

# **Bill Barrett Corp.**

**Garfield County, Colorado [NAD83]**

**Kaufman 7 Pad**

**Kaufman 24D-24-692**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

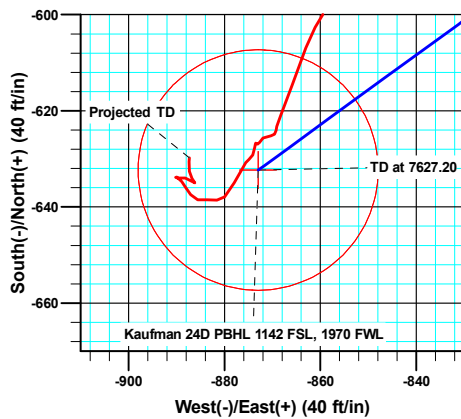
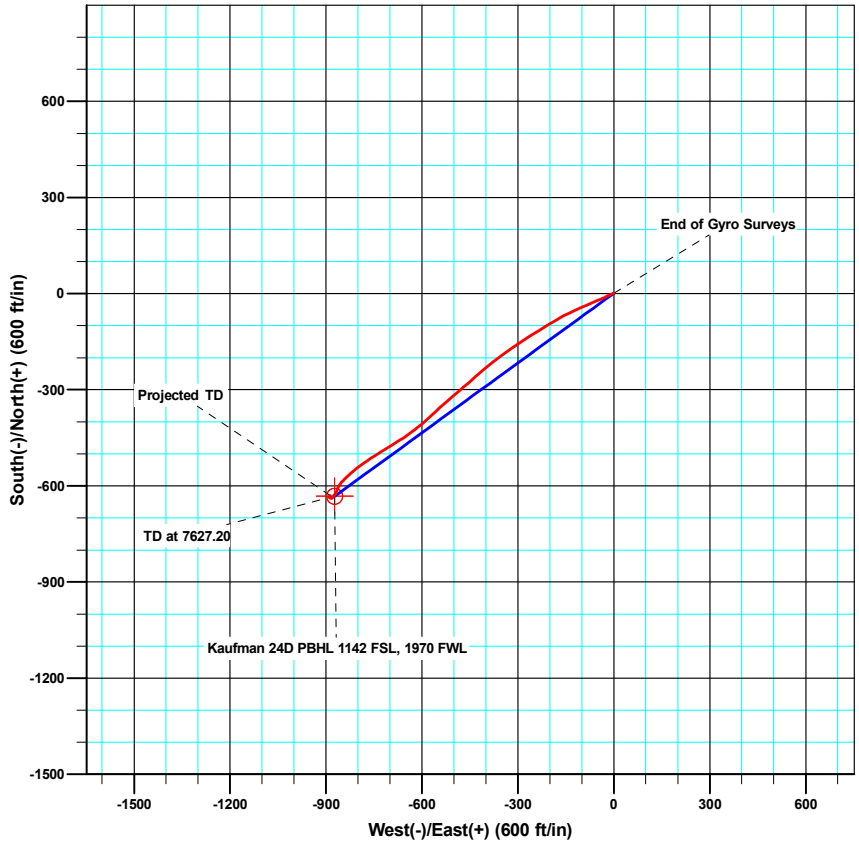
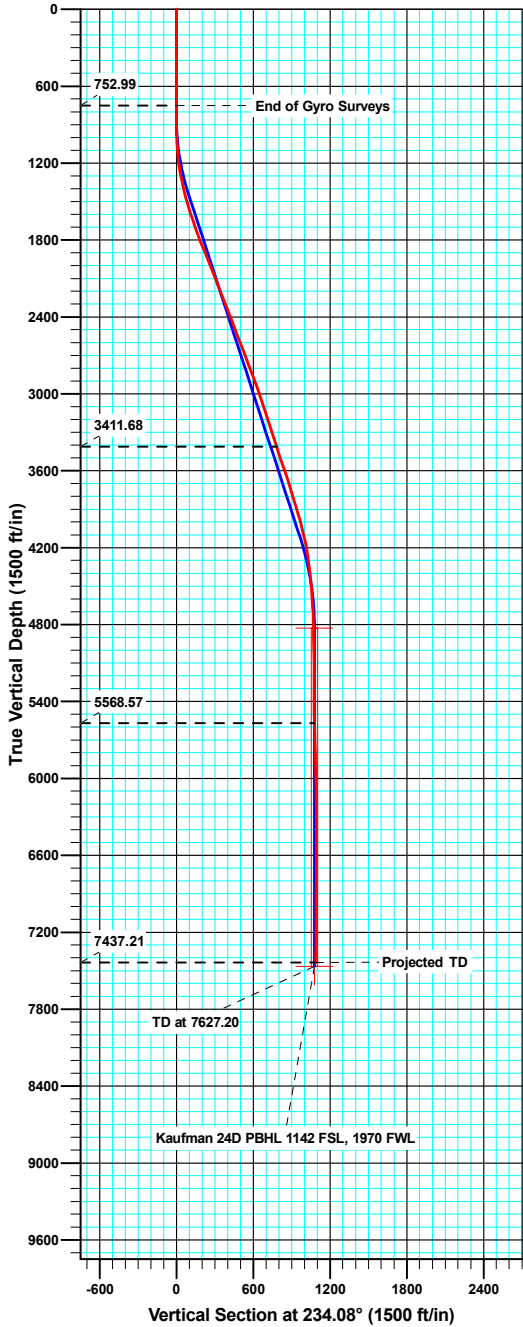
**19 August, 2011**

# Well Details: Kaufman 24D-24-692

Ground Level: 5843.00



North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 +N/-S +E/-W Northing Easting Latitude Longitude  
 0.00 0.00 1617728.54 2403393.77 39.510379 -107.614745



Azimuths to True North  
 Magnetic North: 10.20°

Magnetic Field  
 Strength: 52320.6snT  
 Dip Angle: 65.83°  
 Date: 05/03/2011  
 Model: IGRF2010

## ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
752.99	753.00	0.11	312.78	0.69	0.26	-0.61	2.68	End of Gyro Surveys
3411.68	3546.00	17.70	235.00	-441.34	-645.41	781.59	791.00	As of Aug 17
5568.57	5741.00	0.90	236.20	-630.08	-874.91	1078.18	1095.54	As of Aug 18
7437.21	7610.00	1.00	4.90	-629.77	-887.30	1088.03	1130.08	Projected TD



# Sharewell Survey Report

<b>Company:</b> Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b> Well Kaufman 24D-24-692
<b>Project:</b> Garfield County, Colorado [NAD83]	<b>TVD Reference:</b> KB @ 5866.00ft
<b>Site:</b> Kaufman 7 Pad	<b>MD Reference:</b> KB @ 5866.00ft
<b>Well:</b> Kaufman 24D-24-692	<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> Kaufman 7 Pad					
<b>Site Position:</b>		<b>Northing:</b>	1,617,736.60 usft	<b>Latitude:</b>	39.510401
<b>From:</b> Lat/Long		<b>Easting:</b>	2,403,391.98 usft	<b>Longitude:</b>	-107.614752
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	1.10 ft	<b>Grid Convergence:</b>	-1.33 °

<b>Well</b> Kaufman 24D-24-692						
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,617,728.54 usft	<b>Latitude:</b>	39.510379
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,403,393.77 usft	<b>Longitude:</b>	-107.614745
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,843.00 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	05/03/11	10.20	65.83	52,321

<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	234.08	

<b>Survey Program</b>		<b>Date</b>	08/19/11		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	753.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard	
884.00	7,610.00	MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.37	354.15	100.00	0.32	-0.03	-0.16	0.37	0.37	0.00	
200.00	0.28	24.15	200.00	0.87	0.03	-0.54	0.19	-0.09	30.00	
300.00	0.36	77.17	300.00	1.16	0.44	-1.04	0.29	0.08	53.02	
400.00	0.10	154.24	400.00	1.15	0.78	-1.31	0.35	-0.26	77.07	
500.00	0.18	215.14	500.00	0.94	0.73	-1.15	0.16	0.08	60.90	
600.00	0.15	240.81	599.99	0.75	0.53	-0.87	0.08	-0.03	25.67	
700.00	0.09	252.84	699.99	0.66	0.34	-0.66	0.06	-0.06	12.03	
753.00	0.11	312.78	752.99	0.69	0.26	-0.61	0.19	0.04	113.09	
884.00	0.10	347.10	883.99	0.88	0.14	-0.63	0.05	-0.01	26.20	

# Sharewell Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Kaufman 24D-24-692
<b>Project:</b>	Garfield County, Colorado [NAD83]	<b>TVD Reference:</b>	KB @ 5866.00ft
<b>Site:</b>	Kaufman 7 Pad	<b>MD Reference:</b>	KB @ 5866.00ft
<b>Well:</b>	Kaufman 24D-24-692	<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)
976.00	1.80	258.00	975.98	0.66	-1.29	0.66	1.96	1.85	-96.85
1,069.00	3.80	247.80	1,068.86	-0.81	-5.57	4.99	2.21	2.15	-10.97
1,161.00	6.40	247.90	1,160.49	-3.89	-13.15	12.93	2.83	2.83	0.11
1,256.00	9.60	241.30	1,254.56	-9.69	-25.00	25.93	3.50	3.37	-6.95
1,352.00	12.30	246.30	1,348.80	-17.64	-41.39	43.87	2.98	2.81	5.21
1,447.00	14.40	247.80	1,441.23	-26.18	-61.60	65.24	2.24	2.21	1.58
1,543.00	16.80	247.20	1,533.69	-36.06	-85.44	90.35	2.51	2.50	-0.63
1,638.00	18.80	245.60	1,624.14	-47.71	-112.04	118.72	2.17	2.11	-1.68
1,733.00	20.60	244.20	1,713.57	-61.31	-141.03	150.18	1.96	1.89	-1.47
1,829.00	21.70	241.10	1,803.11	-77.24	-171.77	184.42	1.63	1.15	-3.23
1,924.00	22.10	238.50	1,891.25	-95.06	-202.39	219.67	1.10	0.42	-2.74
2,020.00	22.10	238.00	1,980.20	-114.07	-233.10	255.69	0.20	0.00	-0.52
2,115.00	21.70	237.40	2,068.34	-133.00	-263.05	291.06	0.48	-0.42	-0.63
2,211.00	21.20	236.20	2,157.70	-152.22	-292.43	326.12	0.69	-0.52	-1.25
2,306.00	21.20	236.00	2,246.27	-171.38	-320.94	360.45	0.08	0.00	-0.21
2,401.00	21.40	233.90	2,334.78	-191.20	-349.19	394.95	0.83	0.21	-2.21
2,497.00	21.30	231.20	2,424.19	-212.44	-376.93	429.88	1.03	-0.10	-2.81
2,592.00	21.70	229.80	2,512.58	-234.59	-403.79	464.63	0.68	0.42	-1.47
2,688.00	21.00	229.00	2,601.99	-257.33	-430.33	499.46	0.79	-0.73	-0.83
2,783.00	20.70	227.60	2,690.77	-279.82	-455.57	533.10	0.61	-0.32	-1.47
2,878.00	20.70	231.20	2,779.64	-301.66	-481.06	566.55	1.34	0.00	3.79
2,974.00	20.50	229.00	2,869.51	-323.32	-506.97	600.24	0.83	-0.21	-2.29
3,069.00	19.80	228.60	2,958.69	-344.88	-531.59	632.83	0.75	-0.74	-0.42
3,164.00	18.70	226.80	3,048.38	-365.94	-554.76	663.95	1.32	-1.16	-1.89
3,260.00	18.40	228.60	3,139.39	-386.50	-577.35	694.30	0.67	-0.31	1.88
3,355.00	17.80	228.40	3,229.69	-406.05	-599.45	723.68	0.63	-0.63	-0.21
3,451.00	17.60	233.30	3,321.15	-424.47	-622.06	752.79	1.57	-0.21	5.10
3,546.00	17.70	235.00	3,411.68	-441.34	-645.41	781.59	0.55	0.11	1.79
3,641.00	18.80	238.90	3,501.90	-457.53	-670.35	811.29	1.73	1.16	4.11
3,737.00	18.50	237.20	3,592.86	-473.77	-696.40	841.91	0.65	-0.31	-1.77
3,832.00	18.00	237.50	3,683.09	-489.82	-721.45	871.61	0.54	-0.53	0.32
3,928.00	17.80	239.00	3,774.44	-505.35	-746.53	901.04	0.52	-0.21	1.56
4,023.00	16.90	235.80	3,865.12	-520.59	-770.40	929.31	1.38	-0.95	-3.37
4,119.00	16.30	233.10	3,957.12	-536.52	-792.72	956.73	1.02	-0.63	-2.81
4,214.00	14.30	230.20	4,048.75	-552.04	-812.39	981.76	2.25	-2.11	-3.05
4,309.00	12.00	226.60	4,141.25	-566.34	-828.59	1,003.26	2.57	-2.42	-3.79
4,405.00	9.10	226.40	4,235.62	-578.43	-841.34	1,020.69	3.02	-3.02	-0.21
4,500.00	7.90	220.20	4,329.58	-588.60	-850.99	1,034.47	1.59	-1.26	-6.53
4,596.00	6.60	214.50	4,424.81	-598.19	-858.38	1,046.07	1.55	-1.35	-5.94
4,691.00	5.40	199.90	4,519.29	-606.89	-862.99	1,054.92	2.03	-1.26	-15.37
4,787.00	4.50	200.60	4,614.93	-614.66	-865.85	1,061.79	0.94	-0.94	0.73
4,882.00	3.20	201.20	4,709.71	-620.62	-868.12	1,067.13	1.37	-1.37	0.63
4,977.00	1.20	188.60	4,804.64	-624.08	-869.23	1,070.05	2.15	-2.11	-13.26

# Sharewell

## Survey Report

<b>Company:</b> Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b> Well Kaufman 24D-24-692
<b>Project:</b> Garfield County, Colorado [NAD83]	<b>TVD Reference:</b> KB @ 5866.00ft
<b>Site:</b> Kaufman 7 Pad	<b>MD Reference:</b> KB @ 5866.00ft
<b>Well:</b> Kaufman 24D-24-692	<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)	
5,073.00	1.10	263.30	4,900.63	-625.18	-870.30	1,071.56	1.46	-0.10	77.81	
5,168.00	1.00	244.30	4,995.61	-625.65	-871.95	1,073.17	0.38	-0.11	-20.00	
5,264.00	0.70	180.70	5,091.60	-626.60	-872.71	1,074.35	0.97	-0.31	-66.25	
5,359.00	0.50	302.60	5,186.60	-626.95	-873.07	1,074.85	1.11	-0.21	128.32	
5,454.00	0.10	255.70	5,281.60	-626.75	-873.50	1,075.08	0.46	-0.42	-49.37	
5,549.00	1.10	187.50	5,376.59	-627.67	-873.70	1,075.78	1.12	1.05	-71.79	
5,645.00	0.70	203.70	5,472.58	-629.12	-874.05	1,076.92	0.49	-0.42	16.88	
5,741.00	0.90	236.20	5,568.57	-630.08	-874.91	1,078.18	0.51	0.21	33.85	
5,836.00	1.80	204.40	5,663.54	-631.85	-876.15	1,080.22	1.20	0.95	-33.47	
5,931.00	2.60	214.50	5,758.47	-634.99	-877.99	1,083.55	0.93	0.84	10.63	
6,027.00	1.60	215.40	5,854.41	-637.88	-880.00	1,086.87	1.04	-1.04	0.94	
6,122.00	1.10	298.30	5,949.39	-638.53	-881.57	1,088.52	1.92	-0.53	87.26	
6,217.00	1.50	251.30	6,044.37	-638.49	-883.55	1,090.10	1.16	0.42	-49.47	
6,313.00	1.10	295.30	6,140.34	-638.50	-885.57	1,091.75	1.09	-0.42	45.83	
6,408.00	1.10	317.50	6,235.33	-637.44	-887.01	1,092.29	0.45	0.00	23.37	
6,503.00	0.90	330.20	6,330.31	-636.12	-888.00	1,092.32	0.31	-0.21	13.37	
6,599.00	1.10	324.00	6,426.30	-634.72	-888.92	1,092.24	0.24	0.21	-6.46	
6,694.00	0.30	278.40	6,521.29	-633.95	-889.70	1,092.42	0.96	-0.84	-48.00	
6,790.00	0.20	14.10	6,617.29	-633.75	-889.91	1,092.47	0.39	-0.10	99.69	
6,885.00	0.50	228.30	6,712.29	-633.86	-890.17	1,092.75	0.71	0.32	-153.47	
6,980.00	0.90	74.90	6,807.29	-633.94	-889.76	1,092.47	1.44	0.42	-161.47	
7,075.00	1.10	102.00	6,902.27	-633.94	-888.15	1,091.16	0.53	0.21	28.53	
7,170.00	1.00	134.40	6,997.26	-634.71	-886.67	1,090.41	0.62	-0.11	34.11	
7,265.00	0.40	338.50	7,092.25	-634.98	-886.20	1,090.19	1.45	-0.63	-164.11	
7,361.00	0.90	324.70	7,188.25	-634.05	-886.75	1,090.10	0.54	0.52	-14.38	
7,456.00	1.10	352.10	7,283.23	-632.54	-887.31	1,089.66	0.54	0.21	28.84	
7,563.00	1.00	4.90	7,390.21	-630.59	-887.37	1,088.57	0.24	-0.09	11.96	
7,610.00	1.00	4.90	7,437.21	-629.77	-887.30	1,088.03	0.00	0.00	0.00	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
753.00	752.99	0.69	0.26	End of Gyro Surveys	
3,546.00	3,411.68	-441.34	-645.41	As of Aug 17	
5,741.00	5,568.57	-630.08	-874.91	As of Aug 18	
7,610.00	7,437.21	-629.77	-887.30	Projected TD	

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