

# **BILL BARRETT CORP**

**WELD COUNTY, COLORADO**

**Heath 6-62-15\_22 NENE**

**HEATH 6-62-15-0659CH2**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**27 August, 2014**



**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 HEATH 6-62-15-0659CH2, True North  
Vertical (TVD) Reference: KB @ 4754.0ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.0N, 0.0E)  
Measured Depth Reference: KB @ 4754.0ft (Original Well Elev)  
Calculation Method: Minimum Curvature

## WELL DETAILS: HEATH 6-62-15-0659CH2

+N/-S +E/-W Northing Easting Latitude Longitude  
0.0 0.0 1424919.23 3333058.47 40° 29' 37.071 N 104° 18' 8.831 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	1368.9	7.38	299.61	1367.8	11.7	-20.6	2.00	299.61	-10.6	
4	5432.4	7.38	299.61	5397.7	269.5	-474.2	0.00	0.00	-243.0	
5	5801.2	0.00	180.22	5765.5	281.2	-494.9	2.00	180.00	-253.5	
6	6051.2	0.00	180.22	6015.5	281.2	-494.9	0.00	180.22	-253.5	
7	6803.5	90.27	180.22	6493.0	-198.5	-496.7	12.00	180.22	225.6	H 15-0659CH2 LP
8	16292.7	90.27	180.22	6448.0	-9687.6	-533.9	0.00	0.00	9702.3	H 15-0659CH2 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

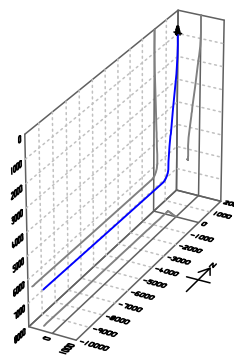
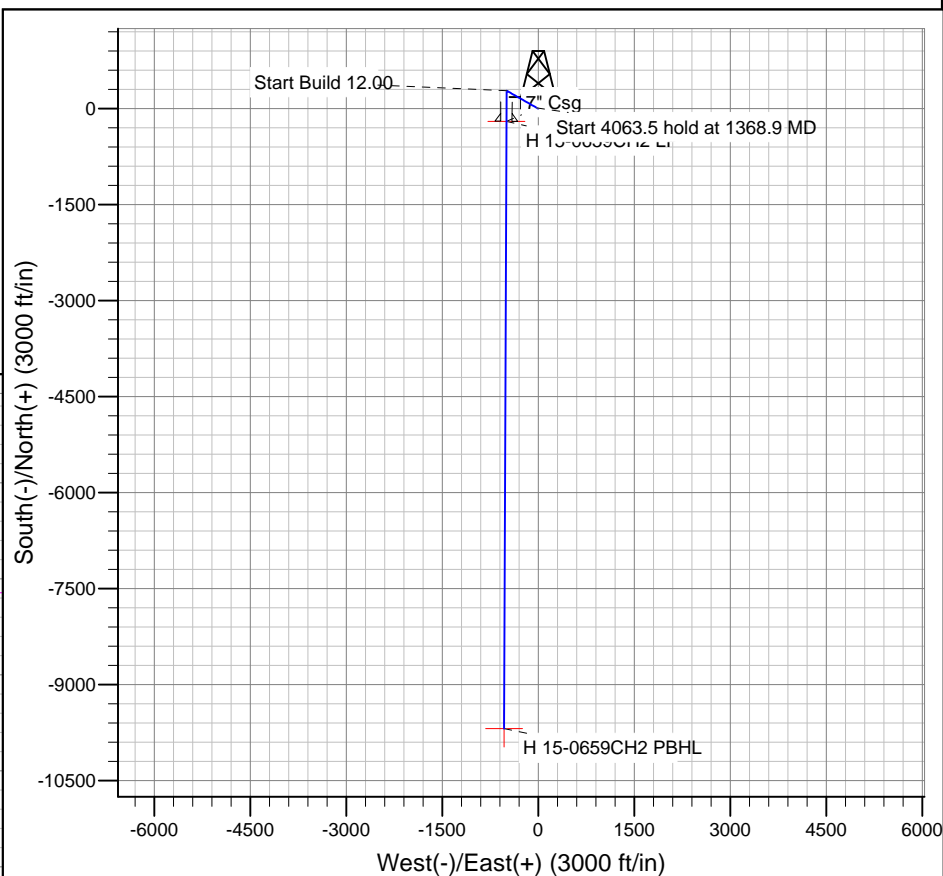
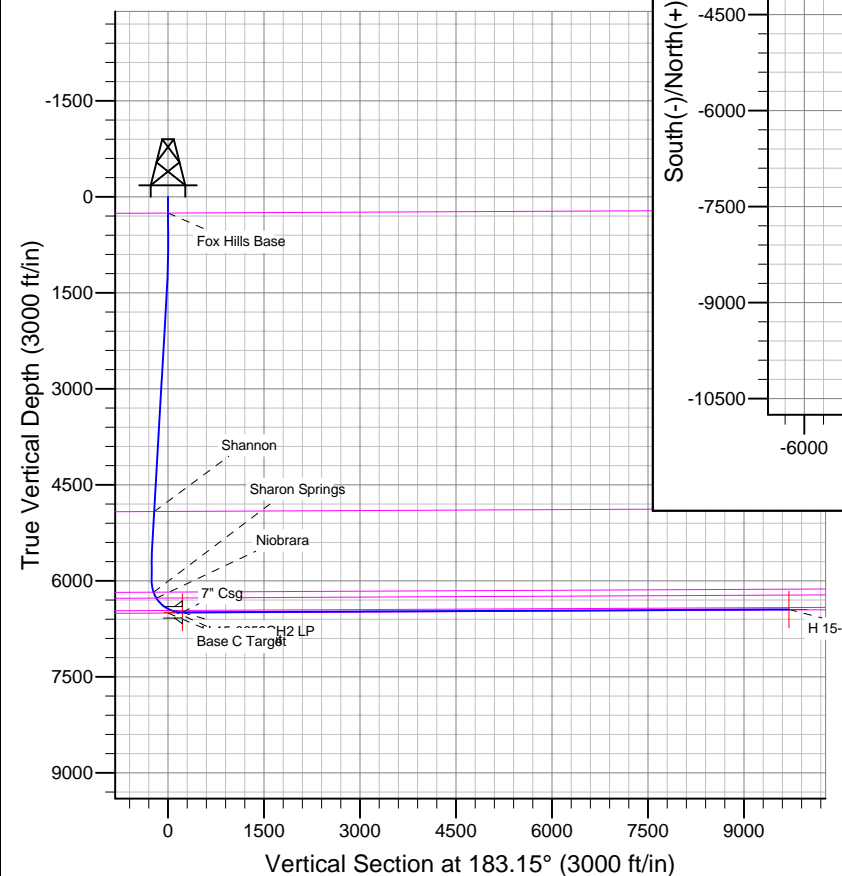
TVDPath	MDPath	Formation
254.0	254.0	Base C Target
4917.1	4947.8	Fox Hills Base
6177.2	6216.1	Shannon
6270.0	6319.5	Sharon Springs
6463.8	6633.5	Niobrara
		Top C Target

## CASING DETAILS

TVD	MD	Name	Size
6493.0	6803.5	7" Csg	7

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
H 15-0659CH2 PBHL	6448.0	-9687.6	-533.9	Point
H 15-0659CH2 LP	6493.0	-198.5	-496.7	Point



Azimuths to True North  
Magnetic North: 8.19°

Magnetic Field  
Strength: 52891.2snT  
Dip Angle: 67.09°  
Date: 8/27/2014  
Model: IGRF2010

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well HEATH 6-62-15-0659CH2
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Site:</b>	Heath 6-62-15_22 NENE	<b>North Reference:</b>	True
<b>Well:</b>	HEATH 6-62-15-0659CH2	<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		Heath 6-62-15_22 NENE			
Site Position: From:		Northing:	1,424,920.16ft	Latitude:	40° 29' 37.079 N
	Lat/Long	Easting:	3,333,073.20ft	Longitude:	104° 18' 8.640 W
	Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:

Well		HEATH 6-62-15-0659CH2				
Well Position	+N/-S	-0.7 ft	Northing:	1,424,919.23 ft	Latitude:	40° 29' 37.071 N
	+E/-W	-14.7 ft	Easting:	3,333,058.47 ft	Longitude:	104° 18' 8.831 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,732.0 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	8/27/2014	8.19	67.09	52,891

<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	183.15

<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	
1,368.9	7.38	299.61	1,367.8	11.7	-20.6	2.00	2.00	0.00	299.61	
5,432.4	7.38	299.61	5,397.7	269.5	-474.2	0.00	0.00	0.00	0.00	
5,801.2	0.00	180.22	5,765.5	281.2	-494.9	2.00	-2.00	0.00	180.00	
6,051.2	0.00	180.22	6,015.5	281.2	-494.9	0.00	0.00	0.00	180.22	
6,803.5	90.27	180.22	6,493.0	-198.5	-496.7	12.00	12.00	0.00	180.22	H 15-0659CH2 LP
16,292.7	90.27	180.22	6,448.0	-9,687.6	-533.9	0.00	0.00	0.00	0.00	H 15-0659CH2 PB

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## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well HEATH 6-62-15-0659CH2
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Site:</b>	Heath 6-62-15_22 NENE	<b>North Reference:</b>	True
<b>Well:</b>	HEATH 6-62-15-0659CH2	<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
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
254.0	0.00	0.00	254.0	0.0	0.0	0.0	0.00	0.00	0.00
Fox Hills Base									
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	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	2.00	299.61	1,100.0	0.9	-1.5	-0.8	2.00	2.00	0.00
1,200.0	4.00	299.61	1,199.8	3.4	-6.1	-3.1	2.00	2.00	0.00
1,300.0	6.00	299.61	1,299.5	7.8	-13.6	-7.0	2.00	2.00	0.00
1,368.9	7.38	299.61	1,367.8	11.7	-20.6	-10.6	2.00	2.00	0.00
1,400.0	7.38	299.61	1,398.7	13.7	-24.1	-12.3	0.00	0.00	0.00
1,500.0	7.38	299.61	1,497.9	20.0	-35.3	-18.1	0.00	0.00	0.00
1,600.0	7.38	299.61	1,597.1	26.4	-46.4	-23.8	0.00	0.00	0.00
1,700.0	7.38	299.61	1,696.2	32.7	-57.6	-29.5	0.00	0.00	0.00
1,800.0	7.38	299.61	1,795.4	39.1	-68.7	-35.2	0.00	0.00	0.00
1,900.0	7.38	299.61	1,894.6	45.4	-79.9	-40.9	0.00	0.00	0.00
2,000.0	7.38	299.61	1,993.8	51.8	-91.1	-46.7	0.00	0.00	0.00
2,100.0	7.38	299.61	2,092.9	58.1	-102.2	-52.4	0.00	0.00	0.00
2,200.0	7.38	299.61	2,192.1	64.4	-113.4	-58.1	0.00	0.00	0.00
2,300.0	7.38	299.61	2,291.3	70.8	-124.6	-63.8	0.00	0.00	0.00
2,400.0	7.38	299.61	2,390.4	77.1	-135.7	-69.5	0.00	0.00	0.00
2,500.0	7.38	299.61	2,489.6	83.5	-146.9	-75.3	0.00	0.00	0.00
2,600.0	7.38	299.61	2,588.8	89.8	-158.1	-81.0	0.00	0.00	0.00
2,700.0	7.38	299.61	2,688.0	96.2	-169.2	-86.7	0.00	0.00	0.00
2,800.0	7.38	299.61	2,787.1	102.5	-180.4	-92.4	0.00	0.00	0.00
2,900.0	7.38	299.61	2,886.3	108.8	-191.5	-98.1	0.00	0.00	0.00
3,000.0	7.38	299.61	2,985.5	115.2	-202.7	-103.9	0.00	0.00	0.00
3,100.0	7.38	299.61	3,084.7	121.5	-213.9	-109.6	0.00	0.00	0.00
3,200.0	7.38	299.61	3,183.8	127.9	-225.0	-115.3	0.00	0.00	0.00
3,300.0	7.38	299.61	3,283.0	134.2	-236.2	-121.0	0.00	0.00	0.00
3,400.0	7.38	299.61	3,382.2	140.6	-247.4	-126.7	0.00	0.00	0.00
3,500.0	7.38	299.61	3,481.3	146.9	-258.5	-132.5	0.00	0.00	0.00
3,600.0	7.38	299.61	3,580.5	153.2	-269.7	-138.2	0.00	0.00	0.00
3,700.0	7.38	299.61	3,679.7	159.6	-280.9	-143.9	0.00	0.00	0.00
3,800.0	7.38	299.61	3,778.9	165.9	-292.0	-149.6	0.00	0.00	0.00
3,900.0	7.38	299.61	3,878.0	172.3	-303.2	-155.3	0.00	0.00	0.00
4,000.0	7.38	299.61	3,977.2	178.6	-314.3	-161.0	0.00	0.00	0.00
4,100.0	7.38	299.61	4,076.4	185.0	-325.5	-166.8	0.00	0.00	0.00
4,200.0	7.38	299.61	4,175.5	191.3	-336.7	-172.5	0.00	0.00	0.00
4,300.0	7.38	299.61	4,274.7	197.6	-347.8	-178.2	0.00	0.00	0.00
4,400.0	7.38	299.61	4,373.9	204.0	-359.0	-183.9	0.00	0.00	0.00
4,500.0	7.38	299.61	4,473.1	210.3	-370.2	-189.6	0.00	0.00	0.00
4,600.0	7.38	299.61	4,572.2	216.7	-381.3	-195.4	0.00	0.00	0.00
4,700.0	7.38	299.61	4,671.4	223.0	-392.5	-201.1	0.00	0.00	0.00
4,800.0	7.38	299.61	4,770.6	229.4	-403.6	-206.8	0.00	0.00	0.00
4,900.0	7.38	299.61	4,869.8	235.7	-414.8	-212.5	0.00	0.00	0.00
4,947.8	7.38	299.61	4,917.1	238.7	-420.1	-215.3	0.00	0.00	0.00

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## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well HEATH 6-62-15-0659CH2
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Site:</b>	Heath 6-62-15_22 NENE	<b>North Reference:</b>	True
<b>Well:</b>	HEATH 6-62-15-0659CH2	<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)
<b>Shannon</b>									
5,000.0	7.38	299.61	4,968.9	242.1	-426.0	-218.2	0.00	0.00	0.00
5,100.0	7.38	299.61	5,068.1	248.4	-437.1	-224.0	0.00	0.00	0.00
5,200.0	7.38	299.61	5,167.3	254.7	-448.3	-229.7	0.00	0.00	0.00
5,300.0	7.38	299.61	5,266.4	261.1	-459.5	-235.4	0.00	0.00	0.00
5,400.0	7.38	299.61	5,365.6	267.4	-470.6	-241.1	0.00	0.00	0.00
5,432.4	7.38	299.61	5,397.7	269.5	-474.2	-243.0	0.00	0.00	0.00
5,500.0	6.02	299.61	5,464.9	273.4	-481.1	-246.5	2.00	-2.00	0.00
5,600.0	4.02	299.61	5,564.5	277.7	-488.7	-250.4	2.00	-2.00	0.00
5,700.0	2.02	299.61	5,664.4	280.3	-493.3	-252.7	2.00	-2.00	0.00
5,800.0	0.02	299.61	5,764.3	281.2	-494.9	-253.5	2.00	-2.00	0.00
5,801.2	0.00	180.22	5,765.5	281.2	-494.9	-253.5	2.00	-2.00	0.00
5,900.0	0.00	180.22	5,864.3	281.2	-494.9	-253.5	0.00	0.00	0.00
6,000.0	0.00	180.22	5,964.3	281.2	-494.9	-253.5	0.00	0.00	0.00
6,051.2	0.00	180.22	6,015.5	281.2	-494.9	-253.5	0.00	0.00	0.00
6,100.0	5.85	180.22	6,064.2	278.7	-494.9	-251.0	12.00	12.00	0.00
6,200.0	17.85	180.22	6,161.9	258.2	-494.9	-230.6	12.00	12.00	0.00
6,216.1	19.79	180.22	6,177.2	253.0	-495.0	-225.4	12.00	12.00	0.00
<b>Sharon Springs</b>									
6,300.0	29.85	180.22	6,253.2	217.8	-495.1	-190.3	12.00	12.00	0.00
6,319.5	32.20	180.22	6,270.0	207.8	-495.1	-180.2	12.00	12.00	0.00
<b>Niobrara</b>									
6,400.0	41.85	180.22	6,334.1	159.4	-495.3	-131.9	12.00	12.00	0.00
6,500.0	53.85	180.22	6,401.1	85.4	-495.6	-58.0	12.00	12.00	0.00
6,600.0	65.85	180.22	6,451.2	-1.0	-496.0	28.3	12.00	12.00	0.00
6,633.5	69.87	180.22	6,463.8	-32.0	-496.1	59.2	12.00	12.00	0.00
<b>Top C Target</b>									
6,700.0	77.85	180.22	6,482.3	-95.8	-496.3	123.0	12.00	12.00	0.00
6,800.0	89.85	180.22	6,493.0	-195.1	-496.7	222.1	12.00	12.00	0.00
6,803.5	90.27	180.22	6,493.0	-198.5	-496.7	225.6	11.92	11.92	0.00
<b>7" Csg - H 15-0659CH2 LP</b>									
6,900.0	90.27	180.22	6,492.5	-295.1	-497.1	322.0	0.00	0.00	0.00
7,000.0	90.27	180.22	6,492.1	-395.1	-497.5	421.8	0.00	0.00	0.00
7,100.0	90.27	180.22	6,491.6	-495.1	-497.9	521.7	0.00	0.00	0.00
7,200.0	90.27	180.22	6,491.1	-595.0	-498.3	621.6	0.00	0.00	0.00
7,300.0	90.27	180.22	6,490.6	-695.0	-498.7	721.4	0.00	0.00	0.00
7,400.0	90.27	180.22	6,490.2	-795.0	-499.1	821.3	0.00	0.00	0.00
7,500.0	90.27	180.22	6,489.7	-895.0	-499.5	921.2	0.00	0.00	0.00
7,600.0	90.27	180.22	6,489.2	-995.0	-499.9	1,021.0	0.00	0.00	0.00
7,700.0	90.27	180.22	6,488.7	-1,095.0	-500.3	1,120.9	0.00	0.00	0.00
7,800.0	90.27	180.22	6,488.3	-1,195.0	-500.6	1,220.8	0.00	0.00	0.00
7,900.0	90.27	180.22	6,487.8	-1,295.0	-501.0	1,320.6	0.00	0.00	0.00
8,000.0	90.27	180.22	6,487.3	-1,395.0	-501.4	1,420.5	0.00	0.00	0.00
8,100.0	90.27	180.22	6,486.9	-1,495.0	-501.8	1,520.4	0.00	0.00	0.00
8,200.0	90.27	180.22	6,486.4	-1,595.0	-502.2	1,620.3	0.00	0.00	0.00
8,300.0	90.27	180.22	6,485.9	-1,695.0	-502.6	1,720.1	0.00	0.00	0.00
8,400.0	90.27	180.22	6,485.4	-1,795.0	-503.0	1,820.0	0.00	0.00	0.00
8,500.0	90.27	180.22	6,485.0	-1,895.0	-503.4	1,919.9	0.00	0.00	0.00
8,600.0	90.27	180.22	6,484.5	-1,995.0	-503.8	2,019.7	0.00	0.00	0.00
8,700.0	90.27	180.22	6,484.0	-2,095.0	-504.2	2,119.6	0.00	0.00	0.00
8,800.0	90.27	180.22	6,483.5	-2,195.0	-504.6	2,219.5	0.00	0.00	0.00
8,900.0	90.27	180.22	6,483.1	-2,295.0	-505.0	2,319.3	0.00	0.00	0.00
9,000.0	90.27	180.22	6,482.6	-2,395.0	-505.3	2,419.2	0.00	0.00	0.00

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well HEATH 6-62-15-0659CH2
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Site:</b>	Heath 6-62-15_22 NENE	<b>North Reference:</b>	True
<b>Well:</b>	HEATH 6-62-15-0659CH2	<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)
9,100.0	90.27	180.22	6,482.1	-2,495.0	-505.7	2,519.1	0.00	0.00	0.00
9,200.0	90.27	180.22	6,481.6	-2,595.0	-506.1	2,618.9	0.00	0.00	0.00
9,300.0	90.27	180.22	6,481.2	-2,695.0	-506.5	2,718.8	0.00	0.00	0.00
9,400.0	90.27	180.22	6,480.7	-2,795.0	-506.9	2,818.7	0.00	0.00	0.00
9,500.0	90.27	180.22	6,480.2	-2,895.0	-507.3	2,918.5	0.00	0.00	0.00
9,600.0	90.27	180.22	6,479.7	-2,995.0	-507.7	3,018.4	0.00	0.00	0.00
9,700.0	90.27	180.22	6,479.3	-3,095.0	-508.1	3,118.3	0.00	0.00	0.00
9,800.0	90.27	180.22	6,478.8	-3,195.0	-508.5	3,218.1	0.00	0.00	0.00
9,900.0	90.27	180.22	6,478.3	-3,295.0	-508.9	3,318.0	0.00	0.00	0.00
10,000.0	90.27	180.22	6,477.8	-3,395.0	-509.3	3,417.9	0.00	0.00	0.00
10,100.0	90.27	180.22	6,477.4	-3,495.0	-509.7	3,517.7	0.00	0.00	0.00
10,200.0	90.27	180.22	6,476.9	-3,595.0	-510.1	3,617.6	0.00	0.00	0.00
10,300.0	90.27	180.22	6,476.4	-3,695.0	-510.4	3,717.5	0.00	0.00	0.00
10,400.0	90.27	180.22	6,475.9	-3,795.0	-510.8	3,817.4	0.00	0.00	0.00
10,500.0	90.27	180.22	6,475.5	-3,895.0	-511.2	3,917.2	0.00	0.00	0.00
10,600.0	90.27	180.22	6,475.0	-3,995.0	-511.6	4,017.1	0.00	0.00	0.00
10,700.0	90.27	180.22	6,474.5	-4,095.0	-512.0	4,117.0	0.00	0.00	0.00
10,800.0	90.27	180.22	6,474.0	-4,195.0	-512.4	4,216.8	0.00	0.00	0.00
10,900.0	90.27	180.22	6,473.6	-4,295.0	-512.8	4,316.7	0.00	0.00	0.00
11,000.0	90.27	180.22	6,473.1	-4,395.0	-513.2	4,416.6	0.00	0.00	0.00
11,100.0	90.27	180.22	6,472.6	-4,495.0	-513.6	4,516.4	0.00	0.00	0.00
11,200.0	90.27	180.22	6,472.2	-4,595.0	-514.0	4,616.3	0.00	0.00	0.00
11,300.0	90.27	180.22	6,471.7	-4,695.0	-514.4	4,716.2	0.00	0.00	0.00
11,400.0	90.27	180.22	6,471.2	-4,795.0	-514.8	4,816.0	0.00	0.00	0.00
11,500.0	90.27	180.22	6,470.7	-4,895.0	-515.1	4,915.9	0.00	0.00	0.00
11,600.0	90.27	180.22	6,470.3	-4,995.0	-515.5	5,015.8	0.00	0.00	0.00
11,700.0	90.27	180.22	6,469.8	-5,095.0	-515.9	5,115.6	0.00	0.00	0.00
11,800.0	90.27	180.22	6,469.3	-5,195.0	-516.3	5,215.5	0.00	0.00	0.00
11,900.0	90.27	180.22	6,468.8	-5,295.0	-516.7	5,315.4	0.00	0.00	0.00
12,000.0	90.27	180.22	6,468.4	-5,395.0	-517.1	5,415.2	0.00	0.00	0.00
12,100.0	90.27	180.22	6,467.9	-5,495.0	-517.5	5,515.1	0.00	0.00	0.00
12,200.0	90.27	180.22	6,467.4	-5,595.0	-517.9	5,615.0	0.00	0.00	0.00
12,300.0	90.27	180.22	6,466.9	-5,695.0	-518.3	5,714.8	0.00	0.00	0.00
12,400.0	90.27	180.22	6,466.5	-5,795.0	-518.7	5,814.7	0.00	0.00	0.00
12,500.0	90.27	180.22	6,466.0	-5,894.9	-519.1	5,914.6	0.00	0.00	0.00
12,600.0	90.27	180.22	6,465.5	-5,994.9	-519.5	6,014.4	0.00	0.00	0.00
12,700.0	90.27	180.22	6,465.0	-6,094.9	-519.9	6,114.3	0.00	0.00	0.00
12,800.0	90.27	180.22	6,464.6	-6,194.9	-520.2	6,214.2	0.00	0.00	0.00
12,900.0	90.27	180.22	6,464.1	-6,294.9	-520.6	6,314.1	0.00	0.00	0.00
13,000.0	90.27	180.22	6,463.6	-6,394.9	-521.0	6,413.9	0.00	0.00	0.00
13,100.0	90.27	180.22	6,463.1	-6,494.9	-521.4	6,513.8	0.00	0.00	0.00
13,200.0	90.27	180.22	6,462.7	-6,594.9	-521.8	6,613.7	0.00	0.00	0.00
13,300.0	90.27	180.22	6,462.2	-6,694.9	-522.2	6,713.5	0.00	0.00	0.00
13,400.0	90.27	180.22	6,461.7	-6,794.9	-522.6	6,813.4	0.00	0.00	0.00
13,500.0	90.27	180.22	6,461.2	-6,894.9	-523.0	6,913.3	0.00	0.00	0.00
13,600.0	90.27	180.22	6,460.8	-6,994.9	-523.4	7,013.1	0.00	0.00	0.00
13,700.0	90.27	180.22	6,460.3	-7,094.9	-523.8	7,113.0	0.00	0.00	0.00
13,800.0	90.27	180.22	6,459.8	-7,194.9	-524.2	7,212.9	0.00	0.00	0.00
13,900.0	90.27	180.22	6,459.3	-7,294.9	-524.6	7,312.7	0.00	0.00	0.00
14,000.0	90.27	180.22	6,458.9	-7,394.9	-524.9	7,412.6	0.00	0.00	0.00
14,100.0	90.27	180.22	6,458.4	-7,494.9	-525.3	7,512.5	0.00	0.00	0.00
14,200.0	90.27	180.22	6,457.9	-7,594.9	-525.7	7,612.3	0.00	0.00	0.00
14,300.0	90.27	180.22	6,457.4	-7,694.9	-526.1	7,712.2	0.00	0.00	0.00
14,400.0	90.27	180.22	6,457.0	-7,794.9	-526.5	7,812.1	0.00	0.00	0.00

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well HEATH 6-62-15-0659CH2
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4754.0ft (Original Well Elev)
<b>Site:</b>	Heath 6-62-15_22 NENE	<b>North Reference:</b>	True
<b>Well:</b>	HEATH 6-62-15-0659CH2	<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)
14,500.0	90.27	180.22	6,456.5	-7,894.9	-526.9	7,911.9	0.00	0.00	0.00
14,600.0	90.27	180.22	6,456.0	-7,994.9	-527.3	8,011.8	0.00	0.00	0.00
14,700.0	90.27	180.22	6,455.6	-8,094.9	-527.7	8,111.7	0.00	0.00	0.00
14,800.0	90.27	180.22	6,455.1	-8,194.9	-528.1	8,211.5	0.00	0.00	0.00
14,900.0	90.27	180.22	6,454.6	-8,294.9	-528.5	8,311.4	0.00	0.00	0.00
15,000.0	90.27	180.22	6,454.1	-8,394.9	-528.9	8,411.3	0.00	0.00	0.00
15,100.0	90.27	180.22	6,453.7	-8,494.9	-529.3	8,511.2	0.00	0.00	0.00
15,200.0	90.27	180.22	6,453.2	-8,594.9	-529.7	8,611.0	0.00	0.00	0.00
15,300.0	90.27	180.22	6,452.7	-8,694.9	-530.0	8,710.9	0.00	0.00	0.00
15,400.0	90.27	180.22	6,452.2	-8,794.9	-530.4	8,810.8	0.00	0.00	0.00
15,500.0	90.27	180.22	6,451.8	-8,894.9	-530.8	8,910.6	0.00	0.00	0.00
15,600.0	90.27	180.22	6,451.3	-8,994.9	-531.2	9,010.5	0.00	0.00	0.00
15,700.0	90.27	180.22	6,450.8	-9,094.9	-531.6	9,110.4	0.00	0.00	0.00
15,800.0	90.27	180.22	6,450.3	-9,194.9	-532.0	9,210.2	0.00	0.00	0.00
15,900.0	90.27	180.22	6,449.9	-9,294.9	-532.4	9,310.1	0.00	0.00	0.00
16,000.0	90.27	180.22	6,449.4	-9,394.9	-532.8	9,410.0	0.00	0.00	0.00
16,100.0	90.27	180.22	6,448.9	-9,494.9	-533.2	9,509.8	0.00	0.00	0.00
16,200.0	90.27	180.22	6,448.4	-9,594.9	-533.6	9,609.7	0.00	0.00	0.00
16,292.7	90.27	180.22	6,448.0	-9,687.6	-533.9	9,702.3	0.00	0.00	0.00
H 15-0659CH2 PBHL									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,803.5	6,493.0	7" Csg	7	8-3/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
254.0	254.0	Fox Hills Base		-0.27	180.22
4,947.8	4,916.0	Shannon		-0.27	180.22
6,216.1	6,176.0	Sharon Springs		-0.27	180.22
6,319.5	6,269.0	Niobrara		-0.27	180.22
6,633.5	6,464.0	Top C Target		-0.27	180.22
	6,503.0	Base C Target		-0.27	180.22