



## **Bill Barrett Corp.**

**Garfield County, Colorado**

**Miller 10 Pad**

**Miller 33B-6-791**

**Wellbore #1**

**Survey: Surveys**

## **Standard Survey Report**

**31 January, 2011**

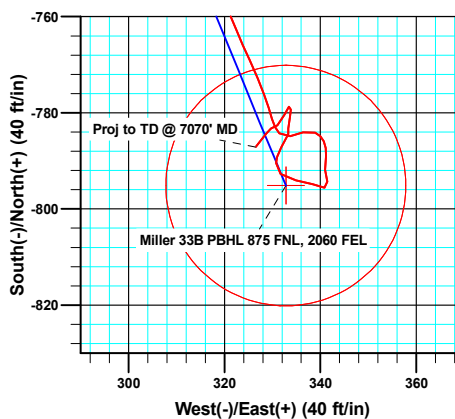
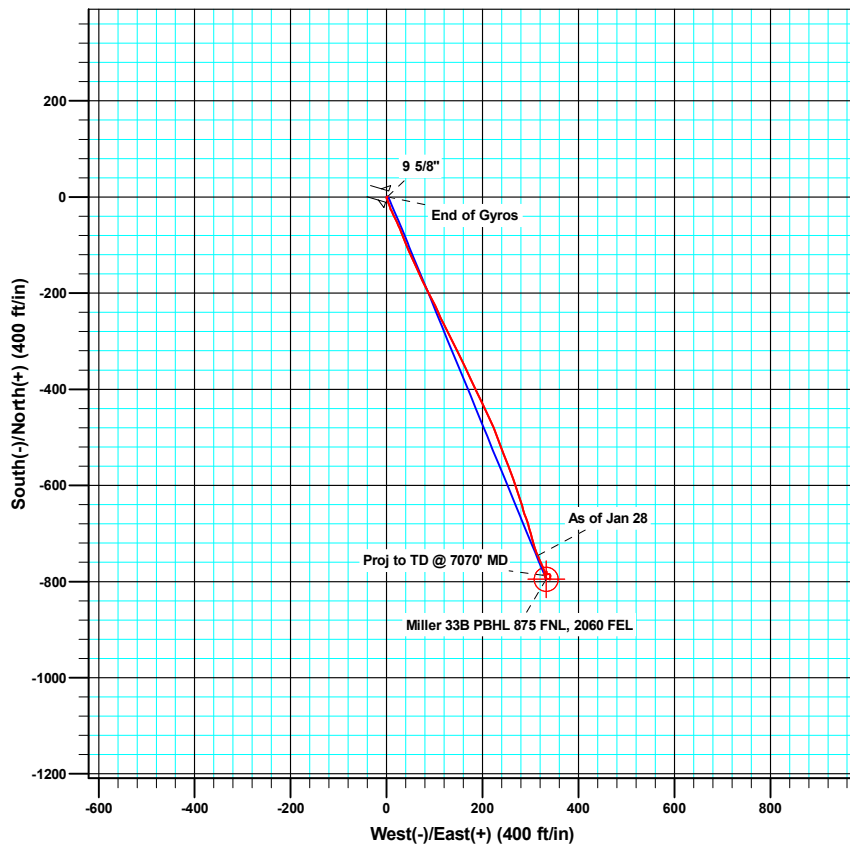
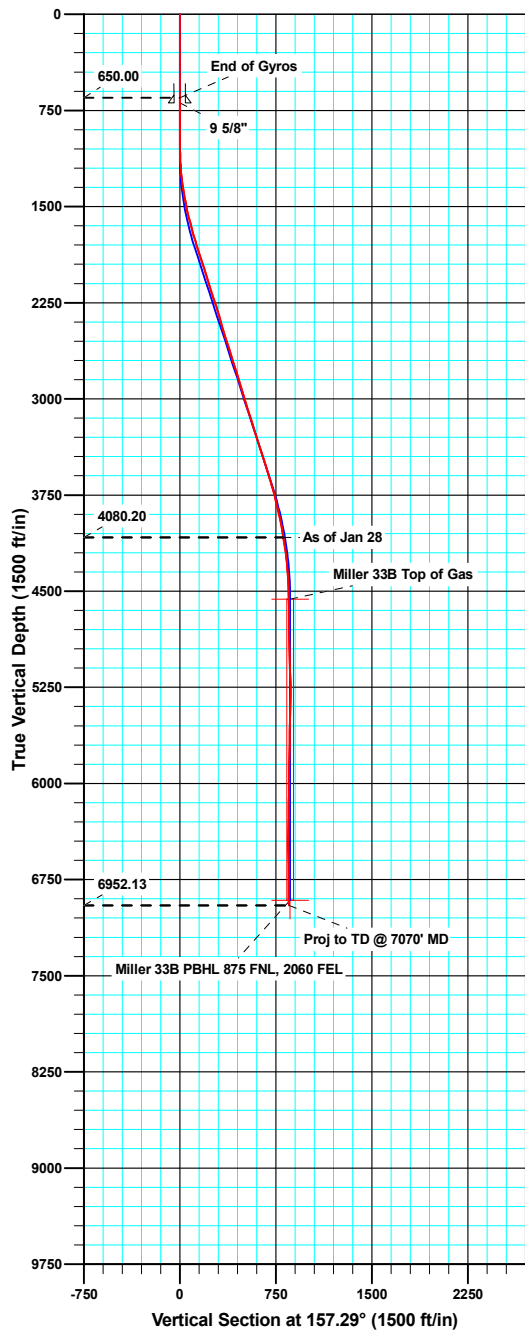




WELL DETAILS: Miller 33B-6-791

Ground Level: 6265.00

North American Datum 1983		US State Plane 1983		Colorado Central Zone	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1605337.95	2408716.79	39° 28' 36.15 N	107° 35' 41.54 W



Azimuths to True North  
Magnetic North: 10.26°

Magnetic Field  
Strength: 52408.1nT  
Dip Angle: 65.83°  
Date: 07/28/2010  
Model: IGRF200510

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V/Sect	Departure	Annotation
4080.20	4195.00	9.700	154.60	-745.57	315.11	809.42	813.20	As of Jan 28
6952.13	7070.00	1.900	215.40	-787.14	326.55	852.19	915.37	Proj to TD @ 7070' MD

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Miller 33B-6-791
<b>Project:</b>	Garfield County, Colorado	<b>TVD Reference:</b>	KB @ 6287.00ft
<b>Site:</b>	Miller 10 Pad	<b>MD Reference:</b>	KB @ 6287.00ft
<b>Well:</b>	Miller 33B-6-791	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Compass VM

<b>Project</b>	Garfield 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 Central Zone		

<b>Site</b>	Miller 10 Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,605,362.13 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,408,695.61 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	1.10 ft
		<b>Latitude:</b>	39° 28' 36.39 N
		<b>Longitude:</b>	107° 35' 41.81 W
		<b>Grid Convergence:</b>	-1.32 °

<b>Well</b>	Miller 33B-6-791		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 1,605,337.95 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,408,716.80 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39° 28' 36.15 N
		<b>Longitude:</b>	107° 35' 41.54 W
		<b>Ground Level:</b>	6,265.00 ft

<b>Wellbore</b>	Wellbore #1		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	IGRF200510	07/28/10	10.26
			<b>Dip Angle (°)</b> 65.83
			<b>Field Strength (nT)</b> 52,408

<b>Design</b>	Wellbore #1		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
		<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>
	0.00	0.00	0.00
			<b>Direction (°)</b> 157.29

<b>Survey Program</b>	<b>Date</b>	01/31/11		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
50.00	650.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard
779.00	7,070.00	Surveys (Wellbore #1)	MWD	MWD - Standard

<b>Survey</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>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
650.00	0.170	73.21	650.00	0.85	1.48	-0.21	0.00	0.00	0.00	
692.00	0.112	106.51	692.00	0.86	1.58	-0.18	0.23	-0.14	79.29	
<b>9 5/8"</b>										
779.00	0.200	181.70	779.00	0.68	1.66	0.01	0.23	0.10	86.42	
870.00	0.400	266.50	870.00	0.50	1.34	0.05	0.47	0.22	93.19	
962.00	0.600	182.90	961.99	0.00	0.99	0.38	0.74	0.22	-90.87	
1,057.00	1.100	214.50	1,056.98	-1.24	0.45	1.32	0.70	0.53	33.26	
1,151.00	2.900	157.50	1,150.93	-4.19	0.85	4.19	2.64	1.91	-60.64	
1,247.00	5.400	161.10	1,246.67	-10.70	3.24	11.12	2.62	2.60	3.75	
1,342.00	8.300	158.10	1,340.98	-21.30	7.25	22.44	3.07	3.05	-3.16	

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Miller 33B-6-791
<b>Project:</b>	Garfield County, Colorado	<b>TVD Reference:</b>	KB @ 6287.00ft
<b>Site:</b>	Miller 10 Pad	<b>MD Reference:</b>	KB @ 6287.00ft
<b>Well:</b>	Miller 33B-6-791	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Compass VM

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)
1,437.00	10.400	154.60	1,434.71	-35.41	13.48	37.87	2.29	2.21	-3.68
1,532.00	12.700	154.20	1,527.78	-52.56	21.71	56.86	2.42	2.42	-0.42
1,627.00	14.900	157.50	1,620.04	-73.25	30.93	79.51	2.46	2.32	3.47
1,722.00	15.600	159.50	1,711.69	-96.49	40.08	104.49	0.92	0.74	2.11
1,817.00	17.200	154.10	1,802.83	-121.10	50.69	131.28	2.32	1.68	-5.68
1,912.00	17.800	155.20	1,893.43	-146.91	62.91	159.81	0.72	0.63	1.16
2,007.00	18.200	156.30	1,983.78	-173.68	74.97	189.16	0.55	0.42	1.16
2,103.00	17.600	152.20	2,075.14	-200.25	87.76	218.61	1.45	-0.63	-4.27
2,198.00	17.900	152.70	2,165.62	-225.93	101.16	247.46	0.35	0.32	0.53
2,293.00	18.200	156.00	2,255.94	-252.45	113.89	276.85	1.12	0.32	3.47
2,388.00	16.200	152.20	2,346.69	-277.73	126.10	304.89	2.41	-2.11	-4.00
2,483.00	16.300	153.60	2,437.90	-301.40	138.21	331.39	0.43	0.11	1.47
2,578.00	17.100	154.60	2,528.89	-325.96	150.13	358.65	0.89	0.84	1.05
2,673.00	17.800	154.10	2,619.52	-351.63	162.46	387.09	0.75	0.74	-0.53
2,769.00	18.200	155.20	2,710.82	-378.44	175.16	416.73	0.55	0.42	1.15
2,864.00	16.800	153.00	2,801.42	-404.15	187.62	445.25	1.63	-1.47	-2.32
2,959.00	16.900	154.30	2,892.34	-428.82	199.84	472.73	0.41	0.11	1.37
3,054.00	17.600	155.40	2,983.07	-454.32	211.81	500.87	0.81	0.74	1.16
3,149.00	17.300	157.40	3,073.70	-480.42	223.21	529.35	0.71	-0.32	2.11
3,244.00	17.400	159.40	3,164.38	-506.76	233.64	557.67	0.64	0.11	2.11
3,339.00	17.400	158.30	3,255.03	-533.25	243.89	586.07	0.35	0.00	-1.16
3,434.00	17.600	159.00	3,345.63	-559.86	254.29	614.63	0.31	0.21	0.74
3,529.00	17.500	161.50	3,436.21	-586.81	263.97	643.23	0.80	-0.11	2.63
3,624.00	18.100	161.00	3,526.67	-614.31	273.31	672.20	0.65	0.63	-0.53
3,720.00	17.400	163.20	3,618.10	-642.16	282.31	701.36	1.01	-0.73	2.29
3,815.00	15.300	161.10	3,709.25	-667.62	290.48	728.00	2.30	-2.21	-2.21
3,910.00	13.400	162.30	3,801.28	-689.96	297.88	751.47	2.02	-2.00	1.26
4,005.00	12.600	167.00	3,893.85	-710.55	303.56	772.65	1.39	-0.84	4.95
4,100.00	11.300	161.90	3,986.79	-729.49	308.78	792.15	1.76	-1.37	-5.37
4,195.00	9.700	154.60	4,080.20	-745.57	315.11	809.42	2.19	-1.68	-7.68
4,290.00	7.800	158.70	4,174.09	-758.81	320.88	823.86	2.10	-2.00	4.32
4,385.00	5.400	153.90	4,268.46	-768.83	325.19	834.77	2.59	-2.53	-5.05
4,481.00	4.100	161.70	4,364.13	-776.14	328.26	842.70	1.51	-1.35	8.13
4,576.00	2.400	163.30	4,458.97	-781.27	329.90	848.06	1.79	-1.79	1.68
4,671.00	1.700	137.20	4,553.91	-784.21	331.43	851.37	1.21	-0.74	-27.47
4,766.00	1.700	72.60	4,648.88	-784.83	333.73	852.82	1.91	0.00	-68.00
4,861.00	1.700	75.10	4,743.83	-784.04	336.43	853.14	0.08	0.00	2.63
4,956.00	1.500	112.00	4,838.80	-784.14	338.95	854.21	1.08	-0.21	38.84
5,051.00	1.700	154.60	4,933.77	-785.88	340.71	856.49	1.24	0.21	44.84
5,147.00	2.100	183.90	5,029.72	-788.92	341.20	859.49	1.08	0.42	30.52
5,242.00	1.400	182.90	5,124.67	-791.82	341.02	862.09	0.74	-0.74	-1.05
5,337.00	1.700	159.40	5,219.64	-794.30	341.46	864.54	0.73	0.32	-24.74
5,432.00	1.300	273.60	5,314.62	-795.55	340.88	865.47	2.66	-0.42	120.21

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<b>Site:</b>	Miller 10 Pad	<b>MD Reference:</b>	KB @ 6287.00ft
<b>Well:</b>	Miller 33B-6-791	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Compass VM

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)	
5,527.00	1.900	295.50	5,409.58	-794.80	338.38	863.82	0.89	0.63	23.05	
5,622.00	2.500	272.10	5,504.51	-794.05	334.89	861.78	1.12	0.63	-24.63	
5,717.00	2.000	320.00	5,599.45	-792.70	331.75	859.33	1.98	-0.53	50.42	
5,812.00	1.200	5.80	5,694.41	-790.45	330.79	856.87	1.52	-0.84	48.21	
5,907.00	0.400	16.20	5,789.40	-789.14	330.98	855.74	0.85	-0.84	10.95	
6,002.00	2.200	25.50	5,884.38	-787.17	331.86	854.26	1.90	1.89	9.79	
6,098.00	0.900	34.10	5,980.34	-784.89	333.07	852.62	1.37	-1.35	8.96	
6,193.00	0.300	213.10	6,075.34	-784.48	333.36	852.35	1.26	-0.63	188.42	
6,288.00	1.700	5.00	6,170.32	-783.28	333.34	851.25	2.07	1.47	159.89	
6,383.00	1.100	10.40	6,265.29	-780.98	333.63	849.23	0.65	-0.63	5.68	
6,478.00	0.900	0.70	6,360.28	-779.34	333.80	847.79	0.28	-0.21	-10.21	
6,573.00	0.500	255.00	6,455.28	-778.70	333.41	847.05	1.20	-0.42	-111.26	
6,668.00	2.000	196.70	6,550.25	-780.39	332.54	848.27	1.88	1.58	-61.37	
6,763.00	1.400	240.00	6,645.21	-782.56	331.05	849.70	1.44	-0.63	45.58	
6,858.00	0.400	245.80	6,740.20	-783.28	329.75	849.85	1.06	-1.05	6.11	
6,953.00	1.400	220.90	6,835.19	-784.29	328.68	850.38	1.11	1.05	-26.21	
7,025.00	1.900	215.40	6,907.16	-785.93	327.42	851.40	0.73	0.69	-7.64	
7,070.00	1.900	215.40	6,952.13	-787.14	326.55	852.19	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (ft)	Hole Diameter (ft)
692.00	692.00	9 5/8"		0.80	1.02

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
4,195.00	4,080.20	-745.57	315.11	As of Jan 28	
7,070.00	6,952.13	-787.14	326.55	Proj to TD @ 7070' MD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_