

# **BILL BARRETT CORP**

**GARFIELD COUNTY, COLORADO NAD 1983**

**Werner Pad(s) SWSE-23-692**

**Werner 34C-23-692**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**14 December, 2009**

**BBC**  
Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well Werner 34C-23-692
<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>	Werner Pad(s) SWSE-23-692	<b>North Reference:</b>	True
<b>Well:</b>	Werner 34C-23-692	<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		

Site	Werner Pad(s) SWSE-23-692				
Site Position:		Northing:	1,616,896.898 ft	Latitude:	39° 30' 28.134 N
From:	Lat/Long	Easting:	2,399,006.620 ft	Longitude:	107° 37' 48.7956 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-1.34 °

Well	Werner 34C-23-692					
Well Position	+N/-S	-48.09 ft	Northing:	1,616,849.041 ft	Latitude:	39° 30' 27.659 N
	+E/-W	-9.31 ft	Easting:	2,398,996.184 ft	Longitude:	107° 37' 48.9144 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	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>
	BGGM2007	12/14/2009	10.44	65.84	52,483

<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	266.06

<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
0.00	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	
1,034.33	5.86	266.06	1,033.92	-0.82	-11.94	2.50	2.50	0.00	266.06	
5,235.48	5.86	266.06	5,213.13	-30.30	-439.73	0.00	0.00	0.00	0.00	
5,626.03	0.00	0.00	5,603.00	-31.68	-459.63	1.50	-1.50	0.00	180.00	
7,626.03	0.00	0.00	7,603.00	-31.68	-459.63	0.00	0.00	0.00	0.00	Werner 34C-23-692

**BBC**  
Planning Report

**Database:** Compass  
**Company:** BILL BARRETT CORP  
**Project:** GARFIELD COUNTY, COLORADO NAD 1983  
**Site:** Werner Pad(s) SWSE-23-692  
**Well:** Werner 34C-23-692  
**Wellbore:** Wellbore #1  
**Design:** Design #1

**Local Co-ordinate Reference:** Well Werner 34C-23-692  
**TVD Reference:** WELL @ 0.00ft (Original Well Elev)  
**MD Reference:** WELL @ 0.00ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Bulld 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
<b>9 5/8"</b>									
900.00	2.50	266.06	899.97	-0.15	-2.18	2.18	2.50	2.50	0.00
1,000.00	5.00	266.06	999.75	-0.60	-8.70	8.72	2.50	2.50	0.00
1,034.33	5.86	266.06	1,033.92	-0.82	-11.94	11.97	2.50	2.50	0.00
1,100.00	5.86	266.06	1,099.25	-1.28	-18.63	18.67	0.00	0.00	0.00
1,200.00	5.86	266.06	1,198.73	-1.99	-28.81	28.88	0.00	0.00	0.00
1,300.00	5.86	266.06	1,298.20	-2.69	-38.99	39.09	0.00	0.00	0.00
1,400.00	5.86	266.06	1,397.68	-3.39	-49.18	49.29	0.00	0.00	0.00
1,500.00	5.86	266.06	1,497.16	-4.09	-59.36	59.50	0.00	0.00	0.00
1,600.00	5.86	266.06	1,596.64	-4.79	-69.54	69.71	0.00	0.00	0.00
1,700.00	5.86	266.06	1,696.12	-5.49	-79.72	79.91	0.00	0.00	0.00
1,800.00	5.86	266.06	1,795.59	-6.20	-89.91	90.12	0.00	0.00	0.00
1,900.00	5.86	266.06	1,895.07	-6.90	-100.09	100.33	0.00	0.00	0.00
2,000.00	5.86	266.06	1,994.55	-7.60	-110.27	110.53	0.00	0.00	0.00
2,100.00	5.86	266.06	2,094.03	-8.30	-120.45	120.74	0.00	0.00	0.00
2,200.00	5.86	266.06	2,193.50	-9.00	-130.64	130.95	0.00	0.00	0.00
2,300.00	5.86	266.06	2,292.98	-9.70	-140.82	141.15	0.00	0.00	0.00
2,400.00	5.86	266.06	2,392.46	-10.41	-151.00	151.36	0.00	0.00	0.00
2,500.00	5.86	266.06	2,491.94	-11.11	-161.18	161.57	0.00	0.00	0.00
2,600.00	5.86	266.06	2,591.42	-11.81	-171.37	171.77	0.00	0.00	0.00
2,700.00	5.86	266.06	2,690.89	-12.51	-181.55	181.98	0.00	0.00	0.00
2,800.00	5.86	266.06	2,790.37	-13.21	-191.73	192.19	0.00	0.00	0.00
2,900.00	5.86	266.06	2,889.85	-13.92	-201.92	202.39	0.00	0.00	0.00
3,000.00	5.86	266.06	2,989.33	-14.62	-212.10	212.60	0.00	0.00	0.00
3,100.00	5.86	266.06	3,088.80	-15.32	-222.28	222.81	0.00	0.00	0.00
3,200.00	5.86	266.06	3,188.28	-16.02	-232.46	233.01	0.00	0.00	0.00
3,300.00	5.86	266.06	3,287.76	-16.72	-242.65	243.22	0.00	0.00	0.00
3,400.00	5.86	266.06	3,387.24	-17.42	-252.83	253.43	0.00	0.00	0.00
3,500.00	5.86	266.06	3,486.71	-18.13	-263.01	263.63	0.00	0.00	0.00
3,600.00	5.86	266.06	3,586.19	-18.83	-273.19	273.84	0.00	0.00	0.00
3,677.21	5.86	266.06	3,663.00	-19.37	-281.06	281.72	0.00	0.00	0.00
<b>Mesaverde</b>									
3,700.00	5.86	266.06	3,685.67	-19.53	-283.38	284.05	0.00	0.00	0.00
3,800.00	5.86	266.06	3,785.15	-20.23	-293.56	294.26	0.00	0.00	0.00
3,900.00	5.86	266.06	3,884.63	-20.93	-303.74	304.46	0.00	0.00	0.00
4,000.00	5.86	266.06	3,984.10	-21.63	-313.92	314.67	0.00	0.00	0.00
4,100.00	5.86	266.06	4,083.58	-22.34	-324.11	324.88	0.00	0.00	0.00
4,200.00	5.86	266.06	4,183.06	-23.04	-334.29	335.08	0.00	0.00	0.00
4,300.00	5.86	266.06	4,282.54	-23.74	-344.47	345.29	0.00	0.00	0.00
4,400.00	5.86	266.06	4,382.01	-24.44	-354.65	355.50	0.00	0.00	0.00
4,500.00	5.86	266.06	4,481.49	-25.14	-364.84	365.70	0.00	0.00	0.00
4,561.83	5.86	266.06	4,543.00	-25.58	-371.13	372.01	0.00	0.00	0.00
<b>Price Coal</b>									
4,600.00	5.86	266.06	4,580.97	-25.85	-375.02	375.91	0.00	0.00	0.00

**BBC**  
Planning Report

Database: Compass  
Company: BILL BARRETT CORP  
Project: GARFIELD COUNTY, COLORADO NAD 1983  
Site: Werner Pad(s) SWSE-23-692  
Well: Werner 34C-23-692  
Wellbore: Wellbore #1  
Design: Design #1

Local Co-ordinate Reference: Well Werner 34C-23-692  
TVD Reference: WELL @ 0.00ft (Original Well Elev)  
MD Reference: WELL @ 0.00ft (Original Well Elev)  
North Reference: True  
Survey Calculation Method: Minimum Curvature

**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)
4,700.00	5.86	266.06	4,680.45	-26.55	-385.20	386.12	0.00	0.00	0.00
4,800.00	5.86	266.06	4,779.93	-27.25	-395.39	396.32	0.00	0.00	0.00
4,900.00	5.86	266.06	4,879.40	-27.95	-405.57	406.53	0.00	0.00	0.00
5,000.00	5.86	266.06	4,978.88	-28.65	-415.75	416.74	0.00	0.00	0.00
5,100.00	5.86	266.06	5,078.36	-29.35	-425.93	426.94	0.00	0.00	0.00
5,200.00	5.86	266.06	5,177.84	-30.06	-436.12	437.15	0.00	0.00	0.00
5,235.48	5.86	266.06	5,213.13	-30.30	-439.73	440.77	0.00	0.00	0.00
5,300.00	4.89	266.06	5,277.37	-30.72	-445.76	446.81	1.50	-1.50	0.00
5,400.00	3.39	266.06	5,377.10	-31.22	-452.96	454.03	1.50	-1.50	0.00
5,415.92	3.15	266.06	5,393.00	-31.28	-453.87	454.94	1.50	-1.50	0.00
<b>Top Gas</b>									
5,500.00	1.89	266.06	5,476.99	-31.53	-457.56	458.64	1.50	-1.50	0.00
5,600.00	0.39	266.06	5,576.97	-31.67	-459.54	460.63	1.50	-1.50	0.00
5,626.03	0.00	0.00	5,603.00	-31.68	-459.63	460.72	1.50	-1.50	0.00
5,700.00	0.00	0.00	5,676.97	-31.68	-459.63	460.72	0.00	0.00	0.00
5,800.00	0.00	0.00	5,776.97	-31.68	-459.63	460.72	0.00	0.00	0.00
5,900.00	0.00	0.00	5,876.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,000.00	0.00	0.00	5,976.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,100.00	0.00	0.00	6,076.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,200.00	0.00	0.00	6,176.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,300.00	0.00	0.00	6,276.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,400.00	0.00	0.00	6,376.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,500.00	0.00	0.00	6,476.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,600.00	0.00	0.00	6,576.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,700.00	0.00	0.00	6,676.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,800.00	0.00	0.00	6,776.97	-31.68	-459.63	460.72	0.00	0.00	0.00
6,900.00	0.00	0.00	6,876.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,000.00	0.00	0.00	6,976.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,100.00	0.00	0.00	7,076.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,200.00	0.00	0.00	7,176.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,300.00	0.00	0.00	7,276.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,326.03	0.00	0.00	7,303.00	-31.68	-459.63	460.72	0.00	0.00	0.00
<b>Rollins</b>									
7,400.00	0.00	0.00	7,376.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,500.00	0.00	0.00	7,476.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,600.00	0.00	0.00	7,576.97	-31.68	-459.63	460.72	0.00	0.00	0.00
7,626.03	0.00	0.00	7,603.00	-31.68	-459.63	460.72	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

**BBC**  
Planning Report

<b>Database:</b> <b>Company:</b> <b>Project:</b>  <b>Site:</b> <b>Well:</b> <b>Wellbore:</b> <b>Design:</b>	Compass <b>BILL BARRETT CORP</b> GARFIELD COUNTY, COLORADO NAD 1983 Werner Pad(s) SWSE-23-692 Werner 34C-23-692 Wellbore #1 Design #1	<b>Local Co-ordinate Reference:</b> <b>TVD Reference:</b> <b>MD Reference:</b>  <b>North Reference:</b> <b>Survey Calculation Method:</b>	Well Werner 34C-23-692 WELL @ 0.00ft (Original Well Elev) WELL @ 0.00ft (Original Well Elev)  True Minimum Curvature
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Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	3,677.21	3,663.00	Mesaverde		0.00	
	4,561.83	4,543.00	Price Coal		0.00	
	5,415.92	5,393.00	Top Gas		0.00	
	7,326.03	7,303.00	Rollins		0.00	

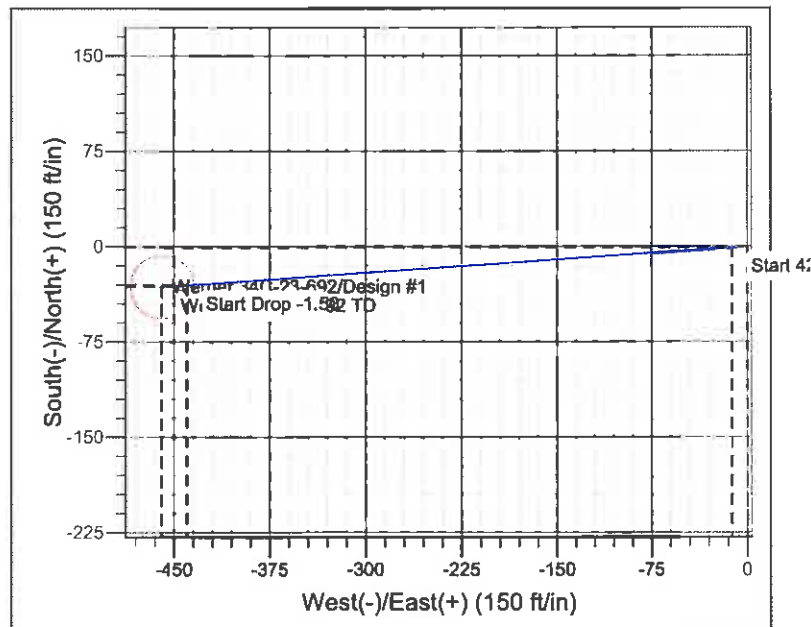
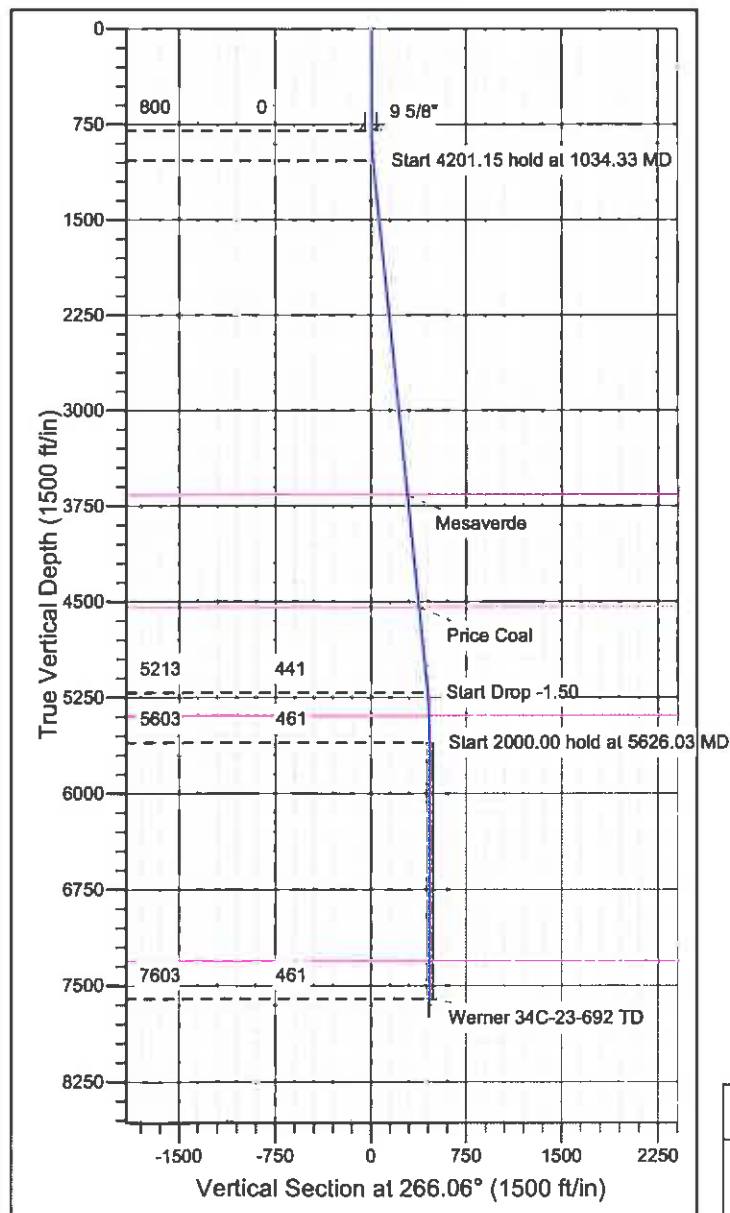
# WELL DETAILS: Werner 34C-23-692

Ground Level: 0.00  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.00 0.00 1616849.041 2398996.184 49° 30' 27.6590N 109° 37' 48.9144 W

Azimuths to True North		SECTION DETAILS									
Magnetic North: 10.46°	Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
Magnetic Field		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Strength: 52482.7nT		2800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	
Dip Angle: 65.84°		31034.33	5.86	266.06	1033.92	-0.82	-11.94	2.50	266.06	11.97	
Date: 12/14/2009		4235.48	5.86	266.06	5213.13	-30.30	-439.73	0.00	0.00	440.77	
Model: BGGM2007		5626.03	0.00	0.00	5603.00	-31.68	-459.63	1.50	180.00	460.72	
		7626.03	0.00	0.00	7603.00	-31.68	-459.63	0.00	0.00	460.72	Werner 34C-23-692 TD

## WELLBORE TARGET DETAILS

Name TVD +N/-S +E/-W Shape  
 Werner 34C-23-692 TD 3663.00 -31.68 -459.63 Circle (Radius: 25.00)



## CASING DETAILS

TVD MD Name Size  
 800.00 800.00 9 5/8" 9-5/8

## FORMATION TOP DETAILS

TVDPath MDPATH Formation  
 3663.00 3677.21 Mesaverde  
 4543.00 4561.83 Price Coal  
 5393.00 5415.92 Top Gas  
 7303.00 7326.03 Rollins

## REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Werner 34C-23-692, 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