

**GyroTracer Directional:**

**Date:** 1/18/2019  
**Operator :** Adrian Bruner  
**API :** 05-123-17118  
**Well Name :** Ottoson 32-15  
**Field :** Noble Energy Inc  
**Tool Number:** 1717  
**Bottom Depth :** 7050.00  
**Total Well Depth:** 7412.00  
**Latitude :** 40.52603 N  
**Longitude :** 104.68434 W  
**Grid Offset :** 0.53  
**Datum:** NAD 83

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

**Northing:** 0.00      **Easting:** 0.00      **GLE:** 4824.00

**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  $\pm 9$  Feet*

**RKB = Ground Level Elevation**

**Start Time:** 1/18/2019 8:34

**End Time:** 1/18/2019 9:45

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	0.350	25.701	351.607	100.000	0.610	-0.090	0.350	0.617
200.000	0.073	230.737	343.455	199.999	0.861	-0.256	0.410	0.898
300.000	0.171	267.744	332.361	299.998	0.983	-0.515	0.141	1.110
400.000	0.336	311.674	325.627	399.998	1.115	-0.763	0.235	1.351
500.000	0.200	300.813	318.573	499.996	1.330	-1.174	0.120	1.774
600.000	0.510	276.088	312.845	599.994	1.638	-1.766	0.304	2.409
700.000	0.733	279.185	306.630	699.990	1.884	-2.534	0.365	3.157
800.000	0.747	279.296	297.265	799.984	1.859	-3.607	0.176	4.058
900.000	0.719	258.307	288.823	899.975	1.694	-4.971	0.271	5.252
1000.000	0.931	255.099	283.354	999.965	1.507	-6.350	0.221	6.526
1100.000	0.832	255.456	280.195	1099.954	1.399	-7.781	0.064	7.906
1200.000	0.896	275.511	278.076	1199.944	1.306	-9.202	0.315	9.295
1300.000	0.765	262.125	276.080	1299.932	1.139	-10.692	0.210	10.752
1400.000	0.784	266.795	274.290	1399.922	0.907	-12.089	0.085	12.123
1500.000	0.791	250.320	272.777	1499.911	0.656	-13.522	0.283	13.538
1600.000	0.836	254.961	271.735	1599.901	0.451	-14.891	0.170	14.898
1700.000	0.777	242.417	270.266	1699.893	0.075	-16.070	0.195	16.071
1800.000	0.582	250.939	268.965	1799.888	-0.307	-17.024	0.125	17.027
1900.000	0.530	253.519	267.830	1899.884	-0.674	-17.786	0.036	17.799
2000.000	0.493	210.429	266.528	1999.881	-1.115	-18.371	0.359	18.404
2100.000	0.404	184.458	264.212	2099.878	-1.876	-18.506	0.232	18.601

2200.000	0.668	191.751	261.513	2199.873	-2.786	-18.670	0.190	18.877
2300.000	0.632	183.413	258.583	2299.868	-3.803	-18.834	0.108	19.214
2400.000	0.541	201.207	255.842	2399.862	-4.802	-19.037	0.223	19.633
2500.000	0.566	209.902	253.391	2499.857	-5.740	-19.243	0.089	20.081
2600.000	0.565	203.602	251.714	2599.852	-6.531	-19.764	0.082	20.816
2700.000	0.653	232.925	250.304	2699.847	-7.309	-20.417	0.325	21.686
2800.000	0.644	206.363	248.976	2799.842	-8.097	-21.068	0.286	22.570
2900.000	0.586	219.052	247.455	2899.835	-9.002	-21.684	0.130	23.478
3000.000	0.487	222.575	246.032	2999.829	-9.903	-22.276	0.156	24.378
3100.000	0.834	234.756	245.168	3099.822	-10.692	-23.105	0.363	25.459
3200.000	0.797	241.922	245.093	3199.815	-11.238	-24.202	0.111	26.684
3300.000	0.779	248.066	245.174	3299.806	-11.728	-25.351	0.137	27.932
3400.000	0.695	269.400	245.935	3399.798	-11.882	-26.606	0.546	29.139
3500.000	0.921	291.153	247.719	3499.786	-11.508	-28.087	0.373	30.354
3600.000	1.339	293.813	249.986	3599.768	-10.882	-29.876	0.398	31.796
3700.000	1.369	294.200	252.644	3699.738	-10.041	-32.127	0.056	33.660
3800.000	1.448	293.915	255.154	3799.704	-9.164	-34.570	0.040	35.764
3900.000	1.789	292.141	257.526	3899.665	-8.224	-37.174	0.227	38.073
4000.000	1.835	291.391	259.722	3999.618	-7.269	-40.088	0.064	40.742
4100.000	1.827	301.469	262.030	4099.573	-5.989	-42.776	0.352	43.193
4200.000	1.486	314.108	264.649	4199.535	-4.199	-44.829	0.478	45.026
4300.000	0.970	343.093	266.861	4299.514	-2.519	-45.931	0.641	46.000
4400.000	0.800	359.858	268.721	4399.501	-1.036	-46.416	0.314	46.427
4500.000	0.908	2.037	270.568	4499.489	0.460	-46.452	0.114	46.454
4600.000	0.879	16.527	272.241	4599.479	1.808	-46.200	0.215	46.236
4700.000	0.427	31.074	273.659	4699.472	2.940	-45.976	0.515	46.070
4800.000	0.262	202.735	274.107	4799.471	3.301	-45.971	0.764	46.090
4900.000	0.464	271.407	273.828	4899.469	3.104	-46.389	0.433	46.493
5000.000	0.427	277.934	273.719	4999.465	3.072	-47.261	0.043	47.361
5100.000	0.618	272.425	273.800	5099.460	3.206	-48.267	0.203	48.373
5200.000	0.566	285.421	273.959	5199.455	3.405	-49.195	0.176	49.313
5300.000	0.336	310.137	274.070	5299.451	3.556	-49.985	0.288	50.111
5400.000	0.266	287.901	274.348	5399.450	3.833	-50.411	0.209	50.557
5500.000	0.143	350.418	274.666	5499.448	4.140	-50.725	0.254	50.894
5600.000	1.225	16.671	276.037	5599.439	5.324	-50.337	1.026	50.617
5700.000	1.906	4.879	279.348	5699.394	8.237	-50.036	0.775	50.709
5800.000	1.469	355.910	282.856	5799.342	11.437	-50.114	0.529	51.403
5900.000	1.362	356.971	285.476	5899.310	13.930	-50.314	0.206	52.207
6000.000	0.875	14.672	287.713	5999.286	16.040	-50.221	0.406	52.720
6100.000	0.868	34.589	289.501	6099.272	17.664	-49.881	0.301	52.916
6200.000	0.692	19.899	291.002	6199.262	18.925	-49.296	0.275	52.804
6300.000	0.757	0.037	292.582	6299.250	20.335	-48.896	0.218	52.956
6400.000	1.209	6.689	294.345	6399.236	21.881	-48.359	0.410	53.079
6500.000	0.903	351.095	296.168	6499.219	23.690	-48.211	0.399	53.717
6600.000	1.038	344.424	297.682	6599.205	25.367	-48.353	0.157	54.602
6700.000	0.963	354.359	299.355	6699.184	27.365	-48.654	0.112	55.822
6800.000	1.538	343.688	301.119	6799.158	29.590	-49.016	0.490	57.255
6900.000	0.908	351.791	302.347	6899.141	31.342	-49.489	0.431	58.579
7000.000	0.693	322.507	303.125	6999.132	32.564	-49.906	0.496	59.590
7050.000	0.660	356.130	303.385	7049.149	32.992	-50.064	0.327	59.958