



Bill Barrett Corporation

Bill Barrett Corp.

Weld Co., CO (NAD 83)

SEC 27 T6N R62W

Pappenheim 6-62-27-3340BH2

OH

Survey: MWD Surveys

Standard Survey Report

15 August, 2014





Bill Barrett Corp.
Project: Weld Co., CO (NAD 83)
Site: SEC 27 T6N R62W
Well: Pappenheim 6-62-27-3340BH2
Wellbore: OH
Design: WP01
Lat: 40.45803
Long: -104.31749
Pad GL: 4733.00
KB @ 4756.00ft



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.000	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
1246.52	3.698	255.55	1246.35	-1.98	-7.70	1.50	255.55	-7.71	Start 2316.17 hold at 1246.52 MD
3562.70	3.698	255.55	3557.70	-39.26	-152.36	0.00	0.00	-152.61	Start Drop -1.50
3809.22	0.000	0.00	3804.06	-41.24	-160.06	1.50	180.00	-160.33	Start 2000.00 hold at 3809.22 MD
5809.22	0.000	0.00	5804.06	-41.24	-160.06	0.00	0.00	-160.33	Start 1.00 hold at 5809.22 MD
5810.22	0.000	0.00	5805.06	-41.24	-160.06	0.00	0.00	-160.33	Start Build 10.02
6713.00	90.426	89.39	6376.07	-35.11	415.18	10.02	89.39	414.94	Start 9289.30 hold at 6713.00 MD
16002.30	90.426	89.39	6307.00	63.85	9703.69	0.00	0.00	9703.90	TD at 16002.30

WELL DETAILS: Pappenheim 6-62-27-3340BH2

+N/-S	+E/-W	Northing	Ground Level: Easting	4733.00 Latitude	Longitude	Slot
0.00	0.00	1411894.70	3329049.62	40.45803	-104.31749	

WELLBORE TARGET DETAILS (LAT/LONG)

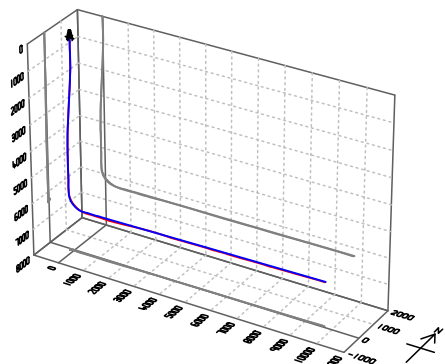
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Pappenheim 6-62-27-3340BH2 VT	5804.06	-41.24	-160.06	40.45792	-104.31807	Point
Pappenheim 6-62-27-3340BH2 BHL	6307.00	63.85	9703.69	40.45820	-104.28262	Point
Pappenheim 6-62-27-3340BH2 LP	6377.00	-36.42	292.20	40.45793	-104.31644	Point

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

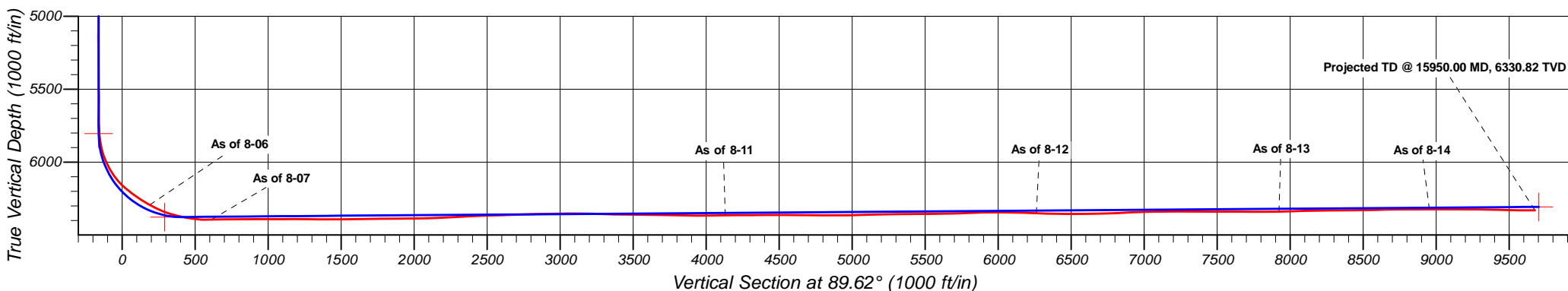
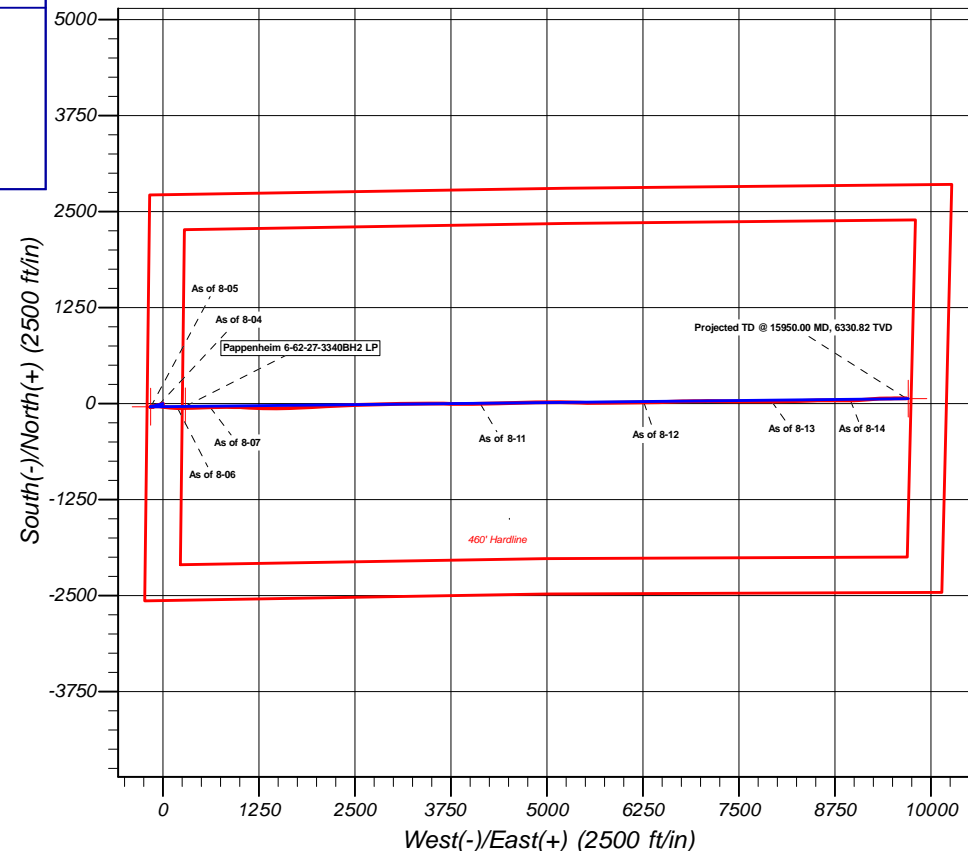
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

CASING DETAILS

No casing data is available



Azimuths to True North
Magnetic North: 8.21°
Magnetic Field
Strength: 52880.7snT
Dip Angle: 67.06°
Date: 7/25/2014
Model: IGRF2010



Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-3340BH2
Project:	Weld Co., CO (NAD 83)	TVD Reference:	KB @ 4756.00ft
Site:	SEC 27 T6N R62W	MD Reference:	KB @ 4756.00ft
Well:	Pappenheim 6-62-27-3340BH2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Local Db

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		Using geodetic scale factor

Site	SEC 27 T6N R62W		
Site Position:		Northing:	1,410,557.62 usft
From:	Lat/Long	Easting:	3,329,050.75 usft
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft
		Latitude:	40.45436
		Longitude:	-104.31755
		Grid Convergence:	0.76 °

Well	Pappenheim 6-62-27-3340BH2		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	40.45803
		Longitude:	-104.31749
		Ground Level:	4,733.00 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	7/25/2014	8.21
			Dip Angle
			(°)
			67.06
			Field Strength
			(nT)
			52,881

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			89.62

Survey Program	Date 8/15/2014		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
897.00	15,950.00	MWD Surveys (OH)	MWD
			Description
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
897.00	0.400	153.50	896.99	-2.80	1.40	1.38	0.04	0.04	0.00
990.00	0.500	247.00	989.99	-3.25	1.17	1.15	0.71	0.11	100.54
1,084.00	1.500	256.80	1,083.98	-3.69	-0.41	-0.43	1.08	1.06	10.43
1,176.00	3.300	262.60	1,175.89	-4.31	-4.21	-4.23	1.97	1.96	6.30
1,268.00	3.800	268.80	1,267.71	-4.71	-9.88	-9.91	0.68	0.54	6.74
1,362.00	3.900	269.90	1,361.50	-4.78	-16.19	-16.22	0.13	0.11	1.17
1,454.00	4.400	259.20	1,453.26	-5.45	-22.79	-22.82	1.00	0.54	-11.63
1,547.00	4.900	244.20	1,545.96	-7.85	-29.87	-29.92	1.41	0.54	-16.13
1,637.00	4.000	233.30	1,635.69	-11.40	-35.84	-35.92	1.37	-1.00	-12.11

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-3340BH2
Project:	Weld Co., CO (NAD 83)	TVD Reference:	KB @ 4756.00ft
Site:	SEC 27 T6N R62W	MD Reference:	KB @ 4756.00ft
Well:	Pappenheim 6-62-27-3340BH2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Local Db

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)
1,730.00	3.900	227.20	1,728.47	-15.48	-40.77	-40.87	0.46	-0.11	-6.56
1,823.00	3.400	248.50	1,821.28	-18.64	-45.65	-45.77	1.54	-0.54	22.90
1,915.00	3.300	250.10	1,913.13	-20.55	-50.68	-50.81	0.15	-0.11	1.74
2,008.00	2.900	242.50	2,005.99	-22.54	-55.28	-55.43	0.62	-0.43	-8.17
2,101.00	3.000	276.50	2,098.87	-23.35	-59.79	-59.94	1.86	0.11	36.56
As of 8-04									
2,195.00	2.300	265.40	2,192.77	-23.23	-64.11	-64.26	0.92	-0.74	-11.81
2,288.00	3.800	273.00	2,285.64	-23.22	-69.05	-69.20	1.67	1.61	8.17
2,381.00	4.000	254.40	2,378.43	-23.93	-75.25	-75.41	1.37	0.22	-20.00
2,477.00	4.100	249.00	2,474.19	-26.06	-81.68	-81.85	0.41	0.10	-5.63
2,573.00	4.000	240.70	2,569.95	-28.92	-87.81	-87.99	0.62	-0.10	-8.65
2,667.00	4.000	260.00	2,663.73	-31.10	-93.89	-94.10	1.43	0.00	20.53
2,763.00	4.100	258.30	2,759.49	-32.38	-100.55	-100.76	0.16	0.10	-1.77
2,858.00	4.400	253.60	2,854.22	-34.09	-107.37	-107.60	0.48	0.32	-4.95
2,954.00	4.400	255.30	2,949.94	-36.07	-114.47	-114.70	0.14	0.00	1.77
3,051.00	4.500	253.90	3,046.65	-38.07	-121.72	-121.97	0.15	0.10	-1.44
3,146.00	4.200	262.70	3,141.38	-39.54	-128.75	-129.01	0.77	-0.32	9.26
3,243.00	4.500	263.70	3,238.10	-40.41	-136.06	-136.32	0.32	0.31	1.03
3,338.00	3.500	269.20	3,332.86	-40.86	-142.66	-142.93	1.13	-1.05	5.79
3,434.00	3.000	277.90	3,428.71	-40.56	-148.08	-148.35	0.73	-0.52	9.06
3,528.00	2.800	271.00	3,522.59	-40.18	-152.81	-153.08	0.43	-0.21	-7.34
3,625.00	1.800	266.00	3,619.51	-40.24	-156.70	-156.96	1.05	-1.03	-5.15
3,720.00	1.600	269.30	3,714.47	-40.36	-159.52	-159.78	0.23	-0.21	3.47
3,816.00	1.000	231.70	3,810.45	-40.90	-161.52	-161.78	1.05	-0.63	-39.17
3,911.00	0.700	137.10	3,905.44	-41.84	-161.77	-162.04	1.33	-0.32	-99.58
4,006.00	0.900	133.00	4,000.43	-42.77	-160.83	-161.11	0.22	0.21	-4.32
4,101.00	0.300	190.30	4,095.42	-43.53	-160.33	-160.61	0.82	-0.63	60.32
4,196.00	0.700	155.50	4,190.42	-44.30	-160.13	-160.42	0.51	0.42	-36.63
As of 8-05									
4,292.00	0.200	173.30	4,286.42	-45.00	-159.87	-160.16	0.53	-0.52	18.54
4,386.00	0.600	338.90	4,380.42	-44.70	-160.03	-160.32	0.85	0.43	176.17
4,482.00	1.300	349.50	4,476.40	-43.16	-160.41	-160.69	0.75	0.73	11.04
4,578.00	1.300	14.30	4,572.38	-41.04	-160.34	-160.60	0.58	0.00	25.83
4,674.00	0.300	199.80	4,668.37	-40.22	-160.15	-160.41	1.67	-1.04	-181.77
4,769.00	0.800	190.80	4,763.37	-41.10	-160.36	-160.63	0.53	0.53	-9.47
4,865.00	0.700	198.30	4,859.36	-42.32	-160.67	-160.95	0.15	-0.10	7.81
4,961.00	0.400	213.60	4,955.35	-43.15	-161.04	-161.32	0.35	-0.31	15.94
5,056.00	0.400	234.80	5,050.35	-43.62	-161.50	-161.78	0.15	0.00	22.32
5,151.00	0.100	13.70	5,145.35	-43.73	-161.75	-162.03	0.51	-0.32	146.21
5,244.00	0.400	10.10	5,238.35	-43.33	-161.67	-161.95	0.32	0.32	-3.87
5,338.00	0.500	46.40	5,332.35	-42.73	-161.32	-161.59	0.31	0.11	38.62
5,434.00	0.400	66.80	5,428.34	-42.31	-160.70	-160.98	0.20	-0.10	21.25
5,529.00	0.400	76.50	5,523.34	-42.10	-160.08	-160.35	0.07	0.00	10.21
5,627.00	0.600	57.80	5,621.34	-41.75	-159.31	-159.58	0.26	0.20	-19.08

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-3340BH2
Project:	Weld Co., CO (NAD 83)	TVD Reference:	KB @ 4756.00ft
Site:	SEC 27 T6N R62W	MD Reference:	KB @ 4756.00ft
Well:	Pappenheim 6-62-27-3340BH2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Local Db

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)	
5,722.00	0.800	43.50	5,716.33	-41.00	-158.43	-158.70	0.28	0.21	-15.05	
5,817.00	3.900	87.00	5,811.24	-40.35	-154.75	-155.01	3.54	3.26	45.79	
5,864.00	8.400	88.50	5,857.96	-40.18	-149.72	-149.98	9.58	9.57	3.19	
5,914.00	13.300	84.90	5,907.05	-39.57	-140.33	-140.59	9.89	9.80	-7.20	
5,961.00	18.900	82.90	5,952.19	-38.15	-127.38	-127.63	11.97	11.91	-4.26	
6,010.00	23.900	84.80	5,997.80	-36.26	-109.61	-109.85	10.30	10.20	3.88	
6,057.00	29.100	89.90	6,039.85	-35.38	-88.69	-88.92	12.07	11.06	10.85	
6,105.00	33.600	94.30	6,080.84	-36.36	-63.75	-63.99	10.51	9.38	9.17	
6,152.00	39.600	95.40	6,118.56	-38.74	-35.85	-36.10	12.84	12.77	2.34	
6,201.00	45.700	96.60	6,154.58	-42.23	-2.85	-3.13	12.56	12.45	2.45	
6,248.00	51.100	95.70	6,185.77	-45.98	32.08	31.78	11.58	11.49	-1.91	
6,297.00	53.000	94.80	6,215.91	-49.52	70.56	70.23	4.14	3.88	-1.84	
6,344.00	55.600	94.30	6,243.33	-52.54	108.60	108.25	5.60	5.53	-1.06	
6,392.00	58.600	93.20	6,269.40	-55.17	148.81	148.45	6.54	6.25	-2.29	
6,439.00	60.900	92.30	6,293.08	-57.11	189.36	188.98	5.17	4.89	-1.91	
As of 8-06										
6,488.00	64.100	90.40	6,315.70	-58.13	232.81	232.42	7.38	6.53	-3.88	
6,535.00	67.200	89.30	6,335.08	-58.01	275.62	275.23	6.93	6.60	-2.34	
6,583.00	72.400	88.80	6,351.65	-57.26	320.64	320.26	10.88	10.83	-1.04	
6,630.00	75.700	87.80	6,364.56	-55.92	365.81	365.43	7.31	7.02	-2.13	
6,679.00	78.300	87.40	6,375.58	-53.92	413.51	413.14	5.37	5.31	-0.82	
6,726.00	80.300	88.00	6,384.31	-52.06	459.65	459.30	4.44	4.26	1.28	
6,775.00	84.300	88.00	6,390.87	-50.37	508.17	507.83	8.16	8.16	0.00	
6,832.00	87.900	87.90	6,394.75	-48.34	564.99	564.66	6.32	6.32	-0.18	
6,869.00	91.100	86.20	6,395.07	-46.43	601.93	601.62	9.79	8.65	-4.59	
6,879.00	91.142	86.72	6,394.87	-45.81	611.91	611.60	5.22	0.42	5.21	
As of 8-07										
6,965.00	91.500	91.20	6,392.89	-44.25	697.85	697.55	5.22	0.42	5.21	
7,060.00	90.200	90.00	6,391.48	-45.25	792.83	792.52	1.86	-1.37	-1.26	
7,156.00	89.900	89.40	6,391.40	-44.75	888.83	888.52	0.70	-0.31	-0.63	
7,252.00	89.500	91.60	6,391.90	-45.58	984.82	984.50	2.33	-0.42	2.29	
7,347.00	91.000	94.30	6,391.49	-50.47	1,079.68	1,079.33	3.25	1.58	2.84	
7,443.00	89.700	91.30	6,390.90	-55.16	1,175.55	1,175.17	3.41	-1.35	-3.13	
7,538.00	89.000	92.90	6,391.98	-58.64	1,270.48	1,270.07	1.84	-0.74	1.68	
7,633.00	89.500	91.60	6,393.22	-62.37	1,365.40	1,364.96	1.47	0.53	-1.37	
7,729.00	90.800	89.30	6,392.97	-63.12	1,461.38	1,460.94	2.75	1.35	-2.40	
7,823.00	90.900	88.60	6,391.58	-61.40	1,555.36	1,554.92	0.75	0.11	-0.74	
7,921.00	91.100	87.00	6,389.86	-57.64	1,653.27	1,652.85	1.65	0.20	-1.63	
8,016.00	90.100	88.10	6,388.87	-53.58	1,748.17	1,747.78	1.56	-1.05	1.16	
8,111.00	90.600	87.80	6,388.29	-50.18	1,843.11	1,842.74	0.61	0.53	-0.32	
8,205.00	89.800	85.90	6,387.96	-45.02	1,936.96	1,936.62	2.19	-0.85	-2.02	
8,301.00	92.100	86.60	6,386.37	-38.74	2,032.74	2,032.44	2.50	2.40	0.73	
8,396.00	91.400	87.10	6,383.47	-33.52	2,127.55	2,127.28	0.91	-0.74	0.53	
8,492.00	93.100	87.20	6,379.70	-28.75	2,223.35	2,223.11	1.77	1.77	0.10	

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Project:	Weld Co., CO (NAD 83)	TVD Reference:	KB @ 4756.00ft
Site:	SEC 27 T6N R62W	MD Reference:	KB @ 4756.00ft
Well:	Pappenheim 6-62-27-3340BH2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Local Db

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)	
8,588.00	93.200	87.80	6,374.42	-24.57	2,319.11	2,318.90	0.63	0.10	0.63	
8,684.00	92.200	88.40	6,369.90	-21.39	2,414.95	2,414.76	1.21	-1.04	0.63	
8,779.00	92.200	88.30	6,366.26	-18.66	2,509.84	2,509.67	0.11	0.00	-0.11	
8,875.00	91.500	88.60	6,363.16	-16.06	2,605.76	2,605.60	0.79	-0.73	0.31	
8,970.00	92.100	88.50	6,360.17	-13.66	2,700.68	2,700.53	0.64	0.63	-0.11	
9,067.00	91.300	88.40	6,357.29	-11.04	2,797.60	2,797.47	0.83	-0.82	-0.10	
9,163.00	90.900	87.90	6,355.45	-7.94	2,893.53	2,893.42	0.67	-0.42	-0.52	
9,257.00	91.000	87.80	6,353.89	-4.41	2,987.45	2,987.36	0.15	0.11	-0.11	
9,353.00	90.300	89.40	6,352.80	-2.07	3,083.42	3,083.34	1.82	-0.73	1.67	
9,448.00	88.800	89.20	6,353.55	-0.91	3,178.40	3,178.33	1.59	-1.58	-0.21	
9,543.00	88.600	89.00	6,355.71	0.58	3,273.37	3,273.30	0.30	-0.21	-0.21	
9,638.00	88.600	90.60	6,358.03	0.92	3,368.33	3,368.27	1.68	0.00	1.68	
9,734.00	89.500	90.50	6,359.62	-0.01	3,464.32	3,464.24	0.94	0.94	-0.10	
9,829.00	89.100	90.40	6,360.78	-0.75	3,559.31	3,559.22	0.43	-0.42	-0.11	
9,924.00	89.100	90.70	6,362.27	-1.66	3,654.29	3,654.20	0.32	0.00	0.32	
10,020.00	89.300	91.10	6,363.61	-3.17	3,750.27	3,750.17	0.47	0.21	0.42	
10,116.00	88.300	89.40	6,365.62	-3.59	3,846.24	3,846.13	2.05	-1.04	-1.77	
10,211.00	89.500	89.80	6,367.45	-2.93	3,941.22	3,941.12	1.33	1.26	0.42	
10,307.00	91.200	90.10	6,366.86	-2.84	4,037.21	4,037.11	1.80	1.77	0.31	
10,401.00	91.600	88.60	6,364.56	-1.78	4,131.18	4,131.08	1.65	0.43	-1.60	
As of 8-11										
10,493.00	89.900	88.50	6,363.36	0.55	4,223.14	4,223.05	1.85	-1.85	-0.11	
10,586.00	89.900	88.60	6,363.52	2.90	4,316.11	4,316.03	0.11	0.00	0.11	
10,679.00	90.400	88.50	6,363.28	5.26	4,409.08	4,409.02	0.55	0.54	-0.11	
10,771.00	90.600	88.40	6,362.47	7.74	4,501.04	4,500.99	0.24	0.22	-0.11	
10,864.00	89.400	88.70	6,362.47	10.10	4,594.01	4,593.97	1.33	-1.29	0.32	
10,956.00	89.600	88.50	6,363.28	12.35	4,685.98	4,685.96	0.31	0.22	-0.22	
11,050.00	89.100	88.00	6,364.34	15.22	4,779.93	4,779.92	0.75	-0.53	-0.53	
11,142.00	89.700	89.00	6,365.31	17.62	4,871.89	4,871.90	1.27	0.65	1.09	
11,236.00	90.900	89.80	6,364.81	18.61	4,965.88	4,965.89	1.53	1.28	0.85	
11,329.00	92.100	90.90	6,362.38	18.04	5,058.84	5,058.85	1.75	1.29	1.18	
11,422.00	91.100	90.60	6,359.78	16.82	5,151.80	5,151.80	1.12	-1.08	-0.32	
11,514.00	90.900	90.80	6,358.18	15.70	5,243.78	5,243.77	0.31	-0.22	0.22	
11,607.00	90.800	90.90	6,356.80	14.32	5,336.76	5,336.73	0.15	-0.11	0.11	
11,700.00	90.500	91.20	6,355.74	12.62	5,429.73	5,429.70	0.46	-0.32	0.32	
11,792.00	90.500	91.20	6,354.94	10.69	5,521.71	5,521.66	0.00	0.00	0.00	
11,883.00	90.100	90.00	6,354.46	9.74	5,612.70	5,612.64	1.39	-0.44	-1.32	
11,975.00	92.100	90.20	6,352.70	9.58	5,704.68	5,704.62	2.18	2.17	0.22	
12,068.00	92.700	89.40	6,348.80	9.90	5,797.60	5,797.54	1.07	0.65	-0.86	
12,161.00	91.300	88.50	6,345.56	11.60	5,890.52	5,890.47	1.79	-1.51	-0.97	
12,254.00	90.200	89.60	6,344.34	13.15	5,983.50	5,983.45	1.67	-1.18	1.18	
12,347.00	88.500	89.90	6,345.40	13.55	6,076.49	6,076.44	1.86	-1.83	0.32	
12,440.00	88.600	89.60	6,347.75	13.96	6,169.46	6,169.41	0.34	0.11	-0.32	

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-3340BH2
Project:	Weld Co., CO (NAD 83)	TVD Reference:	KB @ 4756.00ft
Site:	SEC 27 T6N R62W	MD Reference:	KB @ 4756.00ft
Well:	Pappenheim 6-62-27-3340BH2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Local Db

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)	
12,533.00	88.000	89.30	6,350.51	14.85	6,262.41	6,262.37	0.72	-0.65	-0.32	
As of 8-12										
12,626.00	88.700	88.30	6,353.19	16.80	6,355.35	6,355.32	1.31	0.75	-1.08	
12,719.00	89.700	88.00	6,354.48	19.80	6,448.29	6,448.28	1.12	1.08	-0.32	
12,812.00	89.500	88.90	6,355.13	22.31	6,541.25	6,541.26	0.99	-0.22	0.97	
12,905.00	90.800	88.40	6,354.89	24.51	6,634.23	6,634.24	1.50	1.40	-0.54	
12,995.00	91.800	87.60	6,352.85	27.65	6,724.15	6,724.18	1.42	1.11	-0.89	
13,087.00	92.800	89.20	6,349.16	30.21	6,816.03	6,816.08	2.05	1.09	1.74	
13,179.00	92.600	89.20	6,344.82	31.50	6,907.92	6,907.98	0.22	-0.22	0.00	
13,271.00	91.300	89.40	6,341.69	32.62	6,999.86	6,999.92	1.43	-1.41	0.22	
13,364.00	91.100	89.50	6,339.74	33.51	7,092.83	7,092.90	0.24	-0.22	0.11	
13,455.00	90.100	90.60	6,338.79	33.43	7,183.83	7,183.89	1.63	-1.10	1.21	
13,547.00	89.800	90.30	6,338.87	32.71	7,275.82	7,275.88	0.46	-0.33	-0.33	
13,640.00	90.000	90.70	6,339.03	31.90	7,368.82	7,368.87	0.48	0.22	0.43	
13,733.00	89.800	91.10	6,339.20	30.44	7,461.81	7,461.85	0.48	-0.22	0.43	
13,826.00	89.800	90.70	6,339.52	28.98	7,554.79	7,554.82	0.43	0.00	-0.43	
13,918.00	90.000	91.00	6,339.68	27.61	7,646.78	7,646.80	0.39	0.22	0.33	
14,010.00	89.300	89.80	6,340.24	26.97	7,738.78	7,738.79	1.51	-0.76	-1.30	
14,103.00	90.100	88.90	6,340.73	28.02	7,831.77	7,831.78	1.29	0.86	-0.97	
14,195.00	91.100	88.90	6,339.77	29.79	7,923.75	7,923.77	1.09	1.09	0.00	
As of 8-13										
14,288.00	92.200	89.50	6,337.09	31.09	8,016.70	8,016.73	1.35	1.18	0.65	
14,380.00	91.000	89.90	6,334.52	31.57	8,108.66	8,108.69	1.37	-1.30	0.43	
14,472.00	91.500	89.30	6,332.51	32.21	8,200.63	8,200.67	0.85	0.54	-0.65	
14,564.00	90.100	88.40	6,331.23	34.06	8,292.60	8,292.65	1.81	-1.52	-0.98	
14,657.00	90.400	88.60	6,330.82	36.49	8,385.57	8,385.63	0.39	0.32	0.22	
14,749.00	90.800	87.70	6,329.86	39.46	8,477.51	8,477.59	1.07	0.43	-0.98	
14,841.00	91.000	89.60	6,328.41	41.63	8,569.47	8,569.56	2.08	0.22	2.07	
14,936.00	92.000	90.30	6,325.93	41.71	8,664.44	8,664.53	1.28	1.05	0.74	
15,032.00	90.000	89.50	6,324.25	41.88	8,760.42	8,760.50	2.24	-2.08	-0.83	
15,129.00	89.800	89.50	6,324.42	42.73	8,857.42	8,857.50	0.21	-0.21	0.00	
15,225.00	90.900	90.60	6,323.83	42.64	8,953.41	8,953.50	1.62	1.15	1.15	
As of 8-14										
15,321.00	89.900	85.70	6,323.16	45.74	9,049.33	9,049.43	5.21	-1.04	-5.10	
15,416.00	90.200	85.70	6,323.08	52.86	9,144.06	9,144.21	0.32	0.32	0.00	
15,511.00	88.700	86.40	6,323.99	59.41	9,238.83	9,239.02	1.74	-1.58	0.74	
15,606.00	89.400	87.70	6,325.57	64.30	9,333.68	9,333.91	1.55	0.74	1.37	
15,702.00	88.400	88.60	6,327.41	67.39	9,429.62	9,429.85	1.40	-1.04	0.94	
15,797.00	88.800	89.80	6,329.73	68.72	9,524.58	9,524.82	1.33	0.42	1.26	
15,892.00	90.000	89.30	6,330.73	69.47	9,619.57	9,619.81	1.37	1.26	-0.53	
15,907.00	89.900	89.20	6,330.74	69.66	9,634.56	9,634.81	0.94	-0.67	-0.67	
15,950.00	89.900	89.20	6,330.82	70.26	9,677.56	9,677.81	0.00	0.00	0.00	
Projected TD @ 15950.00 MD, 6330.82 TVD										

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Pappenheim 6-62-27-3340BH2
Project:	Weld Co., CO (NAD 83)	TVD Reference:	KB @ 4756.00ft
Site:	SEC 27 T6N R62W	MD Reference:	KB @ 4756.00ft
Well:	Pappenheim 6-62-27-3340BH2	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Local Db

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,101.00	2,098.87	-23.35	-59.79	As of 8-04
4,196.00	4,190.42	-44.30	-160.13	As of 8-05
6,439.00	6,293.08	-57.11	189.36	As of 8-06
6,879.00	6,394.87	-45.81	611.91	As of 8-07
10,401.00	6,364.56	-1.78	4,131.18	As of 8-11
12,533.00	6,350.51	14.85	6,262.41	As of 8-12
14,195.00	6,339.77	29.79	7,923.75	As of 8-13
15,225.00	6,323.83	42.64	8,953.41	As of 8-14
15,950.00	6,330.82	70.26	9,677.56	Projected TD @ 15950.00 MD, 6330.82 TVD

Checked By: _____ Approved By: _____ Date: _____