



Company: Noble Energy
Rig: Production/VES
API # 05-123-26208

Date: 10/31/2013

Surveyor: Nick Kula

VS: 0.000

Lat : 40.507

Long: -104.472

Well: Hagemeister USX-AA #7-1

Location: Weld County, Colorado

North Reference: GRID

Convergence: GRID North is 0.660 Degrees East

Declination: 8.4

Depth Reference: Ground Level

Elevation: 4690'

Total Depth as Drilled: 6928'

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	0.153	52.731	0.081	0.106	100.000	0.153	0.081	0.134	52.731
200.000	0.284	82.539	0.194	0.459	199.999	0.169	0.194	0.498	67.061
300.000	0.072	1.001	0.289	0.706	299.999	0.283	0.289	0.763	67.710
400.000	0.279	53.706	0.496	0.903	399.998	0.242	0.496	1.030	61.207
500.000	0.279	89.229	0.643	1.342	499.997	0.170	0.643	1.488	64.386
600.000	0.138	2.770	0.767	1.591	599.997	0.303	0.767	1.766	64.274
700.000	0.270	19.284	1.109	1.675	699.996	0.144	1.109	2.009	56.483
800.000	0.150	155.775	1.212	1.806	799.996	0.393	1.212	2.176	56.132
900.000	0.112	32.061	1.176	1.912	899.995	0.232	1.176	2.245	58.411
1000.000	0.113	162.801	1.165	1.993	999.995	0.204	1.165	2.309	59.694
1100.000	0.083	84.427	1.078	2.095	1099.995	0.126	1.078	2.356	62.762
1200.000	0.120	57.199	1.142	2.255	1199.995	0.060	1.142	2.528	63.140
1300.000	0.110	334.723	1.286	2.303	1299.995	0.152	1.286	2.637	60.824
1400.000	0.152	101.829	1.345	2.392	1399.995	0.235	1.345	2.744	60.648
1500.000	0.165	331.758	1.444	2.454	1499.995	0.287	1.444	2.847	59.516
1600.000	0.112	205.349	1.483	2.344	1599.995	0.248	1.483	2.774	57.677
1700.000	0.166	334.616	1.526	2.240	1699.994	0.251	1.526	2.710	55.747
1800.000	0.122	153.430	1.560	2.226	1799.994	0.288	1.560	2.719	54.971
1900.000	0.139	267.056	1.459	2.153	1899.994	0.219	1.459	2.601	55.882
2000.000	0.124	159.055	1.352	2.070	1999.994	0.213	1.352	2.473	56.864
2100.000	0.074	132.219	1.207	2.157	2099.994	0.067	1.207	2.472	60.761
2200.000	0.163	326.909	1.283	2.127	2199.994	0.236	1.283	2.484	58.892
2300.000	0.164	12.955	1.543	2.081	2299.993	0.128	1.543	2.591	53.453
2400.000	0.157	114.127	1.627	2.238	2399.993	0.248	1.627	2.767	53.997
2500.000	0.158	96.556	1.555	2.500	2499.993	0.048	1.555	2.944	58.123
2600.000	0.144	323.681	1.641	2.562	2599.993	0.277	1.641	3.042	57.368
2700.000	0.149	120.672	1.676	2.600	2699.993	0.288	1.676	3.093	57.193
2800.000	0.121	306.416	1.672	2.626	2799.992	0.270	1.672	3.113	57.515
2900.000	0.192	268.056	1.729	2.374	2899.992	0.123	1.729	2.937	53.925
3000.000	0.147	90.328	1.723	2.334	2999.992	0.339	1.723	2.901	53.571
3100.000	0.095	68.346	1.753	2.540	3099.992	0.069	1.753	3.086	55.389
3200.000	0.131	325.406	1.877	2.552	3199.992	0.178	1.877	3.168	53.660
3300.000	0.149	17.350	2.095	2.526	3299.991	0.124	2.095	3.282	50.321
3400.000	0.205	39.031	2.359	2.677	3399.991	0.087	2.359	3.568	48.620
3500.000	0.163	69.591	2.548	2.923	3499.990	0.105	2.548	3.878	48.929

3600.000	0.163	103.106	2.565	3.195	3599.990	0.094	2.565	4.097	51.242
3700.000	0.134	80.632	2.552	3.448	3699.990	0.065	2.552	4.290	53.500
3800.000	0.135	38.570	2.663	3.637	3799.989	0.096	2.663	4.507	53.791
3900.000	0.155	125.942	2.675	3.819	3899.989	0.201	2.675	4.663	54.991
4000.000	0.155	190.213	2.463	3.905	3999.989	0.165	2.463	4.617	57.756
4100.000	0.099	94.300	2.324	3.967	4099.989	0.192	2.324	4.597	59.634
4200.000	0.157	70.648	2.363	4.182	4199.988	0.078	2.363	4.804	60.531
4300.000	0.212	141.414	2.264	4.427	4299.988	0.219	2.264	4.972	62.917
4400.000	0.168	60.529	2.191	4.671	4399.988	0.249	2.191	5.159	64.866
4500.000	0.160	344.514	2.398	4.761	4499.987	0.202	2.398	5.331	63.268
4600.000	0.199	170.652	2.361	4.752	4599.987	0.359	2.361	5.307	63.584
4700.000	0.169	63.755	2.254	4.913	4699.987	0.297	2.254	5.406	65.353
4800.000	0.139	66.373	2.368	5.156	4799.987	0.031	2.368	5.674	65.333
4900.000	0.159	238.761	2.344	5.148	4899.986	0.297	2.344	5.657	65.516
5000.000	0.117	348.442	2.373	5.009	4999.986	0.228	2.373	5.542	64.652
5100.000	0.122	79.418	2.493	5.093	5099.986	0.171	2.493	5.670	63.920
5200.000	0.115	82.134	2.526	5.297	5199.986	0.009	2.526	5.869	64.505
5300.000	0.086	56.885	2.581	5.460	5299.986	0.052	2.581	6.039	64.699
5400.000	0.118	92.928	2.617	5.626	5399.986	0.070	2.617	6.205	65.054
5500.000	0.056	207.382	2.568	5.706	5499.985	0.150	2.568	6.257	65.770
5600.000	0.031	227.856	2.506	5.663	5599.985	0.029	2.506	6.193	66.130
5700.000	0.095	43.503	2.548	5.700	5699.985	0.126	2.548	6.244	65.916
5800.000	0.033	270.032	2.608	5.728	5799.985	0.120	2.608	6.294	65.522
5900.000	0.061	218.095	2.566	5.667	5899.985	0.048	2.566	6.221	65.638
6000.000	0.034	242.560	2.510	5.607	5999.985	0.033	2.510	6.144	65.882
6100.000	0.103	137.529	2.430	5.642	6099.985	0.117	2.430	6.143	66.697
6200.000	0.091	280.220	2.378	5.625	6199.985	0.184	2.378	6.107	67.087
6300.000	0.201	133.639	2.271	5.674	6299.985	0.281	2.271	6.111	68.188
6400.000	0.156	192.499	2.017	5.771	6399.985	0.180	2.017	6.114	70.735
6500.000	0.226	286.124	1.939	5.552	6499.984	0.283	1.939	5.881	70.747
6600.000	0.157	244.567	1.935	5.239	6599.984	0.151	1.935	5.585	69.727
6700.000	0.204	2.279	2.054	5.122	6699.983	0.310	2.054	5.519	68.148
6750.000	0.264	269.476	2.142	5.010	6749.983	0.683	2.142	5.449	66.853

of True North