



Company: Noble Energy
Rig: Production / V.E.S.
API # 05-123-24800
Date: 4-26-13
Surveyor: Norman Cowan
VS: 0.000
Lat : 40.164
Long: -104.542

Well: Waste Management USX Y 3-25
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid North is 0.62 Degrees East of
Declination: 8.47 Degrees
Depth Reference: Ground Level
Elevation: 4881 Feet
Total Depth as Drilled: 7203 Feet

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
100.000	0.703	180.286	-0.613	-0.003	99.997	0.703	-0.613	0.613	180.286
200.000	0.191	214.623	-1.363	-0.101	199.994	0.556	-1.363	1.367	184.222
300.000	0.112	174.729	-1.597	-0.186	299.994	0.127	-1.597	1.608	186.650
400.000	0.056	263.939	-1.699	-0.226	399.994	0.124	-1.699	1.714	187.563
500.000	0.022	292.574	-1.697	-0.292	499.994	0.038	-1.697	1.721	189.760
600.000	0.176	308.083	-1.595	-0.430	599.994	0.154	-1.595	1.652	195.106
700.000	0.316	296.010	-1.379	-0.799	699.993	0.149	-1.379	1.594	210.097
800.000	0.569	337.197	-0.800	-1.240	799.990	0.391	-0.800	1.475	237.176
900.000	0.830	12.153	0.366	-1.280	899.983	0.488	0.366	1.331	285.954
1000.000	1.029	26.973	1.874	-0.720	999.970	0.311	1.874	2.008	338.978
1100.000	1.131	23.906	3.577	0.087	1099.952	0.117	3.577	3.578	1.396
1200.000	1.008	25.890	5.271	0.871	1199.934	0.129	5.271	5.342	9.386
1300.000	0.976	36.805	6.744	1.765	1299.920	0.191	6.744	6.971	14.670
1400.000	0.880	24.936	8.122	2.599	1399.907	0.214	8.122	8.528	17.747
1500.000	0.918	33.464	9.486	3.365	1499.894	0.139	9.486	10.065	19.529
1600.000	0.834	36.094	10.742	4.235	1599.883	0.093	10.742	11.547	21.516
1700.000	0.883	24.920	12.029	4.988	1699.871	0.174	12.029	13.022	22.523
1800.000	0.868	25.765	13.410	5.642	1799.860	0.020	13.410	14.549	22.819
1900.000	0.914	29.548	14.786	6.365	1899.848	0.075	14.786	16.097	23.290
2000.000	0.794	26.592	16.099	7.068	1999.837	0.128	16.099	17.582	23.703
2100.000	0.492	11.146	17.140	7.461	2099.830	0.345	17.140	18.694	23.524
2200.000	0.786	341.231	18.211	7.324	2199.824	0.435	18.211	19.628	21.908
2300.000	0.914	322.013	19.489	6.612	2299.813	0.311	19.489	20.580	18.740
2400.000	1.005	337.742	20.929	5.789	2399.799	0.278	20.929	21.715	15.461
2500.000	1.115	330.217	22.585	4.973	2499.782	0.177	22.585	23.127	12.418
2600.000	0.652	357.771	23.999	4.468	2599.771	0.616	23.999	24.411	10.546
2700.000	0.425	349.820	24.933	4.380	2699.766	0.239	24.933	25.315	9.964
2800.000	0.447	334.705	25.651	4.148	2799.763	0.117	25.651	25.984	9.186
2900.000	0.415	339.732	26.343	3.856	2899.760	0.050	26.343	26.624	8.328
3000.000	0.576	326.418	27.101	3.453	2999.757	0.197	27.101	27.320	7.261
3100.000	0.573	314.745	27.871	2.820	3099.752	0.117	27.871	28.013	5.778
3200.000	0.630	298.090	28.482	1.980	3199.746	0.183	28.482	28.550	3.977
3300.000	0.653	309.074	29.100	1.053	3299.740	0.125	29.100	29.119	2.072
3400.000	0.798	304.622	29.854	0.038	3399.732	0.155	29.854	29.854	0.073

3500.000	1.088	298.654	30.705	-1.368	3499.718	0.306	30.705	30.735	357.449
3600.000	0.572	240.432	30.914	-2.636	3599.709	0.925	30.914	31.026	355.127
3700.000	1.402	205.565	29.564	-3.598	3699.694	0.988	29.564	29.782	353.062
3800.000	2.348	200.385	26.541	-4.839	3799.640	0.960	26.541	26.978	349.667
3900.000	2.536	192.701	22.462	-6.039	3899.549	0.377	22.462	23.260	344.952
4000.000	2.194	203.926	18.554	-7.302	3999.464	0.575	18.554	19.939	338.519
4100.000	1.524	196.402	15.529	-8.453	4099.411	0.711	15.529	17.681	331.438
4200.000	1.383	196.338	13.095	-9.168	4199.379	0.141	13.095	15.986	325.003
4300.000	1.173	222.191	11.179	-10.195	4299.355	0.607	11.179	15.130	317.634
4400.000	1.003	238.000	9.956	-11.625	4399.337	0.343	9.956	15.306	310.579
4500.000	0.645	235.141	9.171	-12.829	4499.326	0.361	9.171	15.770	305.559
4600.000	0.784	242.506	8.533	-13.898	4599.319	0.167	8.533	16.308	301.551
4700.000	0.695	268.832	8.205	-15.111	4699.311	0.348	8.205	17.195	298.501
4800.000	1.350	270.862	8.210	-16.896	4799.294	0.656	8.210	18.785	295.917
4900.000	1.857	269.230	8.206	-19.694	4899.255	0.509	8.206	21.335	292.621
5000.000	2.011	271.798	8.240	-23.067	4999.198	0.176	8.240	24.495	289.657
5100.000	1.931	267.281	8.215	-26.503	5099.139	0.175	8.215	27.747	287.221
5200.000	1.353	266.065	8.054	-29.364	5199.097	0.578	8.054	30.449	285.338
5300.000	1.068	258.466	7.786	-31.456	5299.075	0.327	7.786	32.405	283.903
5400.000	0.864	242.193	7.249	-33.035	5399.061	0.340	7.249	33.821	282.376
5500.000	0.884	236.317	6.469	-34.344	5499.049	0.092	6.469	34.948	280.668
5600.000	0.788	228.780	5.589	-35.502	5599.038	0.145	5.589	35.940	278.946
5700.000	0.704	197.663	4.550	-36.206	5699.030	0.408	4.550	36.491	277.163
5800.000	0.766	210.106	3.387	-36.728	5799.022	0.171	3.387	36.884	275.268
5900.000	0.849	182.509	2.068	-37.096	5899.013	0.393	2.068	37.153	273.191
6000.000	0.991	206.419	0.554	-37.513	5999.000	0.406	0.554	37.517	270.845
6100.000	1.007	189.281	-1.088	-38.039	6098.985	0.298	-1.088	38.055	268.361
6200.000	0.553	165.247	-2.422	-38.058	6198.976	0.550	-2.422	38.135	266.358
6300.000	0.706	128.516	-3.273	-37.453	6298.970	0.422	-3.273	37.596	265.006
6400.000	0.764	95.801	-3.724	-36.308	6398.962	0.418	-3.724	36.498	264.144
6500.000	0.784	104.650	-3.964	-34.983	6498.953	0.121	-3.964	35.207	263.535
6600.000	0.738	129.625	-4.548	-33.825	6598.945	0.332	-4.548	34.129	262.342
6700.000	0.467	113.986	-5.124	-32.957	6698.939	0.315	-5.124	33.353	261.162
6800.000	0.596	136.176	-5.665	-32.224	6798.935	0.240	-5.665	32.719	260.029
6900.000	0.444	106.048	-6.147	-31.492	6898.931	0.307	-6.147	32.086	258.955
7000.000	0.689	121.186	-6.566	-30.605	6998.926	0.285	-6.566	31.301	257.891

True North