

# **BILL BARRETT CORP**

**Weld County, CO**

**State of Colorado 1S-66-36 Pad**

**STATE OF COLORADO 1S-66-36 1609 BH**

**Wellbore #1**

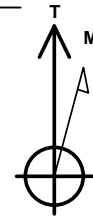
**Plan: Design #1**

## **Standard Planning Report**

**15 October, 2013**

BILL BARRETT CORP  
 STATE OF COLORADO 1S-66-36 1609 BH  
 Weld County, CO

Geodetic System: US State Plane 1983  
 Zone: Colorado Northern Zone  
 WELL @ 5200.0usft (Original Well Elev)  
 Ground Level: 5180.0  
 Latitude: 39° 55' 30.112 N  
 Longitude: 104° 43' 56.690 W  
 Magnetic North is 8.49° East of True North (Magnetic Declination)



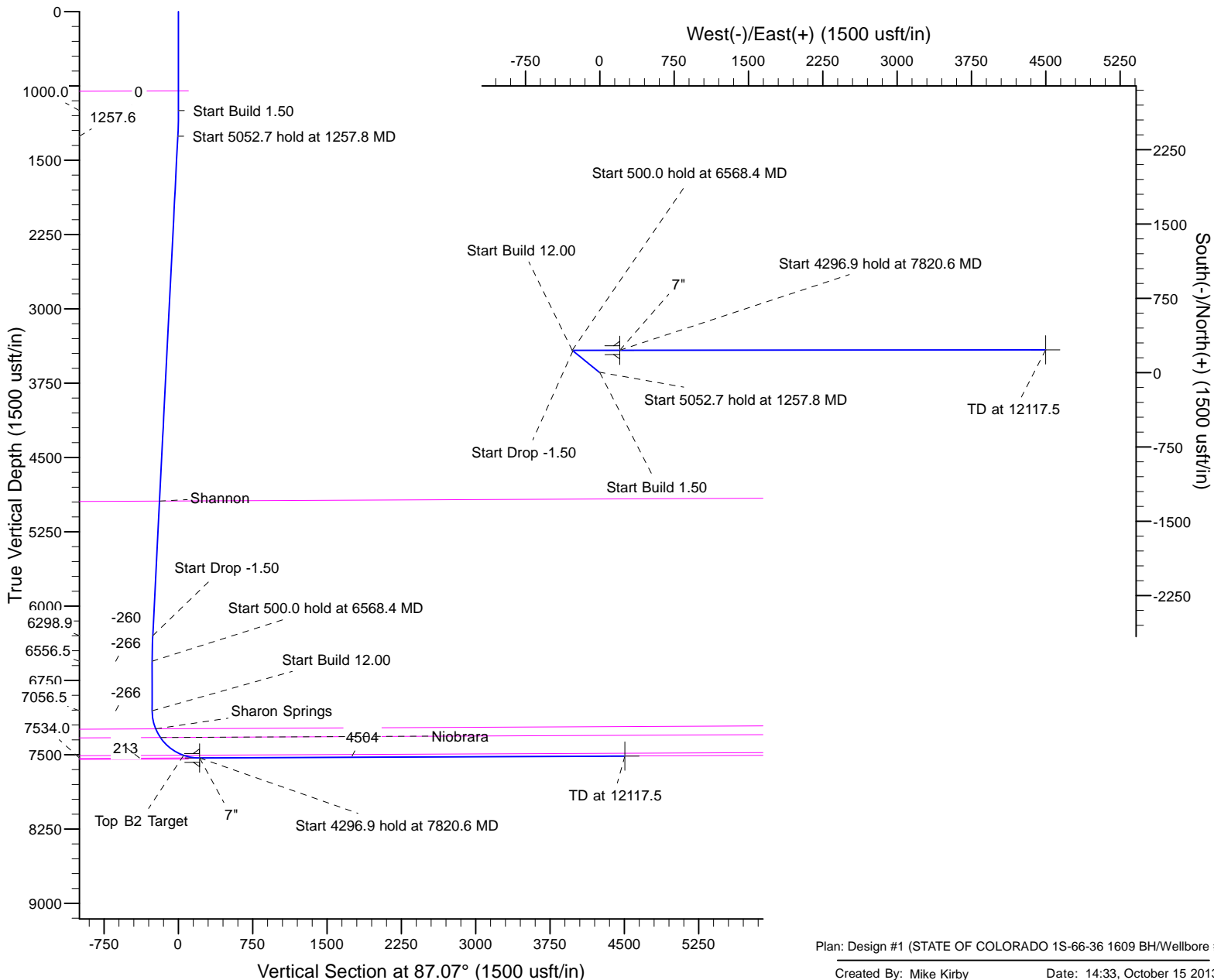
Azimuths to True North  
 Magnetic North: 8.49°

Magnetic Field  
 Strength: 52635.9nT  
 Dip Angle: 66.59°  
 Date: 10/15/2013  
 Model: IGRF2010

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0
1257.8	3.87	309.12	1257.6	5.5	-6.7	1.50	309.12	-6.5
6310.6	3.87	309.12	6298.9	220.5	-271.2	0.00	0.00	-259.5
6568.4	0.00	0.00	6556.5	226.0	-277.9	1.50	180.00	-266.0
7068.4	0.00	0.00	7056.5	226.0	-277.9	0.00	0.00	-266.0
7820.6	90.27	89.95	7534.0	226.5	201.8	12.00	89.95	213.1
12117.5	90.27	89.95	7514.0	230.5	4498.6	0.00	0.00	4504.5

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
800.0	800.0	Base Fox Hills
4940.9	4949.5	Shannon
7239.1	7255.8	Sharon Springs
7326.9	7355.9	Niobrara
7506.8	7656.6	Top B2 Target
7533.2	7791.1	Landing Point



Plan: Design #1 (STATE OF COLORADO 1S-66-36 1609 BH/Wellbore #

Created By: Mike Kirby  
 Checked: \_\_\_\_\_  
 Reviewed: \_\_\_\_\_  
 Approved: x

Date: 14:33, October 15 2013  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: x

## Planning Report

<b>Database:</b>	Rocky Mountain R5000 Database	<b>Local Co-ordinate Reference:</b>	Well STATE OF COLORADO 1S-66-36 1609 BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Site:</b>	State of Colorado 1S-66-36 Pad	<b>North Reference:</b>	True
<b>Well:</b>	STATE OF COLORADO 1S-66-36 1609 BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Weld County, CO		
<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		

<b>Site</b>	State of Colorado 1S-66-36 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,216,469.41 usft	<b>Latitude:</b> 39° 55' 30.112 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,215,275.68 usft	<b>Longitude:</b> 104° 43' 56.690 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.50 °

<b>Well</b>	STATE OF COLORADO 1S-66-36 1609 BH			
<b>Well Position</b>	<b>+N/-S</b>	89.9 usft	<b>Northing:</b>	1,216,559.30 usft
	<b>+E/-W</b>	0.3 usft	<b>Easting:</b>	3,215,275.20 usft
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 5,180.0 usft

<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	10/15/2013	8.49	66.59	52,636

<b>Design</b>	Design #1			
<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	87.07

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	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	
1,257.8	3.87	309.12	1,257.6	5.5	-6.7	1.50	1.50	0.00	309.12	
6,310.6	3.87	309.12	6,298.9	220.5	-271.2	0.00	0.00	0.00	0.00	
6,568.4	0.00	0.00	6,556.5	226.0	-277.9	1.50	-1.50	0.00	180.00	
7,068.4	0.00	0.00	7,056.5	226.0	-277.9	0.00	0.00	0.00	0.00	
7,820.6	90.27	89.95	7,534.0	226.5	201.8	12.00	12.00	0.00	89.95	
12,117.5	90.27	89.95	7,514.0	230.5	4,498.6	0.00	0.00	0.00	0.00	SOC 1609BH PBHL

# Planning Report

<b>Database:</b>	Rocky Mountain R5000 Database	<b>Local Co-ordinate Reference:</b>	Well STATE OF COLORADO 1S-66-36 1609 BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Site:</b>	State of Colorado 1S-66-36 Pad	<b>North Reference:</b>	True
<b>Well:</b>	STATE OF COLORADO 1S-66-36 1609 BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
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	
Base Fox Hills										
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	309.12	1,100.0	0.8	-1.0	-1.0	1.50	1.50	0.00	
1,200.0	3.00	309.12	1,199.9	3.3	-4.1	-3.9	1.50	1.50	0.00	
1,257.8	3.87	309.12	1,257.6	5.5	-6.7	-6.5	1.50	1.50	0.00	
1,300.0	3.87	309.12	1,299.7	7.3	-9.0	-8.6	0.00	0.00	0.00	
1,400.0	3.87	309.12	1,399.5	11.5	-14.2	-13.6	0.00	0.00	0.00	
1,500.0	3.87	309.12	1,499.3	15.8	-19.4	-18.6	0.00	0.00	0.00	
1,600.0	3.87	309.12	1,599.0	20.0	-24.7	-23.6	0.00	0.00	0.00	
1,700.0	3.87	309.12	1,698.8	24.3	-29.9	-28.6	0.00	0.00	0.00	
1,800.0	3.87	309.12	1,798.6	28.6	-35.1	-33.6	0.00	0.00	0.00	
1,900.0	3.87	309.12	1,898.3	32.8	-40.4	-38.6	0.00	0.00	0.00	
2,000.0	3.87	309.12	1,998.1	37.1	-45.6	-43.6	0.00	0.00	0.00	
2,100.0	3.87	309.12	2,097.9	41.3	-50.8	-48.6	0.00	0.00	0.00	
2,200.0	3.87	309.12	2,197.7	45.6	-56.1	-53.6	0.00	0.00	0.00	
2,300.0	3.87	309.12	2,297.4	49.8	-61.3	-58.7	0.00	0.00	0.00	
2,400.0	3.87	309.12	2,397.2	54.1	-66.5	-63.7	0.00	0.00	0.00	
2,500.0	3.87	309.12	2,497.0	58.3	-71.7	-68.7	0.00	0.00	0.00	
2,600.0	3.87	309.12	2,596.7	62.6	-77.0	-73.7	0.00	0.00	0.00	
2,700.0	3.87	309.12	2,696.5	66.9	-82.2	-78.7	0.00	0.00	0.00	
2,800.0	3.87	309.12	2,796.3	71.1	-87.4	-83.7	0.00	0.00	0.00	
2,900.0	3.87	309.12	2,896.1	75.4	-92.7	-88.7	0.00	0.00	0.00	
3,000.0	3.87	309.12	2,995.8	79.6	-97.9	-93.7	0.00	0.00	0.00	
3,100.0	3.87	309.12	3,095.6	83.9	-103.1	-98.7	0.00	0.00	0.00	
3,200.0	3.87	309.12	3,195.4	88.1	-108.4	-103.7	0.00	0.00	0.00	
3,300.0	3.87	309.12	3,295.2	92.4	-113.6	-108.7	0.00	0.00	0.00	
3,400.0	3.87	309.12	3,394.9	96.7	-118.8	-113.7	0.00	0.00	0.00	
3,500.0	3.87	309.12	3,494.7	100.9	-124.1	-118.8	0.00	0.00	0.00	
3,600.0	3.87	309.12	3,594.5	105.2	-129.3	-123.8	0.00	0.00	0.00	
3,700.0	3.87	309.12	3,694.2	109.4	-134.5	-128.8	0.00	0.00	0.00	
3,800.0	3.87	309.12	3,794.0	113.7	-139.8	-133.8	0.00	0.00	0.00	
3,900.0	3.87	309.12	3,893.8	117.9	-145.0	-138.8	0.00	0.00	0.00	
4,000.0	3.87	309.12	3,993.6	122.2	-150.2	-143.8	0.00	0.00	0.00	
4,100.0	3.87	309.12	4,093.3	126.4	-155.5	-148.8	0.00	0.00	0.00	
4,200.0	3.87	309.12	4,193.1	130.7	-160.7	-153.8	0.00	0.00	0.00	
4,300.0	3.87	309.12	4,292.9	135.0	-165.9	-158.8	0.00	0.00	0.00	
4,400.0	3.87	309.12	4,392.6	139.2	-171.2	-163.8	0.00	0.00	0.00	
4,500.0	3.87	309.12	4,492.4	143.5	-176.4	-168.8	0.00	0.00	0.00	
4,600.0	3.87	309.12	4,592.2	147.7	-181.6	-173.8	0.00	0.00	0.00	
4,700.0	3.87	309.12	4,692.0	152.0	-186.9	-178.9	0.00	0.00	0.00	
4,800.0	3.87	309.12	4,791.7	156.2	-192.1	-183.9	0.00	0.00	0.00	
4,900.0	3.87	309.12	4,891.5	160.5	-197.3	-188.9	0.00	0.00	0.00	
4,949.5	3.87	309.12	4,940.9	162.6	-199.9	-191.3	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	Rocky Mountain R5000 Database	<b>Local Co-ordinate Reference:</b>	Well STATE OF COLORADO 1S-66-36 1609 BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Site:</b>	State of Colorado 1S-66-36 Pad	<b>North Reference:</b>	True
<b>Well:</b>	STATE OF COLORADO 1S-66-36 1609 BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>Shannon</b>									
5,000.0	3.87	309.12	4,991.3	164.7	-202.6	-193.9	0.00	0.00	0.00
5,100.0	3.87	309.12	5,091.1	169.0	-207.8	-198.9	0.00	0.00	0.00
5,200.0	3.87	309.12	5,190.8	173.3	-213.0	-203.9	0.00	0.00	0.00
5,300.0	3.87	309.12	5,290.6	177.5	-218.3	-208.9	0.00	0.00	0.00
5,400.0	3.87	309.12	5,390.4	181.8	-223.5	-213.9	0.00	0.00	0.00
5,500.0	3.87	309.12	5,490.1	186.0	-228.7	-218.9	0.00	0.00	0.00
5,600.0	3.87	309.12	5,589.9	190.3	-234.0	-223.9	0.00	0.00	0.00
5,700.0	3.87	309.12	5,689.7	194.5	-239.2	-228.9	0.00	0.00	0.00
5,800.0	3.87	309.12	5,789.5	198.8	-244.4	-233.9	0.00	0.00	0.00
5,900.0	3.87	309.12	5,889.2	203.0	-249.7	-239.0	0.00	0.00	0.00
6,000.0	3.87	309.12	5,989.0	207.3	-254.9	-244.0	0.00	0.00	0.00
6,100.0	3.87	309.12	6,088.8	211.6	-260.1	-249.0	0.00	0.00	0.00
6,200.0	3.87	309.12	6,188.5	215.8	-265.4	-254.0	0.00	0.00	0.00
6,300.0	3.87	309.12	6,288.3	220.1	-270.6	-259.0	0.00	0.00	0.00
6,310.6	3.87	309.12	6,298.9	220.5	-271.2	-259.5	0.00	0.00	0.00
6,400.0	2.53	309.12	6,388.2	223.7	-275.0	-263.2	1.50	-1.50	0.00
6,500.0	1.03	309.12	6,488.1	225.6	-277.4	-265.5	1.50	-1.50	0.00
6,568.4	0.00	0.00	6,556.5	226.0	-277.9	-266.0	1.50	-1.50	0.00
6,600.0	0.00	0.00	6,588.1	226.0	-277.9	-266.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,688.1	226.0	-277.9	-266.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,788.1	226.0	-277.9	-266.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,888.1	226.0	-277.9	-266.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,988.1	226.0	-277.9	-266.0	0.00	0.00	0.00
7,068.4	0.00	0.00	7,056.5	226.0	-277.9	-266.0	0.00	0.00	0.00
7,100.0	3.79	89.95	7,088.1	226.0	-276.9	-264.9	12.00	12.00	0.00
7,200.0	15.79	89.95	7,186.4	226.0	-259.9	-248.0	12.00	12.00	0.00
7,255.8	22.49	89.95	7,239.1	226.0	-241.6	-229.7	12.00	12.00	0.00
<b>Sharon Springs</b>									
7,300.0	27.79	89.95	7,279.1	226.1	-222.8	-211.0	12.00	12.00	0.00
7,355.9	34.50	89.95	7,326.9	226.1	-193.9	-182.1	12.00	12.00	0.00
<b>Niobrara</b>									
7,400.0	39.79	89.95	7,362.1	226.1	-167.3	-155.5	12.00	12.00	0.00
7,500.0	51.79	89.95	7,431.7	226.2	-95.8	-84.1	12.00	12.00	0.00
7,600.0	63.79	89.95	7,484.9	226.3	-11.3	0.3	12.00	12.00	0.00
7,656.6	70.58	89.95	7,506.8	226.3	40.8	52.4	12.00	12.00	0.00
<b>Top B2 Target</b>									
7,700.0	75.79	89.95	7,519.4	226.3	82.4	93.9	12.00	12.00	0.00
7,791.1	86.73	89.95	7,533.2	226.4	172.3	183.7	12.00	12.00	0.00
<b>Landing Point</b>									
7,800.0	87.79	89.95	7,533.6	226.4	181.2	192.5	12.00	12.00	0.00
7,820.6	90.26	89.95	7,534.0	226.5	201.8	213.1	12.00	12.00	0.00
<b>7"</b>									
7,900.0	90.27	89.95	7,533.6	226.5	281.2	292.4	0.00	0.00	0.00
8,000.0	90.27	89.95	7,533.1	226.6	381.2	392.3	0.00	0.00	0.00
8,100.0	90.27	89.95	7,532.7	226.7	481.2	492.1	0.00	0.00	0.00
8,200.0	90.27	89.95	7,532.2	226.8	581.2	592.0	0.00	0.00	0.00
8,300.0	90.27	89.95	7,531.7	226.9	681.2	691.9	0.00	0.00	0.00
8,400.0	90.27	89.95	7,531.3	227.0	781.2	791.8	0.00	0.00	0.00
8,500.0	90.27	89.95	7,530.8	227.1	881.2	891.6	0.00	0.00	0.00
8,600.0	90.27	89.95	7,530.3	227.2	981.2	991.5	0.00	0.00	0.00
8,700.0	90.27	89.95	7,529.9	227.3	1,081.2	1,091.4	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	Rocky Mountain R5000 Database	<b>Local Co-ordinate Reference:</b>	Well STATE OF COLORADO 1S-66-36 1609 BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Site:</b>	State of Colorado 1S-66-36 Pad	<b>North Reference:</b>	True
<b>Well:</b>	STATE OF COLORADO 1S-66-36 1609 BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,800.0	90.27	89.95	7,529.4	227.4	1,181.2	1,191.2	0.00	0.00	0.00	
8,900.0	90.27	89.95	7,528.9	227.5	1,281.2	1,291.1	0.00	0.00	0.00	
9,000.0	90.27	89.95	7,528.5	227.6	1,381.2	1,391.0	0.00	0.00	0.00	
9,100.0	90.27	89.95	7,528.0	227.7	1,481.2	1,490.9	0.00	0.00	0.00	
9,200.0	90.27	89.95	7,527.6	227.8	1,581.2	1,590.7	0.00	0.00	0.00	
9,300.0	90.27	89.95	7,527.1	227.8	1,681.2	1,690.6	0.00	0.00	0.00	
9,400.0	90.27	89.95	7,526.6	227.9	1,781.1	1,790.5	0.00	0.00	0.00	
9,500.0	90.27	89.95	7,526.2	228.0	1,881.1	1,890.4	0.00	0.00	0.00	
9,600.0	90.27	89.95	7,525.7	228.1	1,981.1	1,990.2	0.00	0.00	0.00	
9,700.0	90.27	89.95	7,525.2	228.2	2,081.1	2,090.1	0.00	0.00	0.00	
9,800.0	90.27	89.95	7,524.8	228.3	2,181.1	2,190.0	0.00	0.00	0.00	
9,900.0	90.27	89.95	7,524.3	228.4	2,281.1	2,289.8	0.00	0.00	0.00	
10,000.0	90.27	89.95	7,523.8	228.5	2,381.1	2,389.7	0.00	0.00	0.00	
10,100.0	90.27	89.95	7,523.4	228.6	2,481.1	2,489.6	0.00	0.00	0.00	
10,200.0	90.27	89.95	7,522.9	228.7	2,581.1	2,589.5	0.00	0.00	0.00	
10,300.0	90.27	89.95	7,522.4	228.8	2,681.1	2,689.3	0.00	0.00	0.00	
10,400.0	90.27	89.95	7,522.0	228.9	2,781.1	2,789.2	0.00	0.00	0.00	
10,500.0	90.27	89.95	7,521.5	229.0	2,881.1	2,889.1	0.00	0.00	0.00	
10,600.0	90.27	89.95	7,521.1	229.1	2,981.1	2,989.0	0.00	0.00	0.00	
10,700.0	90.27	89.95	7,520.6	229.2	3,081.1	3,088.8	0.00	0.00	0.00	
10,800.0	90.27	89.95	7,520.1	229.3	3,181.1	3,188.7	0.00	0.00	0.00	
10,900.0	90.27	89.95	7,519.7	229.4	3,281.1	3,288.6	0.00	0.00	0.00	
11,000.0	90.27	89.95	7,519.2	229.4	3,381.1	3,388.4	0.00	0.00	0.00	
11,100.0	90.27	89.95	7,518.7	229.5	3,481.1	3,488.3	0.00	0.00	0.00	
11,200.0	90.27	89.95	7,518.3	229.6	3,581.1	3,588.2	0.00	0.00	0.00	
11,300.0	90.27	89.95	7,517.8	229.7	3,681.1	3,688.1	0.00	0.00	0.00	
11,400.0	90.27	89.95	7,517.3	229.8	3,781.1	3,787.9	0.00	0.00	0.00	
11,500.0	90.27	89.95	7,516.9	229.9	3,881.1	3,887.8	0.00	0.00	0.00	
11,600.0	90.27	89.95	7,516.4	230.0	3,981.1	3,987.7	0.00	0.00	0.00	
11,700.0	90.27	89.95	7,515.9	230.1	4,081.1	4,087.6	0.00	0.00	0.00	
11,800.0	90.27	89.95	7,515.5	230.2	4,181.1	4,187.4	0.00	0.00	0.00	
11,900.0	90.27	89.95	7,515.0	230.3	4,281.1	4,287.3	0.00	0.00	0.00	
12,000.0	90.27	89.95	7,514.6	230.4	4,381.1	4,387.2	0.00	0.00	0.00	
12,100.0	90.27	89.95	7,514.1	230.5	4,481.1	4,487.0	0.00	0.00	0.00	
12,117.5	90.27	89.95	7,514.0	230.5	4,498.6	4,504.5	0.00	0.00	0.00	

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SOC 1609BH PBHL	0.00	0.00	7,514.0	230.5	4,498.6	1,216,828.70	3,219,771.64	39° 55' 33.274 N	104° 42' 58.942 W
- plan hits target center									
- Point									
SOC 1609BH LP	0.00	0.00	7,534.0	226.4	201.8	1,216,787.44	3,215,475.03	39° 55' 33.237 N	104° 43' 54.096 W
- plan misses target center by 0.1usft at 7820.6usft MD (7534.0 TVD, 226.5 N, 201.8 E)									
- Point									

## Planning Report

<b>Database:</b>	Rocky Mountain R5000 Database	<b>Local Co-ordinate Reference:</b>	Well STATE OF COLORADO 1S-66-36 1609 BH
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 5200.0usft (Original Well Elev)
<b>Site:</b>	State of Colorado 1S-66-36 Pad	<b>North Reference:</b>	True
<b>Well:</b>	STATE OF COLORADO 1S-66-36 1609 BH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
7,820.6	7,534.0	7"	7	8-3/4	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
800.0	800.0	Base Fox Hills		-0.27	89.95	
4,949.5	4,940.9	Shannon		-0.27	89.95	
7,255.8	7,239.1	Sharon Springs		-0.27	89.95	
7,355.9	7,326.9	Niobrara		-0.27	89.95	
7,656.6	7,506.8	Top B2 Target		-0.27	89.95	
7,791.1	7,533.2	Landing Point		-0.27	89.95	