



Bill Barrett Corporation

COMPANY DETAILS: BILL BARRETT CORP

Calculation Method: Minimum Curvature
Error System: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic
Warning Method: Error Ratio

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Pappenheim 6-62-27-4841BH, True North
Vertical (TVD) Reference: KB @ 4746.0ft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: KB @ 4746.0ft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: Pappenheim 6-62-27-4841BH

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1410623.18	3329049.87	40° 27' 16.344 N	104° 19' 3.180 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1405.5	6.08	356.11	1404.8	21.5	-1.5	1.50	356.11	0.9	
4	5019.8	6.08	356.11	4998.7	403.6	-27.5	0.00	0.00	17.0	
5	5425.4	0.00	0.00	5403.5	425.0	-28.9	1.50	180.00	17.9	
6	5925.4	0.00	0.00	5903.5	425.0	-28.9	0.00	0.00	17.9	
7	6677.7	90.28	88.99	6381.0	433.5	450.8	12.00	88.99	495.7	P 27-4841BH LP
8	10816.5	90.28	88.99	6360.7	506.8	4588.9	0.00	0.00	4616.8	P 27-4841BH PBHL

PROJECT DETAILS: WELD COUNTY, COLORADO

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

FORMATION TOP DETAILS

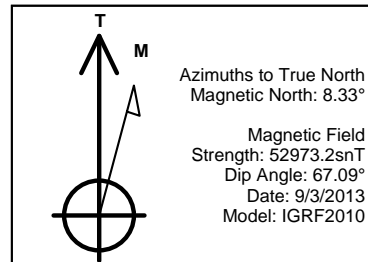
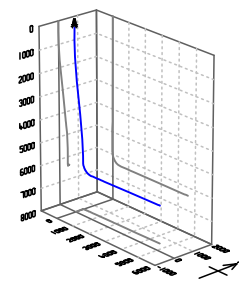
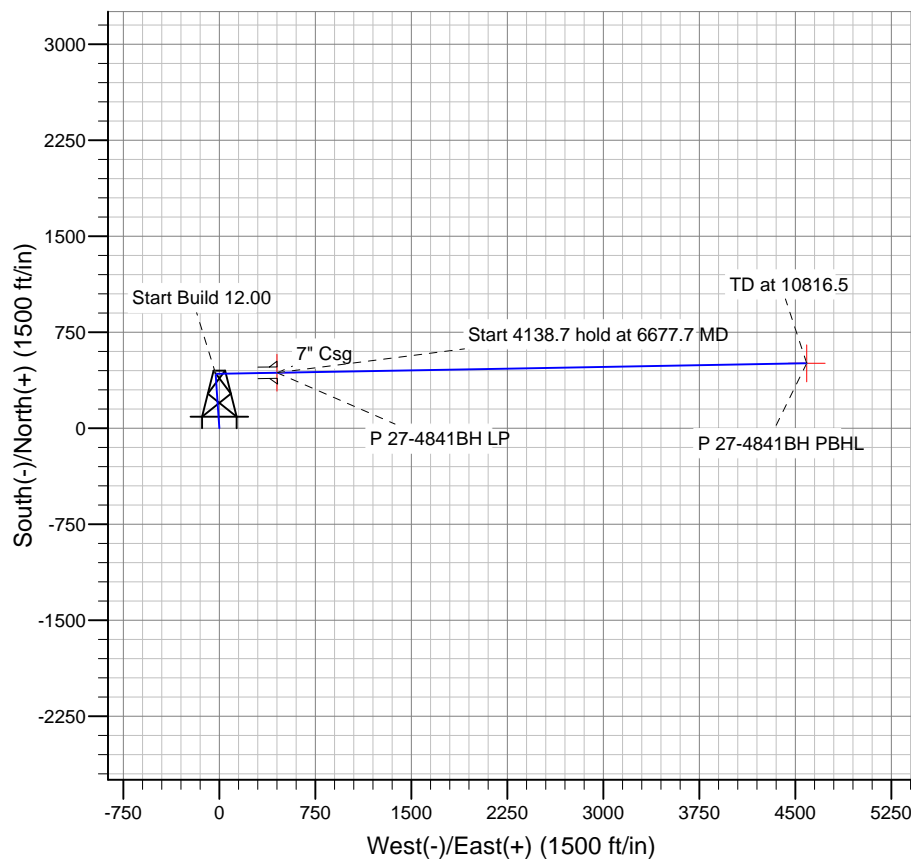
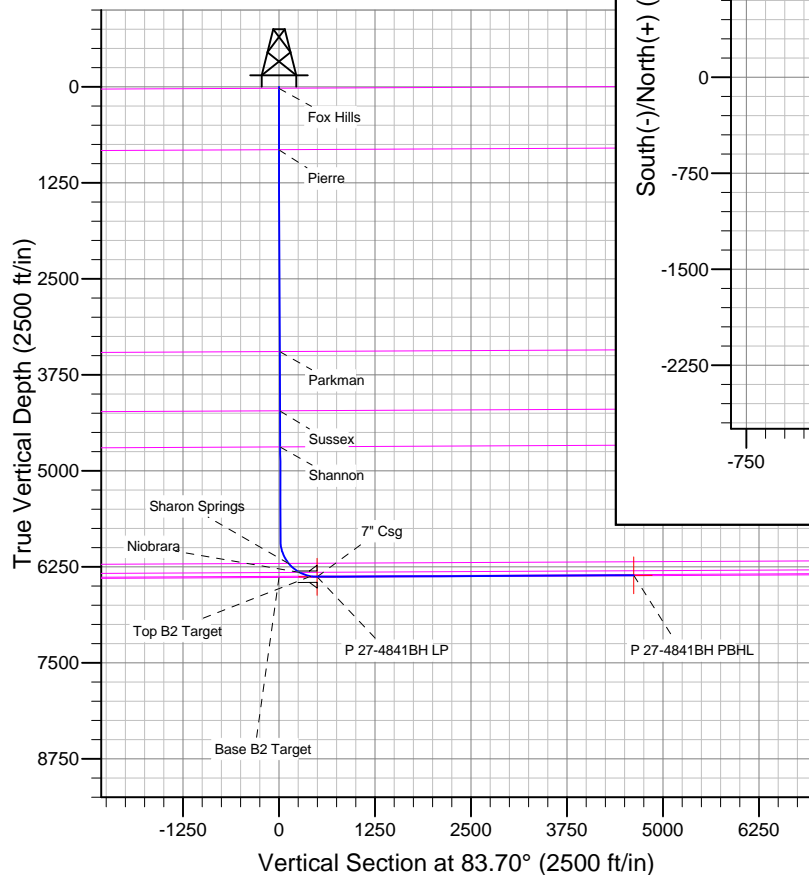
TVDPath	MDPath	Formation
20.0	20.0	Base B2 Target
820.0	820.0	Fox Hills
3448.1	3460.4	Pierre
4221.1	4237.8	Parkman
4690.1	4709.5	Sussex
6207.6	6255.0	Shannon
6324.9	6441.6	Sharon Springs
6374.2	6594.7	Niobrara
		Top B2 Target

CASING DETAILS

TVD	MD	Name	Size
6380.9	6680.0	7" Csg	7

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
P 27-4841BH PBHL	6361.0	506.8	4588.9	Point
P 27-4841BH LP	6381.0	433.5	450.8	Point



BILL BARRETT CORP

WELD COUNTY, COLORADO

Pappenheim 6-62-27 SW Pad

Pappenheim 6-62-27-4841BH

Wellbore #1

Plan: Design #1

Standard Planning Report

03 September, 2013

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-4841BH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4746.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4746.0ft (Original Well Elev)
Site:	Pappenheim 6-62-27 SW Pad	North Reference:	True
Well:	Pappenheim 6-62-27-4841BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	WELD COUNTY, COLORADO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Pappenheim 6-62-27 SW Pad				
Site Position:		Northing:	1,410,557.62 ft	Latitude:	40° 27' 15.696 N	
From:	Lat/Long	Easting:	3,329,050.75 ft	Longitude:	104° 19' 3.180 W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.76 °

Well		Pappenheim 6-62-27-4841BH				
Well Position	+N-S	65.6 ft	Northing:	1,410,623.18 ft	Latitude:	40° 27' 16.344 N
	+E-W	0.0 ft	Easting:	3,329,049.87 ft	Longitude:	104° 19' 3.180 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,726.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/3/2013	8.33	67.09	52,973

Design	Design #1				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	83.70	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,405.5	6.08	356.11	1,404.8	21.5	-1.5	1.50	1.50	0.00	356.11	
5,019.8	6.08	356.11	4,998.7	403.6	-27.5	0.00	0.00	0.00	0.00	
5,425.4	0.00	0.00	5,403.5	425.0	-28.9	1.50	-1.50	0.00	180.00	
5,925.4	0.00	0.00	5,903.5	425.0	-28.9	0.00	0.00	0.00	0.00	
6,677.7	90.28	88.99	6,381.0	433.5	450.8	12.00	12.00	0.00	88.99	P 27-4841BH LP
10,816.5	90.28	88.99	6,360.7	506.8	4,588.9	0.00	0.00	0.00	0.00	P 27-4841BH PBHL

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Planning Report

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Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4746.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4746.0ft (Original Well Elev)
Site:	Pappenheim 6-62-27 SW Pad	North Reference:	True
Well:	Pappenheim 6-62-27-4841BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
20.0	0.00	0.00	20.0	0.0	0.0	0.0	0.00	0.00	0.00
Fox Hills									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
820.0	0.00	0.00	820.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	1.50	356.11	1,100.0	1.3	-0.1	0.1	1.50	1.50	0.00
1,200.0	3.00	356.11	1,199.9	5.2	-0.4	0.2	1.50	1.50	0.00
1,300.0	4.50	356.11	1,299.7	11.7	-0.8	0.5	1.50	1.50	0.00
1,400.0	6.00	356.11	1,399.3	20.9	-1.4	0.9	1.50	1.50	0.00
1,405.5	6.08	356.11	1,404.8	21.5	-1.5	0.9	1.50	1.50	0.00
1,500.0	6.08	356.11	1,498.7	31.4	-2.1	1.3	0.00	0.00	0.00
1,600.0	6.08	356.11	1,598.1	42.0	-2.9	1.8	0.00	0.00	0.00
1,700.0	6.08	356.11	1,697.6	52.6	-3.6	2.2	0.00	0.00	0.00
1,800.0	6.08	356.11	1,797.0	63.2	-4.3	2.7	0.00	0.00	0.00
1,900.0	6.08	356.11	1,896.5	73.7	-5.0	3.1	0.00	0.00	0.00
2,000.0	6.08	356.11	1,995.9	84.3	-5.7	3.6	0.00	0.00	0.00
2,100.0	6.08	356.11	2,095.3	94.9	-6.5	4.0	0.00	0.00	0.00
2,200.0	6.08	356.11	2,194.8	105.5	-7.2	4.4	0.00	0.00	0.00
2,300.0	6.08	356.11	2,294.2	116.0	-7.9	4.9	0.00	0.00	0.00
2,400.0	6.08	356.11	2,393.6	126.6	-8.6	5.3	0.00	0.00	0.00
2,500.0	6.08	356.11	2,493.1	137.2	-9.3	5.8	0.00	0.00	0.00
2,600.0	6.08	356.11	2,592.5	147.7	-10.0	6.2	0.00	0.00	0.00
2,700.0	6.08	356.11	2,691.9	158.3	-10.8	6.7	0.00	0.00	0.00
2,800.0	6.08	356.11	2,791.4	168.9	-11.5	7.1	0.00	0.00	0.00
2,900.0	6.08	356.11	2,890.8	179.5	-12.2	7.6	0.00	0.00	0.00
3,000.0	6.08	356.11	2,990.3	190.0	-12.9	8.0	0.00	0.00	0.00
3,100.0	6.08	356.11	3,089.7	200.6	-13.6	8.5	0.00	0.00	0.00
3,200.0	6.08	356.11	3,189.1	211.2	-14.4	8.9	0.00	0.00	0.00
3,300.0	6.08	356.11	3,288.6	221.8	-15.1	9.3	0.00	0.00	0.00
3,400.0	6.08	356.11	3,388.0	232.3	-15.8	9.8	0.00	0.00	0.00
3,460.4	6.08	356.11	3,448.1	238.7	-16.2	10.1	0.00	0.00	0.00
Parkman									
3,500.0	6.08	356.11	3,487.4	242.9	-16.5	10.2	0.00	0.00	0.00
3,600.0	6.08	356.11	3,586.9	253.5	-17.2	10.7	0.00	0.00	0.00
3,700.0	6.08	356.11	3,686.3	264.0	-18.0	11.1	0.00	0.00	0.00
3,800.0	6.08	356.11	3,785.8	274.6	-18.7	11.6	0.00	0.00	0.00
3,900.0	6.08	356.11	3,885.2	285.2	-19.4	12.0	0.00	0.00	0.00
4,000.0	6.08	356.11	3,984.6	295.8	-20.1	12.5	0.00	0.00	0.00
4,100.0	6.08	356.11	4,084.1	306.3	-20.8	12.9	0.00	0.00	0.00
4,200.0	6.08	356.11	4,183.5	316.9	-21.6	13.4	0.00	0.00	0.00
4,237.8	6.08	356.11	4,221.1	320.9	-21.8	13.5	0.00	0.00	0.00
Sussex									
4,300.0	6.08	356.11	4,282.9	327.5	-22.3	13.8	0.00	0.00	0.00
4,400.0	6.08	356.11	4,382.4	338.0	-23.0	14.2	0.00	0.00	0.00

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-4841BH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4746.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4746.0ft (Original Well Elev)
Site:	Pappenheim 6-62-27 SW Pad	North Reference:	True
Well:	Pappenheim 6-62-27-4841BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	6.08	356.11	4,481.8	348.6	-23.7	14.7	0.00	0.00	0.00
4,600.0	6.08	356.11	4,581.3	359.2	-24.4	15.1	0.00	0.00	0.00
4,700.0	6.08	356.11	4,680.7	369.8	-25.2	15.6	0.00	0.00	0.00
4,709.5	6.08	356.11	4,690.1	370.8	-25.2	15.6	0.00	0.00	0.00
Shannon									
4,800.0	6.08	356.11	4,780.1	380.3	-25.9	16.0	0.00	0.00	0.00
4,900.0	6.08	356.11	4,879.6	390.9	-26.6	16.5	0.00	0.00	0.00
5,000.0	6.08	356.11	4,979.0	401.5	-27.3	16.9	0.00	0.00	0.00
5,019.8	6.08	356.11	4,998.7	403.6	-27.5	17.0	0.00	0.00	0.00
5,100.0	4.88	356.11	5,078.5	411.2	-28.0	17.3	1.50	-1.50	0.00
5,200.0	3.38	356.11	5,178.3	418.4	-28.5	17.6	1.50	-1.50	0.00
5,300.0	1.88	356.11	5,278.1	423.0	-28.8	17.8	1.50	-1.50	0.00
5,400.0	0.38	356.11	5,378.1	425.0	-28.9	17.9	1.50	-1.50	0.00
5,425.4	0.00	0.00	5,403.5	425.0	-28.9	17.9	1.50	-1.50	0.00
5,500.0	0.00	0.00	5,478.1	425.0	-28.9	17.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,578.1	425.0	-28.9	17.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,678.1	425.0	-28.9	17.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,778.1	425.0	-28.9	17.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,878.1	425.0	-28.9	17.9	0.00	0.00	0.00
5,925.4	0.00	0.00	5,903.5	425.0	-28.9	17.9	0.00	0.00	0.00
6,000.0	8.96	88.99	5,977.8	425.1	-23.1	23.7	12.00	12.00	0.00
6,100.0	20.96	88.99	6,074.3	425.6	2.7	49.4	12.00	12.00	0.00
6,200.0	32.96	88.99	6,163.2	426.4	47.9	94.4	12.00	12.00	0.00
6,255.0	39.56	88.99	6,207.6	427.0	80.4	126.8	12.00	12.00	0.00
Sharon Springs									
6,300.0	44.96	88.99	6,240.9	427.5	110.6	156.9	12.00	12.00	0.00
6,400.0	56.96	88.99	6,303.7	428.9	188.2	234.1	12.00	12.00	0.00
6,441.6	61.95	88.99	6,324.9	429.5	224.0	269.8	12.00	12.00	0.00
Niobrara									
6,500.0	68.96	88.99	6,349.1	430.5	277.0	322.6	12.00	12.00	0.00
6,594.7	80.32	88.99	6,374.2	432.1	368.2	413.4	12.00	12.00	0.00
Top B2 Target									
6,600.0	80.95	88.99	6,375.0	432.2	373.4	418.6	12.00	12.00	0.00
6,677.7	90.28	88.99	6,381.0	433.5	450.8	495.7	12.00	12.00	0.00
P 27-4841BH LP									
6,680.0	90.28	88.99	6,380.9	433.6	453.1	498.0	0.00	0.00	0.00
7" Csg									
6,700.0	90.28	88.99	6,380.9	433.9	473.1	517.9	0.00	0.00	0.00
6,800.0	90.28	88.99	6,380.4	435.7	573.1	617.4	0.00	0.00	0.00
6,900.0	90.28	88.99	6,379.9	437.5	673.1	717.0	0.00	0.00	0.00
7,000.0	90.28	88.99	6,379.4	439.2	773.1	816.6	0.00	0.00	0.00
7,100.0	90.28	88.99	6,378.9	441.0	873.0	916.2	0.00	0.00	0.00
7,200.0	90.28	88.99	6,378.4	442.8	973.0	1,015.7	0.00	0.00	0.00
7,300.0	90.28	88.99	6,377.9	444.5	1,073.0	1,115.3	0.00	0.00	0.00
7,400.0	90.28	88.99	6,377.4	446.3	1,173.0	1,214.9	0.00	0.00	0.00
7,500.0	90.28	88.99	6,376.9	448.1	1,273.0	1,314.5	0.00	0.00	0.00
7,600.0	90.28	88.99	6,376.5	449.9	1,372.9	1,414.0	0.00	0.00	0.00
7,700.0	90.28	88.99	6,376.0	451.6	1,472.9	1,513.6	0.00	0.00	0.00
7,800.0	90.28	88.99	6,375.5	453.4	1,572.9	1,613.2	0.00	0.00	0.00
7,900.0	90.28	88.99	6,375.0	455.2	1,672.9	1,712.8	0.00	0.00	0.00
8,000.0	90.28	88.99	6,374.5	456.9	1,772.9	1,812.3	0.00	0.00	0.00
8,100.0	90.28	88.99	6,374.0	458.7	1,872.9	1,911.9	0.00	0.00	0.00
8,200.0	90.28	88.99	6,373.5	460.5	1,972.8	2,011.5	0.00	0.00	0.00

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Database:	Compass	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-4841BH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4746.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4746.0ft (Original Well Elev)
Site:	Pappenheim 6-62-27 SW Pad	North Reference:	True
Well:	Pappenheim 6-62-27-4841BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,300.0	90.28	88.99	6,373.0	462.2	2,072.8	2,111.0	0.00	0.00	0.00	
8,400.0	90.28	88.99	6,372.5	464.0	2,172.8	2,210.6	0.00	0.00	0.00	
8,500.0	90.28	88.99	6,372.1	465.8	2,272.8	2,310.2	0.00	0.00	0.00	
8,600.0	90.28	88.99	6,371.6	467.6	2,372.8	2,409.8	0.00	0.00	0.00	
8,700.0	90.28	88.99	6,371.1	469.3	2,472.8	2,509.3	0.00	0.00	0.00	
8,800.0	90.28	88.99	6,370.6	471.1	2,572.7	2,608.9	0.00	0.00	0.00	
8,900.0	90.28	88.99	6,370.1	472.9	2,672.7	2,708.5	0.00	0.00	0.00	
9,000.0	90.28	88.99	6,369.6	474.6	2,772.7	2,808.1	0.00	0.00	0.00	
9,100.0	90.28	88.99	6,369.1	476.4	2,872.7	2,907.6	0.00	0.00	0.00	
9,200.0	90.28	88.99	6,368.6	478.2	2,972.7	3,007.2	0.00	0.00	0.00	
9,300.0	90.28	88.99	6,368.1	479.9	3,072.7	3,106.8	0.00	0.00	0.00	
9,400.0	90.28	88.99	6,367.7	481.7	3,172.6	3,206.4	0.00	0.00	0.00	
9,500.0	90.28	88.99	6,367.2	483.5	3,272.6	3,305.9	0.00	0.00	0.00	
9,600.0	90.28	88.99	6,366.7	485.3	3,372.6	3,405.5	0.00	0.00	0.00	
9,700.0	90.28	88.99	6,366.2	487.0	3,472.6	3,505.1	0.00	0.00	0.00	
9,800.0	90.28	88.99	6,365.7	488.8	3,572.6	3,604.6	0.00	0.00	0.00	
9,900.0	90.28	88.99	6,365.2	490.6	3,672.6	3,704.2	0.00	0.00	0.00	
10,000.0	90.28	88.99	6,364.7	492.3	3,772.5	3,803.8	0.00	0.00	0.00	
10,100.0	90.28	88.99	6,364.2	494.1	3,872.5	3,903.4	0.00	0.00	0.00	
10,200.0	90.28	88.99	6,363.7	495.9	3,972.5	4,002.9	0.00	0.00	0.00	
10,300.0	90.28	88.99	6,363.3	497.6	4,072.5	4,102.5	0.00	0.00	0.00	
10,400.0	90.28	88.99	6,362.8	499.4	4,172.5	4,202.1	0.00	0.00	0.00	
10,500.0	90.28	88.99	6,362.3	501.2	4,272.5	4,301.7	0.00	0.00	0.00	
10,600.0	90.28	88.99	6,361.8	503.0	4,372.4	4,401.2	0.00	0.00	0.00	
10,700.0	90.28	88.99	6,361.3	504.7	4,472.4	4,500.8	0.00	0.00	0.00	
10,800.0	90.28	88.99	6,360.8	506.5	4,572.4	4,600.4	0.00	0.00	0.00	
10,816.4	90.28	88.99	6,360.7	506.8	4,588.9	4,616.8	0.00	0.00	0.00	
P 27-4841BH PBHL										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,680.0	6,380.9	7" Csg	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
20.0	20.0	Fox Hills		-0.28	88.99	
820.0	820.0	Pierre		-0.28	88.99	
3,460.4	3,448.0	Parkman		-0.28	88.99	
4,237.8	4,221.0	Sussex		-0.28	88.99	
4,709.5	4,690.0	Shannon		-0.28	88.99	
6,255.0	6,208.0	Sharon Springs		-0.28	88.99	
6,441.6	6,326.0	Niobrara		-0.28	88.99	
6,594.7	6,376.0	Top B2 Target		-0.28	88.99	
	6,391.0	Base B2 Target		-0.28	88.99	

Bill Barrett Corp
Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-4841BH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4746.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4746.0ft (Original Well Elev)
Site:	Pappenheim 6-62-27 SW Pad	North Reference:	True
Well:	Pappenheim 6-62-27-4841BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		