



**Bill Barrett Corporation**

## **Bill Barrett Corp.**

Garfield County, Colorado

MDP 11 Pad

GGU Federal 41A-29-691

Wellbore #1

Survey: Surveys from Surface

## **Standard Survey Report**

12 January, 2011



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41A-29-691
<b>Project:</b>	Garfield County, Colorado	<b>TVD Reference:</b>	KB @ 6126.90ft
<b>Site:</b>	MDP 11 Pad	<b>MD Reference:</b>	KB @ 6126.90ft
<b>Well:</b>	GGU Federal 41A-29-691	<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>	MDP 11 Pad				
<b>Site Position:</b>		<b>Northing:</b>	1,614,688.12 usft	<b>Latitude:</b>	39° 30' 9.99 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,415,090.26 usft	<b>Longitude:</b>	107° 34' 22.99 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	1.10 ft	<b>Grid Convergence:</b>	-1.31 °

<b>Well</b>	GGU Federal 41A-29-691					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,614,688.12 usft	<b>Latitude:</b>	39° 30' 9.99 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,415,090.26 usft	<b>Longitude:</b>	107° 34' 22.99 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	6,103.90 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	12/21/10	10.20	65.85	52,387

<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>	<b>Direction (°)</b>	
	0.00	0.00	0.00	81.46	

<b>Survey Program</b>	<b>Date</b>	01/12/11			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
50.00	735.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard	
880.00	7,372.00	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>	
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.00	0.630	259.34	50.00	-0.05	-0.27	-0.27	1.26	1.26	0.00	
100.00	0.420	298.12	100.00	-0.02	-0.70	-0.70	0.80	-0.42	77.56	
150.00	0.690	275.64	149.99	0.10	-1.16	-1.14	0.68	0.54	-44.96	
200.00	0.840	271.22	199.99	0.14	-1.83	-1.79	0.32	0.30	-8.84	
250.00	0.780	290.43	249.99	0.26	-2.51	-2.45	0.55	-0.12	38.42	
300.00	0.730	302.46	299.98	0.55	-3.10	-2.99	0.33	-0.10	24.06	
350.00	0.720	319.82	349.98	0.97	-3.57	-3.39	0.44	-0.02	34.72	
400.00	0.500	305.42	399.97	1.33	-3.95	-3.71	0.53	-0.44	-28.80	
450.00	0.630	309.92	449.97	1.63	-4.34	-4.05	0.27	0.26	9.00	

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41A-29-691
<b>Project:</b>	Garfield County, Colorado	<b>TVD Reference:</b>	KB @ 6126.90ft
<b>Site:</b>	MDP 11 Pad	<b>MD Reference:</b>	KB @ 6126.90ft
<b>Well:</b>	GGU Federal 41A-29-691	<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)
500.00	0.730	296.74	499.97	1.95	-4.84	-4.49	0.37	0.20	-26.36
550.00	0.690	301.52	549.96	2.26	-5.38	-4.98	0.14	-0.08	9.56
600.00	0.880	297.75	599.96	2.59	-5.98	-5.52	0.39	0.38	-7.54
650.00	0.850	292.26	649.95	2.91	-6.66	-6.15	0.18	-0.06	-10.98
700.00	0.920	296.28	699.95	3.23	-7.36	-6.80	0.19	0.14	8.04
735.00	0.770	284.86	734.94	3.41	-7.84	-7.25	0.64	-0.43	-32.63
804.40	0.850	301.23	804.34	3.80	-8.73	-8.07	0.35	0.12	23.58
<b>9 5/8"</b>									
880.00	1.000	314.90	879.93	4.56	-9.68	-8.89	0.35	0.20	18.09
972.00	1.100	78.50	971.92	5.30	-9.38	-8.49	2.01	0.11	134.35
1,064.00	3.400	89.60	1,063.84	5.49	-5.79	-4.91	2.53	2.50	12.07
1,156.00	5.200	83.80	1,155.58	5.96	1.08	1.96	2.01	1.96	-6.30
1,248.00	7.200	80.70	1,247.04	7.35	10.92	11.89	2.20	2.17	-3.37
1,344.00	9.300	81.60	1,342.04	9.45	24.53	25.66	2.19	2.19	0.94
1,439.00	9.200	80.00	1,435.80	11.89	39.61	40.93	0.29	-0.11	-1.68
1,534.00	9.000	77.80	1,529.61	14.78	54.35	55.94	0.42	-0.21	-2.32
1,630.00	8.600	76.80	1,624.48	18.01	68.67	70.59	0.45	-0.42	-1.04
1,725.00	10.400	79.50	1,718.17	21.19	84.02	86.24	1.95	1.89	2.84
1,820.00	10.500	86.30	1,811.60	23.31	101.09	103.43	1.30	0.11	7.16
1,916.00	10.100	86.20	1,906.05	24.43	118.22	120.54	0.42	-0.42	-0.10
2,011.00	12.000	83.40	1,999.29	26.12	136.34	138.71	2.08	2.00	-2.95
2,106.00	11.500	81.70	2,092.30	28.62	155.53	158.05	0.64	-0.53	-1.79
2,202.00	10.500	81.60	2,186.53	31.28	173.65	176.37	1.04	-1.04	-0.10
2,297.00	12.200	84.30	2,279.67	33.55	192.20	195.05	1.87	1.79	2.84
2,393.00	11.700	84.00	2,373.59	35.57	211.98	214.91	0.52	-0.52	-0.31
2,488.00	11.000	85.50	2,466.73	37.29	230.59	233.57	0.80	-0.74	1.58
2,585.00	10.100	86.70	2,562.09	38.50	248.31	251.27	0.96	-0.93	1.24
2,679.00	11.500	83.50	2,654.43	40.04	265.85	268.85	1.62	1.49	-3.40
2,774.00	12.600	78.00	2,747.33	43.27	285.39	288.65	1.67	1.16	-5.79
2,869.00	12.300	77.70	2,840.10	47.58	305.42	309.09	0.32	-0.32	-0.32
2,965.00	12.200	76.80	2,933.91	52.07	325.28	329.41	0.22	-0.10	-0.94
3,060.00	12.000	79.50	3,026.80	56.16	344.77	349.28	0.63	-0.21	2.84
3,155.00	11.200	80.70	3,119.86	59.45	363.58	368.38	0.88	-0.84	1.26
3,251.00	10.500	80.60	3,214.15	62.39	381.41	386.45	0.73	-0.73	-0.10
3,346.00	10.200	81.00	3,307.60	65.12	398.26	403.51	0.32	-0.32	0.42
3,442.00	11.300	80.80	3,401.92	67.95	415.94	421.42	1.15	1.15	-0.21
3,537.00	10.500	78.10	3,495.20	71.22	433.60	439.37	1.00	-0.84	-2.84
3,632.00	9.800	75.00	3,588.71	75.10	449.88	456.04	0.93	-0.74	-3.26
3,727.00	10.500	79.30	3,682.23	78.80	466.19	472.73	1.09	0.74	4.53
3,823.00	10.500	84.40	3,776.62	81.28	483.50	490.20	0.97	0.00	5.31
3,918.00	9.800	84.20	3,870.14	82.94	500.15	506.93	0.74	-0.74	-0.21
4,013.00	9.100	85.70	3,963.85	84.32	515.69	522.49	0.78	-0.74	1.58
4,108.00	7.700	86.10	4,057.82	85.32	529.53	536.33	1.47	-1.47	0.42

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41A-29-691
<b>Project:</b>	Garfield County, Colorado	<b>TVD Reference:</b>	KB @ 6126.90ft
<b>Site:</b>	MDP 11 Pad	<b>MD Reference:</b>	KB @ 6126.90ft
<b>Well:</b>	GGU Federal 41A-29-691	<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)	
4,204.00	6.800	85.40	4,153.06	86.21	541.61	548.41	0.94	-0.94	-0.73	
4,299.00	6.300	85.30	4,247.44	87.09	552.41	559.22	0.53	-0.53	-0.11	
4,395.00	5.500	85.70	4,342.93	87.87	562.25	569.07	0.83	-0.83	0.42	
4,490.00	5.200	88.10	4,437.51	88.35	571.09	577.88	0.39	-0.32	2.53	
4,585.00	5.100	89.90	4,532.13	88.50	579.62	586.33	0.20	-0.11	1.89	
4,681.00	4.100	78.20	4,627.82	89.21	587.25	593.98	1.42	-1.04	-12.19	
4,776.00	2.300	85.90	4,722.67	90.04	592.47	599.27	1.94	-1.89	8.11	
4,872.00	2.200	88.80	4,818.60	90.22	596.24	603.02	0.16	-0.10	3.02	
4,967.00	1.800	89.10	4,913.54	90.28	599.55	606.31	0.42	-0.42	0.32	
5,063.00	1.900	82.70	5,009.49	90.50	602.64	609.39	0.24	0.10	-6.67	
5,158.00	2.100	82.90	5,104.43	90.92	605.93	612.71	0.21	0.21	0.21	
5,253.00	1.100	51.00	5,199.39	91.71	608.36	615.23	1.37	-1.05	-33.58	
5,349.00	0.700	79.70	5,295.38	92.39	609.65	616.62	0.62	-0.42	29.90	
5,444.00	1.000	116.90	5,390.37	92.12	610.96	617.87	0.64	0.32	39.16	
5,539.00	1.300	129.00	5,485.35	91.07	612.54	619.27	0.40	0.32	12.74	
5,635.00	1.400	131.80	5,581.33	89.60	614.26	620.76	0.12	0.10	2.92	
5,729.00	1.100	58.70	5,675.31	89.31	615.89	622.32	1.60	-0.32	-77.77	
5,825.00	0.600	272.00	5,771.30	89.80	616.17	622.68	1.70	-0.52	-152.81	
5,920.00	1.200	253.00	5,866.29	89.53	614.73	621.21	0.70	0.63	-20.00	
6,016.00	1.600	239.60	5,962.26	88.56	612.61	618.97	0.54	0.42	-13.96	
6,111.00	1.900	242.40	6,057.22	87.16	610.07	616.25	0.33	0.32	2.95	
6,206.00	1.500	298.20	6,152.18	87.01	607.58	613.76	1.72	-0.42	58.74	
6,302.00	1.900	342.20	6,248.14	89.12	605.98	612.50	1.38	0.42	45.83	
6,397.00	2.200	350.20	6,343.08	92.42	605.19	612.21	0.44	0.32	8.42	
6,492.00	2.000	334.00	6,438.02	95.71	604.15	611.67	0.66	-0.21	-17.05	
6,588.00	1.900	331.00	6,533.96	98.60	602.65	610.61	0.15	-0.10	-3.13	
6,683.00	1.900	333.80	6,628.91	101.39	601.19	609.58	0.10	0.00	2.95	
6,779.00	1.700	333.50	6,724.86	104.10	599.85	608.66	0.21	-0.21	-0.31	
6,874.00	1.900	319.40	6,819.82	106.55	598.20	607.39	0.51	0.21	-14.84	
6,969.00	2.500	313.90	6,914.75	109.18	595.68	605.29	0.67	0.63	-5.79	
7,064.00	0.900	221.80	7,009.71	110.07	593.69	603.45	2.83	-1.68	-96.95	
7,160.00	2.000	152.50	7,105.69	108.02	593.96	603.42	1.96	1.15	-72.19	
7,255.00	2.200	136.90	7,200.62	105.22	595.97	604.99	0.64	0.21	-16.42	
7,315.00	2.300	136.80	7,260.58	103.50	597.58	606.33	0.17	0.17	-0.17	
7,372.00	2.300	136.80	7,317.53	101.83	599.15	607.63	0.00	0.00	0.00	

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (ft)	Hole Diameter (ft)
804.40	804.34	9 5/8"	0.80	1.02

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41A-29-691
<b>Project:</b>	Garfield County, Colorado	<b>TVD Reference:</b>	KB @ 6126.90ft
<b>Site:</b>	MDP 11 Pad	<b>MD Reference:</b>	KB @ 6126.90ft
<b>Well:</b>	GGU Federal 41A-29-691	<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 Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
735.00	734.94	3.41	-7.84	End of Gyros

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