

# **Bill Barrett Corp. (II)**

Garfield Co., CO (NAD83)

Epperly 23-692 Pad (Sec.23-T6S-R92W)

Epperly 13A-23-692

Wellbore #1

Design: Wellbore #1

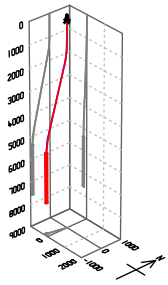
## **Standard Survey Report**

29 June, 2012





Project: Garfield Co., CO (NAD83)  
Site: Epperly 23-692 Pad (Sec.23-T6S-R92W)  
Well: Epperly 13A-23-692  
Wellbore: Wellbore #1  
Design: Wellbore #1  
Latitude: 39° 30' 42.45 N  
Longitude: 107° 38' 26.30 W  
Ground Level: 5854.01  
WELL @ 5876.01ft



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 Epperly 13A-23-692, True North  
Vertical (TVD) Reference: WELL @ 5876.01ft  
Section (VS) Reference: Slot - (0.00N, 0.00E)  
Measured Depth Reference: WELL @ 5876.01ft  
Calculation Method: Minimum Curvature

WELL DETAILS: Epperly 13A-23-692

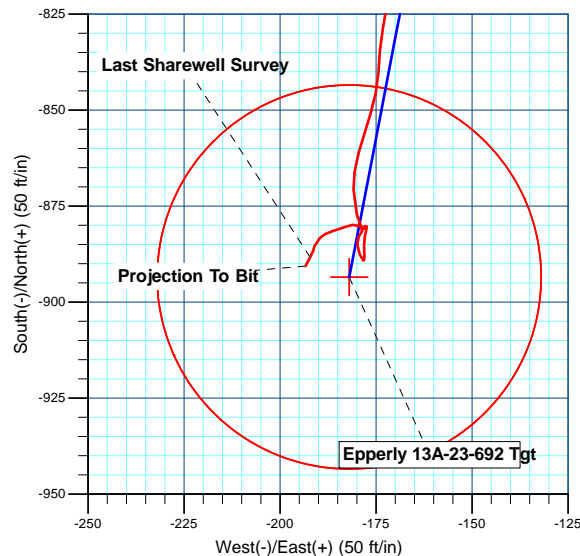
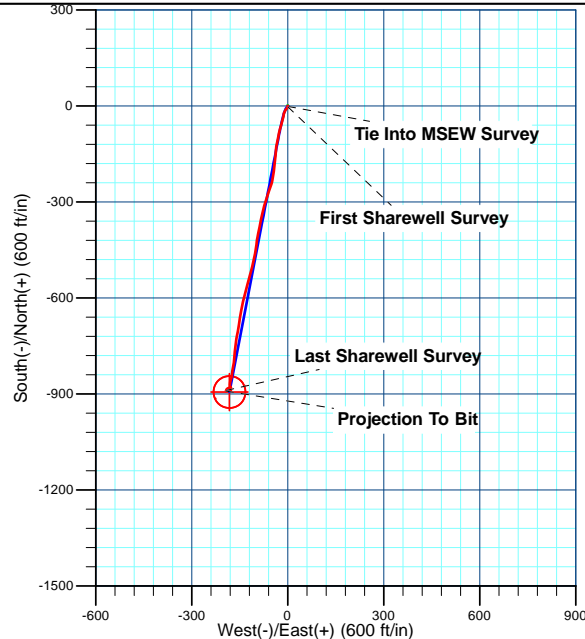
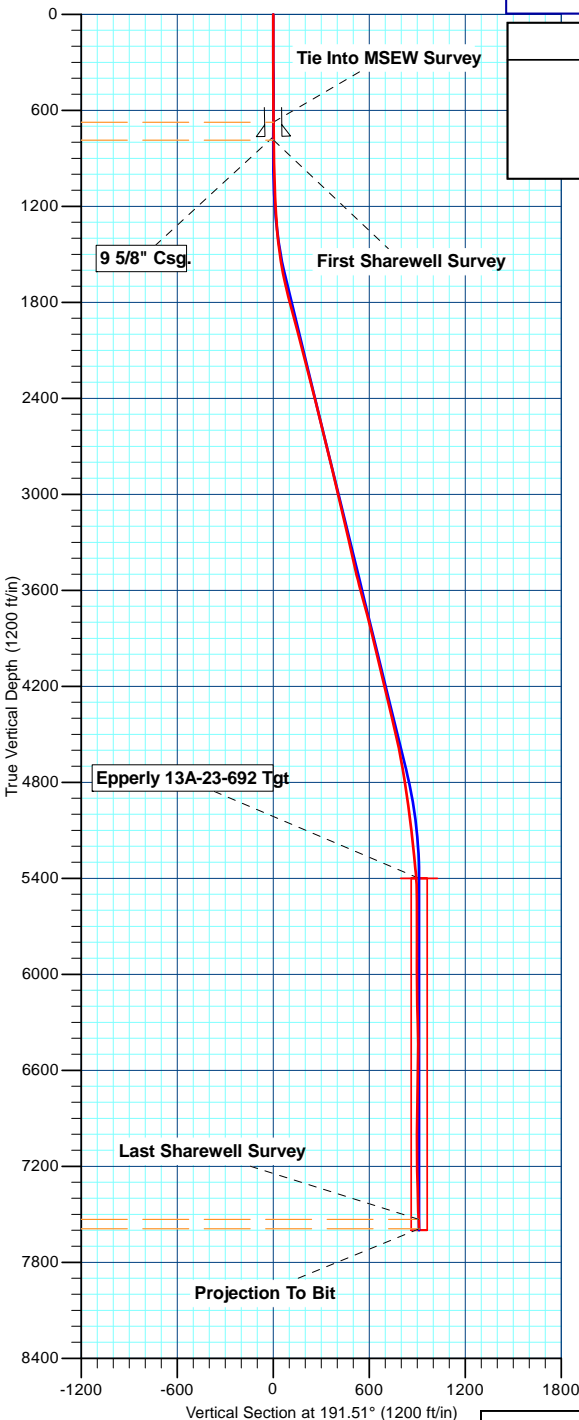
+N/-S	+E/-W	Northing	Ground Level: Easting	5854.01 Latitude	Longitude	Slot
0.00	0.00	1618414.14	2396102.37	39° 30' 42.45 N	107° 38' 26.30 W	

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Epperly 13A-23-692 Tgt	5400.01	-893.46	-181.99	1617525.22	2395899.39	39° 30' 33.62 N	107° 38' 28.62 W	Circle (Radius: 50.00)

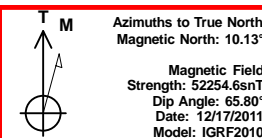
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSe@	Departure	Annotation
674.99	675.00	0.360	57.70	-1.16	1.04	0.93	2.93	Tie-In Survey
786.99	787.00	1.300	219.60	-1.95	0.53	1.81	4.55	First Sharewell Survey
7531.69	7631.00	2.500	206.90	-888.32	-192.20	908.81	947.37	Last Sharewell Survey
7590.64	7690.00	2.500	206.90	-890.61	-193.36	911.29	949.94	Projection To Bit



Design: Wellbore #1 (Epperly 13A-23-692/Wellbore #1)

Created By: Rolando Garza Date: 14:08, June 29 2012



<b>Company:</b>	Bill Barrett Corp. (II)	<b>Local Co-ordinate Reference:</b>	Well Epperly 13A-23-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5876.01ft
<b>Site:</b>	Epperly 23-692 Pad (Sec.23-T6S-R92W)	<b>MD Reference:</b>	WELL @ 5876.01ft
<b>Well:</b>	Epperly 13A-23-692	<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>	CompassVM

<b>Project</b>	Garfield Co., CO (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		Epperly 23-692 Pad (Sec.23-T6S-R92W)			
Site Position:		Northing:	1,618,438.20 usft	Latitude:	39° 30' 42.69 N
From:	Lat/Long	Easting:	2,396,102.66 usft	Longitude:	107° 38' 26.30 W
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-1.35 °

Well	Epperly 13A-23-692					
Well Position	+N/-S	0.00 ft	Northing:	1,618,414.14 usft	Latitude:	39° 30' 42.45 N
	+E/-W	0.00 ft	Easting:	2,396,102.38 usft	Longitude:	107° 38' 26.30 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,854.01 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	12/17/11	10.13	65.80	52,255

<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	191.51	

<b>Survey Program</b>	<b>Date</b>	06/29/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	675.00	Survey #1 (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s	
675.00	7,690.00	Survey #2 (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	
100.00	0.240	239.22	100.00	-0.11	-0.18	0.14	0.24	0.24	0.00	
200.00	0.230	198.76	200.00	-0.40	-0.42	0.48	0.16	-0.01	-40.46	
300.00	0.160	177.55	300.00	-0.73	-0.48	0.82	0.10	-0.07	-21.21	
400.00	0.240	152.27	400.00	-1.06	-0.38	1.11	0.12	0.08	-25.28	
500.00	0.280	112.26	500.00	-1.34	-0.06	1.32	0.18	0.04	-40.01	
600.00	0.450	78.23	600.00	-1.35	0.55	1.21	0.27	0.17	-34.03	
675.00	0.360	57.70	674.99	-1.16	1.04	0.93	0.23	-0.12	-27.37	
<b>Tie-In Survey</b>										
787.00	1.300	219.60	786.99	-1.95	0.53	1.81	1.47	0.84	144.55	

<b>Company:</b>	Bill Barrett Corp. (II)	<b>Local Co-ordinate Reference:</b>	Well Epperly 13A-23-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5876.01ft
<b>Site:</b>	Epperly 23-692 Pad (Sec.23-T6S-R92W)	<b>MD Reference:</b>	WELL @ 5876.01ft
<b>Well:</b>	Epperly 13A-23-692	<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>	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)
First Sharewell Survey									
879.00	1.800	205.20	878.95	-4.07	-0.75	4.13	0.68	0.54	-15.65
970.00	1.800	224.60	969.91	-6.38	-2.36	6.72	0.67	0.00	21.32
1,062.00	1.800	214.40	1,061.86	-8.60	-4.19	9.26	0.35	0.00	-11.09
1,154.00	2.800	217.90	1,153.79	-11.56	-6.39	12.61	1.10	1.09	3.80
1,249.00	3.400	206.40	1,248.65	-15.92	-9.07	17.41	0.91	0.63	-12.11
1,345.00	4.600	197.70	1,344.42	-22.13	-11.50	23.99	1.40	1.25	-9.06
1,440.00	6.900	187.90	1,438.93	-31.42	-13.45	33.47	2.62	2.42	-10.32
1,535.00	8.200	194.80	1,533.11	-43.62	-15.96	45.93	1.67	1.37	7.26
1,630.00	11.700	198.40	1,626.67	-59.32	-20.74	62.26	3.74	3.68	3.79
1,725.00	13.600	192.00	1,719.36	-79.38	-26.10	83.00	2.48	2.00	-6.74
1,820.00	14.900	192.60	1,811.44	-102.23	-31.09	106.38	1.38	1.37	0.63
1,915.00	14.900	188.40	1,903.25	-126.23	-35.53	130.79	1.14	0.00	-4.42
2,011.00	14.400	182.60	1,996.13	-150.37	-37.88	154.90	1.61	-0.52	-6.04
2,106.00	14.800	187.70	2,088.07	-174.20	-40.04	178.68	1.42	0.42	5.37
2,201.00	15.100	187.60	2,179.85	-198.49	-43.30	203.13	0.32	0.32	-0.11
2,296.00	14.500	187.90	2,271.70	-222.53	-46.57	227.35	0.64	-0.63	0.32
2,391.00	13.400	197.80	2,363.91	-244.80	-51.57	250.16	2.76	-1.16	10.42
2,487.01	14.200	200.50	2,457.14	-266.42	-59.10	272.85	1.07	0.83	2.81
2,582.00	14.000	196.30	2,549.27	-288.36	-66.40	295.81	1.10	-0.21	-4.42
2,677.00	14.500	196.70	2,641.35	-310.78	-73.05	319.11	0.54	0.53	0.42
2,772.00	13.700	193.40	2,733.49	-333.12	-79.07	342.20	1.19	-0.84	-3.47
2,867.00	14.000	190.50	2,825.73	-355.36	-83.77	364.93	0.80	0.32	-3.05
2,963.00	12.800	190.90	2,919.11	-377.22	-87.90	387.17	1.25	-1.25	0.42
3,058.00	13.100	192.60	3,011.70	-398.06	-92.24	408.46	0.51	0.32	1.79
3,154.00	12.700	188.00	3,105.28	-419.13	-96.08	429.87	1.15	-0.42	-4.79
3,249.00	11.900	187.20	3,198.10	-439.19	-98.76	450.06	0.86	-0.84	-0.84
3,344.00	13.100	188.30	3,290.84	-459.56	-101.54	470.58	1.29	1.26	1.16
3,440.00	13.100	192.70	3,384.35	-480.94	-105.51	492.32	1.04	0.00	4.58
3,535.00	13.400	197.40	3,476.82	-501.95	-111.17	514.03	1.18	0.32	4.95
3,630.00	15.200	193.00	3,568.88	-524.59	-117.26	537.44	2.21	1.89	-4.63
3,726.00	15.100	197.00	3,661.54	-548.81	-123.75	562.46	1.09	-0.10	4.17
3,821.00	14.900	193.70	3,753.31	-572.51	-130.26	586.99	0.92	-0.21	-3.47
3,916.00	13.900	192.10	3,845.32	-595.53	-135.54	610.60	1.13	-1.05	-1.68
4,011.00	13.100	194.80	3,937.70	-617.10	-140.68	632.76	1.07	-0.84	2.84
4,106.00	13.900	189.90	4,030.07	-638.75	-145.40	654.92	1.47	0.84	-5.16
4,202.00	13.100	187.60	4,123.42	-660.89	-148.82	677.30	1.00	-0.83	-2.40
4,297.00	13.100	190.50	4,215.95	-682.15	-152.20	698.80	0.69	0.00	3.05
4,392.00	13.100	189.50	4,308.48	-703.35	-155.94	720.33	0.24	0.00	-1.05
4,487.00	13.900	190.40	4,400.85	-725.20	-159.78	742.50	0.87	0.84	0.95
4,583.00	13.400	187.60	4,494.14	-747.56	-163.33	765.12	0.86	-0.52	-2.92
4,678.00	10.700	184.70	4,587.04	-767.27	-165.51	784.87	2.91	-2.84	-3.05
4,773.00	10.600	182.20	4,680.40	-784.79	-166.57	802.25	0.50	-0.11	-2.63

<b>Company:</b>	Bill Barrett Corp. (II)	<b>Local Co-ordinate Reference:</b>	Well Epperly 13A-23-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5876.01ft
<b>Site:</b>	Epperly 23-692 Pad (Sec.23-T6S-R92W)	<b>MD Reference:</b>	WELL @ 5876.01ft
<b>Well:</b>	Epperly 13A-23-692	<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>	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)
4,869.00	9.200	190.70	4,774.98	-801.16	-168.33	818.63	2.10	-1.46	8.85
4,964.00	8.200	190.50	4,868.88	-815.28	-170.98	833.00	1.05	-1.05	-0.21
5,059.00	7.800	188.50	4,962.96	-828.32	-173.17	846.21	0.51	-0.42	-2.11
5,154.00	6.500	183.00	5,057.22	-840.06	-174.40	857.97	1.55	-1.37	-5.79
5,250.00	6.700	198.30	5,152.59	-850.81	-176.44	868.91	1.84	0.21	15.94
5,345.00	6.300	195.10	5,246.98	-861.10	-179.54	879.61	0.57	-0.42	-3.37
5,440.00	5.400	179.60	5,341.49	-870.61	-180.87	889.19	1.91	-0.95	-16.32
5,536.00	2.700	157.10	5,437.25	-877.21	-179.96	895.47	3.21	-2.81	-23.44
5,631.00	1.100	171.30	5,532.19	-880.17	-178.95	898.18	1.74	-1.68	14.95
5,726.00	0.800	75.40	5,627.18	-880.90	-178.17	898.74	1.50	-0.32	-100.95
5,821.00	0.400	302.80	5,722.18	-880.56	-177.80	898.33	1.17	-0.42	-139.58
5,917.00	0.100	285.50	5,818.18	-880.35	-178.17	898.20	0.32	-0.31	-18.02
6,012.00	0.500	67.80	5,913.18	-880.17	-177.86	897.96	0.61	0.42	149.79
6,107.00	0.300	172.30	6,008.18	-880.26	-177.45	897.97	0.68	-0.21	110.00
6,202.00	0.800	188.80	6,103.17	-881.17	-177.51	898.87	0.55	0.53	17.37
6,298.00	1.200	197.70	6,199.16	-882.79	-177.92	900.54	0.45	0.42	9.27
6,393.00	1.800	176.70	6,294.13	-885.22	-178.14	902.97	0.85	0.63	-22.11
6,488.00	1.500	178.00	6,389.09	-887.96	-178.01	905.62	0.32	-0.32	1.37
6,583.00	0.400	269.90	6,484.07	-889.20	-178.30	906.89	1.65	-1.16	96.74
6,679.00	2.000	339.20	6,580.05	-887.63	-179.23	905.55	1.97	1.67	72.19
6,774.00	1.300	357.50	6,675.01	-885.01	-179.86	903.10	0.91	-0.74	19.26
6,869.00	1.200	23.70	6,769.99	-883.02	-179.51	901.08	0.61	-0.11	27.58
6,965.00	0.900	40.80	6,865.98	-881.53	-178.61	899.44	0.45	-0.31	17.81
7,060.00	1.300	306.00	6,960.96	-880.33	-179.00	898.34	1.73	0.42	-99.79
7,155.00	1.400	260.80	7,055.94	-879.88	-181.02	898.31	1.10	0.11	-47.58
7,250.00	1.400	249.80	7,150.91	-880.47	-183.25	899.33	0.28	0.00	-11.58
7,345.00	2.600	252.70	7,245.85	-881.51	-186.40	900.98	1.27	1.26	3.05
7,441.00	1.800	226.20	7,341.78	-883.20	-189.56	903.27	1.33	-0.83	-27.60
7,536.00	1.400	195.50	7,436.75	-885.35	-190.95	905.65	0.98	-0.42	-32.32
7,631.00	2.500	206.90	7,531.69	-888.32	-192.20	908.81	1.22	1.16	12.00
Last Sharewell Survey									
7,690.00	2.500	206.90	7,590.64	-890.61	-193.36	911.29	0.00	0.00	0.00
Projection To Bit									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (ft)	Hole Diameter (ft)	
764.00	763.99	9 5/8" Csg.	0.80	1.02	

<b>Company:</b>	Bill Barrett Corp. (II)	<b>Local Co-ordinate Reference:</b>	Well Epperly 13A-23-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5876.01ft
<b>Site:</b>	Epperly 23-692 Pad (Sec.23-T6S-R92W)	<b>MD Reference:</b>	WELL @ 5876.01ft
<b>Well:</b>	Epperly 13A-23-692	<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>	CompassVM

#### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
675.00	674.99	-1.16	1.04	Tie-In Survey
787.00	786.99	-1.95	0.53	First Sharewell Survey
7,631.00	7,531.69	-888.32	-192.20	Last Sharewell Survey
7,690.00	7,590.64	-890.61	-193.36	Projection To Bit

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