



Bill Barrett Corporation

Bill Barrett Corp.

Garfield Co., CO (NAD83)

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

Epperly 13D-23-692

Wellbore #1

Design: Wellbore #1

Standard Survey Report

25 April, 2012





Project: Garfield Co., CO (NAD83)
Site: Epperly 23-692 Pad (Sec.23-T6S-R92W)
Well: Epperly 13D-23-692
Wellbore: Wellbore #1
Design: Design #1
Latitude: 39° 30' 42.689 N
Longitude: 107° 38' 26.300 W
Ground Level: 5854.00
WELL @ 5876.00usft



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 Epperly 13D-23-692, True North
Vertical (TVD) Reference: WELL @ 5876.00usft
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: WELL @ 5876.00usft
Calculation Method: Minimum Curvature

WELL DETAILS: Epperly 13D-23-692

+N/-S	+E/-W	Northing	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1618438.192	5854.00	39° 30' 42.689 N	107° 38' 26.300 W	
		2396102.658				

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

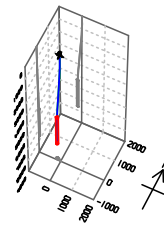
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Epperly 13D-23-692 Tgt	5375.00	69.95	-191.29	1618512.628	2395913.071	39° 30' 43.380 N	107° 38' 28.741 W	Circle (Radius: 50.00)

SECTION DETAILS

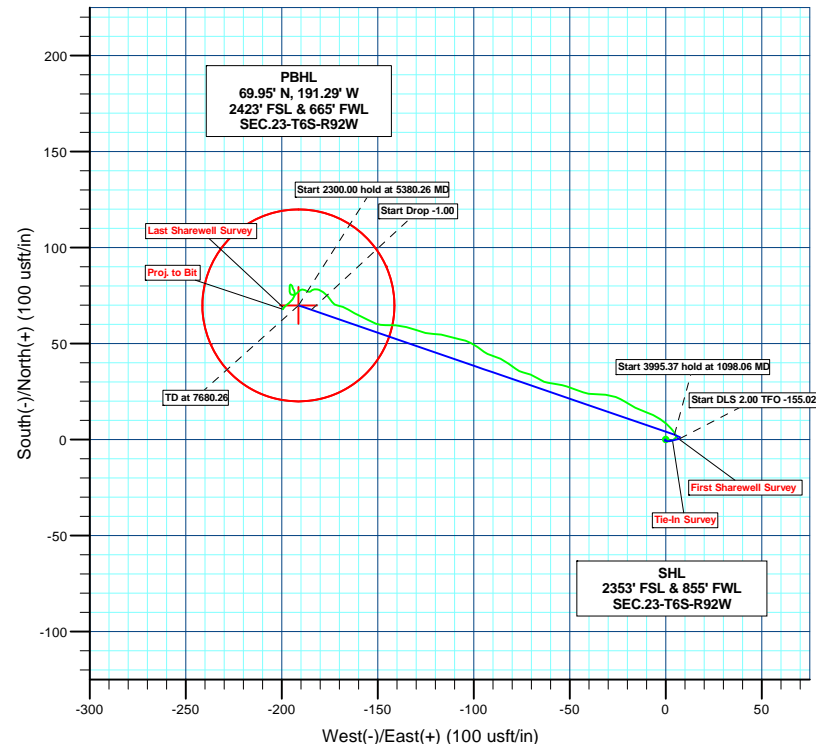
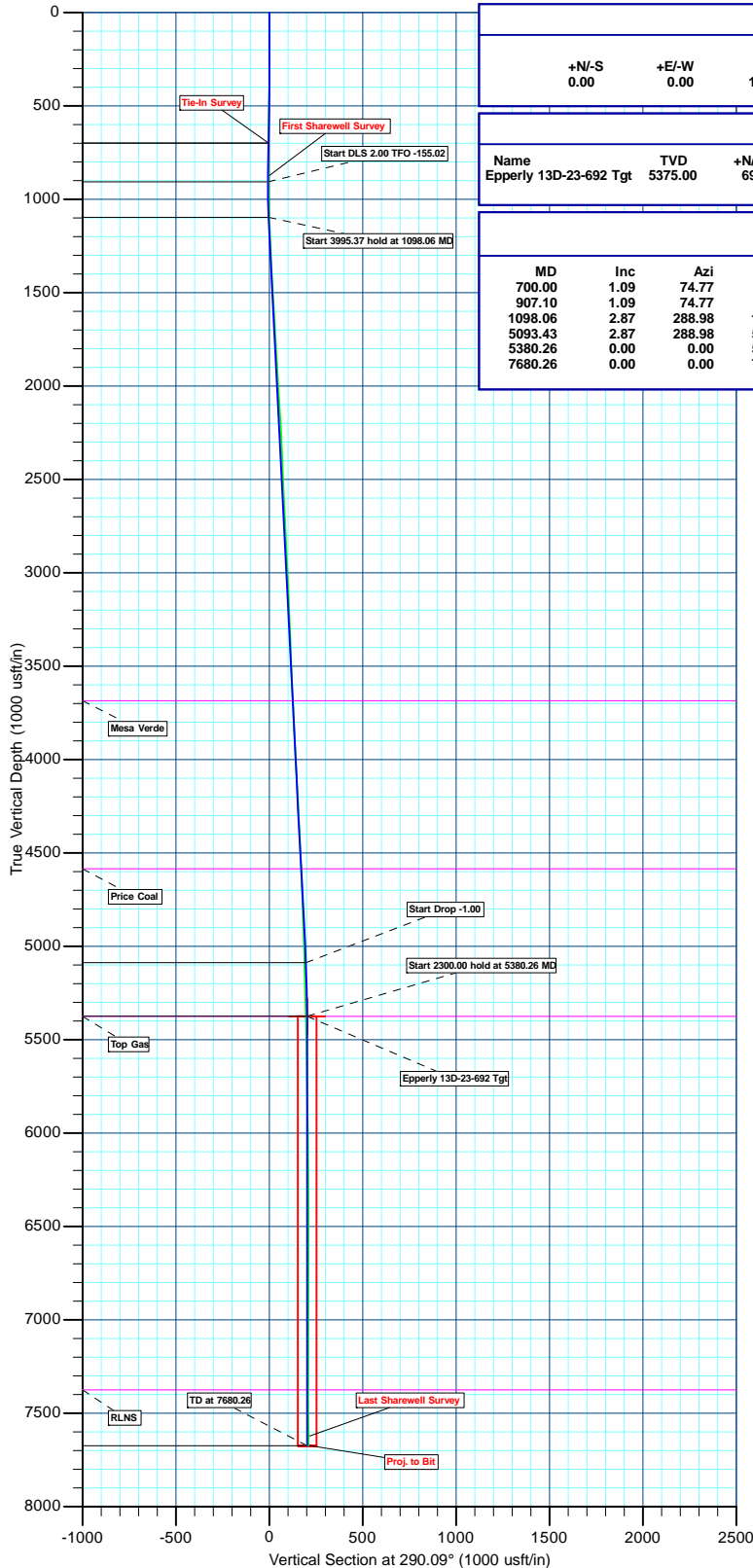
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Annotation
700.00	1.09	74.77	699.97	-0.48	3.52	0.00	0.00	-3.47	Tie Into MSEW Survey
907.10	1.09	74.77	907.03	0.56	7.33	0.00	0.00	-6.69	Start DLS 2.00 TFO -155.02
1098.06	2.87	288.98	1097.92	2.59	4.56	2.00	-155.02	-3.39	Start 3995.37 hold at 1098.06 MD
5093.43	2.87	288.98	5088.29	67.61	-184.50	0.00	0.00	196.50	Start Drop -1.00
5380.26	0.00	0.00	5375.00	69.95	-191.29	1.00	180.00	203.68	Start 2300.00 hold at 5380.26 MD
7680.26	0.00	0.00	7675.00	69.95	-191.29	0.00	0.00	203.68	TD at 7680.26

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3685.00	3688.38	Mesa Verde
4585.00	4589.51	Price Coal
5375.00	5380.26	Top Gas
7375.00	7380.26	RLNS



Azimuths to True North
Magnetic North: 10.13°
Magnetic Field
Strength: 52254.6nT
Dip Angle: 65.80°
Date: 2011/12/17
Model: IGRF2010



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

Created By: Bret Wolford Date: 9:25, April 25 2012

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Epperly 13D-23-692
Project:	Garfield Co., CO (NAD83)	TVD Reference:	WELL @ 5876.00usft
Site:	Epperly 23-692 Pad (Sec.23-T6S-R92W)	MD Reference:	WELL @ 5876.00usft
Well:	Epperly 13D-23-692	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	Epperly 23-692 Pad (Sec.23-T6S-R92W)				
Site Position:		Northing:	1,618,438.205 _{usft}	Latitude:	39° 30' 42.689 N
From:	Lat/Long	Easting:	2,396,102.658 _{usft}	Longitude:	107° 38' 26.300 W
Position Uncertainty:	0.00 _{usft}	Slot Radius:	13-3/16"	Grid Convergence:	-1.35 °

Well	Epperly 13D-23-692					
Well Position	+N/-S	0.00 usft	Northing:	1,618,438.192 usft	Latitude:	39° 30' 42.689 N
	+E/-W	0.00 usft	Easting:	2,396,102.658 usft	Longitude:	107° 38' 26.300 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,854.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/12/17	10.13	65.80	52,255

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	290.09	

Survey Program	Date	2012/04/25			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	700.00	Survey #1 (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s	
700.00	7,679.00	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	
100.00	0.21	272.86	100.00	0.01	-0.18	0.18	0.21	0.21	0.00	
200.00	0.10	227.50	200.00	-0.04	-0.43	0.39	0.16	-0.11	-45.36	
300.00	0.16	185.56	300.00	-0.24	-0.51	0.40	0.11	0.06	-41.94	
400.00	0.31	121.39	400.00	-0.52	-0.29	0.10	0.28	0.15	-64.17	
500.00	0.63	94.47	500.00	-0.70	0.49	-0.70	0.38	0.32	-26.92	
600.00	0.90	89.29	599.99	-0.74	1.82	-1.96	0.28	0.27	-5.18	
Tie-In Survey										
700.00	1.09	74.77	699.97	-0.48	3.52	-3.47	0.31	0.19	-14.52	
First Sharewell Survey										
878.00	0.90	15.50	877.95	1.32	5.53	-4.74	0.56	-0.11	-33.30	
970.00	1.90	324.10	969.92	3.25	4.83	-3.42	1.64	1.09	-55.87	

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Epperly 13D-23-692
Project:	Garfield Co., CO (NAD83)	TVD Reference:	WELL @ 5876.00usft
Site:	Epperly 23-692 Pad (Sec.23-T6S-R92W)	MD Reference:	WELL @ 5876.00usft
Well:	Epperly 13D-23-692	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)
1,062.00	2.10	320.40	1,061.87	5.78	2.86	-0.70	0.26	0.22	-4.02
1,154.00	2.30	310.20	1,153.80	8.27	0.38	2.49	0.48	0.22	-11.09
1,248.00	2.50	304.40	1,247.72	10.65	-2.75	6.24	0.33	0.21	-6.17
1,344.00	2.70	296.40	1,343.62	12.84	-6.51	10.52	0.43	0.21	-8.33
1,437.00	3.10	286.40	1,436.50	14.52	-10.88	15.21	0.69	0.43	-10.75
1,534.00	3.30	298.70	1,533.35	16.60	-15.85	20.58	0.74	0.21	12.68
1,629.00	3.90	302.00	1,628.16	19.63	-20.99	26.45	0.67	0.63	3.47
1,724.00	3.00	291.40	1,722.99	22.25	-26.04	32.10	1.16	-0.95	-11.16
1,820.00	3.40	276.60	1,818.84	23.49	-31.21	37.38	0.95	0.42	-15.42
1,915.00	3.80	268.70	1,913.65	23.74	-37.15	43.05	0.67	0.42	-8.32
2,010.00	3.40	290.60	2,008.47	24.66	-42.94	48.80	1.50	-0.42	23.05
2,105.00	4.00	289.00	2,103.27	26.73	-48.71	54.92	0.64	0.63	-1.68
2,200.00	2.70	287.30	2,198.11	28.48	-53.98	60.47	1.37	-1.37	-1.79
2,295.00	3.20	273.40	2,292.98	29.30	-58.76	65.25	0.91	0.53	-14.63
2,391.00	2.50	290.60	2,388.87	30.19	-63.39	69.91	1.14	-0.73	17.92
2,486.00	2.30	305.10	2,483.78	32.02	-66.89	73.82	0.67	-0.21	15.26
2,581.00	2.50	293.20	2,578.70	33.93	-70.36	77.73	0.56	0.21	-12.53
2,676.00	2.50	279.60	2,673.61	35.09	-74.30	81.84	0.62	0.00	-14.32
2,771.00	2.80	309.60	2,768.51	36.92	-78.14	86.06	1.48	0.32	31.58
2,867.00	2.80	302.20	2,864.40	39.66	-81.93	90.56	0.38	0.00	-7.71
2,962.00	3.00	299.50	2,959.28	42.12	-86.05	95.29	0.25	0.21	-2.84
3,057.00	2.90	282.80	3,054.15	43.88	-90.56	100.12	0.91	-0.11	-17.58
3,153.00	2.60	308.80	3,150.05	45.78	-94.63	104.59	1.32	-0.31	27.08
3,248.00	2.40	305.30	3,244.96	48.28	-97.93	108.55	0.26	-0.21	-3.68
3,344.00	2.20	296.40	3,340.88	50.26	-101.22	112.32	0.43	-0.21	-9.27
3,439.00	1.80	289.20	3,435.82	51.56	-104.26	115.63	0.50	-0.42	-7.58
3,534.00	2.60	279.70	3,530.75	52.42	-107.80	119.24	0.92	0.84	-10.00
3,629.00	3.10	286.90	3,625.63	53.53	-112.38	123.92	0.65	0.53	7.58
3,725.00	2.60	282.10	3,721.51	54.74	-116.99	128.67	0.58	-0.52	-5.00
3,820.00	2.40	266.70	3,816.43	55.08	-121.08	132.63	0.74	-0.21	-16.21
3,915.00	2.60	287.00	3,911.34	55.59	-125.13	136.61	0.95	0.21	21.37
4,010.00	3.30	288.30	4,006.21	57.08	-129.79	141.49	0.74	0.74	1.37
4,106.00	3.40	284.40	4,102.05	58.66	-135.17	147.09	0.26	0.10	-4.06
4,201.00	3.30	273.10	4,196.88	59.50	-140.62	152.51	0.70	-0.11	-11.89
4,296.00	3.20	269.10	4,291.73	59.61	-146.01	157.60	0.26	-0.11	-4.21
4,391.00	3.00	291.40	4,386.60	60.48	-150.97	162.56	1.28	-0.21	23.47
4,486.00	2.60	300.80	4,481.48	62.49	-155.14	167.16	0.64	-0.42	9.89
4,582.00	2.10	289.90	4,577.40	64.20	-158.66	171.06	0.70	-0.52	-11.35
4,677.00	2.50	302.10	4,672.33	65.89	-162.05	174.83	0.66	0.42	12.84
4,772.00	2.00	297.10	4,767.25	67.75	-165.28	178.50	0.56	-0.53	-5.26
4,868.00	1.80	293.90	4,863.20	69.12	-168.15	181.67	0.24	-0.21	-3.33
4,963.00	1.80	277.90	4,958.15	69.93	-171.00	184.61	0.53	0.00	-16.84
5,058.00	2.50	322.80	5,053.09	71.79	-173.73	187.82	1.86	0.74	47.26
5,154.00	2.00	321.00	5,149.02	74.76	-176.05	191.01	0.53	-0.52	-1.87
5,249.00	1.80	304.40	5,243.97	76.89	-178.32	193.88	0.61	-0.21	-17.47
5,344.00	1.40	286.90	5,338.93	78.07	-180.66	196.49	0.66	-0.42	-18.42
5,439.00	1.10	266.70	5,433.91	78.35	-182.68	198.48	0.56	-0.32	-21.26
5,535.00	0.80	238.40	5,529.90	77.95	-184.17	199.74	0.57	-0.31	-29.48
5,630.00	0.80	221.30	5,624.89	77.10	-185.18	200.39	0.25	0.00	-18.00
5,725.00	1.10	304.50	5,719.88	77.12	-186.37	201.52	1.35	0.32	87.58
5,820.00	1.00	293.10	5,814.86	77.96	-187.88	203.23	0.24	-0.11	-12.00
5,916.00	0.70	264.60	5,910.85	78.24	-189.23	204.59	0.53	-0.31	-29.69
6,011.00	0.90	239.80	6,005.84	77.81	-190.46	205.60	0.42	0.21	-26.11
6,106.00	1.60	222.40	6,100.82	76.45	-192.00	206.58	0.83	0.74	-18.32

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Epperly 13D-23-692
Project:	Garfield Co., CO (NAD83)	TVD Reference:	WELL @ 5876.00usft
Site:	Epperly 23-692 Pad (Sec.23-T6S-R92W)	MD Reference:	WELL @ 5876.00usft
Well:	Epperly 13D-23-692	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)	
6,201.00	0.80	262.40	6,195.80	75.39	-193.55	207.67	1.17	-0.84	42.11	
6,297.00	1.00	289.00	6,291.79	75.57	-195.00	209.10	0.48	0.21	27.71	
6,392.00	1.50	358.80	6,386.77	77.08	-195.81	210.38	1.57	0.53	73.47	
6,488.00	1.00	2.20	6,482.75	79.18	-195.81	211.09	0.53	-0.52	3.54	
6,583.00	0.40	7.60	6,577.74	80.33	-195.73	211.42	0.63	-0.63	5.68	
6,678.00	0.50	69.90	6,672.74	80.80	-195.30	211.17	0.50	0.11	65.58	
6,773.00	1.10	159.60	6,767.73	80.09	-194.59	210.26	1.27	0.63	94.42	
6,869.00	0.20	162.90	6,863.72	79.07	-194.22	209.56	0.94	-0.94	3.44	
6,964.00	0.60	162.60	6,958.72	78.44	-194.02	209.16	0.42	0.42	-0.32	
7,059.00	0.40	119.20	7,053.72	77.80	-193.59	208.53	0.44	-0.21	-45.68	
7,154.00	1.20	176.20	7,148.71	76.64	-193.23	207.80	1.09	0.84	60.00	
7,249.00	0.90	191.60	7,243.69	74.92	-193.32	207.29	0.43	-0.32	16.21	
7,344.00	1.80	217.70	7,338.66	73.01	-194.38	207.63	1.12	0.95	27.47	
7,440.00	1.30	235.70	7,434.63	71.20	-196.20	208.72	0.72	-0.52	18.75	
7,535.00	1.10	228.30	7,529.61	69.99	-197.77	209.78	0.27	-0.21	-7.79	
Last Sharewell Survey										
7,630.00	1.00	213.30	7,624.59	68.69	-198.91	210.40	0.31	-0.11	-15.79	
Proj. to Bit										
7,679.00	1.00	213.30	7,673.59	67.98	-199.38	210.59	0.00	0.00	0.00	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
807.10	807.06	9 5/8" Csg.		9-5/8	12-1/4

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
700.00	699.97	-0.48	3.52	Tie-In Survey	
878.00	877.95	1.32	5.53	First Sharewell Survey	
7,630.00	7,624.59	68.69	-198.91	Last Sharewell Survey	
7,679.00	7,673.59	67.98	-199.38	Proj. to Bit	

Checked By: _____ Approved By: _____ Date: _____