



Company: Noble Energy

Rig: Production/CoreTech

API # 05-123-27164

Date: 1/7/2014

Surveyor: Randy Holcomb

VS: 0.000

Lat : 40.521

Long: -104.382

Well: Kehn USX AA 1-2

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is 0.72 East of True North

Declination: 8.32

Depth Reference: Ground Level

Elevation: 4841 Feet

Total Depth as Drilled: 7020 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	0.299	256.106	-0.063	-0.253	100.000	0.299	-0.063	0.261	256.106
200.000	0.426	197.825	-0.479	-0.620	199.998	0.370	-0.479	0.783	232.309
300.000	0.544	244.729	-1.035	-1.163	299.995	0.401	-1.035	1.557	228.320
400.000	0.903	240.898	-1.621	-2.281	399.986	0.362	-1.621	2.799	234.592
500.000	0.827	238.587	-2.381	-3.586	499.975	0.084	-2.381	4.305	236.415
600.000	1.138	217.017	-3.550	-4.800	599.961	0.478	-3.550	5.970	233.512
700.000	0.953	213.894	-5.033	-5.861	699.944	0.193	-5.033	7.726	229.347
800.000	1.261	230.990	-6.416	-7.180	799.925	0.449	-6.416	9.629	228.217
900.000	1.338	213.289	-8.085	-8.676	899.900	0.407	-8.085	11.859	227.021
1000.000	1.134	232.219	-9.667	-10.099	999.877	0.454	-9.667	13.980	226.252
1100.000	1.298	229.478	-11.009	-11.742	1099.855	0.174	-11.009	16.096	226.845
1200.000	1.325	220.619	-12.623	-13.356	1199.829	0.204	-12.623	18.377	226.617
1300.000	1.262	225.359	-14.274	-14.892	1299.803	0.124	-14.274	20.628	226.214
1400.000	0.940	227.771	-15.599	-16.282	1399.784	0.325	-15.599	22.549	226.229
1500.000	1.158	236.044	-16.714	-17.728	1499.768	0.265	-16.714	24.365	226.686
1600.000	0.850	239.839	-17.651	-19.207	1599.752	0.316	-17.651	26.086	227.417
1700.000	0.855	226.124	-18.541	-20.386	1699.741	0.204	-18.541	27.557	227.714
1800.000	0.496	243.792	-19.250	-21.313	1799.734	0.411	-19.250	28.719	227.912
1900.000	0.343	261.238	-19.487	-21.998	1899.732	0.198	-19.487	29.387	228.464
2000.000	0.299	281.124	-19.482	-22.550	1999.730	0.119	-19.482	29.800	229.175
2100.000	0.320	269.818	-19.432	-23.085	2099.729	0.064	-19.432	30.175	229.910
2200.000	0.260	308.464	-19.292	-23.542	2199.727	0.200	-19.292	30.437	230.666
2300.000	0.465	320.336	-18.839	-23.978	2299.725	0.217	-18.839	30.494	231.844
2400.000	0.649	339.810	-17.995	-24.432	2399.721	0.262	-17.995	30.344	233.627
2500.000	0.810	0.582	-16.756	-24.621	2499.713	0.307	-16.756	29.782	235.762
2600.000	0.738	1.694	-15.405	-24.595	2599.704	0.074	-15.405	29.021	237.938
2700.000	0.667	341.979	-14.208	-24.756	2699.696	0.251	-14.208	28.543	240.148
2800.000	0.567	9.587	-13.166	-24.853	2799.691	0.310	-13.166	28.125	242.087
2900.000	0.369	349.355	-12.362	-24.830	2899.687	0.255	-12.362	27.737	243.534
3000.000	0.477	338.449	-11.657	-25.043	2999.685	0.134	-11.657	27.623	245.038
3100.000	0.514	4.036	-10.822	-25.164	3099.681	0.223	-10.822	27.393	246.730
3200.000	0.228	7.154	-10.177	-25.108	3199.679	0.287	-10.177	27.092	247.936
3300.000	0.058	193.356	-10.028	-25.095	3299.679	0.286	-10.028	27.024	248.218
3400.000	1.020	211.904	-10.833	-25.577	3399.673	0.966	-10.833	27.777	247.045
3500.000	1.994	204.022	-13.178	-26.756	3499.637	0.993	-13.178	29.825	243.779
3600.000	2.659	196.114	-16.995	-28.108	3599.555	0.737	-16.995	32.846	238.841
3700.000	2.424	185.016	-21.330	-28.936	3699.457	0.544	-21.330	35.948	233.605

3800.000	2.743	192.952	-25.768	-29.657	3799.355	0.478	-25.768	39.288	229.014
3900.000	3.074	185.770	-30.767	-30.463	3899.227	0.492	-30.767	43.297	224.716
4000.000	3.179	191.483	-36.152	-31.285	3999.078	0.329	-36.152	47.809	220.872
4100.000	2.392	181.856	-40.955	-31.904	4098.960	0.913	-40.955	51.915	217.919
4200.000	1.250	199.977	-44.066	-32.345	4198.908	1.265	-44.066	54.663	216.279
4300.000	0.536	239.375	-45.330	-33.120	4298.896	0.903	-45.330	56.140	216.153
4400.000	0.614	230.992	-45.905	-33.939	4398.891	0.115	-45.905	57.089	216.476
4500.000	0.390	251.303	-46.352	-34.678	4498.887	0.283	-46.352	57.888	216.802
4600.000	0.422	298.666	-46.284	-35.324	4598.885	0.328	-46.284	58.224	217.351
4700.000	0.536	333.644	-45.689	-35.855	4698.882	0.308	-45.689	58.078	218.124
4800.000	0.465	4.768	-44.865	-36.029	4798.878	0.277	-44.865	57.541	218.766
4900.000	0.638	258.182	-44.575	-36.540	4898.875	0.890	-44.575	57.637	219.343
5000.000	1.230	222.570	-45.479	-37.811	4998.863	0.802	-45.479	59.144	219.740
5100.000	1.400	179.351	-47.491	-38.523	5098.839	0.981	-47.491	61.150	219.048
5200.000	0.960	134.175	-49.296	-37.908	5198.819	0.993	-49.296	62.186	217.560
5300.000	0.461	55.372	-49.652	-36.976	5298.813	0.981	-49.652	61.908	216.675
5400.000	0.751	342.443	-48.799	-36.843	5398.808	0.757	-48.799	61.145	217.053
5500.000	0.782	315.083	-47.691	-37.522	5498.800	0.364	-47.691	60.682	218.195
5600.000	0.720	346.417	-46.597	-38.151	5598.792	0.410	-46.597	60.223	219.309
5700.000	0.591	335.293	-45.519	-38.514	5698.785	0.181	-45.519	59.626	220.235
5800.000	0.494	346.614	-44.631	-38.830	5798.781	0.144	-44.631	59.158	221.024
5900.000	0.497	42.026	-43.889	-38.639	5898.777	0.461	-43.889	58.474	221.360
6000.000	0.601	25.110	-43.092	-38.126	5998.773	0.191	-43.092	57.537	221.501
6100.000	0.464	347.693	-42.221	-37.990	6098.769	0.365	-42.221	56.797	221.980
6200.000	0.630	328.781	-41.356	-38.361	6198.764	0.243	-41.356	56.408	222.849
6300.000	0.771	323.519	-40.345	-39.046	6298.757	0.155	-40.345	56.145	224.063
6400.000	0.913	318.210	-39.209	-39.977	6398.746	0.162	-39.209	55.996	225.556
6500.000	1.070	314.744	-37.958	-41.171	6498.731	0.168	-37.958	55.999	227.326
6600.000	0.932	306.772	-36.814	-42.486	6598.716	0.196	-36.814	56.217	229.091
6700.000	1.503	326.614	-35.232	-43.859	6698.693	0.701	-35.232	56.257	231.225