

# **BILL BARRETT CORP**

**GARFIELD COUNTY, COLORADO NAD 1983**

**Miller Pad #9**

**Miller 13B-6-791**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**16 May, 2011**

# Bill Barrett Corp

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Miller 13B-6-791
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 6091.00ft (Original Well Elev)
<b>Project:</b>	GARFIELD COUNTY, COLORADO NAD 1983	<b>MD Reference:</b>	WELL @ 6091.00ft (Original Well Elev)
<b>Site:</b>	Miller Pad #9	<b>North Reference:</b>	True
<b>Well:</b>	Miller 13B-6-791	<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>	Miller Pad #9		
<b>Site Position:</b>		<b>Northing:</b>	1,604,898.699 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,405,969.198 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	39° 28' 31.184 N
		<b>Longitude:</b>	107° 36' 16.4376 W
		<b>Grid Convergence:</b>	-1.33 °

<b>Well</b>	Miller 13B-6-791		
<b>Well Position</b>	<b>+N/-S</b>	-24.78 ft	<b>Northing:</b>
	<b>+E/-W</b>	7.62 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>
			ft
			<b>Latitude:</b>
			39° 28' 30.939 N
			<b>Longitude:</b>
			107° 36' 16.3404 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	65.85	52,464

<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	150.39

<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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,076.14	9.40	150.39	1,074.46	-26.78	15.22	2.50	2.50	0.00	150.39	
4,158.01	9.40	150.39	4,114.91	-464.57	263.99	0.00	0.00	0.00	0.00	
4,784.91	0.00	0.00	4,739.00	-509.19	289.35	1.50	-1.50	0.00	180.00	
6,784.91	0.00	0.00	6,739.00	-509.19	289.35	0.00	0.00	0.00	0.00	Miller 13B-6-791 (T

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<b>Project:</b>	GARFIELD COUNTY, COLORADO NAD 1983	<b>MD Reference:</b>	WELL @ 6091.00ft (Original Well Elev)
<b>Site:</b>	Miller Pad #9	<b>North Reference:</b>	True
<b>Well:</b>	Miller 13B-6-791	<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	2.50	150.39	799.97	-1.90	1.08	2.18	2.50	2.50	0.00	
900.00	5.00	150.39	899.75	-7.58	4.31	8.72	2.50	2.50	0.00	
1,000.00	7.50	150.39	999.14	-17.05	9.69	19.61	2.50	2.50	0.00	
1,076.14	9.40	150.39	1,074.46	-26.78	15.22	30.80	2.50	2.50	0.00	
1,100.00	9.40	150.39	1,097.99	-30.17	17.14	34.70	0.00	0.00	0.00	
1,200.00	9.40	150.39	1,196.65	-44.37	25.21	51.03	0.00	0.00	0.00	
1,300.00	9.40	150.39	1,295.31	-58.58	33.29	67.37	0.00	0.00	0.00	
1,400.00	9.40	150.39	1,393.96	-72.78	41.36	83.71	0.00	0.00	0.00	
1,500.00	9.40	150.39	1,492.62	-86.99	49.43	100.05	0.00	0.00	0.00	
1,600.00	9.40	150.39	1,591.27	-101.19	57.50	116.39	0.00	0.00	0.00	
1,700.00	9.40	150.39	1,689.93	-115.40	65.57	132.73	0.00	0.00	0.00	
1,800.00	9.40	150.39	1,788.59	-129.60	73.65	149.07	0.00	0.00	0.00	
1,900.00	9.40	150.39	1,887.24	-143.81	81.72	165.40	0.00	0.00	0.00	
2,000.00	9.40	150.39	1,985.90	-158.01	89.79	181.74	0.00	0.00	0.00	
2,100.00	9.40	150.39	2,084.56	-172.22	97.86	198.08	0.00	0.00	0.00	
2,200.00	9.40	150.39	2,183.21	-186.42	105.93	214.42	0.00	0.00	0.00	
2,300.00	9.40	150.39	2,281.87	-200.63	114.01	230.76	0.00	0.00	0.00	
2,400.00	9.40	150.39	2,380.52	-214.84	122.08	247.10	0.00	0.00	0.00	
2,500.00	9.40	150.39	2,479.18	-229.04	130.15	263.44	0.00	0.00	0.00	
2,600.00	9.40	150.39	2,577.84	-243.25	138.22	279.78	0.00	0.00	0.00	
2,700.00	9.40	150.39	2,676.49	-257.45	146.30	296.11	0.00	0.00	0.00	
2,800.00	9.40	150.39	2,775.15	-271.66	154.37	312.45	0.00	0.00	0.00	
2,900.00	9.40	150.39	2,873.80	-285.86	162.44	328.79	0.00	0.00	0.00	
3,000.00	9.40	150.39	2,972.46	-300.07	170.51	345.13	0.00	0.00	0.00	
3,100.00	9.40	150.39	3,071.12	-314.27	178.58	361.47	0.00	0.00	0.00	
3,200.00	9.40	150.39	3,169.77	-328.48	186.66	377.81	0.00	0.00	0.00	
3,300.00	9.40	150.39	3,268.43	-342.68	194.73	394.15	0.00	0.00	0.00	
3,400.00	9.40	150.39	3,367.09	-356.89	202.80	410.49	0.00	0.00	0.00	
3,500.00	9.40	150.39	3,465.74	-371.09	210.87	426.82	0.00	0.00	0.00	
3,600.00	9.40	150.39	3,564.40	-385.30	218.94	443.16	0.00	0.00	0.00	
3,700.00	9.40	150.39	3,663.05	-399.51	227.02	459.50	0.00	0.00	0.00	
3,800.00	9.40	150.39	3,761.71	-413.71	235.09	475.84	0.00	0.00	0.00	
3,900.00	9.40	150.39	3,860.37	-427.92	243.16	492.18	0.00	0.00	0.00	
4,000.00	9.40	150.39	3,959.02	-442.12	251.23	508.52	0.00	0.00	0.00	
4,100.00	9.40	150.39	4,057.68	-456.33	259.31	524.86	0.00	0.00	0.00	
4,158.01	9.40	150.39	4,114.91	-464.57	263.99	534.33	0.00	0.00	0.00	
4,200.00	8.77	150.39	4,156.37	-470.33	267.26	540.97	1.50	-1.50	0.00	
4,300.00	7.27	150.39	4,255.39	-482.47	274.16	554.92	1.50	-1.50	0.00	
4,400.00	5.77	150.39	4,354.74	-492.35	279.77	566.29	1.50	-1.50	0.00	
4,500.00	4.27	150.39	4,454.35	-499.96	284.10	575.04	1.50	-1.50	0.00	
4,600.00	2.77	150.39	4,554.16	-505.30	287.14	581.19	1.50	-1.50	0.00	
4,700.00	1.27	150.39	4,654.10	-508.37	288.88	584.72	1.50	-1.50	0.00	
4,784.91	0.00	0.00	4,739.00	-509.19	289.35	585.66	1.50	-1.50	0.00	
4,800.00	0.00	0.00	4,754.09	-509.19	289.35	585.66	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,854.09	-509.19	289.35	585.66	0.00	0.00	0.00	

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<b>Well:</b>	Miller 13B-6-791	<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	4,954.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,054.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,154.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,254.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,354.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,454.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,554.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,654.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,754.09	-509.19	289.35	585.66	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,854.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,954.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,054.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,154.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,254.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,354.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,454.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,554.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,654.09	-509.19	289.35	585.66	0.00	0.00	0.00	
6,784.91	0.00	0.00	6,739.00	-509.19	289.35	585.66	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
700.00	700.00	9 5/8"	9-5/8	12-1/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,859.65	2,834.00	Mesaverde		0.00		
3,624.94	3,589.00	Price Coal		0.00		
4,258.24	4,214.00	Top Gas		0.00		
6,484.91	6,439.00	Rollins		0.00		
6,784.91	6,739.00	TD		0.00		

WELL DETAILS: Miller 13B-6-791							
Ground Level: 0.00							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	1604873.752	2405976.244	39° 28' 30.939 N	107° 36' 16.3404 W		



Azimuths to True North

Magnetic North 10.34°

Section 1

Magnetic Field 190.00

Strength: 52463.86 nT

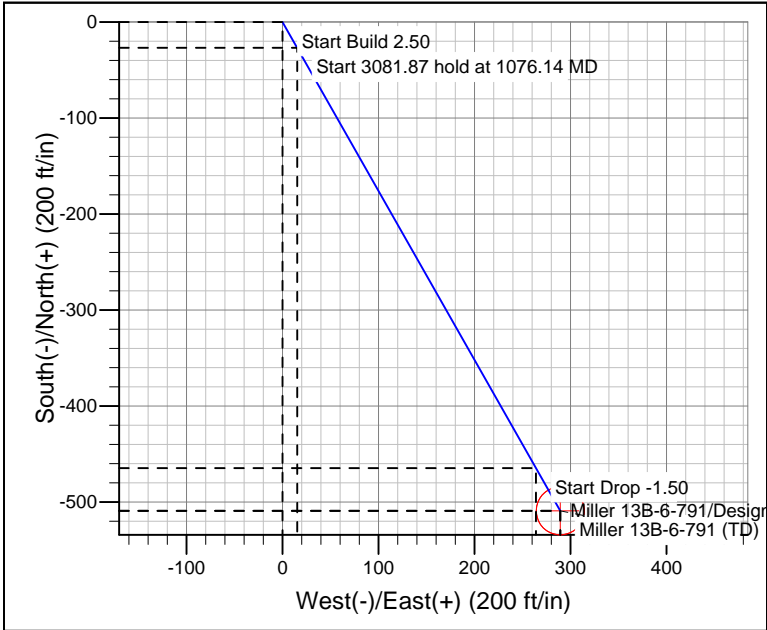
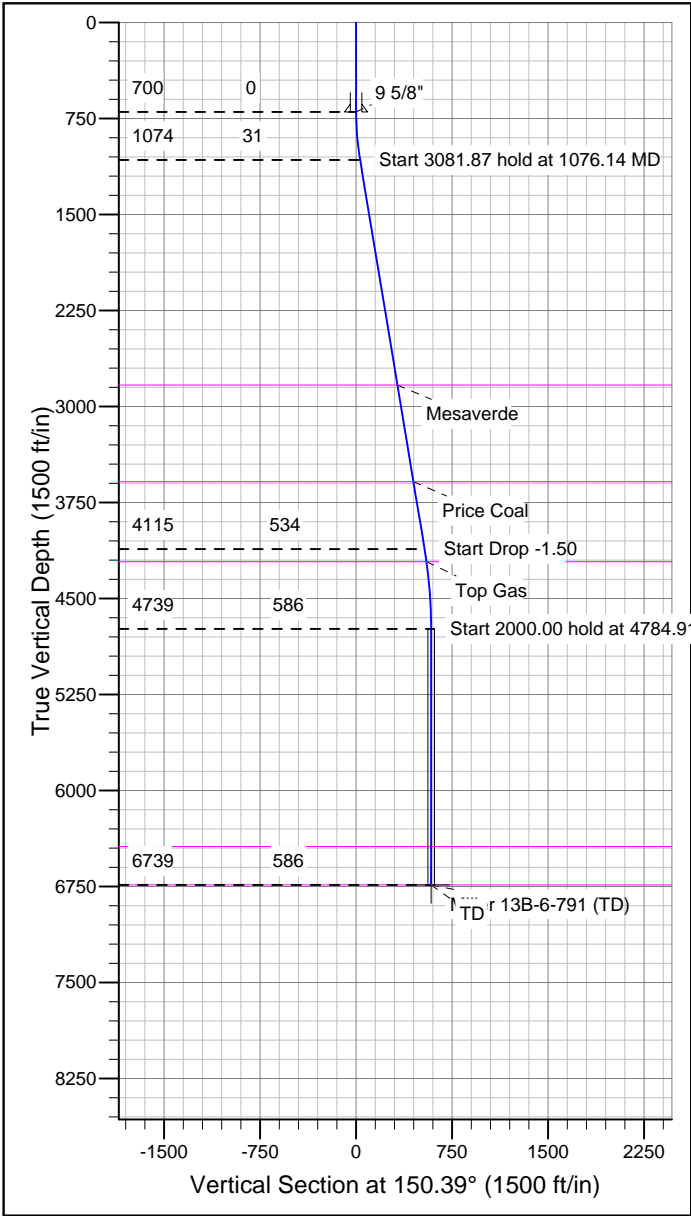
Dip Angle: 65.85°

Date: 12/31/2019

Model: IGRF2015

SECTION DETAILS											
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target		
0.00	0.00	0.00	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			
1076.14	9.40	150.39	1074.46	-26.78	15.22	2.50	150.39	30.80			
2076.01	9.40	150.39	4114.91	-464.57	263.99	0.00	0.00	534.33			
2478.91	0.00	0.00	4739.00	-509.19	289.35	1.50	180.00	585.66			
6739.00	0.00	0.00	6739.00	-509.19	289.35	0.00	0.00	585.66	Miller 13B-6-791 (TD)		

WELLBORE TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
Miller 13B-6-791 (TD)	6739.00	-509.19	289.35	Circle (Radius: 25.00)



CASING DETAILS			
TVD	MD	Name	Size
700.00	700.00	9 5/8"	9-5/8

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
2834.00	2859.65	Mesaverde
3589.00	3624.94	Price Coal
4214.00	4258.24	Top Gas
6439.00	6484.91	Rollins
6739.00	6784.91	TD

REFERENCE INFORMATION	
Co-ordinate (N/E) Reference: Well Miller 13B-6-791, True North	
Vertical (TVD) Reference: WELL @ 6091.00ft (Original Well Elev)	
Section (VS) Reference: Slot - (0.00N, 0.00E)	
Measured Depth Reference: WELL @ 6091.00ft (Original Well Elev)	
Calculation Method: Minimum Curvature	