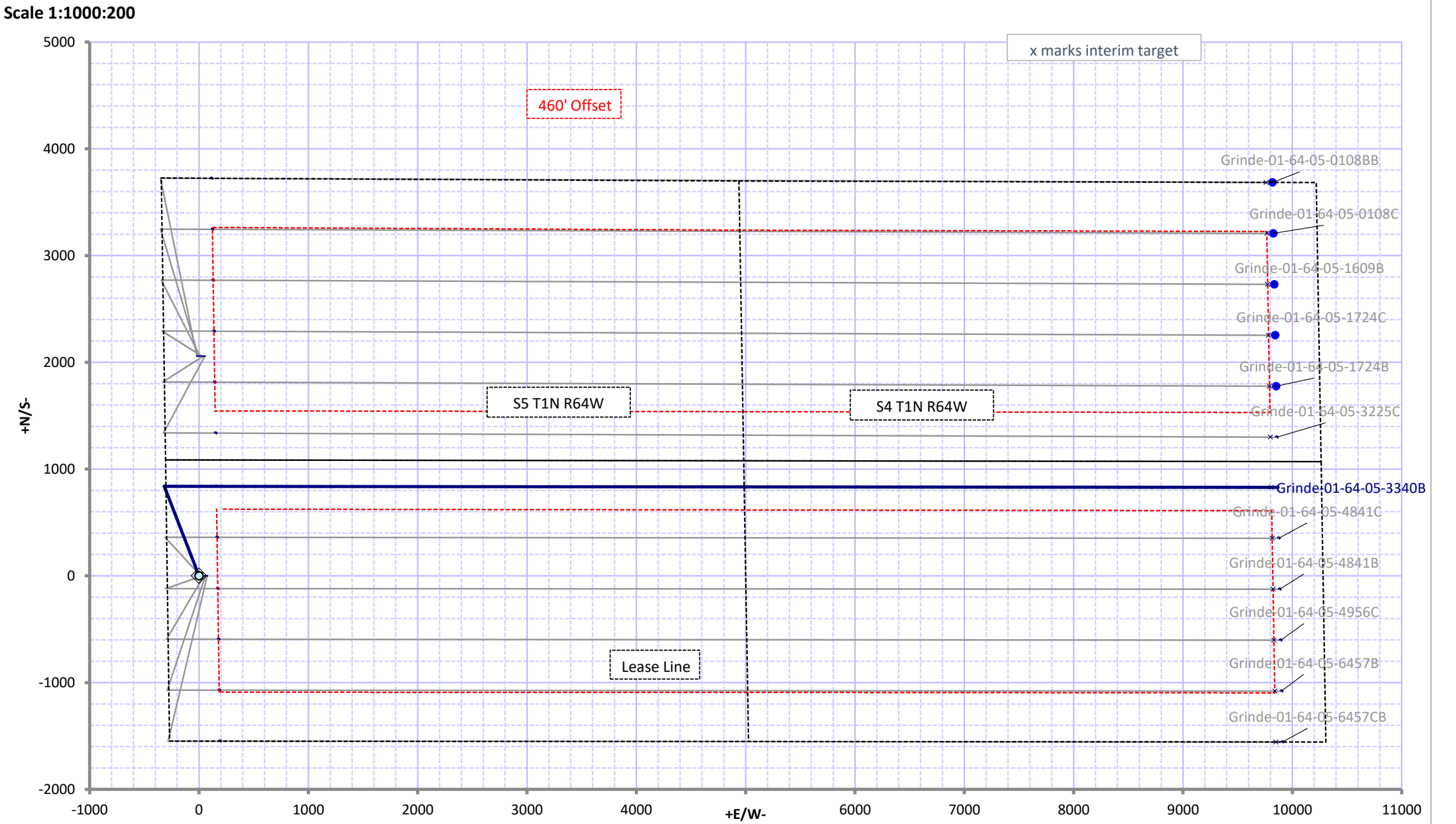
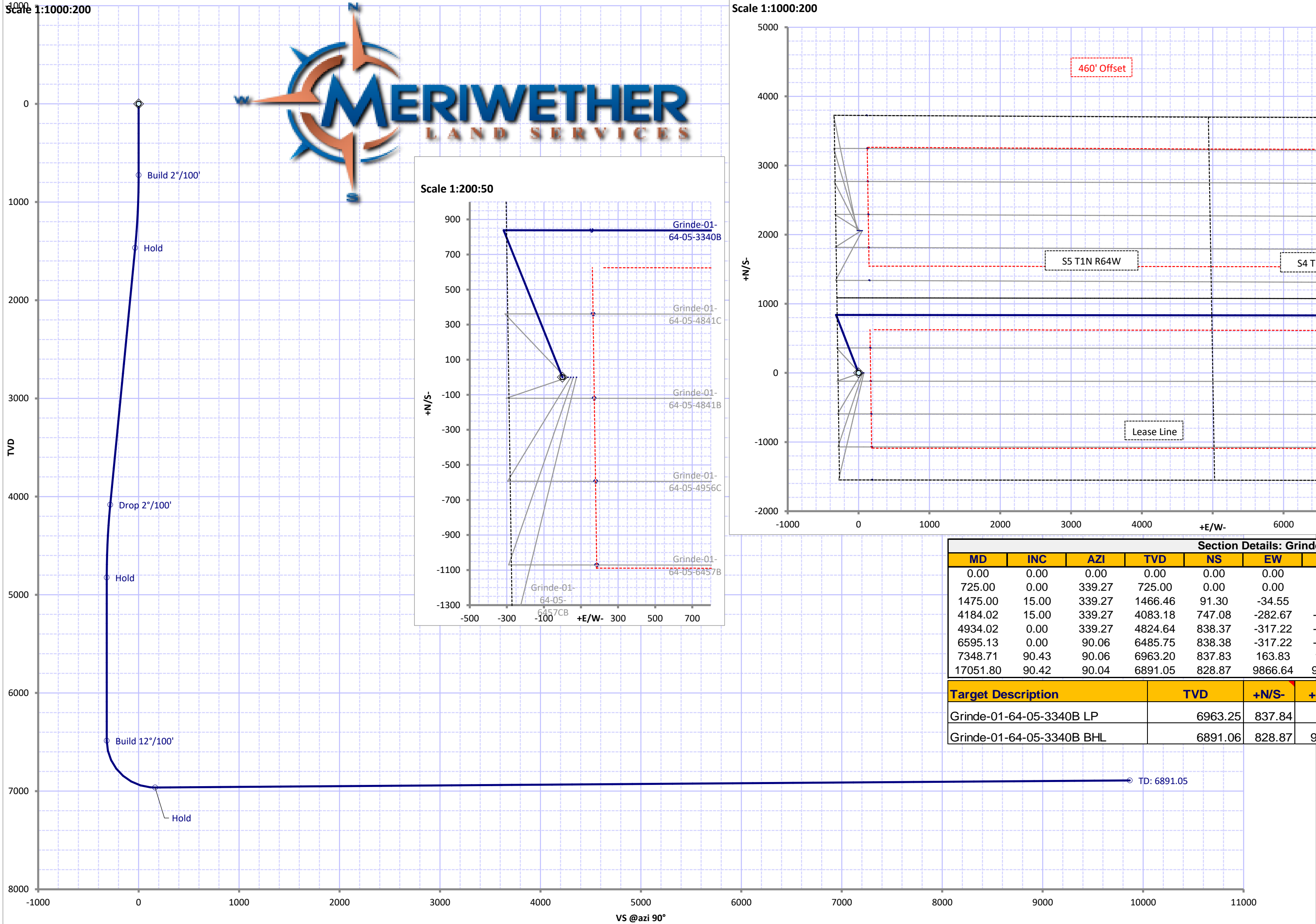


Well Grinde-01-64-05-3340B		Operating Company Bill Barrett Corporation			Rig TBD, est. KB of 20'	
Magnetics		Location			Other	
Curr. Datum BGGM2016 Mag Date 14-Mar-2017 Field Str, nT 52552.70		Decl., ° 8.15 Dip Angle, ° 67.05 Convergence, ° 0.5923622		Northing, ft 1,272,404.34 Easting, ft 3,256,542.76 Elevation, ft 5057.00		Meriwether Land Services, LLC
Latitude 40.077500 Longitude 104.583220 TVD Ref GL 5037' + KB 20'		Map System St. Plane Map Datum NAD83 Map Zone 0501 - Colorado North		North Reference True North Vert. Sect, ° 90.00		December 12, 2017



Section Details: Grinde-01-64-05-3340B										
MD	INC	AZI	TVD	NS	EW	VS90	BR	TR	DLS	Comments
0.00	0.00	0.00	0.00	0.00	0.00	0.00				TIE-IN
725.00	0.00	339.27	725.00	0.00	0.00	0.00	0.00	-82.90	0.00	Build 2°/100'
1475.00	15.00	339.27	1466.46	91.30	-34.55	-34.55	2.00	0.00	2.00	Hold
4184.02	15.00	339.27	4083.18	747.08	-282.67	-282.67	0.00	0.00	0.00	Drop 2°/100'
4934.02	0.00	339.27	4824.64	838.37	-317.22	-317.22	-2.00	0.00	2.00	Hold
6595.13	0.00	90.06	6485.75	838.38	-317.22	-317.22	0.00	60.35	0.00	Build 12°/100'
7348.71	90.43	90.06	6963.20	837.83	163.83	163.83	12.00	0.00	12.00	Hold
17051.80	90.42	90.04	6891.05	828.87	9866.64	9866.64	0.00	0.00	0.00	TD: 6891.05
Target Description			TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting	
Grinde-01-64-05-3340B LP			6963.25	837.84	156.70	40.07980	104.58266	1273243.75	3256690.80	
Grinde-01-64-05-3340B BHL			6891.06	828.87	9866.66	40.07977	104.54796	1273335.17	3266400.33	

Magnetics	
Mag North, °	8.15
True North, °	0.00
Grid North, °	0.59
Mag Dip, °	67.05
Mag Str, nT	52552.70



Survey Report: Grinde-01-64-05-3340B

Operator	Bill Barrett Corporation	Northing	1272404.337	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256542.764	System	2 - St. Plane
Well Name	Grinde-01-64-05-3340B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583220	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592362

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
0	0	0	0	0	0	0	0	0	0
0: TIE-IN									
100	0	360	100	0	0	0	0	0	0
200	0	360	200	0	0	0	0	0	0
300	0	360	300	0	0	0	0	0	0
400	0	360	400	0	0	0	0	0	0
500	0	360	500	0	0	0	0	0	0
600	0	360	600	0	0	0	0	0	0
700	0	360	700	0	0	0	0	0	0
725	0	339.27	725	0	0	0	0	-82.9	0
725: Build 2°/100'									
800	1.5	339.27	799.99	0.92	-0.35	-0.35	2	0	2
900	3.5	339.27	899.89	5	-1.89	-1.89	2	0	2
1000	5.5	339.27	999.58	12.34	-4.67	-4.67	2	0	2
1100	7.5	339.27	1098.93	22.92	-8.67	-8.67	2	0	2
1200	9.5	339.27	1197.83	36.75	-13.9	-13.9	2	0	2
1300	11.5	339.27	1296.15	53.79	-20.35	-20.35	2	0	2
1400	13.5	339.27	1393.77	74.03	-28.01	-28.01	2	0	2
1475	15	339.27	1466.46	91.3	-34.55	-34.55	2	0	2
1475: Hold									
1500	15	339.27	1490.61	97.35	-36.84	-36.84	0	0	0
1600	15	339.27	1587.2	121.56	-45.99	-45.99	0	0	0
1700	15	339.27	1683.8	145.77	-55.15	-55.15	0	0	0
1800	15	339.27	1780.39	169.97	-64.31	-64.31	0	0	0
1900	15	339.27	1876.98	194.18	-73.47	-73.47	0	0	0
2000	15	339.27	1973.57	218.39	-82.63	-82.63	0	0	0
2100	15	339.27	2070.17	242.59	-91.79	-91.79	0	0	0
2200	15	339.27	2166.76	266.8	-100.95	-100.95	0	0	0
2300	15	339.27	2263.35	291.01	-110.11	-110.11	0	0	0
2400	15	339.27	2359.94	315.22	-119.27	-119.27	0	0	0
2500	15	339.27	2456.54	339.42	-128.43	-128.43	0	0	0
2600	15	339.27	2553.13	363.63	-137.59	-137.59	0	0	0
2700	15	339.27	2649.72	387.84	-146.75	-146.75	0	0	0
2800	15	339.27	2746.31	412.04	-155.91	-155.91	0	0	0
2900	15	339.27	2842.91	436.25	-165.07	-165.07	0	0	0
3000	15	339.27	2939.5	460.46	-174.23	-174.23	0	0	0
3100	15	339.27	3036.09	484.67	-183.38	-183.38	0	0	0
3200	15	339.27	3132.68	508.87	-192.54	-192.54	0	0	0
3300	15	339.27	3229.28	533.08	-201.7	-201.7	0	0	0
3400	15	339.27	3325.87	557.29	-210.86	-210.86	0	0	0
3500	15	339.27	3422.46	581.49	-220.02	-220.02	0	0	0
3600	15	339.27	3519.05	605.7	-229.18	-229.18	0	0	0
3700	15	339.27	3615.65	629.91	-238.34	-238.34	0	0	0
3800	15	339.27	3712.24	654.11	-247.5	-247.5	0	0	0



Survey Report: Grinde-01-64-05-3340B

Operator	Bill Barrett Corporation	Northing	1272404.337	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256542.764	System	2 - St. Plane
Well Name	Grinde-01-64-05-3340B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583220	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592362

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
3900	15	339.27	3808.83	678.32	-256.66	-256.66	0	0	0
4000	15	339.27	3905.42	702.53	-265.82	-265.82	0	0	0
4100	15	339.27	4002.02	726.74	-274.98	-274.98	0	0	0
4184.02	15	339.27	4083.18	747.08	-282.67	-282.67	0	0	0
4184.02: Drop 2°/100'									
4200	14.68	339.27	4098.62	750.9	-284.12	-284.12	-2	0	2
4300	12.68	339.27	4195.78	773.02	-292.49	-292.49	-2	0	2
4400	10.68	339.27	4293.7	791.96	-299.66	-299.66	-2	0	2
4500	8.68	339.27	4392.27	807.68	-305.61	-305.61	-2	0	2
4600	6.68	339.27	4491.37	820.18	-310.34	-310.34	-2	0	2
4700	4.68	339.27	4590.88	829.44	-313.84	-313.84	-2	0	2
4800	2.68	339.27	4690.66	835.44	-316.11	-316.11	-2	0	2
4900	0.68	339.27	4790.62	838.19	-317.15	-317.15	-2	0	2
4934.02	0	339.27	4824.64	838.37	-317.22	-317.22	-2	0	2
4934.02: Hold									
5000	0	339.27	4890.62	838.37	-317.22	-317.22	0	0	0
5100	0	339.27	4990.62	838.38	-317.22	-317.22	0	0	0
5200	0	339.27	5090.62	838.38	-317.22	-317.22	0	0	0
5300	0	339.27	5190.62	838.38	-317.22	-317.22	0	0	0
5400	0	339.27	5290.62	838.38	-317.22	-317.22	0	0	0
5500	0	339.27	5390.62	838.38	-317.22	-317.22	0	0	0
5600	0	339.27	5490.62	838.38	-317.22	-317.22	0	0	0
5700	0	339.27	5590.62	838.38	-317.22	-317.22	0	0	0
5800	0	339.27	5690.62	838.38	-317.22	-317.22	0	0	0
5900	0	339.27	5790.62	838.38	-317.22	-317.22	0	0	0
6000	0	339.27	5890.62	838.38	-317.22	-317.22	0	0	0
6100	0	339.27	5990.62	838.38	-317.22	-317.22	0	0	0
6200	0	339.27	6090.62	838.38	-317.22	-317.22	0	0	0
6300	0	339.27	6190.62	838.38	-317.22	-317.22	0	0	0
6400	0	339.27	6290.62	838.38	-317.22	-317.22	0	0	0
6500	0	32.65	6390.62	838.38	-317.22	-317.22	0	53.38	0
6595.13	0	90.06	6485.75	838.38	-317.22	-317.22	0	60.35	0
6595.13: Build 12°/100'									
6600	0.58	90.06	6490.62	838.38	-317.2	-317.2	12	0	12
6700	12.58	90.06	6589.77	838.36	-305.75	-305.75	12	0	12
6800	24.58	90.06	6684.39	838.33	-273.94	-273.94	12	0	12
6900	36.58	90.06	6770.32	838.27	-223.15	-223.15	12	0	12
7000	48.58	90.06	6843.81	838.19	-155.61	-155.61	12	0	12
7100	60.58	90.06	6901.66	838.1	-74.26	-74.26	12	0	12
7200	72.58	90.06	6941.32	838	17.34	17.34	12	0	12
7300	84.58	90.06	6961.08	837.89	115.18	115.18	12	0	12
7348.71	90.43	90.06	6963.2	837.83	163.83	163.83	12	0	12
7348.71: Hold									
7400	90.43	90.06	6962.81	837.78	215.11	215.11	0	0	0



Survey Report: Grinde-01-64-05-3340B

Operator	Bill Barrett Corporation	Northing	1272404.337	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256542.764	System	2 - St. Plane
Well Name	Grinde-01-64-05-3340B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583220	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592362

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
7500	90.43	90.06	6962.06	837.66	315.11	315.11	0	0	0
7600	90.43	90.06	6961.31	837.55	415.11	415.11	0	0	0
7700	90.43	90.06	6960.56	837.44	515.1	515.1	0	0	0
7800	90.43	90.06	6959.81	837.33	615.1	615.1	0	0	0
7900	90.43	90.06	6959.06	837.22	715.1	715.1	0	0	0
8000	90.43	90.06	6958.31	837.11	815.1	815.1	0	0	0
8100	90.43	90.06	6957.56	837	915.09	915.09	0	0	0
8200	90.43	90.06	6956.81	836.89	1015.09	1015.09	0	0	0
8300	90.43	90.06	6956.06	836.78	1115.09	1115.09	0	0	0
8400	90.43	90.06	6955.31	836.67	1215.08	1215.08	0	0	0
8500	90.43	90.06	6954.56	836.56	1315.08	1315.08	0	0	0
8600	90.43	90.06	6953.82	836.46	1415.08	1415.08	0	0	0
8700	90.43	90.06	6953.07	836.35	1515.08	1515.08	0	0	0
8800	90.43	90.06	6952.32	836.24	1615.07	1615.07	0	0	0
8900	90.43	90.06	6951.57	836.14	1715.07	1715.07	0	0	0
9000	90.43	90.06	6950.82	836.03	1815.07	1815.07	0	0	0
9100	90.43	90.06	6950.07	835.93	1915.06	1915.06	0	0	0
9200	90.43	90.06	6949.33	835.82	2015.06	2015.06	0	0	0
9300	90.43	90.06	6948.58	835.72	2115.06	2115.06	0	0	0
9400	90.43	90.06	6947.83	835.61	2215.06	2215.06	0	0	0
9500	90.43	90.06	6947.08	835.51	2315.05	2315.05	0	0	0
9600	90.43	90.06	6946.34	835.4	2415.05	2415.05	0	0	0
9700	90.43	90.06	6945.59	835.3	2515.05	2515.05	0	0	0
9800	90.43	90.06	6944.84	835.2	2615.04	2615.04	0	0	0
9900	90.43	90.06	6944.09	835.1	2715.04	2715.04	0	0	0
10000	90.43	90.06	6943.35	834.99	2815.04	2815.04	0	0	0
10100	90.43	90.06	6942.6	834.89	2915.04	2915.04	0	0	0
10200	90.43	90.06	6941.85	834.79	3015.03	3015.03	0	0	0
10300	90.43	90.06	6941.11	834.69	3115.03	3115.03	0	0	0
10400	90.43	90.06	6940.36	834.59	3215.03	3215.03	0	0	0
10500	90.43	90.06	6939.62	834.49	3315.03	3315.03	0	0	0
10600	90.43	90.06	6938.87	834.39	3415.02	3415.02	0	0	0
10700	90.43	90.06	6938.12	834.29	3515.02	3515.02	0	0	0
10800	90.43	90.06	6937.38	834.19	3615.02	3615.02	0	0	0
10900	90.43	90.06	6936.63	834.1	3715.01	3715.01	0	0	0
11000	90.43	90.06	6935.89	834	3815.01	3815.01	0	0	0
11100	90.43	90.06	6935.14	833.9	3915.01	3915.01	0	0	0
11200	90.43	90.06	6934.4	833.8	4015.01	4015.01	0	0	0
11300	90.43	90.06	6933.65	833.71	4115	4115	0	0	0
11400	90.43	90.05	6932.91	833.61	4215	4215	0	0	0
11500	90.43	90.05	6932.16	833.52	4315	4315	0	0	0
11600	90.43	90.05	6931.42	833.42	4414.99	4414.99	0	0	0
11700	90.43	90.05	6930.67	833.33	4514.99	4514.99	0	0	0
11800	90.43	90.05	6929.93	833.23	4614.99	4614.99	0	0	0



Survey Report: Grinde-01-64-05-3340B

Operator	Bill Barrett Corporation	Northing	1272404.337	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256542.764	System	2 - St. Plane
Well Name	Grinde-01-64-05-3340B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583220	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592362

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
11900	90.43	90.05	6929.19	833.14	4714.99	4714.99	0	0	0
12000	90.43	90.05	6928.44	833.05	4814.98	4814.98	0	0	0
12100	90.43	90.05	6927.7	832.95	4914.98	4914.98	0	0	0
12200	90.43	90.05	6926.95	832.86	5014.98	5014.98	0	0	0
12300	90.43	90.05	6926.21	832.77	5114.97	5114.97	0	0	0
12400	90.43	90.05	6925.47	832.68	5214.97	5214.97	0	0	0
12500	90.43	90.05	6924.72	832.58	5314.97	5314.97	0	0	0
12600	90.43	90.05	6923.98	832.49	5414.97	5414.97	0	0	0
12700	90.43	90.05	6923.24	832.4	5514.96	5514.96	0	0	0
12800	90.43	90.05	6922.5	832.31	5614.96	5614.96	0	0	0
12900	90.43	90.05	6921.75	832.22	5714.96	5714.96	0	0	0
13000	90.43	90.05	6921.01	832.13	5814.96	5814.96	0	0	0
13100	90.43	90.05	6920.27	832.05	5914.95	5914.95	0	0	0
13200	90.43	90.05	6919.53	831.96	6014.95	6014.95	0	0	0
13300	90.43	90.05	6918.78	831.87	6114.95	6114.95	0	0	0
13400	90.42	90.05	6918.04	831.78	6214.94	6214.94	0	0	0
13500	90.42	90.05	6917.3	831.69	6314.94	6314.94	0	0	0
13600	90.42	90.05	6916.56	831.61	6414.94	6414.94	0	0	0
13700	90.42	90.05	6915.82	831.52	6514.94	6514.94	0	0	0
13800	90.42	90.05	6915.08	831.44	6614.93	6614.93	0	0	0
13900	90.42	90.05	6914.34	831.35	6714.93	6714.93	0	0	0
14000	90.42	90.05	6913.59	831.26	6814.93	6814.93	0	0	0
14100	90.42	90.05	6912.85	831.18	6914.92	6914.92	0	0	0
14200	90.42	90.05	6912.11	831.1	7014.92	7014.92	0	0	0
14300	90.42	90.05	6911.37	831.01	7114.92	7114.92	0	0	0
14400	90.42	90.05	6910.63	830.93	7214.92	7214.92	0	0	0
14500	90.42	90.05	6909.89	830.85	7314.91	7314.91	0	0	0
14600	90.42	90.05	6909.15	830.76	7414.91	7414.91	0	0	0
14700	90.42	90.05	6908.41	830.68	7514.91	7514.91	0	0	0
14800	90.42	90.05	6907.67	830.6	7614.91	7614.91	0	0	0
14900	90.42	90.05	6906.93	830.52	7714.9	7714.9	0	0	0
15000	90.42	90.05	6906.19	830.44	7814.9	7814.9	0	0	0
15100	90.42	90.05	6905.45	830.36	7914.9	7914.9	0	0	0
15200	90.42	90.05	6904.71	830.28	8014.89	8014.89	0	0	0
15300	90.42	90.05	6903.98	830.2	8114.89	8114.89	0	0	0
15400	90.42	90.05	6903.24	830.12	8214.89	8214.89	0	0	0
15500	90.42	90.04	6902.5	830.04	8314.89	8314.89	0	0	0
15600	90.42	90.04	6901.76	829.96	8414.88	8414.88	0	0	0
15700	90.42	90.04	6901.02	829.88	8514.88	8514.88	0	0	0
15800	90.42	90.04	6900.28	829.81	8614.88	8614.88	0	0	0
15900	90.42	90.04	6899.54	829.73	8714.87	8714.87	0	0	0
16000	90.42	90.04	6898.81	829.65	8814.87	8814.87	0	0	0
16100	90.42	90.04	6898.07	829.58	8914.87	8914.87	0	0	0
16200	90.42	90.04	6897.33	829.5	9014.87	9014.87	0	0	0



Survey Report: Grinde-01-64-05-3340B

Operator	Bill Barrett Corporation	Northing	1272404.337	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256542.764	System	2 - St. Plane
Well Name	Grinde-01-64-05-3340B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583220	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592362

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
16300	90.42	90.04	6896.59	829.42	9114.86	9114.86	0	0	0
16400	90.42	90.04	6895.85	829.35	9214.86	9214.86	0	0	0
16500	90.42	90.04	6895.12	829.27	9314.86	9314.86	0	0	0
16600	90.42	90.04	6894.38	829.2	9414.86	9414.86	0	0	0
16700	90.42	90.04	6893.64	829.13	9514.85	9514.85	0	0	0
16800	90.42	90.04	6892.91	829.05	9614.85	9614.85	0	0	0
16900	90.42	90.04	6892.17	828.98	9714.85	9714.85	0	0	0
17000	90.42	90.04	6891.43	828.91	9814.84	9814.84	0	0	0
17051.8	90.42	90.04	6891.05	828.87	9866.64	9866.64	0	0	0

17051.8: TD: 6891.05