



**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 Anschutz State 5-61-36-0108BH, True North  
Vertical (TVD) Reference: KB @ 4517.0ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.0N, 0.0E)  
Measured Depth Reference: KB @ 4517.0ft (Original Well Elev)  
Calculation Method: Minimum Curvature

## WELL DETAILS: Anschutz State 5-61-36-0108BH

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1378035.16	3372099.33	40° 21' 48.301 N	104° 9' 52.690 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	1362.1	7.24	269.67	1361.1	-0.1	-22.9	2.00	269.67	-22.9	
4	4802.8	7.24	269.67	4774.4	-2.6	-456.6	0.00	0.00	-456.6	
5	5164.9	0.00	89.67	5135.5	-2.7	-479.4	2.00	180.00	-479.4	
6	5414.9	0.00	89.67	5385.5	-2.7	-479.4	0.00	89.67	-479.4	
7	6166.0	90.13	89.67	5863.0	0.0	-0.8	12.00	89.67	-0.8	AS 36-0108BH LP
8	10456.1	90.13	89.67	5853.0	24.4	4289.1	0.00	0.00	4289.2	AS 36-0108BH 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

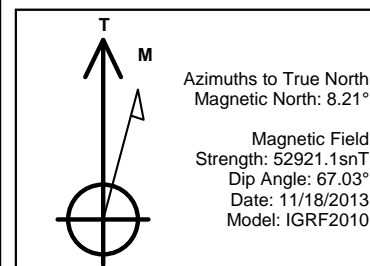
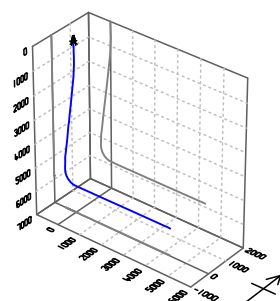
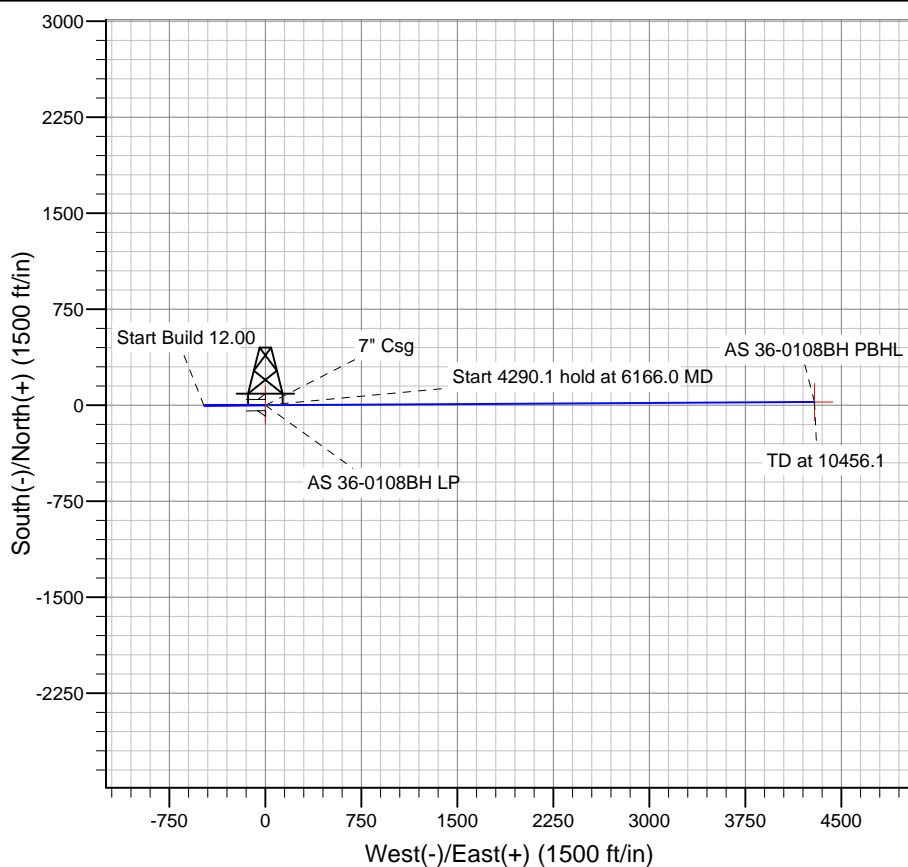
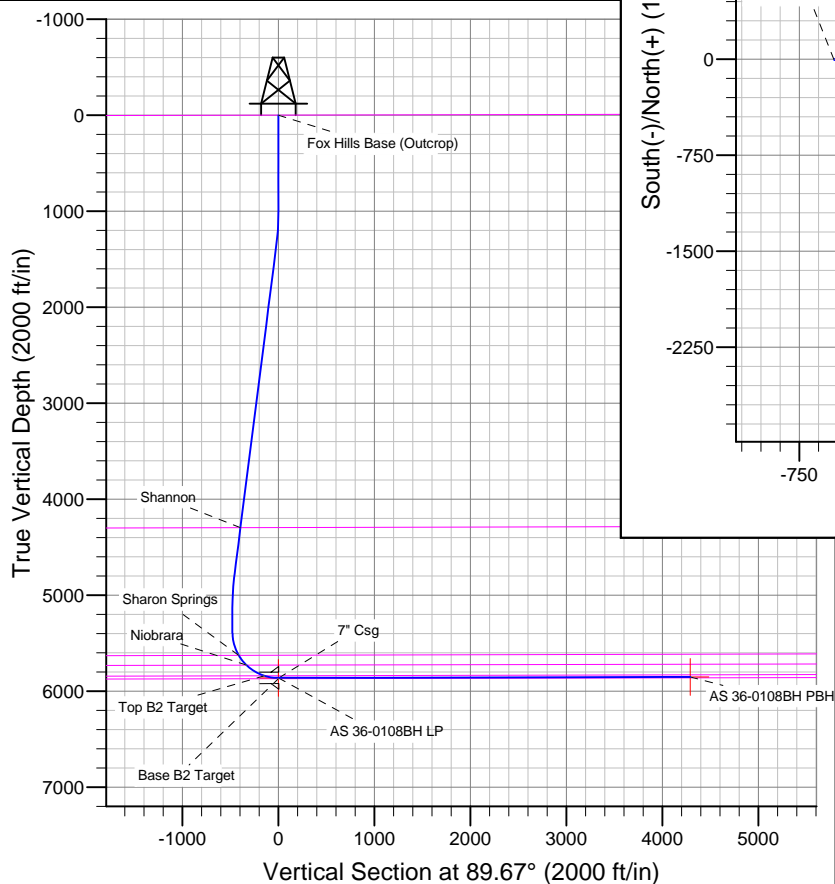
TVDPath	MDPath	Formation
		Base B2 Target
		Fox Hills Base (Outcrop)
4296.9	4321.5	Shannon
5626.9	5668.0	Sharon Springs
5729.8	5799.3	Niobrara
5840.3	6017.2	Top B2 Target

## CASING DETAILS

TVD	MD	Name	Size
5863.0	6170.0	7" Csg	7

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
AS 36-0108BH PBHL	5853.0	24.4	4289.1	Point
AS 36-0108BH LP	5863.0	0.0	-0.8	Point



# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Anschutz State 5-61-36-0108BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4517.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4517.0ft (Original Well Elev)
<b>Site:</b>	Anschutz State 5-61-36-0108BH	<b>North Reference:</b>	True
<b>Well:</b>	Anschutz State 5-61-36-0108BH	<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		Anschutz State 5-61-36-0108BH				
Site Position:		Northing:	1,378,035.17 ft	Latitude:	40° 21' 48.301 N	
From:	Lat/Long	Easting:	3,372,099.33ft	Longitude:	104° 9' 52.690 W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.86 °

Well	Anschutz State 5-61-36-0108BH					
Well Position	+N-S	0.0 ft	Northing:	1,378,035.16 ft	Latitude:	40° 21' 48.301 N
	+E-W	0.0 ft	Easting:	3,372,099.33 ft	Longitude:	104° 9' 52.690 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,501.0 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	11/18/2013	8.21	67.03	52,921

<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	89.67

<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	
1,362.1	7.24	269.67	1,361.1	-0.1	-22.9	2.00	2.00	0.00	269.67	
4,802.8	7.24	269.67	4,774.4	-2.6	-456.6	0.00	0.00	0.00	0.00	
5,164.9	0.00	89.67	5,135.5	-2.7	-479.4	2.00	-2.00	0.00	180.00	
5,414.9	0.00	89.67	5,385.5	-2.7	-479.4	0.00	0.00	0.00	89.67	
6,166.0	90.13	89.67	5,863.0	0.0	-0.8	12.00	12.00	0.00	89.67	AS 36-0108BH LP
10,456.1	90.13	89.67	5,853.0	24.4	4,289.1	0.00	0.00	0.00	0.00	AS 36-0108BH PB

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## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Anschutz State 5-61-36-0108BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4517.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4517.0ft (Original Well Elev)
<b>Site:</b>	Anschutz State 5-61-36-0108BH	<b>North Reference:</b>	True
<b>Well:</b>	Anschutz State 5-61-36-0108BH	<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
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	269.67	1,100.0	0.0	-1.7	-1.7	2.00	2.00	0.00
1,200.0	4.00	269.67	1,199.8	0.0	-7.0	-7.0	2.00	2.00	0.00
1,300.0	6.00	269.67	1,299.5	-0.1	-15.7	-15.7	2.00	2.00	0.00
1,362.1	7.24	269.67	1,361.1	-0.1	-22.9	-22.9	2.00	2.00	0.00
1,400.0	7.24	269.67	1,398.7	-0.2	-27.6	-27.6	0.00	0.00	0.00
1,500.0	7.24	269.67	1,497.9	-0.2	-40.2	-40.2	0.00	0.00	0.00
1,600.0	7.24	269.67	1,597.1	-0.3	-52.8	-52.8	0.00	0.00	0.00
1,700.0	7.24	269.67	1,696.3	-0.4	-65.4	-65.4	0.00	0.00	0.00
1,800.0	7.24	269.67	1,795.5	-0.4	-78.1	-78.1	0.00	0.00	0.00
1,900.0	7.24	269.67	1,894.7	-0.5	-90.7	-90.7	0.00	0.00	0.00
2,000.0	7.24	269.67	1,993.9	-0.6	-103.3	-103.3	0.00	0.00	0.00
2,100.0	7.24	269.67	2,093.2	-0.7	-115.9	-115.9	0.00	0.00	0.00
2,200.0	7.24	269.67	2,192.4	-0.7	-128.5	-128.5	0.00	0.00	0.00
2,300.0	7.24	269.67	2,291.6	-0.8	-141.1	-141.1	0.00	0.00	0.00
2,400.0	7.24	269.67	2,390.8	-0.9	-153.7	-153.7	0.00	0.00	0.00
2,500.0	7.24	269.67	2,490.0	-0.9	-166.3	-166.3	0.00	0.00	0.00
2,600.0	7.24	269.67	2,589.2	-1.0	-178.9	-178.9	0.00	0.00	0.00
2,700.0	7.24	269.67	2,688.4	-1.1	-191.5	-191.5	0.00	0.00	0.00
2,800.0	7.24	269.67	2,787.6	-1.2	-204.1	-204.1	0.00	0.00	0.00
2,900.0	7.24	269.67	2,886.8	-1.2	-216.7	-216.7	0.00	0.00	0.00
3,000.0	7.24	269.67	2,986.0	-1.3	-229.3	-229.3	0.00	0.00	0.00
3,100.0	7.24	269.67	3,085.2	-1.4	-241.9	-241.9	0.00	0.00	0.00
3,200.0	7.24	269.67	3,184.4	-1.4	-254.5	-254.5	0.00	0.00	0.00
3,300.0	7.24	269.67	3,283.6	-1.5	-267.1	-267.1	0.00	0.00	0.00
3,400.0	7.24	269.67	3,382.8	-1.6	-279.7	-279.7	0.00	0.00	0.00
3,500.0	7.24	269.67	3,482.0	-1.7	-292.3	-292.3	0.00	0.00	0.00
3,600.0	7.24	269.67	3,581.2	-1.7	-304.9	-304.9	0.00	0.00	0.00
3,700.0	7.24	269.67	3,680.4	-1.8	-317.5	-317.6	0.00	0.00	0.00
3,800.0	7.24	269.67	3,779.6	-1.9	-330.2	-330.2	0.00	0.00	0.00
3,900.0	7.24	269.67	3,878.8	-1.9	-342.8	-342.8	0.00	0.00	0.00
4,000.0	7.24	269.67	3,978.0	-2.0	-355.4	-355.4	0.00	0.00	0.00
4,100.0	7.24	269.67	4,077.2	-2.1	-368.0	-368.0	0.00	0.00	0.00
4,200.0	7.24	269.67	4,176.4	-2.2	-380.6	-380.6	0.00	0.00	0.00
4,300.0	7.24	269.67	4,275.6	-2.2	-393.2	-393.2	0.00	0.00	0.00
4,321.5	7.24	269.67	4,296.9	-2.2	-395.9	-395.9	0.00	0.00	0.00
Shannon									
4,400.0	7.24	269.67	4,374.8	-2.3	-405.8	-405.8	0.00	0.00	0.00
4,500.0	7.24	269.67	4,474.0	-2.4	-418.4	-418.4	0.00	0.00	0.00
4,600.0	7.24	269.67	4,573.2	-2.4	-431.0	-431.0	0.00	0.00	0.00
4,700.0	7.24	269.67	4,672.4	-2.5	-443.6	-443.6	0.00	0.00	0.00
4,800.0	7.24	269.67	4,771.6	-2.6	-456.2	-456.2	0.00	0.00	0.00
4,802.8	7.24	269.67	4,774.4	-2.6	-456.6	-456.6	0.00	0.00	0.00
4,900.0	5.30	269.67	4,871.0	-2.7	-467.2	-467.2	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 @ 4517.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4517.0ft (Original Well Elev)
<b>Site:</b>	Anschutz State 5-61-36-0108BH	<b>North Reference:</b>	True
<b>Well:</b>	Anschutz State 5-61-36-0108BH	<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)
5,000.0	3.30	269.67	4,970.7	-2.7	-474.7	-474.7	2.00	-2.00	0.00
5,100.0	1.30	269.67	5,070.6	-2.7	-478.7	-478.7	2.00	-2.00	0.00
5,164.9	0.00	89.67	5,135.5	-2.7	-479.4	-479.4	2.00	-2.00	0.00
5,200.0	0.00	89.67	5,170.6	-2.7	-479.4	-479.4	0.00	0.00	0.00
5,300.0	0.00	89.67	5,270.6	-2.7	-479.4	-479.4	0.00	0.00	0.00
5,400.0	0.00	89.67	5,370.6	-2.7	-479.4	-479.4	0.00	0.00	0.00
5,414.9	0.00	89.67	5,385.5	-2.7	-479.4	-479.4	0.00	0.00	0.00
5,500.0	10.21	89.67	5,470.2	-2.7	-471.8	-471.9	12.00	12.00	0.00
5,600.0	22.21	89.67	5,566.0	-2.5	-444.0	-444.0	12.00	12.00	0.00
5,668.0	30.37	89.67	5,626.9	-2.3	-413.9	-413.9	12.00	12.00	0.00
<b>Sharon Springs</b>									
5,700.0	34.21	89.67	5,654.0	-2.2	-396.8	-396.8	12.00	12.00	0.00
5,799.3	46.13	89.67	5,729.8	-1.9	-332.8	-332.8	12.00	12.00	0.00
<b>Niobrara</b>									
5,800.0	46.21	89.67	5,730.2	-1.9	-332.4	-332.4	12.00	12.00	0.00
5,900.0	58.21	89.67	5,791.4	-1.4	-253.5	-253.5	12.00	12.00	0.00
6,000.0	70.21	89.67	5,834.8	-0.9	-163.6	-163.6	12.00	12.00	0.00
6,017.2	72.27	89.67	5,840.3	-0.8	-147.3	-147.3	12.00	12.00	0.00
<b>Top B2 Target</b>									
6,100.0	82.21	89.67	5,858.6	-0.4	-66.7	-66.7	12.00	12.00	0.00
6,166.0	90.13	89.67	5,863.0	0.0	-0.8	-0.8	12.00	12.00	0.00
<b>AS 36-0108BH LP</b>									
6,170.0	90.13	89.67	5,863.0	0.0	3.1	3.1	0.00	0.00	0.00
<b>7" Csg</b>									
6,200.0	90.13	89.67	5,862.9	0.2	33.1	33.1	0.00	0.00	0.00
6,300.0	90.13	89.67	5,862.7	0.8	133.1	133.1	0.00	0.00	0.00
6,400.0	90.13	89.67	5,862.5	1.3	233.1	233.1	0.00	0.00	0.00
6,500.0	90.13	89.67	5,862.2	1.9	333.1	333.1	0.00	0.00	0.00
6,600.0	90.13	89.67	5,862.0	2.5	433.1	433.1	0.00	0.00	0.00
6,700.0	90.13	89.67	5,861.8	3.0	533.1	533.1	0.00	0.00	0.00
6,800.0	90.13	89.67	5,861.5	3.6	633.1	633.1	0.00	0.00	0.00
6,900.0	90.13	89.67	5,861.3	4.2	733.1	733.1	0.00	0.00	0.00
7,000.0	90.13	89.67	5,861.1	4.8	833.1	833.1	0.00	0.00	0.00
7,100.0	90.13	89.67	5,860.8	5.3	933.1	933.1	0.00	0.00	0.00
7,200.0	90.13	89.67	5,860.6	5.9	1,033.1	1,033.1	0.00	0.00	0.00
7,300.0	90.13	89.67	5,860.4	6.5	1,133.1	1,133.1	0.00	0.00	0.00
7,400.0	90.13	89.67	5,860.1	7.0	1,233.1	1,233.1	0.00	0.00	0.00
7,500.0	90.13	89.67	5,859.9	7.6	1,333.1	1,333.1	0.00	0.00	0.00
7,600.0	90.13	89.67	5,859.7	8.2	1,433.1	1,433.1	0.00	0.00	0.00
7,700.0	90.13	89.67	5,859.4	8.7	1,533.1	1,533.1	0.00	0.00	0.00
7,800.0	90.13	89.67	5,859.2	9.3	1,633.1	1,633.1	0.00	0.00	0.00
7,900.0	90.13	89.67	5,859.0	9.9	1,733.1	1,733.1	0.00	0.00	0.00
8,000.0	90.13	89.67	5,858.7	10.4	1,833.1	1,833.1	0.00	0.00	0.00
8,100.0	90.13	89.67	5,858.5	11.0	1,933.1	1,933.1	0.00	0.00	0.00
8,200.0	90.13	89.67	5,858.3	11.6	2,033.1	2,033.1	0.00	0.00	0.00
8,300.0	90.13	89.67	5,858.0	12.1	2,133.1	2,133.1	0.00	0.00	0.00
8,400.0	90.13	89.67	5,857.8	12.7	2,233.1	2,233.1	0.00	0.00	0.00
8,500.0	90.13	89.67	5,857.6	13.3	2,333.1	2,333.1	0.00	0.00	0.00
8,600.0	90.13	89.67	5,857.3	13.9	2,433.1	2,433.1	0.00	0.00	0.00
8,700.0	90.13	89.67	5,857.1	14.4	2,533.1	2,533.1	0.00	0.00	0.00
8,800.0	90.13	89.67	5,856.9	15.0	2,633.1	2,633.1	0.00	0.00	0.00
8,900.0	90.13	89.67	5,856.6	15.6	2,733.1	2,733.1	0.00	0.00	0.00
9,000.0	90.13	89.67	5,856.4	16.1	2,833.1	2,833.1	0.00	0.00	0.00

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## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Anschutz State 5-61-36-0108BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	KB @ 4517.0ft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB @ 4517.0ft (Original Well Elev)
<b>Site:</b>	Anschutz State 5-61-36-0108BH	<b>North Reference:</b>	True
<b>Well:</b>	Anschutz State 5-61-36-0108BH	<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	90.13	89.67	5,856.2	16.7	2,933.1	2,933.1	0.00	0.00	0.00	
9,200.0	90.13	89.67	5,855.9	17.3	3,033.1	3,033.1	0.00	0.00	0.00	
9,300.0	90.13	89.67	5,855.7	17.8	3,133.1	3,133.1	0.00	0.00	0.00	
9,400.0	90.13	89.67	5,855.5	18.4	3,233.1	3,233.1	0.00	0.00	0.00	
9,500.0	90.13	89.67	5,855.2	19.0	3,333.1	3,333.1	0.00	0.00	0.00	
9,600.0	90.13	89.67	5,855.0	19.5	3,433.1	3,433.1	0.00	0.00	0.00	
9,700.0	90.13	89.67	5,854.8	20.1	3,533.1	3,533.1	0.00	0.00	0.00	
9,800.0	90.13	89.67	5,854.5	20.7	3,633.1	3,633.1	0.00	0.00	0.00	
9,900.0	90.13	89.67	5,854.3	21.3	3,733.1	3,733.1	0.00	0.00	0.00	
10,000.0	90.13	89.67	5,854.1	21.8	3,833.1	3,833.1	0.00	0.00	0.00	
10,100.0	90.13	89.67	5,853.8	22.4	3,933.1	3,933.1	0.00	0.00	0.00	
10,200.0	90.13	89.67	5,853.6	23.0	4,033.1	4,033.1	0.00	0.00	0.00	
10,300.0	90.13	89.67	5,853.4	23.5	4,133.1	4,133.1	0.00	0.00	0.00	
10,400.0	90.13	89.67	5,853.1	24.1	4,233.1	4,233.1	0.00	0.00	0.00	
10,456.1	90.13	89.67	5,853.0	24.4	4,289.1	4,289.2	0.00	0.00	0.00	
AS 36-0108BH PBHL										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,170.0	5,863.0	7" Csg	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	0.0	Fox Hills Base (Outcrop)		-0.13	89.67	
4,321.5	4,296.0	Shannon		-0.13	89.67	
5,668.0	5,626.0	Sharon Springs		-0.13	89.67	
5,799.3	5,729.0	Niobrara		-0.13	89.67	
6,017.2	5,840.0	Top B2 Target		-0.13	89.67	
	5,871.0	Base B2 Target		-0.13	89.67	