

# **Bill Barrett Corp. - 4**

Garfield County, Colorado [NAD83]

MDP 13 Pad

Jolley 42C-20-691

Wellbore #1

Design: Wellbore #1

## **Standard Survey Report**

04 November, 2011



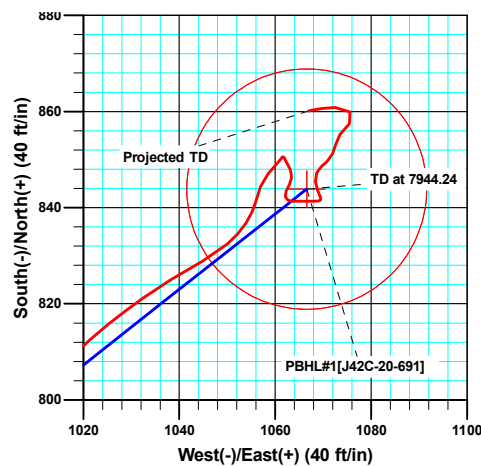
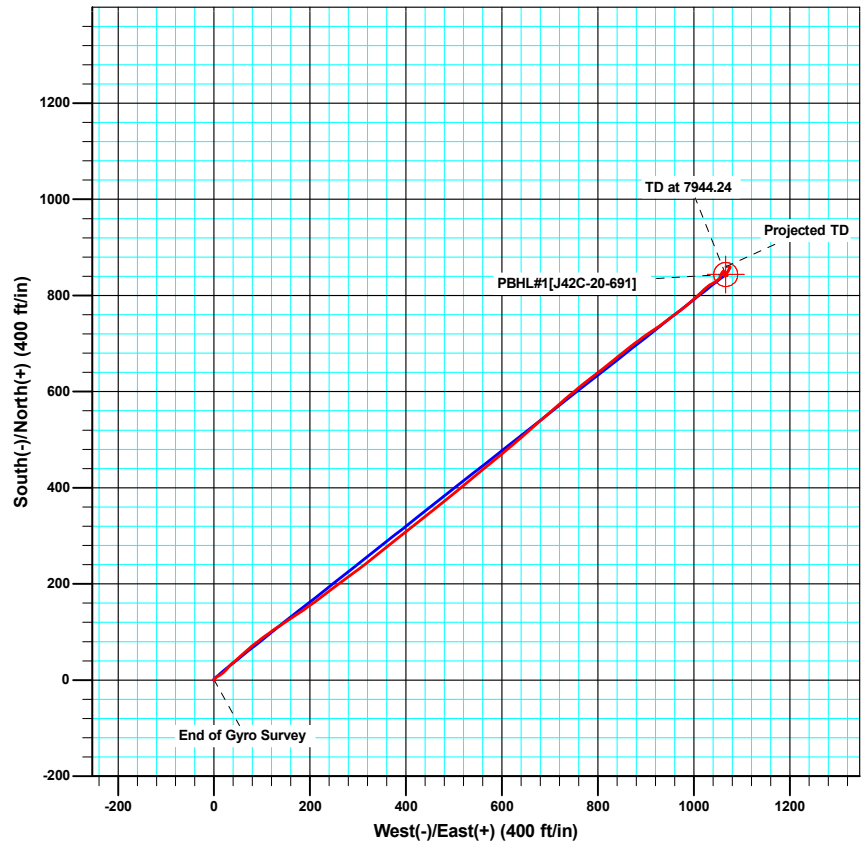
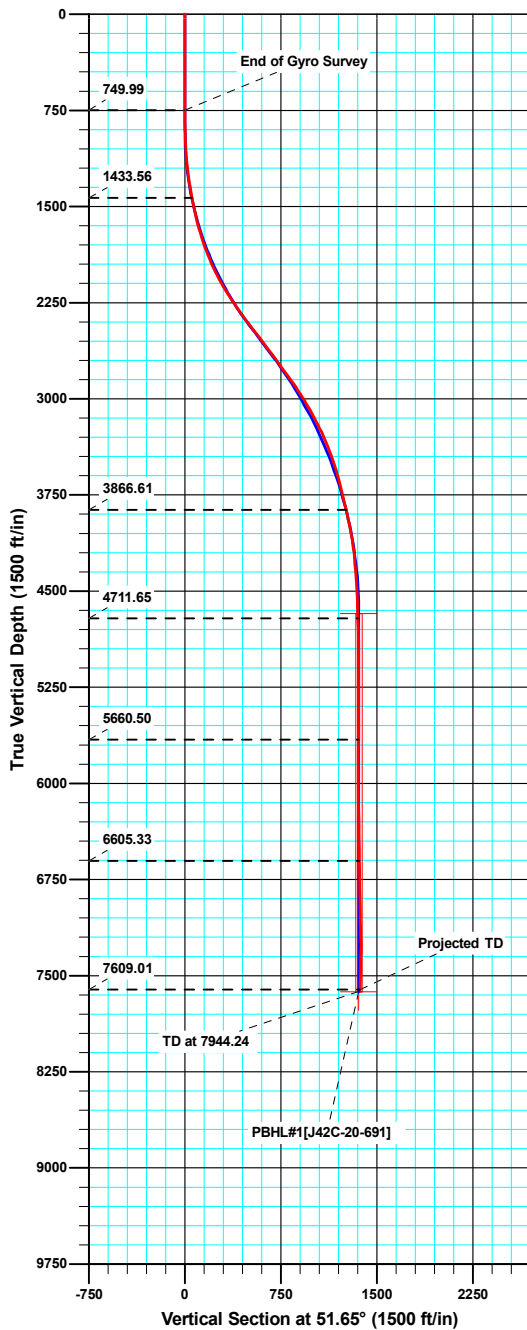


Bill Barrett Corporation

## WELL DETAILS: Jolley 42C-20-691

North American Datum 1983		US State Plane 1983		Colorado Central Zone	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1618553.37	2414651.25	39.513355	-107.574922

MDP 13 Pad



Azimuths to True North  
Magnetic North: 10.16°

Magnetic Field  
Strength: 52310.4nT  
Dip Angle: 65.83°  
Date: 06/16/2011  
Model: IGRF2010

### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
749.99	750.00	0.32	9.94	1.25	0.01	0.79	2.63	End of Gyro Survey
1433.56	1437.00	10.90	49.10	37.58	40.73	55.26	57.91	As of July 24
3866.61	4185.00	12.90	49.00	782.20	988.21	1260.32	1263.81	As of July 25
4711.65	5037.00	2.00	19.10	844.40	1056.89	1352.77	1357.90	As of July 26
5660.50	5986.00	1.10	201.80	844.88	1063.03	1357.88	1372.40	As of July 27
6605.33	6931.00	1.10	27.60	847.26	1068.67	1363.79	1389.91	As of July 28
7609.01	7935.00	1.10	257.10	860.09	1066.96	1370.40	1415.31	Projected TD

<b>Company:</b>	Bill Barrett Corp. - 4	<b>Local Co-ordinate Reference:</b>	Well Jolley 42C-20-691
<b>Project:</b>	Garfield County, Colorado [NAD83]	<b>TVD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Site:</b>	MDP 13 Pad	<b>MD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Well:</b>	Jolley 42C-20-691	<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		

Site	MDP 13 Pad, Sec 20, T-6-S, R-91-W				
Site Position:		Northing:	1,618,553.18 usft	Latitude:	39.513355
From:	Lat/Long	Easting:	2,414,651.31 usft	Longitude:	-107.574922
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-1.31 °

Well	Jolley 42C-20-691					
Well Position	+N/-S	0.00 ft	Northing:	1,618,553.36 usft	Latitude:	39.513356
	+E/-W	0.00 ft	Easting:	2,414,651.26 usft	Longitude:	-107.574922
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 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	06/16/11	10.16	65.83	52,310

<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	51.65	

<b>Survey Program</b>	<b>Date</b>	11/04/11			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
50.00	750.00	Gyro (Wellbore #1)	Gyro	Gyro	
800.00	7,935.00	MWD Survey (Wellbore #1)			

<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	0.46	31.89	50.00	0.17	0.11	0.19	0.92	0.92	0.00	
100.00	0.18	43.87	100.00	0.40	0.27	0.46	0.57	-0.56	23.96	
150.00	0.22	79.79	150.00	0.47	0.42	0.62	0.26	0.08	71.84	
200.00	0.01	109.79	200.00	0.49	0.51	0.71	0.42	-0.42	60.00	
250.00	0.09	136.50	250.00	0.46	0.55	0.71	0.16	0.16	53.42	
300.00	0.12	184.19	300.00	0.38	0.57	0.68	0.18	0.06	95.38	
350.00	0.08	198.99	350.00	0.29	0.55	0.61	0.09	-0.08	29.60	
400.00	0.21	253.38	400.00	0.23	0.45	0.50	0.35	0.26	108.78	
450.00	0.18	281.83	450.00	0.22	0.29	0.36	0.20	-0.06	56.90	

<b>Company:</b>	Bill Barrett Corp. - 4	<b>Local Co-ordinate Reference:</b>	Well Jolley 42C-20-691
<b>Project:</b>	Garfield County, Colorado [NAD83]	<b>TVD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Site:</b>	MDP 13 Pad	<b>MD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Well:</b>	Jolley 42C-20-691	<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	0.24	287.04	500.00	0.27	0.11	0.25	0.13	0.12	10.42
550.00	0.14	307.47	550.00	0.34	-0.04	0.18	0.24	-0.20	40.86
600.00	0.23	331.23	600.00	0.46	-0.13	0.18	0.23	0.18	47.52
650.00	0.28	4.75	650.00	0.67	-0.17	0.28	0.31	0.10	67.04
700.00	0.41	24.82	700.00	0.96	-0.09	0.53	0.35	0.26	40.14
750.00	0.32	9.94	749.99	1.25	0.01	0.79	0.26	-0.18	-29.76
800.00	0.32	9.94	799.99	1.53	0.06	1.00	0.00	0.00	0.00
837.20	0.32	9.94	837.19	1.73	0.10	1.15	0.00	0.00	0.00
895.00	0.60	22.40	894.99	2.17	0.24	1.54	0.51	0.48	21.56
965.00	2.00	51.40	964.97	3.27	1.33	3.08	2.15	2.00	41.43
1,060.00	3.90	53.60	1,059.84	6.23	5.23	7.97	2.00	2.00	2.32
1,155.00	5.50	61.70	1,154.52	10.30	11.84	15.68	1.82	1.68	8.53
1,248.00	7.10	50.00	1,246.96	16.11	20.17	25.81	2.20	1.72	-12.58
1,343.00	9.20	38.20	1,341.00	25.85	29.36	39.07	2.82	2.21	-12.42
1,437.00	10.90	49.10	1,433.56	37.58	40.73	55.26	2.71	1.81	11.60
1,532.00	12.40	49.50	1,526.60	50.09	55.28	74.43	1.58	1.58	0.42
1,627.00	14.50	48.90	1,618.99	64.53	72.00	96.50	2.22	2.21	-0.63
1,722.00	16.40	52.40	1,710.56	80.53	91.59	121.79	2.23	2.00	3.68
1,817.00	19.10	54.80	1,801.03	97.68	114.92	150.73	2.94	2.84	2.53
1,912.00	22.70	56.00	1,889.76	116.89	142.82	184.54	3.82	3.79	1.26
2,007.00	25.50	56.90	1,976.47	138.32	175.16	223.19	2.97	2.95	0.95
2,102.00	27.70	53.10	2,061.42	162.75	209.95	265.63	2.93	2.32	-4.00
2,196.00	31.40	53.20	2,143.18	190.54	247.04	311.97	3.94	3.94	0.11
2,291.00	33.80	54.10	2,223.21	220.87	288.27	363.11	2.58	2.53	0.95
2,386.00	35.00	50.80	2,301.60	253.58	330.80	416.76	2.33	1.26	-3.47
2,481.00	36.40	51.60	2,378.74	288.31	374.00	472.19	1.55	1.47	0.84
2,576.00	37.70	51.60	2,454.56	323.87	418.86	529.43	1.37	1.37	0.00
2,670.00	37.30	51.60	2,529.14	359.41	463.70	586.65	0.43	-0.43	0.00
2,765.00	37.30	51.30	2,604.71	395.29	508.73	644.22	0.19	0.00	-0.32
2,860.00	36.90	50.00	2,680.48	431.62	553.04	701.52	0.93	-0.42	-1.37
2,954.00	36.20	50.70	2,755.99	467.34	596.14	757.48	0.87	-0.74	0.74
3,049.00	35.60	48.80	2,832.95	503.32	638.65	813.15	1.33	-0.63	-2.00
3,143.00	34.50	48.60	2,909.90	538.95	679.21	867.06	1.18	-1.17	-0.21
3,238.00	32.30	49.30	2,989.21	573.30	718.64	919.29	2.35	-2.32	0.74
3,332.00	29.70	50.80	3,069.78	604.40	755.73	967.68	2.89	-2.77	1.60
3,427.00	27.80	52.30	3,153.06	632.82	791.50	1,013.37	2.14	-2.00	1.58
3,522.00	26.50	50.90	3,237.59	659.74	825.48	1,056.71	1.52	-1.37	-1.47
3,616.00	23.50	51.60	3,322.78	684.61	856.45	1,096.43	3.21	-3.19	0.74
3,711.00	20.80	53.50	3,410.76	706.41	884.86	1,132.24	2.94	-2.84	2.00
3,806.00	18.50	56.20	3,500.22	724.83	910.94	1,164.13	2.60	-2.42	2.84
3,901.00	16.10	53.50	3,590.92	741.06	934.06	1,192.32	2.66	-2.53	-2.84
3,995.00	14.00	53.80	3,681.69	755.53	953.72	1,216.71	2.24	-2.23	0.32
4,090.00	13.10	53.10	3,774.05	768.78	971.60	1,238.96	0.96	-0.95	-0.74

<b>Company:</b>	Bill Barrett Corp. - 4	<b>Local Co-ordinate Reference:</b>	Well Jolley 42C-20-691
<b>Project:</b>	Garfield County, Colorado [NAD83]	<b>TVD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Site:</b>	MDP 13 Pad	<b>MD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Well:</b>	Jolley 42C-20-691	<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)	
4,185.00	12.90	49.00	3,866.61	782.20	988.21	1,260.32	0.99	-0.21	-4.32	
4,280.00	12.00	47.30	3,959.38	795.85	1,003.47	1,280.76	1.02	-0.95	-1.79	
4,375.00	10.70	46.50	4,052.52	808.62	1,017.13	1,299.39	1.38	-1.37	-0.84	
4,470.00	8.30	53.80	4,146.21	818.75	1,029.06	1,315.03	2.82	-2.53	7.68	
4,564.00	5.50	58.90	4,239.52	825.08	1,038.40	1,326.28	3.05	-2.98	5.43	
4,658.00	3.60	60.10	4,333.22	828.88	1,044.81	1,333.67	2.02	-2.02	1.28	
4,753.00	4.00	50.80	4,428.01	832.46	1,049.97	1,339.93	0.77	0.42	-9.79	
4,847.00	3.30	32.10	4,521.83	836.82	1,053.94	1,345.76	1.46	-0.74	-19.89	
4,942.00	2.30	14.50	4,616.71	840.99	1,055.87	1,349.86	1.38	-1.05	-18.53	
5,037.00	2.00	19.10	4,711.65	844.40	1,056.89	1,352.77	0.36	-0.32	4.84	
5,133.00	1.80	44.60	4,807.59	847.05	1,058.50	1,355.68	0.90	-0.21	26.56	
5,228.00	1.70	37.70	4,902.55	849.23	1,060.41	1,358.53	0.25	-0.11	-7.26	
5,322.00	0.40	45.30	4,996.53	850.57	1,061.50	1,360.21	1.39	-1.38	8.09	
5,418.00	0.40	160.50	5,092.53	850.49	1,061.85	1,360.43	0.70	0.00	120.00	
5,512.00	0.40	152.40	5,186.53	849.89	1,062.11	1,360.27	0.06	0.00	-8.62	
5,607.00	0.80	146.50	5,281.52	849.04	1,062.63	1,360.15	0.43	0.42	-6.21	
5,702.00	0.60	168.70	5,376.52	848.00	1,063.09	1,359.87	0.35	-0.21	23.37	
5,797.00	0.50	166.30	5,471.51	847.11	1,063.29	1,359.47	0.11	-0.11	-2.53	
5,892.00	0.60	181.30	5,566.51	846.21	1,063.37	1,358.98	0.18	0.11	15.79	
5,986.00	1.10	201.80	5,660.50	844.88	1,063.03	1,357.88	0.61	0.53	21.81	
6,081.00	0.90	214.80	5,755.48	843.42	1,062.26	1,356.37	0.32	-0.21	13.68	
6,176.00	0.70	148.90	5,850.48	842.31	1,062.14	1,355.59	0.93	-0.21	-69.37	
6,269.00	0.30	141.00	5,943.47	841.63	1,062.58	1,355.52	0.44	-0.43	-8.49	
6,363.00	0.70	99.60	6,037.47	841.35	1,063.30	1,355.91	0.55	0.43	-44.04	
6,457.00	1.70	85.40	6,131.45	841.36	1,065.26	1,357.45	1.10	1.06	-15.11	
6,552.00	1.90	93.50	6,226.40	841.38	1,068.24	1,359.79	0.34	0.21	8.53	
6,647.00	1.00	339.00	6,321.38	842.06	1,069.51	1,361.21	2.62	-0.95	-120.53	
6,742.00	1.00	335.30	6,416.37	843.58	1,068.87	1,361.66	0.07	0.00	-3.89	
6,837.00	1.30	352.80	6,511.35	845.41	1,068.39	1,362.41	0.48	0.32	18.42	
6,931.00	1.10	27.60	6,605.33	847.26	1,068.67	1,363.79	0.79	-0.21	37.02	
7,026.00	0.80	47.40	6,700.32	848.52	1,069.58	1,365.28	0.46	-0.32	20.84	
7,121.00	1.10	49.60	6,795.30	849.56	1,070.76	1,366.85	0.32	0.32	2.32	
7,216.00	1.40	24.10	6,890.28	851.21	1,071.93	1,368.79	0.66	0.32	-26.84	
7,311.00	1.30	14.40	6,985.25	853.31	1,072.67	1,370.68	0.26	-0.11	-10.21	
7,406.00	1.20	34.50	7,080.23	855.18	1,073.51	1,372.49	0.47	-0.11	21.16	
7,500.00	2.50	44.80	7,174.18	857.44	1,075.51	1,375.46	1.42	1.38	10.96	
7,595.00	2.10	306.40	7,269.13	859.95	1,075.57	1,377.06	3.68	-0.42	-103.58	
7,690.00	2.00	266.50	7,364.08	860.88	1,072.51	1,375.25	1.48	-0.11	-42.00	
7,785.00	1.20	262.70	7,459.04	860.65	1,069.87	1,373.03	0.85	-0.84	-4.00	
7,888.00	1.10	257.10	7,562.02	860.29	1,067.84	1,371.22	0.15	-0.10	-5.44	
7,935.00	1.10	257.10	7,609.01	860.09	1,066.96	1,370.40	0.00	0.00	0.00	

<b>Company:</b>	Bill Barrett Corp. - 4	<b>Local Co-ordinate Reference:</b>	Well Jolley 42C-20-691
<b>Project:</b>	Garfield County, Colorado [NAD83]	<b>TVD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Site:</b>	MDP 13 Pad	<b>MD Reference:</b>	WELL @ 6452.00ft (Original Well Elev)
<b>Well:</b>	Jolley 42C-20-691	<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

#### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
750.00	749.99	1.25	0.01	End of Gyro Survey
1,437.00	1,433.56	37.58	40.73	As of July 24
4,185.00	3,866.61	782.20	988.21	As of July 25
5,037.00	4,711.65	844.40	1,056.89	As of July 26
5,986.00	5,660.50	844.88	1,063.03	As of July 27
6,931.00	6,605.33	847.26	1,068.67	As of July 28
7,935.00	7,609.01	860.09	1,066.96	Projected TD

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