



**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 Helton 5-63-27-4956BH, Grid North  
Vertical (TVD) Reference: KB @ 4565.0ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.0N, 0.0E)  
Measured Depth Reference: KB @ 4565.0ft (Original Well Elev)  
Calculation Method: Minimum Curvature

## WELL DETAILS: Helton 5-63-27-4956BH

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1379393.32	3298994.9940° 22'	11.532 N	104° 25' 36.840 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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	2497.0	33.94	227.00	2399.5	-332.9	-357.0	2.00	227.00	-207.6	
4	2867.0	33.94	227.00	2706.4	-473.8	-508.1	0.00	0.00	-295.4	
5	3284.5	33.93	212.01	3053.4	-652.4	-655.3	2.00	-96.30	-365.7	
6	4021.5	33.93	212.01	3665.0	-1001.2	-873.4	0.00	0.00	-438.4	
7	5718.0	0.00	0.00	5264.0	-1414.8	-1132.0	2.00	180.00	-524.6	
8	6218.0	0.00	0.00	5764.0	-1414.8	-1132.0	0.00	0.00	-524.6	
9	7120.0	90.20	89.82	6337.0	-1413.0	-557.0	10.00	89.82	8.5	4956BH LP
10	11171.8	90.20	89.82	6322.8	-1400.4	3494.7	0.00	0.00	3764.8	4956BH 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

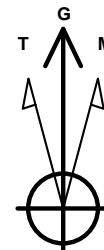
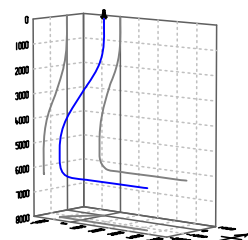
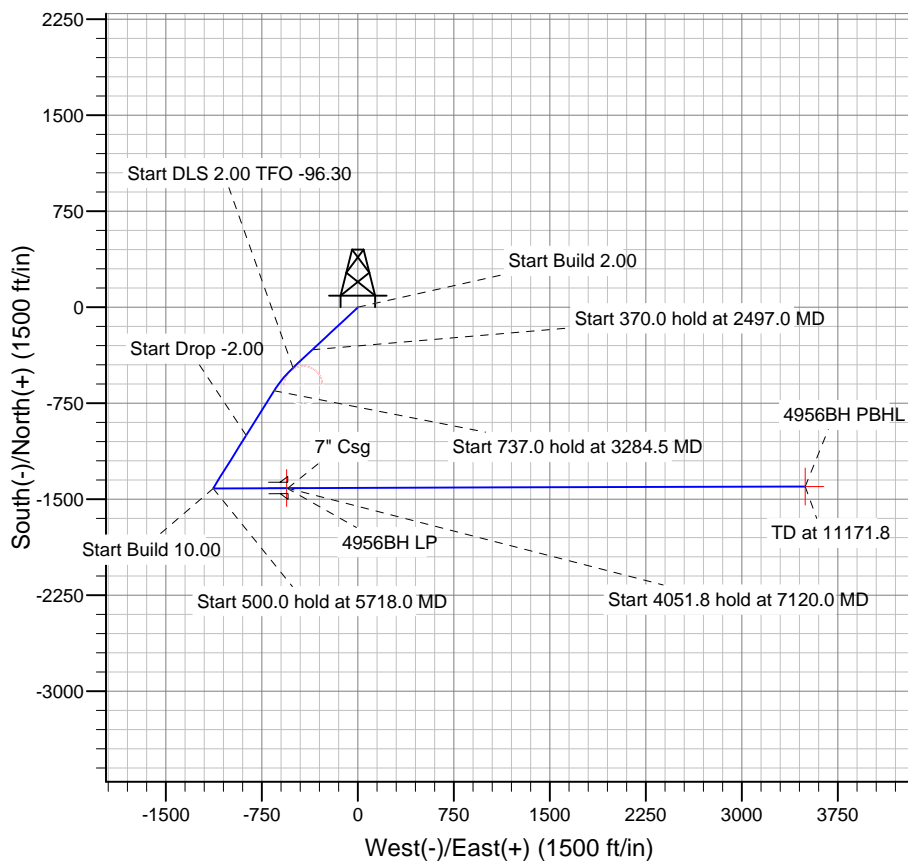
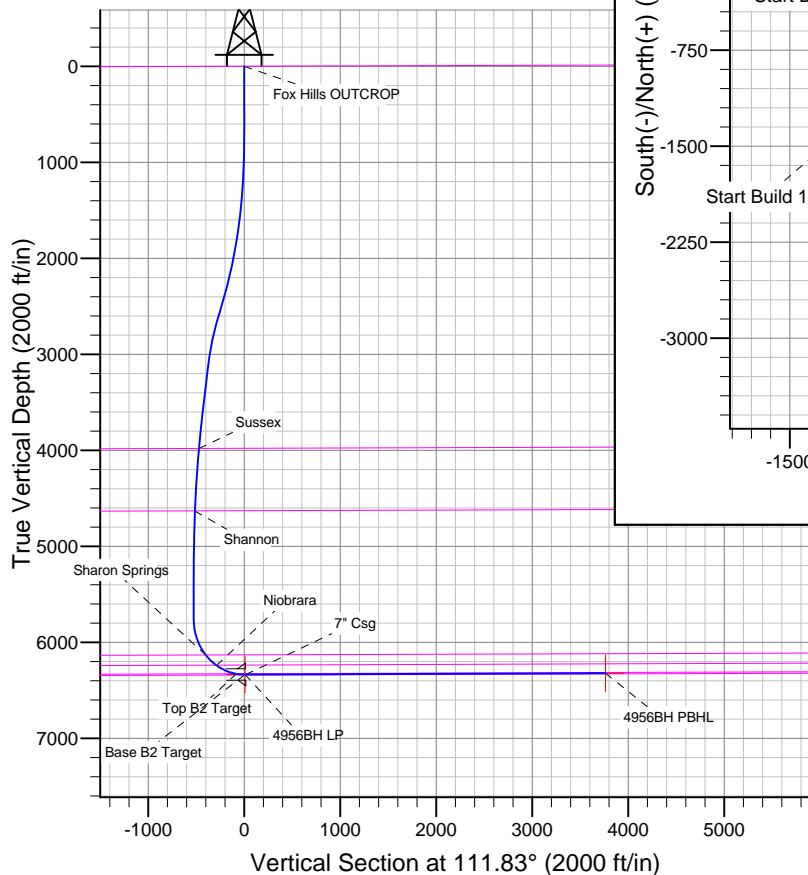
TVDPath	MDPath	Formation
		Base B2 Target
		Fox Hills OUTCROP
3982.4	4389.3	Sussex
4633.8	5082.6	Shannon
6134.5	6620.9	Sharon Springs
6241.1	6781.7	Niobrara
6329.3	7024.1	Top B2 Target

## CASING DETAILS

TVD	MD	Name	Size
6336.9	7130.0	7" Csg	7

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
4956BH PBHL	6322.0	-1400.2	3494.8	Point
4956BH LP	6337.0	-1413.0	-557.0	Point
13-27	7027.0	-609.9	-427.3	Circle (Radius: 150.0)



Azimuths to Grid North  
True North: -0.69°  
Magnetic North: 7.72°

Magnetic Field  
Strength: 52947.1 snT  
Dip Angle: 67.01°  
Date: 5/30/2013  
Model: IGRF2010

# **BILL BARRETT CORP**

**WELD COUNTY, COLORADO**

**Helton 5-63-27 Pad**

**Helton 5-63-27-4956BH**

**Wellbore #1**

**Plan: Design #2**

## **Standard Planning Report**

**10 July, 2013**

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Helton 5-63-27-4956BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Site:</b>	Helton 5-63-27 Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Helton 5-63-27-4956BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

<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		Helton 5-63-27 Pad				
Site Position:		Northing:	1,379,436.30 ft	Latitude:	40° 22' 11.964 N	
From:	Lat/Long	Easting:	3,298,933.17 ft	Longitude:	104° 25' 37.632 W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.69 °

Well		Helton 5-63-27-4956BH				
Well Position	+N-S	-43.0 ft	Northing:	1,379,393.32 ft	Latitude:	40° 22' 11.532 N
	+E-W	61.8 ft	Easting:	3,298,994.99 ft	Longitude:	104° 25' 36.840 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,542.0 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	5/30/2013	8.42	67.01	52,947

<b>Design</b>	Design #2				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<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	111.83	

<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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,497.0	33.94	227.00	2,399.5	-332.9	-357.0	2.00	2.00	0.00	227.00	
2,867.0	33.94	227.00	2,706.4	-473.8	-508.1	0.00	0.00	0.00	0.00	
3,284.5	33.93	212.01	3,053.4	-652.4	-655.3	2.00	0.00	-3.59	-96.30	
4,021.5	33.93	212.01	3,665.0	-1,001.2	-873.4	0.00	0.00	0.00	0.00	
5,718.0	0.00	0.00	5,264.0	-1,414.8	-1,132.0	2.00	-2.00	0.00	180.00	
6,218.0	0.00	0.00	5,764.0	-1,414.8	-1,132.0	0.00	0.00	0.00	0.00	
7,120.0	90.20	89.82	6,337.0	-1,413.0	-557.0	10.00	10.00	0.00	89.82	4956BH LP
11,171.8	90.20	89.82	6,322.8	-1,400.4	3,494.7	0.00	0.00	0.00	0.00	4956BH PBHL

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## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Helton 5-63-27-4956BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Site:</b>	Helton 5-63-27 Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Helton 5-63-27-4956BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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
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
900.0	2.00	227.00	900.0	-1.2	-1.3	-0.7	2.00	2.00	0.00
1,000.0	4.00	227.00	999.8	-4.8	-5.1	-3.0	2.00	2.00	0.00
1,100.0	6.00	227.00	1,099.5	-10.7	-11.5	-6.7	2.00	2.00	0.00
1,200.0	8.00	227.00	1,198.7	-19.0	-20.4	-11.9	2.00	2.00	0.00
1,300.0	10.00	227.00	1,297.5	-29.7	-31.8	-18.5	2.00	2.00	0.00
1,400.0	12.00	227.00	1,395.6	-42.7	-45.8	-26.6	2.00	2.00	0.00
1,500.0	14.00	227.00	1,493.1	-58.0	-62.2	-36.2	2.00	2.00	0.00
1,600.0	16.00	227.00	1,589.6	-75.7	-81.2	-47.2	2.00	2.00	0.00
1,700.0	18.00	227.00	1,685.3	-95.6	-102.5	-59.6	2.00	2.00	0.00
1,800.0	20.00	227.00	1,779.8	-117.8	-126.4	-73.5	2.00	2.00	0.00
1,900.0	22.00	227.00	1,873.2	-142.3	-152.6	-88.7	2.00	2.00	0.00
2,000.0	24.00	227.00	1,965.2	-168.9	-181.1	-105.3	2.00	2.00	0.00
2,100.0	26.00	227.00	2,055.8	-197.7	-212.0	-123.3	2.00	2.00	0.00
2,200.0	28.00	227.00	2,144.9	-228.7	-245.2	-142.6	2.00	2.00	0.00
2,300.0	30.00	227.00	2,232.4	-261.8	-280.7	-163.2	2.00	2.00	0.00
2,400.0	32.00	227.00	2,318.1	-296.9	-318.4	-185.1	2.00	2.00	0.00
2,497.0	33.94	227.00	2,399.5	-332.9	-357.0	-207.6	2.00	2.00	0.00
2,500.0	33.94	227.00	2,402.0	-334.0	-358.2	-208.3	0.00	0.00	0.00
2,600.0	33.94	227.00	2,484.9	-372.1	-399.0	-232.0	0.00	0.00	0.00
2,700.0	33.94	227.00	2,567.9	-410.2	-439.9	-255.7	0.00	0.00	0.00
2,800.0	33.94	227.00	2,650.9	-448.3	-480.7	-279.5	0.00	0.00	0.00
2,867.0	33.94	227.00	2,706.4	-473.8	-508.1	-295.4	0.00	0.00	0.00
2,900.0	33.87	225.82	2,733.8	-486.5	-521.4	-303.1	2.00	-0.20	-3.57
3,000.0	33.74	222.24	2,816.9	-526.4	-560.0	-324.1	2.00	-0.13	-3.59
3,100.0	33.71	218.63	2,900.1	-568.7	-596.0	-341.8	2.00	-0.03	-3.60
3,200.0	33.79	215.04	2,983.3	-613.1	-629.3	-356.1	2.00	0.08	-3.60
3,284.5	33.93	212.01	3,053.4	-652.4	-655.3	-365.7	2.00	0.17	-3.58
3,300.0	33.93	212.01	3,066.3	-659.7	-659.9	-367.2	0.00	0.00	0.00
3,400.0	33.93	212.01	3,149.3	-707.0	-689.5	-377.1	0.00	0.00	0.00
3,500.0	33.93	212.01	3,232.3	-754.4	-719.1	-386.9	0.00	0.00	0.00
3,600.0	33.93	212.01	3,315.2	-801.7	-748.7	-396.8	0.00	0.00	0.00
3,700.0	33.93	212.01	3,398.2	-849.0	-778.3	-406.7	0.00	0.00	0.00
3,800.0	33.93	212.01	3,481.2	-896.3	-807.9	-416.5	0.00	0.00	0.00
3,900.0	33.93	212.01	3,564.1	-943.7	-837.4	-426.4	0.00	0.00	0.00
4,000.0	33.93	212.01	3,647.1	-991.0	-867.0	-436.3	0.00	0.00	0.00
4,021.5	33.93	212.01	3,665.0	-1,001.2	-873.4	-438.4	0.00	0.00	0.00
4,100.0	32.36	212.01	3,730.7	-1,037.6	-896.2	-446.0	2.00	-2.00	0.00
4,200.0	30.36	212.01	3,816.1	-1,081.7	-923.7	-455.2	2.00	-2.00	0.00
4,300.0	28.36	212.01	3,903.2	-1,123.3	-949.7	-463.8	2.00	-2.00	0.00
4,389.3	26.57	212.01	3,982.4	-1,158.2	-971.6	-471.1	2.00	-2.00	0.00
<b>Sussex</b>									
4,400.0	26.36	212.01	3,992.0	-1,162.2	-974.1	-471.9	2.00	-2.00	0.00
4,500.0	24.36	212.01	4,082.4	-1,198.5	-996.8	-479.5	2.00	-2.00	0.00
4,600.0	22.36	212.01	4,174.2	-1,232.2	-1,017.8	-486.5	2.00	-2.00	0.00
4,700.0	20.36	212.01	4,267.3	-1,263.0	-1,037.1	-493.0	2.00	-2.00	0.00

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## Planning Report

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<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Site:</b>	Helton 5-63-27 Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Helton 5-63-27-4956BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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)
4,800.0	18.36	212.01	4,361.7	-1,291.2	-1,054.7	-498.8	2.00	-2.00	0.00
4,900.0	16.36	212.01	4,457.1	-1,316.5	-1,070.5	-504.1	2.00	-2.00	0.00
5,000.0	14.36	212.01	4,553.5	-1,338.9	-1,084.6	-508.8	2.00	-2.00	0.00
5,082.6	12.71	212.01	4,633.8	-1,355.3	-1,094.8	-512.2	2.00	-2.00	0.00
<b>Shannon</b>									
5,100.0	12.36	212.01	4,650.8	-1,358.5	-1,096.8	-512.9	2.00	-2.00	0.00
5,200.0	10.36	212.01	4,748.8	-1,375.2	-1,107.2	-516.3	2.00	-2.00	0.00
5,300.0	8.36	212.01	4,847.5	-1,389.0	-1,115.9	-519.2	2.00	-2.00	0.00
5,400.0	6.36	212.01	4,946.7	-1,399.9	-1,122.7	-521.5	2.00	-2.00	0.00
5,500.0	4.36	212.01	5,046.2	-1,407.8	-1,127.6	-523.1	2.00	-2.00	0.00
5,600.0	2.36	212.01	5,146.1	-1,412.7	-1,130.7	-524.2	2.00	-2.00	0.00
5,700.0	0.36	212.01	5,246.0	-1,414.8	-1,132.0	-524.6	2.00	-2.00	0.00
5,718.0	0.00	0.00	5,264.0	-1,414.8	-1,132.0	-524.6	2.00	-2.00	0.00
5,800.0	0.00	0.00	5,346.0	-1,414.8	-1,132.0	-524.6	0.00	0.00	0.00
5,900.0	0.00	0.00	5,446.0	-1,414.8	-1,132.0	-524.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,546.0	-1,414.8	-1,132.0	-524.6	0.00	0.00	0.00
6,100.0	0.00	0.00	5,646.0	-1,414.8	-1,132.0	-524.6	0.00	0.00	0.00
6,200.0	0.00	0.00	5,746.0	-1,414.8	-1,132.0	-524.6	0.00	0.00	0.00
6,218.0	0.00	0.00	5,764.0	-1,414.8	-1,132.0	-524.6	0.00	0.00	0.00
6,300.0	8.20	89.82	5,845.7	-1,414.8	-1,126.1	-519.2	10.00	10.00	0.00
6,400.0	18.20	89.82	5,943.0	-1,414.7	-1,103.3	-498.0	10.00	10.00	0.00
6,500.0	28.20	89.82	6,034.8	-1,414.6	-1,064.0	-461.5	10.00	10.00	0.00
6,600.0	38.20	89.82	6,118.3	-1,414.4	-1,009.3	-410.8	10.00	10.00	0.00
6,620.9	40.29	89.82	6,134.5	-1,414.4	-996.1	-398.6	10.00	10.00	0.00
<b>Sharon Springs</b>									
6,700.0	48.20	89.82	6,191.1	-1,414.2	-940.9	-347.4	10.00	10.00	0.00
6,781.7	56.37	89.82	6,241.1	-1,414.0	-876.4	-287.6	10.00	10.00	0.00
<b>Niobrara</b>									
6,800.0	58.20	89.82	6,251.0	-1,414.0	-861.0	-273.3	10.00	10.00	0.00
6,900.0	68.20	89.82	6,296.0	-1,413.7	-771.8	-190.7	10.00	10.00	0.00
7,000.0	78.20	89.82	6,324.9	-1,413.4	-676.2	-102.0	10.00	10.00	0.00
7,024.1	80.61	89.82	6,329.3	-1,413.3	-652.5	-80.1	10.00	10.00	0.00
<b>Top B2 Target</b>									
7,100.0	88.20	89.82	6,336.7	-1,413.1	-577.0	-10.1	10.00	10.00	0.00
7,120.0	90.20	89.82	6,337.0	-1,413.0	-557.0	8.5	10.00	10.00	0.00
7,120.1	90.20	89.82	6,337.0	-1,413.0	-557.0	8.5	0.00	0.00	0.00
<b>4956BH LP</b>									
7,130.0	90.20	89.82	6,336.9	-1,413.0	-547.0	17.7	0.00	0.00	0.00
<b>7" Csg</b>									
7,200.0	90.20	89.82	6,336.7	-1,412.8	-477.0	82.6	0.00	0.00	0.00
7,249.8	90.20	89.82	6,336.5	-1,412.6	-427.2	128.8	0.00	0.00	0.00
<b>13-27</b>									
7,300.0	90.20	89.82	6,336.3	-1,412.4	-377.0	175.3	0.00	0.00	0.00
7,400.0	90.20	89.82	6,336.0	-1,412.1	-277.0	268.0	0.00	0.00	0.00
7,500.0	90.20	89.82	6,335.6	-1,411.8	-177.0	360.8	0.00	0.00	0.00
7,600.0	90.20	89.82	6,335.3	-1,411.5	-77.0	453.5	0.00	0.00	0.00
7,700.0	90.20	89.82	6,334.9	-1,411.2	23.0	546.2	0.00	0.00	0.00
7,800.0	90.20	89.82	6,334.6	-1,410.9	123.0	638.9	0.00	0.00	0.00
7,900.0	90.20	89.82	6,334.2	-1,410.6	223.0	731.6	0.00	0.00	0.00
8,000.0	90.20	89.82	6,333.9	-1,410.3	323.0	824.3	0.00	0.00	0.00
8,100.0	90.20	89.82	6,333.5	-1,409.9	423.0	917.0	0.00	0.00	0.00
8,200.0	90.20	89.82	6,333.2	-1,409.6	522.9	1,009.7	0.00	0.00	0.00
8,300.0	90.20	89.82	6,332.8	-1,409.3	622.9	1,102.4	0.00	0.00	0.00

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Helton 5-63-27-4956BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4565.0ft (Original Well Elev)
<b>Site:</b>	Helton 5-63-27 Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Helton 5-63-27-4956BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

### 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	90.20	89.82	6,332.5	-1,409.0	722.9	1,195.1	0.00	0.00	0.00
8,500.0	90.20	89.82	6,332.1	-1,408.7	822.9	1,287.8	0.00	0.00	0.00
8,600.0	90.20	89.82	6,331.8	-1,408.4	922.9	1,380.6	0.00	0.00	0.00
8,700.0	90.20	89.82	6,331.5	-1,408.1	1,022.9	1,473.3	0.00	0.00	0.00
8,800.0	90.20	89.82	6,331.1	-1,407.8	1,122.9	1,566.0	0.00	0.00	0.00
8,900.0	90.20	89.82	6,330.8	-1,407.5	1,222.9	1,658.7	0.00	0.00	0.00
9,000.0	90.20	89.82	6,330.4	-1,407.1	1,322.9	1,751.4	0.00	0.00	0.00
9,100.0	90.20	89.82	6,330.1	-1,406.8	1,422.9	1,844.1	0.00	0.00	0.00
9,200.0	90.20	89.82	6,329.7	-1,406.5	1,522.9	1,936.8	0.00	0.00	0.00
9,300.0	90.20	89.82	6,329.4	-1,406.2	1,622.9	2,029.5	0.00	0.00	0.00
9,400.0	90.20	89.82	6,329.0	-1,405.9	1,722.9	2,122.2	0.00	0.00	0.00
9,500.0	90.20	89.82	6,328.7	-1,405.6	1,822.9	2,214.9	0.00	0.00	0.00
9,600.0	90.20	89.82	6,328.3	-1,405.3	1,922.9	2,307.6	0.00	0.00	0.00
9,700.0	90.20	89.82	6,328.0	-1,405.0	2,022.9	2,400.4	0.00	0.00	0.00
9,800.0	90.20	89.82	6,327.6	-1,404.6	2,122.9	2,493.1	0.00	0.00	0.00
9,900.0	90.20	89.82	6,327.3	-1,404.3	2,222.9	2,585.8	0.00	0.00	0.00
10,000.0	90.20	89.82	6,326.9	-1,404.0	2,322.9	2,678.5	0.00	0.00	0.00
10,100.0	90.20	89.82	6,326.6	-1,403.7	2,422.9	2,771.2	0.00	0.00	0.00
10,200.0	90.20	89.82	6,326.2	-1,403.4	2,522.9	2,863.9	0.00	0.00	0.00
10,300.0	90.20	89.82	6,325.9	-1,403.1	2,622.9	2,956.6	0.00	0.00	0.00
10,400.0	90.20	89.82	6,325.5	-1,402.8	2,722.9	3,049.3	0.00	0.00	0.00
10,500.0	90.20	89.82	6,325.2	-1,402.5	2,822.9	3,142.0	0.00	0.00	0.00
10,600.0	90.20	89.82	6,324.8	-1,402.1	2,922.9	3,234.7	0.00	0.00	0.00
10,700.0	90.20	89.82	6,324.5	-1,401.8	3,022.9	3,327.4	0.00	0.00	0.00
10,800.0	90.20	89.82	6,324.1	-1,401.5	3,122.9	3,420.2	0.00	0.00	0.00
10,900.0	90.20	89.82	6,323.8	-1,401.2	3,222.9	3,512.9	0.00	0.00	0.00
11,000.0	90.20	89.82	6,323.4	-1,400.9	3,322.9	3,605.6	0.00	0.00	0.00
11,100.0	90.20	89.82	6,323.1	-1,400.6	3,422.9	3,698.3	0.00	0.00	0.00
11,171.8	90.20	89.82	6,322.8	-1,400.4	3,494.7	3,764.8	0.00	0.00	0.00
4956BH PBHL									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,130.0	6,336.9	7" Csg	7	8-3/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	0.0	Fox Hills OUTCROP		-0.20	89.82
4,389.3	3,979.0	Sussex		-0.20	89.82
5,082.6	4,630.0	Shannon		-0.20	89.82
6,620.9	6,131.0	Sharon Springs		-0.20	89.82
6,781.7	6,238.0	Niobrara		-0.20	89.82
7,024.1	6,327.0	Top B2 Target		-0.20	89.82
	6,342.0	Base B2 Target		-0.20	89.82

**Bill Barrett Corp**  
Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Helton 5-63-27-4956BH
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<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		