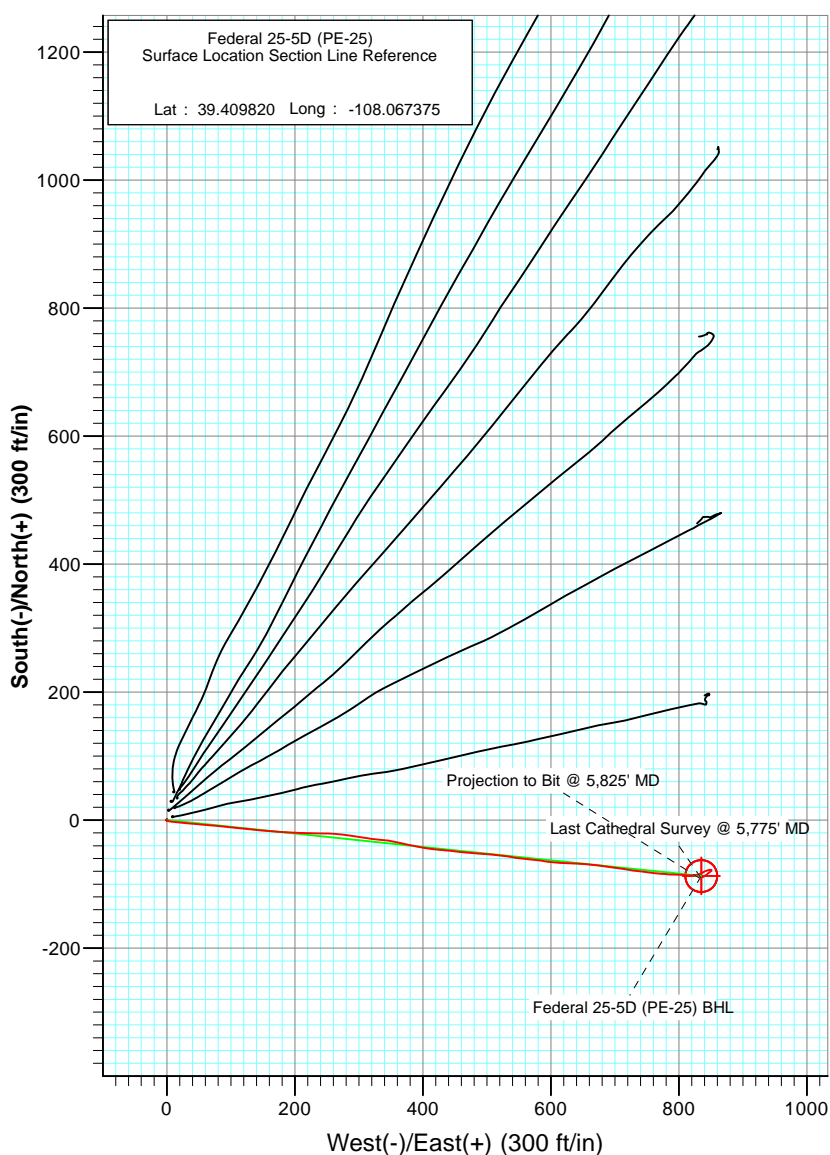
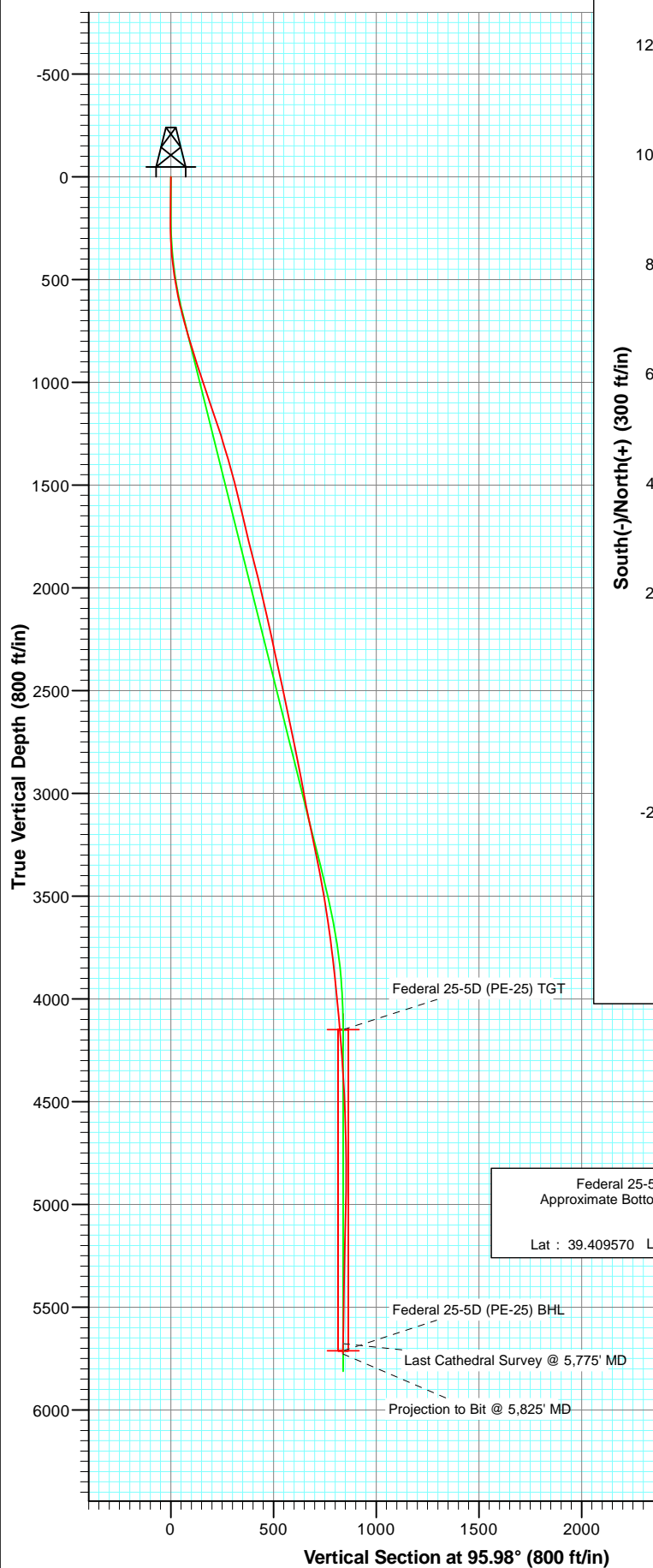




Project: S. Piceance (Parachute)
 Site: SWNW Sec 25-T7S-R96W (PE-25 Pad)
 Well: Federal 25-5D (PE-25)
 Wellbore: DD
 Plan: FINAL



Azimuths to True North
 Magnetic North: 10.32°

Magnetic Field
 Strength: 52208.6nT
 Dip Angle: 65.66°
 Date: 9/10/2011
 Model: IGRF200510

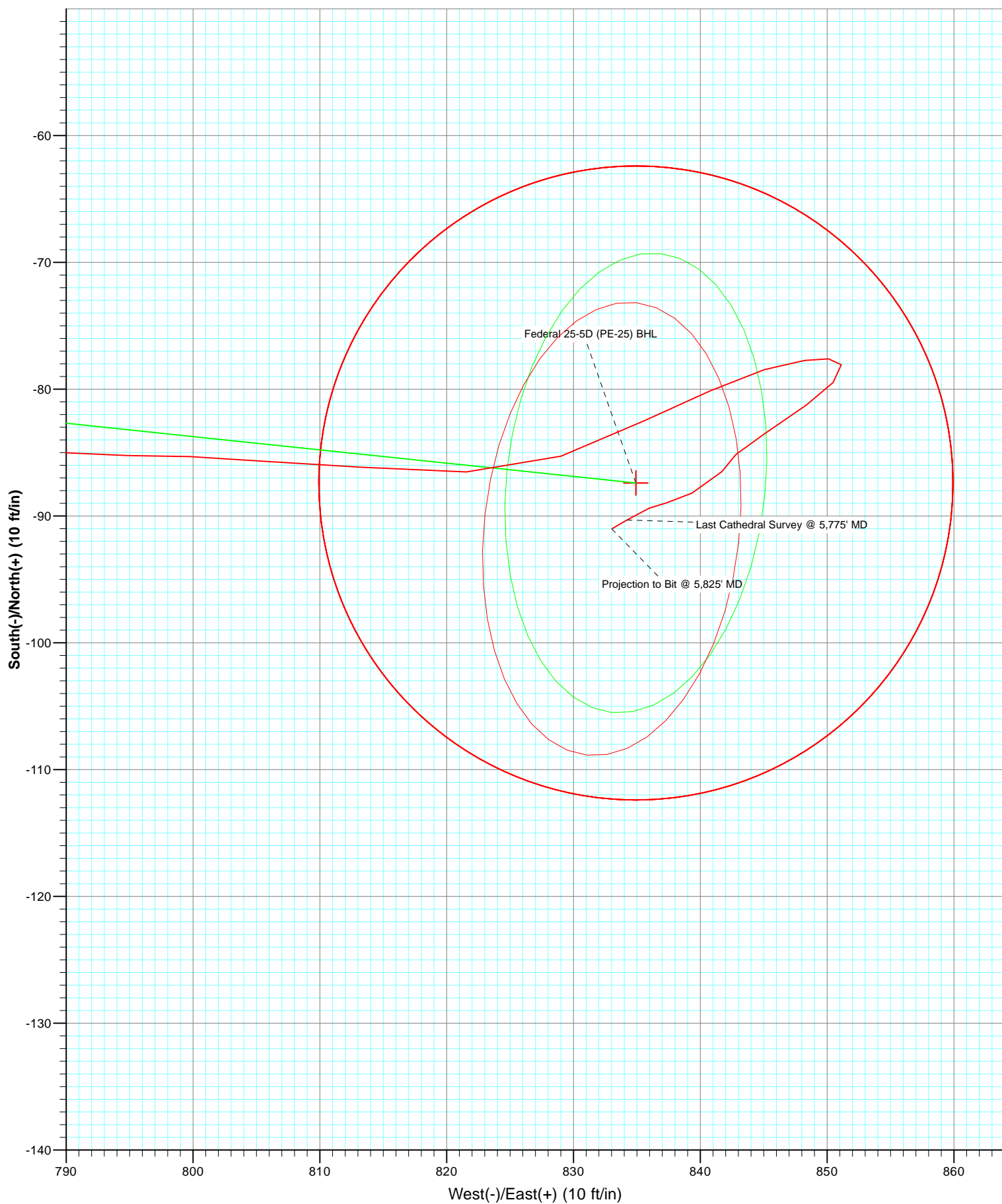
DD
 Federal 25-5D (PE-25)
 115371/108155 (SH): 115493/112755 (MH): SC

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

Type User	Target No Target (Freehand)	Target	Azimuth 95.98	Origin Type Slot	N/S 0.0	E/W 0.0	From TVD 0.0
Name		TVD	+N/-S	+E/-W	Latitude	Longitude	
Federal 25-5D (PE-25) TGT		4150.0	-87.4	834.9	39.409580	-108.064420	
Federal 25-5D (PE-25) BHL		5712.0	-87.4	834.9	39.409580	-108.064420	

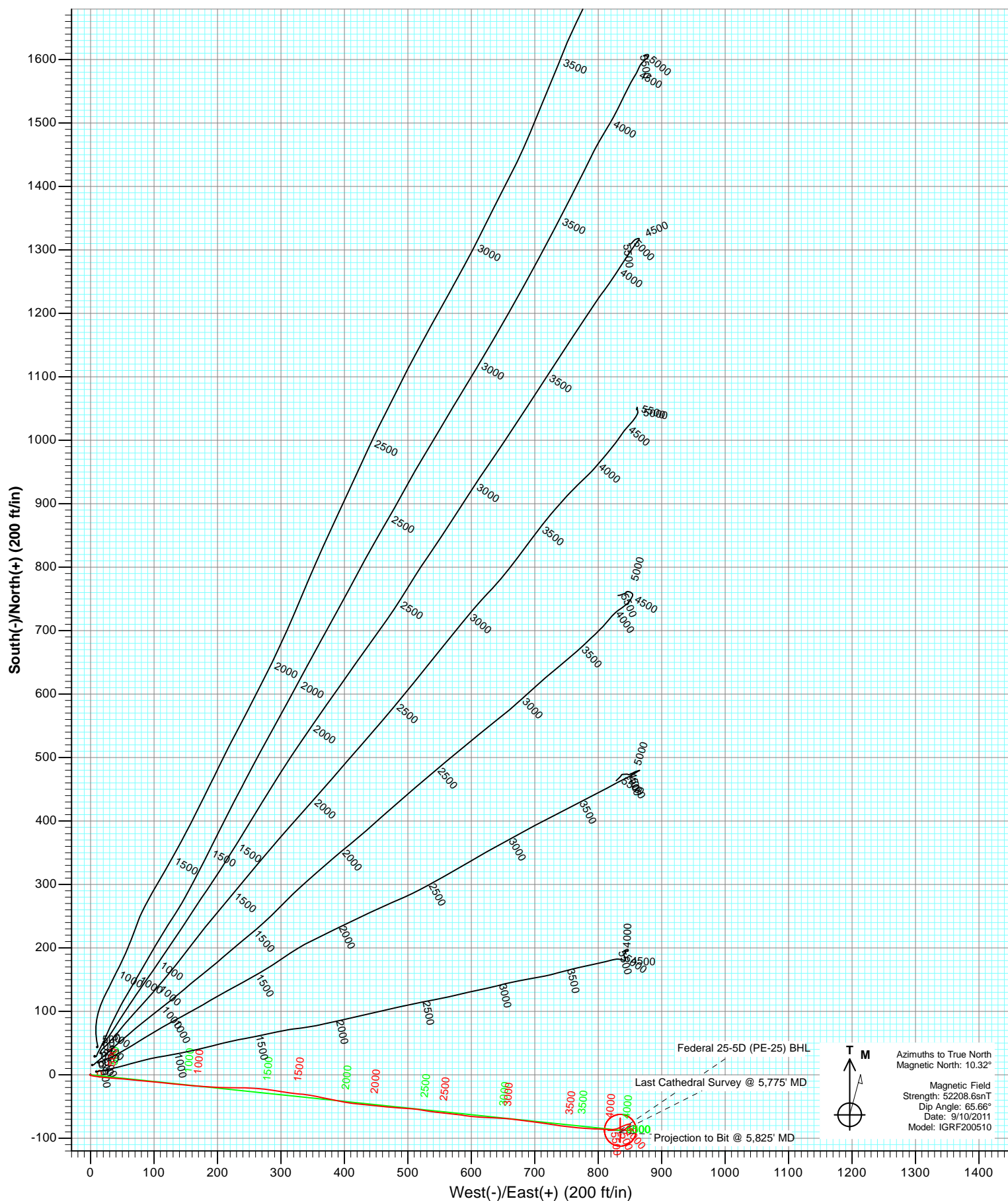


Project: S. Piceance (Parachute)
Site: SWNW Sec 25-T7S-R96W (PE-25 Pad)
Well: Federal 25-5D (PE-25)
Wellbore: DD
Plan: FINAL





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



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 25-5D (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 25-5D (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 25-5D (PE-25)			
Well Position	+N/-S	0.0 ft	Northing:	1,584,409.69 ft
	+E/-W	0.0 ft	Easting:	2,274,699.57 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)
	IGRF200510	9/10/2011	10.32	65.66	52,209

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	95.98	

Survey Program	Date	10/31/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
110.0	1,100.0	Survey #1 (DD)	MWD	Geolink MWD	
1,167.0	5,825.0	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		
110.0	0.50	280.30	110.0	0.1	-0.5	-0.5	0.45	0.45		
202.0	0.50	262.10	202.0	0.1	-1.3	-1.3	0.17	0.00		
233.0	0.50	144.30	233.0	0.0	-1.3	-1.3	2.76	0.00		
264.0	1.30	124.30	264.0	-0.3	-1.0	-0.9	2.73	2.58		
295.0	2.20	113.60	295.0	-0.8	-0.1	0.0	3.08	2.90		
325.0	3.40	107.10	324.9	-1.3	1.3	1.4	4.13	4.00		
356.0	4.50	102.00	355.9	-1.8	3.3	3.5	3.72	3.55		
387.0	5.40	99.10	386.8	-2.3	6.0	6.2	3.01	2.90		
417.0	6.50	96.90	416.6	-2.7	9.0	9.3	3.74	3.67		
448.0	7.20	94.60	447.4	-3.1	12.7	13.0	2.42	2.26		
479.0	8.20	96.40	478.1	-3.5	16.9	17.1	3.32	3.23		

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 25-5D (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 25-5D (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
510.0	9.30	95.60	508.7	-4.0	21.5	21.8	3.57	3.55	
540.0	10.50	95.60	538.3	-4.5	26.7	27.0	4.00	4.00	
571.0	11.60	96.00	568.7	-5.1	32.6	32.9	3.56	3.55	
602.0	12.40	94.80	599.0	-5.7	39.0	39.4	2.70	2.58	
633.0	13.40	93.80	629.2	-6.2	45.9	46.3	3.31	3.23	
663.0	14.50	95.00	658.4	-6.7	53.1	53.5	3.79	3.67	
756.0	16.00	95.60	748.1	-9.0	77.5	78.0	1.62	1.61	
848.0	16.90	95.40	836.3	-11.5	103.4	104.0	0.98	0.98	
940.0	17.80	95.90	924.1	-14.2	130.7	131.5	0.99	0.98	
1,034.0	18.60	95.20	1,013.4	-17.0	159.9	160.8	0.88	0.85	
1,100.0	19.10	93.90	1,075.9	-18.7	181.2	182.1	0.99	0.76	Last Cathedral Survey @ 1,100' MD
1,167.0	19.10	92.30	1,139.2	-19.9	203.1	204.0	0.78	0.00	
1,262.0	18.30	89.70	1,229.2	-20.5	233.5	234.4	1.22	-0.84	
1,356.0	16.50	94.70	1,318.9	-21.5	261.6	262.4	2.49	-1.91	
1,450.0	16.00	98.80	1,409.1	-24.6	287.7	288.7	1.33	-0.53	
1,545.0	14.80	98.00	1,500.7	-28.2	312.6	313.9	1.28	-1.26	
1,639.0	12.70	94.80	1,592.0	-30.8	334.8	336.2	2.38	-2.23	
1,733.0	13.40	102.40	1,683.6	-34.0	355.8	357.4	1.97	0.74	
1,826.0	14.40	101.20	1,773.9	-38.5	377.6	379.6	1.12	1.08	
1,920.0	14.50	101.00	1,864.9	-43.1	400.7	403.0	0.12	0.11	
2,014.0	13.70	94.50	1,956.1	-46.2	423.3	425.8	1.89	-0.85	
2,109.0	13.10	96.60	2,048.5	-48.3	445.2	447.8	0.81	-0.63	
2,203.0	12.50	95.60	2,140.1	-50.5	465.9	468.6	0.68	-0.64	
2,298.0	12.20	93.70	2,233.0	-52.2	486.2	489.0	0.53	-0.32	
2,392.0	12.10	94.20	2,324.8	-53.5	505.9	508.7	0.15	-0.11	
2,486.0	11.91	100.80	2,416.8	-56.1	525.3	528.2	1.47	-0.20	
2,580.0	12.60	95.84	2,508.7	-58.9	545.0	548.2	1.34	0.73	
2,674.0	11.90	96.50	2,600.5	-61.1	564.8	568.1	0.76	-0.74	
2,769.0	11.60	96.40	2,693.5	-63.2	584.0	587.5	0.32	-0.32	
2,863.0	11.50	98.20	2,785.6	-65.6	602.7	606.3	0.40	-0.11	
2,957.0	11.40	91.60	2,877.8	-67.2	621.3	624.9	1.40	-0.11	
3,052.0	10.15	92.80	2,971.1	-67.9	639.0	642.6	1.34	-1.32	
3,146.0	10.50	94.40	3,063.6	-69.0	655.8	659.4	0.48	0.37	
3,241.0	12.30	98.30	3,156.7	-71.1	674.5	678.2	2.06	1.89	
3,335.0	12.00	97.20	3,248.6	-73.8	694.1	698.0	0.40	-0.32	
3,430.0	10.70	97.40	3,341.7	-76.1	712.6	716.7	1.37	-1.37	
3,524.0	10.20	100.30	3,434.1	-78.7	729.5	733.7	0.77	-0.53	
3,618.0	9.60	95.00	3,526.7	-80.9	745.5	749.8	1.16	-0.64	
3,712.0	8.40	98.70	3,619.6	-82.6	760.1	764.5	1.42	-1.28	
3,807.0	7.70	92.80	3,713.7	-84.0	773.3	777.8	1.14	-0.74	
3,901.0	6.20	95.40	3,807.0	-84.8	784.6	789.2	1.63	-1.60	
3,996.0	6.20	89.70	3,901.4	-85.2	794.9	799.4	0.65	0.00	
4,091.0	5.30	95.10	3,995.9	-85.6	804.4	808.9	1.10	-0.95	
4,185.0	5.50	92.00	4,089.5	-86.1	813.2	817.7	0.38	0.21	
4,279.0	4.75	93.29	4,183.1	-86.5	821.6	826.1	0.81	-0.80	
4,373.0	4.70	67.70	4,276.8	-85.3	829.0	833.4	2.22	-0.05	
4,467.0	3.90	66.00	4,370.6	-82.5	835.5	839.6	0.86	-0.85	
4,562.0	3.10	65.30	4,465.4	-80.1	840.8	844.6	0.84	-0.84	
4,656.0	2.50	72.40	4,559.3	-78.5	845.1	848.6	0.74	-0.64	
4,750.0	1.50	85.40	4,653.2	-77.7	848.2	851.7	1.16	-1.06	
4,844.0	0.80	86.90	4,747.2	-77.6	850.1	853.6	0.75	-0.74	
4,939.0	0.75	145.50	4,842.2	-78.1	851.1	854.6	0.80	-0.05	
5,036.0	1.60	229.30	4,939.2	-79.5	850.5	854.1	1.74	0.88	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Federal 25-5D (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 25-5D (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
5,126.0	1.90	230.57	5,029.1	-81.3	848.4	852.2	0.34	0.33	
5,220.0	3.00	238.60	5,123.0	-83.5	845.1	849.2	1.22	1.17	
5,314.0	0.44	201.80	5,217.0	-85.1	842.8	847.1	2.83	-2.72	
5,409.0	1.70	223.90	5,312.0	-86.5	841.7	846.1	1.37	1.33	
5,503.0	1.90	243.70	5,405.9	-88.2	839.3	844.0	0.69	0.21	
5,598.0	0.70	263.40	5,500.9	-89.0	837.4	842.1	1.33	-1.26	
5,691.0	1.10	245.60	5,593.9	-89.4	836.0	840.7	0.52	0.43	
5,775.0	1.60	239.70	5,677.9	-90.3	834.2	839.1	0.62	0.60	Last Cathedral Survey @ 5,775' MD
5,825.0	1.60	239.70	5,727.8	-91.0	833.0	838.0	0.00	0.00	Projection to Bit @ 5,825' MD

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Federal 25-5D (PE-25) T - actual wellpath misses target center by 16.2ft at 4247.2ft MD (4151.4 TVD, -86.4 N, 818.9 E) - Circle (radius 25.0)	0.00	0.00	4,150.0	-87.4	834.9	1,584,298.73	2,275,531.70	39.409580	-108.064420
Federal 25-5D (PE-25) E - actual wellpath misses target center by 3.7ft at 5809.1ft MD (5711.9 TVD, -90.8 N, 833.4 E) - Circle (radius 25.0)	0.00	0.00	5,712.0	-87.4	834.9	1,584,298.73	2,275,531.70	39.409580	-108.064420

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,100.0	1,075.9	-18.7	181.2	Last Cathedral Survey @ 1,100' MD	
5,775.0	5,677.9	-90.3	834.2	Last Cathedral Survey @ 5,775' MD	
5,825.0	5,727.8	-91.0	833.0	Projection to Bit @ 5,825' MD	

Checked By: _____	Approved By: _____	Date: _____
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