

# **Bill Barrett Corp.**

**Garfield County, Colorado [NAD83]**

**GGU 14-19 Pad**

**GGU Daley 14D-19-691**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**09 June, 2011**



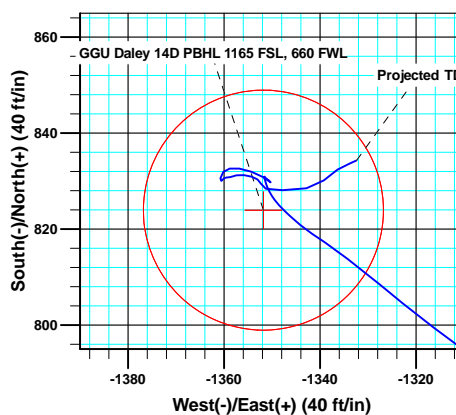
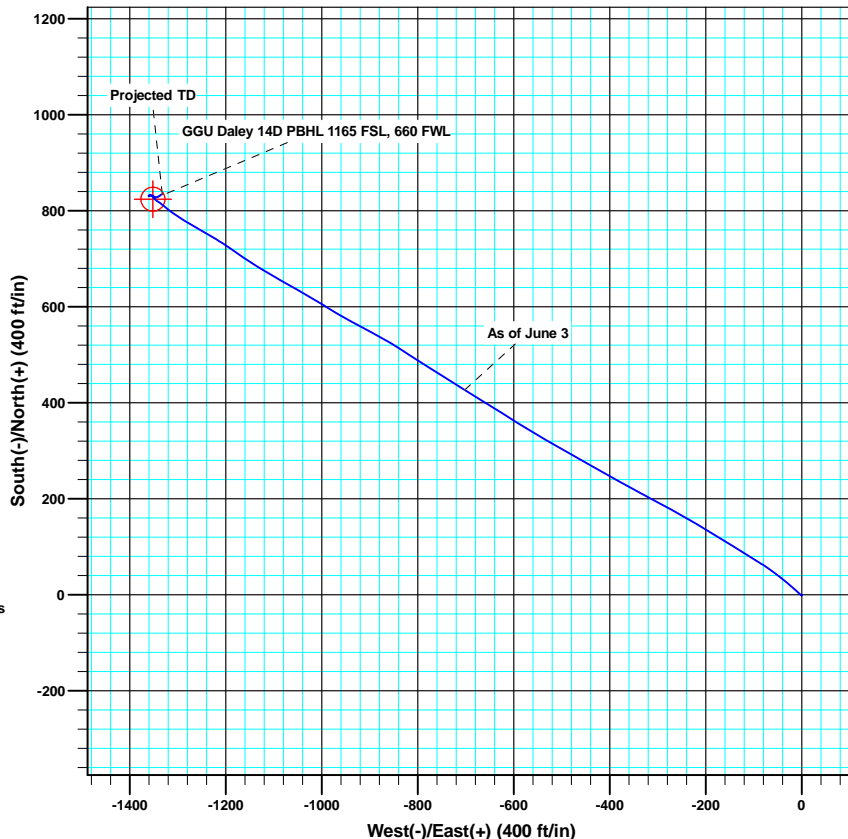
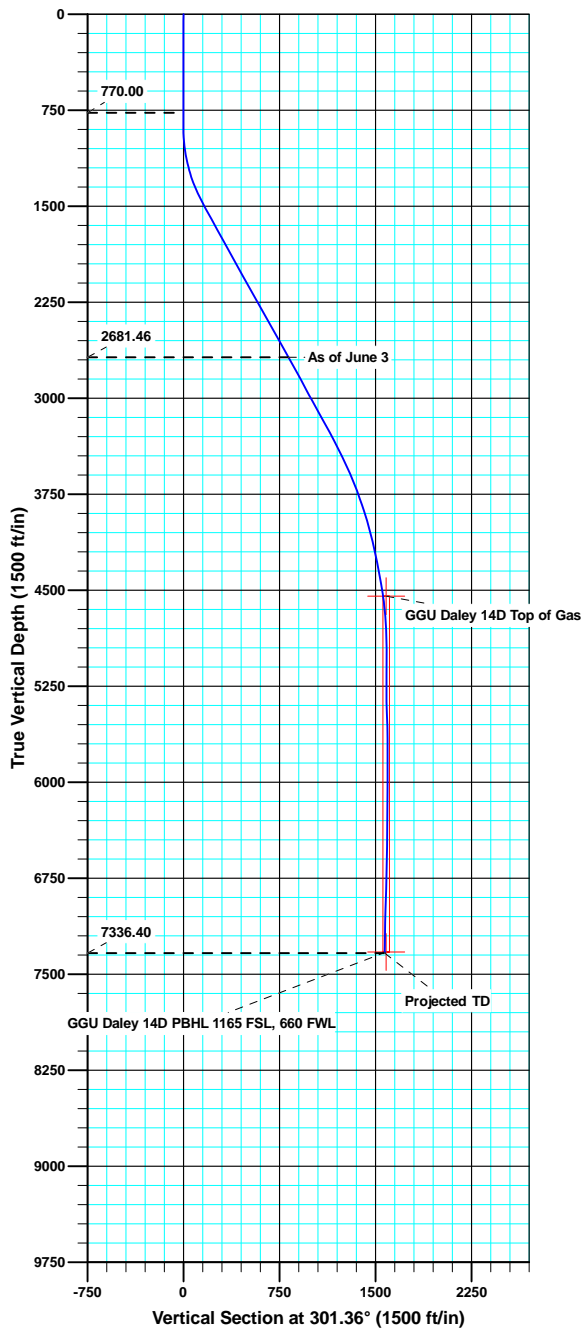
Bill Barrett Corporation

# GGU Daley 14D-19-691

Ground Level: 5823.00

North American Datum 1983 , US State Plane 1983 , Colorado Central Zone

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1616255.84	2407793.66	39.506617	-107.599034



Azimuths to True North  
Magnetic North: 10.20°

Magnetic Field  
Strength: 52332.2snT  
Dip Angle: 65.83°  
Date: 3/23/2011  
Model: IGRF2010

## ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
770.00	770.00	0.10	305.54	-1.09	0.31	-0.83	2.39	End of Gyros
2681.46	2882.00	29.40	301.90	426.64	-702.41	821.83	826.58	As of June 3
7336.40	7695.00	1.60	66.00	834.29	-1332.39	1571.93	1641.35	Projected TD

## Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Daley 14D-19-691
<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 14D-19-691	<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>	CompassVM

<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		

Site	GGU 14-19 Pad				
Site Position:		Northing:	1,616,207.75 usft	Latitude:	39.506485
From:	Lat/Long	Easting:	2,407,793.69 usft	Longitude:	-107.599030
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-1.32 °

Well	GGU Daley 14D-19-691					
Well Position	+N/-S	0.00 ft	Northing:	1,616,255.83 usft	Latitude:	39.506617
	+E/-W	0.00 ft	Easting:	2,407,793.67 usft	Longitude:	-107.599034
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	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	3/23/2011	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		301.36

<b>Survey Program</b>	<b>Date</b>	6/9/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
50.00	770.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard	
882.00	7,695.00	MWD 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
50.00	0.37	129.64	50.00	-0.10	0.12	-0.16	0.74	0.74	0.00	
100.00	0.11	171.58	100.00	-0.25	0.26	-0.35	0.59	-0.52	83.88	
150.00	0.23	238.81	150.00	-0.35	0.18	-0.33	0.43	0.24	134.46	
200.00	0.10	223.39	200.00	-0.44	0.06	-0.28	0.27	-0.26	-30.84	
250.00	0.12	191.49	250.00	-0.52	0.02	-0.29	0.13	0.04	-63.80	
300.00	0.17	187.81	300.00	-0.64	0.00	-0.34	0.10	0.10	-7.36	
350.00	0.23	184.20	350.00	-0.82	-0.02	-0.41	0.12	0.12	-7.22	
400.00	0.20	134.34	400.00	-0.98	0.04	-0.54	0.37	-0.06	-99.72	
450.00	0.29	90.86	450.00	-1.04	0.23	-0.74	0.40	0.18	-86.96	

# Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Daley 14D-19-691
<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 14D-19-691	<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>	CompassVM

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	0.14	334.16	500.00	-0.99	0.33	-0.79	0.75	-0.30	-233.40
550.00	0.11	283.87	550.00	-0.92	0.25	-0.70	0.22	-0.06	-100.58
600.00	0.18	201.77	600.00	-0.98	0.18	-0.66	0.40	0.14	-164.20
650.00	0.22	142.42	650.00	-1.13	0.21	-0.77	0.40	0.08	-118.70
700.00	0.17	55.90	700.00	-1.17	0.33	-0.89	0.54	-0.10	-173.04
750.00	0.11	291.02	750.00	-1.11	0.34	-0.87	0.50	-0.12	-249.76
770.00	0.10	305.54	770.00	-1.09	0.31	-0.83	0.14	-0.05	72.60
882.00	0.20	220.30	882.00	-1.18	0.11	-0.71	0.19	0.09	-76.11
975.00	3.30	304.30	974.94	0.20	-2.21	1.99	3.53	3.33	90.32
1,070.00	9.00	312.40	1,069.36	6.76	-9.96	12.03	6.05	6.00	8.53
1,165.00	13.40	310.80	1,162.53	18.97	-23.79	30.19	4.64	4.63	-1.68
1,261.00	17.40	308.80	1,255.06	35.24	-43.41	55.40	4.20	4.17	-2.08
1,356.00	22.10	304.70	1,344.45	54.32	-69.18	87.35	5.15	4.95	-4.32
1,452.00	27.00	301.10	1,431.75	75.87	-102.71	127.19	5.33	5.10	-3.75
1,548.00	28.70	301.40	1,516.63	99.14	-141.05	172.04	1.78	1.77	0.31
1,643.00	29.00	302.90	1,599.84	123.53	-179.86	217.87	0.82	0.32	1.58
1,738.00	28.70	299.30	1,683.06	147.21	-219.09	263.69	1.86	-0.32	-3.79
1,834.00	29.00	298.90	1,767.14	169.73	-259.56	309.98	0.37	0.31	-0.42
1,929.00	29.20	299.30	1,850.15	192.20	-299.93	356.14	0.29	0.21	0.42
2,024.00	29.00	297.50	1,933.16	214.18	-340.57	402.28	0.95	-0.21	-1.89
2,119.00	28.90	299.50	2,016.29	236.12	-380.97	448.20	1.02	-0.11	2.11
2,215.00	28.90	299.60	2,100.34	259.00	-421.33	494.57	0.05	0.00	0.10
2,310.00	28.50	298.50	2,183.67	281.15	-461.21	540.15	0.70	-0.42	-1.16
2,406.00	29.40	300.80	2,267.67	304.15	-501.58	586.59	1.49	0.94	2.40
2,501.00	29.10	299.70	2,350.56	327.53	-541.68	633.00	0.65	-0.32	-1.16
2,596.00	30.10	302.20	2,433.16	351.67	-581.91	679.91	1.67	1.05	2.63
2,692.00	30.10	301.90	2,516.22	377.22	-622.71	728.06	0.16	0.00	-0.31
2,787.00	29.40	301.70	2,598.70	402.06	-662.78	775.19	0.74	-0.74	-0.21
2,882.00	29.40	301.90	2,681.46	426.64	-702.41	821.83	0.10	0.00	0.21
2,978.00	28.70	302.10	2,765.38	451.34	-741.94	868.44	0.74	-0.73	0.21
3,073.00	28.30	301.90	2,848.87	475.36	-780.39	913.77	0.43	-0.42	-0.21
3,168.00	27.70	303.60	2,932.75	499.48	-817.90	958.35	1.05	-0.63	1.79
3,264.00	29.00	301.30	3,017.24	523.92	-856.37	1,003.92	1.77	1.35	-2.40
3,359.00	28.70	298.10	3,100.45	546.63	-896.17	1,049.72	1.66	-0.32	-3.37
3,455.00	29.30	297.70	3,184.42	568.41	-937.30	1,096.18	0.66	0.63	-0.42
3,550.00	28.60	302.00	3,267.55	591.26	-977.17	1,142.12	2.31	-0.74	4.53
3,645.00	27.30	300.60	3,351.47	614.40	-1,015.21	1,186.64	1.53	-1.37	-1.47
3,741.00	24.70	299.70	3,437.75	635.55	-1,051.58	1,228.71	2.74	-2.71	-0.94
3,836.00	25.70	299.60	3,523.71	655.56	-1,086.74	1,269.14	1.05	1.05	-0.11
3,931.00	24.10	300.80	3,609.87	675.67	-1,121.31	1,309.13	1.77	-1.68	1.26
4,027.00	20.60	303.60	3,698.65	695.06	-1,152.22	1,345.62	3.81	-3.65	2.92
4,122.00	19.80	305.20	3,787.81	713.58	-1,179.29	1,378.37	1.02	-0.84	1.68
4,217.00	18.20	302.80	3,877.63	730.89	-1,204.91	1,409.26	1.87	-1.68	-2.53

# Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Daley 14D-19-691
<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 14D-19-691	<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>	CompassVM

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)
4,312.00	15.70	300.20	3,968.50	745.40	-1,228.50	1,436.95	2.75	-2.63	-2.74
4,407.00	14.40	300.00	4,060.24	757.77	-1,249.84	1,461.61	1.37	-1.37	-0.21
4,503.00	13.60	301.40	4,153.38	769.62	-1,269.81	1,484.83	0.90	-0.83	1.46
4,598.00	11.50	301.40	4,246.11	780.38	-1,287.43	1,505.47	2.21	-2.21	0.00
4,693.00	9.80	302.40	4,339.47	789.64	-1,302.34	1,523.03	1.80	-1.79	1.05
4,789.00	10.60	307.60	4,433.95	799.41	-1,316.23	1,539.97	1.27	0.83	5.42
4,884.00	8.70	310.00	4,527.61	809.36	-1,328.66	1,555.76	2.04	-2.00	2.53
4,979.00	6.60	303.60	4,621.76	817.00	-1,338.71	1,568.32	2.38	-2.21	-6.74
5,075.00	4.60	312.30	4,717.30	822.64	-1,346.16	1,577.62	2.26	-2.08	9.06
5,170.00	2.30	329.00	4,812.12	826.84	-1,349.96	1,583.05	2.62	-2.42	17.58
5,266.00	1.10	343.30	4,908.08	829.38	-1,351.21	1,585.44	1.32	-1.25	14.90
5,361.00	0.50	344.40	5,003.07	830.65	-1,351.59	1,586.42	0.63	-0.63	1.16
5,456.00	0.20	129.60	5,098.06	830.94	-1,351.57	1,586.56	0.71	-0.32	152.84
5,546.00	1.10	139.70	5,188.06	830.18	-1,350.89	1,585.58	1.00	1.00	11.22
5,641.00	0.30	8.20	5,283.05	829.73	-1,350.26	1,584.82	1.39	-0.84	-138.42
5,737.00	2.00	297.80	5,379.03	830.76	-1,351.71	1,586.59	2.00	1.77	-73.33
5,832.00	1.50	290.40	5,473.99	831.97	-1,354.34	1,589.46	0.58	-0.53	-7.79
5,927.00	1.60	279.60	5,568.95	832.63	-1,356.82	1,591.91	0.32	0.11	-11.37
6,022.00	0.90	253.10	5,663.93	832.63	-1,358.84	1,593.64	0.94	-0.74	-27.89
6,118.00	0.90	228.50	5,759.92	831.91	-1,360.12	1,594.37	0.40	0.00	-25.63
6,213.00	1.00	185.30	5,854.91	830.59	-1,360.76	1,594.22	0.74	0.11	-45.47
6,309.00	0.50	47.20	5,950.90	830.04	-1,360.53	1,593.74	1.47	-0.52	-143.85
6,404.00	0.40	38.70	6,045.90	830.58	-1,360.02	1,593.58	0.13	-0.11	-8.95
6,499.00	0.40	108.40	6,140.90	830.74	-1,359.50	1,593.22	0.48	0.00	73.37
6,595.00	0.70	64.80	6,236.89	830.88	-1,358.65	1,592.57	0.52	0.31	-45.42
6,690.00	0.90	81.90	6,331.88	831.23	-1,357.38	1,591.67	0.33	0.21	18.00
6,786.00	1.00	95.80	6,427.87	831.25	-1,355.80	1,590.34	0.26	0.10	14.48
6,881.00	1.00	107.60	6,522.86	830.92	-1,354.19	1,588.78	0.22	0.00	12.42
6,976.00	0.60	128.60	6,617.85	830.36	-1,353.01	1,587.48	0.52	-0.42	22.11
7,072.00	0.80	149.00	6,713.84	829.47	-1,352.27	1,586.39	0.33	0.21	21.25
7,167.00	1.00	124.60	6,808.83	828.43	-1,351.25	1,584.98	0.45	0.21	-25.68
7,262.00	3.30	86.80	6,903.76	828.11	-1,347.83	1,581.90	2.72	2.42	-39.79
7,358.00	2.70	84.50	6,999.63	828.48	-1,342.83	1,577.81	0.64	-0.63	-2.40
7,453.00	2.40	43.50	7,094.54	830.14	-1,339.23	1,575.60	1.90	-0.32	-43.16
7,549.00	2.00	61.80	7,190.47	832.39	-1,336.37	1,574.33	0.84	-0.42	19.06
7,644.00	1.60	66.00	7,285.42	833.71	-1,333.70	1,572.74	0.44	-0.42	4.42
7,695.00	1.60	66.00	7,336.40	834.29	-1,332.39	1,571.93	0.00	0.00	0.00

## Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well GGU Daley 14D-19-691
<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 14D-19-691	<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>	CompassVM

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
770.00	770.00	-1.09	0.31	End of Gyros
2,882.00	2,681.46	426.64	-702.41	As of June 3
7,695.00	7,336.40	834.29	-1,332.39	Projected TD

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------