



Bill Barrett Corporation

Bill Barrett Corp.

Garfield Co., CO (NAD83)

Scott 41C-36-692 Pad (Sec.30-T6S-R91W)

GGU 24C-30-691

Wellbore #1

Design: Wellbore #1

Standard Survey Report

13 April, 2012





Project: Garfield Co., CO (NAD83)
Site: Scott 41C-36-692 Pad (Sec.30-T6S-R91W)
Well: GGU 24C-30-691
Wellbore: Wellbore #1
Design: Design #4
Latitude: 39° 29' 32.665 N
Longitude: 107° 36' 18.979 W
Ground Level: 5922.00
WELL @ 5945.00usft



PROJECT DETAILS: Garfield Co., CO (NAD83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well GGU 24C-30-691, True North
Vertical (TVD) Reference: WELL @ 5945.00usft
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: WELL @ 5945.00usft
Calculation Method: Minimum Curvature

WELL DETAILS: GGU 24C-30-691

+N/-S	+E/-W	Northing	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1611122.096	5922.00 Easting 2405914.099	39° 29' 32.665 N	107° 36' 18.979 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

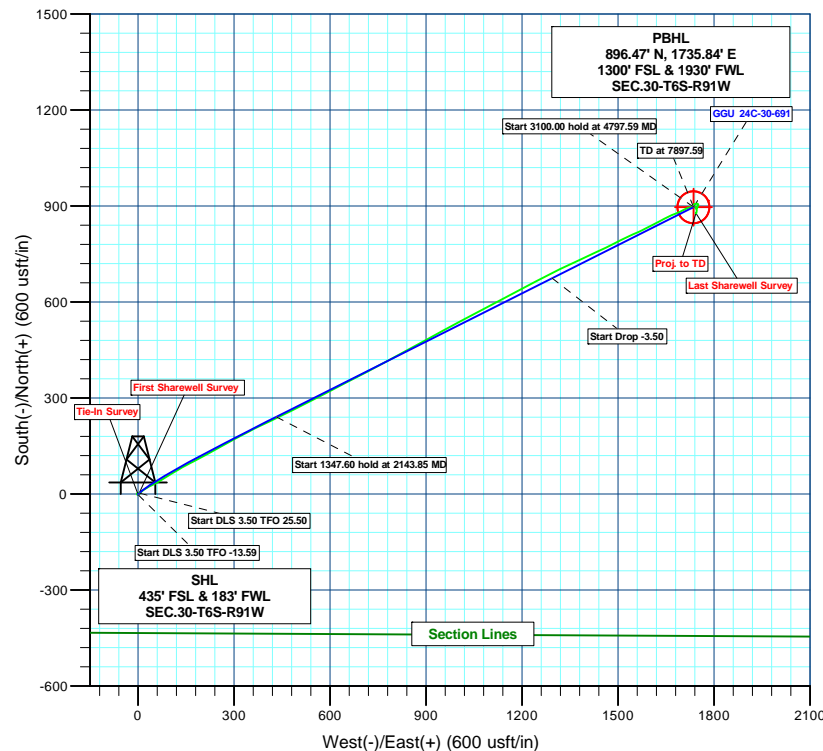
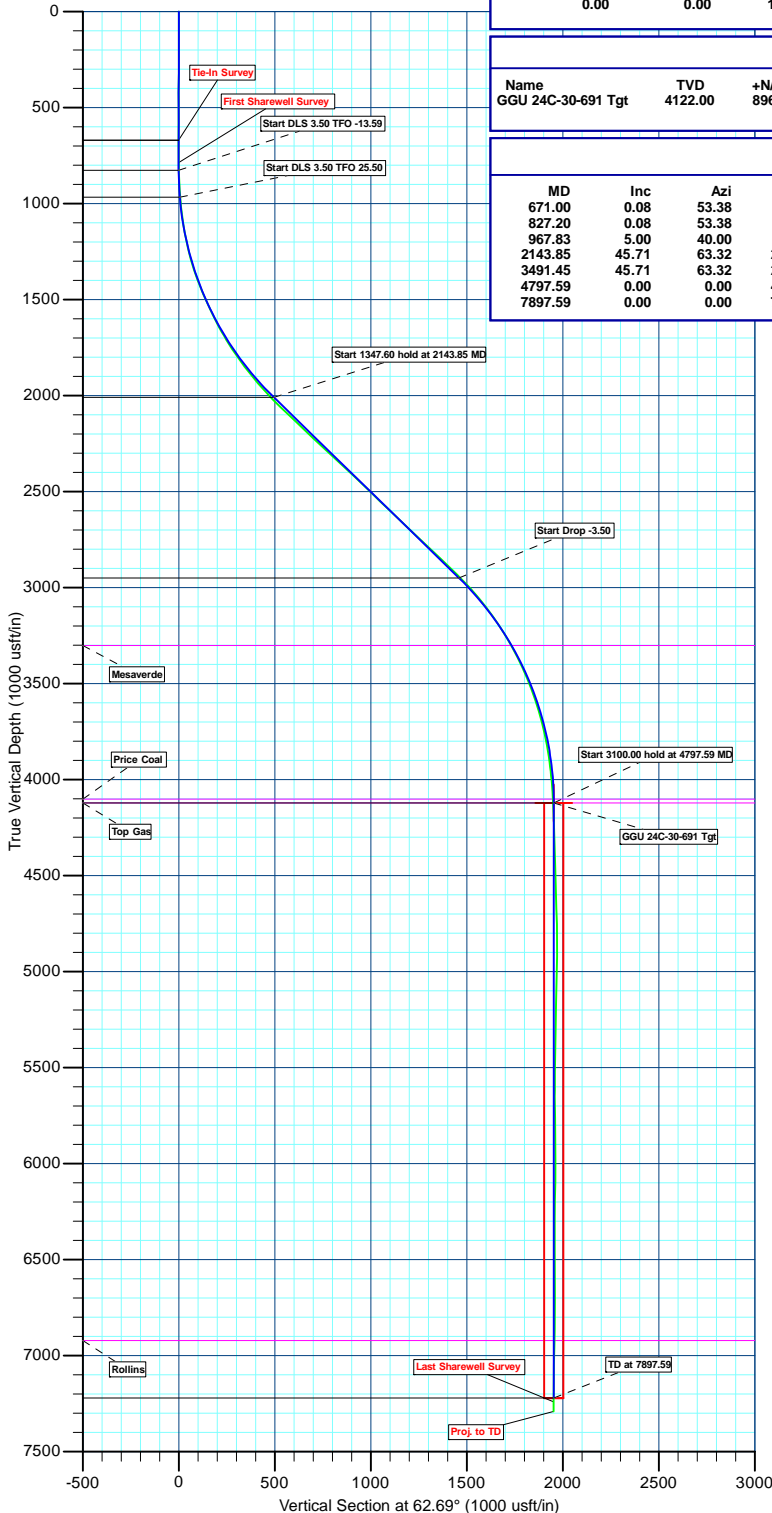
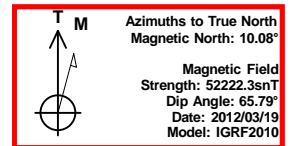
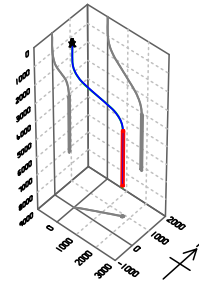
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GGU 24C-30-691 Tgt	4122.00	896.47	1735.84	1611978.098	2407670.249	39° 29' 41.525 N	107° 35' 56.836 W	Circle (Radius: 50.00)

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
671.00	0.08	53.38	671.00	-2.00	0.63	0.00	0.00	-0.36	Tie-In
827.20	0.08	53.38	827.20	-1.86	0.80	0.00	0.00	-0.14	Start DLS 3.50 TFO -13.59
967.83	5.00	40.00	967.83	2.89	4.82	3.50	-13.59	5.61	Start DLS 3.50 TFO 25.50
2143.85	45.71	63.32	2009.16	241.50	432.44	3.50	25.50	495.04	Start 1347.60 hold at 2143.85 MD
3491.45	45.71	63.32	2950.10	674.66	1294.44	0.00	0.00	1459.69	Start Drop -3.50
4797.59	0.00	0.00	4122.00	896.47	1735.84	3.50	180.00	1953.66	Start 3100.00 hold at 4797.59 MD
7897.59	0.00	0.00	7222.00	896.47	1735.84	0.00	0.00	1953.66	TD at 7897.59

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3302.00	3938.72	Mesaverde
4102.00	4777.58	Price Coal
4122.00	4797.59	Top Gas
6922.00	7597.59	Rollins



Plan: Design #4 (GGU 24C-30-691/Wellbore #1)

Created By: Bret Wolford Date: 10:03, April 13 2012

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well GGU 24C-30-691
Project:	Garfield Co., CO (NAD83)	TVD Reference:	WELL @ 5945.00usft
Site:	Scott 41C-36-692 Pad (Sec.30-T6S-R91W)	MD Reference:	WELL @ 5945.00usft
Well:	GGU 24C-30-691	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Garfield Co., CO (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	Scott 41C-36-692 Pad (Sec.30-T6S-R91W)				
Site Position:		Northing:	1,611,121.743 usft	Latitude:	39° 29' 32.665 N
From:	Lat/Long	Easting:	2,405,929.899 usft	Longitude:	107° 36' 18.778 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	-1.33 °

Well	GGU 24C-30-691					
Well Position	+N/-S	0.00 usft	Northing:	1,611,122.096 usft	Latitude:	39° 29' 32.665 N
	+E/-W	0.00 usft	Easting:	2,405,914.099 usft	Longitude:	107° 36' 18.979 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,922.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/03/19	10.08	65.79	52,222

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	62.69	

Survey Program	Date	2012/04/13			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
123.00	671.00	Survey #1 (Wellbore #1)	MWD	MWD - Standard	
671.00	7,968.00	Survey #2 (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
123.00	0.12	112.55	123.00	-0.05	0.12	0.08	0.10	0.10	0.00	
223.00	0.35	162.66	223.00	-0.38	0.31	0.10	0.29	0.23	50.11	
323.00	0.05	231.81	323.00	-0.70	0.36	0.00	0.34	-0.30	69.15	
423.00	0.32	153.88	423.00	-0.98	0.45	-0.05	0.31	0.27	-77.93	
523.00	0.33	199.03	523.00	-1.50	0.48	-0.26	0.25	0.01	45.15	
623.00	0.25	138.68	623.00	-1.94	0.53	-0.42	0.30	-0.08	-60.35	
Tie-In Survey										
671.00	0.08	53.38	671.00	-2.00	0.63	-0.36	0.53	-0.35	-177.71	
First Sharewell Survey										
787.00	1.00	126.20	786.99	-2.54	1.51	0.17	0.84	0.79	62.78	
879.00	2.10	33.10	878.96	-1.61	3.08	2.00	2.58	1.20	-101.20	

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well GGU 24C-30-691
Project:	Garfield Co., CO (NAD83)	TVD Reference:	WELL @ 5945.00usft
Site:	Scott 41C-36-692 Pad (Sec.30-T6S-R91W)	MD Reference:	WELL @ 5945.00usft
Well:	GGU 24C-30-691	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
971.00	5.70	40.80	970.74	3.27	6.98	7.70	3.95	3.91	8.37
1,066.00	7.60	48.20	1,065.09	11.03	14.75	18.17	2.19	2.00	7.79
1,161.00	10.40	62.40	1,158.93	19.19	27.04	32.83	3.74	2.95	14.95
1,256.00	14.00	61.20	1,251.77	28.70	44.71	52.90	3.80	3.79	-1.26
1,351.00	17.80	61.30	1,343.12	41.21	67.53	78.91	4.00	4.00	0.11
1,446.00	22.30	57.50	1,432.34	57.88	95.48	111.39	4.93	4.74	-4.00
1,541.00	24.30	60.20	1,519.59	77.28	127.65	148.88	2.39	2.11	2.84
1,636.00	26.90	62.50	1,605.26	96.92	163.68	189.91	2.93	2.74	2.42
1,731.00	30.10	61.20	1,688.74	118.33	203.63	235.22	3.43	3.37	-1.37
1,826.00	33.80	61.80	1,769.33	142.30	247.81	285.47	3.91	3.89	0.63
1,921.00	37.40	61.20	1,846.56	168.69	296.39	340.75	3.81	3.79	-0.63
2,016.00	39.70	62.60	1,920.86	196.56	348.62	399.94	2.59	2.42	1.47
2,111.00	43.10	65.00	1,992.11	224.25	404.99	462.74	3.95	3.58	2.53
2,206.00	46.80	63.60	2,059.33	253.37	465.44	529.81	4.03	3.89	-1.47
2,302.00	46.30	63.20	2,125.35	284.58	527.76	599.50	0.60	-0.52	-0.42
2,397.00	45.70	62.50	2,191.35	315.76	588.57	667.84	0.82	-0.63	-0.74
2,492.00	47.40	62.60	2,256.68	347.55	649.77	736.80	1.79	1.79	0.11
2,587.00	47.20	62.20	2,321.10	379.89	711.64	806.62	0.37	-0.21	-0.42
2,683.00	46.80	61.30	2,386.58	413.12	773.49	876.82	0.80	-0.42	-0.94
2,778.00	46.40	61.70	2,451.85	446.06	834.15	945.83	0.52	-0.42	0.42
2,873.00	45.40	61.30	2,517.96	478.61	894.10	1,014.03	1.10	-1.05	-0.42
2,968.00	47.00	61.80	2,583.71	511.27	954.39	1,082.58	1.73	1.68	0.53
3,063.00	46.00	61.40	2,649.11	544.04	1,015.01	1,151.48	1.10	-1.05	-0.42
3,158.00	47.00	62.60	2,714.50	576.39	1,075.85	1,220.38	1.40	1.05	1.26
3,253.00	46.80	62.30	2,779.41	608.47	1,137.35	1,289.75	0.31	-0.21	-0.32
3,348.00	46.30	62.30	2,844.74	640.53	1,198.41	1,358.71	0.53	-0.53	0.00
3,443.00	45.70	61.80	2,910.74	672.56	1,258.78	1,427.05	0.74	-0.63	-0.53
3,538.00	43.90	64.50	2,978.15	702.81	1,318.48	1,493.97	2.76	-1.89	2.84
3,634.00	39.50	64.90	3,049.81	730.10	1,376.20	1,557.78	4.59	-4.58	0.42
3,729.00	36.80	65.20	3,124.51	754.86	1,429.40	1,616.40	2.85	-2.84	0.32
3,824.00	33.50	63.20	3,202.18	778.62	1,478.64	1,671.06	3.68	-3.47	-2.11
3,919.00	30.00	65.10	3,282.95	800.45	1,523.60	1,721.02	3.83	-3.68	2.00
4,014.00	25.70	65.80	3,366.93	818.90	1,563.95	1,765.34	4.54	-4.53	0.74
4,109.00	23.90	61.90	3,453.17	836.41	1,599.72	1,805.16	2.56	-1.89	-4.11
4,204.00	20.70	61.30	3,541.05	853.54	1,631.43	1,841.20	3.38	-3.37	-0.63
4,299.00	16.70	65.00	3,631.02	867.38	1,658.54	1,871.63	4.39	-4.21	3.89
4,394.00	13.50	68.60	3,722.73	877.20	1,681.24	1,896.31	3.51	-3.37	3.79
4,489.00	10.20	63.80	3,815.70	884.96	1,699.12	1,915.75	3.62	-3.47	-5.05
4,585.00	8.10	63.00	3,910.47	891.78	1,712.77	1,931.02	2.19	-2.19	-0.83
4,680.00	5.40	78.20	4,004.81	895.74	1,723.12	1,942.02	3.38	-2.84	16.00
4,775.00	3.20	66.90	4,099.54	897.69	1,729.93	1,948.97	2.47	-2.32	-11.89
4,870.00	2.50	68.60	4,194.42	899.49	1,734.30	1,953.68	0.74	-0.74	1.79
4,965.00	1.60	6.90	4,289.37	901.56	1,736.39	1,956.49	2.36	-0.95	-64.95
5,060.00	1.90	12.50	4,384.32	904.42	1,736.89	1,958.24	0.36	0.32	5.89
5,155.00	2.50	76.40	4,479.27	906.44	1,739.24	1,961.26	2.51	0.63	67.26
5,250.00	1.60	96.50	4,574.21	906.78	1,742.57	1,964.38	1.20	-0.95	21.16
5,345.00	1.60	46.80	4,669.17	907.54	1,744.86	1,966.75	1.42	0.00	-52.32
5,440.00	1.70	95.10	4,764.14	908.32	1,747.23	1,969.22	1.42	0.11	50.84
5,536.00	2.30	141.40	4,860.09	906.69	1,749.85	1,970.80	1.74	0.62	48.23
5,631.00	1.60	184.60	4,955.03	903.87	1,750.93	1,970.47	1.66	-0.74	45.47
5,726.00	2.40	200.70	5,049.98	900.69	1,750.12	1,968.29	1.02	0.84	16.95
5,821.00	2.00	196.20	5,144.91	897.24	1,748.96	1,965.67	0.46	-0.42	-4.74
5,916.00	1.20	276.30	5,239.88	895.76	1,747.51	1,963.70	2.26	-0.84	84.32
6,011.00	1.10	278.30	5,334.86	896.00	1,745.62	1,962.13	0.11	-0.11	2.11

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well GGU 24C-30-691
Project:	Garfield Co., CO (NAD83)	TVD Reference:	WELL @ 5945.00usft
Site:	Scott 41C-36-692 Pad (Sec.30-T6S-R91W)	MD Reference:	WELL @ 5945.00usft
Well:	GGU 24C-30-691	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
6,106.00	1.10	238.10	5,429.84	895.65	1,743.94	1,960.48	0.80	0.00	-42.32	
6,201.00	0.60	163.10	5,524.84	894.69	1,743.31	1,959.48	1.17	-0.53	-78.95	
6,296.00	0.40	221.90	5,619.83	893.97	1,743.23	1,959.08	0.55	-0.21	61.89	
6,391.00	2.70	349.30	5,714.80	895.92	1,742.60	1,959.41	3.12	2.42	134.11	
6,487.00	1.80	122.80	5,810.76	897.32	1,743.44	1,960.81	4.32	-0.94	139.06	
6,581.00	2.40	144.40	5,904.70	894.92	1,745.83	1,961.83	1.05	0.64	22.98	
6,676.00	0.70	320.50	5,999.68	893.75	1,746.62	1,961.99	3.26	-1.79	185.37	
6,772.00	1.00	280.10	6,095.67	894.35	1,745.42	1,961.20	0.68	0.31	-42.08	
6,867.00	1.10	249.40	6,190.65	894.18	1,743.75	1,959.64	0.59	0.11	-32.32	
6,962.00	0.40	193.00	6,285.65	893.53	1,742.82	1,958.52	0.99	-0.74	-59.37	
7,057.00	0.30	103.60	6,380.65	893.15	1,742.99	1,958.49	0.52	-0.11	-94.11	
7,152.00	0.40	147.60	6,475.64	892.81	1,743.41	1,958.71	0.29	0.11	46.32	
7,247.00	0.90	123.00	6,570.64	892.13	1,744.21	1,959.11	0.59	0.53	-25.89	
7,342.00	1.10	135.30	6,665.62	891.07	1,745.48	1,959.75	0.31	0.21	12.95	
7,437.00	1.10	166.20	6,760.61	889.54	1,746.34	1,959.81	0.62	0.00	32.53	
7,532.00	2.80	184.50	6,855.55	886.34	1,746.37	1,958.37	1.88	1.79	19.26	
7,627.00	1.60	194.70	6,950.48	882.74	1,745.86	1,956.26	1.32	-1.26	10.74	
7,723.00	2.30	189.00	7,046.42	879.54	1,745.21	1,954.23	0.76	0.73	-5.94	
7,818.00	0.20	298.20	7,141.40	877.74	1,744.77	1,953.00	2.50	-2.21	114.95	
7,913.00	0.50	268.40	7,236.39	877.81	1,744.21	1,952.54	0.36	0.32	-31.37	
Last Sharewell Survey										
7,918.00	0.50	297.20	7,241.39	877.82	1,744.17	1,952.50	4.97	0.00	576.00	
Proj. to TD										
7,968.00	0.50	297.20	7,291.39	878.02	1,743.78	1,952.25	0.00	0.00	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
671.00	671.00	-2.00	0.63	Tie-In Survey	
787.00	786.99	-2.54	1.51	First Sharewell Survey	
7,918.00	7,241.39	877.82	1,744.17	Last Sharewell Survey	
7,968.00	7,291.39	878.02	1,743.78	Proj. to TD	

Checked By: _____ Approved By: _____ Date: _____