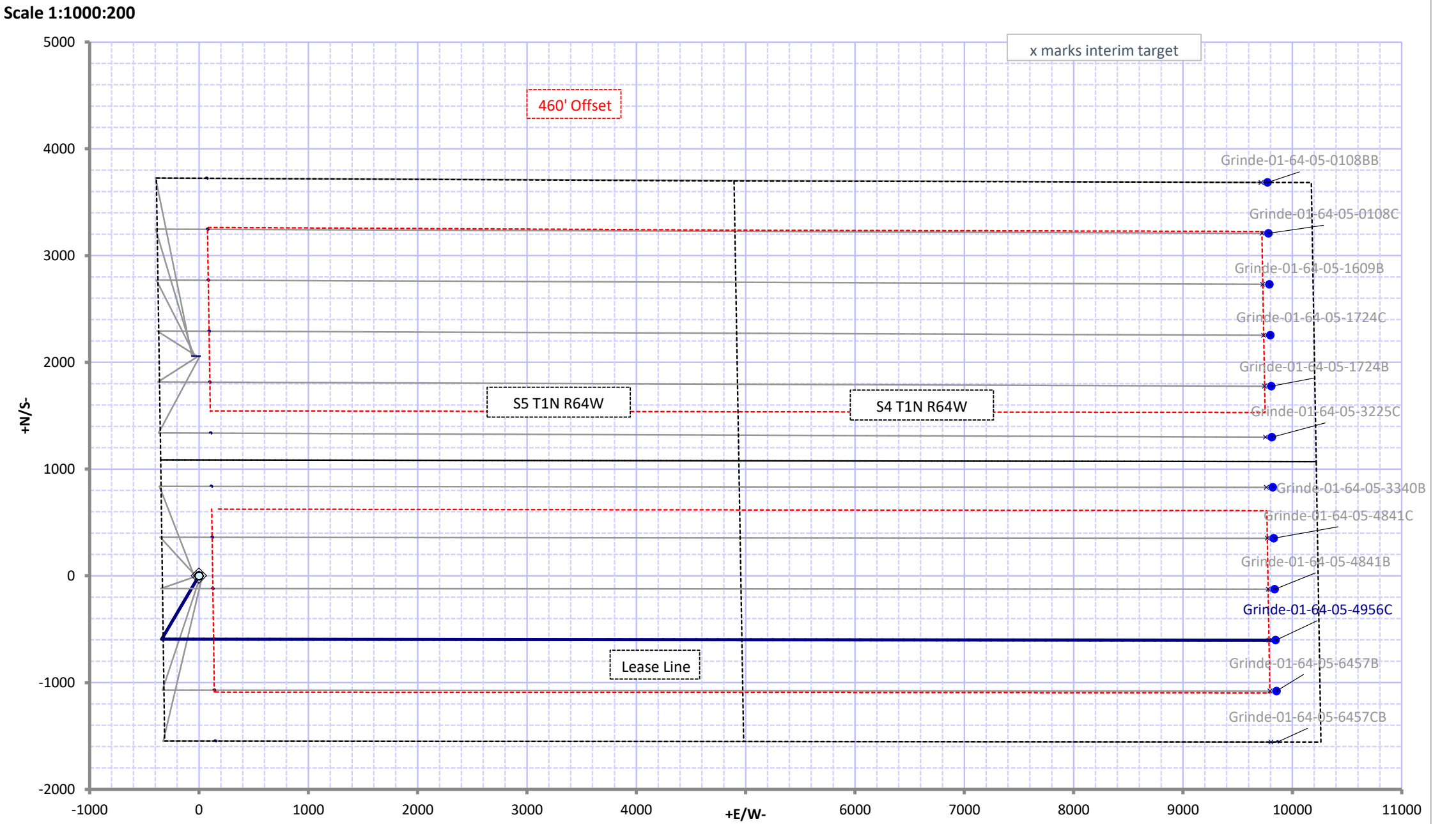
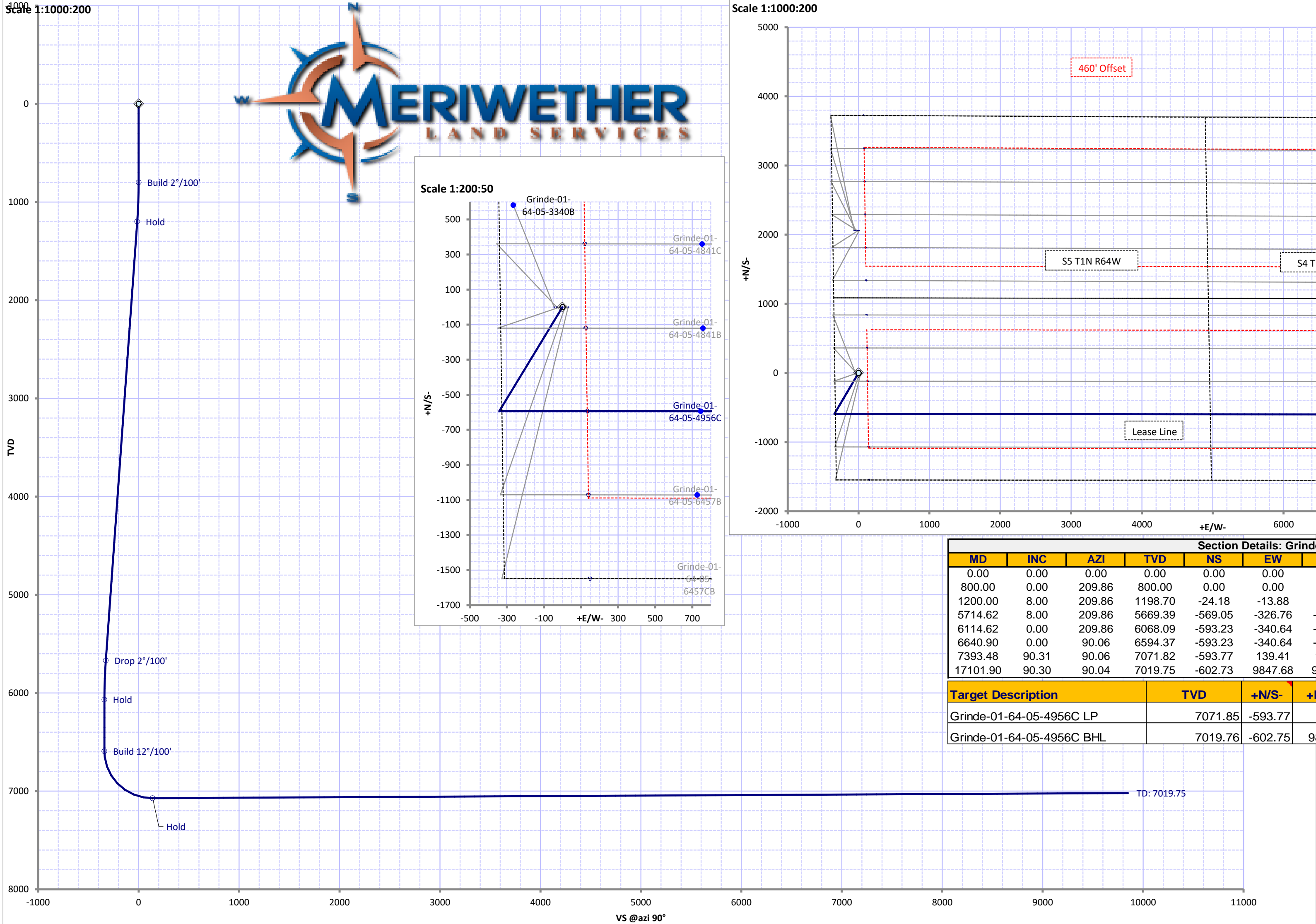


Well Grinde-01-64-05-4956C		Operating Company Bill Barrett Corporation			Rig TBD, est. KB of 20'	
Magnetics		Location			Other	
Curr. Datum BGGM2016 Mag Date 14-Mar-2017 Field Str, nT 52552.70		Decl., ° 8.15 Dip Angle, ° 67.05 Convergence, ° 0.5924656		Northing, ft 1,272,404.80 Easting, ft 3,256,587.54 Elevation, ft 5057.00		Meriwether Land Services, LLC
		Latitude 40.077500 Longitude 104.583060 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-01-64-05-4956C										
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
800.00	0.00	209.86	800.00	0.00	0.00	0.00	0.00	0.00	0.00	Build 2°/100'
1200.00	8.00	209.86	1198.70	-24.18	-13.88	-13.88	2.00	0.00	2.00	Hold
5714.62	8.00	209.86	5669.39	-569.05	-326.76	-326.76	0.00	0.00	0.00	Drop 2°/100'
6114.62	0.00	209.86	6068.09	-593.23	-340.64	-340.64	-2.00	0.00	2.00	Hold
6640.90	0.00	90.06	6594.37	-593.23	-340.64	-340.64	0.00	-21.16	0.00	Build 12°/100'
7393.48	90.31	90.06	7071.82	-593.77	139.41	139.41	12.00	0.00	12.00	Hold
17101.90	90.30	90.04	7019.75	-602.73	9847.68	9847.68	-0.01	-0.01	0.01	TD: 7019.75
Target Description			TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting	
Grinde-01-64-05-4956C LP			7071.85	-593.77	134.32	40.07587	104.58258	1271812.45	3256727.99	
Grinde-01-64-05-4956C BHL			7019.76	-602.75	9847.64	40.07584	104.54787	1271903.91	3266440.88	

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-01-64-05-4956C

Operator	Bill Barrett Corporation	Northing	1272404.800	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256587.535	System	2 - St. Plane
Well Name	Grinde-01-64-05-4956C	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583060	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592466

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
800	0	209.86	800	0	0	0	0	0	0
800: Build 2°/100'									
900	2	209.86	899.98	-1.51	-0.87	-0.87	2	0	2
1000	4	209.86	999.84	-6.05	-3.47	-3.47	2	0	2
1100	6	209.86	1099.45	-13.61	-7.81	-7.81	2	0	2
1200	8	209.86	1198.7	-24.18	-13.88	-13.88	2	0	2
1200: Hold									
1300	8	209.86	1297.73	-36.25	-20.81	-20.81	0	0	0
1400	8	209.86	1396.76	-48.32	-27.74	-27.74	0	0	0
1500	8	209.86	1495.78	-60.38	-34.67	-34.67	0	0	0
1600	8	209.86	1594.81	-72.45	-41.6	-41.6	0	0	0
1700	8	209.86	1693.84	-84.52	-48.53	-48.53	0	0	0
1800	8	209.86	1792.86	-96.59	-55.46	-55.46	0	0	0
1900	8	209.86	1891.89	-108.66	-62.4	-62.4	0	0	0
2000	8	209.86	1990.92	-120.73	-69.33	-69.33	0	0	0
2100	8	209.86	2089.94	-132.8	-76.26	-76.26	0	0	0
2200	8	209.86	2188.97	-144.87	-83.19	-83.19	0	0	0
2300	8	209.86	2288	-156.94	-90.12	-90.12	0	0	0
2400	8	209.86	2387.02	-169.01	-97.05	-97.05	0	0	0
2500	8	209.86	2486.05	-181.08	-103.98	-103.98	0	0	0
2600	8	209.86	2585.08	-193.15	-110.91	-110.91	0	0	0
2700	8	209.86	2684.1	-205.21	-117.84	-117.84	0	0	0
2800	8	209.86	2783.13	-217.28	-124.77	-124.77	0	0	0
2900	8	209.86	2882.16	-229.35	-131.7	-131.7	0	0	0
3000	8	209.86	2981.18	-241.42	-138.63	-138.63	0	0	0
3100	8	209.86	3080.21	-253.49	-145.56	-145.56	0	0	0
3200	8	209.86	3179.24	-265.56	-152.49	-152.49	0	0	0
3300	8	209.86	3278.26	-277.63	-159.42	-159.42	0	0	0
3400	8	209.86	3377.29	-289.7	-166.35	-166.35	0	0	0
3500	8	209.86	3476.32	-301.77	-173.28	-173.28	0	0	0
3600	8	209.86	3575.34	-313.84	-180.21	-180.21	0	0	0
3700	8	209.86	3674.37	-325.91	-187.14	-187.14	0	0	0
3800	8	209.86	3773.4	-337.98	-194.07	-194.07	0	0	0
3900	8	209.86	3872.43	-350.04	-201	-201	0	0	0



Survey Report: Grinde-01-64-05-4956C

Operator	Bill Barrett Corporation	Northing	1272404.800	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256587.535	System	2 - St. Plane
Well Name	Grinde-01-64-05-4956C	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583060	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592466

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
4000	8	209.86	3971.45	-362.11	-207.93	-207.93	0	0	0
4100	8	209.86	4070.48	-374.18	-214.86	-214.86	0	0	0
4200	8	209.86	4169.51	-386.25	-221.79	-221.79	0	0	0
4300	8	209.86	4268.53	-398.32	-228.72	-228.72	0	0	0
4400	8	209.86	4367.56	-410.39	-235.65	-235.65	0	0	0
4500	8	209.86	4466.59	-422.46	-242.58	-242.58	0	0	0
4600	8	209.86	4565.61	-434.53	-249.51	-249.51	0	0	0
4700	8	209.86	4664.64	-446.6	-256.44	-256.44	0	0	0
4800	8	209.86	4763.67	-458.67	-263.37	-263.37	0	0	0
4900	8	209.86	4862.69	-470.74	-270.3	-270.3	0	0	0
5000	8	209.86	4961.72	-482.81	-277.23	-277.23	0	0	0
5100	8	209.86	5060.75	-494.87	-284.16	-284.16	0	0	0
5200	8	209.86	5159.77	-506.94	-291.09	-291.09	0	0	0
5300	8	209.86	5258.8	-519.01	-298.02	-298.02	0	0	0
5400	8	209.86	5357.83	-531.08	-304.95	-304.95	0	0	0
5500	8	209.86	5456.85	-543.15	-311.88	-311.88	0	0	0
5600	8	209.86	5555.88	-555.22	-318.82	-318.82	0	0	0
5700	8	209.86	5654.91	-567.29	-325.75	-325.75	0	0	0
5714.62	8	209.86	5669.39	-569.05	-326.76	-326.76	0	0	0
5714.62: Drop 2°/100'									
5800	6.29	209.86	5754.1	-578.26	-332.05	-332.05	-2	0	2
5900	4.29	209.86	5853.67	-586.26	-336.64	-336.64	-2	0	2
6000	2.29	209.86	5953.5	-591.24	-339.5	-339.5	-2	0	2
6100	0.29	209.86	6053.47	-593.2	-340.62	-340.62	-2	0	2
6114.62	0	209.86	6068.09	-593.23	-340.64	-340.64	-2	0	2
6114.62: Hold									
6200	0	209.86	6153.47	-593.23	-340.64	-340.64	0	0	0
6300	0	209.86	6253.47	-593.23	-340.64	-340.64	0	0	0
6400	0	197.65	6353.47	-593.23	-340.64	-340.64	0	-12.21	0
6500	0	145.75	6453.47	-593.23	-340.64	-340.64	0	-51.9	0
6600	0	98.72	6553.47	-593.23	-340.64	-340.64	0	-47.03	0
6640.9	0	90.06	6594.37	-593.23	-340.64	-340.64	0	-21.16	0
6640.9: Build 12°/100'									
6700	7.09	90.06	6653.32	-593.24	-336.99	-336.99	12	0	12
6800	19.09	90.06	6750.54	-593.26	-314.38	-314.38	12	0	12
6900	31.09	90.06	6840.94	-593.31	-272.05	-272.05	12	0	12
7000	43.09	90.06	6920.56	-593.38	-211.85	-211.85	12	0	12
7100	55.09	90.06	6985.92	-593.46	-136.41	-136.41	12	0	12
7200	67.09	90.06	7034.17	-593.56	-49.03	-49.03	12	0	12
7300	79.09	90.06	7063.2	-593.67	46.47	46.47	12	0	12
7393.48	90.31	90.06	7071.82	-593.77	139.41	139.41	12	0	12
7393.48: Hold									
7400	90.31	90.06	7071.79	-593.78	145.92	145.92	0	0	0
7500	90.31	90.06	7071.25	-593.89	245.92	245.92	0	0	0



Survey Report: Grinde-01-64-05-4956C

Operator	Bill Barrett Corporation	Northing	1272404.800	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256587.535	System	2 - St. Plane
Well Name	Grinde-01-64-05-4956C	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583060	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592466

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
7600	90.31	90.06	7070.71	-594	345.92	345.92	0	0	0
7700	90.31	90.06	7070.17	-594.11	445.92	445.92	0	0	0
7800	90.31	90.06	7069.62	-594.22	545.92	545.92	0	0	0
7900	90.31	90.06	7069.08	-594.34	645.92	645.92	0	0	0
8000	90.31	90.06	7068.54	-594.45	745.91	745.91	0	0	0
8100	90.31	90.06	7068	-594.55	845.91	845.91	0	0	0
8200	90.31	90.06	7067.46	-594.66	945.91	945.91	0	0	0
8300	90.31	90.06	7066.92	-594.77	1045.91	1045.91	0	0	0
8400	90.31	90.06	7066.38	-594.88	1145.91	1145.91	0	0	0
8500	90.31	90.06	7065.84	-594.99	1245.91	1245.91	0	0	0
8600	90.31	90.06	7065.3	-595.1	1345.91	1345.91	0	0	0
8700	90.31	90.06	7064.76	-595.2	1445.9	1445.9	0	0	0
8800	90.31	90.06	7064.22	-595.31	1545.9	1545.9	0	0	0
8900	90.31	90.06	7063.68	-595.42	1645.9	1645.9	0	0	0
9000	90.31	90.06	7063.14	-595.52	1745.9	1745.9	0	0	0
9100	90.31	90.06	7062.61	-595.63	1845.9	1845.9	0	0	0
9200	90.31	90.06	7062.07	-595.73	1945.9	1945.9	0	0	0
9300	90.31	90.06	7061.53	-595.84	2045.9	2045.9	0	0	0
9400	90.31	90.06	7060.99	-595.94	2145.89	2145.89	0	0	0
9500	90.31	90.06	7060.45	-596.05	2245.89	2245.89	0	0	0
9600	90.31	90.06	7059.91	-596.15	2345.89	2345.89	0	0	0
9700	90.31	90.06	7059.37	-596.25	2445.89	2445.89	0	0	0
9800	90.31	90.06	7058.83	-596.35	2545.89	2545.89	0	0	0
9900	90.31	90.06	7058.29	-596.46	2645.89	2645.89	0	0	0
10000	90.31	90.06	7057.76	-596.56	2745.88	2745.88	0	0	0
10100	90.31	90.06	7057.22	-596.66	2845.88	2845.88	0	0	0
10200	90.31	90.06	7056.68	-596.76	2945.88	2945.88	0	0	0
10300	90.31	90.06	7056.14	-596.86	3045.88	3045.88	0	0	0
10400	90.31	90.06	7055.6	-596.96	3145.88	3145.88	0	0	0
10500	90.31	90.06	7055.06	-597.06	3245.88	3245.88	0	0	0
10600	90.31	90.06	7054.53	-597.16	3345.88	3345.88	0	0	0
10700	90.31	90.06	7053.99	-597.26	3445.87	3445.87	0	0	0
10800	90.31	90.06	7053.45	-597.36	3545.87	3545.87	0	0	0
10900	90.31	90.06	7052.91	-597.46	3645.87	3645.87	0	0	0
11000	90.31	90.06	7052.38	-597.55	3745.87	3745.87	0	0	0
11100	90.31	90.06	7051.84	-597.65	3845.87	3845.87	0	0	0
11200	90.31	90.06	7051.3	-597.75	3945.87	3945.87	0	0	0
11300	90.31	90.06	7050.76	-597.84	4045.87	4045.87	0	0	0
11400	90.31	90.05	7050.23	-597.94	4145.86	4145.86	0	0	0
11500	90.31	90.05	7049.69	-598.04	4245.86	4245.86	0	0	0
11600	90.31	90.05	7049.15	-598.13	4345.86	4345.86	0	0	0
11700	90.31	90.05	7048.61	-598.22	4445.86	4445.86	0	0	0
11800	90.31	90.05	7048.08	-598.32	4545.86	4545.86	0	0	0
11900	90.31	90.05	7047.54	-598.41	4645.86	4645.86	0	0	0



Survey Report: Grinde-01-64-05-4956C

Operator	Bill Barrett Corporation	Northing	1272404.800	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256587.535	System	2 - St. Plane
Well Name	Grinde-01-64-05-4956C	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583060	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592466

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
12000	90.31	90.05	7047	-598.51	4745.86	4745.86	0	0	0
12100	90.31	90.05	7046.47	-598.6	4845.85	4845.85	0	0	0
12200	90.31	90.05	7045.93	-598.69	4945.85	4945.85	0	0	0
12300	90.31	90.05	7045.4	-598.78	5045.85	5045.85	0	0	0
12400	90.31	90.05	7044.86	-598.88	5145.85	5145.85	0	0	0
12500	90.31	90.05	7044.32	-598.97	5245.85	5245.85	0	0	0
12600	90.31	90.05	7043.79	-599.06	5345.85	5345.85	0	0	0
12700	90.31	90.05	7043.25	-599.15	5445.84	5445.84	0	0	0
12800	90.31	90.05	7042.71	-599.24	5545.84	5545.84	0	0	0
12900	90.31	90.05	7042.18	-599.33	5645.84	5645.84	0	0	0
13000	90.31	90.05	7041.64	-599.42	5745.84	5745.84	0	0	0
13100	90.31	90.05	7041.11	-599.51	5845.84	5845.84	0	0	0
13200	90.31	90.05	7040.57	-599.6	5945.84	5945.84	0	0	0
13300	90.31	90.05	7040.04	-599.68	6045.84	6045.84	0	0	0
13400	90.31	90.05	7039.5	-599.77	6145.83	6145.83	0	0	0
13500	90.31	90.05	7038.97	-599.86	6245.83	6245.83	0	0	0
13600	90.31	90.05	7038.43	-599.95	6345.83	6345.83	0	0	0
13700	90.31	90.05	7037.9	-600.03	6445.83	6445.83	0	0	0
13800	90.31	90.05	7037.36	-600.12	6545.83	6545.83	0	0	0
13900	90.31	90.05	7036.83	-600.2	6645.83	6645.83	0	0	0
14000	90.31	90.05	7036.29	-600.29	6745.83	6745.83	0	0	0
14100	90.31	90.05	7035.76	-600.37	6845.82	6845.82	0	0	0
14200	90.31	90.05	7035.22	-600.46	6945.82	6945.82	0	0	0
14300	90.31	90.05	7034.69	-600.54	7045.82	7045.82	0	0	0
14400	90.31	90.05	7034.15	-600.63	7145.82	7145.82	0	0	0
14500	90.31	90.05	7033.62	-600.71	7245.82	7245.82	0	0	0
14600	90.31	90.05	7033.09	-600.79	7345.82	7345.82	0	0	0
14700	90.31	90.05	7032.55	-600.87	7445.82	7445.82	0	0	0
14800	90.31	90.05	7032.02	-600.96	7545.81	7545.81	0	0	0
14900	90.31	90.05	7031.48	-601.04	7645.81	7645.81	0	0	0
15000	90.31	90.05	7030.95	-601.12	7745.81	7745.81	0	0	0
15100	90.31	90.05	7030.42	-601.2	7845.81	7845.81	0	0	0
15200	90.31	90.05	7029.88	-601.28	7945.81	7945.81	0	0	0
15300	90.31	90.05	7029.35	-601.36	8045.81	8045.81	0	0	0
15400	90.31	90.05	7028.82	-601.44	8145.81	8145.81	0	0	0
15500	90.31	90.05	7028.28	-601.52	8245.8	8245.8	0	0	0
15600	90.31	90.04	7027.75	-601.6	8345.8	8345.8	0	0	0
15700	90.31	90.04	7027.22	-601.68	8445.8	8445.8	0	0	0
15800	90.31	90.04	7026.68	-601.75	8545.8	8545.8	0	0	0
15900	90.31	90.04	7026.15	-601.83	8645.8	8645.8	0	0	0
16000	90.31	90.04	7025.62	-601.91	8745.8	8745.8	0	0	0
16100	90.31	90.04	7025.08	-601.98	8845.8	8845.8	0	0	0
16200	90.31	90.04	7024.55	-602.06	8945.79	8945.79	0	0	0
16300	90.31	90.04	7024.02	-602.14	9045.79	9045.79	0	0	0



Survey Report: Grinde-01-64-05-4956C

Operator	Bill Barrett Corporation	Northing	1272404.800	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256587.535	System	2 - St. Plane
Well Name	Grinde-01-64-05-4956C	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.077500	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583060	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592466

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
16400	90.31	90.04	7023.49	-602.21	9145.79	9145.79	0	0	0
16500	90.3	90.04	7022.95	-602.29	9245.79	9245.79	0	0	0
16600	90.3	90.04	7022.42	-602.36	9345.79	9345.79	0	0	0
16700	90.3	90.04	7021.89	-602.43	9445.79	9445.79	0	0	0
16800	90.3	90.04	7021.36	-602.51	9545.79	9545.79	0	0	0
16900	90.3	90.04	7020.83	-602.58	9645.78	9645.78	0	0	0
17000	90.3	90.04	7020.29	-602.65	9745.78	9745.78	0	0	0
17100	90.3	90.04	7019.76	-602.73	9845.78	9845.78	0	0	0
17101.9	90.3	90.04	7019.75	-602.73	9847.68	9847.68	-0.01	-0.01	0.01

17101.9: TD: 7019.75