



**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 6-62-27-3340BH, True North  
Vertical (TVD) Reference: KB @ 4745.0ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.0N, 0.0E)  
Measured Depth Reference: KB @ 4745.0ft (Original Well Elev)  
Calculation Method: Minimum Curvature

## WELL DETAILS: Pappenheim 6-62-27-3340BH

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1410670.53	3329049.24	40° 27' 16.812 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	2118.4	16.78	358.64	2102.5	162.5	-3.8	1.50	358.64	33.0	
4	4421.9	16.78	358.64	4308.0	827.2	-19.6	0.00	0.00	167.8	
5	5540.4	0.00	0.00	5410.5	989.7	-23.4	1.50	180.00	200.8	
6	6040.4	0.00	0.00	5910.5	989.7	-23.4	0.00	0.00	200.8	
7	6792.8	90.29	88.99	6388.0	998.2	456.3	12.00	88.99	670.1	P 27-3340BH LP
8	10956.4	90.29	88.99	6367.1	1071.5	4619.3	0.00	0.00	4741.9	P 27-3340BH 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

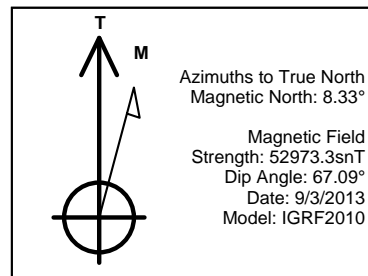
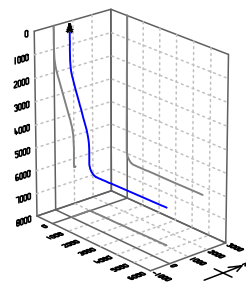
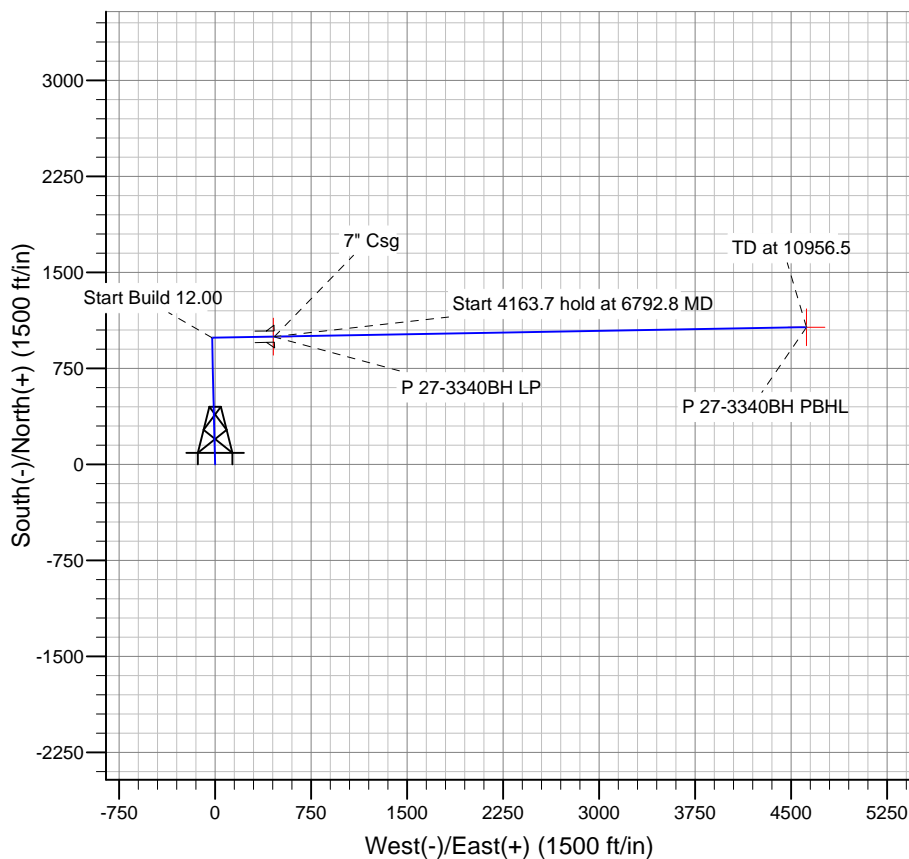
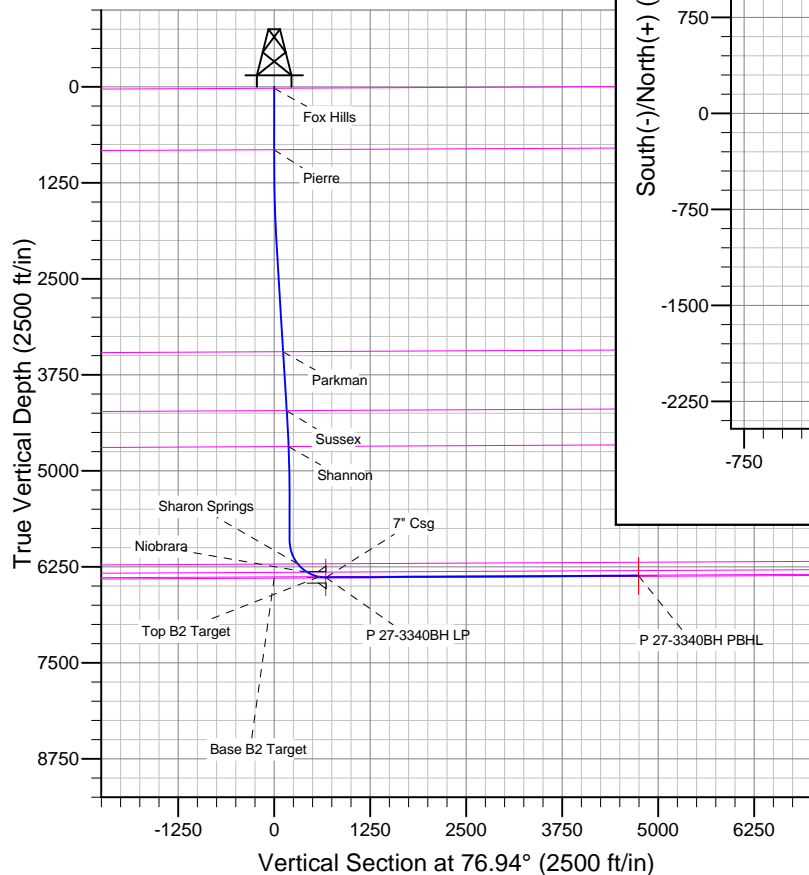
TVDPath	MDPath	Formation
20.0	20.0	Base B2 Target
820.0	820.0	Fox Hills
3450.0	3525.8	Pierre
4218.0	4328.0	Parkman
4686.0	4811.5	Sussex
6214.5	6369.9	Shannon
6321.8	6536.1	Sharon Springs
6381.0	6708.9	Niobrara
		Top B2 Target

## CASING DETAILS

TVD	MD	Name	Size
6387.9	6800.0	7" Csg	7

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
P 27-3340BH PBHL	6368.0	1071.5	4619.4	Point
P 27-3340BH LP	6388.0	998.2	456.4	Point



# **BILL BARRETT CORP**

**WELD COUNTY, COLORADO**

**Pappenheim 6-62-27 SW Pad**

**Pappenheim 6-62-27-3340BH**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**03 September, 2013**

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-27-3340BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Site:</b>	Pappenheim 6-62-27 SW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pappenheim 6-62-27-3340BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	WELD COUNTY, COLORADO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 6-62-27-3340BH						
Well Position		+N-S	112.9 ft	Northing:		1,410,670.53 ft		Latitude:		40° 27' 16.812 N			
		+E-W	0.0 ft			Easting:				3,329,049.24 ft		Longitude:	
Position Uncertainty			0.0 ft	Wellhead Elevation:		ft		Ground Level:		4,725.0 ft			

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

<b>Design</b>	Design #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN		<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	76.94	

<b>Plan Sections</b>										
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	
2,118.4	16.78	358.64	2,102.5	162.5	-3.8	1.50	1.50	0.00	358.64	
4,421.9	16.78	358.64	4,308.0	827.2	-19.6	0.00	0.00	0.00	0.00	
5,540.4	0.00	0.00	5,410.5	989.7	-23.4	1.50	-1.50	0.00	180.00	
6,040.4	0.00	0.00	5,910.5	989.7	-23.4	0.00	0.00	0.00	0.00	
6,792.8	90.29	88.99	6,388.0	998.2	456.3	12.00	12.00	0.00	88.99	P 27-3340BH LP
10,956.4	90.29	88.99	6,367.1	1,071.5	4,619.3	0.00	0.00	0.00	0.00	P 27-3340BH PBHL

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-27-3340BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Site:</b>	Pappenheim 6-62-27 SW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pappenheim 6-62-27-3340BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
<b>Fox Hills</b>									
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
<b>Pierre</b>									
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	358.64	1,100.0	1.3	0.0	0.3	1.50	1.50	0.00
1,200.0	3.00	358.64	1,199.9	5.2	-0.1	1.1	1.50	1.50	0.00
1,300.0	4.50	358.64	1,299.7	11.8	-0.3	2.4	1.50	1.50	0.00
1,400.0	6.00	358.64	1,399.3	20.9	-0.5	4.2	1.50	1.50	0.00
1,500.0	7.50	358.64	1,498.6	32.7	-0.8	6.6	1.50	1.50	0.00
1,600.0	9.00	358.64	1,597.5	47.0	-1.1	9.5	1.50	1.50	0.00
1,700.0	10.50	358.64	1,696.1	63.9	-1.5	13.0	1.50	1.50	0.00
1,800.0	12.00	358.64	1,794.2	83.4	-2.0	16.9	1.50	1.50	0.00
1,900.0	13.50	358.64	1,891.7	105.5	-2.5	21.4	1.50	1.50	0.00
2,000.0	15.00	358.64	1,988.6	130.1	-3.1	26.4	1.50	1.50	0.00
2,100.0	16.50	358.64	2,084.9	157.3	-3.7	31.9	1.50	1.50	0.00
2,118.4	16.78	358.64	2,102.5	162.5	-3.8	33.0	1.50	1.50	0.00
2,200.0	16.78	358.64	2,180.6	186.1	-4.4	37.8	0.00	0.00	0.00
2,300.0	16.78	358.64	2,276.4	214.9	-5.1	43.6	0.00	0.00	0.00
2,400.0	16.78	358.64	2,372.1	243.8	-5.8	49.5	0.00	0.00	0.00
2,500.0	16.78	358.64	2,467.8	272.6	-6.5	55.3	0.00	0.00	0.00
2,600.0	16.78	358.64	2,563.6	301.5	-7.1	61.2	0.00	0.00	0.00
2,700.0	16.78	358.64	2,659.3	330.3	-7.8	67.0	0.00	0.00	0.00
2,800.0	16.78	358.64	2,755.1	359.2	-8.5	72.9	0.00	0.00	0.00
2,900.0	16.78	358.64	2,850.8	388.1	-9.2	78.7	0.00	0.00	0.00
3,000.0	16.78	358.64	2,946.6	416.9	-9.9	84.6	0.00	0.00	0.00
3,100.0	16.78	358.64	3,042.3	445.8	-10.6	90.4	0.00	0.00	0.00
3,200.0	16.78	358.64	3,138.1	474.6	-11.2	96.3	0.00	0.00	0.00
3,300.0	16.78	358.64	3,233.8	503.5	-11.9	102.2	0.00	0.00	0.00
3,400.0	16.78	358.64	3,329.5	532.3	-12.6	108.0	0.00	0.00	0.00
3,500.0	16.78	358.64	3,425.3	561.2	-13.3	113.9	0.00	0.00	0.00
3,525.8	16.78	358.64	3,450.0	568.6	-13.5	115.4	0.00	0.00	0.00
<b>Parkman</b>									
3,600.0	16.78	358.64	3,521.0	590.0	-14.0	119.7	0.00	0.00	0.00
3,700.0	16.78	358.64	3,616.8	618.9	-14.7	125.6	0.00	0.00	0.00
3,800.0	16.78	358.64	3,712.5	647.8	-15.3	131.4	0.00	0.00	0.00
3,900.0	16.78	358.64	3,808.3	676.6	-16.0	137.3	0.00	0.00	0.00
4,000.0	16.78	358.64	3,904.0	705.5	-16.7	143.1	0.00	0.00	0.00
4,100.0	16.78	358.64	3,999.7	734.3	-17.4	149.0	0.00	0.00	0.00
4,200.0	16.78	358.64	4,095.5	763.2	-18.1	154.8	0.00	0.00	0.00
4,300.0	16.78	358.64	4,191.2	792.0	-18.8	160.7	0.00	0.00	0.00
4,328.0	16.78	358.64	4,218.0	800.1	-18.9	162.3	0.00	0.00	0.00
<b>Sussex</b>									
4,400.0	16.78	358.64	4,287.0	820.9	-19.4	166.6	0.00	0.00	0.00

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## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-27-3340BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Site:</b>	Pappenheim 6-62-27 SW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pappenheim 6-62-27-3340BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
4,421.9	16.78	358.64	4,308.0	827.2	-19.6	167.8	0.00	0.00	0.00
4,500.0	15.61	358.64	4,382.9	849.0	-20.1	172.3	1.50	-1.50	0.00
4,600.0	14.11	358.64	4,479.6	874.6	-20.7	177.5	1.50	-1.50	0.00
4,700.0	12.61	358.64	4,576.9	897.7	-21.3	182.1	1.50	-1.50	0.00
4,800.0	11.11	358.64	4,674.8	918.2	-21.7	186.3	1.50	-1.50	0.00
4,811.5	10.93	358.64	4,686.0	920.4	-21.8	186.8	1.50	-1.50	0.00
<b>Shannon</b>									
4,900.0	9.61	358.64	4,773.1	936.2	-22.2	190.0	1.50	-1.50	0.00
5,000.0	8.11	358.64	4,871.9	951.6	-22.5	193.1	1.50	-1.50	0.00
5,100.0	6.61	358.64	4,971.1	964.4	-22.8	195.7	1.50	-1.50	0.00
5,200.0	5.11	358.64	5,070.6	974.6	-23.1	197.7	1.50	-1.50	0.00
5,300.0	3.61	358.64	5,170.3	982.2	-23.3	199.3	1.50	-1.50	0.00
5,400.0	2.11	358.64	5,270.2	987.2	-23.4	200.3	1.50	-1.50	0.00
5,500.0	0.61	358.64	5,370.1	989.5	-23.4	200.8	1.50	-1.50	0.00
5,540.4	0.00	0.00	5,410.5	989.7	-23.4	200.8	1.50	-1.50	0.00
5,600.0	0.00	0.00	5,470.1	989.7	-23.4	200.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,570.1	989.7	-23.4	200.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,670.1	989.7	-23.4	200.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,770.1	989.7	-23.4	200.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,870.1	989.7	-23.4	200.8	0.00	0.00	0.00
6,040.4	0.00	0.00	5,910.5	989.7	-23.4	200.8	0.00	0.00	0.00
6,100.0	7.16	88.99	5,970.0	989.8	-19.7	204.5	12.00	12.00	0.00
6,200.0	19.16	88.99	6,067.2	990.2	3.0	226.7	12.00	12.00	0.00
6,300.0	31.16	88.99	6,157.5	991.0	45.4	268.2	12.00	12.00	0.00
6,369.9	39.54	88.99	6,214.5	991.7	85.8	307.7	12.00	12.00	0.00
<b>Sharon Springs</b>									
6,400.0	43.16	88.99	6,237.1	992.0	105.7	327.1	12.00	12.00	0.00
6,500.0	55.16	88.99	6,302.4	993.4	181.2	401.0	12.00	12.00	0.00
6,536.1	59.49	88.99	6,321.8	993.9	211.6	430.7	12.00	12.00	0.00
<b>Niobrara</b>									
6,600.0	67.16	88.99	6,350.5	994.9	268.6	486.5	12.00	12.00	0.00
6,700.0	79.16	88.99	6,379.4	996.6	364.1	579.9	12.00	12.00	0.00
6,708.9	80.22	88.99	6,381.0	996.7	372.8	588.4	12.00	12.00	0.00
<b>Top B2 Target</b>									
6,792.8	90.29	88.99	6,388.0	998.2	456.4	670.1	12.00	12.00	0.00
<b>P 27-3340BH LP</b>									
6,800.0	90.29	88.99	6,387.9	998.3	463.6	677.2	0.00	0.00	0.00
<b>7" Csg</b>									
6,900.0	90.29	88.99	6,387.4	1,000.1	563.6	775.0	0.00	0.00	0.00
7,000.0	90.29	88.99	6,386.9	1,001.8	663.5	872.8	0.00	0.00	0.00
7,100.0	90.29	88.99	6,386.4	1,003.6	763.5	970.6	0.00	0.00	0.00
7,200.0	90.29	88.99	6,385.9	1,005.4	863.5	1,068.4	0.00	0.00	0.00
7,300.0	90.29	88.99	6,385.4	1,007.1	963.5	1,166.2	0.00	0.00	0.00
7,400.0	90.29	88.99	6,384.9	1,008.9	1,063.5	1,263.9	0.00	0.00	0.00
7,500.0	90.29	88.99	6,384.4	1,010.7	1,163.5	1,361.7	0.00	0.00	0.00
7,600.0	90.29	88.99	6,383.9	1,012.4	1,263.4	1,459.5	0.00	0.00	0.00
7,700.0	90.29	88.99	6,383.4	1,014.2	1,363.4	1,557.3	0.00	0.00	0.00
7,800.0	90.29	88.99	6,382.9	1,015.9	1,463.4	1,655.1	0.00	0.00	0.00
7,900.0	90.29	88.99	6,382.4	1,017.7	1,563.4	1,752.9	0.00	0.00	0.00
8,000.0	90.29	88.99	6,381.9	1,019.5	1,663.4	1,850.7	0.00	0.00	0.00
8,100.0	90.29	88.99	6,381.4	1,021.2	1,763.4	1,948.5	0.00	0.00	0.00
8,200.0	90.29	88.99	6,380.9	1,023.0	1,863.3	2,046.3	0.00	0.00	0.00
8,300.0	90.29	88.99	6,380.4	1,024.7	1,963.3	2,144.1	0.00	0.00	0.00

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-27-3340BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Site:</b>	Pappenheim 6-62-27 SW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pappenheim 6-62-27-3340BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
8,400.0	90.29	88.99	6,379.9	1,026.5	2,063.3	2,241.9	0.00	0.00	0.00
8,500.0	90.29	88.99	6,379.4	1,028.3	2,163.3	2,339.7	0.00	0.00	0.00
8,600.0	90.29	88.99	6,378.9	1,030.0	2,263.3	2,437.5	0.00	0.00	0.00
8,700.0	90.29	88.99	6,378.4	1,031.8	2,363.3	2,535.3	0.00	0.00	0.00
8,800.0	90.29	88.99	6,377.9	1,033.5	2,463.2	2,633.1	0.00	0.00	0.00
8,900.0	90.29	88.99	6,377.4	1,035.3	2,563.2	2,730.9	0.00	0.00	0.00
9,000.0	90.29	88.99	6,376.9	1,037.1	2,663.2	2,828.7	0.00	0.00	0.00
9,100.0	90.29	88.99	6,376.4	1,038.8	2,763.2	2,926.5	0.00	0.00	0.00
9,200.0	90.29	88.99	6,375.9	1,040.6	2,863.2	3,024.3	0.00	0.00	0.00
9,300.0	90.29	88.99	6,375.4	1,042.4	2,963.2	3,122.1	0.00	0.00	0.00
9,400.0	90.29	88.99	6,374.9	1,044.1	3,063.1	3,219.9	0.00	0.00	0.00
9,500.0	90.29	88.99	6,374.4	1,045.9	3,163.1	3,317.6	0.00	0.00	0.00
9,600.0	90.29	88.99	6,373.9	1,047.6	3,263.1	3,415.4	0.00	0.00	0.00
9,700.0	90.29	88.99	6,373.4	1,049.4	3,363.1	3,513.2	0.00	0.00	0.00
9,800.0	90.29	88.99	6,372.9	1,051.2	3,463.1	3,611.0	0.00	0.00	0.00
9,900.0	90.29	88.99	6,372.4	1,052.9	3,563.1	3,708.8	0.00	0.00	0.00
10,000.0	90.29	88.99	6,371.9	1,054.7	3,663.0	3,806.6	0.00	0.00	0.00
10,100.0	90.29	88.99	6,371.4	1,056.4	3,763.0	3,904.4	0.00	0.00	0.00
10,200.0	90.29	88.99	6,370.9	1,058.2	3,863.0	4,002.2	0.00	0.00	0.00
10,300.0	90.29	88.99	6,370.4	1,060.0	3,963.0	4,100.0	0.00	0.00	0.00
10,400.0	90.29	88.99	6,369.9	1,061.7	4,063.0	4,197.8	0.00	0.00	0.00
10,500.0	90.29	88.99	6,369.4	1,063.5	4,163.0	4,295.6	0.00	0.00	0.00
10,600.0	90.29	88.99	6,368.9	1,065.2	4,262.9	4,393.4	0.00	0.00	0.00
10,700.0	90.29	88.99	6,368.4	1,067.0	4,362.9	4,491.2	0.00	0.00	0.00
10,800.0	90.29	88.99	6,367.9	1,068.8	4,462.9	4,589.0	0.00	0.00	0.00
10,900.0	90.29	88.99	6,367.4	1,070.5	4,562.9	4,686.8	0.00	0.00	0.00
10,956.4	90.29	88.99	6,367.1	1,071.5	4,619.3	4,741.9	0.00	0.00	0.00
P 27-3340BH PBHL									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,800.0	6,387.9	7" Csg	7	8-3/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
20.0	20.0	Fox Hills		-0.29	88.99
820.0	820.0	Pierre		-0.29	88.99
3,525.8	3,450.0	Parkman		-0.29	88.99
4,328.0	4,218.0	Sussex		-0.29	88.99
4,811.5	4,686.0	Shannon		-0.29	88.99
6,369.9	6,215.0	Sharon Springs		-0.29	88.99
6,536.1	6,323.0	Niobrara		-0.29	88.99
6,708.9	6,383.0	Top B2 Target		-0.29	88.99
	6,398.0	Base B2 Target		-0.29	88.99

**Bill Barrett Corp**  
Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-27-3340BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4745.0ft (Original Well Elev)
<b>Site:</b>	Pappenheim 6-62-27 SW Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pappenheim 6-62-27-3340BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		