

# **BILL BARRETT CORP**

**GARFIELD COUNTY, COLORADO NAD 1983**

**MDP #21**

**GGU Federal 23B-19-691**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**29 December, 2011**

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 23B-19-691
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Project:</b>	GARFIELD COUNTY, COLORADO NAD 1983	<b>MD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Site:</b>	MDP #21	<b>North Reference:</b>	True
<b>Well:</b>	GGU Federal 23B-19-691	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	GARFIELD COUNTY, COLORADO NAD 1983		
<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 Central Zone		

<b>Site</b>	MDP #21		
<b>Site Position:</b>		<b>Northing:</b>	1,617,563.978 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,407,991.814 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	39° 30' 36.792 N
		<b>Longitude:</b>	107° 35' 54.3804 W
		<b>Grid Convergence:</b>	-1.32 °

<b>Well</b>	GGU Federal 23B-19-691		
<b>Well Position</b>	<b>+N/-S</b>	157.70 ft	<b>Northing:</b>
	<b>+E/-W</b>	-641.88 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>
			ft
			<b>Latitude:</b>
			39° 30' 38.351 N
			<b>Longitude:</b>
			107° 36' 2.5704 W
			<b>Ground Level:</b>
			0.00 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>
	IGRF200510	12/31/2009	10.34	65.88	52,533

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	85.91

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,070.71	6.77	85.91	1,070.09	1.14	15.93	2.50	2.50	0.00	85.91	
4,436.94	6.77	85.91	4,412.86	29.44	411.62	0.00	0.00	0.00	0.00	
4,888.13	0.00	0.00	4,863.00	31.34	438.17	1.50	-1.50	0.00	180.00	
7,388.13	0.00	0.00	7,363.00	31.34	438.17	0.00	0.00	0.00	0.00	GGU Federal 23B-1

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<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Project:</b>	GARFIELD COUNTY, COLORADO NAD 1983	<b>MD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Site:</b>	MDP #21	<b>North Reference:</b>	True
<b>Well:</b>	GGU Federal 23B-19-691	<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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	2.50	85.91	899.97	0.16	2.18	2.18	2.50	2.50	0.00	
1,000.00	5.00	85.91	999.75	0.62	8.70	8.72	2.50	2.50	0.00	
1,070.71	6.77	85.91	1,070.09	1.14	15.93	15.97	2.50	2.50	0.00	
1,100.00	6.77	85.91	1,099.17	1.39	19.37	19.42	0.00	0.00	0.00	
1,200.00	6.77	85.91	1,198.47	2.23	31.13	31.21	0.00	0.00	0.00	
1,300.00	6.77	85.91	1,297.77	3.07	42.88	42.99	0.00	0.00	0.00	
1,400.00	6.77	85.91	1,397.08	3.91	54.64	54.78	0.00	0.00	0.00	
1,500.00	6.77	85.91	1,496.38	4.75	66.39	66.56	0.00	0.00	0.00	
1,600.00	6.77	85.91	1,595.68	5.59	78.14	78.34	0.00	0.00	0.00	
1,700.00	6.77	85.91	1,694.99	6.43	89.90	90.13	0.00	0.00	0.00	
1,800.00	6.77	85.91	1,794.29	7.27	101.65	101.91	0.00	0.00	0.00	
1,900.00	6.77	85.91	1,893.59	8.11	113.41	113.70	0.00	0.00	0.00	
2,000.00	6.77	85.91	1,992.90	8.95	125.16	125.48	0.00	0.00	0.00	
2,100.00	6.77	85.91	2,092.20	9.79	136.92	137.27	0.00	0.00	0.00	
2,200.00	6.77	85.91	2,191.50	10.63	148.67	149.05	0.00	0.00	0.00	
2,300.00	6.77	85.91	2,290.81	11.47	160.43	160.84	0.00	0.00	0.00	
2,400.00	6.77	85.91	2,390.11	12.31	172.18	172.62	0.00	0.00	0.00	
2,500.00	6.77	85.91	2,489.41	13.16	183.94	184.41	0.00	0.00	0.00	
2,600.00	6.77	85.91	2,588.71	14.00	195.69	196.19	0.00	0.00	0.00	
2,700.00	6.77	85.91	2,688.02	14.84	207.45	207.98	0.00	0.00	0.00	
2,800.00	6.77	85.91	2,787.32	15.68	219.20	219.76	0.00	0.00	0.00	
2,900.00	6.77	85.91	2,886.62	16.52	230.96	231.55	0.00	0.00	0.00	
3,000.00	6.77	85.91	2,985.93	17.36	242.71	243.33	0.00	0.00	0.00	
3,100.00	6.77	85.91	3,085.23	18.20	254.46	255.11	0.00	0.00	0.00	
3,200.00	6.77	85.91	3,184.53	19.04	266.22	266.90	0.00	0.00	0.00	
3,300.00	6.77	85.91	3,283.84	19.88	277.97	278.68	0.00	0.00	0.00	
3,400.00	6.77	85.91	3,383.14	20.72	289.73	290.47	0.00	0.00	0.00	
3,500.00	6.77	85.91	3,482.44	21.56	301.48	302.25	0.00	0.00	0.00	
3,600.00	6.77	85.91	3,581.75	22.40	313.24	314.04	0.00	0.00	0.00	
3,700.00	6.77	85.91	3,681.05	23.24	324.99	325.82	0.00	0.00	0.00	
3,800.00	6.77	85.91	3,780.35	24.08	336.75	337.61	0.00	0.00	0.00	
3,900.00	6.77	85.91	3,879.66	24.92	348.50	349.39	0.00	0.00	0.00	
4,000.00	6.77	85.91	3,978.96	25.77	360.26	361.18	0.00	0.00	0.00	
4,100.00	6.77	85.91	4,078.26	26.61	372.01	372.96	0.00	0.00	0.00	
4,200.00	6.77	85.91	4,177.57	27.45	383.77	384.75	0.00	0.00	0.00	
4,300.00	6.77	85.91	4,276.87	28.29	395.52	396.53	0.00	0.00	0.00	
4,400.00	6.77	85.91	4,376.17	29.13	407.28	408.32	0.00	0.00	0.00	
4,436.94	6.77	85.91	4,412.86	29.44	411.62	412.67	0.00	0.00	0.00	
4,500.00	5.82	85.91	4,475.53	29.93	418.51	419.58	1.50	-1.50	0.00	
4,600.00	4.32	85.91	4,575.14	30.56	427.33	428.42	1.50	-1.50	0.00	
4,700.00	2.82	85.91	4,674.94	31.01	433.55	434.65	1.50	-1.50	0.00	
4,800.00	1.32	85.91	4,774.87	31.26	437.15	438.27	1.50	-1.50	0.00	
4,888.13	0.00	0.00	4,863.00	31.34	438.17	439.29	1.50	-1.50	0.00	
4,900.00	0.00	0.00	4,874.87	31.34	438.17	439.29	0.00	0.00	0.00	

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<b>Well:</b>	GGU Federal 23B-19-691	<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)
5,000.00	0.00	0.00	4,974.87	31.34	438.17	439.29	0.00	0.00	0.00
5,100.00	0.00	0.00	5,074.87	31.34	438.17	439.29	0.00	0.00	0.00
5,200.00	0.00	0.00	5,174.87	31.34	438.17	439.29	0.00	0.00	0.00
5,300.00	0.00	0.00	5,274.87	31.34	438.17	439.29	0.00	0.00	0.00
5,400.00	0.00	0.00	5,374.87	31.34	438.17	439.29	0.00	0.00	0.00
5,500.00	0.00	0.00	5,474.87	31.34	438.17	439.29	0.00	0.00	0.00
5,600.00	0.00	0.00	5,574.87	31.34	438.17	439.29	0.00	0.00	0.00
5,700.00	0.00	0.00	5,674.87	31.34	438.17	439.29	0.00	0.00	0.00
5,800.00	0.00	0.00	5,774.87	31.34	438.17	439.29	0.00	0.00	0.00
5,900.00	0.00	0.00	5,874.87	31.34	438.17	439.29	0.00	0.00	0.00
6,000.00	0.00	0.00	5,974.87	31.34	438.17	439.29	0.00	0.00	0.00
6,100.00	0.00	0.00	6,074.87	31.34	438.17	439.29	0.00	0.00	0.00
6,200.00	0.00	0.00	6,174.87	31.34	438.17	439.29	0.00	0.00	0.00
6,300.00	0.00	0.00	6,274.87	31.34	438.17	439.29	0.00	0.00	0.00
6,400.00	0.00	0.00	6,374.87	31.34	438.17	439.29	0.00	0.00	0.00
6,500.00	0.00	0.00	6,474.87	31.34	438.17	439.29	0.00	0.00	0.00
6,600.00	0.00	0.00	6,574.87	31.34	438.17	439.29	0.00	0.00	0.00
6,700.00	0.00	0.00	6,674.87	31.34	438.17	439.29	0.00	0.00	0.00
6,800.00	0.00	0.00	6,774.87	31.34	438.17	439.29	0.00	0.00	0.00
6,900.00	0.00	0.00	6,874.87	31.34	438.17	439.29	0.00	0.00	0.00
7,000.00	0.00	0.00	6,974.87	31.34	438.17	439.29	0.00	0.00	0.00
7,100.00	0.00	0.00	7,074.87	31.34	438.17	439.29	0.00	0.00	0.00
7,200.00	0.00	0.00	7,174.87	31.34	438.17	439.29	0.00	0.00	0.00
7,300.00	0.00	0.00	7,274.87	31.34	438.17	439.29	0.00	0.00	0.00
7,388.13	0.00	0.00	7,363.00	31.34	438.17	439.29	0.00	0.00	0.00

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
800.00	800.00	9 5/8"	9-5/8	12-1/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,474.38	3,457.00	Mesaverde		0.00	
4,274.96	4,252.00	Price Coal		0.00	
4,516.55	4,492.00	Top Gas		0.00	
7,032.13	7,007.00	Rollins		0.00	
7,332.13	7,307.00	TD		0.00	

# WELL DETAILS: GGU Federal 23B-19-691

Ground Level: 0.00

+N/-S  
0.00

+E/-W  
0.00

Northing  
1617736.477

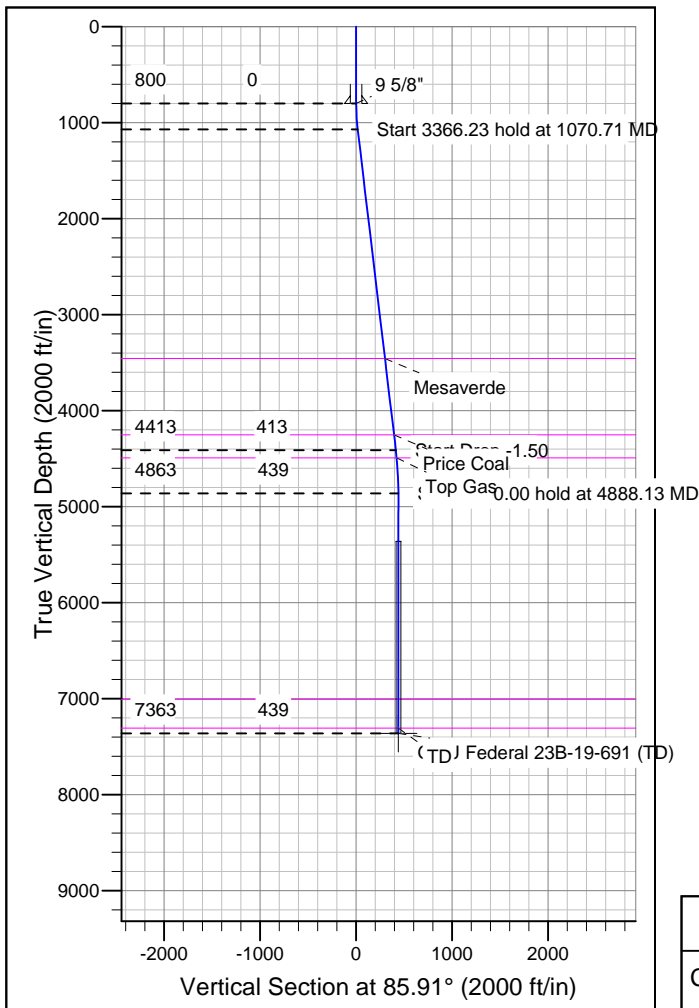
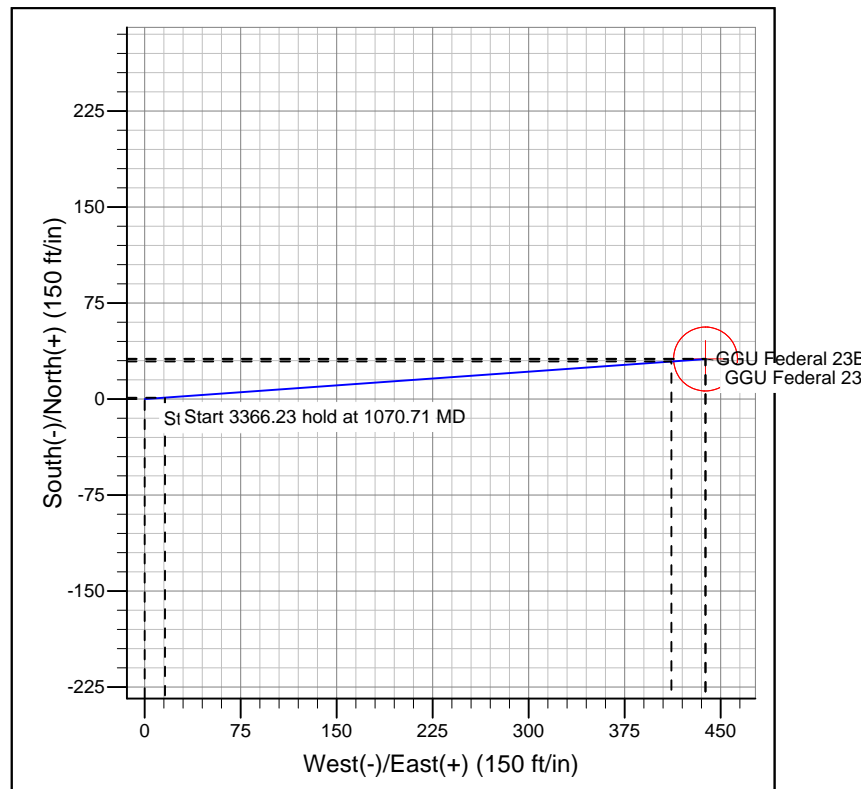
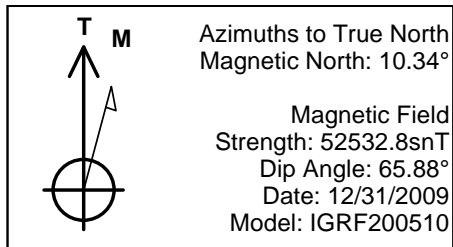
Easting  
2407353.756

Latitude  
39° 30' 38.351 N 107° 36' 2.5704 W

Slot

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	
3	1070.71	6.77	85.91	1070.09	1.14	15.93	2.50	85.91	15.97	
4	4436.94	6.77	85.91	4412.86	29.44	411.62	0.00	0.00	412.67	
5	4888.13	0.00	0.00	4863.00	31.34	438.17	1.50	180.00	439.29	
6	7388.13	0.00	0.00	7363.00	31.34	438.17	0.00	0.00	439.29	GGU Federal 23B-19-691 (TD)



## FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
3457.00	3474.38	Mesaverde
4252.00	4274.96	Price Coal
4492.00	4516.55	Top Gas
7007.00	7032.13	Rollins
7307.00	7332.13	TD

## REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well GGU Federal 23B-19-691, True North  
Vertical (TVD) Reference: WELL @ 0.00ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.00N, 0.00E)  
Measured Depth Reference: WELL @ 0.00ft (Original Well Elev)  
Calculation Method: Minimum Curvature