



Company: Noble Energy
Rig: Production / VES
API # 05-123-24224

Date: 2/20/2014

Surveyor: CJ Hines

VS: 0.000

Lat : 40.316

Long: -104.466

Well: Gutteresen USX CC #17-19

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is 0.67 East of True Noi

Declination: 8.33

Depth Reference: Ground Level

Elevation: 4686

Total Depth as Drilled: 7302

Lat & Long obtained by handheld GPS at wellhead

HA 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	0.000
100.000	0.537	319.082	0.354	-0.307	99.999	0.537	0.354	0.468	319.082
200.000	0.420	351.303	1.070	-0.669	199.995	0.288	1.070	1.262	327.988
300.000	0.069	207.563	1.379	-0.752	299.994	0.477	1.379	1.571	331.384
400.000	0.375	276.043	1.360	-1.106	399.994	0.356	1.360	1.753	320.885
500.000	0.281	256.791	1.339	-1.671	499.992	0.144	1.339	2.141	308.701
600.000	0.233	199.727	1.091	-1.978	599.991	0.249	1.091	2.259	298.880
700.000	0.304	211.264	0.673	-2.185	699.990	0.089	0.673	2.286	287.125
800.000	0.204	211.338	0.295	-2.415	799.989	0.101	0.295	2.433	276.954
900.000	0.453	176.879	-0.252	-2.486	899.987	0.308	-0.252	2.498	264.210
1000.000	0.607	204.945	-1.127	-2.687	999.983	0.297	-1.127	2.914	247.250
1100.000	0.594	218.269	-2.014	-3.232	1099.978	0.140	-2.014	3.808	238.068
1200.000	0.604	191.346	-2.938	-3.657	1199.973	0.279	-2.938	4.691	231.221
1300.000	0.269	178.282	-3.689	-3.753	1299.970	0.347	-3.689	5.263	225.496
1400.000	0.412	178.276	-4.283	-3.736	1399.968	0.143	-4.283	5.683	221.096
1500.000	0.481	189.752	-5.056	-3.796	1499.965	0.113	-5.056	6.322	216.899
1600.000	0.425	233.916	-5.688	-4.166	1599.962	0.345	-5.688	7.051	216.223
1700.000	0.601	211.695	-6.353	-4.742	1699.958	0.263	-6.353	7.927	216.738
1800.000	1.021	239.490	-7.251	-5.785	1799.948	0.563	-7.251	9.276	218.580
1900.000	0.934	224.670	-8.283	-7.125	1899.934	0.266	-8.283	10.926	220.701
2000.000	1.302	242.013	-9.396	-8.701	1999.915	0.495	-9.396	12.806	222.801
2100.000	1.211	243.651	-10.398	-10.651	2099.891	0.098	-10.398	14.885	225.688
2200.000	1.211	281.932	-10.648	-12.632	2199.870	0.794	-10.648	16.521	229.869
2300.000	1.565	277.327	-10.256	-15.020	2299.840	0.371	-10.256	18.188	235.676
2400.000	1.562	282.208	-9.793	-17.707	2399.803	0.133	-9.793	20.235	241.055
2500.000	1.376	278.148	-9.335	-20.228	2499.770	0.213	-9.335	22.278	245.227
2600.000	1.213	293.491	-8.743	-22.387	2599.745	0.381	-8.743	24.034	248.668
2700.000	1.032	322.599	-7.605	-23.905	2699.727	0.591	-7.605	25.086	252.353
2800.000	1.128	315.345	-6.189	-25.144	2799.709	0.167	-6.189	25.895	256.172
2900.000	0.913	309.464	-4.982	-26.451	2899.693	0.239	-4.982	26.917	259.333
3000.000	0.731	308.635	-4.077	-27.565	2999.683	0.182	-4.077	27.865	261.586
3100.000	0.689	318.656	-3.228	-28.461	3099.675	0.131	-3.228	28.643	263.530
3200.000	0.675	303.620	-2.450	-29.349	3199.668	0.179	-2.450	29.451	265.228
3300.000	1.196	323.489	-1.285	-30.461	3299.655	0.606	-1.285	30.488	267.585
3400.000	1.222	324.926	0.427	-31.694	3399.632	0.040	0.427	31.697	270.771
3500.000	1.281	300.462	1.866	-33.270	3499.609	0.533	1.866	33.322	273.210

3600.000	1.388	305.389	3.134	-35.221	3599.582	0.157	3.134	35.360	275.085
3700.000	1.435	304.163	4.539	-37.245	3699.552	0.056	4.539	37.520	276.948
3800.000	1.123	306.830	5.829	-39.065	3799.527	0.318	5.829	39.498	278.487
3900.000	1.166	330.551	7.303	-40.350	3899.507	0.472	7.303	41.005	280.259
4000.000	0.988	297.937	8.593	-41.612	3999.491	0.629	8.593	42.490	281.668
4100.000	1.159	319.317	9.764	-43.033	4099.473	0.432	9.764	44.126	282.784
4200.000	1.184	302.978	11.093	-44.559	4199.453	0.334	11.093	45.919	283.980
4300.000	0.998	306.800	12.177	-46.123	4299.435	0.200	12.177	47.704	284.790
4400.000	0.983	301.032	13.142	-47.556	4399.420	0.101	13.142	49.338	285.448
4500.000	1.295	344.972	14.675	-48.584	4499.402	0.900	14.675	50.752	286.808
4600.000	1.131	356.178	16.752	-48.943	4599.379	0.288	16.752	51.730	288.895
4700.000	1.020	353.666	18.621	-49.107	4699.362	0.121	18.621	52.519	290.766
4800.000	1.336	2.952	20.670	-49.145	4799.341	0.369	20.670	53.315	292.811
4900.000	1.061	3.555	22.758	-49.027	4899.319	0.275	22.758	54.052	294.900
5000.000	1.056	21.943	24.537	-48.626	4999.302	0.338	24.537	54.466	296.776
5100.000	1.159	24.269	26.314	-47.866	5099.283	0.112	26.314	54.622	298.799
5200.000	0.953	33.857	27.926	-46.987	5199.266	0.271	27.926	54.659	300.725
5300.000	1.012	17.787	29.457	-46.254	5299.252	0.281	29.457	54.837	302.491
5400.000	0.603	48.620	30.646	-45.589	5399.242	0.583	30.646	54.932	303.909
5500.000	0.830	53.593	31.424	-44.611	5499.234	0.235	31.424	54.567	305.160
5600.000	0.369	45.520	32.079	-43.798	5599.228	0.468	32.079	54.290	306.220
5700.000	0.864	42.248	32.863	-43.061	5699.222	0.496	32.863	54.169	307.350
5800.000	1.270	74.483	33.718	-41.487	5799.205	0.709	33.718	53.461	309.102
5900.000	1.826	59.230	34.829	-39.050	5899.169	0.688	34.829	52.325	311.731
6000.000	1.892	74.891	36.075	-36.086	5999.117	0.511	36.075	51.026	314.991
6100.000	2.008	71.678	37.056	-32.830	6099.059	0.159	37.056	49.507	318.461
6200.000	1.949	76.746	37.997	-29.511	6199.000	0.184	37.997	48.111	322.164
6300.000	2.315	83.408	38.618	-25.849	6298.930	0.441	38.618	46.471	326.204
6400.000	2.080	84.188	39.034	-22.038	6398.857	0.237	39.034	44.825	330.552
6500.000	2.046	96.103	39.028	-18.457	6498.792	0.429	39.028	43.172	334.689
6600.000	1.993	100.609	38.518	-14.973	6598.730	0.167	38.518	41.326	338.758
6700.000	1.672	89.381	38.214	-11.805	6698.679	0.480	38.214	39.995	342.833
6800.000	1.336	86.058	38.310	-9.183	6798.645	0.347	38.310	39.395	346.520
6900.000	1.244	101.736	38.169	-6.957	6898.620	0.363	38.169	38.798	349.670
7000.000	1.420	80.592	38.151	-4.672	6998.593	0.518	38.151	38.436	353.018
7050.000	1.493	97.177	38.170	-3.415	7048.577	0.853	38.170	38.323	354.888

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