

GyroTracer Directional:

Date: 2/21/2019
 Operator : Adrian Bruner
 API : 05-123-25463
 Well Name : **Sater CC 18-18**
 Field : Noble Energy Inc
 Tool Number: 1717
 Bottom Depth : 6650.00
 Total Well Depth: 6865.00
 Latitude : 40.31581 N
 Longitude : 104.48027 W
 Grid Offset : 0.66
 Datum: NAD 83

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

Northing: 0.00 Easting: 0.00 GLE: 4632.00

Description:

Azimuth measured in degrees and referenced to local grid

Inclination measured from Vertical

Length measured in US survey feet

Lat/Long/Elevation obtained by handheld GPS at wellhead. Device error ± 9 Feet

RKB = Ground Level Elevation

Start Time: 2/21/2019 8:09

End Time: 2/21/2019 9:12

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
101.560	0.650	261.673	218.660	101.550	-0.900	-0.720	0.640	1.153
200.000	1.064	285.594	259.340	199.976	-0.427	-2.268	0.547	2.308
300.000	0.873	291.880	271.628	299.960	0.112	-3.925	0.133	3.927
400.000	0.780	289.036	276.180	399.948	0.583	-5.383	0.157	5.414
500.000	0.736	261.018	276.806	499.941	0.787	-6.593	0.392	6.640
600.000	0.458	216.064	273.535	599.935	0.466	-7.552	0.485	7.566
700.000	0.639	221.991	267.466	699.928	-0.368	-8.314	0.127	8.322
800.000	0.605	210.064	261.370	799.920	-1.366	-9.000	0.214	9.103
900.000	0.730	221.716	256.640	899.913	-2.304	-9.700	0.168	9.970
1000.000	0.807	211.297	252.489	999.904	-3.324	-10.535	0.206	11.047
1100.000	0.822	218.288	248.825	1099.895	-4.387	-11.326	0.103	12.146
1200.000	0.759	213.879	245.266	1199.884	-5.603	-12.163	0.206	13.391
1300.000	0.933	234.009	243.334	1299.873	-6.645	-13.231	0.316	14.806
1400.000	1.092	226.984	241.581	1399.860	-7.756	-14.333	0.177	16.296
1500.000	0.961	223.695	240.385	1499.847	-8.821	-15.518	0.234	17.850
1600.000	1.028	236.401	239.493	1599.834	-9.847	-16.713	0.206	19.398
1700.000	0.926	219.435	238.630	1699.819	-10.973	-17.998	0.256	21.080
1800.000	1.435	230.562	237.811	1799.801	-12.219	-19.412	0.614	22.938
1900.000	1.365	229.359	236.513	1899.776	-13.819	-20.888	0.136	25.045

2000.000	1.408	216.853	235.152	1999.745	-15.667	-22.501	0.267	27.418
2100.000	1.695	202.303	233.307	2099.706	-17.920	-24.047	0.746	29.990
2200.000	1.889	192.377	230.275	2199.659	-20.805	-25.038	0.284	32.554
2300.000	1.792	194.497	227.055	2299.609	-23.861	-25.637	0.058	35.023
2400.000	1.461	215.182	225.296	2399.568	-26.470	-26.746	0.665	37.630
2500.000	1.380	227.332	225.110	2499.540	-28.195	-28.304	0.406	39.951
2600.000	1.220	231.232	225.138	2599.518	-29.640	-29.783	0.179	42.018
2700.000	0.953	237.551	225.454	2699.500	-30.769	-31.261	0.400	43.864
2800.000	1.144	248.962	226.026	2799.485	-31.621	-32.774	0.171	45.542
2900.000	0.965	257.872	226.892	2899.471	-32.109	-34.303	0.219	46.986
3000.000	1.227	270.090	227.947	2999.457	-32.418	-35.937	0.409	48.398
3100.000	1.401	284.619	229.592	3099.438	-32.222	-37.849	0.480	49.707
3200.000	1.468	284.307	231.675	3199.411	-31.641	-40.028	0.195	51.023
3300.000	1.668	289.640	234.030	3299.378	-30.785	-42.419	0.260	52.413
3400.000	1.494	293.949	236.579	3399.343	-29.497	-44.700	0.181	53.555
3500.000	1.422	317.334	239.182	3499.307	-27.908	-46.782	0.667	54.474
3600.000	1.417	329.322	241.867	3599.274	-25.843	-48.331	0.300	54.806
3700.000	1.280	346.256	244.476	3699.242	-23.656	-49.543	0.430	54.901
3800.000	1.559	2.132	247.026	3799.210	-21.243	-50.108	0.608	54.425
3900.000	2.068	21.410	249.411	3899.171	-18.573	-49.443	0.940	52.817
4000.000	1.990	40.491	251.468	3999.127	-16.070	-47.937	0.901	50.558
4100.000	1.583	28.048	253.356	4099.077	-13.711	-45.867	0.532	47.873
4200.000	1.830	37.967	255.554	4199.029	-11.316	-43.928	0.233	45.362
4300.000	1.935	38.525	257.979	4298.978	-8.911	-41.845	0.057	42.784
4400.000	2.016	49.746	260.256	4398.926	-6.774	-39.446	0.378	40.023
4500.000	1.642	49.135	262.732	4498.870	-4.701	-36.858	0.320	37.156
4600.000	2.042	50.715	266.283	4598.805	-2.226	-34.264	0.379	34.336
4700.000	2.210	59.693	269.623	4698.733	-0.204	-31.091	0.377	31.091
4800.000	2.371	54.898	274.107	4798.655	1.997	-27.804	0.179	27.876
4900.000	2.049	55.306	279.564	4898.590	4.214	-25.013	0.087	25.365
5000.000	1.660	71.081	285.490	4998.531	6.151	-22.196	0.638	23.033
5100.000	1.704	74.442	289.880	5098.485	6.976	-19.291	0.104	20.514
5200.000	1.492	87.868	294.561	5198.450	7.656	-16.751	0.412	18.418
5300.000	1.289	92.654	298.918	5298.422	7.983	-14.451	0.108	16.509
5400.000	1.128	93.871	302.916	5398.398	7.941	-12.268	0.145	14.614
5500.000	1.136	92.017	307.763	5498.373	7.794	-10.062	0.089	12.727
5600.000	1.075	86.677	314.551	5598.351	7.861	-7.985	0.167	11.205
5700.000	1.252	64.402	324.074	5698.331	8.440	-6.115	0.511	10.422
5800.000	1.194	71.591	335.324	5798.310	9.228	-4.240	0.170	10.155
5900.000	1.105	35.528	346.878	5898.286	10.373	-2.418	0.793	10.651
6000.000	1.317	40.092	355.406	5998.263	11.900	-0.956	0.182	11.939
6100.000	0.996	33.362	1.556	6098.241	13.505	0.367	0.290	13.510
6200.000	1.039	58.375	6.121	6198.219	15.119	1.621	0.419	15.206
6300.000	1.258	46.879	10.673	6298.201	16.289	3.070	0.306	16.576
6400.000	1.671	25.565	13.807	6398.173	18.163	4.464	0.811	18.704
6500.000	2.290	21.698	14.984	6498.116	21.258	5.690	0.677	22.006
6600.000	1.662	0.724	14.679	6598.068	24.232	6.348	0.762	25.049
6650.760	1.270	3.520	14.258	6648.809	25.575	6.499	0.699	26.388