14.6	228.6	0.41	-0.11	
1,210.0	21.80	181.40	1,169.2	-255.3	-15.2	255.8	0.68	0.68	Last Cathedral Survey @ 1,210'
1,352.0	20.70	179.21	1,301.5	-306.8	-15.5	307.1	0.96	-0.77	
1,448.0	20.13	183.34	1,391.5	-340.2	-16.2	340.6	1.61	-0.59	
1,543.0	18.72	182.55	1,481.1	-371.8	-17.9	372.2	1.51	-1.48	
1,639.0	19.47	180.96	1,571.8	-403.2	-18.8	403.6	0.95	0.78	
1,734.0	19.03	183.42	1,661.5	-434.5	-20.0	434.9	0.97	-0.46	
1,829.0	19.47	184.48	1,751.2	-465.7	-22.2	466.2	0.59	0.46	
1,925.0	18.50	184.74	1,842.0	-496.8	-24.7	497.4	1.01	-1.01	
2,020.0	19.73	184.30	1,931.7	-527.8	-27.1	528.5	1.30	1.29	
2,115.0	18.28	184.74	2,021.6	-558.7	-29.5	559.5	1.53	-1.53	
2,211.0	17.05	184.48	2,113.0	-587.7	-31.9	588.6	1.28	-1.28	
2,306.0	18.46	184.48	2,203.5	-616.6	-34.2	617.5	1.48	1.48	
2,401.0	18.72	183.86	2,293.5	-646.8	-36.4	647.8	0.34	0.27	
2,496.0	17.45	183.95	2,383.8	-676.2	-38.4	677.3	1.34	-1.34	
2,591.0	19.03	181.84	2,474.1	-705.9	-39.8	707.0	1.80	1.66	
2,687.0	20.52	183.34	2,564.4	-738.4	-41.3	739.5	1.64	1.55	
2,782.0	20.57	183.95	2,653.4	-771.6	-43.4	772.9	0.23	0.05	
2,877.0	19.38	184.30	2,742.6	-804.0	-45.8	805.3	1.26	-1.25	
2,972.0	20.83	182.11	2,831.9	-836.6	-47.6	837.9	1.72	1.53	
3,068.0	19.73	182.63	2,921.9	-869.8	-49.0	871.2	1.16	-1.15	
3,163.0	18.63	182.11	3,011.6	-901.0	-50.2	902.4	1.17	-1.16	
3,258.0	19.64	182.19	3,101.4	-932.1	-51.4	933.6	1.06	1.06	
3,354.0	17.67	182.19	3,192.3	-962.8	-52.6	964.3	2.05	-2.05	
3,448.0	19.78	183.86	3,281.4	-993.0	-54.2	994.4	2.32	2.24	
3,543.0	20.92	181.32	3,370.4	-1,026.0	-55.7	1,027.4	1.52	1.20	
3,639.0	19.47	181.93	3,460.5	-1,059.1	-56.6	1,060.6	1.53	-1.51	
3,733.0	20.21	177.01	3,548.9	-1,091.0	-56.3	1,092.4	1.94	0.79	
3,829.0	19.56	182.28	3,639.2	-1,123.6	-56.1	1,124.9	1.99	-0.68	
3,924.0	20.30	183.95	3,728.5	-1,155.9	-57.8	1,157.3	0.98	0.78	
4,019.0	19.12	183.78	3,818.0	-1,187.9	-60.0	1,189.3	1.24	-1.24	
4,114.0	18.98	182.63	3,907.8	-1,218.8	-61.7	1,220.3	0.42	-0.15	
4,209.0	20.08	184.83	3,997.3	-1,250.5	-63.8	1,252.1	1.39	1.16	
4,305.0	18.72	185.27	4,087.8	-1,282.3	-66.6	1,284.0	1.42	-1.42	
4,400.0	19.07	183.42	4,177.7	-1,312.9	-68.9	1,314.7	0.73	0.37	
4,495.0	21.45	185.27	4,266.8	-1,345.7	-71.5	1,347.6	2.59	2.51	
4,591.0	20.21	185.18	4,356.6	-1,379.7	-74.6	1,381.7	1.29	-1.29	
4,686.0	18.94	184.94	4,446.1	-1,411.4	-77.4	1,413.5	1.34	-1.34	
4,782.0	18.37	184.04	4,537.0	-1,442.1	-79.8	1,444.2	0.67	-0.59	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 28-13
Project:	S. Piceance (Parachute)	TVD Reference:	WELL @ 7186.0ft (Original Well Elev)
Site:	PL 28 Pad (S28-T7S-R95W)	MD Reference:	WELL @ 7186.0ft (Original Well Elev)
Well:	Federal 28-13	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
4,877.0	16.66	183.25	4,627.6	-1,470.6	-81.6	1,472.8	1.82	-1.80	
4,972.0	13.10	181.58	4,719.4	-1,494.9	-82.7	1,497.2	3.77	-3.75	
5,068.0	9.49	179.65	4,813.5	-1,513.7	-82.9	1,516.0	3.78	-3.76	
5,163.0	9.14	179.03	4,907.3	-1,529.1	-82.8	1,531.3	0.38	-0.37	
5,259.0	7.29	183.51	5,002.3	-1,542.8	-83.0	1,545.0	2.04	-1.93	
5,354.0	7.21	180.80	5,096.5	-1,554.8	-83.5	1,557.0	0.37	-0.08	
5,449.0	5.36	181.67	5,191.0	-1,565.2	-83.7	1,567.4	1.95	-1.95	
5,540.0	5.32	187.29	5,281.6	-1,573.6	-84.3	1,575.9	0.58	-0.04	
5,636.0	4.44	175.43	5,377.2	-1,581.7	-84.6	1,584.0	1.39	-0.92	
5,731.0	3.30	182.46	5,472.0	-1,588.1	-84.4	1,590.4	1.30	-1.20	
5,826.0	3.52	179.91	5,566.8	-1,593.8	-84.5	1,596.0	0.28	0.23	
5,920.0	2.29	174.81	5,660.7	-1,598.6	-84.4	1,600.7	1.34	-1.31	
6,016.0	1.63	133.68	5,756.7	-1,601.4	-83.2	1,603.5	1.57	-0.69	
6,111.0	0.70	109.24	5,851.7	-1,602.5	-81.7	1,604.6	1.09	-0.98	
6,206.0	0.62	96.85	5,946.6	-1,602.8	-80.6	1,604.7	0.17	-0.08	
6,301.0	0.53	118.65	6,041.6	-1,603.1	-79.7	1,605.0	0.25	-0.09	
6,396.0	0.13	109.07	6,136.6	-1,603.3	-79.2	1,605.2	0.42	-0.42	
6,492.0	0.04	100.28	6,232.6	-1,603.3	-79.1	1,605.2	0.09	-0.09	
6,587.0	0.22	80.86	6,327.6	-1,603.3	-78.9	1,605.2	0.19	0.19	
6,682.0	0.09	280.28	6,422.6	-1,603.3	-78.8	1,605.1	0.32	-0.14	
6,777.0	0.26	252.42	6,517.6	-1,603.3	-79.1	1,605.2	0.20	0.18	
6,873.0	0.40	286.26	6,613.6	-1,603.3	-79.6	1,605.2	0.24	0.15	
6,969.0	0.70	280.28	6,709.6	-1,603.1	-80.5	1,605.1	0.32	0.31	
7,064.0	0.62	271.93	6,804.6	-1,603.0	-81.6	1,605.0	0.13	-0.08	
7,159.0	0.92	266.31	6,899.6	-1,603.0	-82.8	1,605.1	0.33	0.32	
7,254.0	1.10	256.11	6,994.6	-1,603.3	-84.5	1,605.5	0.27	0.19	
7,349.0	1.32	250.92	7,089.6	-1,603.9	-86.4	1,606.2	0.26	0.23	
7,445.0	1.49	223.85	7,185.5	-1,605.1	-88.3	1,607.5	0.71	0.18	
7,540.0	1.54	226.14	7,280.5	-1,606.9	-90.1	1,609.4	0.08	0.05	
7,636.0	1.76	238.19	7,376.5	-1,608.6	-92.3	1,611.2	0.43	0.23	
7,731.0	2.29	237.39	7,471.4	-1,610.4	-95.1	1,613.2	0.56	0.56	
7,826.0	2.50	238.88	7,566.3	-1,612.4	-98.5	1,615.5	0.23	0.22	
7,921.0	2.33	238.80	7,661.2	-1,614.5	-101.9	1,617.7	0.18	-0.18	
8,016.0	2.46	238.52	7,756.2	-1,616.6	-105.3	1,620.0	0.14	0.14	
8,095.0	2.24	242.93	7,835.1	-1,618.2	-108.1	1,621.7	0.36	-0.28	Last Cathedral Survey @ 8,095' MD
8,145.0	2.24	242.93	7,885.1	-1,619.1	-109.9	1,622.7	0.00	0.00	Projection to Bit @ 8,145'

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Federal 28-13
Project: S. Piceance (Parachute)	TVD Reference: WELL @ 7186.0ft (Original Well Elev)
Site: PL 28 Pad (S28-T7S-R95W)	MD Reference: WELL @ 7186.0ft (Original Well Elev)
Well: Federal 28-13	North Reference: True
Wellbore: DD	Survey Calculation Method: Minimum Curvature
Design: DD	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									
Federal 28-13 TOG	0.00	0.00	5,612.0	-1,616.8	-95.8	1,581,260.55	2,291,030.55	39.402430	-108.009290
- actual wellpath misses target center by 23.4ft at 5872.2ft MD (5613.0 TVD, -1596.4 N, -84.5 E)									
- Point									
Federal 28-13 BHL	0.00	0.00	7,866.0	-1,616.8	-95.8	1,581,260.55	2,291,030.55	39.402430	-108.009290
- actual wellpath misses target center by 13.5ft at 8125.4ft MD (7865.5 TVD, -1618.7 N, -109.2 E)									
- Circle (radius 25.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,210.0	1,169.2	-255.3	-15.2	Last Cathedral Survey @ 1,210'	
8,095.0	7,835.1	-1,618.2	-108.1	Last Cathedral Survey @ 8,095' MD	
8,145.0	7,885.1	-1,619.1	-109.9	Projection to Bit @ 8,145'	

Checked By: _____ Approved By: _____ Date: _____