

**GyroTracer Directional:**

Date: 10/10/2018  
 Operator : Adrian Bruner  
 API: 05-123-26151  
 Well Name: **Miller 20-44**  
 Field : Noble Energy Inc  
 Tool Type And Number: 1605  
 Bottom Depth : 7150.00  
 Total Well Depth: 7508.00  
 Latitude : 40.55463 N  
 Longitude : 104.67931 W  
 Grid Offset : 0.53

**Starting Point Coordinates (in local grid):**

Northing: 0.00      Easting: 0.00      Altitude: 4840.00

**Description:**

*Azimuth measured in degrees and referenced to local grid*

*Inclination measured from Vertical*

*Length measured in US survey feet*

Start Time: 10/10/2018 13:47

End Time: 10/10/2018 15:03

Depth	Inclination	Azimuth	Closure Direction	True Depth	Coordinates		Dogleg Severity	Closure Distance
					+N/-S	+E/-W		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.000	0.430	35.957	0.000	100.000	0.750	0.000	0.430	0.750
200.000	0.300	15.226	8.578	199.997	1.339	0.202	0.182	1.354
300.000	0.304	1.238	2.131	299.994	1.595	0.059	0.146	1.596
400.000	0.399	339.306	358.679	399.992	1.968	-0.045	0.244	1.968
500.000	0.375	6.292	358.424	499.990	2.364	-0.065	0.180	2.365
600.000	0.385	45.455	1.425	599.988	2.704	0.067	0.200	2.705
700.000	0.302	29.351	5.443	699.986	3.147	0.300	0.036	3.161
800.000	0.300	44.861	6.835	799.983	3.553	0.426	0.098	3.578
900.000	0.203	33.776	8.268	899.981	3.922	0.570	0.087	3.963
1000.000	0.258	36.120	5.774	999.978	4.259	0.431	0.081	4.281
1100.000	0.306	312.522	3.688	1099.976	4.358	0.281	0.560	4.367
1200.000	0.160	314.703	0.136	1199.975	4.534	0.011	0.034	4.534
1300.000	0.290	226.626	355.821	1299.974	4.615	-0.337	0.365	4.628
1400.000	0.260	259.450	350.604	1399.973	4.567	-0.756	0.086	4.629
1500.000	0.271	269.489	345.308	1499.972	4.474	-1.173	0.127	4.625
1600.000	0.164	241.100	339.405	1599.971	4.300	-1.616	0.143	4.593
1700.000	0.365	218.788	333.792	1699.969	4.070	-2.004	0.105	4.537
1800.000	0.368	216.653	329.096	1799.966	3.725	-2.230	0.280	4.342
1900.000	0.434	220.988	321.978	1899.965	3.296	-2.577	0.161	4.184
2000.000	0.466	210.080	314.549	1999.962	2.793	-2.837	0.106	3.981
2100.000	0.301	212.289	307.383	2099.960	2.351	-3.077	0.068	3.872
2200.000	0.710	184.237	294.932	2199.956	1.610	-3.463	0.411	3.819
2300.000	1.173	185.372	272.531	2299.945	0.165	-3.724	0.269	3.728

2400.000	1.130	178.014	244.348	2399.926	-1.795	-3.739	0.189	4.147
2500.000	1.310	179.123	222.695	2499.901	-3.998	-3.688	0.217	5.439
2600.000	1.383	173.333	209.407	2599.871	-6.431	-3.625	0.163	7.383
2700.000	1.331	172.303	200.911	2699.843	-8.753	-3.344	0.209	9.370
2800.000	0.866	173.339	195.955	2799.822	-10.745	-3.072	0.661	11.176
2900.000	0.913	182.065	193.296	2899.809	-12.330	-2.914	0.218	12.670
3000.000	0.805	169.830	191.206	2999.798	-13.732	-2.721	0.189	13.999
3100.000	0.834	185.456	190.299	3099.790	-14.973	-2.721	0.252	15.218
3200.000	0.599	202.617	190.355	3199.780	-16.355	-2.988	0.534	16.626
3300.000	1.107	190.102	190.857	3299.764	-18.020	-3.456	0.703	18.349
3400.000	1.080	186.536	190.856	3399.746	-19.844	-3.806	0.074	20.206
3500.000	0.928	194.291	190.152	3499.730	-21.623	-3.872	0.093	21.967
3600.000	1.097	147.410	188.069	3599.708	-23.542	-3.337	0.879	23.777
3700.000	1.183	126.844	184.020	3699.685	-24.925	-1.752	0.424	24.987
3800.000	1.041	128.751	179.823	3799.659	-26.184	0.081	0.138	26.184
3900.000	1.467	109.205	175.696	3899.632	-27.370	2.060	0.192	27.447
4000.000	1.301	104.177	171.371	3999.607	-27.912	4.236	0.208	28.232
4100.000	1.438	103.821	167.209	4099.577	-28.685	6.512	0.185	29.415
4200.000	1.439	103.702	163.280	4199.547	-29.445	8.845	0.067	30.745
4300.000	0.761	113.863	160.632	4299.532	-29.837	10.489	0.688	31.627
4400.000	0.666	102.551	159.577	4399.527	-29.981	11.163	0.128	31.992
4500.000	0.463	204.246	159.510	4499.524	-30.081	11.240	0.368	32.112
4600.000	0.616	245.426	160.760	4599.518	-30.568	10.669	0.389	32.377
4700.000	0.948	259.636	163.287	4699.507	-31.072	9.330	0.320	32.442
4800.000	1.493	301.156	166.352	4799.486	-30.703	7.455	1.020	31.595
4900.000	1.778	317.103	169.568	4899.441	-28.691	5.282	0.504	29.173
5000.000	1.991	315.007	173.538	4999.384	-26.218	2.970	0.081	26.386
5100.000	1.547	330.599	177.867	5099.333	-23.887	0.890	0.703	23.904
5200.000	1.507	323.123	182.063	5199.295	-21.684	-0.781	0.285	21.698
5300.000	0.799	320.827	186.056	5299.270	-19.980	-2.120	0.689	20.092
5400.000	0.759	336.861	188.950	5399.260	-18.842	-2.967	0.290	19.074
5500.000	0.468	15.870	190.205	5499.254	-17.887	-3.220	0.505	18.174
5600.000	0.625	41.577	188.545	5599.248	-17.112	-2.571	0.292	17.304
5700.000	1.081	56.834	184.740	5699.237	-16.274	-1.349	0.564	16.330
5800.000	0.950	63.103	178.932	5799.218	-15.353	0.286	0.240	15.356
5900.000	0.684	97.721	174.071	5899.209	-15.018	1.560	0.572	15.098
6000.000	0.651	92.950	169.962	5999.202	-14.974	2.650	0.029	15.207
6100.000	0.630	115.060	165.834	6099.195	-15.098	3.811	0.279	15.572
6200.000	0.658	120.592	161.864	6199.184	-15.656	5.128	0.122	16.474
6300.000	1.015	128.384	158.603	6299.168	-16.677	6.535	0.492	17.912
6400.000	1.236	109.972	155.674	6399.149	-17.855	8.071	0.396	19.594
6500.000	0.788	125.279	152.683	6499.127	-18.975	9.801	0.679	21.356
6600.000	0.910	94.852	149.808	6599.114	-19.446	11.314	0.546	22.498
6700.000	1.397	70.161	145.246	6699.093	-19.151	13.288	0.570	23.309
6800.000	1.930	74.946	139.057	6799.054	-18.387	15.952	0.586	24.342
6900.000	3.069	95.447	131.294	6898.969	-17.509	19.934	1.437	26.532
7000.000	4.500	88.401	122.783	6998.770	-16.828	26.130	1.531	31.080
7100.000	3.711	104.812	117.492	7098.451	-17.670	33.955	1.410	38.278
7150.000	2.820	124.140	117.575	7148.362	-19.087	36.548	2.679	41.232