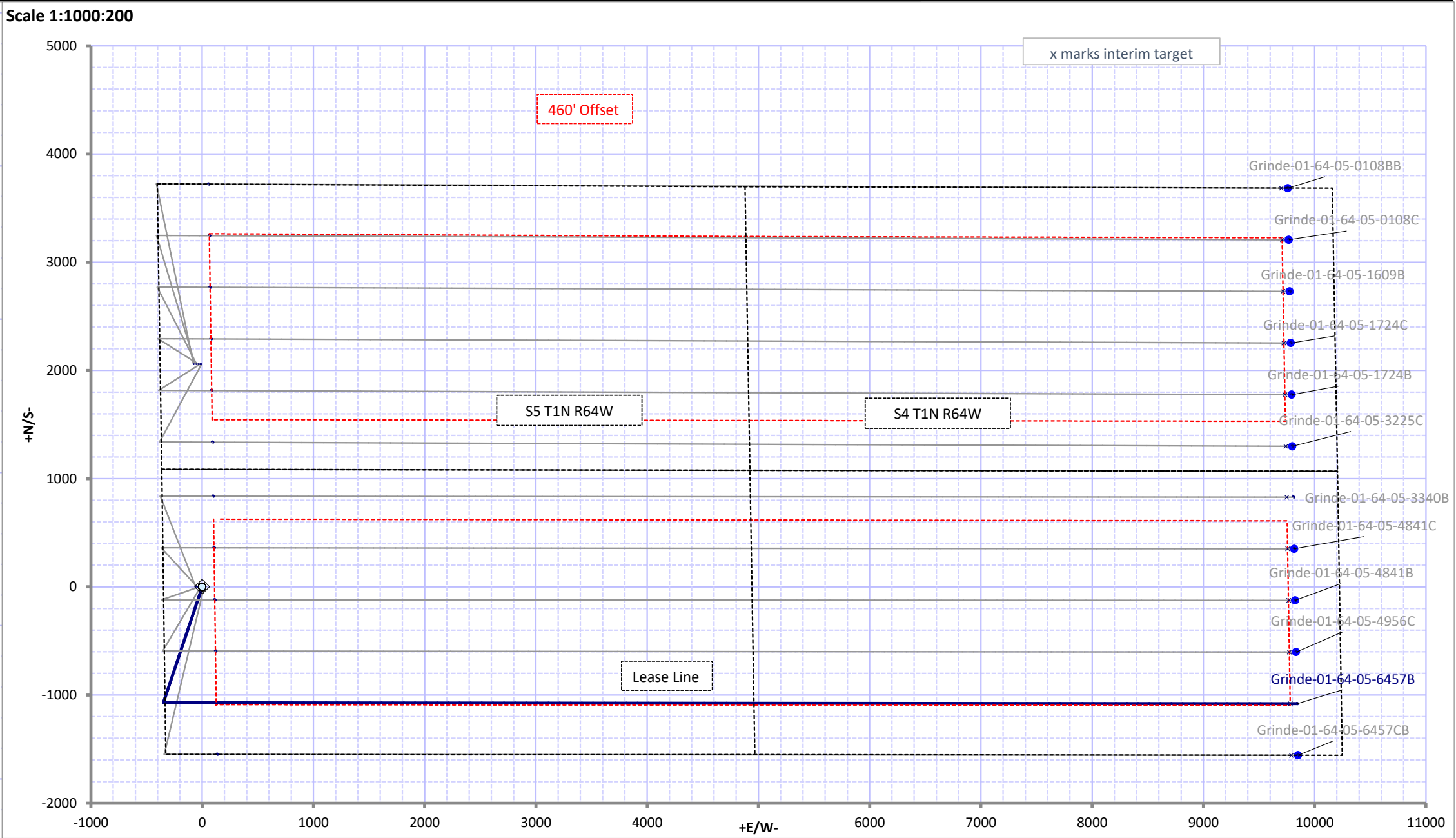
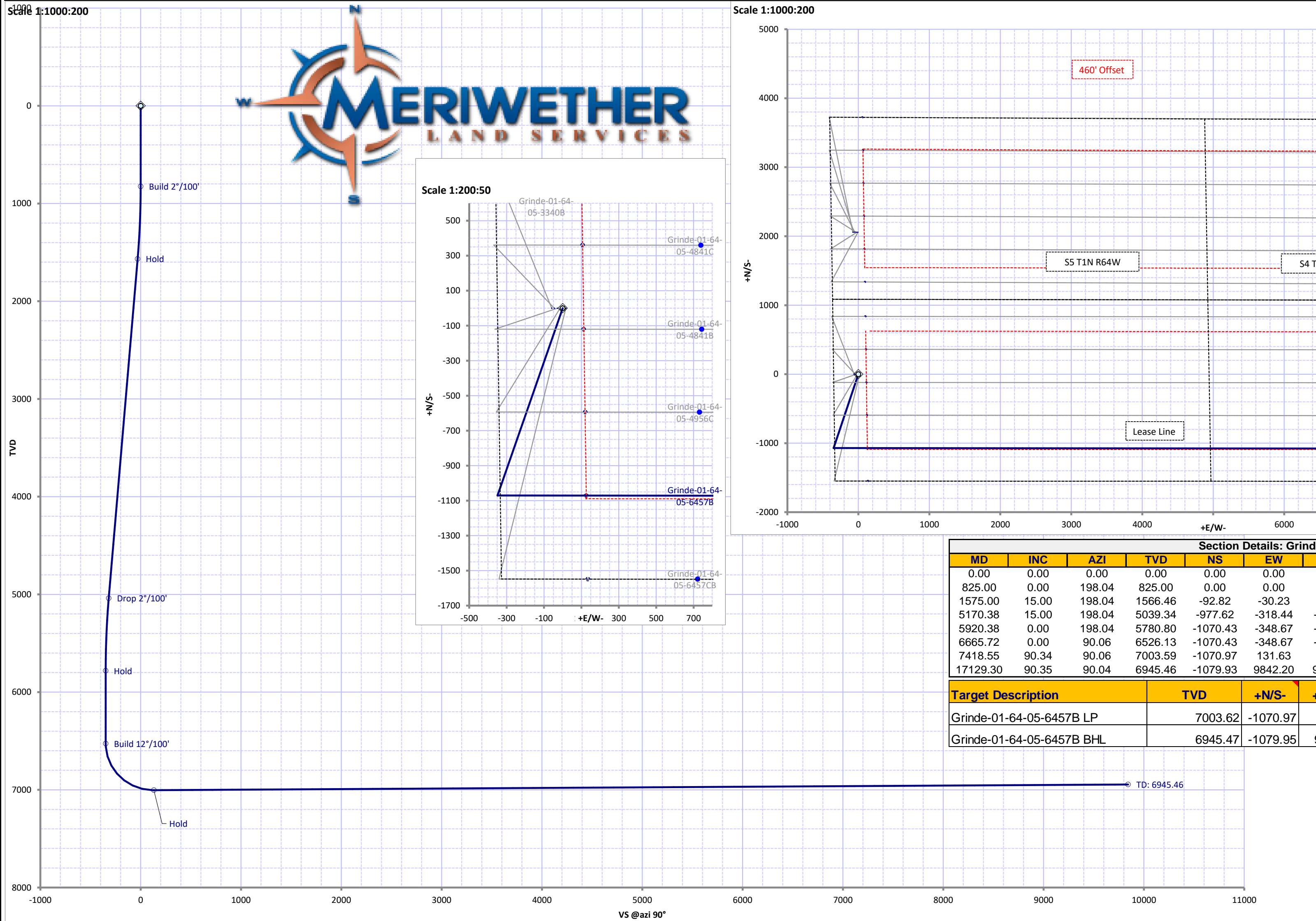


Well Grinde-01-64-05-6457B		Operating Company Bill Barrett Corporation			Rig TBD, est. KB of 20'	
Magnetics		Location			Other	
Curr. Datum BGM2016 Mag Date 14-Mar-2017 Field Str, nT 52552.70		Decl., ° 8.15 Dip Angle, ° 67.05 Convergence, ° 0.5924979		Northing, ft 1,272,404.94 Easting, ft 3,256,601.53 Elevation, ft 5057.00		Meriwether Land Services, LLC
		Latitude 40.077500 Longitude 104.583010 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-01-64-05-6457B										
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
825.00	0.00	198.04	825.00	0.00	0.00	0.00	0.00	-647.83	0.00	Build 2°/100'
1575.00	15.00	198.04	1566.46	-92.82	-30.23	-30.23	2.00	0.00	2.00	Hold
5170.38	15.00	198.04	5039.34	-977.62	-318.44	-318.44	0.00	0.00	0.00	Drop 2°/100'
5920.38	0.00	198.04	5780.80	-1070.43	-348.67	-348.67	-2.00	0.00	2.00	Hold
6665.72	0.00	90.06	6526.13	-1070.43	-348.67	-348.67	0.00	-36.58	0.00	Build 12°/100'
7418.55	90.34	90.06	7003.59	-1070.97	131.63	131.63	12.00	0.00	12.00	Hold
17129.30	90.35	90.04	6945.46	-1079.93	9842.20	9842.20	0.00	0.00	0.00	TD: 6945.46
Target Description			TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting	
Grinde-01-64-05-6457B LP			7003.62	-1070.97	125.93	40.07456	104.58256	1271335.33	3256738.53	
Grinde-01-64-05-6457B BHL			6945.47	-1079.95	9842.23	40.07453	104.54784	1271426.83	3266454.40	

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-01-64-05-6457B

Operator	Bill Barrett Corporation	Northing	1272404.945	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256601.526	System	2 - St. Plane
Well Name	Grinde-01-64-05-6457B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583010	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592498

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
800	0	360	800	0	0	0	0	0	0
825	0	198.04	825	0	0	0	0	-647.83	0
825: Build 2°/100'									
900	1.5	198.04	899.99	-0.93	-0.3	-0.3	2	0	2
1000	3.5	198.04	999.89	-5.08	-1.65	-1.65	2	0	2
1100	5.5	198.04	1099.58	-12.54	-4.08	-4.08	2	0	2
1200	7.5	198.04	1198.93	-23.3	-7.59	-7.59	2	0	2
1300	9.5	198.04	1297.83	-37.36	-12.17	-12.17	2	0	2
1400	11.5	198.04	1396.15	-54.68	-17.81	-17.81	2	0	2
1500	13.5	198.04	1493.77	-75.26	-24.52	-24.52	2	0	2
1575	15	198.04	1566.46	-92.82	-30.23	-30.23	2	0	2
1575: Hold									
1600	15	198.04	1590.61	-98.97	-32.24	-32.24	0	0	0
1700	15	198.04	1687.2	-123.58	-40.25	-40.25	0	0	0
1800	15	198.04	1783.8	-148.19	-48.27	-48.27	0	0	0
1900	15	198.04	1880.39	-172.8	-56.28	-56.28	0	0	0
2000	15	198.04	1976.98	-197.41	-64.3	-64.3	0	0	0
2100	15	198.04	2073.57	-222.01	-72.32	-72.32	0	0	0
2200	15	198.04	2170.17	-246.62	-80.33	-80.33	0	0	0
2300	15	198.04	2266.76	-271.23	-88.35	-88.35	0	0	0
2400	15	198.04	2363.35	-295.84	-96.36	-96.36	0	0	0
2500	15	198.04	2459.94	-320.45	-104.38	-104.38	0	0	0
2600	15	198.04	2556.54	-345.06	-112.4	-112.4	0	0	0
2700	15	198.04	2653.13	-369.67	-120.41	-120.41	0	0	0
2800	15	198.04	2749.72	-394.28	-128.43	-128.43	0	0	0
2900	15	198.04	2846.31	-418.89	-136.44	-136.44	0	0	0
3000	15	198.04	2942.91	-443.5	-144.46	-144.46	0	0	0
3100	15	198.04	3039.5	-468.11	-152.48	-152.48	0	0	0
3200	15	198.04	3136.09	-492.72	-160.49	-160.49	0	0	0
3300	15	198.04	3232.68	-517.33	-168.51	-168.51	0	0	0
3400	15	198.04	3329.28	-541.94	-176.52	-176.52	0	0	0
3500	15	198.04	3425.87	-566.55	-184.54	-184.54	0	0	0
3600	15	198.04	3522.46	-591.15	-192.56	-192.56	0	0	0
3700	15	198.04	3619.05	-615.76	-200.57	-200.57	0	0	0
3800	15	198.04	3715.65	-640.37	-208.59	-208.59	0	0	0



Survey Report: Grinde-01-64-05-6457B

Operator	Bill Barrett Corporation	Northing	1272404.945	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256601.526	System	2 - St. Plane
Well Name	Grinde-01-64-05-6457B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583010	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592498

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
3900	15	198.04	3812.24	-664.98	-216.6	-216.6	0	0	0
4000	15	198.04	3908.83	-689.59	-224.62	-224.62	0	0	0
4100	15	198.04	4005.42	-714.2	-232.64	-232.64	0	0	0
4200	15	198.04	4102.02	-738.81	-240.65	-240.65	0	0	0
4300	15	198.04	4198.61	-763.42	-248.67	-248.67	0	0	0
4400	15	198.04	4295.2	-788.03	-256.68	-256.68	0	0	0
4500	15	198.04	4391.79	-812.64	-264.7	-264.7	0	0	0
4600	15	198.04	4488.39	-837.25	-272.72	-272.72	0	0	0
4700	15	198.04	4584.98	-861.86	-280.73	-280.73	0	0	0
4800	15	198.04	4681.57	-886.47	-288.75	-288.75	0	0	0
4900	15	198.04	4778.16	-911.08	-296.76	-296.76	0	0	0
5000	15	198.04	4874.76	-935.69	-304.78	-304.78	0	0	0
5100	15	198.04	4971.35	-960.3	-312.8	-312.8	0	0	0
5170.38	15	198.04	5039.34	-977.62	-318.44	-318.44	0	0	0
5170.38: Drop 2°/100'									
5200	14.41	198.04	5067.98	-984.76	-320.77	-320.77	-2	0	2
5300	12.41	198.04	5165.25	-1006.81	-327.95	-327.95	-2	0	2
5400	10.41	198.04	5263.27	-1025.62	-334.07	-334.07	-2	0	2
5500	8.41	198.04	5361.92	-1041.16	-339.14	-339.14	-2	0	2
5600	6.41	198.04	5461.08	-1053.42	-343.13	-343.13	-2	0	2
5700	4.41	198.04	5560.63	-1062.38	-346.05	-346.05	-2	0	2
5800	2.41	198.04	5660.45	-1068.03	-347.89	-347.89	-2	0	2
5900	0.41	198.04	5760.41	-1070.36	-348.65	-348.65	-2	0	2
5920.38	0	198.04	5780.8	-1070.43	-348.67	-348.67	-2	0	2
5920.38: Hold									
6000	0	198.04	5860.41	-1070.43	-348.67	-348.67	0	0	0
6100	0	198.04	5960.41	-1070.43	-348.67	-348.67	0	0	0
6200	0	198.04	6060.41	-1070.43	-348.67	-348.67	0	0	0
6300	0	198.04	6160.41	-1070.43	-348.67	-348.67	0	0	0
6400	0	198.04	6260.41	-1070.43	-348.67	-348.67	0	0	0
6500	0	176.7	6360.41	-1070.43	-348.67	-348.67	0	-21.34	0
6600	0	114.1	6460.41	-1070.43	-348.67	-348.67	0	-62.6	0
6665.72	0	90.06	6526.13	-1070.43	-348.67	-348.67	0	-36.58	0
6665.72: Build 12°/100'									
6700	4.11	90.06	6560.38	-1070.43	-347.44	-347.44	12	0	12
6800	16.11	90.06	6658.65	-1070.45	-329.91	-329.91	12	0	12
6900	28.11	90.06	6751.12	-1070.5	-292.34	-292.34	12	0	12
7000	40.11	90.06	6833.77	-1070.56	-236.35	-236.35	12	0	12
7100	52.11	90.06	6902.96	-1070.64	-164.41	-164.41	12	0	12
7200	64.11	90.06	6955.69	-1070.74	-79.66	-79.66	12	0	12
7300	76.11	90.06	6989.64	-1070.84	14.21	14.21	12	0	12
7400	88.11	90.06	7003.34	-1070.95	113.08	113.08	12	0	12
7418.55	90.34	90.06	7003.59	-1070.97	131.63	131.63	12	0	12
7418.55: Hold									



Survey Report: Grinde-01-64-05-6457B

Operator Dir. Co. Well Name Location Rig Job	Bill Barrett Corporation			Northing Easting Elevation Latitude Longitude Units	1272404.945		Date System Datum Zone Scale Fac. Converg.	12-Dec-17		
	Meriwether Land Services, LLC				3256601.526			2 - St. Plane		
	Grinde-01-64-05-6457B				5037.00			1983 - NAD83		
	Weld Cty, CO				40.077500			0501 - Colorado North		
TBD, est. KB of 20'			104.583010		Feet		0.999961		0.592498	
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS	
7500	90.34	90.06	7003.1	-1071.07	213.08	213.08	0	0	0	
7600	90.34	90.06	7002.51	-1071.18	313.07	313.07	0	0	0	
7700	90.34	90.06	7001.92	-1071.29	413.07	413.07	0	0	0	
7800	90.34	90.06	7001.32	-1071.4	513.07	513.07	0	0	0	
7900	90.34	90.06	7000.73	-1071.51	613.07	613.07	0	0	0	
8000	90.34	90.06	7000.13	-1071.62	713.07	713.07	0	0	0	
8100	90.34	90.06	6999.54	-1071.73	813.06	813.06	0	0	0	
8200	90.34	90.06	6998.95	-1071.84	913.06	913.06	0	0	0	
8300	90.34	90.06	6998.35	-1071.95	1013.06	1013.06	0	0	0	
8400	90.34	90.06	6997.76	-1072.06	1113.06	1113.06	0	0	0	
8500	90.34	90.06	6997.16	-1072.17	1213.06	1213.06	0	0	0	
8600	90.34	90.06	6996.57	-1072.28	1313.06	1313.06	0	0	0	
8700	90.34	90.06	6995.97	-1072.39	1413.05	1413.05	0	0	0	
8800	90.34	90.06	6995.38	-1072.49	1513.05	1513.05	0	0	0	
8900	90.34	90.06	6994.78	-1072.6	1613.05	1613.05	0	0	0	
9000	90.34	90.06	6994.19	-1072.71	1713.05	1713.05	0	0	0	
9100	90.34	90.06	6993.59	-1072.81	1813.05	1813.05	0	0	0	
9200	90.34	90.06	6993	-1072.92	1913.04	1913.04	0	0	0	
9300	90.34	90.06	6992.4	-1073.02	2013.04	2013.04	0	0	0	
9400	90.34	90.06	6991.81	-1073.13	2113.04	2113.04	0	0	0	
9500	90.34	90.06	6991.21	-1073.23	2213.04	2213.04	0	0	0	
9600	90.34	90.06	6990.62	-1073.34	2313.04	2313.04	0	0	0	
9700	90.34	90.06	6990.02	-1073.44	2413.04	2413.04	0	0	0	
9800	90.34	90.06	6989.42	-1073.54	2513.03	2513.03	0	0	0	
9900	90.34	90.06	6988.83	-1073.64	2613.03	2613.03	0	0	0	
10000	90.34	90.06	6988.23	-1073.75	2713.03	2713.03	0	0	0	
10100	90.34	90.06	6987.64	-1073.85	2813.03	2813.03	0	0	0	
10200	90.34	90.06	6987.04	-1073.95	2913.03	2913.03	0	0	0	
10300	90.34	90.06	6986.44	-1074.05	3013.02	3013.02	0	0	0	
10400	90.34	90.06	6985.85	-1074.15	3113.02	3113.02	0	0	0	
10500	90.34	90.06	6985.25	-1074.25	3213.02	3213.02	0	0	0	
10600	90.34	90.06	6984.65	-1074.35	3313.02	3313.02	0	0	0	
10700	90.34	90.06	6984.06	-1074.45	3413.02	3413.02	0	0	0	
10800	90.34	90.06	6983.46	-1074.55	3513.02	3513.02	0	0	0	
10900	90.34	90.06	6982.86	-1074.65	3613.01	3613.01	0	0	0	
11000	90.34	90.06	6982.26	-1074.74	3713.01	3713.01	0	0	0	
11100	90.34	90.06	6981.67	-1074.84	3813.01	3813.01	0	0	0	
11200	90.34	90.06	6981.07	-1074.94	3913.01	3913.01	0	0	0	
11300	90.34	90.06	6980.47	-1075.04	4013.01	4013.01	0	0	0	
11400	90.34	90.05	6979.88	-1075.13	4113	4113	0	0	0	
11500	90.34	90.05	6979.28	-1075.23	4213	4213	0	0	0	
11600	90.34	90.05	6978.68	-1075.32	4313	4313	0	0	0	
11700	90.34	90.05	6978.08	-1075.42	4413	4413	0	0	0	
11800	90.34	90.05	6977.48	-1075.51	4513	4513	0	0	0	



Survey Report: Grinde-01-64-05-6457B

Operator Dir. Co. Well Name Location Rig Job	Bill Barrett Corporation			Northing Easting Elevation Latitude Longitude Units	1272404.945		Date System Datum Zone Scale Fac. Converg.	12-Dec-17	
	Meriwether Land Services, LLC				3256601.526			2 - St. Plane	
	Grinde-01-64-05-6457B				5037.00			1983 - NAD83	
	Weld Cty, CO				40.077500			0501 - Colorado North	
	TBD, est. KB of 20'				104.583010			0.999961	
					Feet			0.592498	
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
11900	90.34	90.05	6976.89	-1075.61	4613	4613	0	0	0
12000	90.34	90.05	6976.29	-1075.7	4712.99	4712.99	0	0	0
12100	90.34	90.05	6975.69	-1075.79	4812.99	4812.99	0	0	0
12200	90.34	90.05	6975.09	-1075.88	4912.99	4912.99	0	0	0
12300	90.34	90.05	6974.49	-1075.98	5012.99	5012.99	0	0	0
12400	90.34	90.05	6973.89	-1076.07	5112.99	5112.99	0	0	0
12500	90.34	90.05	6973.29	-1076.16	5212.98	5212.98	0	0	0
12600	90.34	90.05	6972.7	-1076.25	5312.98	5312.98	0	0	0
12700	90.34	90.05	6972.1	-1076.34	5412.98	5412.98	0	0	0
12800	90.34	90.05	6971.5	-1076.43	5512.98	5512.98	0	0	0
12900	90.34	90.05	6970.9	-1076.52	5612.98	5612.98	0	0	0
13000	90.34	90.05	6970.3	-1076.61	5712.97	5712.97	0	0	0
13100	90.34	90.05	6969.7	-1076.7	5812.97	5812.97	0	0	0
13200	90.34	90.05	6969.1	-1076.79	5912.97	5912.97	0	0	0
13300	90.34	90.05	6968.5	-1076.88	6012.97	6012.97	0	0	0
13400	90.34	90.05	6967.9	-1076.96	6112.97	6112.97	0	0	0
13500	90.34	90.05	6967.3	-1077.05	6212.97	6212.97	0	0	0
13600	90.34	90.05	6966.7	-1077.14	6312.96	6312.96	0	0	0
13700	90.34	90.05	6966.1	-1077.22	6412.96	6412.96	0	0	0
13800	90.34	90.05	6965.5	-1077.31	6512.96	6512.96	0	0	0
13900	90.34	90.05	6964.9	-1077.4	6612.96	6612.96	0	0	0
14000	90.34	90.05	6964.3	-1077.48	6712.96	6712.96	0	0	0
14100	90.34	90.05	6963.7	-1077.57	6812.95	6812.95	0	0	0
14200	90.34	90.05	6963.1	-1077.65	6912.95	6912.95	0	0	0
14300	90.34	90.05	6962.5	-1077.73	7012.95	7012.95	0	0	0
14400	90.34	90.05	6961.9	-1077.82	7112.95	7112.95	0	0	0
14500	90.34	90.05	6961.3	-1077.9	7212.95	7212.95	0	0	0
14600	90.34	90.05	6960.7	-1077.98	7312.95	7312.95	0	0	0
14700	90.34	90.05	6960.1	-1078.06	7412.94	7412.94	0	0	0
14800	90.34	90.05	6959.49	-1078.15	7512.94	7512.94	0	0	0
14900	90.34	90.05	6958.89	-1078.23	7612.94	7612.94	0	0	0
15000	90.34	90.05	6958.29	-1078.31	7712.94	7712.94	0	0	0
15100	90.34	90.05	6957.69	-1078.39	7812.94	7812.94	0	0	0
15200	90.34	90.05	6957.09	-1078.47	7912.93	7912.93	0	0	0
15300	90.34	90.05	6956.49	-1078.55	8012.93	8012.93	0	0	0
15400	90.34	90.05	6955.89	-1078.63	8112.93	8112.93	0	0	0
15500	90.34	90.04	6955.28	-1078.71	8212.93	8212.93	0	0	0
15600	90.34	90.04	6954.68	-1078.78	8312.93	8312.93	0	0	0
15700	90.34	90.04	6954.08	-1078.86	8412.93	8412.93	0	0	0
15800	90.35	90.04	6953.48	-1078.94	8512.92	8512.92	0	0	0
15900	90.35	90.04	6952.87	-1079.02	8612.92	8612.92	0	0	0
16000	90.35	90.04	6952.27	-1079.09	8712.92	8712.92	0	0	0
16100	90.35	90.04	6951.67	-1079.17	8812.92	8812.92	0	0	0
16200	90.35	90.04	6951.07	-1079.24	8912.92	8912.92	0	0	0



Survey Report: Grinde-01-64-05-6457B

Operator	Bill Barrett Corporation	Northing	1272404.945	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256601.526	System	2 - St. Plane
Well Name	Grinde-01-64-05-6457B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583010	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592498

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
16300	90.35	90.04	6950.46	-1079.32	9012.91	9012.91	0	0	0
16400	90.35	90.04	6949.86	-1079.39	9112.91	9112.91	0	0	0
16500	90.35	90.04	6949.26	-1079.47	9212.91	9212.91	0	0	0
16600	90.35	90.04	6948.66	-1079.54	9312.91	9312.91	0	0	0
16700	90.35	90.04	6948.05	-1079.62	9412.91	9412.91	0	0	0
16800	90.35	90.04	6947.45	-1079.69	9512.91	9512.91	0	0	0
16900	90.35	90.04	6946.85	-1079.76	9612.9	9612.9	0	0	0
17000	90.35	90.04	6946.24	-1079.83	9712.9	9712.9	0	0	0
17100	90.35	90.04	6945.64	-1079.91	9812.9	9812.9	0	0	0
17129.3	90.35	90.04	6945.46	-1079.93	9842.2	9842.2	0	0	0

17129.3: TD: 6945.46