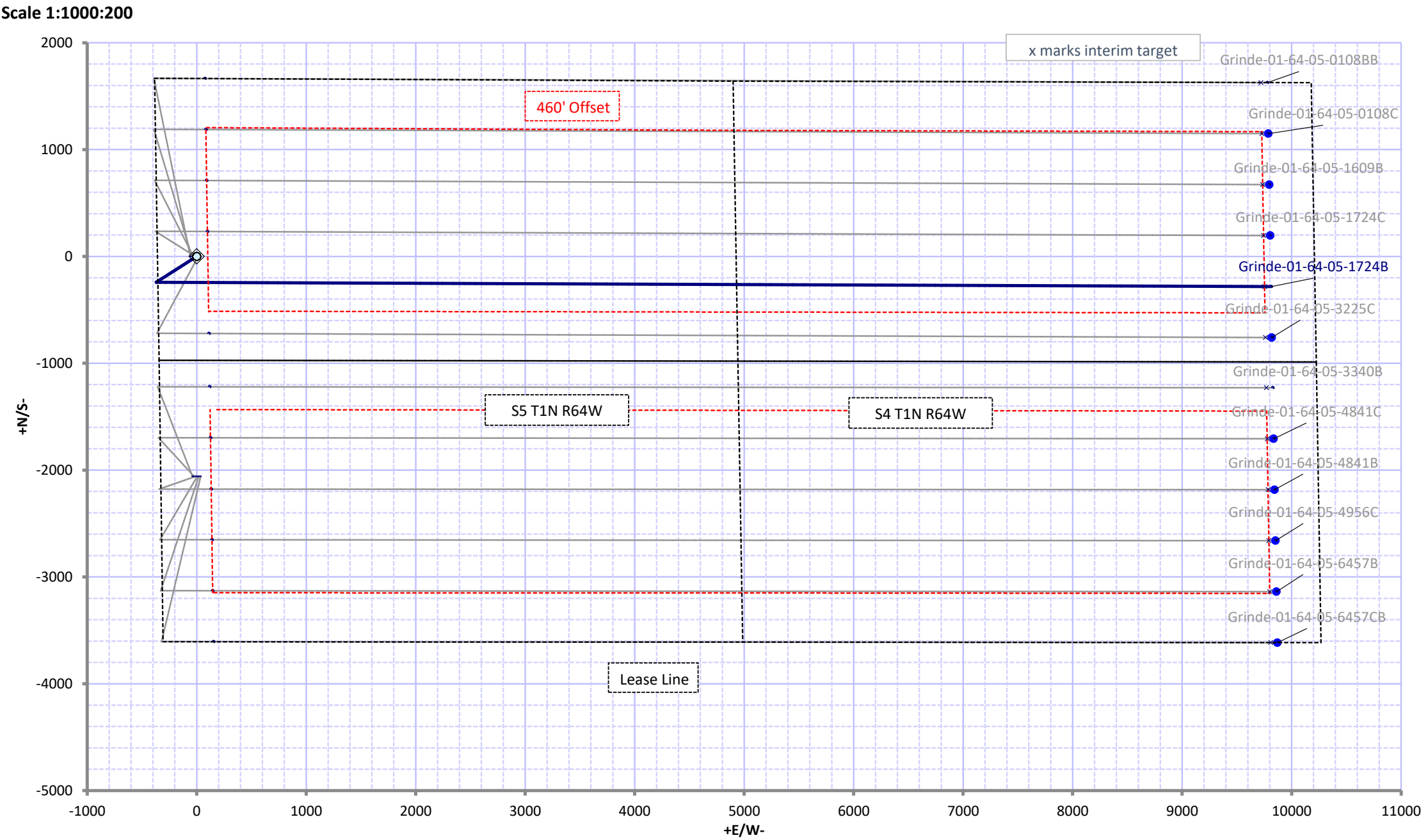
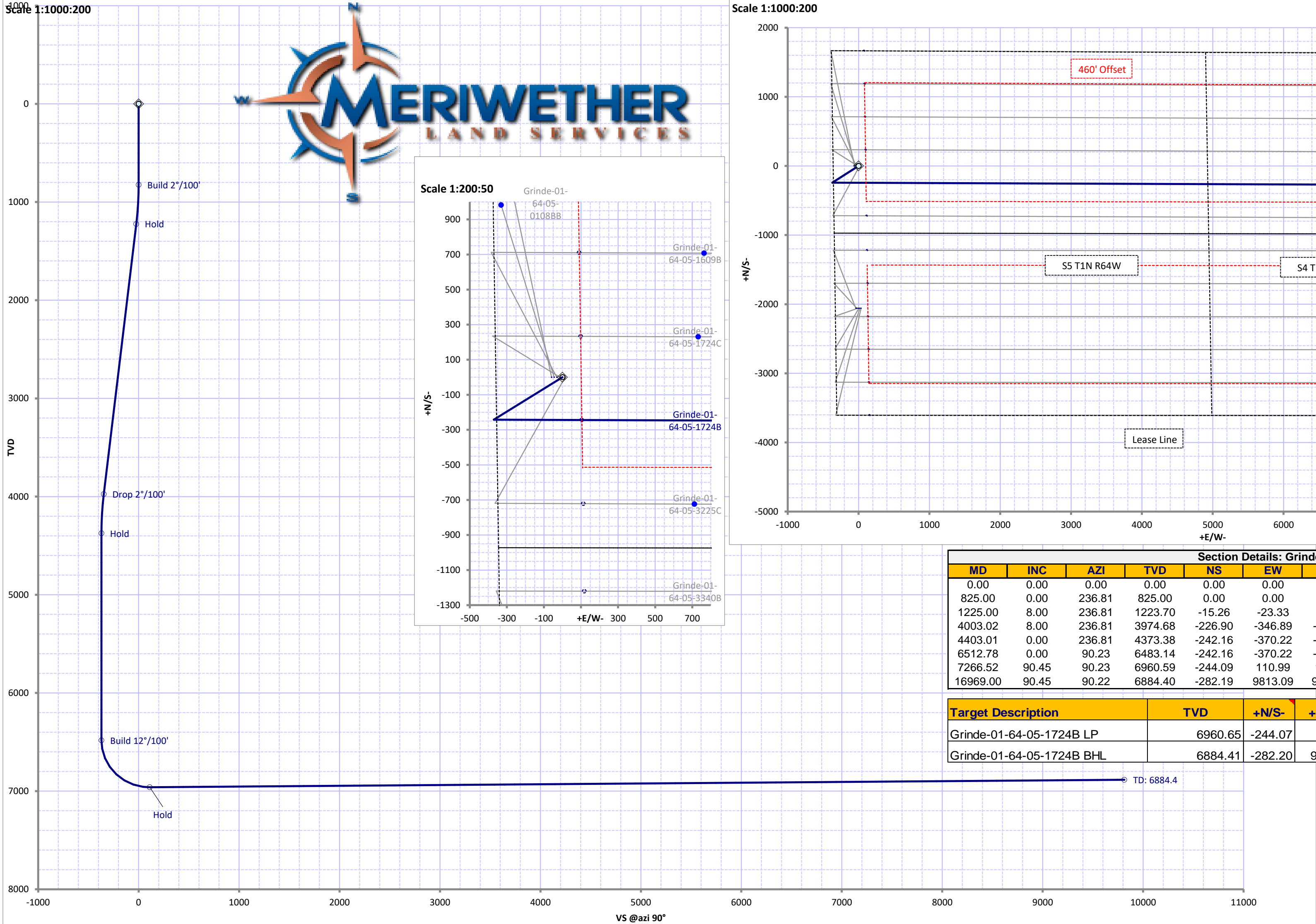


Well Grinde-01-64-05-1724B		Operating Company Bill Barrett Corporation			Rig TBD, est. KB of 20'	
Magnetics		Location			Other	
Curr. Datum BGGM2016 Mag Date 14-Mar-2017 Field Str, nT 52552.70		Decl., ° 8.15 Dip Angle, ° 67.05 Convergence, ° 0.5924527		Northing, ft 1,274,462.80 Easting, ft 3,256,560.66 Elevation, ft 5057.00		Meriwether Land Services, LLC
		Latitude 40.083150 Longitude 104.583080 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-01-64-05-1724B										
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	236.81	825.00	0.00	0.00	0.00	0.00	-492.75	0.00	Build 2°/100'
1225.00	8.00	236.81	1223.70	-15.26	-23.33	-23.33	2.00	0.00	2.00	Hold
4003.02	8.00	236.81	3974.68	-226.90	-346.89	-346.89	0.00	0.00	0.00	Drop 2°/100'
4403.01	0.00	236.81	4373.38	-242.16	-370.22	-370.22	-2.00	0.00	2.00	Hold
6512.78	0.00	90.23	6483.14	-242.16	-370.22	-370.22	0.00	-19.75	0.00	Build 12°/100'
7266.52	90.45	90.23	6960.59	-244.09	110.99	110.99	12.00	0.00	12.00	Hold
16969.00	90.45	90.22	6884.40	-282.19	9813.09	9813.09	0.00	0.00	0.00	TD: 6884.4

Target Description	TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting
Grinde-01-64-05-1724B LP	6960.65	-244.07	103.53	40.08248	104.58271	1274219.82	3256666.71
Grinde-01-64-05-1724B BHL	6884.41	-282.20	9813.12	40.08237	104.54801	1274282.09	3266376.17

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-01-64-05-1724B

Operator	Bill Barrett Corporation	Northing	1274462.798	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256550.657	System	2 - St. Plane
Well Name	Grinde-01-64-05-1724B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.083150	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583080	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592453

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	236.81	825	0	0	0	0	-492.75	0
825: Build 2°/100'									
900	1.5	236.81	899.99	-0.54	-0.82	-0.82	2	0	2
1000	3.5	236.81	999.89	-2.92	-4.47	-4.47	2	0	2
1100	5.5	236.81	1099.58	-7.22	-11.04	-11.04	2	0	2
1200	7.5	236.81	1198.93	-13.42	-20.51	-20.51	2	0	2
1225	8	236.81	1223.7	-15.26	-23.33	-23.33	2	0	2
1225: Hold									
1300	8	236.81	1297.97	-20.97	-32.07	-32.07	0	0	0
1400	8	236.81	1397	-28.59	-43.71	-43.71	0	0	0
1500	8	236.81	1496.03	-36.21	-55.36	-55.36	0	0	0
1600	8	236.81	1595.05	-43.83	-67.01	-67.01	0	0	0
1700	8	236.81	1694.08	-51.45	-78.66	-78.66	0	0	0
1800	8	236.81	1793.11	-59.07	-90.3	-90.3	0	0	0
1900	8	236.81	1892.13	-66.68	-101.95	-101.95	0	0	0
2000	8	236.81	1991.16	-74.3	-113.6	-113.6	0	0	0
2100	8	236.81	2090.19	-81.92	-125.24	-125.24	0	0	0
2200	8	236.81	2189.21	-89.54	-136.89	-136.89	0	0	0
2300	8	236.81	2288.24	-97.16	-148.54	-148.54	0	0	0
2400	8	236.81	2387.27	-104.78	-160.19	-160.19	0	0	0
2500	8	236.81	2486.29	-112.39	-171.83	-171.83	0	0	0
2600	8	236.81	2585.32	-120.01	-183.48	-183.48	0	0	0
2700	8	236.81	2684.35	-127.63	-195.13	-195.13	0	0	0
2800	8	236.81	2783.37	-135.25	-206.77	-206.77	0	0	0
2900	8	236.81	2882.4	-142.87	-218.42	-218.42	0	0	0
3000	8	236.81	2981.43	-150.49	-230.07	-230.07	0	0	0
3100	8	236.81	3080.45	-158.1	-241.72	-241.72	0	0	0
3200	8	236.81	3179.48	-165.72	-253.36	-253.36	0	0	0
3300	8	236.81	3278.51	-173.34	-265.01	-265.01	0	0	0
3400	8	236.81	3377.53	-180.96	-276.66	-276.66	0	0	0
3500	8	236.81	3476.56	-188.58	-288.3	-288.3	0	0	0
3600	8	236.81	3575.59	-196.2	-299.95	-299.95	0	0	0
3700	8	236.81	3674.61	-203.81	-311.6	-311.6	0	0	0
3800	8	236.81	3773.64	-211.43	-323.24	-323.24	0	0	0



Survey Report: Grinde-01-64-05-1724B

Operator	Bill Barrett Corporation	Northing	1274462.798	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256550.657	System	2 - St. Plane
Well Name	Grinde-01-64-05-1724B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.083150	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583080	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592453

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
3900	8	236.81	3872.67	-219.05	-334.89	-334.89	0	0	0
4000	8	236.81	3971.7	-226.67	-346.54	-346.54	0	0	0
4003.02	8	236.81	3974.68	-226.9	-346.89	-346.89	0	0	0
4003.02: Drop 2°/100'									
4100	6.06	236.81	4070.93	-233.4	-356.82	-356.82	-2	0	2
4200	4.06	236.81	4170.54	-238.22	-364.2	-364.2	-2	0	2
4300	2.06	236.81	4270.39	-241.15	-368.67	-368.67	-2	0	2
4400	0.06	236.81	4370.37	-242.16	-370.22	-370.22	-2	0	2
4403.01	0	236.81	4373.38	-242.16	-370.22	-370.22	-2	0	2
4403.01: Hold									
4500	0	236.81	4470.37	-242.16	-370.22	-370.22	0	0	0
4600	0	236.81	4570.37	-242.16	-370.22	-370.22	0	0	0
4700	0	236.81	4670.37	-242.16	-370.22	-370.22	0	0	0
4800	0	236.81	4770.37	-242.16	-370.22	-370.22	0	0	0
4900	0	236.81	4870.37	-242.16	-370.22	-370.22	0	0	0
5000	0	236.81	4970.37	-242.16	-370.22	-370.22	0	0	0
5100	0	236.81	5070.37	-242.16	-370.22	-370.22	0	0	0
5200	0	236.81	5170.37	-242.16	-370.22	-370.22	0	0	0
5300	0	236.81	5270.37	-242.16	-370.22	-370.22	0	0	0
5400	0	236.81	5370.37	-242.16	-370.22	-370.22	0	0	0
5500	0	236.81	5470.37	-242.16	-370.22	-370.22	0	0	0
5600	0	236.81	5570.37	-242.16	-370.22	-370.22	0	0	0
5700	0	236.81	5670.37	-242.16	-370.22	-370.22	0	0	0
5800	0	236.81	5770.37	-242.16	-370.22	-370.22	0	0	0
5900	0	236.81	5870.37	-242.16	-370.22	-370.22	0	0	0
6000	0	236.81	5970.37	-242.16	-370.22	-370.22	0	0	0
6100	0	236.81	6070.37	-242.16	-370.22	-370.22	0	0	0
6200	0	236.81	6170.37	-242.16	-370.22	-370.22	0	0	0
6300	0	236.81	6270.37	-242.16	-370.22	-370.22	0	0	0
6400	0	201.17	6370.37	-242.16	-370.22	-370.22	0	-35.65	0
6500	0	92.75	6470.37	-242.16	-370.22	-370.22	0	-108.41	0
6512.78	0	90.23	6483.14	-242.16	-370.22	-370.22	0	-19.75	0
6512.78: Build 12°/100'									
6600	10.47	90.23	6569.88	-242.19	-362.28	-362.28	12	0	12
6700	22.47	90.23	6665.61	-242.31	-333.99	-333.99	12	0	12
6800	34.47	90.23	6753.35	-242.5	-286.41	-286.41	12	0	12
6900	46.47	90.23	6829.29	-242.76	-221.63	-221.63	12	0	12
7000	58.47	90.23	6890.1	-243.08	-142.47	-142.47	12	0	12
7100	70.47	90.23	6933.13	-243.44	-52.4	-52.4	12	0	12
7200	82.47	90.23	6956.49	-243.83	44.64	44.64	12	0	12
7266.52	90.45	90.23	6960.59	-244.09	110.99	110.99	12	0	12
7266.52: Hold									
7300	90.45	90.23	6960.33	-244.23	144.46	144.46	0	0	0
7400	90.45	90.23	6959.54	-244.63	244.46	244.46	0	0	0



Survey Report: Grinde-01-64-05-1724B

Operator	Bill Barrett Corporation			Northing	1274462.798		Date	12-Dec-17	
Dir. Co.	Meriwether Land Services, LLC			Easting	3256550.657		System	2 - St. Plane	
Well Name	Grinde-01-64-05-1724B			Elevation	5037.00		Datum	1983 - NAD83	
Location	Weld Cty, CO			Latitude	40.083150		Zone	0501 - Colorado North	
Rig	TBD, est. KB of 20'			Longitude	104.583080		Scale Fac.	0.999961	
Job				Units	Feet		Converg.	0.592453	
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
7500	90.45	90.23	6958.76	-245.03	344.45	344.45	0	0	0
7600	90.45	90.23	6957.97	-245.43	444.45	444.45	0	0	0
7700	90.45	90.23	6957.19	-245.83	544.44	544.44	0	0	0
7800	90.45	90.23	6956.4	-246.24	644.44	644.44	0	0	0
7900	90.45	90.23	6955.62	-246.64	744.44	744.44	0	0	0
8000	90.45	90.23	6954.83	-247.04	844.43	844.43	0	0	0
8100	90.45	90.23	6954.05	-247.44	944.43	944.43	0	0	0
8200	90.45	90.23	6953.26	-247.84	1044.43	1044.43	0	0	0
8300	90.45	90.23	6952.48	-248.24	1144.42	1144.42	0	0	0
8400	90.45	90.23	6951.69	-248.64	1244.42	1244.42	0	0	0
8500	90.45	90.23	6950.91	-249.04	1344.41	1344.41	0	0	0
8600	90.45	90.23	6950.12	-249.44	1444.41	1444.41	0	0	0
8700	90.45	90.23	6949.34	-249.83	1544.41	1544.41	0	0	0
8800	90.45	90.23	6948.55	-250.23	1644.4	1644.4	0	0	0
8900	90.45	90.23	6947.77	-250.63	1744.4	1744.4	0	0	0
9000	90.45	90.23	6946.98	-251.03	1844.39	1844.39	0	0	0
9100	90.45	90.23	6946.2	-251.43	1944.39	1944.39	0	0	0
9200	90.45	90.23	6945.41	-251.83	2044.39	2044.39	0	0	0
9300	90.45	90.23	6944.63	-252.23	2144.38	2144.38	0	0	0
9400	90.45	90.23	6943.84	-252.62	2244.38	2244.38	0	0	0
9500	90.45	90.23	6943.06	-253.02	2344.38	2344.38	0	0	0
9600	90.45	90.23	6942.27	-253.42	2444.37	2444.37	0	0	0
9700	90.45	90.23	6941.48	-253.82	2544.37	2544.37	0	0	0
9800	90.45	90.23	6940.7	-254.21	2644.36	2644.36	0	0	0
9900	90.45	90.23	6939.91	-254.61	2744.36	2744.36	0	0	0
10000	90.45	90.23	6939.13	-255.01	2844.36	2844.36	0	0	0
10100	90.45	90.23	6938.34	-255.4	2944.35	2944.35	0	0	0
10200	90.45	90.23	6937.56	-255.8	3044.35	3044.35	0	0	0
10300	90.45	90.23	6936.77	-256.2	3144.34	3144.34	0	0	0
10400	90.45	90.23	6935.99	-256.59	3244.34	3244.34	0	0	0
10500	90.45	90.23	6935.2	-256.99	3344.34	3344.34	0	0	0
10600	90.45	90.23	6934.42	-257.38	3444.33	3444.33	0	0	0
10700	90.45	90.23	6933.63	-257.78	3544.33	3544.33	0	0	0
10800	90.45	90.23	6932.85	-258.17	3644.33	3644.33	0	0	0
10900	90.45	90.23	6932.06	-258.57	3744.32	3744.32	0	0	0
11000	90.45	90.23	6931.28	-258.96	3844.32	3844.32	0	0	0
11100	90.45	90.23	6930.49	-259.36	3944.31	3944.31	0	0	0
11200	90.45	90.23	6929.71	-259.75	4044.31	4044.31	0	0	0
11300	90.45	90.23	6928.92	-260.15	4144.31	4144.31	0	0	0
11400	90.45	90.23	6928.14	-260.54	4244.3	4244.3	0	0	0
11500	90.45	90.23	6927.35	-260.93	4344.3	4344.3	0	0	0
11600	90.45	90.23	6926.57	-261.33	4444.29	4444.29	0	0	0
11700	90.45	90.23	6925.78	-261.72	4544.29	4544.29	0	0	0
11800	90.45	90.23	6924.99	-262.11	4644.29	4644.29	0	0	0



Survey Report: Grinde-01-64-05-1724B

Operator Dir. Co. Well Name Location Rig Job	Bill Barrett Corporation			Northing Easting Elevation Latitude Longitude Units	1274462.798		Date System Datum Zone Scale Fac. Converg.	12-Dec-17	
	Meriwether Land Services, LLC				3256550.657			2 - St. Plane	
	Grinde-01-64-05-1724B				5037.00			1983 - NAD83	
	Weld Cty, CO				40.083150			0501 - Colorado North	
	TBD, est. KB of 20'				104.583080			0.999961	
					Feet			0.592453	
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
11900	90.45	90.23	6924.21	-262.51	4744.28	4744.28	0	0	0
12000	90.45	90.23	6923.42	-262.9	4844.28	4844.28	0	0	0
12100	90.45	90.22	6922.64	-263.29	4944.28	4944.28	0	0	0
12200	90.45	90.22	6921.85	-263.69	5044.27	5044.27	0	0	0
12300	90.45	90.22	6921.07	-264.08	5144.27	5144.27	0	0	0
12400	90.45	90.22	6920.28	-264.47	5244.26	5244.26	0	0	0
12500	90.45	90.22	6919.5	-264.86	5344.26	5344.26	0	0	0
12600	90.45	90.22	6918.71	-265.25	5444.26	5444.26	0	0	0
12700	90.45	90.22	6917.93	-265.65	5544.25	5544.25	0	0	0
12800	90.45	90.22	6917.14	-266.04	5644.25	5644.25	0	0	0
12900	90.45	90.22	6916.36	-266.43	5744.24	5744.24	0	0	0
13000	90.45	90.22	6915.57	-266.82	5844.24	5844.24	0	0	0
13100	90.45	90.22	6914.79	-267.21	5944.24	5944.24	0	0	0
13200	90.45	90.22	6914	-267.6	6044.23	6044.23	0	0	0
13300	90.45	90.22	6913.22	-267.99	6144.23	6144.23	0	0	0
13400	90.45	90.22	6912.43	-268.38	6244.23	6244.23	0	0	0
13500	90.45	90.22	6911.64	-268.77	6344.22	6344.22	0	0	0
13600	90.45	90.22	6910.86	-269.16	6444.22	6444.22	0	0	0
13700	90.45	90.22	6910.07	-269.55	6544.21	6544.21	0	0	0
13800	90.45	90.22	6909.29	-269.94	6644.21	6644.21	0	0	0
13900	90.45	90.22	6908.5	-270.33	6744.21	6744.21	0	0	0
14000	90.45	90.22	6907.72	-270.72	6844.2	6844.2	0	0	0
14100	90.45	90.22	6906.93	-271.11	6944.2	6944.2	0	0	0
14200	90.45	90.22	6906.15	-271.5	7044.19	7044.19	0	0	0
14300	90.45	90.22	6905.36	-271.88	7144.19	7144.19	0	0	0
14400	90.45	90.22	6904.58	-272.27	7244.19	7244.19	0	0	0
14500	90.45	90.22	6903.79	-272.66	7344.18	7344.18	0	0	0
14600	90.45	90.22	6903.01	-273.05	7444.18	7444.18	0	0	0
14700	90.45	90.22	6902.22	-273.44	7544.18	7544.18	0	0	0
14800	90.45	90.22	6901.44	-273.82	7644.17	7644.17	0	0	0
14900	90.45	90.22	6900.65	-274.21	7744.17	7744.17	0	0	0
15000	90.45	90.22	6899.87	-274.6	7844.16	7844.16	0	0	0
15100	90.45	90.22	6899.08	-274.99	7944.16	7944.16	0	0	0
15200	90.45	90.22	6898.29	-275.37	8044.16	8044.16	0	0	0
15300	90.45	90.22	6897.51	-275.76	8144.15	8144.15	0	0	0
15400	90.45	90.22	6896.72	-276.15	8244.15	8244.15	0	0	0
15500	90.45	90.22	6895.94	-276.53	8344.14	8344.14	0	0	0
15600	90.45	90.22	6895.15	-276.92	8444.14	8444.14	0	0	0
15700	90.45	90.22	6894.37	-277.3	8544.14	8544.14	0	0	0
15800	90.45	90.22	6893.58	-277.69	8644.13	8644.13	0	0	0
15900	90.45	90.22	6892.8	-278.08	8744.13	8744.13	0	0	0
16000	90.45	90.22	6892.01	-278.46	8844.13	8844.13	0	0	0
16100	90.45	90.22	6891.23	-278.85	8944.12	8944.12	0	0	0
16200	90.45	90.22	6890.44	-279.23	9044.12	9044.12	0	0	0



Survey Report: Grinde-01-64-05-1724B

Operator	Bill Barrett Corporation	Northing	1274462.798	Date	12-Dec-17
Dir. Co.	Meriwether Land Services, LLC	Easting	3256550.657	System	2 - St. Plane
Well Name	Grinde-01-64-05-1724B	Elevation	5037.00	Datum	1983 - NAD83
Location	Weld Cty, CO	Latitude	40.083150	Zone	0501 - Colorado North
Rig	TBD, est. KB of 20'	Longitude	104.583080	Scale Fac.	0.999961
Job		Units	Feet	Converg.	0.592453

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
16300	90.45	90.22	6889.66	-279.62	9144.11	9144.11	0	0	0
16400	90.45	90.22	6888.87	-280	9244.11	9244.11	0	0	0
16500	90.45	90.22	6888.09	-280.38	9344.11	9344.11	0	0	0
16600	90.45	90.22	6887.3	-280.77	9444.1	9444.1	0	0	0
16700	90.45	90.22	6886.51	-281.15	9544.1	9544.1	0	0	0
16800	90.45	90.22	6885.73	-281.54	9644.1	9644.1	0	0	0
16900	90.45	90.22	6884.94	-281.92	9744.09	9744.09	0	0	0
16969	90.45	90.22	6884.4	-282.19	9813.09	9813.09	0	0	0

16969: TD: 6884.4