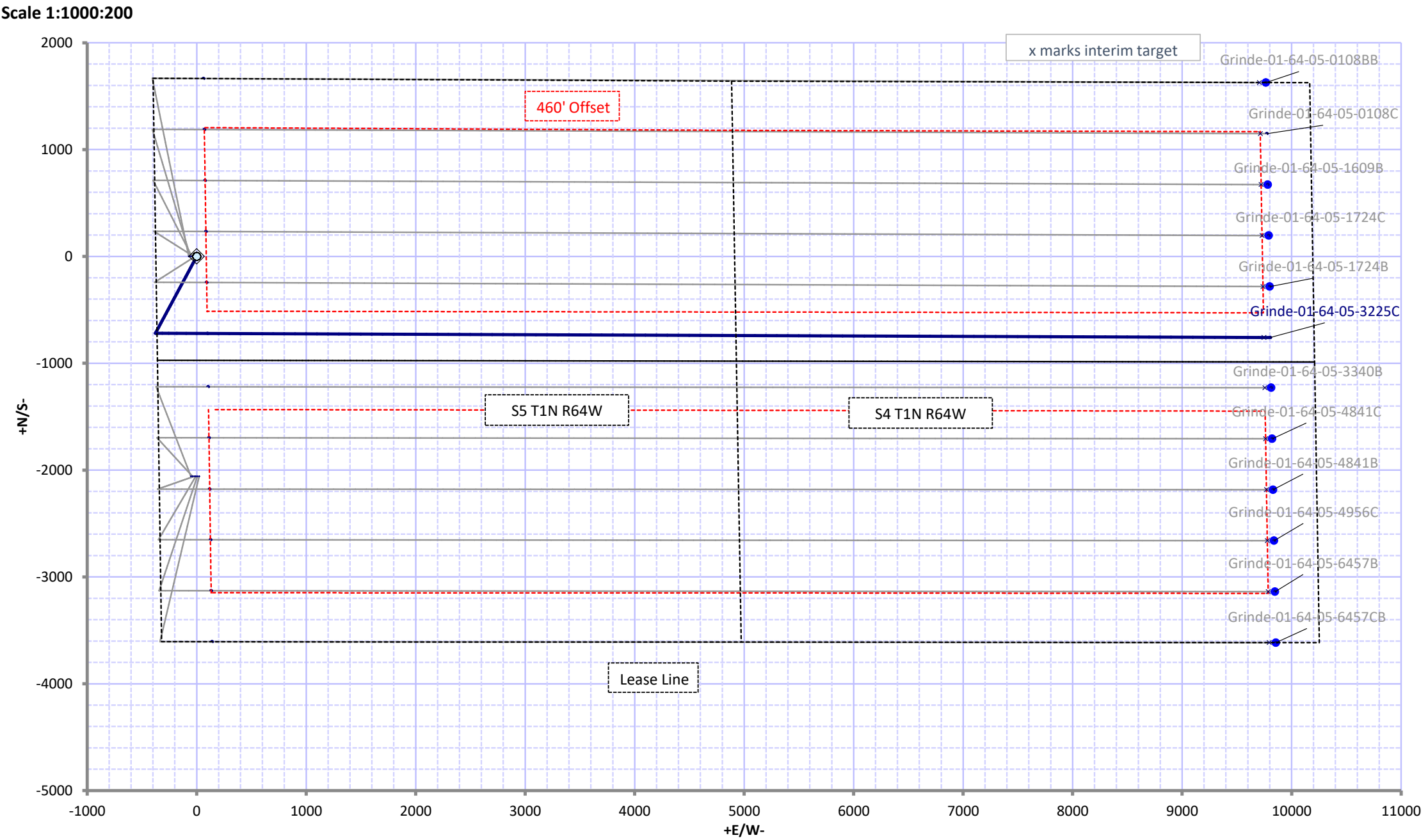
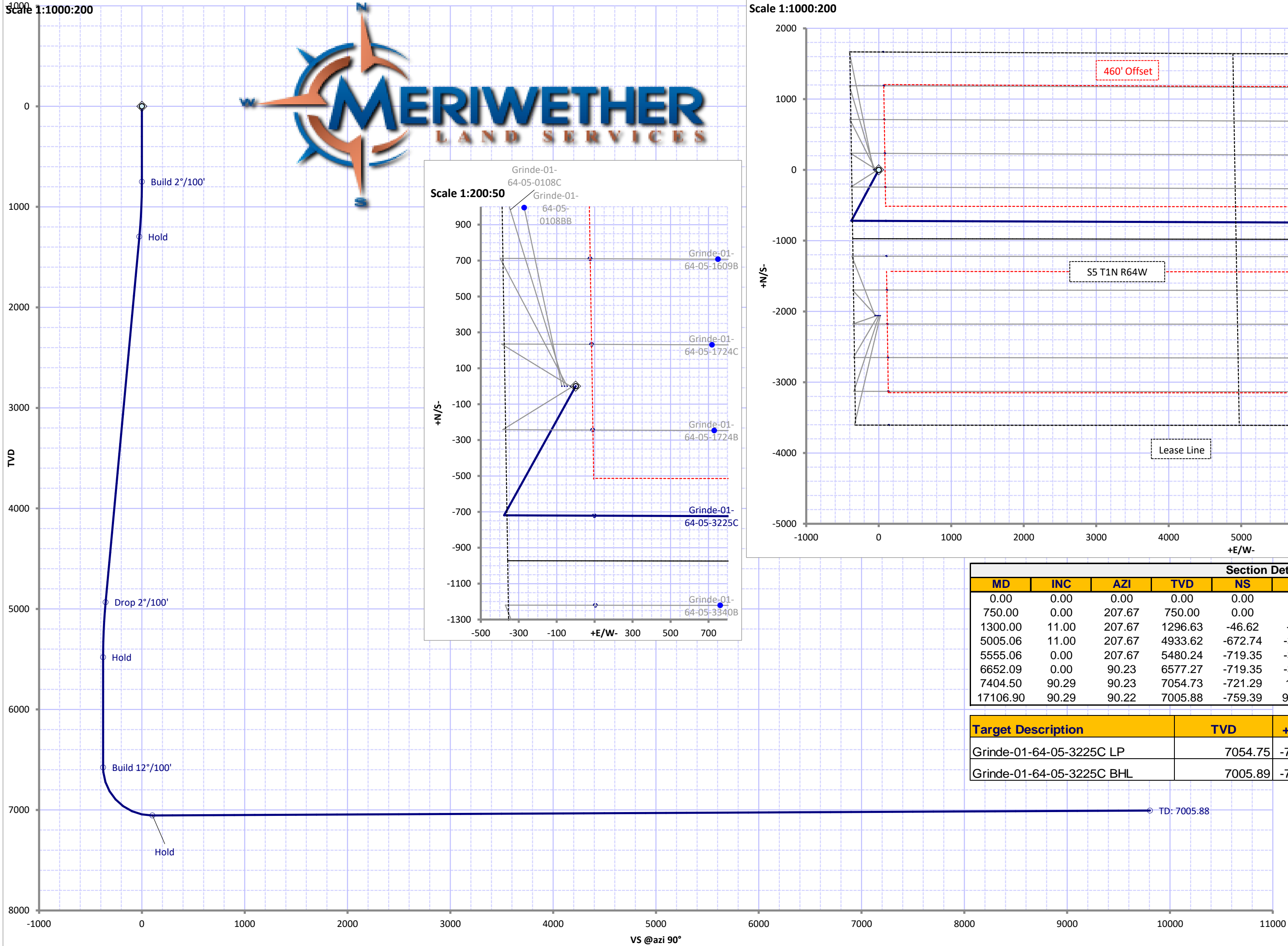


Well <b>Grinde-01-64-05-3225C</b>		Operating Company <b>Bill Barrett Corporation</b>			Rig <b>TBD, est. KB of 20'</b>	
Magnetics		Location			Other	
Curr. Datum BGGM2016 Mag Date 14-Mar-2017 Field Str, nT 52552.70		Decl., ° 8.15 Dip Angle, ° 67.05 Convergence, ° 0.5924850		Northing, ft 1,274,462.94 Easting, ft 3,256,574.65 Elevation, ft 5057.00		<b>Meriwether Land Services, LLC</b>
		Latitude 40.083150 Longitude 104.583030 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-01-64-05-3225C										
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
750.00	0.00	207.67	750.00	0.00	0.00	0.00	0.00	-304.66	0.00	Build 2°/100'
1300.00	11.00	207.67	1296.63	-46.62	-24.44	-24.44	2.00	0.00	2.00	Hold
5005.06	11.00	207.67	4933.62	-672.74	-352.72	-352.72	0.00	0.00	0.00	Drop 2°/100'
5555.06	0.00	207.67	5480.24	-719.35	-377.16	-377.16	-2.00	0.00	2.00	Hold
6652.09	0.00	90.23	6577.27	-719.35	-377.16	-377.16	0.00	-24.84	0.00	Build 12°/100'
7404.50	90.29	90.23	7054.73	-721.29	102.71	102.71	12.00	0.00	12.00	Hold
17106.90	90.29	90.22	7005.88	-759.39	9804.92	9804.92	0.00	0.00	0.00	TD: 7005.88

Target Description	TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting
Grinde-01-64-05-3225C LP	7054.75	-721.27	97.94	40.08117	104.58268	1273742.72	3256680.04
Grinde-01-64-05-3225C BHL	7005.89	-759.40	9804.91	40.08106	104.54799	1273804.97	3266386.89

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-01-64-05-3225C

<b>Operator</b>	Bill Barrett Corporation	<b>Northing</b>	1274462.942	<b>Date</b>	12-Dec-17
<b>Dir. Co.</b>	Meriwether Land Services, LLC	<b>Easting</b>	3256574.647	<b>System</b>	2 - St. Plane
<b>Well Name</b>	Grinde-01-64-05-3225C	<b>Elevation</b>	5037.00	<b>Datum</b>	1983 - NAD83
<b>Location</b>	Weld Cty, CO	<b>Latitude</b>	40.083150	<b>Zone</b>	0501 - Colorado North
<b>Rig</b>	TBD, est. KB of 20'	<b>Longitude</b>	104.583030	<b>Scale Fac.</b>	0.999961
<b>Job</b>		<b>Units</b>	Feet	<b>Converg.</b>	0.592485

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
750	0	207.67	750	0	0	0	0	-304.66	0
750: Build 2°/100'									
800	1	207.67	800	-0.39	-0.2	-0.2	2	0	2
900	3	207.67	899.93	-3.48	-1.82	-1.82	2	0	2
1000	5	207.67	999.68	-9.65	-5.06	-5.06	2	0	2
1100	7	207.67	1099.13	-18.91	-9.92	-9.92	2	0	2
1200	9	207.67	1198.15	-31.24	-16.38	-16.38	2	0	2
1300	11	207.67	1296.63	-46.62	-24.44	-24.44	2	0	2
1300: Hold									
1400	11	207.67	1394.79	-63.51	-33.3	-33.3	0	0	0
1500	11	207.67	1492.95	-80.41	-42.16	-42.16	0	0	0
1600	11	207.67	1591.12	-97.31	-51.02	-51.02	0	0	0
1700	11	207.67	1689.28	-114.21	-59.88	-59.88	0	0	0
1800	11	207.67	1787.44	-131.11	-68.74	-68.74	0	0	0
1900	11	207.67	1885.6	-148.01	-77.6	-77.6	0	0	0
2000	11	207.67	1983.77	-164.91	-86.46	-86.46	0	0	0
2100	11	207.67	2081.93	-181.81	-95.32	-95.32	0	0	0
2200	11	207.67	2180.09	-198.71	-104.18	-104.18	0	0	0
2300	11	207.67	2278.25	-215.61	-113.04	-113.04	0	0	0
2400	11	207.67	2376.42	-232.5	-121.9	-121.9	0	0	0
2500	11	207.67	2474.58	-249.4	-130.76	-130.76	0	0	0
2600	11	207.67	2572.74	-266.3	-139.62	-139.62	0	0	0
2700	11	207.67	2670.91	-283.2	-148.49	-148.49	0	0	0
2800	11	207.67	2769.07	-300.1	-157.35	-157.35	0	0	0
2900	11	207.67	2867.23	-317	-166.21	-166.21	0	0	0
3000	11	207.67	2965.39	-333.9	-175.07	-175.07	0	0	0
3100	11	207.67	3063.56	-350.8	-183.93	-183.93	0	0	0
3200	11	207.67	3161.72	-367.7	-192.79	-192.79	0	0	0
3300	11	207.67	3259.88	-384.6	-201.65	-201.65	0	0	0
3400	11	207.67	3358.04	-401.5	-210.51	-210.51	0	0	0
3500	11	207.67	3456.21	-418.39	-219.37	-219.37	0	0	0
3600	11	207.67	3554.37	-435.29	-228.23	-228.23	0	0	0
3700	11	207.67	3652.53	-452.19	-237.09	-237.09	0	0	0
3800	11	207.67	3750.7	-469.09	-245.95	-245.95	0	0	0
3900	11	207.67	3848.86	-485.99	-254.81	-254.81	0	0	0



## Survey Report: Grinde-01-64-05-3225C

<b>Operator</b>	Bill Barrett Corporation	<b>Northing</b>	1274462.942	<b>Date</b>	12-Dec-17
<b>Dir. Co.</b>	Meriwether Land Services, LLC	<b>Easting</b>	3256574.647	<b>System</b>	2 - St. Plane
<b>Well Name</b>	Grinde-01-64-05-3225C	<b>Elevation</b>	5037.00	<b>Datum</b>	1983 - NAD83
<b>Location</b>	Weld Cty, CO	<b>Latitude</b>	40.083150	<b>Zone</b>	0501 - Colorado North
<b>Rig</b>	TBD, est. KB of 20'	<b>Longitude</b>	104.583030	<b>Scale Fac.</b>	0.999961
<b>Job</b>		<b>Units</b>	Feet	<b>Converg.</b>	0.592485

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
4000	11	207.67	3947.02	-502.89	-263.67	-263.67	0	0	0
4100	11	207.67	4045.18	-519.79	-272.53	-272.53	0	0	0
4200	11	207.67	4143.35	-536.69	-281.39	-281.39	0	0	0
4300	11	207.67	4241.51	-553.59	-290.25	-290.25	0	0	0
4400	11	207.67	4339.67	-570.49	-299.11	-299.11	0	0	0
4500	11	207.67	4437.83	-587.39	-307.97	-307.97	0	0	0
4600	11	207.67	4536	-604.28	-316.83	-316.83	0	0	0
4700	11	207.67	4634.16	-621.18	-325.69	-325.69	0	0	0
4800	11	207.67	4732.32	-638.08	-334.55	-334.55	0	0	0
4900	11	207.67	4830.48	-654.98	-343.41	-343.41	0	0	0
5000	11	207.67	4928.65	-671.88	-352.27	-352.27	0	0	0
5005.06	11	207.67	4933.62	-672.74	-352.72	-352.72	0	0	0
5005.06: Drop 2°/100'									
5100	9.1	207.67	5027.09	-687.41	-360.41	-360.41	-2	0	2
5200	7.1	207.67	5126.09	-699.89	-366.96	-366.96	-2	0	2
5300	5.1	207.67	5225.52	-709.3	-371.89	-371.89	-2	0	2
5400	3.1	207.67	5325.26	-715.64	-375.21	-375.21	-2	0	2
5500	1.1	207.67	5425.19	-718.88	-376.92	-376.92	-2	0	2
5555.06	0	207.67	5480.24	-719.35	-377.16	-377.16	-2	0	2
5555.06: Hold									
5600	0	207.67	5525.18	-719.35	-377.16	-377.16	0	0	0
5700	0	207.67	5625.18	-719.35	-377.16	-377.16	0	0	0
5800	0	207.67	5725.18	-719.35	-377.16	-377.16	0	0	0
5900	0	207.67	5825.18	-719.35	-377.16	-377.16	0	0	0
6000	0	207.67	5925.18	-719.35	-377.16	-377.16	0	0	0
6100	0	207.67	6025.18	-719.35	-377.16	-377.16	0	0	0
6200	0	207.67	6125.18	-719.35	-377.16	-377.16	0	0	0
6300	0	207.67	6225.18	-719.35	-377.16	-377.16	0	0	0
6400	0	202.36	6325.18	-719.35	-377.16	-377.16	0	-5.31	0
6500	0	158.02	6425.18	-719.35	-377.16	-377.16	0	-44.34	0
6600	0	103.17	6525.18	-719.35	-377.16	-377.16	0	-54.85	0
6652.09	0	90.23	6577.27	-719.35	-377.16	-377.16	0	-24.84	0
6652.09: Build 12°/100'									
6700	5.75	90.23	6625.1	-719.36	-374.76	-374.76	12	0	12
6800	17.75	90.23	6722.83	-719.44	-354.43	-354.43	12	0	12
6900	29.75	90.23	6814.19	-719.61	-314.23	-314.23	12	0	12
7000	41.75	90.23	6895.2	-719.84	-255.92	-255.92	12	0	12
7100	53.75	90.23	6962.32	-720.14	-182.03	-182.03	12	0	12
7200	65.75	90.23	7012.6	-720.49	-95.81	-95.81	12	0	12
7300	77.75	90.23	7043.86	-720.87	-1.01	-1.01	12	0	12
7400	89.75	90.23	7054.73	-721.27	98.21	98.21	12	0	12
7404.5	90.29	90.23	7054.73	-721.29	102.71	102.71	12	0	12
7404.5: Hold									
7500	90.29	90.23	7054.24	-721.67	198.21	198.21	0	0	0



## Survey Report: Grinde-01-64-05-3225C

Operator Dir. Co. Well Name Location Rig Job	Bill Barrett Corporation			Northing Easting Elevation Latitude Longitude Units	1274462.942		Date System Datum Zone Scale Fac. Converg.	12-Dec-17	
	Meriwether Land Services, LLC				3256574.647			2 - St. Plane	
	Grinde-01-64-05-3225C				5037.00			1983 - NAD83	
	Weld Cty, CO				40.083150			0501 - Colorado North	
	TBD, est. KB of 20'				104.583030			0.999961	
					Feet			0.592485	
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
7600	90.29	90.23	7053.74	-722.07	298.21	298.21	0	0	0
7700	90.29	90.23	7053.23	-722.48	398.21	398.21	0	0	0
7800	90.29	90.23	7052.73	-722.88	498.2	498.2	0	0	0
7900	90.29	90.23	7052.22	-723.28	598.2	598.2	0	0	0
8000	90.29	90.23	7051.71	-723.68	698.2	698.2	0	0	0
8100	90.29	90.23	7051.21	-724.09	798.2	798.2	0	0	0
8200	90.29	90.23	7050.7	-724.49	898.2	898.2	0	0	0
8300	90.29	90.23	7050.2	-724.89	998.19	998.19	0	0	0
8400	90.29	90.23	7049.69	-725.29	1098.19	1098.19	0	0	0
8500	90.29	90.23	7049.19	-725.69	1198.19	1198.19	0	0	0
8600	90.29	90.23	7048.68	-726.09	1298.19	1298.19	0	0	0
8700	90.29	90.23	7048.18	-726.49	1398.19	1398.19	0	0	0
8800	90.29	90.23	7047.67	-726.89	1498.18	1498.18	0	0	0
8900	90.29	90.23	7047.17	-727.29	1598.18	1598.18	0	0	0
9000	90.29	90.23	7046.66	-727.69	1698.18	1698.18	0	0	0
9100	90.29	90.23	7046.16	-728.09	1798.18	1798.18	0	0	0
9200	90.29	90.23	7045.65	-728.49	1898.18	1898.18	0	0	0
9300	90.29	90.23	7045.15	-728.89	1998.17	1998.17	0	0	0
9400	90.29	90.23	7044.64	-729.29	2098.17	2098.17	0	0	0
9500	90.29	90.23	7044.14	-729.69	2198.17	2198.17	0	0	0
9600	90.29	90.23	7043.63	-730.08	2298.17	2298.17	0	0	0
9700	90.29	90.23	7043.13	-730.48	2398.17	2398.17	0	0	0
9800	90.29	90.23	7042.62	-730.88	2498.16	2498.16	0	0	0
9900	90.29	90.23	7042.12	-731.28	2598.16	2598.16	0	0	0
10000	90.29	90.23	7041.61	-731.68	2698.16	2698.16	0	0	0
10100	90.29	90.23	7041.11	-732.07	2798.16	2798.16	0	0	0
10200	90.29	90.23	7040.6	-732.47	2898.16	2898.16	0	0	0
10300	90.29	90.23	7040.1	-732.87	2998.15	2998.15	0	0	0
10400	90.29	90.23	7039.59	-733.26	3098.15	3098.15	0	0	0
10500	90.29	90.23	7039.09	-733.66	3198.15	3198.15	0	0	0
10600	90.29	90.23	7038.59	-734.06	3298.15	3298.15	0	0	0
10700	90.29	90.23	7038.08	-734.45	3398.14	3398.14	0	0	0
10800	90.29	90.23	7037.58	-734.85	3498.14	3498.14	0	0	0
10900	90.29	90.23	7037.07	-735.25	3598.14	3598.14	0	0	0
11000	90.29	90.23	7036.57	-735.64	3698.14	3698.14	0	0	0
11100	90.29	90.23	7036.07	-736.04	3798.14	3798.14	0	0	0
11200	90.29	90.23	7035.56	-736.43	3898.13	3898.13	0	0	0
11300	90.29	90.23	7035.06	-736.83	3998.13	3998.13	0	0	0
11400	90.29	90.23	7034.55	-737.22	4098.13	4098.13	0	0	0
11500	90.29	90.23	7034.05	-737.61	4198.13	4198.13	0	0	0
11600	90.29	90.23	7033.55	-738.01	4298.13	4298.13	0	0	0
11700	90.29	90.23	7033.04	-738.4	4398.12	4398.12	0	0	0
11800	90.29	90.23	7032.54	-738.8	4498.12	4498.12	0	0	0
11900	90.29	90.23	7032.03	-739.19	4598.12	4598.12	0	0	0



## Survey Report: Grinde-01-64-05-3225C

Operator Dir. Co. Well Name Location Rig Job	Bill Barrett Corporation			Northing Easting Elevation Latitude Longitude Units	1274462.942		Date System Datum Zone Scale Fac. Converg.	12-Dec-17	
	Meriwether Land Services, LLC				3256574.647			2 - St. Plane	
	Grinde-01-64-05-3225C				5037.00			1983 - NAD83	
	Weld Cty, CO				40.083150			0501 - Colorado North	
	TBD, est. KB of 20'				104.583030			0.999961	
					Feet			0.592485	
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
12000	90.29	90.23	7031.53	-739.58	4698.12	4698.12	0	0	0
12100	90.29	90.23	7031.03	-739.98	4798.12	4798.12	0	0	0
12200	90.29	90.23	7030.52	-740.37	4898.11	4898.11	0	0	0
12300	90.29	90.22	7030.02	-740.76	4998.11	4998.11	0	0	0
12400	90.29	90.22	7029.52	-741.15	5098.11	5098.11	0	0	0
12500	90.29	90.22	7029.01	-741.55	5198.11	5198.11	0	0	0
12600	90.29	90.22	7028.51	-741.94	5298.11	5298.11	0	0	0
12700	90.29	90.22	7028.01	-742.33	5398.1	5398.1	0	0	0
12800	90.29	90.22	7027.5	-742.72	5498.1	5498.1	0	0	0
12900	90.29	90.22	7027	-743.11	5598.1	5598.1	0	0	0
13000	90.29	90.22	7026.5	-743.51	5698.1	5698.1	0	0	0
13100	90.29	90.22	7025.99	-743.9	5798.1	5798.1	0	0	0
13200	90.29	90.22	7025.49	-744.29	5898.09	5898.09	0	0	0
13300	90.29	90.22	7024.99	-744.68	5998.09	5998.09	0	0	0
13400	90.29	90.22	7024.49	-745.07	6098.09	6098.09	0	0	0
13500	90.29	90.22	7023.98	-745.46	6198.09	6198.09	0	0	0
13600	90.29	90.22	7023.48	-745.85	6298.09	6298.09	0	0	0
13700	90.29	90.22	7022.98	-746.24	6398.08	6398.08	0	0	0
13800	90.29	90.22	7022.48	-746.63	6498.08	6498.08	0	0	0
13900	90.29	90.22	7021.97	-747.02	6598.08	6598.08	0	0	0
14000	90.29	90.22	7021.47	-747.41	6698.08	6698.08	0	0	0
14100	90.29	90.22	7020.97	-747.79	6798.08	6798.08	0	0	0
14200	90.29	90.22	7020.46	-748.18	6898.07	6898.07	0	0	0
14300	90.29	90.22	7019.96	-748.57	6998.07	6998.07	0	0	0
14400	90.29	90.22	7019.46	-748.96	7098.07	7098.07	0	0	0
14500	90.29	90.22	7018.96	-749.35	7198.07	7198.07	0	0	0
14600	90.29	90.22	7018.46	-749.73	7298.07	7298.07	0	0	0
14700	90.29	90.22	7017.95	-750.12	7398.06	7398.06	0	0	0
14800	90.29	90.22	7017.45	-750.51	7498.06	7498.06	0	0	0
14900	90.29	90.22	7016.95	-750.9	7598.06	7598.06	0	0	0
15000	90.29	90.22	7016.45	-751.28	7698.06	7698.06	0	0	0
15100	90.29	90.22	7015.95	-751.67	7798.06	7798.06	0	0	0
15200	90.29	90.22	7015.44	-752.06	7898.05	7898.05	0	0	0
15300	90.29	90.22	7014.94	-752.44	7998.05	7998.05	0	0	0
15400	90.29	90.22	7014.44	-752.83	8098.05	8098.05	0	0	0
15500	90.29	90.22	7013.94	-753.22	8198.05	8198.05	0	0	0
15600	90.29	90.22	7013.44	-753.6	8298.05	8298.05	0	0	0
15700	90.29	90.22	7012.93	-753.99	8398.04	8398.04	0	0	0
15800	90.29	90.22	7012.43	-754.37	8498.04	8498.04	0	0	0
15900	90.29	90.22	7011.93	-754.76	8598.04	8598.04	0	0	0
16000	90.29	90.22	7011.43	-755.14	8698.04	8698.04	0	0	0
16100	90.29	90.22	7010.93	-755.53	8798.04	8798.04	0	0	0
16200	90.29	90.22	7010.43	-755.91	8898.03	8898.03	0	0	0
16300	90.29	90.22	7009.93	-756.29	8998.03	8998.03	0	0	0



## Survey Report: Grinde-01-64-05-3225C

<b>Operator</b>	Bill Barrett Corporation	<b>Northing</b>	1274462.942	<b>Date</b>	12-Dec-17
<b>Dir. Co.</b>	Meriwether Land Services, LLC	<b>Easting</b>	3256574.647	<b>System</b>	2 - St. Plane
<b>Well Name</b>	Grinde-01-64-05-3225C	<b>Elevation</b>	5037.00	<b>Datum</b>	1983 - NAD83
<b>Location</b>	Weld Cty, CO	<b>Latitude</b>	40.083150	<b>Zone</b>	0501 - Colorado North
<b>Rig</b>	TBD, est. KB of 20'	<b>Longitude</b>	104.583030	<b>Scale Fac.</b>	0.999961
<b>Job</b>		<b>Units</b>	Feet	<b>Converg.</b>	0.592485

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@90°	BR	TR	DLS
16400	90.29	90.22	7009.42	-756.68	9098.03	9098.03	0	0	0
16500	90.29	90.22	7008.92	-757.06	9198.03	9198.03	0	0	0
16600	90.29	90.22	7008.42	-757.45	9298.03	9298.03	0	0	0
16700	90.29	90.22	7007.92	-757.83	9398.02	9398.02	0	0	0
16800	90.29	90.22	7007.42	-758.21	9498.02	9498.02	0	0	0
16900	90.29	90.22	7006.92	-758.59	9598.02	9598.02	0	0	0
17000	90.29	90.22	7006.42	-758.98	9698.02	9698.02	0	0	0
17100	90.29	90.22	7005.92	-759.36	9798.02	9798.02	0	0	0
17106.9	90.29	90.22	7005.88	-759.39	9804.92	9804.92	0	0	0

17106.9: TD: 7005.88