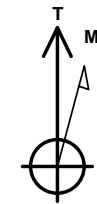
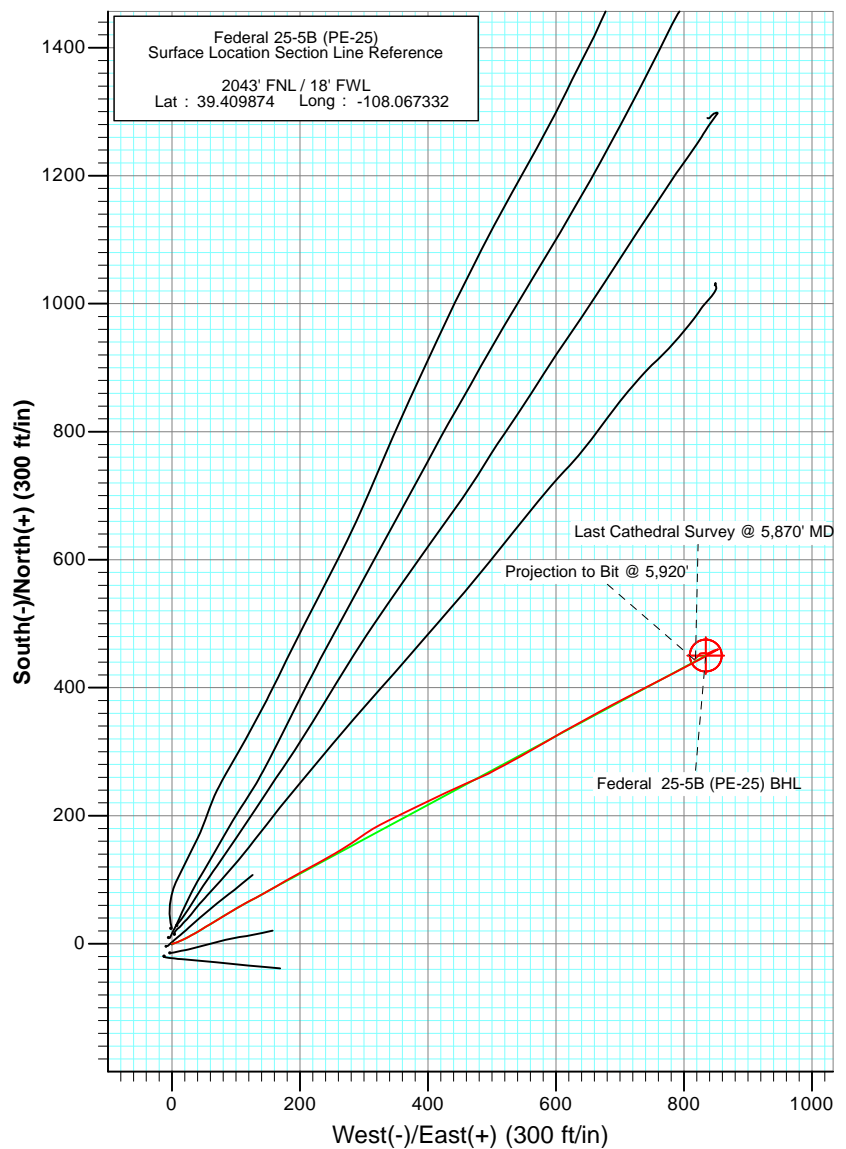
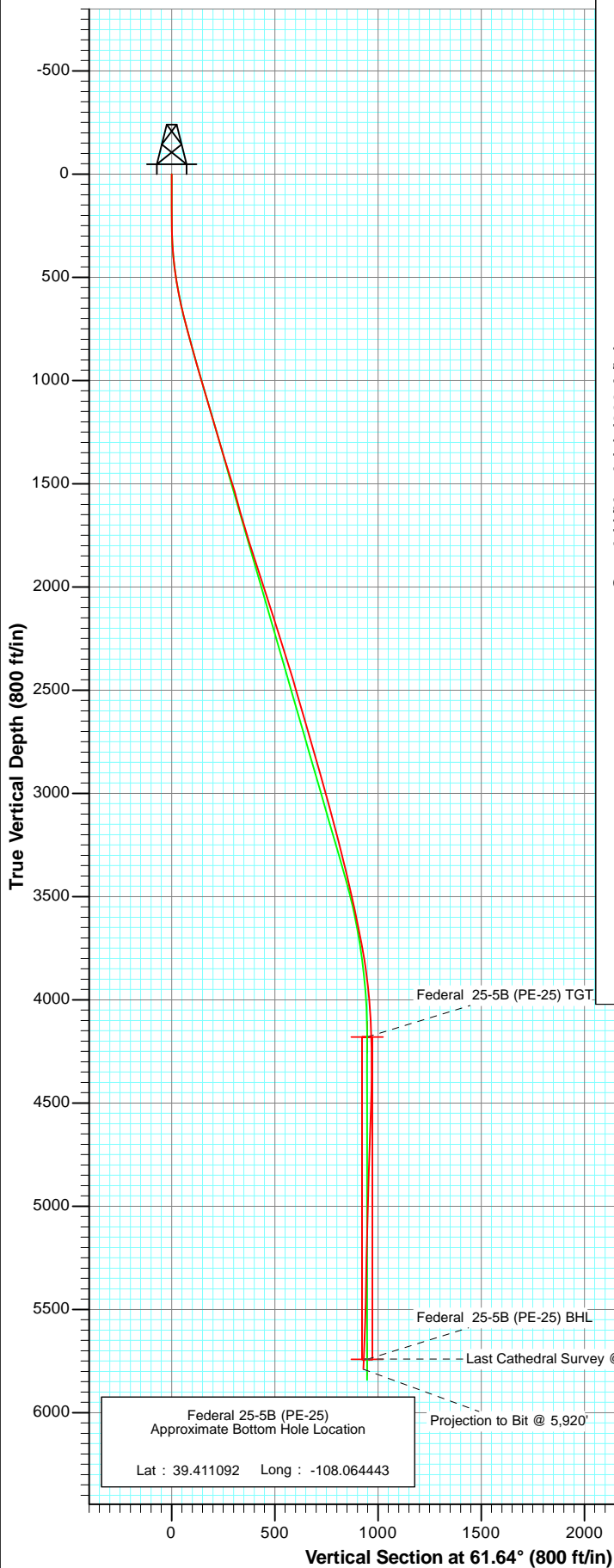




Project: S. Piceance (Parachute)
Site: SWNW Sec 25-T7S-R96W (PE-25 Pad)
Well: Federal 25-5B (PE-25)
Wellbore: DD
Plan: FINAL



Azimuths to True North
Magnetic North: 10.33°

Magnetic Field
Strength: 52164.6snT
Dip Angle: 66.65°
Date: 10/15/2011
Model: IGRF2010

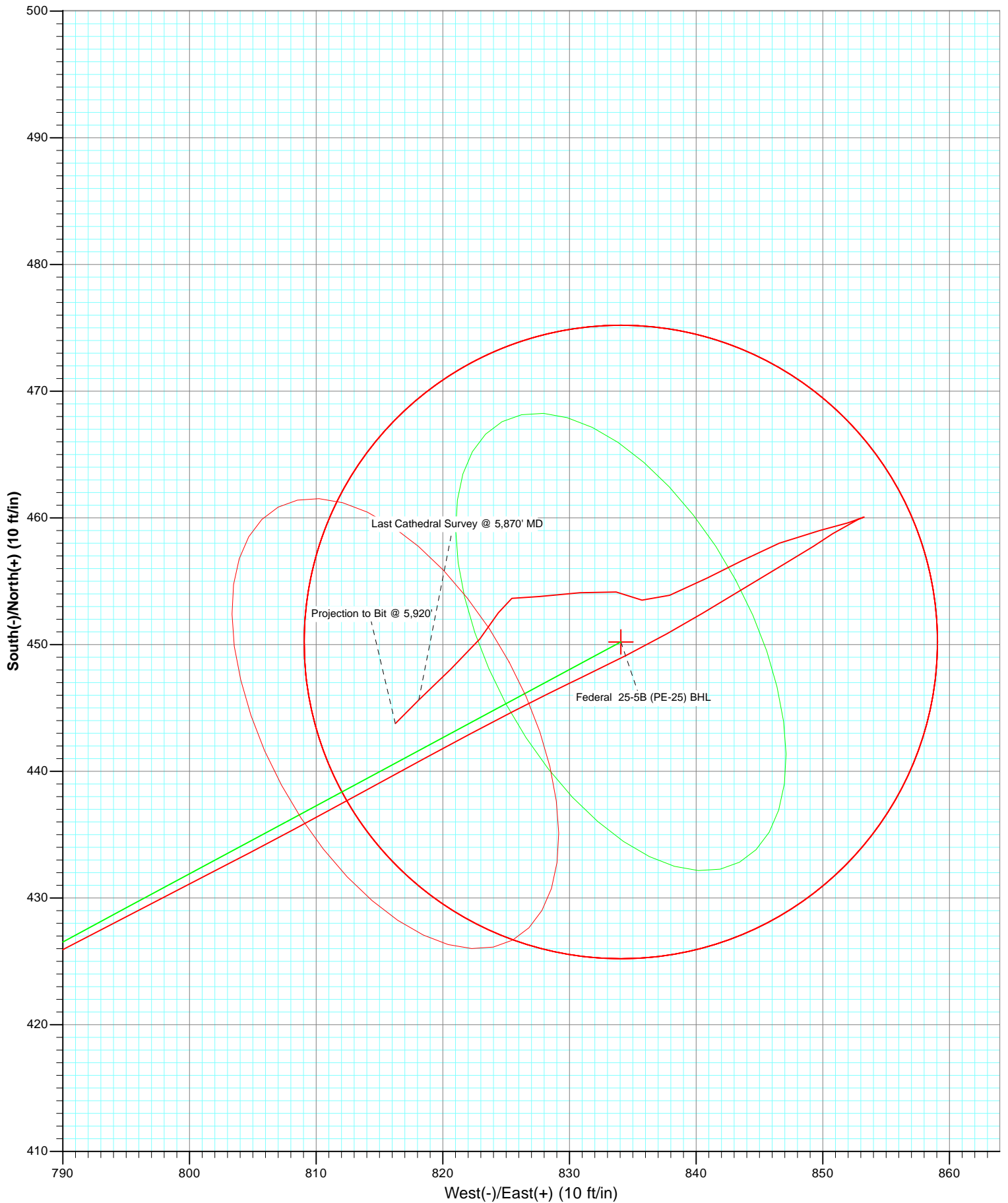
DD
Federal 25-5B (PE-25)
115467/112455; DS

KBE @ 5419.0ft (Patterson 330)
North American Datum 1983
Well Federal 25-5B (PE-25), True North

Type User	Target	No Target (Freehand)	Azimuth	Origin Type	N/S	E/W	From TVD
			61.64	Slot	0.0	0.0	0.0
Name		TVD	+N/-S	+E/-W	Latitude	Longitude	
Federal 25-5B (PE-25) TGT		4180.0	450.2	834.1	39.411110	-108.064380	
Federal 25-5B (PE-25) BHL		5742.0	450.2	834.1	39.411110	-108.064380	

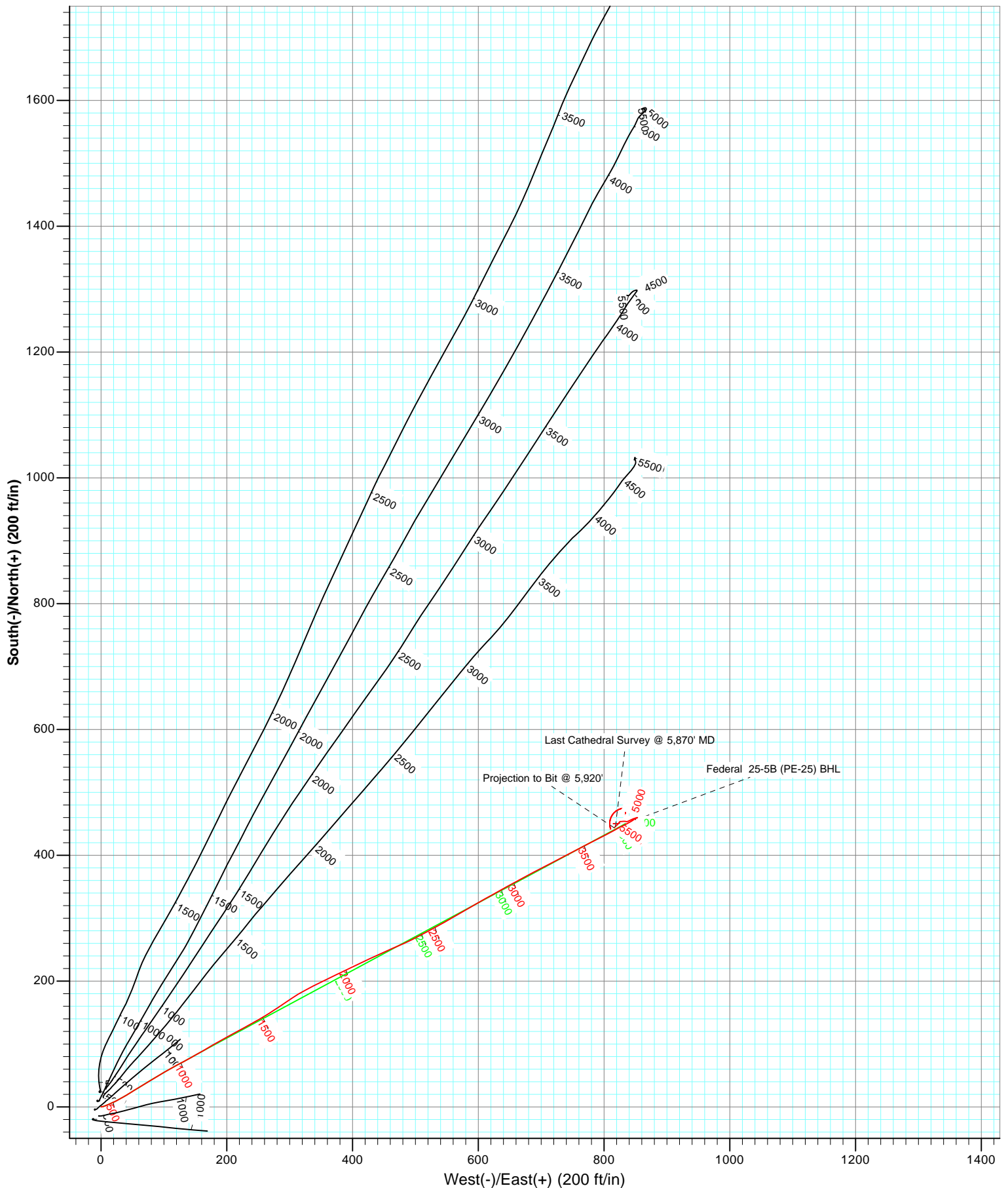


Project: S. Piceance (Parachute)
Site: SWNW Sec 25-T7S-R96W (PE-25 Pad)
Well: Federal 25-5B (PE-25)
Wellbore: DD
Plan: FINAL





Project: S. Piceance (Parachute)
Site: SWNW Sec 25-T7S-R96W (PE-25 Pad)
Well: Federal 25-5B (PE-25)
Wellbore: DD
Plan: DD



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 25-5B (PE-25)
Project:	S. Piceance (Parachute)	TVD Reference:	KBE @ 5419.0ft (Patterson 330)
Site:	SWNW Sec 25-T7S-R96W (PE-25 Pad)	MD Reference:	KBE @ 5419.0ft (Patterson 330)
Well:	Federal 25-5B (PE-25)	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	SWNW Sec 25-T7S-R96W (PE-25 Pad)			
Site Position:		Northing:	1,584,438.30 ft	Latitude: 39.409900
From:	Lat/Long	Easting:	2,274,718.76 ft	Longitude: -108.067310
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.62 °

Well	Federal 25-5B (PE-25)			
Well Position	+N/-S	0.0 ft	Northing:	1,584,429.00 ft
	+E/-W	0.0 ft	Easting:	2,274,712.27 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level: 5,388.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/15/2011	10.33	65.65	52,165

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	61.64	

Survey Program	Date	10/20/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.0	1,088.0	Survey #1 (DD)	MWD	Geolink MWD	
1,168.0	5,920.0	Survey #2 (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		
100.0	0.30	69.57	100.0	0.1	0.2	0.3	0.30	0.30		
161.0	0.48	76.41	161.0	0.2	0.6	0.7	0.30	0.30		
250.0	0.75	94.52	250.0	0.2	1.6	1.5	0.37	0.30		
294.0	1.60	74.30	294.0	0.4	2.5	2.4	2.12	1.93		
326.0	2.70	72.60	326.0	0.7	3.6	3.5	3.44	3.44		
356.0	3.80	70.00	355.9	1.3	5.2	5.2	3.70	3.67		
386.0	4.61	69.71	385.8	2.0	7.3	7.4	2.70	2.70		
417.0	5.80	67.40	416.7	3.1	9.9	10.2	3.90	3.84		
449.0	7.00	64.50	448.5	4.5	13.2	13.7	3.88	3.75		
479.0	7.90	66.80	478.2	6.1	16.7	17.6	3.16	3.00		
512.0	8.90	64.50	510.9	8.1	21.1	22.4	3.20	3.03		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 25-5B (PE-25)
Project:	S. Piceance (Parachute)	TVD Reference:	KBE @ 5419.0ft (Patterson 330)
Site:	SWNW Sec 25-T7S-R96W (PE-25 Pad)	MD Reference:	KBE @ 5419.0ft (Patterson 330)
Well:	Federal 25-5B (PE-25)	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
542.0	9.90	61.80	540.5	10.4	25.5	27.3	3.64	3.33	
570.0	10.90	61.30	568.0	12.8	29.9	32.4	3.59	3.57	
602.0	11.50	61.10	599.4	15.8	35.3	38.6	1.88	1.88	
633.0	12.20	58.50	629.8	19.0	40.8	44.9	2.84	2.26	
663.0	13.40	59.30	659.0	22.4	46.5	51.6	4.04	4.00	
694.0	14.50	59.10	689.1	26.2	53.0	59.1	3.55	3.55	
725.0	14.80	58.50	719.1	30.3	59.7	66.9	1.08	0.97	
756.0	14.90	57.90	749.1	34.5	66.4	74.8	0.59	0.32	
848.0	15.30	58.80	837.9	47.0	86.8	98.7	0.50	0.43	
940.0	16.20	61.70	926.4	59.4	108.5	123.7	1.30	0.98	
1,034.0	16.30	61.00	1,016.7	72.0	131.6	150.0	0.23	0.11	
1,088.0	16.30	61.00	1,068.5	79.4	144.8	165.2	0.00	0.00	Last Cathedral Survey @ 1,088' MD
1,168.0	16.00	60.60	1,145.3	90.2	164.3	187.4	0.40	-0.37	
1,264.0	16.00	59.30	1,237.6	103.5	187.2	213.9	0.37	0.00	
1,358.0	17.70	61.40	1,327.6	116.9	210.9	241.1	1.92	1.81	
1,453.0	16.70	62.10	1,418.3	130.2	235.6	269.2	1.07	-1.05	
1,547.0	17.20	58.70	1,508.3	143.8	259.4	296.6	1.18	0.53	
1,641.0	15.20	56.30	1,598.5	157.8	281.5	322.7	2.24	-2.13	
1,734.0	16.50	55.70	1,688.0	172.0	302.6	348.0	1.41	1.40	
1,828.0	16.80	61.90	1,778.0	186.0	325.6	374.9	1.92	0.32	
1,922.0	18.20	64.80	1,867.7	198.6	350.9	403.1	1.75	1.49	
2,017.0	18.20	63.20	1,957.9	211.6	377.5	432.7	0.53	0.00	
2,111.0	18.10	64.70	2,047.3	224.5	403.8	462.0	0.51	-0.11	
2,206.0	17.70	64.80	2,137.7	236.9	430.3	491.2	0.42	-0.42	
2,300.0	17.40	66.20	2,227.3	248.7	456.0	519.4	0.55	-0.32	
2,394.0	17.50	66.50	2,317.0	260.0	481.9	547.5	0.14	0.11	
2,488.0	17.00	61.30	2,406.7	272.2	506.9	575.4	1.72	-0.53	
2,582.0	15.90	62.30	2,496.9	284.8	530.3	602.0	1.21	-1.17	
2,677.0	16.70	59.80	2,588.1	297.7	553.7	628.6	1.12	0.84	
2,771.0	16.10	59.80	2,678.3	311.1	576.6	655.2	0.64	-0.64	
2,865.0	16.50	59.80	2,768.5	324.4	599.4	681.5	0.43	0.43	
2,960.0	15.40	61.30	2,859.8	337.2	622.1	707.6	1.24	-1.16	
3,054.0	16.10	61.40	2,950.3	349.4	644.5	733.1	0.75	0.74	
3,149.0	14.30	61.20	3,042.0	361.4	666.4	758.0	1.90	-1.89	
3,243.0	15.60	61.80	3,132.8	373.0	687.7	782.3	1.39	1.38	
3,338.0	14.00	64.30	3,224.6	384.0	709.3	806.5	1.81	-1.68	
3,432.0	13.70	60.60	3,315.9	394.4	729.2	829.0	0.99	-0.32	
3,526.0	14.10	63.10	3,407.1	405.0	749.1	851.6	0.77	0.43	
3,620.0	12.60	62.80	3,498.6	414.9	768.5	873.3	1.60	-1.60	
3,715.0	12.00	62.90	3,591.4	424.1	786.5	893.5	0.63	-0.63	
3,809.0	10.85	62.36	3,683.6	432.7	803.0	912.2	1.23	-1.22	
3,904.0	9.84	61.22	3,777.0	440.7	818.0	929.2	1.08	-1.06	
3,999.0	7.69	64.47	3,870.9	447.4	830.9	943.7	2.32	-2.26	
4,093.0	5.63	58.76	3,964.3	452.5	840.5	954.6	2.30	-2.19	
4,187.0	3.65	59.28	4,057.9	456.4	847.0	962.2	2.11	-2.11	
4,281.0	1.76	55.07	4,151.8	458.8	850.8	966.6	2.02	-2.01	
4,375.0	1.10	69.83	4,245.8	459.9	852.8	968.9	0.80	-0.70	
4,469.0	0.52	252.56	4,339.8	460.1	853.3	969.4	1.72	-0.62	
4,564.0	1.10	248.78	4,434.8	459.6	852.0	968.1	0.61	0.61	
4,658.0	1.71	258.40	4,528.8	459.0	849.8	965.8	0.69	0.65	
4,752.0	2.42	248.69	4,622.7	458.0	846.6	962.5	0.84	0.76	
4,846.0	1.54	238.93	4,716.6	456.6	843.6	959.3	1.00	-0.94	
4,940.0	2.20	246.70	4,810.6	455.3	840.9	956.2	0.75	0.70	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 25-5B (PE-25)
Project:	S. Piceance (Parachute)	TVD Reference:	KBE @ 5419.0ft (Patterson 330)
Site:	SWNW Sec 25-T7S-R96W (PE-25 Pad)	MD Reference:	KBE @ 5419.0ft (Patterson 330)
Well:	Federal 25-5B (PE-25)	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
5,034.0	1.80	243.50	4,904.5	453.9	837.9	953.0	0.44	-0.43	
5,128.0	1.10	287.60	4,998.5	453.5	835.7	950.8	1.35	-0.74	
5,222.0	1.50	287.50	5,092.5	454.2	833.7	949.4	0.43	0.43	
5,317.0	2.10	255.50	5,187.4	454.1	830.8	946.8	1.21	0.63	
5,411.0	1.90	274.80	5,281.4	453.8	827.6	943.8	0.74	-0.21	
5,505.0	0.80	246.20	5,375.4	453.7	825.5	941.9	1.34	-1.17	
5,599.0	1.20	207.50	5,469.3	452.5	824.4	940.4	0.81	0.43	
5,693.0	1.90	220.40	5,563.3	450.5	822.9	938.1	0.83	0.74	
5,787.0	2.10	227.10	5,657.2	448.1	820.7	935.0	0.33	0.21	
5,870.0	2.81	225.30	5,740.2	445.6	818.1	931.6	0.86	0.86	Last Cathedral Survey @ 5,870' MD
5,920.0	3.20	224.20	5,790.1	443.8	816.3	929.1	0.79	0.78	Projection to Bit @ 5,920'

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Federal 25-5B (PE-25) -	0.00	0.00	4,180.0	450.2	834.1	1,584,855.47	2,275,558.72	39.411110	-108.064380
- actual wellpath misses target center by 19.6ft at 4308.7ft MD (4179.5 TVD, 459.2 N, 851.5 E)									
- Circle (radius 25.0)									
Federal 25-5B (PE-25)	0.00	0.00	5,742.0	450.2	834.1	1,584,855.47	2,275,558.72	39.411110	-108.064380
- actual wellpath misses target center by 16.7ft at 5870.0ft MD (5740.2 TVD, 445.6 N, 818.1 E)									
- Circle (radius 25.0)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
1,088.0	1,068.5	79.4	144.8	Last Cathedral Survey @ 1,088' MD
5,870.0	5,740.2	445.6	818.1	Last Cathedral Survey @ 5,870' MD
5,920.0	5,790.1	443.8	816.3	Projection to Bit @ 5,920'

Checked By: _____ Approved By: _____ Date: _____