

**GyroTracer Directional:**

Date: 6/7/2018  
 Operator : Adrian Bruner  
 API: 05-123-22604  
 Well Name: **Cade State O 36-20**  
 Field : Noble Energy Inc  
 Tool Type And Number: 1719  
 Bottom Depth : 7150.00  
 Total Well Depth: 7464.00  
 Latitude : 40.26899 N  
 Longitude : 104.84344 W  
 Grid Offset : 0.42

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

Northing: 0.00      Easting: 0.00      Altitude: 4769.00

**Description:**

*Azimuth measured in degrees and referenced to local grid*

*Inclination measured from Vertical*

*Length measured in US survey feet*

Start Time: 6/7/2018 10:14

End Time: 6/7/2018 11:24

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	0.080	137.618	141.340	100.000	-0.100	0.080	0.080	0.128
200.000	0.257	326.391	83.131	200.000	0.012	0.098	0.327	0.099
300.000	0.508	323.984	351.689	299.999	0.385	-0.056	0.358	0.389
400.000	0.271	246.278	299.008	399.997	0.332	-0.598	0.484	0.684
500.000	0.420	316.120	293.128	499.996	0.416	-0.974	0.413	1.060
600.000	0.418	338.304	301.779	599.994	0.827	-1.334	0.168	1.570
700.000	0.932	290.673	305.831	699.987	1.604	-2.221	0.726	2.740
800.000	0.630	287.157	299.410	799.977	1.972	-3.498	0.268	4.015
900.000	0.714	285.818	296.689	899.969	2.357	-4.688	0.073	5.247
1000.000	0.884	295.431	293.716	999.957	2.719	-6.190	0.179	6.761
1100.000	1.223	265.510	290.837	1099.937	3.091	-8.121	0.617	8.689
1200.000	0.997	282.562	285.732	1199.922	2.768	-9.827	0.392	10.210
1300.000	1.195	257.543	283.231	1299.905	2.728	-11.604	0.537	11.920
1400.000	0.752	239.965	278.196	1399.888	1.911	-13.269	0.546	13.406
1500.000	0.841	243.190	275.525	1499.875	1.423	-14.712	0.113	14.781
1600.000	1.024	253.748	272.742	1599.861	0.780	-16.279	0.225	16.298
1700.000	1.049	235.644	269.987	1699.843	-0.004	-17.938	0.328	17.938
1800.000	0.763	237.284	268.043	1799.826	-0.670	-19.600	0.345	19.611
1900.000	1.163	269.032	266.436	1899.807	-1.331	-21.376	0.646	21.418
2000.000	1.468	260.545	266.290	1999.779	-1.539	-23.728	0.319	23.778
2100.000	1.062	247.750	265.076	2099.755	-2.219	-25.750	0.429	25.845
2200.000	0.900	235.851	262.799	2199.736	-3.439	-27.220	0.242	27.437
2300.000	1.168	261.691	262.287	2299.719	-3.923	-28.968	0.530	29.233

2400.000	1.033	279.444	262.137	2399.697	-4.278	-30.980	0.396	31.274
2500.000	0.821	254.505	262.206	2499.680	-4.484	-32.757	0.403	33.063
2600.000	0.991	251.700	262.629	2599.659	-4.496	-34.757	0.286	35.047
2700.000	1.151	245.365	263.087	2699.640	-4.445	-36.659	0.194	36.928
2800.000	1.173	253.445	263.187	2799.624	-4.594	-38.450	0.215	38.723
2900.000	1.170	277.615	263.143	2899.605	-4.848	-40.314	0.483	40.604
3000.000	1.093	273.226	263.041	2999.583	-5.170	-42.358	0.133	42.673
3100.000	1.429	271.332	263.022	3099.560	-5.438	-44.428	0.124	44.759
3200.000	1.167	239.479	262.679	3199.530	-6.002	-46.719	0.721	47.103
3300.000	1.360	192.060	261.324	3299.498	-7.432	-48.709	1.063	49.273
3400.000	1.852	206.586	258.914	3399.450	-9.895	-50.503	0.605	51.463
3500.000	2.160	203.677	255.629	3499.381	-13.291	-51.872	0.304	53.548
3600.000	2.121	228.329	253.470	3599.313	-16.082	-54.189	0.924	56.525
3700.000	2.110	239.759	252.229	3699.252	-18.232	-56.886	0.496	59.736
3800.000	2.023	238.172	251.103	3799.172	-20.557	-60.055	0.144	63.476
3900.000	1.976	203.689	249.442	3899.103	-23.356	-62.276	1.163	66.511
4000.000	2.167	223.211	247.997	3999.031	-26.131	-64.667	0.740	69.747
4100.000	1.789	239.984	246.766	4098.962	-28.824	-67.141	0.660	73.066
4200.000	2.197	239.593	246.294	4198.900	-30.755	-70.043	0.435	76.497
4300.000	2.203	244.948	246.272	4298.832	-32.249	-73.369	0.224	80.143
4400.000	2.389	238.173	245.941	4398.762	-34.170	-76.534	0.304	83.815
4500.000	2.180	239.532	245.574	4498.685	-36.247	-79.811	0.284	87.656
4600.000	2.440	229.707	245.061	4598.599	-38.671	-83.163	0.414	91.715
4700.000	2.921	227.942	244.132	4698.479	-42.020	-86.660	0.199	96.310
4800.000	2.692	248.459	243.675	4798.358	-44.812	-90.572	1.131	101.052
4900.000	2.532	231.412	243.701	4898.254	-46.755	-94.605	0.891	105.528
5000.000	2.303	242.643	243.622	4998.164	-48.751	-98.301	0.501	109.726
5100.000	1.954	251.578	243.732	5098.107	-50.039	-101.391	0.540	113.067
5200.000	1.491	232.493	243.751	5198.061	-51.307	-104.044	0.735	116.007
5300.000	1.972	271.286	244.014	5298.008	-52.215	-107.122	1.252	119.170
5400.000	2.219	284.988	244.637	5397.955	-52.289	-110.306	0.539	122.072
5500.000	1.752	275.226	245.225	5497.895	-52.471	-113.687	0.492	125.211
5600.000	1.482	267.093	245.834	5597.841	-52.457	-116.907	0.176	128.137
5700.000	1.743	253.820	246.035	5697.800	-53.174	-119.627	0.416	130.913
5800.000	1.630	225.622	245.876	5797.752	-54.730	-122.216	0.862	133.911
5900.000	1.654	230.304	245.715	5897.691	-56.453	-125.114	0.114	137.260
6000.000	2.817	235.229	245.644	5997.607	-58.266	-128.709	1.133	141.283
6100.000	2.372	245.762	245.535	6097.513	-60.303	-132.540	0.612	145.614
6200.000	2.670	250.353	245.529	6197.413	-62.129	-136.516	0.427	149.989
6300.000	2.402	236.303	245.487	6297.311	-64.062	-140.490	0.665	154.406
6400.000	1.988	238.704	245.475	6397.219	-65.843	-144.316	0.454	158.627
6500.000	1.593	264.718	245.663	6497.171	-66.604	-147.256	0.818	161.618
6600.000	0.703	275.415	245.926	6597.154	-66.571	-149.003	0.926	163.198
6700.000	0.498	332.197	246.253	6697.147	-65.986	-149.988	0.640	163.861
6800.000	0.943	339.595	246.645	6797.139	-65.011	-150.553	0.334	163.990
6900.000	0.850	339.197	247.088	6897.129	-63.917	-151.228	0.061	164.181
7000.000	0.367	12.912	247.580	6997.118	-62.638	-151.825	0.570	164.239
7100.000	0.394	312.135	247.987	7097.108	-61.543	-152.225	0.413	164.195
7150.000	0.730	341.770	248.141	7147.106	-61.146	-152.424	0.132	164.232