



## **Bill Barrett Corp.**

Garfield County, Colorado

MDP 11 Pad

GGU Federal 41C-29-691

Wellbore #1

Survey: Surveys from Surface

## **Standard Survey Report**

20 January, 2011



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41C-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 41C-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		

Site		MDP 11 Pad			
Site Position:		Northing:	1,614,688.12 usft	Latitude:	39° 30' 9.99 N
From:	Lat/Long	Easting:	2,415,090.26 usft	Longitude:	107° 34' 22.99 W
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-1.31 °

Well		GGU Federal 41C-29-691				
Well Position	+N/-S	0.00 ft	Northing:	1,614,694.65 usft	Latitude:	39° 30' 10.05 N
	+E/-W	0.00 ft	Easting:	2,415,075.17 usft	Longitude:	107° 34' 23.19 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	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	39.67	

<b>Survey Program</b>	<b>Date</b>	01/20/11			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
50.00	675.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard	
787.00	7,485.00	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	
50.00	0.190	229.29	50.00	-0.05	-0.06	-0.08	0.38	0.38	0.00	
100.00	0.260	110.71	100.00	-0.15	-0.02	-0.13	0.78	0.14	-237.16	
150.00	0.350	167.20	150.00	-0.34	0.12	-0.18	0.60	0.18	112.98	
200.00	0.250	175.43	200.00	-0.59	0.16	-0.35	0.22	-0.20	16.46	
250.00	0.220	197.45	250.00	-0.80	0.14	-0.52	0.19	-0.06	44.04	
300.00	0.270	224.51	300.00	-0.97	0.03	-0.73	0.25	0.10	54.12	
350.00	0.070	230.39	350.00	-1.07	-0.07	-0.87	0.40	-0.40	11.76	
400.00	0.130	231.69	400.00	-1.13	-0.14	-0.96	0.12	0.12	2.60	
450.00	0.240	236.05	450.00	-1.22	-0.27	-1.12	0.22	0.22	8.72	

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41C-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 41C-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	0.130	336.26	500.00	-1.23	-0.38	-1.19	0.59	-0.22	200.42
550.00	0.140	273.52	550.00	-1.17	-0.47	-1.20	0.28	0.02	-125.48
600.00	0.200	350.64	600.00	-1.08	-0.54	-1.18	0.43	0.12	154.24
650.00	0.150	288.39	650.00	-0.98	-0.62	-1.15	0.37	-0.10	-124.50
675.00	0.070	312.63	675.00	-0.96	-0.66	-1.16	0.36	-0.32	96.96
744.90	0.606	181.42	744.90	-1.30	-0.70	-1.45	0.94	0.77	-187.71
<b>9 5/8"</b>									
787.00	1.000	179.60	786.99	-1.89	-0.70	-1.90	0.94	0.93	-4.32
879.00	2.100	62.10	878.97	-1.90	0.79	-0.96	2.95	1.20	-127.72
971.00	4.000	13.00	970.85	2.01	3.00	3.47	3.33	2.07	-53.37
1,063.00	6.400	35.60	1,062.47	9.31	6.71	11.45	3.38	2.61	24.57
1,155.00	8.600	40.90	1,153.68	18.68	14.20	23.45	2.50	2.39	5.76
1,248.00	10.800	40.30	1,245.35	30.58	24.39	39.11	2.37	2.37	-0.65
1,343.00	12.900	40.80	1,338.32	45.40	37.08	58.62	2.21	2.21	0.53
1,438.00	15.400	35.50	1,430.43	63.70	51.33	81.80	2.96	2.63	-5.58
1,534.00	17.400	37.40	1,522.52	85.49	67.46	108.86	2.16	2.08	1.98
1,629.00	17.100	35.30	1,613.25	108.17	84.15	136.98	0.73	-0.32	-2.21
1,724.00	17.500	41.70	1,703.96	130.23	101.73	165.19	2.05	0.42	6.74
1,820.00	17.000	41.00	1,795.64	151.60	120.54	193.64	0.56	-0.52	-0.73
1,915.00	18.400	41.60	1,886.14	173.30	139.60	222.51	1.49	1.47	0.63
2,010.00	17.900	41.00	1,976.41	195.53	159.14	252.09	0.56	-0.53	-0.63
2,106.00	17.900	40.50	2,067.77	217.88	178.40	281.59	0.16	0.00	-0.52
2,201.00	17.300	38.90	2,158.32	239.97	196.75	310.31	0.81	-0.63	-1.68
2,297.00	17.900	44.20	2,249.83	261.66	216.00	339.30	1.78	0.63	5.52
2,392.00	17.400	43.50	2,340.36	282.43	235.96	368.02	0.57	-0.53	-0.74
2,487.00	17.100	41.60	2,431.09	303.18	255.01	396.16	0.67	-0.32	-2.00
2,583.00	18.000	38.80	2,522.62	325.30	273.67	425.09	1.29	0.94	-2.92
2,678.00	17.800	37.80	2,613.02	348.21	291.77	454.28	0.39	-0.21	-1.05
2,773.00	17.000	36.70	2,703.67	370.82	308.97	482.67	0.91	-0.84	-1.16
2,869.00	16.700	36.00	2,795.55	393.23	325.46	510.45	0.38	-0.31	-0.73
2,964.00	17.800	37.60	2,886.28	415.78	342.35	538.58	1.26	1.16	1.68
3,059.00	17.500	36.70	2,976.81	438.73	359.74	567.35	0.43	-0.32	-0.95
3,155.00	17.100	42.80	3,068.47	460.66	377.96	595.86	1.93	-0.42	6.35
3,250.00	16.300	42.80	3,159.46	480.69	396.51	623.12	0.84	-0.84	0.00
3,345.00	15.600	42.00	3,250.81	499.97	414.11	649.20	0.77	-0.74	-0.84
3,441.00	17.400	41.40	3,342.85	520.33	432.25	676.45	1.88	1.88	-0.63
3,536.00	15.900	42.10	3,433.86	540.64	450.36	703.65	1.59	-1.58	0.74
3,631.00	13.900	39.50	3,525.67	559.10	466.35	728.06	2.22	-2.11	-2.74
3,727.00	14.600	41.80	3,618.71	577.02	481.75	751.68	0.94	0.73	2.40
3,822.00	15.900	40.50	3,710.36	595.84	498.18	776.66	1.41	1.37	-1.37
3,917.00	15.100	38.40	3,801.91	615.44	514.32	802.04	1.03	-0.84	-2.21
4,012.00	13.400	36.80	3,893.98	633.95	528.60	825.41	1.84	-1.79	-1.68
4,108.00	12.000	36.00	3,987.63	650.93	541.13	846.48	1.47	-1.46	-0.83

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41C-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 41C-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)	
4,203.00	10.900	32.80	4,080.74	666.47	551.80	865.26	1.34	-1.16	-3.37	
4,299.00	9.100	31.60	4,175.28	680.57	560.70	881.78	1.89	-1.88	-1.25	
4,394.00	8.600	31.60	4,269.15	693.02	568.35	896.26	0.53	-0.53	0.00	
4,489.00	7.600	33.80	4,363.20	704.29	575.57	909.54	1.10	-1.05	2.32	
4,585.00	7.400	36.30	4,458.38	714.54	582.76	922.02	0.40	-0.21	2.60	
4,680.00	5.700	27.00	4,552.76	723.68	588.53	932.74	2.10	-1.79	-9.79	
4,776.00	4.000	40.30	4,648.41	730.48	592.86	940.74	2.11	-1.77	13.85	
4,871.00	4.400	33.80	4,743.16	736.04	597.03	947.67	0.65	0.42	-6.84	
4,967.00	2.500	51.80	4,838.98	740.39	600.72	953.38	2.25	-1.98	18.75	
5,062.00	2.500	55.00	4,933.89	742.86	604.05	957.41	0.15	0.00	3.37	
5,157.00	2.400	63.40	5,028.81	744.94	607.52	961.23	0.39	-0.11	8.84	
5,252.00	2.200	49.10	5,123.73	747.03	610.68	964.85	0.64	-0.21	-15.05	
5,348.00	1.500	58.40	5,219.68	748.89	613.14	967.86	0.79	-0.73	9.69	
5,443.00	1.700	65.70	5,314.64	750.12	615.49	970.30	0.30	0.21	7.68	
5,539.00	1.000	75.90	5,410.62	750.91	617.60	972.25	0.77	-0.73	10.63	
5,634.00	1.600	64.10	5,505.59	751.69	619.59	974.13	0.69	0.63	-12.42	
5,729.00	1.100	78.20	5,600.56	752.46	621.68	976.05	0.63	-0.53	14.84	
5,824.00	1.100	49.40	5,695.55	753.24	623.26	977.66	0.58	0.00	-30.32	
5,920.00	1.000	95.90	5,791.53	753.75	624.80	979.04	0.87	-0.10	48.44	
6,015.00	0.700	43.60	5,886.52	754.09	626.02	980.08	0.84	-0.32	-55.05	
6,110.00	0.400	62.80	5,981.52	754.66	626.72	980.96	0.37	-0.32	20.21	
6,206.00	0.300	43.20	6,077.52	755.00	627.19	981.52	0.16	-0.10	-20.42	
6,301.00	0.400	168.20	6,172.52	754.85	627.43	981.56	0.66	0.11	131.58	
6,396.00	0.500	171.30	6,267.51	754.12	627.56	981.08	0.11	0.11	3.26	
6,492.00	0.200	59.90	6,363.51	753.79	627.76	980.96	0.63	-0.31	-116.04	
6,587.00	0.300	122.10	6,458.51	753.74	628.12	981.15	0.29	0.11	65.47	
6,682.00	0.400	207.20	6,553.51	753.31	628.18	980.86	0.50	0.11	89.58	
6,778.00	0.100	197.10	6,649.51	752.93	628.00	980.45	0.31	-0.31	-10.52	
6,873.00	0.400	185.30	6,744.51	752.52	627.94	980.10	0.32	0.32	-12.42	
6,968.00	0.200	153.20	6,839.51	752.05	627.99	979.76	0.27	-0.21	-33.79	
7,064.00	0.400	88.20	6,935.51	751.91	628.40	979.92	0.38	0.21	-67.71	
7,159.00	1.900	245.90	7,030.49	751.27	627.29	978.72	2.39	1.58	166.00	
7,255.00	1.100	251.60	7,126.46	750.33	624.97	976.51	0.85	-0.83	5.94	
7,350.00	1.000	249.20	7,221.44	749.75	623.33	975.02	0.11	-0.11	-2.53	
7,438.00	0.800	260.30	7,309.43	749.38	622.00	973.88	0.30	-0.23	12.61	
7,485.00	0.800	260.30	7,356.43	749.26	621.36	973.39	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (ft)	Hole Diameter (ft)
744.90	744.90	9 5/8"		0.80	1.02

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Federal 41C-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 41C-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)	
675.00	675.00	-0.96	-0.66	End of Gyros

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