



**Bill Barrett Corporation**

## **Bill Barrett Corp.**

Garfield County, Colorado [NAD83]

GGU 14-19 Pad

GGU Daley 11D-30-691

Wellbore #1

Survey: Surveys from Surface

## **Standard Survey Report**

02 May, 2011



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Daley 11D-30-691
<b>Project:</b>	Garfield County, Colorado [NAD83]	<b>TVD Reference:</b>	KB @ 5846.00ft
<b>Site:</b>	GGU 14-19 Pad	<b>MD Reference:</b>	KB @ 5846.00ft
<b>Well:</b>	GGU Daley 11D-30-691	<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 [NAD83]		
<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>	GGU 14-19 Pad				
<b>Site Position:</b>		<b>Northing:</b>	1,616,207.75 usft	<b>Latitude:</b>	39° 30' 23.35 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,407,793.69 usft	<b>Longitude:</b>	107° 35' 56.51 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	1.10 ft	<b>Grid Convergence:</b>	-1.32 °

<b>Well</b>	GGU Daley 11D-30-691					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,616,207.74 usft	<b>Latitude:</b>	39° 30' 23.35 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,407,793.68 usft	<b>Longitude:</b>	107° 35' 56.51 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,823.00 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>
	IGRF2010	03/23/11	10.20	65.83	52,332

<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	250.92	

<b>Survey Program</b>	<b>Date</b>	05/02/11			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
50.00	750.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard	
882.00	7,775.00	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	0.250	306.18	50.00	0.06	-0.09	0.06	0.50	0.50	0.00	
100.00	0.180	339.05	100.00	0.20	-0.20	0.13	0.28	-0.14	65.74	
150.00	0.290	343.46	150.00	0.40	-0.27	0.12	0.22	0.22	8.82	
200.00	0.320	333.60	200.00	0.64	-0.37	0.14	0.12	0.06	-19.72	
250.00	0.200	339.32	250.00	0.85	-0.46	0.16	0.25	-0.24	11.44	
300.00	0.310	314.94	300.00	1.03	-0.59	0.22	0.30	0.22	-48.76	
350.00	0.270	280.63	350.00	1.14	-0.80	0.38	0.35	-0.08	-68.62	
400.00	0.570	26.77	400.00	1.39	-0.80	0.30	1.39	0.60	212.28	
450.00	0.290	29.35	449.99	1.72	-0.63	0.03	0.56	-0.56	5.16	

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Daley 11D-30-691
<b>Project:</b>	Garfield County, Colorado [NAD83]	<b>TVD Reference:</b>	KB @ 5846.00ft
<b>Site:</b>	GGU 14-19 Pad	<b>MD Reference:</b>	KB @ 5846.00ft
<b>Well:</b>	GGU Daley 11D-30-691	<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	0.140	353.46	499.99	1.89	-0.57	-0.08	0.39	-0.30	-71.78
550.00	0.310	345.16	549.99	2.08	-0.61	-0.10	0.35	0.34	-16.60
600.00	0.340	44.04	599.99	2.32	-0.55	-0.24	0.64	0.06	117.76
650.00	0.350	41.30	649.99	2.54	-0.34	-0.51	0.04	0.02	-5.48
700.00	0.140	15.15	699.99	2.72	-0.22	-0.68	0.47	-0.42	-52.30
750.00	0.130	281.70	749.99	2.79	-0.26	-0.66	0.39	-0.02	-186.90
816.00	0.081	7.02	815.99	2.85	-0.33	-0.62	0.22	-0.07	129.27
<b>9 5/8"</b>									
882.00	0.200	47.40	881.99	2.97	-0.24	-0.74	0.22	0.18	61.18
974.00	3.000	273.10	973.95	3.21	-2.53	1.34	3.42	3.04	-145.98
1,066.00	6.900	264.30	1,065.59	2.79	-10.43	8.95	4.31	4.24	-9.57
1,159.00	9.700	258.30	1,157.61	0.65	-23.67	22.16	3.15	3.01	-6.45
1,251.00	11.800	257.50	1,247.99	-2.96	-40.44	39.19	2.29	2.28	-0.87
1,343.00	13.900	250.40	1,337.69	-8.70	-60.04	59.59	2.85	2.28	-7.72
1,435.00	16.300	249.50	1,426.50	-16.93	-82.55	83.55	2.62	2.61	-0.98
1,530.00	18.900	249.20	1,517.05	-27.07	-109.42	112.26	2.74	2.74	-0.32
1,626.00	22.000	249.00	1,606.99	-39.04	-140.75	145.78	3.23	3.23	-0.21
1,721.00	24.000	249.20	1,694.43	-52.27	-175.43	182.88	2.11	2.11	0.21
1,816.00	26.700	250.40	1,780.28	-66.30	-213.60	223.54	2.89	2.84	1.26
1,912.00	28.500	248.70	1,865.35	-81.85	-255.26	268.00	2.05	1.88	-1.77
2,007.00	28.500	247.60	1,948.84	-98.72	-297.33	313.27	0.55	0.00	-1.16
2,102.00	28.000	250.90	2,032.53	-114.66	-339.36	358.20	1.73	-0.53	3.47
2,198.00	28.000	252.80	2,117.29	-128.70	-382.19	403.26	0.93	0.00	1.98
2,293.00	28.200	251.80	2,201.09	-142.30	-424.81	447.99	0.54	0.21	-1.05
2,388.00	27.600	250.90	2,285.05	-156.51	-466.93	492.44	0.77	-0.63	-0.95
2,484.00	28.000	252.80	2,369.97	-170.45	-509.47	537.20	1.01	0.42	1.98
2,579.00	30.500	252.60	2,452.85	-184.26	-553.79	583.60	2.63	2.63	-0.21
2,675.00	29.900	251.40	2,535.83	-199.18	-599.71	631.88	0.89	-0.63	-1.25
2,770.00	28.600	250.40	2,618.71	-214.36	-643.58	678.29	1.46	-1.37	-1.05
2,866.00	28.600	252.90	2,703.00	-228.82	-687.19	724.23	1.25	0.00	2.60
2,961.00	29.900	252.30	2,785.89	-242.71	-731.48	770.63	1.40	1.37	-0.63
3,056.00	30.100	253.00	2,868.16	-256.87	-776.82	818.11	0.42	0.21	0.74
3,152.00	29.200	251.60	2,951.59	-271.30	-822.06	865.58	1.18	-0.94	-1.46
3,247.00	27.700	250.70	3,035.11	-285.91	-864.89	910.84	1.64	-1.58	-0.95
3,342.00	26.100	249.00	3,119.83	-300.70	-905.24	953.81	1.87	-1.68	-1.79
3,438.00	25.900	250.30	3,206.12	-315.34	-944.69	995.88	0.63	-0.21	1.35
3,533.00	26.900	250.00	3,291.21	-329.68	-984.42	1,038.11	1.06	1.05	-0.32
3,629.00	25.000	248.90	3,377.53	-344.41	-1,023.76	1,080.10	2.04	-1.98	-1.15
3,724.00	24.300	251.40	3,463.87	-357.88	-1,061.02	1,119.71	1.32	-0.74	2.63
3,819.00	22.900	251.20	3,550.92	-370.07	-1,097.04	1,157.74	1.48	-1.47	-0.21
3,915.00	21.400	250.80	3,639.84	-381.85	-1,131.26	1,193.94	1.57	-1.56	-0.42
4,010.00	20.600	248.50	3,728.53	-393.67	-1,163.18	1,227.97	1.21	-0.84	-2.42
4,106.00	19.700	247.40	3,818.65	-406.08	-1,193.83	1,260.99	1.02	-0.94	-1.15

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<b>Well:</b>	GGU Daley 11D-30-691	<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)	
4,201.00	16.700	244.60	3,908.89	-418.09	-1,220.95	1,290.55	3.29	-3.16	-2.95	
4,296.00	15.200	244.70	4,000.23	-429.27	-1,244.55	1,316.50	1.58	-1.58	0.11	
4,392.00	14.900	249.90	4,092.94	-438.89	-1,267.51	1,341.35	1.44	-0.31	5.42	
4,487.00	12.600	252.60	4,185.21	-446.19	-1,288.88	1,363.92	2.51	-2.42	2.84	
4,582.00	11.500	249.20	4,278.12	-452.65	-1,307.62	1,383.75	1.38	-1.16	-3.58	
4,677.00	11.800	248.80	4,371.16	-459.53	-1,325.53	1,402.92	0.33	0.32	-0.42	
4,773.00	10.000	250.40	4,465.43	-465.87	-1,342.53	1,421.06	1.90	-1.88	1.67	
4,868.00	7.300	247.90	4,559.34	-470.91	-1,355.90	1,435.34	2.87	-2.84	-2.63	
4,964.00	5.400	253.30	4,654.75	-474.50	-1,365.87	1,445.95	2.07	-1.98	5.63	
5,059.00	3.700	257.20	4,749.44	-476.47	-1,373.15	1,453.46	1.82	-1.79	4.11	
5,154.00	1.300	316.60	4,844.36	-476.36	-1,376.88	1,456.95	3.41	-2.53	62.53	
5,250.00	1.900	352.60	4,940.32	-473.99	-1,377.83	1,457.08	1.19	0.63	37.50	
5,345.00	1.200	339.00	5,035.29	-471.50	-1,378.39	1,456.79	0.83	-0.74	-14.32	
5,440.00	2.400	3.90	5,130.24	-468.59	-1,378.61	1,456.05	1.48	1.26	26.21	
5,536.00	1.800	22.20	5,226.18	-465.19	-1,377.90	1,454.27	0.93	-0.63	19.06	
5,631.00	1.200	10.40	5,321.14	-462.83	-1,377.16	1,452.80	0.71	-0.63	-12.42	
5,727.00	1.000	33.10	5,417.13	-461.14	-1,376.52	1,451.64	0.50	-0.21	23.65	
5,822.00	1.100	47.50	5,512.11	-459.83	-1,375.40	1,450.15	0.30	0.11	15.16	
5,917.00	1.000	60.50	5,607.09	-458.80	-1,374.00	1,448.50	0.27	-0.11	13.68	
6,013.00	1.000	84.40	5,703.08	-458.31	-1,372.44	1,446.86	0.43	0.00	24.90	
6,108.00	1.000	95.50	5,798.07	-458.31	-1,370.79	1,445.30	0.20	0.00	11.68	
6,203.00	1.100	100.50	5,893.05	-458.55	-1,369.07	1,443.75	0.14	0.11	5.26	
6,299.00	1.400	109.90	5,989.03	-459.12	-1,367.06	1,442.04	0.38	0.31	9.79	
6,394.00	2.100	112.90	6,083.98	-460.19	-1,364.36	1,439.84	0.74	0.74	3.16	
6,489.00	0.400	45.20	6,178.96	-460.64	-1,362.53	1,438.25	2.09	-1.79	-71.26	
6,585.00	0.400	183.60	6,274.96	-460.73	-1,362.31	1,438.08	0.78	0.00	144.17	
6,680.00	1.100	202.00	6,369.95	-461.91	-1,362.67	1,438.80	0.77	0.74	19.37	
6,776.00	1.000	201.50	6,465.93	-463.54	-1,363.32	1,439.95	0.10	-0.10	-0.52	
6,871.00	1.200	173.10	6,560.92	-465.30	-1,363.51	1,440.70	0.60	0.21	-29.89	
6,966.00	1.300	158.20	6,655.89	-467.29	-1,362.99	1,440.86	0.36	0.11	-15.68	
7,062.00	1.900	129.60	6,751.86	-469.32	-1,361.36	1,439.98	1.02	0.63	-29.79	
7,157.00	2.500	132.20	6,846.79	-471.71	-1,358.61	1,438.17	0.64	0.63	2.74	
7,253.00	1.500	166.50	6,942.73	-474.34	-1,356.76	1,437.28	1.58	-1.04	35.73	
7,348.00	1.300	177.50	7,037.70	-476.63	-1,356.43	1,437.71	0.35	-0.21	11.58	
7,444.00	1.400	166.40	7,133.68	-478.85	-1,356.10	1,438.14	0.29	0.10	-11.56	
7,538.00	1.800	156.80	7,227.64	-481.33	-1,355.25	1,438.14	0.51	0.43	-10.21	
7,633.00	1.600	142.70	7,322.60	-483.75	-1,353.86	1,437.62	0.49	-0.21	-14.84	
7,775.00	1.600	142.70	7,464.54	-486.91	-1,351.46	1,436.38	0.00	0.00	0.00	

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<b>Site:</b>	GGU 14-19 Pad	<b>MD Reference:</b>	KB @ 5846.00ft
<b>Well:</b>	GGU Daley 11D-30-691	<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

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (ft)	Hole Diameter (ft)
816.00	815.99	9 5/8"		0.80	1.02

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
750.00	749.99	2.79	-0.26	End of Gyros	

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