



Company: Noble Energy
Rig: Production/ CoreTech
API # 05-123-25766
Date: 3/6/2014
Surveyor: Sean Bratt
VS: 0.000
Lat : 40.448
Long: -104.373

Well: Wells Ranch USX AE31-04
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid north is 0.73 Degrees East of
Declination: 8.29 Feet
Depth Reference: Ground Level
Elevation: 4694 Feet
T.D as Drilled: 6792 Feet

Lat & Long obtained by handheld GPS at wellhead
MS Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbgr
0.000	0.000	0.000	0.000	0.000	0.000	****	0.000	0.000	0.000
100.000	0.052	341.732	0.043	-0.014	100.000	0.052	0.043	0.046	341.732
200.000	0.183	307.063	0.183	-0.156	200.000	0.143	0.183	0.240	319.529
300.000	0.276	15.026	0.511	-0.221	299.999	0.268	0.511	0.557	336.648
400.000	0.315	343.255	1.007	-0.237	399.998	0.166	1.007	1.034	346.726
500.000	0.202	284.843	1.315	-0.487	499.997	0.271	1.315	1.402	339.680
600.000	0.067	16.644	1.416	-0.640	599.997	0.215	1.416	1.554	335.672
700.000	0.318	290.211	1.569	-0.884	699.996	0.321	1.569	1.801	330.596
800.000	0.280	281.062	1.711	-1.385	799.995	0.061	1.711	2.201	321.029
900.000	0.290	354.731	2.011	-1.648	899.994	0.342	2.011	2.600	320.665
1000.000	0.222	36.096	2.419	-1.557	999.993	0.192	2.419	2.877	327.239
1100.000	0.414	17.468	2.921	-1.334	1099.991	0.216	2.921	3.211	335.449
1200.000	0.351	5.744	3.571	-1.195	1199.989	0.100	3.571	3.765	341.494
1300.000	0.294	317.415	4.064	-1.338	1299.988	0.269	4.064	4.279	341.779
1400.000	0.318	325.378	4.481	-1.669	1399.986	0.049	4.481	4.782	339.573
1500.000	0.360	315.665	4.934	-2.046	1499.985	0.071	4.934	5.341	337.477
1600.000	0.376	332.220	5.449	-2.419	1599.983	0.107	5.449	5.962	336.066
1700.000	0.153	325.424	5.850	-2.647	1699.981	0.225	5.850	6.421	335.649
1800.000	0.364	349.697	6.272	-2.780	1799.980	0.233	6.272	6.860	336.095
1900.000	0.233	300.722	6.688	-3.012	1899.979	0.275	6.688	7.335	335.759
2000.000	0.272	192.634	6.561	-3.238	1999.979	0.409	6.561	7.317	333.730
2100.000	0.180	218.150	6.206	-3.387	2099.978	0.134	6.206	7.070	331.377
2200.000	0.349	273.395	6.101	-3.788	2199.977	0.287	6.101	7.181	328.167
2300.000	0.484	290.291	6.266	-4.488	2299.974	0.181	6.266	7.707	324.386
2400.000	0.361	250.276	6.306	-5.181	2399.972	0.312	6.306	8.161	320.595
2500.000	0.462	352.355	6.600	-5.531	2499.970	0.643	6.600	8.611	320.035
2600.000	0.218	51.362	7.118	-5.436	2599.969	0.397	7.118	8.957	322.633
2700.000	0.407	20.177	7.571	-5.165	2699.967	0.248	7.571	9.164	325.698
2800.000	0.365	46.581	8.123	-4.811	2799.965	0.181	8.123	9.441	329.366
2900.000	0.303	74.502	8.413	-4.324	2899.963	0.172	8.413	9.459	332.797
3000.000	0.205	218.387	8.343	-4.181	2999.963	0.484	8.343	9.332	333.385
3100.000	0.212	189.982	8.021	-4.324	3099.962	0.102	8.021	9.112	331.673
3200.000	0.170	0.903	7.988	-4.353	3199.962	0.380	7.988	9.097	331.408
3300.000	0.448	329.091	8.471	-4.552	3299.961	0.317	8.471	9.617	331.749
3400.000	0.747	323.877	9.333	-5.137	3399.955	0.303	9.333	10.653	331.171
3500.000	0.633	300.586	10.140	-5.997	3499.948	0.300	10.140	11.781	329.401

3600.000	0.780	315.571	10.908	-6.949	3599.940	0.235	10.908	12.933	327.500
3700.000	1.037	303.174	11.889	-8.183	3699.928	0.322	11.889	14.432	325.461
3800.000	1.023	305.002	12.896	-9.671	3799.912	0.036	12.896	16.119	323.132
3900.000	0.758	315.816	13.883	-10.864	3899.900	0.313	13.883	17.628	321.955
4000.000	0.445	289.236	14.485	-11.692	3999.894	0.412	14.485	18.615	321.091
4100.000	0.171	331.079	14.743	-12.130	4099.893	0.337	14.743	19.092	320.554
4200.000	0.429	2.993	15.247	-12.183	4199.891	0.298	15.247	19.516	321.375
4300.000	0.392	2.675	15.962	-12.147	4299.889	0.037	15.962	20.059	322.730
4400.000	0.626	330.587	16.780	-12.399	4399.885	0.360	16.780	20.864	323.537
4500.000	0.631	317.375	17.660	-13.040	4499.879	0.145	17.660	21.953	323.558
4600.000	0.363	21.376	18.360	-13.298	4599.876	0.573	18.360	22.670	324.085
4700.000	0.799	86.241	18.701	-12.486	4699.871	0.724	18.701	22.486	326.269
4800.000	0.657	94.804	18.698	-11.219	4799.863	0.179	18.698	21.806	329.036
4900.000	0.438	62.555	18.827	-10.308	4899.859	0.369	18.827	21.464	331.297
5000.000	0.457	37.417	19.319	-9.727	4999.856	0.196	19.319	21.630	333.276
5100.000	0.596	66.123	19.846	-9.009	5099.852	0.294	19.846	21.796	335.584
5200.000	0.571	56.405	20.332	-8.119	5199.847	0.102	20.332	21.893	338.232
5300.000	0.365	70.467	20.714	-7.404	5299.843	0.234	20.714	21.998	340.332
5400.000	0.709	59.500	21.135	-6.571	5399.839	0.357	21.135	22.133	342.730
5500.000	0.775	55.680	21.830	-5.479	5499.830	0.083	21.830	22.507	345.912
5600.000	0.514	75.688	22.323	-4.485	5599.824	0.341	22.323	22.769	348.639
5700.000	0.599	73.926	22.578	-3.548	5699.819	0.086	22.578	22.856	351.069
5800.000	0.832	55.889	23.130	-2.445	5799.812	0.321	23.130	23.259	353.965
5900.000	1.027	52.903	24.078	-1.130	5899.798	0.201	24.078	24.104	357.313
6000.000	1.333	35.406	25.566	0.259	5999.777	0.469	25.566	25.567	0.580
6100.000	1.278	40.393	27.363	1.655	6099.751	0.126	27.363	27.413	3.461
6200.000	1.524	46.794	29.122	3.346	6199.721	0.292	29.122	29.314	6.555
6300.000	2.336	54.158	31.226	5.968	6299.664	0.847	31.226	31.791	10.820
6400.000	2.882	53.350	33.920	9.637	6399.560	0.547	33.920	35.263	15.861
6500.000	3.497	43.227	37.643	13.743	6499.405	0.832	37.643	40.073	20.056

True North