



Company: Noble Energy

Rig: Production/Coretech

API # 05-123-24394

Date: 3/12/2014

Surveyor: Randy Holcomb

VS: 0.000

Lat : 40.485

Long: -104.492

Well: Trump A13-9

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is 0.65 East of True North

Declination: 8.36

Depth Reference: Ground Level

Elevation: 4650 Feet

Total Depth as Drilled: 6961 Feet

Lat & Long obtained by handheld GPS at wellhead

MS Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbrg
0.000	0.000	0.000	0.000	0.000	0.000	****	0.000	0.000	0.000
100.000	0.193	84.605	0.016	0.168	100.000	0.193	0.016	0.168	84.605
200.000	0.265	346.263	0.256	0.281	199.999	0.350	0.256	0.380	47.604
300.000	0.160	96.062	0.466	0.365	299.999	0.353	0.466	0.591	38.049
400.000	0.415	9.284	0.809	0.562	399.998	0.437	0.809	0.985	34.791
500.000	0.257	215.262	0.984	0.491	499.997	0.656	0.984	1.099	26.529
600.000	0.671	185.629	0.217	0.304	599.994	0.466	0.217	0.374	54.440
700.000	0.815	172.995	-1.072	0.333	699.985	0.217	-1.072	1.122	162.718
800.000	0.482	189.980	-2.192	0.347	799.979	0.381	-2.192	2.220	171.001
900.000	0.591	188.846	-3.116	0.195	899.975	0.109	-3.116	3.122	176.420
1000.000	0.482	193.031	-4.036	0.021	999.970	0.115	-4.036	4.036	179.705
1100.000	0.407	178.755	-4.801	-0.066	1099.967	0.133	-4.801	4.802	180.792
1200.000	0.539	193.464	-5.614	-0.168	1199.964	0.178	-5.614	5.616	181.715
1300.000	0.733	154.633	-6.649	-0.003	1299.958	0.461	-6.649	6.649	180.029
1400.000	0.623	183.654	-7.770	0.236	1399.951	0.356	-7.770	7.773	178.260
1500.000	0.829	151.345	-8.947	0.548	1499.944	0.450	-8.947	8.964	176.492
1600.000	0.612	157.081	-10.074	1.103	1599.936	0.229	-10.074	10.134	173.749
1700.000	0.347	167.850	-10.862	1.375	1699.932	0.278	-10.862	10.949	172.785
1800.000	0.366	160.283	-11.459	1.547	1799.930	0.051	-11.459	11.562	172.314
1900.000	0.432	169.183	-12.129	1.725	1899.928	0.090	-12.129	12.251	171.906
2000.000	0.250	188.120	-12.715	1.765	1999.926	0.212	-12.715	12.837	172.098
2100.000	0.449	213.781	-13.256	1.516	2099.924	0.248	-13.256	13.342	173.474
2200.000	0.560	232.270	-13.880	0.912	2199.920	0.196	-13.880	13.910	176.240
2300.000	0.726	244.531	-14.452	-0.046	2299.914	0.214	-14.452	14.452	180.183
2400.000	0.741	237.483	-15.071	-1.163	2399.906	0.091	-15.071	15.116	184.412
2500.000	0.714	244.311	-15.689	-2.269	2499.898	0.091	-15.689	15.852	188.230
2600.000	0.468	243.306	-16.142	-3.195	2599.892	0.247	-16.142	16.455	191.197
2700.000	0.523	264.711	-16.368	-4.014	2699.889	0.192	-16.368	16.853	193.780
2800.000	0.513	262.959	-16.465	-4.913	2799.885	0.018	-16.465	17.182	196.614
2900.000	0.543	253.989	-16.650	-5.813	2899.880	0.088	-16.650	17.636	199.244
3000.000	0.611	257.440	-16.897	-6.789	2999.875	0.077	-16.897	18.210	201.890
3100.000	0.290	278.826	-16.974	-7.560	3099.872	0.357	-16.974	18.581	204.006
3200.000	0.145	255.822	-16.966	-7.932	3199.871	0.167	-16.966	18.729	205.057
3300.000	0.470	47.587	-16.721	-7.752	3299.871	0.601	-16.721	18.430	204.872
3400.000	1.382	41.278	-15.538	-6.653	3399.856	0.916	-15.538	16.902	203.181
3500.000	2.090	27.245	-13.010	-5.023	3499.810	0.821	-13.010	13.946	201.110
3600.000	2.473	27.252	-9.471	-3.200	3599.731	0.382	-9.471	9.997	198.669
3700.000	2.743	29.823	-5.477	-1.022	3699.627	0.294	-5.477	5.572	190.573

3800.000	2.993	17.387	-0.911	0.947	3799.503	0.669	-0.911	1.314	133.865
3900.000	2.562	21.677	3.657	2.553	3899.385	0.478	3.657	4.460	34.919
4000.000	2.241	29.182	7.441	4.332	3999.298	0.448	7.441	8.610	30.206
4100.000	1.702	19.077	10.552	5.771	4099.238	0.640	10.552	12.027	28.674
4200.000	1.228	19.247	12.967	6.609	4199.205	0.475	12.967	14.554	27.008
4300.000	0.911	14.883	14.747	7.167	4299.188	0.327	14.747	16.396	25.919
4400.000	0.695	24.000	16.069	7.617	4399.178	0.251	16.069	17.783	25.363
4500.000	0.828	48.024	17.106	8.401	4499.169	0.342	17.106	19.058	26.156
4600.000	0.675	52.461	17.948	9.405	4599.161	0.164	17.948	20.263	27.655
4700.000	0.536	131.375	17.998	10.223	4699.157	0.777	17.998	20.698	29.596
4800.000	0.651	155.018	17.174	10.813	4799.151	0.268	17.174	20.295	32.196
4900.000	0.896	175.495	15.880	11.115	4899.142	0.365	15.880	19.383	34.989
5000.000	0.905	182.557	14.312	11.141	4999.130	0.111	14.312	18.137	37.898
5100.000	0.838	198.655	12.830	10.871	5099.119	0.253	12.830	16.816	40.277
5200.000	0.611	188.978	11.609	10.554	5199.111	0.257	11.609	15.690	42.274
5300.000	1.171	176.141	10.063	10.540	5299.098	0.591	10.063	14.572	46.326
5400.000	1.378	171.679	7.853	10.782	5399.074	0.229	7.853	13.339	53.932
5500.000	1.468	183.324	5.385	10.882	5499.043	0.302	5.385	12.142	63.669
5600.000	1.293	176.094	2.981	10.885	5599.014	0.246	2.981	11.286	74.683
5700.000	1.029	189.702	0.970	10.810	5698.993	0.380	0.970	10.854	84.873
5800.000	1.084	188.943	-0.850	10.512	5798.976	0.057	-0.850	10.546	94.623
5900.000	0.981	171.316	-2.631	10.494	5898.960	0.332	-2.631	10.819	104.075
6000.000	0.913	174.692	-4.271	10.697	5998.947	0.088	-4.271	11.518	111.763
6100.000	0.719	173.138	-5.687	10.846	6098.937	0.195	-5.687	12.246	117.670
6200.000	0.570	177.055	-6.807	10.946	6198.930	0.155	-6.807	12.890	121.875
6300.000	0.317	187.682	-7.577	10.935	6298.927	0.265	-7.577	13.304	124.721
6400.000	0.475	172.216	-8.262	10.954	6398.925	0.189	-8.262	13.720	127.025
6500.000	0.408	167.765	-9.020	11.086	6498.922	0.075	-9.020	14.292	129.136
6600.000	0.717	183.933	-9.992	11.118	6598.917	0.344	-9.992	14.949	131.947
6650.000	0.636	188.622	-10.579	11.055	6648.913	0.195	-10.579	15.301	133.738