

Bill Barrett Corp. (IV)

Garfield County, Colorado [NAD83]

MDP 13 Pad

Federal 32B-20-691

Wellbore #1

Design: Wellbore #1

Standard Survey Report

21 December, 2011

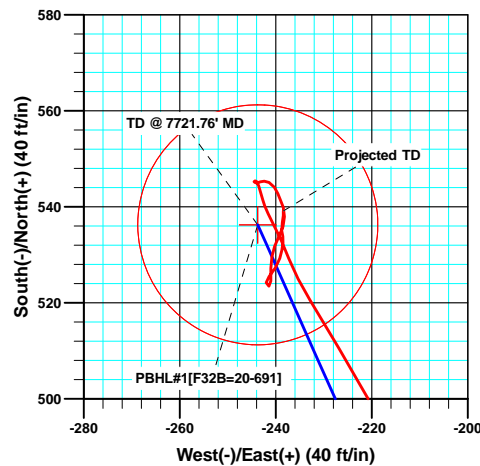
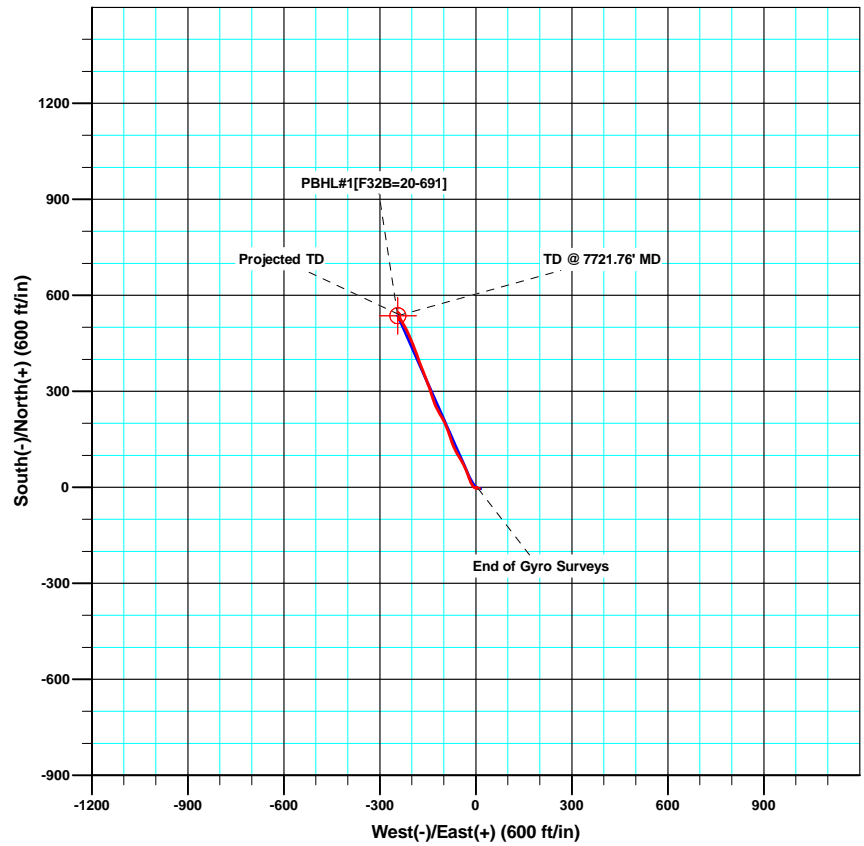
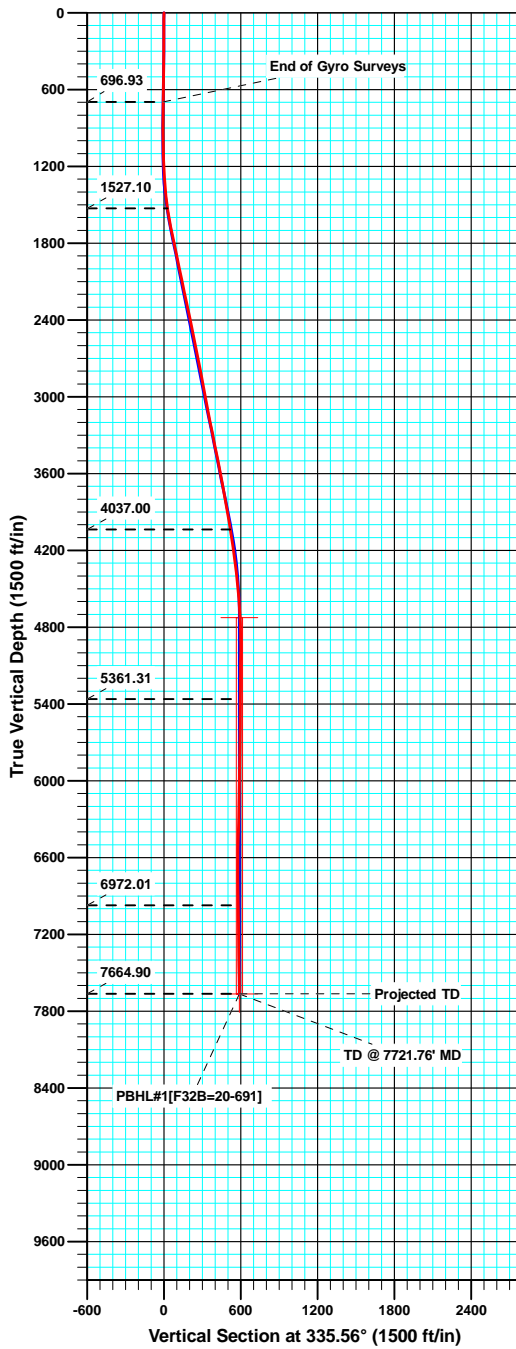
WELL DETAILS: FED 32B-20-691



North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.00 0.00 1618540.50 2414638.42 39° 30' 47.95 N 107° 34' 29.88 W

Ground Level: 6452.00

MDP 13 Pad



Azimuths to True North
 Magnetic North: 10.16°

Magnetic Field
 Strength: 52310.4snT
 Dip Angle: 65.83°
 Date: 6/16/2011
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
696.93	697.00	1.470	95.51	-3.56	7.02	-6.15	9.08	End of Gyro Surveys
1527.10	1529.00	7.900	338.70	21.86	-18.26	27.45	56.79	As of Aug. 6
4037.00	4087.00	8.800	335.70	474.65	-208.32	518.31	549.15	As of Aug. 7
5361.31	5416.00	0.500	75.30	545.22	-243.21	596.99	631.32	As of Aug. 8
6972.01	7027.00	1.400	33.40	527.31	-240.08	579.39	661.98	As of Aug 9
7664.90	7720.00	1.100	0.20	539.14	-238.44	589.48	674.20	Projected TD

Sharewell

Survey Report

Company:	Bill Barrett Corp. (IV)	Local Co-ordinate Reference:	Well Federal 32B-20-691
Project:	Garfield County, Colorado [NAD83]	TVD Reference:	WELL @ 6452.00ft (Original Well Elev)
Site:	MDP 13 Pad	MD Reference:	WELL @ 6452.00ft (Original Well Elev)
Well:	Federal 32B-20-691	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Compass VM

Project	Garfield County, Colorado [NAD83]		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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° 30' 48.08 N
From:	Lat/Long	Easting:	2,414,651.31 usft	Longitude:	107° 34' 29.72 W
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-1.31 °

Well	Federal 32B-20-691					
Well Position	+N/-S	0.00 ft	Northing:	1,618,540.50 usft	Latitude:	39° 30' 47.95 N
	+E/-W	0.00 ft	Easting:	2,414,638.42 usft	Longitude:	107° 34' 29.88 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,452.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/16/2011	10.16	65.83	52,310

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	335.56	

Survey Program	Date	12/21/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
50.00	697.00	Gyro (Wellbore #1)	Gyro	Gyro	
700.00	7,720.00	MWD Surveys (Wellbore #1)			

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)	
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
50.00	0.340	87.61	50.00	0.01	0.15	-0.06	0.68	0.68	0.00	
100.00	0.720	111.20	100.00	-0.10	0.59	-0.34	0.86	0.76	47.18	
150.00	0.710	145.20	149.99	-0.47	1.06	-0.87	0.84	-0.02	68.00	
200.00	0.560	169.39	199.99	-0.96	1.28	-1.41	0.61	-0.30	48.38	
250.00	0.160	217.26	249.99	-1.26	1.28	-1.68	0.94	-0.80	95.74	
300.00	0.440	183.87	299.99	-1.51	1.23	-1.88	0.64	0.56	-66.78	
350.00	0.630	66.25	349.99	-1.59	1.47	-2.05	1.84	0.38	-235.24	
400.00	0.830	78.51	399.98	-1.40	2.07	-2.14	0.51	0.40	24.52	
450.00	0.830	104.58	449.98	-1.42	2.78	-2.45	0.75	0.00	52.14	

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Site:	MDP 13 Pad	MD Reference:	WELL @ 6452.00ft (Original Well Elev)
Well:	Federal 32B-20-691	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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	1.090	115.46	499.97	-1.72	3.56	-3.04	0.63	0.52	21.76
550.00	0.940	133.52	549.96	-2.21	4.29	-3.78	0.70	-0.30	36.12
600.00	1.150	131.18	599.96	-2.82	4.96	-4.62	0.43	0.42	-4.68
650.00	1.350	108.21	649.94	-3.33	5.90	-5.47	1.07	0.40	-45.94
697.00	1.470	95.51	696.93	-3.56	7.02	-6.15	0.71	0.26	-27.02
700.00	1.470	95.51	699.93	-3.57	7.10	-6.19	0.00	0.00	0.00
800.00	1.470	95.51	799.90	-3.82	9.65	-7.47	0.00	0.00	0.00
831.30	1.470	95.51	831.19	-3.90	10.45	-7.87	0.00	0.00	0.00
899.00	0.100	300.90	898.88	-3.95	11.27	-8.26	2.31	-2.02	-228.38
960.00	1.500	275.90	959.87	-3.84	10.43	-7.81	2.31	2.30	-40.98
1,055.00	3.200	276.00	1,054.79	-3.43	6.55	-5.84	1.79	1.79	0.11
1,150.00	3.600	276.40	1,149.62	-2.82	0.95	-2.96	0.42	0.42	0.42
1,244.00	4.000	303.40	1,243.42	-0.69	-4.72	1.32	1.93	0.43	28.72
1,339.00	4.000	327.90	1,338.20	3.94	-9.25	7.41	1.79	0.00	25.79
1,434.00	6.200	331.60	1,432.82	11.26	-13.45	15.82	2.34	2.32	3.89
1,529.00	7.900	338.70	1,527.10	21.86	-18.26	27.45	2.01	1.79	7.47
1,624.00	10.400	340.00	1,620.88	36.00	-23.56	42.52	2.64	2.63	1.37
1,719.00	12.000	338.60	1,714.07	53.25	-30.10	60.94	1.71	1.68	-1.47
1,814.00	11.800	330.30	1,807.03	70.89	-38.52	80.47	1.81	-0.21	-8.74
1,909.00	12.000	332.00	1,899.99	88.04	-47.97	100.00	0.42	0.21	1.79
2,004.00	11.700	327.90	1,992.97	104.92	-57.72	119.41	0.94	-0.32	-4.32
2,099.00	11.900	334.60	2,085.96	121.93	-67.04	138.75	1.46	0.21	7.05
2,194.00	12.000	340.80	2,178.91	140.11	-74.49	158.37	1.35	0.11	6.53
2,289.00	12.000	340.90	2,271.83	158.77	-80.97	178.04	0.02	0.00	0.11
2,383.00	11.800	339.50	2,363.81	177.00	-87.53	197.36	0.37	-0.21	-1.49
2,478.00	12.100	339.30	2,456.75	195.42	-94.46	216.99	0.32	0.32	-0.21
2,573.00	11.700	329.30	2,549.72	213.01	-102.89	236.50	2.21	-0.42	-10.53
2,665.00	10.500	330.80	2,640.00	228.35	-111.75	254.13	1.34	-1.30	1.63
2,760.00	10.900	330.50	2,733.35	243.73	-120.39	271.70	0.43	0.42	-0.32
2,855.00	11.100	339.60	2,826.61	260.12	-128.00	289.77	1.84	0.21	9.58
2,949.00	10.800	341.90	2,918.90	276.97	-133.89	307.55	0.56	-0.32	2.45
3,044.00	10.700	341.90	3,012.23	293.81	-139.40	325.16	0.11	-0.11	0.00
3,139.00	11.100	341.30	3,105.52	310.86	-145.07	343.03	0.44	0.42	-0.63
3,234.00	11.100	338.20	3,198.74	328.01	-151.40	361.26	0.63	0.00	-3.26
3,329.00	11.500	338.00	3,291.90	345.28	-158.34	379.86	0.42	0.42	-0.21
3,424.00	11.700	339.80	3,384.96	363.10	-165.22	398.92	0.44	0.21	1.89
3,518.00	11.300	339.40	3,477.07	380.67	-171.75	417.62	0.43	-0.43	-0.43
3,613.00	11.300	339.30	3,570.23	398.09	-178.31	436.19	0.02	0.00	-0.11
3,708.00	10.900	339.50	3,663.45	415.21	-184.75	454.44	0.42	-0.42	0.21
3,803.00	10.100	339.30	3,756.86	431.41	-190.84	471.71	0.84	-0.84	-0.21
3,899.00	9.500	337.90	3,851.46	446.63	-196.79	488.03	0.67	-0.63	-1.46
3,994.00	9.400	338.40	3,945.17	461.10	-202.60	503.61	0.14	-0.11	0.53
4,087.00	8.800	335.70	4,037.00	474.65	-208.32	518.31	0.79	-0.65	-2.90

Sharewell

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4,182.00	8.300	334.50	4,130.94	487.46	-214.26	532.43	0.56	-0.53	-1.26	
4,277.00	8.000	331.00	4,224.99	499.43	-220.42	545.88	0.61	-0.32	-3.68	
4,372.00	7.600	329.20	4,319.11	510.61	-226.84	558.71	0.49	-0.42	-1.89	
4,467.00	6.500	328.70	4,413.39	520.60	-232.85	570.29	1.16	-1.16	-0.53	
4,561.00	5.400	338.40	4,506.88	529.26	-237.25	579.99	1.58	-1.17	10.32	
4,656.00	4.400	332.00	4,601.53	536.63	-240.60	588.10	1.20	-1.05	-6.74	
4,750.00	2.000	347.70	4,695.38	541.42	-242.65	593.30	2.69	-2.55	16.70	
4,846.00	1.700	338.10	4,791.33	544.38	-243.53	596.36	0.45	-0.31	-10.00	
4,941.00	0.400	220.40	4,886.32	545.43	-244.27	597.63	2.02	-1.37	-123.89	
5,036.00	0.100	347.60	4,981.32	545.26	-244.51	597.57	0.49	-0.32	133.89	
5,131.00	0.400	133.10	5,076.32	545.12	-244.28	597.34	0.51	0.32	153.16	
5,226.00	0.200	71.80	5,171.32	544.94	-243.88	597.02	0.37	-0.21	-64.53	
5,321.00	0.100	45.60	5,266.32	545.05	-243.67	597.03	0.13	-0.11	-27.58	
5,416.00	0.500	75.30	5,361.31	545.22	-243.21	596.99	0.44	0.42	31.26	
5,510.00	0.500	87.90	5,455.31	545.33	-242.40	596.76	0.12	0.00	13.40	
5,603.00	0.800	112.00	5,548.31	545.11	-241.39	596.14	0.43	0.32	25.91	
5,698.00	1.100	145.80	5,643.29	544.10	-240.26	594.76	0.66	0.32	35.58	
5,793.00	0.800	160.50	5,738.28	542.72	-239.53	593.20	0.40	-0.32	15.47	
5,887.00	0.900	156.80	5,832.27	541.43	-239.02	591.81	0.12	0.11	-3.94	
5,982.00	1.100	160.50	5,927.25	539.88	-238.42	590.15	0.22	0.21	3.89	
6,078.00	1.300	182.80	6,023.23	537.93	-238.17	588.26	0.52	0.21	23.23	
6,173.00	1.200	195.00	6,118.21	535.89	-238.48	586.54	0.30	-0.11	12.84	
6,264.00	1.500	208.00	6,209.19	533.92	-239.28	585.08	0.47	0.33	14.29	
6,362.00	1.200	200.10	6,307.16	531.82	-240.24	583.56	0.36	-0.31	-8.06	
6,457.00	1.500	189.40	6,402.13	529.66	-240.78	581.82	0.41	0.32	-11.26	
6,550.00	1.600	182.40	6,495.10	527.16	-241.04	579.65	0.23	0.11	-7.53	
6,644.00	1.600	176.30	6,589.06	524.54	-241.01	577.25	0.18	0.00	-6.49	
6,739.00	0.700	298.70	6,684.05	523.50	-241.43	576.48	2.17	-0.95	128.84	
6,836.00	0.500	354.60	6,781.05	524.20	-241.99	577.35	0.61	-0.21	57.63	
6,932.00	1.300	37.30	6,877.03	525.48	-241.37	578.26	1.03	0.83	44.48	
7,027.00	1.400	33.40	6,972.01	527.31	-240.08	579.39	0.14	0.11	-4.11	
7,122.00	1.300	16.10	7,066.98	529.31	-239.14	580.83	0.44	-0.11	-18.21	
7,216.00	0.800	12.80	7,160.97	530.98	-238.70	582.16	0.54	-0.53	-3.51	
7,311.00	1.100	4.70	7,255.95	532.53	-238.48	583.48	0.35	0.32	-8.53	
7,406.00	0.500	343.90	7,350.94	533.84	-238.52	584.69	0.69	-0.63	-21.89	
7,501.00	1.000	353.80	7,445.93	535.06	-238.72	585.89	0.54	0.53	10.42	
7,596.00	1.100	13.20	7,540.92	536.78	-238.60	587.40	0.39	0.11	20.42	
7,670.00	1.100	0.20	7,614.91	538.18	-238.44	588.61	0.34	0.00	-17.57	
7,720.00	1.100	0.20	7,664.90	539.14	-238.44	589.48	0.00	0.00	0.00	

Sharewell

Survey Report

Company:	Bill Barrett Corp. (IV)	Local Co-ordinate Reference:	Well Federal 32B-20-691
Project:	Garfield County, Colorado [NAD83]	TVD Reference:	WELL @ 6452.00ft (Original Well Elev)
Site:	MDP 13 Pad	MD Reference:	WELL @ 6452.00ft (Original Well Elev)
Well:	Federal 32B-20-691	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Compass VM

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
697.00	696.93	-3.56	7.02	End of Gyro Surveys
1,529.00	1,527.10	21.86	-18.26	As of Aug. 6
4,087.00	4,037.00	474.65	-208.32	As of Aug. 7
5,416.00	5,361.31	545.22	-243.21	As of Aug. 8
7,027.00	6,972.01	527.31	-240.08	As of Aug 9
7,720.00	7,664.90	539.14	-238.44	Projected TD

Checked By: _____ Approved By: _____ Date: _____