



Bill Barrett Corp. (II)
 Project: Weld Co., CO (NAD 83)
 Site: Sec. 27-T6N-R62W
 Well: Pappenheim 6-62-27-0108BH
 Wellbore: OH
 Design: Plan #3 23May13 RG
 Lat: 40° 27' 42.91 N
 Long: 104° 19' 2.80 W
 Pad GL: 4750.00
 RKB:15' @ 4765.00ft ((Cade 24))



SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Annotation
8680.00	91.200	82.90	6401.26	659.32	2338.25	0.00	0.00	2416.30	Tie In - Start 66.00 hold at 8680.00 MD
8746.00	91.200	82.90	6399.88	667.48	2403.73	0.00	0.00	2482.21	Start DLS 4.00 TFO 120.62
8834.09	89.405	85.93	6399.42	676.05	2491.39	4.00	120.62	2570.05	Start 542.40 hold at 8834.09 MD
9376.50	89.405	85.93	6405.05	714.52	3032.40	0.00	0.00	3109.73	Start DLS 4.00 TFO 50.05
9419.15	90.500	87.24	6405.09	717.06	3074.97	4.00	50.05	3152.11	Start 1500.00 hold at 9419.15 MD
10919.15	90.500	87.24	6392.00	789.29	4573.18	0.00	0.00	4640.79	TD at 10919.15

PROJECT DETAILS: Weld Co., CO (NAD 83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level

WELL DETAILS: Pappenheim 6-62-27-0108BH

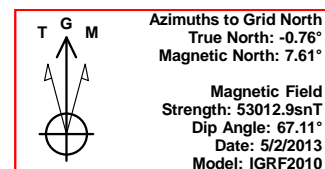
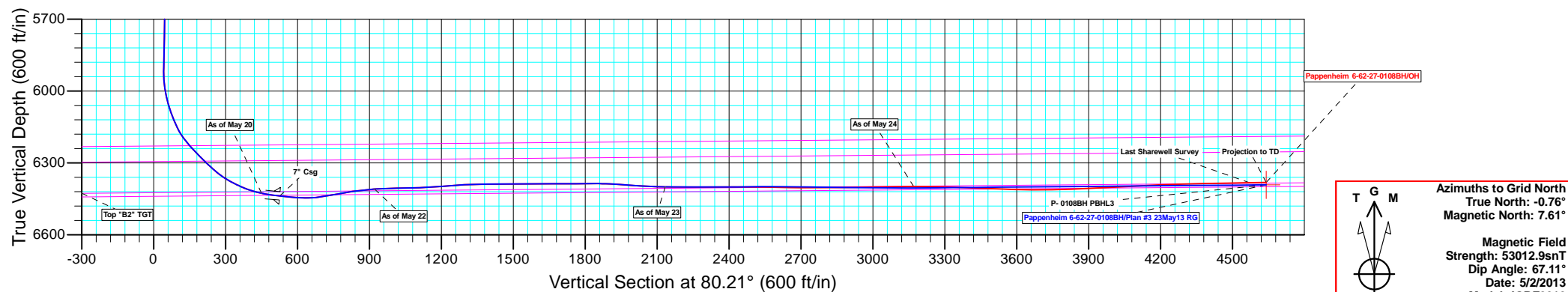
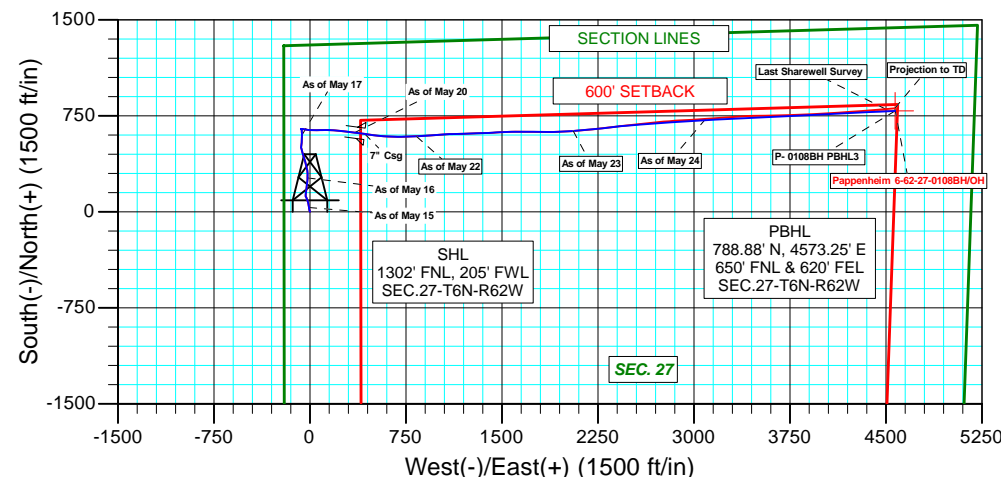
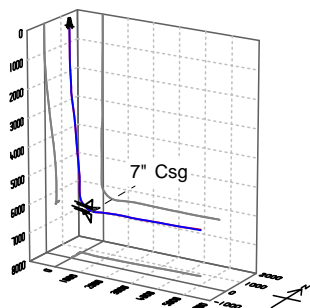
+N-S	+E-W	Northing	Ground Level:	4750.00	Latitude	Longitude	Slot
0.00	0.00	1413311.88	Easting	3329043.39	40° 27' 42.91 N	104° 19' 2.80 W	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape
P- 0108BH PBHL3	6392.00	789.29	4573.18	40° 27' 50.10 N	104° 18' 3.50 W	Point

CASING DETAILS

TVD	MD	Name
6438.37	6762.27	7" Csg



Plan: Plan #3 23May13 RG (Pappenheim 6-62-27-0108BH/OH)

Created By: Rolando Garza

Date: 6:43, May 28 2013

Company:	Bill Barrett Corp. (II)	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-0108BH
Project:	Weld Co., CO (NAD 83)	TVD Reference:	RKB:15' @ 4765.00ft ((Cade 24))
Site:	Sec. 27-T6N-R62W	MD Reference:	RKB:15' @ 4765.00ft ((Cade 24))
Well:	Pappenheim 6-62-27-0108BH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Project	Weld Co., CO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec. 27-T6N-R62W				
Site Position:		Northing:	1,413,311.88 usft	Latitude:	40° 27' 42.91 N
From:	Lat/Long	Easting:	3,329,043.40 usft	Longitude:	104° 19' 2.80 W
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	0.76 °

Well	Pappenheim 6-62-27-0108BH					
Well Position	+N/-S	0.00 ft	Northing:	1,413,311.88 usft	Latitude:	40° 27' 42.91 N
	+E/-W	0.00 ft	Easting:	3,329,043.40 usft	Longitude:	104° 19' 2.80 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,750.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2013	8.37	67.11	53,013

Design	OH				
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	80.21	

Survey Program	Date	5/28/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
857.00	10,918.00	MWD (OH)	MWD	MWD - Standard	

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
857.00	0.000	316.70	857.00	0.00	0.00	0.00	0.00	0.00	0.00
887.00	0.000	160.30	887.00	0.00	0.00	0.00	0.00	0.00	0.00
918.00	0.100	66.80	918.00	0.01	0.02	0.03	0.32	0.32	0.00
949.00	0.100	60.00	949.00	0.03	0.07	0.08	0.04	0.00	-21.94
980.00	0.800	39.80	980.00	0.21	0.24	0.27	2.28	2.26	-65.16
1,010.00	1.800	359.30	1,009.99	0.85	0.36	0.50	4.33	3.33	-135.00
1,105.00	1.600	350.30	1,104.95	3.65	0.12	0.74	0.35	-0.21	-9.47
1,199.00	3.700	335.70	1,198.84	7.70	-1.35	-0.02	2.33	2.23	-15.53
1,294.00	5.500	348.60	1,293.54	14.96	-3.51	-0.91	2.17	1.89	13.58

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Site:	Sec. 27-T6N-R62W	MD Reference:	RKB:15' @ 4765.00ft ((Cade 24))
Well:	Pappenheim 6-62-27-0108BH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
1,389.00	6.300	350.70	1,388.03	24.57	-5.25	-1.00	0.87	0.84	2.21
1,483.00	7.600	353.30	1,481.34	35.83	-6.81	-0.62	1.42	1.38	2.77
As of May 15									
1,578.00	8.500	352.00	1,575.40	49.02	-8.52	-0.06	0.97	0.95	-1.37
1,672.00	8.000	347.90	1,668.43	62.30	-10.86	-0.11	0.82	-0.53	-4.36
1,767.00	7.200	342.40	1,762.60	74.44	-14.04	-1.18	1.14	-0.84	-5.79
1,862.00	7.200	341.90	1,856.85	85.77	-17.69	-2.85	0.07	0.00	-0.53
1,956.00	6.400	341.10	1,950.19	96.33	-21.22	-4.53	0.86	-0.85	-0.85
2,051.00	5.500	339.00	2,044.67	105.59	-24.57	-6.26	0.97	-0.95	-2.21
2,145.00	5.600	334.10	2,138.23	113.92	-28.19	-8.40	0.52	0.11	-5.21
2,240.00	5.800	341.80	2,232.77	122.65	-31.71	-10.39	0.83	0.21	8.11
2,334.00	8.500	1.80	2,326.04	134.11	-32.98	-9.69	3.87	2.87	21.28
2,429.00	10.600	7.00	2,419.72	149.80	-31.69	-5.76	2.39	2.21	5.47
2,523.00	10.700	8.40	2,512.10	167.01	-29.36	-0.53	0.30	0.11	1.49
2,618.00	10.500	11.70	2,605.48	184.22	-26.32	5.39	0.67	-0.21	3.47
2,712.00	9.900	6.40	2,698.00	200.63	-23.68	10.78	1.18	-0.64	-5.64
2,807.00	10.100	6.70	2,791.55	217.02	-21.80	15.42	0.22	0.21	0.32
2,901.00	10.400	6.10	2,884.05	233.64	-19.93	20.08	0.34	0.32	-0.64
2,996.00	10.200	4.00	2,977.52	250.56	-18.44	24.44	0.45	-0.21	-2.21
3,090.00	9.500	1.30	3,070.14	266.62	-17.68	27.91	0.89	-0.74	-2.87
As of May 16									
3,185.00	9.700	359.30	3,163.81	282.46	-17.60	30.69	0.41	0.21	-2.11
3,280.00	9.700	358.60	3,257.45	298.46	-17.89	33.12	0.12	0.00	-0.74
3,374.00	7.800	354.40	3,350.35	312.73	-18.71	34.74	2.13	-2.02	-4.47
3,469.00	8.800	351.50	3,444.36	326.33	-20.41	35.37	1.14	1.05	-3.05
3,563.00	9.200	347.80	3,537.20	340.79	-23.06	35.22	0.75	0.43	-3.94
3,658.00	10.900	341.60	3,630.74	356.74	-27.50	33.56	2.12	1.79	-6.53
3,752.00	13.500	347.70	3,722.61	375.89	-32.65	31.74	3.08	2.77	6.49
3,847.00	14.500	345.40	3,814.79	398.24	-38.01	30.26	1.20	1.05	-2.42
3,940.00	14.100	344.80	3,904.91	420.44	-43.91	28.22	0.46	-0.43	-0.65
4,035.00	13.100	341.70	3,997.25	441.83	-50.33	25.53	1.30	-1.05	-3.26
4,130.00	12.300	341.00	4,089.92	461.62	-57.00	22.32	0.86	-0.84	-0.74
4,224.00	9.900	347.60	4,182.16	478.98	-62.00	20.35	2.88	-2.55	7.02
4,319.00	8.000	342.60	4,276.00	493.26	-65.73	19.10	2.16	-2.00	-5.26
4,414.00	8.600	359.20	4,370.02	506.68	-67.81	19.34	2.59	0.63	17.47
4,508.00	8.700	5.80	4,462.95	520.78	-67.18	22.35	1.06	0.11	7.02
4,602.00	7.900	9.90	4,555.97	534.21	-65.36	26.43	1.06	-0.85	4.36
4,697.00	7.600	9.20	4,650.10	546.85	-63.23	30.68	0.33	-0.32	-0.74
4,792.00	8.300	4.20	4,744.19	559.89	-61.72	34.38	1.04	0.74	-5.26
4,886.00	8.500	1.70	4,837.18	573.60	-61.02	37.40	0.44	0.21	-2.66
4,980.00	8.300	359.50	4,930.17	587.33	-60.87	39.88	0.40	-0.21	-2.34
5,075.00	7.100	359.60	5,024.31	600.05	-60.97	41.95	1.26	-1.26	0.11
As of May 17									
5,169.00	6.200	357.60	5,117.68	610.93	-61.23	43.55	0.99	-0.96	-2.13

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Site:	Sec. 27-T6N-R62W	MD Reference:	RKB:15' @ 4765.00ft ((Cade 24))
Well:	Pappenheim 6-62-27-0108BH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
5,261.00	4.700	352.50	5,209.26	619.64	-61.93	44.34	1.71	-1.63	-5.54
5,355.00	3.900	349.80	5,302.99	626.60	-63.00	44.47	0.88	-0.85	-2.87
5,450.00	3.600	354.30	5,397.79	632.75	-63.86	44.66	0.44	-0.32	4.74
5,544.00	3.200	353.90	5,491.63	638.29	-64.44	45.04	0.43	-0.43	-0.43
5,639.00	1.600	17.40	5,586.54	642.20	-64.32	45.81	1.94	-1.68	24.74
5,734.00	2.100	339.50	5,681.50	645.09	-64.53	46.10	1.36	0.53	-39.89
5,828.00	1.200	276.40	5,775.46	646.81	-66.12	44.83	2.01	-0.96	-67.13
5,923.00	1.000	272.20	5,870.44	646.96	-67.93	43.06	0.23	-0.21	-4.42
5,954.00	0.700	272.70	5,901.44	646.98	-68.39	42.61	0.97	-0.97	1.61
5,986.00	0.900	271.00	5,933.44	646.99	-68.84	42.18	0.63	0.63	-5.31
6,017.00	5.700	84.70	5,964.39	647.14	-67.55	43.47	21.28	15.48	560.32
6,049.00	9.500	89.30	5,996.11	647.32	-63.32	47.67	12.02	11.88	14.38
6,080.00	13.900	90.80	6,026.46	647.30	-57.04	53.86	14.23	14.19	4.84
6,112.00	17.500	97.30	6,057.26	646.63	-48.42	62.24	12.50	11.25	20.31
6,143.00	20.000	103.90	6,086.61	644.76	-38.65	71.55	10.57	8.06	21.29
6,175.00	21.600	99.30	6,116.53	642.50	-27.52	82.13	7.14	5.00	-14.38
6,206.00	26.000	94.50	6,144.89	641.04	-15.11	94.11	15.50	14.19	-15.48
6,238.00	31.500	92.90	6,172.93	640.07	0.24	109.08	17.35	17.19	-5.00
6,269.00	36.800	92.00	6,198.58	639.33	17.62	126.08	17.17	17.10	-2.90
6,305.00	41.800	90.40	6,226.43	638.87	40.41	148.46	14.17	13.89	-4.44
6,336.00	44.000	88.50	6,249.14	639.08	61.51	169.28	8.23	7.10	-6.13
6,367.00	44.200	88.40	6,271.40	639.67	83.08	190.63	0.68	0.65	-0.32
6,399.00	46.400	89.50	6,293.91	640.08	105.82	213.11	7.30	6.88	3.44
6,430.00	48.000	91.80	6,314.97	639.81	128.56	235.48	7.50	5.16	7.42
6,462.00	50.200	91.30	6,335.92	639.16	152.73	259.19	6.98	6.88	-1.56
6,493.00	55.000	92.50	6,354.75	638.34	177.34	283.30	15.79	15.48	3.87
6,525.00	60.300	94.70	6,371.86	636.63	204.31	309.58	17.55	16.56	6.88
6,556.00	64.700	96.20	6,386.18	634.01	231.67	336.10	14.83	14.19	4.84
6,588.00	67.200	96.40	6,399.22	630.80	260.71	364.18	7.83	7.81	0.63
6,619.00	70.200	96.50	6,410.47	627.56	289.41	391.90	9.68	9.68	0.32
6,651.00	74.900	97.70	6,420.07	623.78	319.69	421.10	15.12	14.69	3.75
6,682.00	78.900	97.90	6,427.09	619.68	349.60	449.88	12.92	12.90	0.65
As of May 20									
6,763.00	85.000	97.40	6,438.43	609.01	429.05	526.36	7.56	7.53	-0.62
6,794.00	84.600	97.50	6,441.24	605.01	459.66	555.84	1.33	-1.29	0.32
6,826.00	85.300	96.60	6,444.06	601.10	491.30	586.35	3.55	2.19	-2.81
6,857.00	87.100	97.10	6,446.11	597.41	522.01	615.99	6.03	5.81	1.61
6,888.00	90.800	94.50	6,446.68	594.28	552.83	645.83	14.59	11.94	-8.39
6,920.00	96.000	92.40	6,444.78	592.36	584.71	676.92	17.52	16.25	-6.56
7,014.00	101.400	92.10	6,430.57	588.71	677.52	767.76	5.75	5.74	-0.32
7,077.00	98.100	90.10	6,419.90	587.52	739.59	828.72	6.10	-5.24	-3.17
7,171.00	94.900	86.70	6,409.26	590.14	832.92	921.14	4.95	-3.40	-3.62
As of May 22									
7,265.00	89.500	84.40	6,405.65	597.42	926.53	1,014.62	6.24	-5.74	-2.45

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
7,360.00	92.100	86.90	6,404.32	604.63	1,021.23	1,109.17	3.80	2.74	2.63
7,454.00	95.000	88.70	6,398.50	608.23	1,114.96	1,202.15	3.63	3.09	1.91
7,548.00	93.200	88.10	6,391.78	610.85	1,208.68	1,294.95	2.02	-1.91	-0.64
7,643.00	90.000	88.20	6,389.13	613.92	1,303.58	1,388.99	3.37	-3.37	0.11
7,737.00	91.000	87.50	6,388.31	617.44	1,397.51	1,482.15	1.30	1.06	-0.74
7,831.00	89.800	85.80	6,387.65	622.94	1,491.34	1,575.55	2.21	-1.28	-1.81
7,926.00	90.400	88.40	6,387.49	627.74	1,586.21	1,669.85	2.81	0.63	2.74
8,020.00	90.100	91.70	6,387.08	627.66	1,680.20	1,762.46	3.53	-0.32	3.51
8,115.00	90.000	91.80	6,386.99	624.76	1,775.16	1,855.54	0.15	-0.11	0.11
8,209.00	85.500	88.90	6,390.69	624.18	1,869.05	1,947.96	5.69	-4.79	-3.09
8,303.00	86.700	87.00	6,397.08	627.54	1,962.76	2,040.89	2.39	1.28	-2.02
8,397.00	88.800	86.10	6,400.77	633.19	2,056.51	2,134.23	2.43	2.23	-0.96
As of May 23									
8,491.00	90.500	85.40	6,401.34	640.15	2,150.25	2,227.79	1.96	1.81	-0.74
8,586.00	89.200	84.20	6,401.59	648.76	2,244.85	2,322.48	1.86	-1.37	-1.26
8,680.00	91.200	82.90	6,401.26	659.32	2,338.25	2,416.31	2.54	2.13	-1.38
8,775.00	89.400	83.50	6,400.77	670.57	2,432.58	2,511.18	2.00	-1.89	0.63
8,870.00	88.500	83.60	6,402.51	681.24	2,526.96	2,606.00	0.95	-0.95	0.11
8,964.00	89.800	84.30	6,403.90	691.15	2,620.42	2,699.79	1.57	1.38	0.74
9,059.00	90.500	84.10	6,403.65	700.75	2,714.94	2,794.55	0.77	0.74	-0.21
9,153.00	90.400	85.40	6,402.92	709.35	2,808.54	2,888.25	1.39	-0.11	1.38
9,248.00	91.000	86.70	6,401.75	715.89	2,903.30	2,982.75	1.51	0.63	1.37
9,342.00	91.000	86.90	6,400.11	721.14	2,997.14	3,076.12	0.21	0.00	0.21
9,437.00	90.000	86.10	6,399.28	726.94	3,091.96	3,170.54	1.35	-1.05	-0.84
As of May 24									
9,532.00	89.300	86.10	6,399.87	733.40	3,186.74	3,265.03	0.74	-0.74	0.00
9,622.00	87.300	85.00	6,402.54	740.38	3,276.42	3,354.60	2.54	-2.22	-1.22
9,717.00	87.700	87.20	6,406.68	746.83	3,371.10	3,449.00	2.35	0.42	2.32
9,811.00	88.500	88.80	6,409.80	750.11	3,464.99	3,542.08	1.90	0.85	1.70
9,905.00	88.800	89.00	6,412.01	751.91	3,558.95	3,634.97	0.38	0.32	0.21
10,000.00	90.600	88.50	6,412.51	753.99	3,653.92	3,728.92	1.97	1.89	-0.53
10,094.00	91.800	88.20	6,410.54	756.69	3,747.86	3,821.95	1.32	1.28	-0.32
10,189.00	92.700	87.80	6,406.81	760.00	3,842.73	3,916.00	1.04	0.95	-0.42
10,283.00	93.500	87.00	6,401.73	764.26	3,936.49	4,009.12	1.20	0.85	-0.85
10,378.00	93.400	86.90	6,396.01	769.31	4,031.18	4,103.29	0.15	-0.11	-0.11
10,472.00	91.700	85.70	6,391.83	775.37	4,124.89	4,196.66	2.21	-1.81	-1.28
10,567.00	91.700	86.20	6,389.01	782.08	4,219.61	4,291.14	0.53	0.00	0.53
10,661.00	90.900	85.60	6,386.88	788.79	4,313.34	4,384.66	1.06	-0.85	-0.64
10,756.00	91.200	85.50	6,385.14	796.16	4,408.04	4,479.23	0.33	0.32	-0.11
10,848.00	91.100	85.50	6,383.29	803.38	4,499.74	4,570.82	0.11	-0.11	0.00
Last Sharewell Survey									
10,918.00	91.100	85.50	6,381.95	808.87	4,569.51	4,640.51	0.00	0.00	0.00
Projection to TD - P- 0108BH PBHL3									

Company:	Bill Barrett Corp. (II)	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-0108BH
Project:	Weld Co., CO (NAD 83)	TVD Reference:	RKB:15' @ 4765.00ft ((Cade 24))
Site:	Sec. 27-T6N-R62W	MD Reference:	RKB:15' @ 4765.00ft ((Cade 24))
Well:	Pappenheim 6-62-27-0108BH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,483.00	1,481.34	35.83	-6.81	As of May 15
3,090.00	3,070.14	266.62	-17.68	As of May 16
5,075.00	5,024.31	600.05	-60.97	As of May 17
6,682.00	6,427.09	619.68	349.60	As of May 20
7,171.00	6,409.26	590.14	832.92	As of May 22
8,397.00	6,400.77	633.19	2,056.51	As of May 23
9,437.00	6,399.28	726.94	3,091.96	As of May 24
10,848.00	6,383.29	803.38	4,499.74	Last Sharewell Survey
10,918.00	6,381.95	808.87	4,569.51	Projection to TD

Checked By: _____ Approved By: _____ Date: _____