



Bill Barrett Corp.  
Project: Weld Co., CO  
Site: Sec.23-T6N-R62W  
Well: Pappenheim 6-62-23-0461BH  
Wellbore: Wellbore #1  
Design: Design #1  
Lat: 40° 28' 46.596 N  
Long: 104° 17' 29.652 W  
Pad GL: 4698.00  
KB: WELL @ 4714.00usft

# Archer

## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
735.00	0.14	227.03	734.99	0.88	-2.79	0.00	0.00	-1.09	Tie-In / Start Drop -0.50°
763.00	0.00	0.00	762.99	0.85	-2.82	0.50	180.00	-1.07	Start 237.01' hold at 763.00 MD
1000.01	0.00	0.00	1000.00	0.85	-2.82	0.00	0.00	-1.07	Start Build 1.50°
1386.90	5.80	61.89	1386.23	10.08	14.45	1.50	61.89	-8.94	Start 3491.49' hold at 1386.90 MD
4878.39	5.80	61.89	4859.82	176.44	325.83	0.00	0.00	-150.99	Start Drop -1.50°
5265.28	0.00	0.00	5246.05	185.67	343.10	1.50	180.00	-158.87	Start 500.00' hold at 5265.28 MD
5765.28	0.00	0.00	5746.05	185.67	343.10	0.00	0.00	-158.87	KOP / Start Build 10.00°
6668.14	90.29	180.08	6319.00	-390.15	342.29	10.00	180.08	415.21	EOC / Start 3996.09' hold at 6668.14 MD
10664.23	90.29	180.08	6299.00	-4386.18	336.66	0.00	0.00	4399.08	TD at 10664.23

## WELL DETAILS: Pappenheim 6-62-23-0461BH

+N/-S	+E/-W	Northing	Ground Level:	4698.00	Latitude	Longitude	Slot
0.00	0.00	1419852.839	Easting	3336154.637	40° 28' 46.596 N	104° 17' 29.652 W	

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
P6-62-23-0461BH PBHL	6299.00	-4386.18	336.66	40° 28' 3.252 N	104° 17' 25.296 W	Point

## PROJECT DETAILS: Weld Co., CO

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

System Datum: Mean Sea Level

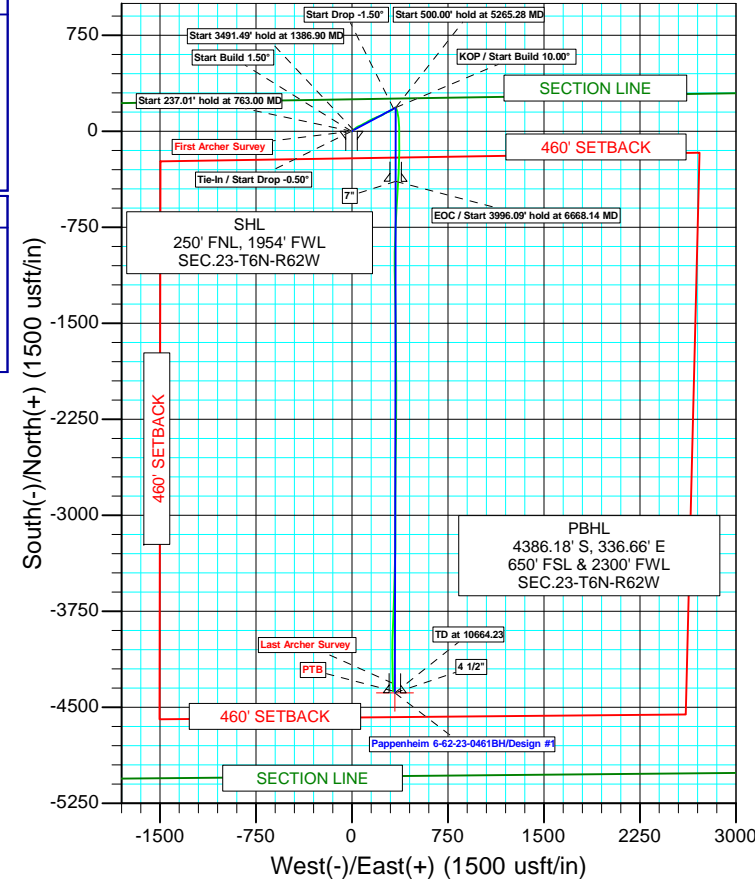
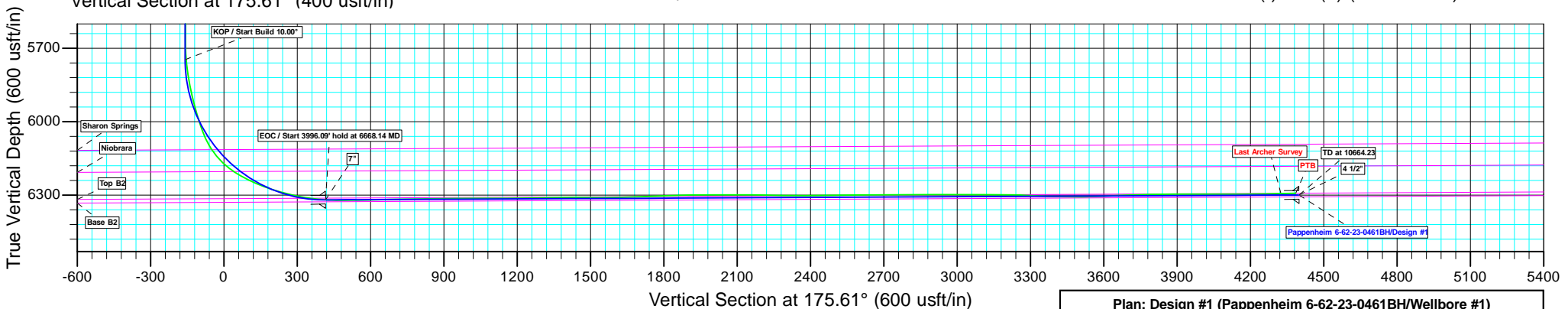
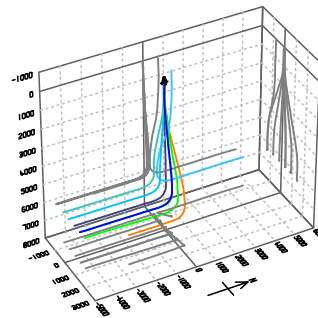
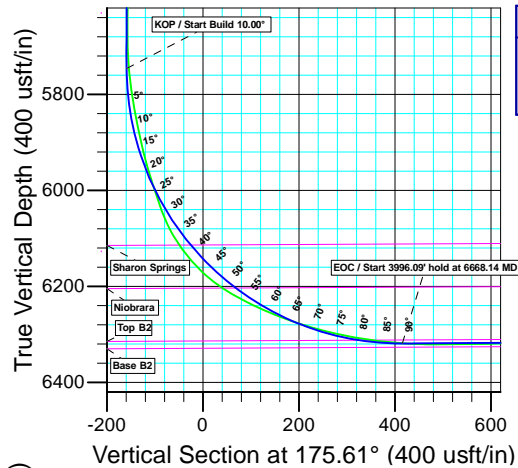


Azimuths to True North  
Magnetic North: 8.35°

Magnetic Field  
Strength: 53015.1snT  
Dip Angle: 67.12°  
Date: 2013/06/06  
Model: IGRF2010

## CASING DETAILS

TVD	MD	Name
799.99	800.00	9 5/8"
6319.00	6668.14	7"
6299.00	10664.23	4 1/2"



Plan: Design #1 (Pappenheim 6-62-23-0461BH/Wellbore #1)

Created By: Bret Wolford

Date: 8:15, July 05 2013

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-23-0461BH
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4714.00usft
<b>Site:</b>	Sec.23-T6N-R62W	<b>MD Reference:</b>	WELL @ 4714.00usft
<b>Well:</b>	Pappenheim 6-62-23-0461BH	<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>	EDM 5000.1 Single User Db

<b>Project</b>	Weld Co., CO		
<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 Northern Zone		

Site	Sec.23-T6N-R62W				
Site Position:		Northing:	1,419,853.167 usft	Latitude:	40° 28' 46.596 N
From:	Lat/Long	Easting:	3,336,176.889 usft	Longitude:	104° 17' 29.364 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.78 °

Well	Pappenheim 6-62-23-0461BH					
Well Position	+N/-S	0.00 usft	Northing:	1,419,852.839 usft	Latitude:	40° 28' 46.596 N
	+E/-W	0.00 usft	Easting:	3,336,154.637 usft	Longitude:	104° 17' 29.652 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,698.00 usft

<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	2013/06/06	8.35	67.12	53,015

<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	175.61	

<b>Survey Program</b>	<b>Date</b>	2013/07/05			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	735.00	Survey #1-MS Gyro (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s	
735.00	10,664.00	Survey #2-Archer MWD (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>First MS Gyro Survey</b>										
100.00	0.41	326.16	100.00	0.30	-0.20	-0.31	0.41	0.41	0.00	
200.00	0.43	332.45	200.00	0.93	-0.57	-0.97	0.05	0.02	6.29	
300.00	0.12	287.05	300.00	1.29	-0.85	-1.35	0.36	-0.31	-45.40	
400.00	0.28	271.44	399.99	1.33	-1.19	-1.41	0.17	0.16	-15.61	
500.00	0.24	278.42	499.99	1.36	-1.64	-1.49	0.05	-0.04	6.98	
600.00	0.30	222.76	599.99	1.20	-2.03	-1.35	0.26	0.06	-55.66	
700.00	0.48	259.31	699.99	0.93	-2.62	-1.13	0.30	0.18	36.55	
<b>Tie-In / MS Gyro</b>										
735.00	0.14	227.03	734.99	0.88	-2.79	-1.09	1.06	-0.97	-92.23	
<b>First Archer Survey</b>										

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-23-0461BH
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4714.00usft
<b>Site:</b>	Sec.23-T6N-R62W	<b>MD Reference:</b>	WELL @ 4714.00usft
<b>Well:</b>	Pappenheim 6-62-23-0461BH	<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>	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)	
854.00	0.20	50.30	853.99	0.91	-2.74	-1.12	0.29	0.05	-148.51	
916.00	0.30	60.30	915.99	1.06	-2.51	-1.25	0.18	0.16	16.13	
1,008.00	2.60	52.90	1,007.95	2.44	-0.64	-2.48	2.50	2.50	-8.04	
1,101.00	4.80	58.70	1,100.75	5.73	4.37	-5.38	2.40	2.37	6.24	
1,193.00	4.40	45.90	1,192.46	10.19	10.19	-9.38	1.19	-0.43	-13.91	
1,285.00	4.70	45.20	1,284.17	15.30	15.40	-14.08	0.33	0.33	-0.76	
1,377.00	4.30	71.40	1,375.90	19.06	21.34	-17.37	2.26	-0.43	28.48	
1,469.00	5.10	46.80	1,467.60	22.96	27.59	-20.78	2.33	0.87	-26.74	
1,564.00	6.20	55.20	1,562.13	28.77	34.89	-26.02	1.45	1.16	8.84	
1,658.00	5.70	50.90	1,655.63	34.62	42.68	-31.25	0.71	-0.53	-4.57	
1,752.00	6.20	68.40	1,749.13	39.43	51.02	-35.41	1.99	0.53	18.62	
1,847.00	6.20	67.80	1,843.57	43.26	60.54	-38.50	0.07	0.00	-0.63	
1,942.00	5.30	66.40	1,938.09	46.95	69.31	-41.51	0.96	-0.95	-1.47	
2,036.00	5.00	64.10	2,031.71	50.48	76.97	-44.44	0.39	-0.32	-2.45	
2,131.00	4.90	61.60	2,126.36	54.22	84.27	-47.61	0.25	-0.11	-2.63	
2,226.00	6.50	62.80	2,220.89	58.60	92.62	-51.34	1.69	1.68	1.26	
2,320.00	7.00	61.90	2,314.24	63.73	102.40	-55.71	0.54	0.53	-0.96	
2,414.00	7.10	61.30	2,407.53	69.22	112.55	-60.40	0.13	0.11	-0.64	
2,509.00	5.10	57.30	2,501.98	74.32	121.25	-64.82	2.15	-2.11	-4.21	
2,603.00	5.10	60.80	2,595.61	78.62	128.42	-68.56	0.33	0.00	3.72	
2,698.00	5.20	63.30	2,690.23	82.61	135.95	-71.97	0.26	0.11	2.63	
2,792.00	5.10	60.10	2,783.85	86.61	143.38	-75.38	0.32	-0.11	-3.40	
2,887.00	5.00	62.80	2,878.48	90.61	150.72	-78.81	0.27	-0.11	2.84	
2,981.00	4.70	59.50	2,972.14	94.43	157.68	-82.09	0.44	-0.32	-3.51	
3,076.00	5.00	73.00	3,066.81	97.62	164.99	-84.71	1.24	0.32	14.21	
3,170.00	4.80	72.20	3,160.46	100.02	172.66	-86.51	0.22	-0.21	-0.85	
3,265.00	4.00	62.50	3,255.18	102.76	179.38	-88.73	1.15	-0.84	-10.21	
3,359.00	4.90	61.10	3,348.90	106.22	185.80	-91.69	0.96	0.96	-1.49	
3,454.00	5.80	66.50	3,443.48	110.09	193.76	-94.94	1.08	0.95	5.68	
3,548.00	6.60	69.40	3,536.93	113.89	203.17	-98.00	0.91	0.85	3.09	
3,643.00	6.90	72.20	3,631.28	117.55	213.71	-100.85	0.47	0.32	2.95	
3,737.00	6.90	72.90	3,724.59	120.94	224.49	-103.40	0.09	0.00	0.74	
3,832.00	7.40	57.20	3,818.86	125.93	235.08	-107.57	2.12	0.53	-16.53	
3,926.00	8.00	52.50	3,912.02	133.19	245.36	-114.02	0.92	0.64	-5.00	
4,021.00	6.80	62.10	4,006.23	139.85	255.58	-119.88	1.81	-1.26	10.11	
4,115.00	6.90	63.50	4,099.56	144.97	265.55	-124.23	0.21	0.11	1.49	
4,209.00	6.30	71.50	4,192.94	149.13	275.49	-127.61	1.17	-0.64	8.51	
4,304.00	6.80	71.60	4,287.32	152.56	285.77	-130.24	0.53	0.53	0.11	
4,398.00	5.90	61.20	4,380.74	156.64	295.29	-133.58	1.55	-0.96	-11.06	
4,493.00	5.80	54.30	4,475.25	161.80	303.46	-138.10	0.75	-0.11	-7.26	
4,587.00	5.10	62.00	4,568.82	166.53	311.01	-142.24	1.08	-0.74	8.19	
4,681.00	4.70	51.30	4,662.48	170.90	317.71	-146.08	1.06	-0.43	-11.38	
4,776.00	4.70	54.40	4,757.16	175.60	323.91	-150.29	0.27	0.00	3.26	
4,871.00	3.70	65.90	4,851.91	179.12	329.87	-153.34	1.37	-1.05	12.11	
4,965.00	2.40	58.30	4,945.77	181.39	334.31	-155.27	1.45	-1.38	-8.09	
5,059.00	1.80	48.90	5,039.71	183.39	337.10	-157.06	0.73	-0.64	-10.00	
5,154.00	1.20	29.00	5,134.68	185.24	338.71	-158.78	0.83	-0.63	-20.95	
5,248.00	0.90	141.90	5,228.67	185.52	339.64	-158.99	1.87	-0.32	120.11	
5,343.00	0.80	163.80	5,323.66	184.30	340.29	-157.72	0.36	-0.11	23.05	
5,437.00	0.50	154.10	5,417.65	183.30	340.65	-156.69	0.34	-0.32	-10.32	
5,532.00	0.10	41.30	5,512.65	182.99	340.88	-156.37	0.58	-0.42	-118.74	
5,627.00	0.60	1.30	5,607.65	183.55	340.95	-156.92	0.56	0.53	-42.11	
5,658.00	1.10	30.30	5,638.65	183.97	341.10	-157.32	2.08	1.61	93.55	
5,690.00	1.20	82.30	5,670.64	184.28	341.59	-157.60	3.16	0.31	162.50	

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-23-0461BH
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4714.00usft
<b>Site:</b>	Sec.23-T6N-R62W	<b>MD Reference:</b>	WELL @ 4714.00usft
<b>Well:</b>	Pappenheim 6-62-23-0461BH	<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>	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)	
5,721.00	2.70	127.40	5,701.62	183.88	342.49	-157.13	6.58	4.84	145.48	
5,753.00	4.90	146.70	5,733.55	182.28	343.84	-155.43	7.86	6.87	60.31	
5,784.00	6.90	156.10	5,764.39	179.47	345.32	-152.51	7.14	6.45	30.32	
5,815.00	8.60	157.60	5,795.10	175.62	346.96	-148.56	5.52	5.48	4.84	
5,847.00	10.20	156.90	5,826.67	170.80	348.99	-143.60	5.01	5.00	-2.19	
5,879.00	12.60	153.70	5,858.04	165.07	351.64	-137.67	7.75	7.50	-10.00	
5,910.00	12.20	162.30	5,888.32	158.92	354.14	-131.35	6.09	-1.29	27.74	
5,942.00	14.00	168.60	5,919.49	151.90	355.93	-124.22	7.17	5.62	19.69	
5,973.00	16.30	166.40	5,949.41	143.99	357.70	-116.20	7.65	7.42	-7.10	
6,004.00	17.10	165.80	5,979.10	135.35	359.84	-107.41	2.64	2.58	-1.94	
6,035.00	19.10	172.40	6,008.57	125.90	361.63	-97.86	9.23	6.45	21.29	
6,067.00	19.40	178.10	6,038.78	115.40	362.49	-87.32	5.94	0.94	17.81	
6,099.00	24.50	172.80	6,068.45	103.49	363.50	-75.37	17.08	15.94	-16.56	
6,130.00	30.70	172.80	6,095.91	89.25	365.30	-61.03	20.00	20.00	0.00	
6,162.00	36.00	173.90	6,122.63	71.78	367.33	-43.46	16.67	16.56	3.44	
6,194.00	41.40	176.00	6,147.60	51.86	369.07	-23.47	17.36	16.87	6.56	
6,225.00	46.90	179.00	6,169.84	30.30	369.98	-1.90	18.98	17.74	9.68	
6,257.00	52.60	180.40	6,190.50	5.89	370.09	22.45	18.12	17.81	4.37	
6,287.00	57.50	179.90	6,207.68	-18.69	370.03	46.96	16.39	16.33	-1.67	
6,319.00	61.50	180.60	6,223.92	-46.26	369.91	74.43	12.64	12.50	2.19	
6,350.00	64.30	180.30	6,238.04	-73.85	369.69	101.93	9.07	9.03	-0.97	
6,382.00	66.20	179.00	6,251.44	-102.91	369.87	130.91	6.99	5.94	-4.06	
6,413.00	69.00	179.60	6,263.25	-131.56	370.22	159.51	9.21	9.03	1.94	
6,445.00	72.00	180.30	6,273.93	-161.73	370.25	189.59	9.60	9.37	2.19	
6,476.00	73.80	181.10	6,283.05	-191.35	369.88	219.10	6.31	5.81	2.58	
6,508.00	75.10	182.10	6,291.63	-222.17	369.02	249.76	5.06	4.06	3.12	
6,539.00	76.90	181.70	6,299.13	-252.23	368.03	279.65	5.94	5.81	-1.29	
6,571.00	79.30	181.60	6,305.72	-283.52	367.12	310.79	7.51	7.50	-0.31	
6,602.00	81.80	181.90	6,310.81	-314.09	366.19	341.19	8.12	8.06	0.97	
6,625.00	83.60	183.00	6,313.74	-336.88	365.21	363.84	9.15	7.83	4.78	
6,667.00	85.50	183.10	6,317.72	-378.63	362.99	405.30	4.53	4.52	0.24	
6,759.00	90.30	183.50	6,321.09	-470.39	357.70	496.38	5.24	5.22	0.43	
6,855.00	91.30	183.70	6,319.75	-566.19	351.67	591.44	1.06	1.04	0.21	
6,949.00	91.50	183.30	6,317.46	-659.98	345.93	684.52	0.48	0.21	-0.43	
7,044.00	91.10	182.30	6,315.30	-754.84	341.29	778.75	1.13	-0.42	-1.05	
7,139.00	90.40	182.00	6,314.06	-849.77	337.73	873.12	0.80	-0.74	-0.32	
7,233.00	90.70	181.00	6,313.16	-943.73	335.27	966.62	1.11	0.32	-1.06	
7,327.00	90.20	179.90	6,312.42	-1,037.72	334.53	1,060.28	1.29	-0.53	-1.17	
7,421.00	89.80	178.80	6,312.42	-1,131.71	335.60	1,154.08	1.25	-0.43	-1.17	
7,517.00	91.10	178.40	6,311.66	-1,227.68	337.94	1,249.94	1.42	1.35	-0.42	
7,611.00	91.60	178.90	6,309.45	-1,321.63	340.16	1,343.78	0.75	0.53	0.53	
7,706.00	89.40	178.80	6,308.62	-1,416.60	342.06	1,438.62	2.32	-2.32	-0.11	
7,801.00	89.80	179.60	6,309.28	-1,511.59	343.39	1,533.43	0.94	0.42	0.84	
7,894.00	90.90	179.30	6,308.72	-1,604.58	344.28	1,626.22	1.23	1.18	-0.32	
7,989.00	92.40	179.90	6,305.98	-1,699.53	344.95	1,720.95	1.70	1.58	0.63	
8,083.00	92.00	179.20	6,302.37	-1,793.46	345.68	1,814.66	0.86	-0.43	-0.74	
8,178.00	91.50	180.00	6,299.47	-1,888.41	346.35	1,909.38	0.99	-0.53	0.84	
8,272.00	89.20	180.10	6,298.90	-1,982.41	346.27	2,003.09	2.45	-2.45	0.11	
8,367.00	90.80	180.70	6,298.90	-2,077.40	345.60	2,097.76	1.80	1.68	0.63	
8,461.00	88.70	180.00	6,299.31	-2,171.39	345.03	2,191.43	2.35	-2.23	-0.74	
8,556.00	89.40	179.60	6,300.88	-2,266.38	345.36	2,286.16	0.85	0.74	-0.42	
8,649.00	89.90	179.20	6,301.45	-2,359.37	346.33	2,378.96	0.69	0.54	-0.43	
8,745.00	90.30	181.60	6,301.28	-2,455.36	345.66	2,474.61	2.53	0.42	2.50	
8,838.00	91.70	181.60	6,299.66	-2,548.31	343.07	2,567.09	1.51	1.51	0.00	

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Pappenheim 6-62-23-0461BH
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4714.00usft
<b>Site:</b>	Sec.23-T6N-R62W	<b>MD Reference:</b>	WELL @ 4714.00usft
<b>Well:</b>	Pappenheim 6-62-23-0461BH	<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>	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)	
8,933.00	90.30	180.40	6,298.00	-2,643.27	341.41	2,661.65	1.94	-1.47	-1.26	
9,028.00	90.00	180.50	6,297.75	-2,738.27	340.66	2,756.31	0.33	-0.32	0.11	
9,122.00	89.30	180.00	6,298.33	-2,832.27	340.25	2,850.00	0.92	-0.74	-0.53	
9,217.00	90.90	180.30	6,298.16	-2,927.26	340.00	2,944.70	1.71	1.68	0.32	
9,311.00	89.60	180.40	6,297.75	-3,021.26	339.43	3,038.38	1.39	-1.38	0.11	
9,406.00	90.50	179.70	6,297.67	-3,116.26	339.35	3,133.09	1.20	0.95	-0.74	
9,500.00	88.50	180.00	6,298.49	-3,210.25	339.59	3,226.82	2.15	-2.13	0.32	
9,594.00	86.30	180.80	6,302.75	-3,304.14	338.94	3,320.39	2.49	-2.34	0.85	
9,688.00	89.50	182.10	6,306.20	-3,398.04	336.56	3,413.83	3.67	3.40	1.38	
9,784.00	90.10	181.80	6,306.53	-3,493.98	333.29	3,509.24	0.70	0.62	-0.31	
9,878.00	92.70	181.70	6,304.23	-3,587.90	330.42	3,602.66	2.77	2.77	-0.11	
9,973.00	92.40	181.50	6,300.01	-3,682.77	327.77	3,697.05	0.38	-0.32	-0.21	
10,068.00	91.50	181.80	6,296.78	-3,777.67	325.04	3,791.47	1.00	-0.95	0.32	
10,163.00	89.90	182.60	6,295.62	-3,872.59	321.39	3,885.83	1.88	-1.68	0.84	
10,256.00	90.10	181.80	6,295.62	-3,965.52	317.82	3,978.22	0.89	0.22	-0.86	
10,351.00	90.00	180.30	6,295.53	-4,060.50	316.08	4,072.78	1.58	-0.11	-1.58	
10,446.00	89.90	178.70	6,295.62	-4,155.50	316.91	4,167.56	1.69	-0.11	-1.68	
10,540.00	91.20	178.40	6,294.71	-4,249.46	319.29	4,261.43	1.42	1.38	-0.32	
<b>Last Archer Survey</b>										
10,603.00	91.30	178.50	6,293.34	-4,312.42	320.99	4,324.34	0.22	0.16	0.16	
<b>PTB</b>										
10,664.00	91.30	178.50	6,291.95	-4,373.39	322.59	4,385.25	0.00	0.00	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
100.00	100.00	0.30	-0.20	First MS Gyro Survey	
735.00	734.99	0.88	-2.79	Tie-In / MS Gyro	
854.00	853.99	0.91	-2.74	First Archer Survey	
10,603.00	6,293.34	-4,312.42	320.99	Last Archer Survey	
10,664.00	6,291.95	-4,373.39	322.59	PTB	

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