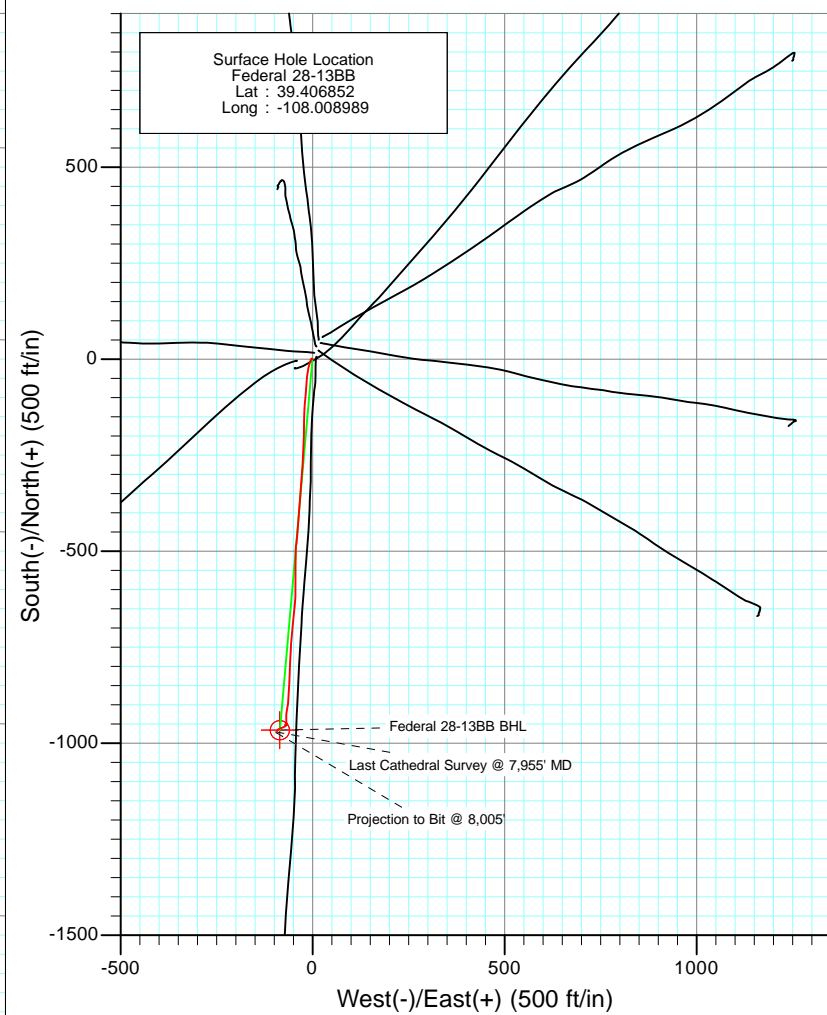
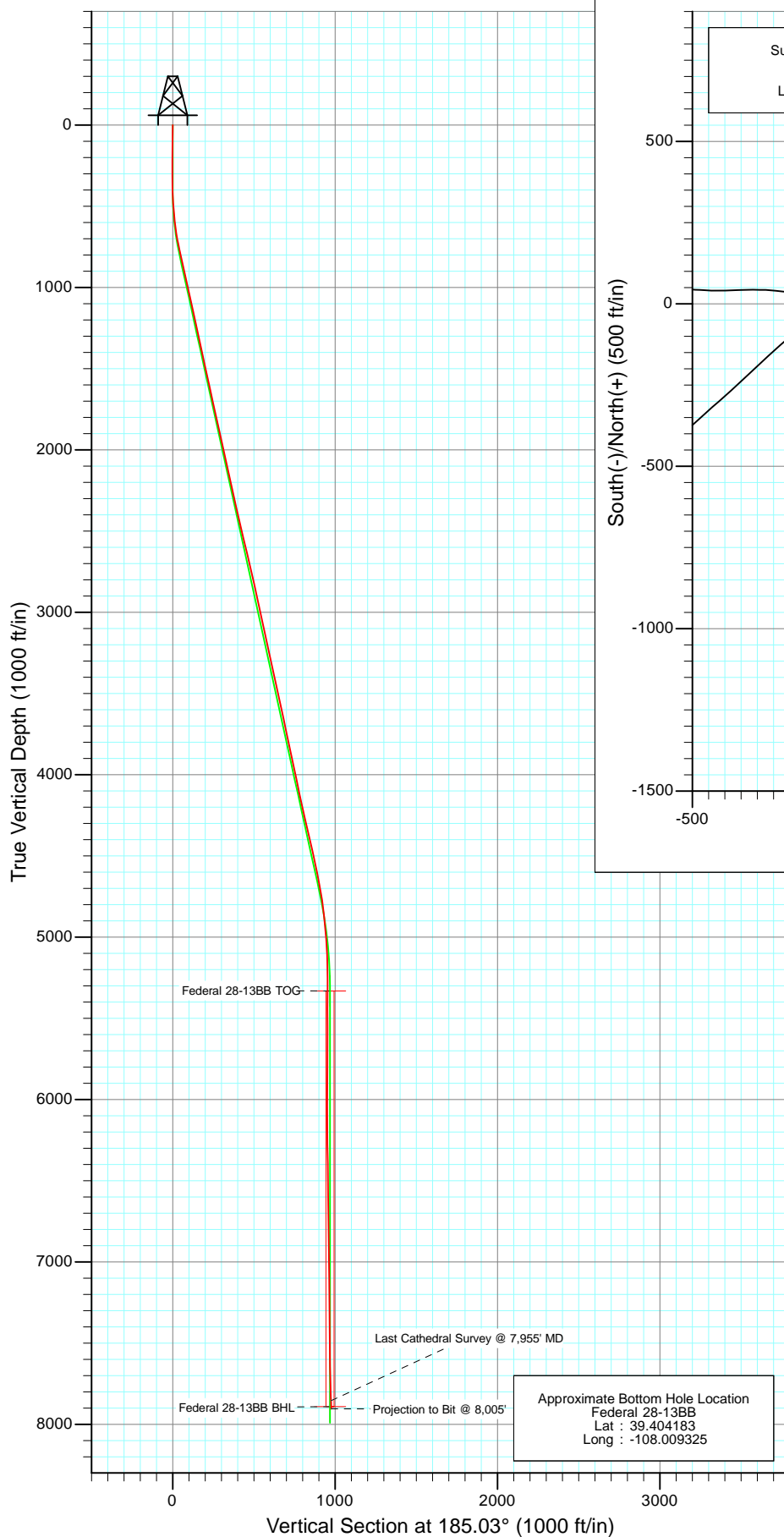




Project: S. Piceance (Parachute)
 Site: PL 28 Pad (S28-T7S-R95W)
 Well: Federal 28-13BB
 Wellbore: DD
 Design: FINAL



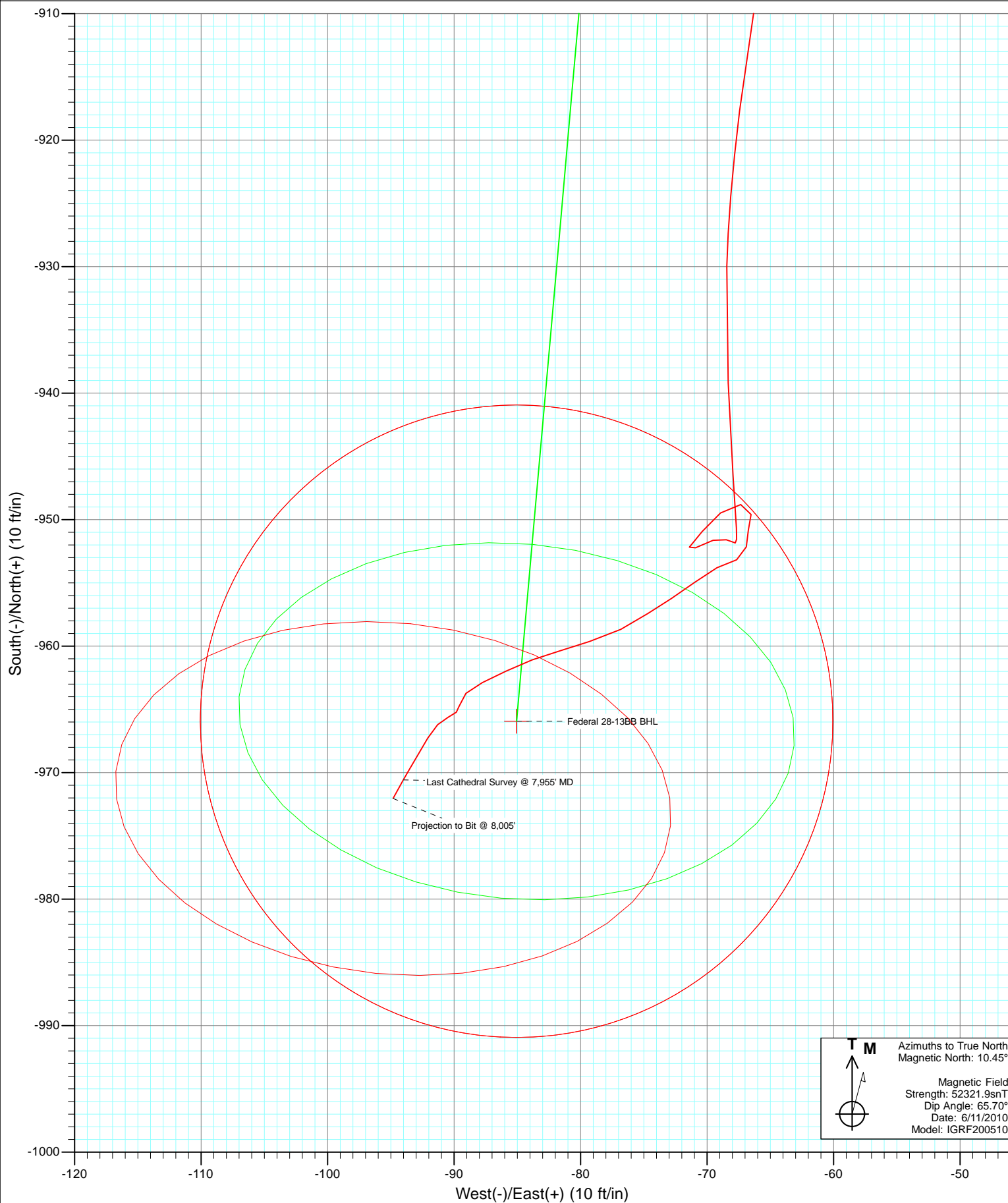
Azimuths to True North
 Magnetic North: 10.45°

Magnetic Field
 Strength: 52321.9snT
 Dip Angle: 65.70°
 Date: 6/11/2010
 Model: IGRF200510

DD Federal 28-13BB 115428/114355 (SH) 115575/120455 (MH); SC					
WELL @ 7186.0ft (Original Well Elev) North American Datum 1983 Well Federal 28-13BB, True North					
Target Federal 28-13BB BHL	Azimuth 5332.0	Origin Type Slot185.03 0.0	N/S 0.0	E/W 0.0	From TVD 0.0
Name Federal 28-13BB TOG	TVD 5332.0	+N/-S -965.9	+E/-W -85.1	Latitude 39.404200	Longitude -108.009290
Federal 28-13BB BHL	7891.0	-965.9	-85.1	39.404200	-108.009290

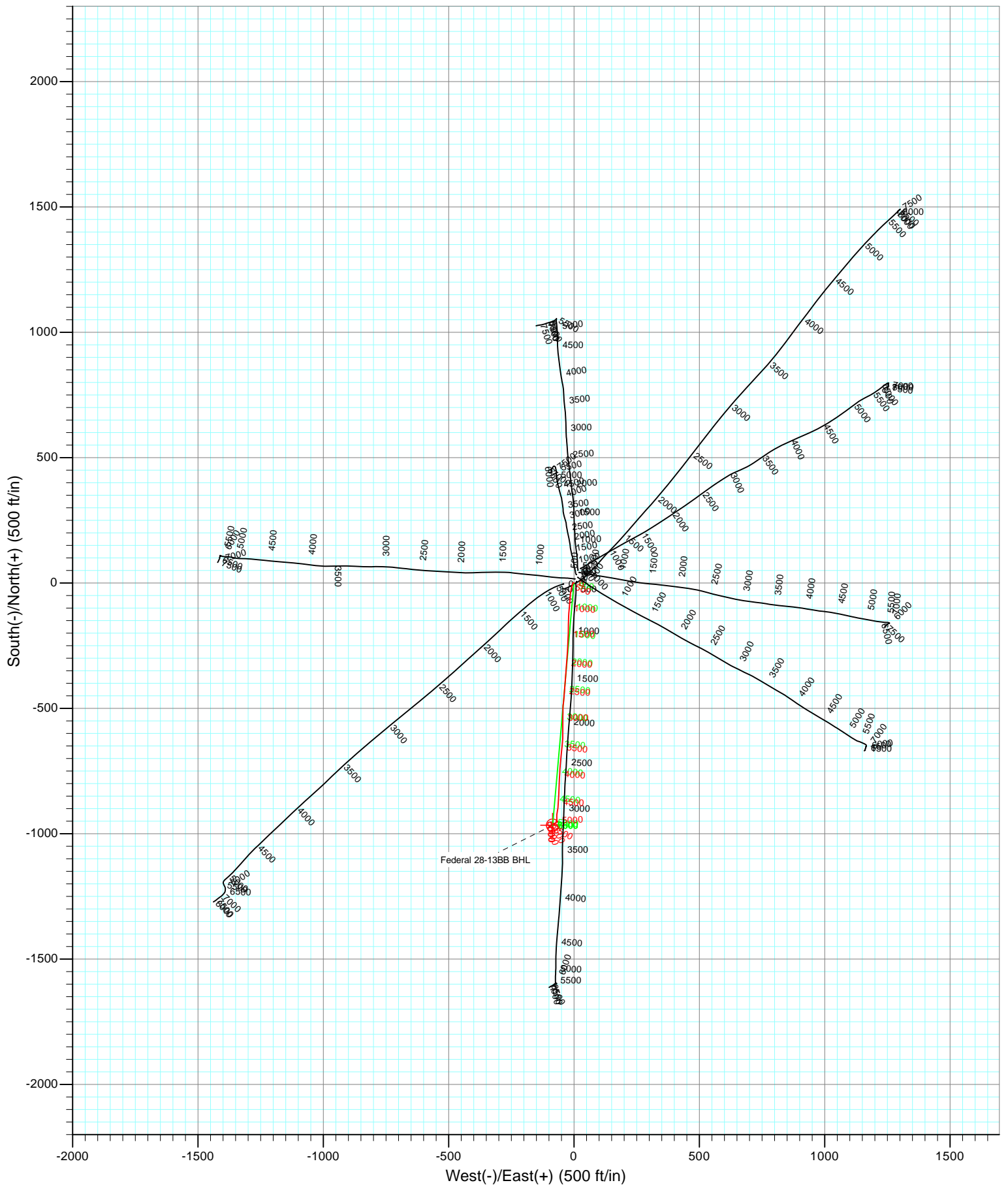


Project: S. Piceance (Parachute)
Site: PL 28 Pad (S28-T7S-R95W)
Well: Federal 28-13BB
Design: FINAL





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



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 28-13BB
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 28-13BB	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 28-13BB					
Well Position	+N/-S	0.0 ft	Northing:	1,582,868.21 ft	Latitude:	39.406852
	+E/-W	0.0 ft	Easting:	2,291,160.05 ft	Longitude:	-108.008989
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)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	185.03

Survey Program	Date	1/4/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
125.0	8,005.0	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	
125.0	0.90	315.50	125.0	0.7	-0.7	-0.6	0.72	0.72	
217.0	0.60	301.00	217.0	1.5	-1.6	-1.3	0.38	-0.33	
309.0	0.40	270.50	309.0	1.7	-2.3	-1.5	0.35	-0.22	
402.0	1.70	217.90	402.0	0.6	-3.5	-0.3	1.60	1.40	
495.0	4.10	201.10	494.8	-3.6	-5.6	4.0	2.71	2.58	
586.0	6.40	195.00	585.5	-11.5	-8.0	12.2	2.60	2.53	
678.0	9.30	191.90	676.6	-23.7	-10.9	24.6	3.18	3.15	
770.0	12.00	187.00	767.0	-40.5	-13.6	41.5	3.09	2.93	
862.0	13.10	185.10	856.8	-60.4	-15.7	61.5	1.28	1.20	
953.0	12.70	184.30	945.5	-80.6	-17.4	81.8	0.48	-0.44	
1,045.0	12.50	183.80	1,035.3	-100.6	-18.8	101.9	0.25	-0.22	
1,136.0	12.40	183.70	1,124.1	-120.2	-20.1	121.5	0.11	-0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 28-13BB
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 28-13BB	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
1,210.0	12.10	184.20	1,196.5	-135.9	-21.1	137.2	0.43	-0.41	
1,349.0	11.56	180.79	1,332.5	-164.3	-22.4	165.7	0.64	-0.39	
1,444.0	12.61	180.79	1,425.4	-184.2	-22.7	185.5	1.11	1.11	
1,539.0	12.48	180.35	1,518.1	-204.9	-22.9	206.1	0.17	-0.14	
1,635.0	12.83	182.28	1,611.8	-225.9	-23.4	227.1	0.57	0.36	
1,730.0	12.61	182.37	1,704.5	-246.8	-24.2	248.0	0.23	-0.23	
1,826.0	12.61	183.51	1,798.2	-267.7	-25.3	268.9	0.26	0.00	
1,921.0	12.39	183.69	1,890.9	-288.2	-26.6	289.5	0.24	-0.23	
2,016.0	11.95	184.92	1,983.8	-308.2	-28.1	309.5	0.54	-0.46	
2,111.0	12.92	185.27	2,076.5	-328.6	-29.9	329.9	1.02	1.02	
2,207.0	12.61	184.13	2,170.2	-349.7	-31.6	351.1	0.42	-0.32	
2,302.0	11.82	185.45	2,263.0	-369.7	-33.3	371.2	0.88	-0.83	
2,397.0	13.45	182.63	2,355.7	-390.5	-34.7	392.0	1.83	1.72	
2,492.0	12.57	183.51	2,448.3	-411.8	-35.9	413.4	0.95	-0.93	
2,587.0	13.71	185.27	2,540.8	-433.4	-37.6	435.0	1.27	1.20	
2,682.0	13.27	185.09	2,633.2	-455.4	-39.6	457.1	0.47	-0.46	
2,778.0	13.14	187.73	2,726.6	-477.2	-42.0	479.1	0.64	-0.14	
2,873.0	12.44	180.70	2,819.3	-498.1	-43.6	500.0	1.79	-0.74	
2,968.0	11.87	181.40	2,912.1	-518.1	-43.9	520.0	0.62	-0.60	
3,063.0	13.14	180.00	3,004.9	-538.7	-44.2	540.5	1.37	1.34	
3,159.0	12.70	180.79	3,098.5	-560.2	-44.3	561.9	0.49	-0.46	
3,254.0	12.26	181.14	3,191.2	-580.7	-44.7	582.4	0.47	-0.46	
3,349.0	11.56	178.68	3,284.2	-600.3	-44.6	601.9	0.91	-0.74	
3,445.0	12.17	181.75	3,378.1	-620.0	-44.7	621.6	0.91	0.64	
3,539.0	13.23	185.89	3,469.8	-640.6	-46.1	642.2	1.49	1.13	
3,635.0	12.44	185.36	3,563.4	-661.9	-48.2	663.5	0.83	-0.82	
3,730.0	11.78	185.97	3,656.3	-681.7	-50.2	683.5	0.71	-0.69	
3,825.0	11.38	186.76	3,749.4	-700.6	-52.3	702.5	0.45	-0.42	
3,920.0	12.79	185.18	3,842.3	-720.4	-54.4	722.4	1.52	1.48	
4,015.0	12.22	182.90	3,935.0	-740.9	-55.8	743.0	0.79	-0.60	
4,111.0	11.78	183.25	4,028.9	-760.9	-56.9	762.9	0.46	-0.46	
4,206.0	11.16	181.40	4,122.0	-779.7	-57.7	781.8	0.76	-0.65	
4,301.0	13.05	183.51	4,214.9	-799.6	-58.5	801.7	2.04	1.99	
4,396.0	13.14	182.99	4,307.4	-821.1	-59.8	823.2	0.16	0.09	
4,492.0	13.23	181.49	4,400.9	-843.0	-60.6	845.1	0.37	0.09	
4,588.0	12.00	183.42	4,494.6	-864.0	-61.5	866.0	1.35	-1.28	
4,683.0	11.91	183.25	4,587.5	-883.6	-62.6	885.7	0.10	-0.09	
4,778.0	10.50	191.07	4,680.7	-901.9	-64.9	904.1	2.18	-1.48	
4,873.0	8.92	186.94	4,774.3	-917.7	-67.4	920.1	1.82	-1.66	
4,969.0	5.84	181.32	4,869.5	-930.0	-68.4	932.4	3.29	-3.21	
5,064.0	5.27	177.18	4,964.1	-939.2	-68.3	941.5	0.73	-0.60	
5,160.0	3.52	176.74	5,059.8	-946.5	-67.9	948.8	1.82	-1.82	
5,256.0	1.45	175.34	5,155.7	-950.7	-67.7	952.9	2.16	-2.16	
5,351.0	0.22	273.34	5,250.7	-951.8	-67.8	954.1	1.58	-1.29	
5,446.0	0.13	320.80	5,345.7	-951.7	-68.0	954.0	0.17	-0.09	
5,542.0	0.48	280.28	5,441.7	-951.6	-68.5	953.9	0.41	0.36	
5,637.0	0.79	260.33	5,536.7	-951.6	-69.5	954.1	0.40	0.33	
5,733.0	1.05	237.21	5,632.7	-952.2	-70.9	954.8	0.47	0.27	
5,828.0	0.70	25.05	5,727.7	-952.2	-71.4	954.8	1.77	-0.37	
5,922.0	1.27	47.11	5,821.7	-950.9	-70.4	953.4	0.72	0.61	
6,018.0	1.19	42.10	5,917.6	-949.5	-68.9	951.9	0.14	-0.08	
6,113.0	1.14	93.86	6,012.6	-948.8	-67.3	951.0	1.07	-0.05	
6,209.0	0.88	190.63	6,108.6	-949.6	-66.5	951.8	1.58	-0.27	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 28-13BB
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 28-13BB	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
6,304.0	0.66	188.52	6,203.6	-950.8	-66.7	953.0	0.23	-0.23	
6,399.0	0.92	186.06	6,298.6	-952.1	-66.9	954.3	0.28	0.27	
6,494.0	0.88	249.25	6,393.6	-953.2	-67.7	955.4	0.99	-0.04	
6,589.0	1.14	246.53	6,488.6	-953.8	-69.2	956.2	0.28	0.27	
6,685.0	1.41	229.22	6,584.5	-955.0	-71.0	957.5	0.49	0.28	
6,780.0	1.32	241.30	6,679.5	-956.2	-72.8	958.9	0.32	-0.09	
6,876.0	1.32	234.05	6,775.5	-957.4	-74.7	960.3	0.17	0.00	
6,971.0	1.67	244.11	6,870.4	-958.7	-76.8	961.7	0.46	0.37	
7,066.0	1.54	254.00	6,965.4	-959.6	-79.3	962.9	0.32	-0.14	
7,161.0	1.45	250.57	7,060.4	-960.4	-81.7	963.8	0.13	-0.09	
7,256.0	1.32	253.39	7,155.4	-961.1	-83.8	964.7	0.15	-0.14	
7,352.0	1.36	240.47	7,251.3	-962.0	-85.9	965.8	0.32	0.04	
7,457.0	0.92	249.29	7,356.3	-962.9	-87.8	966.9	0.45	-0.42	
7,553.0	0.97	225.17	7,452.3	-963.7	-89.1	967.8	0.41	0.05	
7,648.0	0.57	177.98	7,547.3	-964.8	-89.6	968.9	0.75	-0.42	
7,744.0	1.14	247.06	7,643.3	-965.6	-90.5	969.8	1.12	0.59	
7,838.0	1.80	209.70	7,737.3	-967.3	-92.1	971.6	1.20	0.70	
7,933.0	1.93	211.46	7,832.2	-969.9	-93.6	974.4	0.15	0.14	
7,955.0	1.93	208.56	7,854.2	-970.6	-94.0	975.1	0.44	0.00	Last Cathedral Survey @ 7,955' MD
8,005.0	1.93	208.56	7,904.2	-972.0	-94.8	976.6	0.00	0.00	Projection to Bit @ 8,005'

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Federal 28-13BB TOG	0.00	0.00	5,332.0	-965.9	-85.1	1,581,904.99	2,291,048.35	39.404200	-108.009290
- hit/miss target									
- Shape									
- actual wellpath misses target center by 22.2ft at 5432.3ft MD (5332.0 TVD, -951.8 N, -68.0 E)									
- Point									
Federal 28-13BB BHL	0.00	0.00	7,891.0	-965.9	-85.1	1,581,904.99	2,291,048.35	39.404200	-108.009290
- actual wellpath misses target center by 11.1ft at 7991.5ft MD (7890.7 TVD, -971.6 N, -94.6 E)									
- Circle (radius 25.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,955.0	7,854.2	-970.6	-94.0	Last Cathedral Survey @ 7,955' MD	
8,005.0	7,904.2	-972.0	-94.8	Projection to Bit @ 8,005'	

Checked By: _____ Approved By: _____ Date: _____