



Project: Weld County, CO NAD 83
Site: Kunsemiller 5-61-20_19NW21 Pad
Well: Kunsemiller 5-61-20-0801B2B
Wellbore: OH
Design: OH

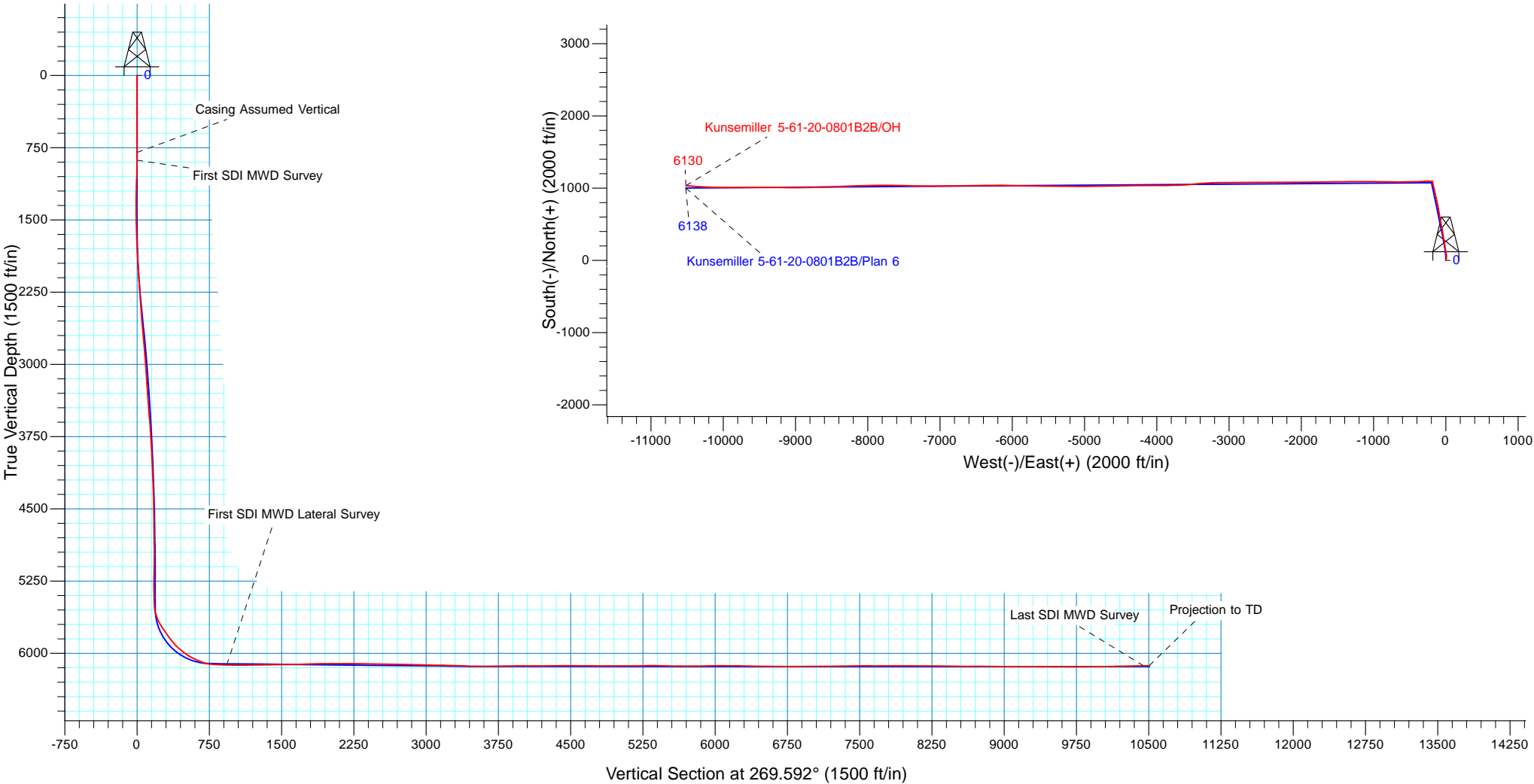


WELL DETAILS: Kunsemiller 5-61-20-0801B2B				
	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)	4638.00		
Northing	Easting	Latitude	Longitude	
1387817.19	3355807.51	40° 23' 27.329 N	104° 13' 21.320 W	

Design: OH (Kunsemiller 5-61-20-0801B2B/OH)	
Created By: Seth Burstad	Date: 8-7-2017

PROJECT DETAILS: Weld County, 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
Local North:	True

ANNOTATIONS								
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
800.00	800.00	0.00	0.000	0.00	0.00	0.00	0.00	Casing Assumed Vertical
881.00	881.00	0.53	253.270	-0.11	-0.36	0.36	0.37	First SDI MWD Survey
6121.81	6760.00	89.43	270.500	1089.72	-937.84	930.06	1875.61	First SDI MWD Lateral Survey
6131.01	16283.00	91.01	274.190	1029.15	-10456.46	10448.87	11397.38	Last SDI MWD Survey
6129.99	16341.00	91.01	274.190	1033.39	-10514.30	10506.67	11455.37	Projection to TD



Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Kunsemiller 5-61-20-0801B2B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Site:	Kunsemiller 5-61-20_19NW21 Pad	MD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Well:	Kunsemiller 5-61-20-0801B2B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Project	Weld County, 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	Kunsemiller 5-61-20_19NW21 Pad, Site Center : 5-61-20-20801B2B				
Site Position:		Northing:	1,387,878.07 usft	Latitude:	40° 23' 27.931 N
From:	Lat/Long	Easting:	3,355,805.79 usft	Longitude:	104° 13' 21.331 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.83 °

Well	Kunsemiller 5-61-20-0801B2B, 1066' FNL 300' FWL Sec 21 T5N R61W					
Well Position	+N/-S	0.00 ft	Northing:	1,387,817.20 usft	Latitude:	40° 23' 27.329 N
	+E/-W	0.00 ft	Easting:	3,355,807.51 usft	Longitude:	104° 13' 21.320 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,638.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	11/23/2015	8.20	67.05	52,650
	BGGM2016	10/6/2016	8.13	66.98	52,548
	HDGM	6/22/2017	8.25	67.07	52,350
	HDGM	6/27/2017	8.25	67.07	52,349

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		269.592

Survey Program	Date	8/7/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
800.00	6,619.00	Survey #1 - Intermediate (OH)	OWSG MWD	OWSG MWD - Standard	
6,760.00	16,341.00	Survey #2 - Lateral (OH)	OWSG MWD	OWSG 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	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
Casing Assumed Vertical										
881.00	0.53	253.270	881.00	-0.11	-0.36	0.36	0.65	0.65	0.00	
First SDI MWD Survey										
972.00	3.25	23.700	971.95	2.13	0.28	-0.29	3.97	2.99	143.33	
1,064.00	5.19	21.070	1,063.70	8.41	2.82	-2.88	2.12	2.11	-2.86	

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Project:	Weld County, CO NAD 83	TVD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Site:	Kunsemiller 5-61-20_19NW21 Pad	MD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Well:	Kunsemiller 5-61-20-0801B2B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)
1,155.00	7.83	16.760	1,154.11	18.18	6.09	-6.22	2.95	2.90	-4.74
1,246.00	10.29	9.110	1,243.97	32.15	9.16	-9.39	3.00	2.70	-8.41
1,338.00	11.43	357.860	1,334.33	49.37	10.12	-10.47	2.61	1.24	-12.23
1,429.00	11.87	355.490	1,423.45	67.71	9.05	-9.53	0.71	0.48	-2.60
1,521.00	11.87	354.520	1,513.49	86.56	7.40	-8.02	0.22	0.00	-1.05
1,612.00	11.70	350.300	1,602.57	104.97	4.95	-5.70	0.97	-0.19	-4.64
1,704.00	13.81	349.250	1,692.29	124.96	1.33	-2.22	2.31	2.29	-1.14
1,796.00	14.86	349.860	1,781.43	147.36	-2.79	1.74	1.15	1.14	0.66
1,887.00	15.65	346.960	1,869.22	170.81	-7.61	6.40	1.21	0.87	-3.19
1,978.00	18.29	352.320	1,956.26	196.92	-12.29	10.89	3.37	2.90	5.89
2,070.00	20.40	351.010	2,043.06	227.07	-16.73	15.11	2.34	2.29	-1.42
2,161.00	21.81	350.390	2,127.95	259.40	-22.03	20.18	1.57	1.55	-0.68
2,253.00	23.65	349.420	2,212.81	294.39	-28.27	26.17	2.04	2.00	-1.05
2,344.00	26.03	351.710	2,295.38	332.10	-34.50	32.14	2.82	2.62	2.52
2,438.00	27.26	350.570	2,379.40	373.75	-41.00	38.34	1.42	1.31	-1.21
2,533.00	25.94	351.530	2,464.34	415.77	-47.63	44.67	1.46	-1.39	1.01
2,627.00	26.38	348.630	2,548.72	456.58	-54.77	51.52	1.44	0.47	-3.09
2,721.00	26.12	348.370	2,633.02	497.32	-63.06	59.52	0.30	-0.28	-0.28
2,815.00	26.47	349.600	2,717.30	538.19	-71.02	67.18	0.69	0.37	1.31
2,909.00	26.73	350.220	2,801.35	579.63	-78.39	74.26	0.40	0.28	0.66
3,003.00	24.89	349.860	2,885.97	619.94	-85.46	81.05	1.96	-1.96	-0.38
3,096.00	23.04	349.780	2,970.95	657.11	-92.14	87.46	1.99	-1.99	-0.09
3,190.00	21.28	349.160	3,058.00	691.97	-98.61	93.68	1.89	-1.87	-0.66
3,285.00	20.84	351.450	3,146.65	725.62	-104.36	99.20	0.98	-0.46	2.41
3,379.00	21.72	349.860	3,234.25	759.27	-109.91	104.50	1.12	0.94	-1.69
3,473.00	21.63	347.750	3,321.60	793.33	-116.65	111.00	0.83	-0.10	-2.24
3,566.00	20.40	346.880	3,408.41	825.86	-123.97	118.08	1.36	-1.32	-0.94
3,660.00	20.58	345.470	3,496.47	857.81	-131.83	125.72	0.56	0.19	-1.50
3,754.00	19.08	348.460	3,584.89	888.86	-139.05	132.72	1.93	-1.60	3.18
3,849.00	17.23	347.490	3,675.16	917.81	-145.21	138.67	1.97	-1.95	-1.02
3,941.00	15.74	348.110	3,763.38	943.33	-150.73	144.01	1.63	-1.62	0.67
4,035.00	13.81	347.320	3,854.26	966.75	-155.82	148.93	2.06	-2.05	-0.84
4,129.00	13.28	345.560	3,945.65	988.15	-160.97	153.93	0.71	-0.56	-1.87
4,223.00	11.87	345.650	4,037.39	1,007.97	-166.06	158.88	1.50	-1.50	0.10
4,317.00	11.61	347.320	4,129.42	1,026.57	-170.53	163.22	0.46	-0.28	1.78
4,411.00	10.82	348.980	4,221.63	1,044.46	-174.30	166.85	0.91	-0.84	1.77
4,505.00	7.83	350.220	4,314.38	1,059.43	-177.07	169.52	3.19	-3.18	1.32
4,599.00	6.51	346.000	4,407.64	1,070.91	-179.45	171.82	1.51	-1.40	-4.49
4,693.00	5.28	345.910	4,501.14	1,080.28	-181.79	174.09	1.31	-1.31	-0.10
4,787.00	4.13	351.010	4,594.82	1,087.81	-183.37	175.62	1.30	-1.22	5.43
4,881.00	2.46	346.170	4,688.66	1,093.12	-184.38	176.59	1.80	-1.78	-5.15
4,974.00	0.97	304.600	4,781.62	1,095.50	-185.51	177.70	1.99	-1.60	-44.70
5,068.00	0.62	225.150	4,875.62	1,095.60	-186.52	178.72	1.12	-0.37	-84.52

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Site:	Kunsemiller 5-61-20_19NW21 Pad	MD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Well:	Kunsemiller 5-61-20-0801B2B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)	
5,161.00	0.35	22.820	4,968.62	1,095.50	-186.77	178.97	1.02	-0.29	169.54	
5,255.00	0.44	153.250	5,062.61	1,095.44	-186.50	178.69	0.76	0.10	138.76	
5,349.00	0.53	100.870	5,156.61	1,095.04	-185.91	178.11	0.46	0.10	-55.72	
5,442.00	0.53	241.580	5,249.61	1,094.75	-185.86	178.06	1.07	0.00	151.30	
5,536.00	0.18	146.130	5,343.61	1,094.42	-186.16	178.37	0.61	-0.37	-101.54	
5,630.00	0.26	111.590	5,437.61	1,094.22	-185.88	178.09	0.16	0.09	-36.74	
5,724.00	6.07	259.950	5,531.44	1,093.28	-190.58	182.79	6.69	6.18	157.83	
5,818.00	20.84	272.340	5,622.62	1,093.09	-212.31	204.52	15.92	15.71	13.18	
5,911.00	31.57	272.520	5,705.94	1,094.84	-253.28	245.47	11.54	11.54	0.19	
6,006.00	36.14	267.420	5,784.83	1,094.67	-306.15	298.34	5.66	4.81	-5.37	
6,099.00	35.88	267.690	5,860.06	1,092.34	-360.77	352.98	0.33	-0.28	0.29	
6,193.00	46.17	269.360	5,930.88	1,090.85	-422.37	414.59	11.01	10.95	1.78	
6,286.00	52.76	266.900	5,991.29	1,088.47	-492.96	485.20	7.36	7.09	-2.65	
6,380.00	61.73	268.650	6,042.10	1,085.46	-571.87	564.13	9.67	9.54	1.86	
6,474.00	67.53	269.620	6,082.36	1,084.20	-656.76	649.02	6.24	6.17	1.03	
6,568.00	78.52	271.030	6,109.76	1,084.74	-746.52	738.78	11.78	11.69	1.50	
6,619.00	86.26	272.340	6,116.51	1,086.23	-797.01	789.25	15.39	15.18	2.57	
6,760.00	89.43	270.500	6,121.81	1,089.72	-937.84	930.06	2.60	2.25	-1.30	
First SDI MWD Lateral Survey										
6,854.00	90.66	269.710	6,121.74	1,089.89	-1,031.84	1,024.05	1.56	1.31	-0.84	
6,949.00	89.87	270.060	6,121.30	1,089.70	-1,126.84	1,119.05	0.91	-0.83	0.37	
7,043.00	90.40	270.150	6,121.08	1,089.87	-1,220.84	1,213.04	0.57	0.56	0.10	
7,136.00	90.22	269.530	6,120.58	1,089.61	-1,313.83	1,306.04	0.69	-0.19	-0.67	
7,231.00	90.40	269.270	6,120.06	1,088.62	-1,408.83	1,401.04	0.33	0.19	-0.27	
7,324.00	90.75	269.270	6,119.13	1,087.44	-1,501.81	1,494.03	0.38	0.38	0.00	
7,419.00	91.01	269.360	6,117.67	1,086.30	-1,596.80	1,589.02	0.29	0.27	0.09	
7,513.00	92.24	269.530	6,115.00	1,085.39	-1,690.75	1,682.98	1.32	1.31	0.18	
7,607.00	91.80	269.440	6,111.69	1,084.54	-1,784.69	1,776.92	0.48	-0.47	-0.10	
7,701.00	91.10	269.270	6,109.31	1,083.49	-1,878.65	1,870.89	0.77	-0.74	-0.18	
7,795.00	90.22	269.440	6,108.23	1,082.43	-1,972.64	1,964.88	0.95	-0.94	0.18	
7,889.00	89.16	269.440	6,108.74	1,081.51	-2,066.63	2,058.88	1.13	-1.13	0.00	
7,983.00	89.16	269.270	6,110.12	1,080.45	-2,160.62	2,152.87	0.18	0.00	-0.18	
8,077.00	90.84	270.670	6,110.12	1,080.40	-2,254.61	2,246.86	2.33	1.79	1.49	
8,171.00	89.25	269.530	6,110.04	1,080.57	-2,348.61	2,340.85	2.08	-1.69	-1.21	
8,265.00	90.31	270.320	6,110.40	1,080.44	-2,442.60	2,434.85	1.41	1.13	0.84	
8,359.00	88.37	269.620	6,111.49	1,080.39	-2,536.59	2,528.83	2.19	-2.06	-0.74	
8,453.00	89.16	270.590	6,113.51	1,080.57	-2,630.57	2,622.81	1.33	0.84	1.03	
8,547.00	88.29	269.090	6,115.60	1,080.30	-2,724.54	2,716.78	1.84	-0.93	-1.60	
8,641.00	89.08	268.650	6,117.76	1,078.45	-2,818.50	2,810.75	0.96	0.84	-0.47	
8,735.00	88.37	269.440	6,119.85	1,076.89	-2,912.46	2,904.72	1.13	-0.76	0.84	
8,829.00	88.72	269.440	6,122.24	1,075.97	-3,006.42	2,998.69	0.37	0.37	0.00	
8,923.00	88.90	269.180	6,124.19	1,074.84	-3,100.40	3,092.67	0.34	0.19	-0.28	
9,016.00	89.52	269.800	6,125.47	1,074.01	-3,193.38	3,185.66	0.94	0.67	0.67	

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Design:	OH	Database:	Casper District

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)
9,110.00	88.37	266.980	6,127.20	1,071.37	-3,287.32	3,279.61	3.24	-1.22	-3.00
9,205.00	87.23	264.610	6,130.85	1,064.41	-3,381.99	3,374.32	2.77	-1.20	-2.49
9,298.00	88.20	264.960	6,134.56	1,055.96	-3,474.53	3,466.92	1.11	1.04	0.38
9,392.00	89.43	266.020	6,136.50	1,048.57	-3,568.21	3,560.66	1.73	1.31	1.13
9,487.00	91.10	266.900	6,136.06	1,042.71	-3,663.03	3,655.51	1.99	1.76	0.93
9,581.00	90.84	268.390	6,134.47	1,038.85	-3,756.93	3,749.44	1.61	-0.28	1.59
9,675.00	91.01	268.650	6,132.96	1,036.42	-3,850.89	3,843.41	0.33	0.18	0.28
9,769.00	90.04	270.060	6,132.09	1,035.36	-3,944.87	3,937.40	1.82	-1.03	1.50
9,862.00	89.96	270.320	6,132.09	1,035.67	-4,037.87	4,030.40	0.29	-0.09	0.28
9,956.00	89.96	269.800	6,132.16	1,035.77	-4,131.87	4,124.39	0.55	0.00	-0.55
10,050.00	90.40	269.270	6,131.86	1,035.00	-4,225.87	4,218.39	0.73	0.47	-0.56
10,144.00	90.92	268.570	6,130.78	1,033.23	-4,319.84	4,312.38	0.93	0.55	-0.74
10,238.00	90.92	269.440	6,129.27	1,031.60	-4,413.82	4,406.36	0.93	0.00	0.93
10,333.00	89.34	270.150	6,129.06	1,031.26	-4,508.81	4,501.35	1.82	-1.66	0.75
10,427.00	89.34	268.920	6,130.14	1,030.50	-4,602.80	4,595.35	1.31	0.00	-1.31
10,521.00	89.08	268.650	6,131.44	1,028.50	-4,696.77	4,689.33	0.40	-0.28	-0.29
10,612.00	89.69	269.710	6,132.41	1,027.20	-4,787.75	4,780.32	1.34	0.67	1.16
10,703.00	89.78	269.000	6,132.83	1,026.18	-4,878.75	4,871.32	0.79	0.10	-0.78
10,795.00	90.13	268.480	6,132.91	1,024.15	-4,970.72	4,963.31	0.68	0.38	-0.57
10,886.00	89.87	269.970	6,132.91	1,022.92	-5,061.71	5,054.30	1.66	-0.29	1.64
10,977.00	90.75	271.030	6,132.41	1,023.72	-5,152.71	5,145.29	1.51	0.97	1.16
11,069.00	91.89	270.670	6,130.29	1,025.08	-5,244.67	5,237.24	1.30	1.24	-0.39
11,160.00	90.48	270.500	6,128.41	1,026.01	-5,335.64	5,328.20	1.56	-1.55	-0.19
11,252.00	88.72	270.500	6,129.05	1,026.81	-5,427.63	5,420.19	1.91	-1.91	0.00
11,343.00	88.72	270.060	6,131.09	1,027.26	-5,518.61	5,511.16	0.48	0.00	-0.48
11,435.00	88.81	270.590	6,133.07	1,027.78	-5,610.59	5,603.13	0.58	0.10	0.58
11,526.00	89.60	270.150	6,134.33	1,028.37	-5,701.58	5,694.11	0.99	0.87	-0.48
11,617.00	91.19	271.550	6,133.71	1,029.72	-5,792.56	5,785.08	2.33	1.75	1.54
11,708.00	90.48	271.730	6,132.38	1,032.32	-5,883.51	5,876.01	0.80	-0.78	0.20
11,800.00	91.54	272.080	6,130.76	1,035.38	-5,975.44	5,967.92	1.21	1.15	0.38
11,891.00	89.69	271.290	6,129.78	1,038.05	-6,066.40	6,058.85	2.21	-2.03	-0.87
11,983.00	89.60	269.970	6,130.35	1,039.07	-6,158.39	6,150.83	1.44	-0.10	-1.43
12,074.00	89.34	269.620	6,131.19	1,038.74	-6,249.38	6,241.83	0.48	-0.29	-0.38
12,166.00	89.43	269.440	6,132.18	1,037.99	-6,341.37	6,333.82	0.22	0.10	-0.20
12,258.00	89.25	269.440	6,133.24	1,037.09	-6,433.36	6,425.81	0.20	-0.20	0.00
12,349.00	89.16	269.270	6,134.50	1,036.06	-6,524.35	6,516.80	0.21	-0.10	-0.19
12,440.00	87.93	268.480	6,136.81	1,034.28	-6,615.30	6,607.77	1.61	-1.35	-0.87
12,532.00	89.52	268.920	6,138.86	1,032.19	-6,707.25	6,699.73	1.79	1.73	0.48
12,623.00	89.78	268.480	6,139.42	1,030.13	-6,798.22	6,790.72	0.56	0.29	-0.48
12,715.00	91.54	269.270	6,138.36	1,028.32	-6,890.19	6,882.70	2.10	1.91	0.86
12,806.00	90.75	270.230	6,136.54	1,027.92	-6,981.17	6,973.68	1.37	-0.87	1.05
12,898.00	91.19	269.970	6,134.98	1,028.08	-7,073.16	7,065.66	0.56	0.48	-0.28
12,990.00	89.78	271.110	6,134.20	1,028.95	-7,165.15	7,157.64	1.97	-1.53	1.24
13,081.00	89.87	270.150	6,134.48	1,029.95	-7,256.14	7,248.62	1.06	0.10	-1.05

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Kunsemiller 5-61-20-0801B2B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Site:	Kunsemiller 5-61-20_19NW21 Pad	MD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Well:	Kunsemiller 5-61-20-0801B2B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)
13,172.00	90.75	271.470	6,133.99	1,031.24	-7,347.13	7,339.60	1.74	0.97	1.45
13,263.00	91.63	271.640	6,132.10	1,033.71	-7,438.07	7,430.53	0.98	0.97	0.19
13,354.00	90.48	270.940	6,130.42	1,035.75	-7,529.03	7,521.47	1.48	-1.26	-0.77
13,446.00	88.64	270.150	6,131.13	1,036.63	-7,621.02	7,613.45	2.18	-2.00	-0.86
13,537.00	90.22	271.820	6,132.03	1,038.19	-7,712.00	7,704.41	2.53	1.74	1.84
13,629.00	89.43	269.800	6,132.31	1,039.49	-7,803.98	7,796.38	2.36	-0.86	-2.20
13,720.00	90.04	268.390	6,132.74	1,038.06	-7,894.97	7,887.38	1.69	0.67	-1.55
13,811.00	91.36	268.570	6,131.62	1,035.64	-7,985.93	7,978.35	1.46	1.45	0.20
13,903.00	90.04	268.210	6,130.50	1,033.06	-8,077.88	8,070.32	1.49	-1.43	-0.39
13,994.00	90.57	267.860	6,130.02	1,029.94	-8,168.83	8,161.29	0.70	0.58	-0.38
14,085.00	88.29	267.860	6,130.92	1,026.54	-8,259.75	8,252.23	2.51	-2.51	0.00
14,177.00	88.11	267.690	6,133.81	1,022.97	-8,351.64	8,344.14	0.27	-0.20	-0.18
14,269.00	90.13	269.180	6,135.22	1,020.46	-8,443.59	8,436.11	2.73	2.20	1.62
14,359.00	89.25	267.770	6,135.71	1,018.06	-8,533.55	8,526.08	1.85	-0.98	-1.57
14,451.00	89.78	267.510	6,136.49	1,014.28	-8,625.47	8,618.03	0.64	0.58	-0.28
14,542.00	92.15	269.710	6,134.96	1,012.07	-8,716.42	8,708.99	3.55	2.60	2.42
14,634.00	88.90	267.770	6,134.11	1,010.05	-8,808.37	8,800.96	4.11	-3.53	-2.11
14,726.00	89.34	269.090	6,135.53	1,007.53	-8,900.33	8,892.93	1.51	0.48	1.43
14,817.00	89.16	269.000	6,136.72	1,006.01	-8,991.31	8,983.91	0.22	-0.20	-0.10
14,908.00	88.46	269.440	6,138.61	1,004.77	-9,082.28	9,074.89	0.91	-0.77	0.48
15,000.00	89.60	270.760	6,140.17	1,004.93	-9,174.26	9,166.87	1.90	1.24	1.43
15,091.00	89.69	270.670	6,140.73	1,006.07	-9,265.25	9,257.85	0.14	0.10	-0.10
15,183.00	89.87	271.200	6,141.08	1,007.57	-9,357.24	9,349.83	0.61	0.20	0.58
15,275.00	89.87	270.670	6,141.29	1,009.07	-9,449.22	9,441.80	0.58	0.00	-0.58
15,366.00	91.19	271.820	6,140.45	1,011.05	-9,540.20	9,532.75	1.92	1.45	1.26
15,457.00	90.04	269.360	6,139.47	1,011.98	-9,631.18	9,623.73	2.98	-1.26	-2.70
15,549.00	90.04	269.800	6,139.41	1,011.31	-9,723.17	9,715.73	0.48	0.00	0.48
15,640.00	89.96	268.300	6,139.41	1,009.80	-9,814.16	9,806.72	1.65	-0.09	-1.65
15,731.00	89.60	269.180	6,139.76	1,007.80	-9,905.14	9,897.71	1.04	-0.40	0.97
15,822.00	90.66	270.850	6,139.55	1,007.82	-9,996.13	9,988.70	2.17	1.16	1.84
15,914.00	91.71	271.550	6,137.65	1,009.75	-10,088.09	10,080.64	1.37	1.14	0.76
16,006.00	90.92	272.080	6,135.54	1,012.66	-10,180.02	10,172.55	1.03	-0.86	0.58
16,100.00	90.66	272.870	6,134.24	1,016.72	-10,273.92	10,266.42	0.88	-0.28	0.84
16,194.00	91.19	274.280	6,132.72	1,022.58	-10,367.72	10,360.18	1.60	0.56	1.50
16,283.00	91.01	274.190	6,131.01	1,029.15	-10,456.46	10,448.87	0.23	-0.20	-0.10
Last SDI MWD Survey									
16,341.00	91.01	274.190	6,129.99	1,033.39	-10,514.30	10,506.67	0.00	0.00	0.00
Projection to TD									

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Kunsemiller 5-61-20-0801B2B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Site:	Kunsemiller 5-61-20_19NW21 Pad	MD Reference:	GL 4638' & KB 16.5' @ 4654.50ft (Cade 24)
Well:	Kunsemiller 5-61-20-0801B2B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
800.00	800.00	0.00	0.00	Casing Assumed Vertical
881.00	881.00	-0.11	-0.36	First SDI MWD Survey
6,760.00	6,121.81	1,089.72	-937.84	First SDI MWD Lateral Survey
16,283.00	6,131.01	1,029.15	-10,456.46	Last SDI MWD Survey
16,341.00	6,129.99	1,033.39	-10,514.30	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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