



Company: Noble Energy
Rig: Production/VES
API # 05-123-31715

Date: 4/28/13

Surveyor: Justin Williams

VS: 0.000

Lat : 40.55247

Long: -104.562

Well: Gabel USX AB21-13P

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid North is 0.61 Degrees East o

Declination: 8.52

Depth Reference: Ground Level

Elevation: 4867

Total Depth as Drilled: 7345

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	0.941	18.613	0.778	0.262	99.996	0.941	0.778	0.821	18.613
200.000	1.031	16.999	2.417	0.787	199.981	0.094	2.417	2.542	18.042
300.000	0.996	7.457	4.139	1.163	299.965	0.172	4.139	4.299	15.695
400.000	0.766	359.763	5.669	1.273	399.953	0.258	5.669	5.810	12.656
500.000	0.583	352.152	6.842	1.201	499.946	0.203	6.842	6.946	9.955
600.000	0.641	343.542	7.882	0.973	599.941	0.108	7.882	7.942	7.036
700.000	1.078	341.195	9.309	0.511	699.929	0.439	9.309	9.323	3.143
800.000	1.954	336.467	11.763	-0.473	799.893	0.884	11.763	11.773	357.698
900.000	2.410	329.356	15.135	-2.225	899.821	0.529	15.135	15.298	351.636
1000.000	2.597	334.249	18.985	-4.281	999.725	0.284	18.985	19.461	347.292
1100.000	2.175	326.021	22.599	-6.326	1099.639	0.542	22.599	23.468	344.361
1200.000	2.017	326.416	25.639	-8.361	1199.572	0.159	25.639	26.968	341.939
1300.000	1.967	336.532	28.680	-10.018	1299.511	0.355	28.680	30.379	340.746
1400.000	1.676	333.577	31.564	-11.352	1399.461	0.306	31.564	33.544	340.219
1500.000	1.400	335.404	33.985	-12.511	1499.425	0.280	33.985	36.214	339.789
1600.000	1.298	334.378	36.117	-13.510	1599.397	0.105	36.117	38.561	339.491
1700.000	1.171	329.331	38.017	-14.521	1699.374	0.168	38.017	40.696	339.095
1800.000	1.060	314.291	39.542	-15.704	1799.355	0.312	39.542	42.546	338.339
1900.000	0.837	318.564	40.736	-16.850	1899.341	0.234	40.736	44.083	337.528
2000.000	0.677	331.243	41.801	-17.618	1999.333	0.231	41.801	45.362	337.146
2100.000	0.656	341.402	42.862	-18.085	2099.326	0.120	42.862	46.521	337.124
2200.000	0.420	321.085	43.691	-18.498	2199.321	0.300	43.691	47.445	337.053
2300.000	0.453	349.414	44.364	-18.801	2299.319	0.216	44.364	48.184	337.034
2400.000	0.696	23.890	45.308	-18.627	2399.314	0.412	45.308	48.988	337.651
2500.000	0.396	60.034	46.036	-18.082	2499.309	0.443	46.036	49.460	338.556
2600.000	0.221	85.101	46.225	-17.590	2599.308	0.217	46.225	49.459	339.167
2700.000	0.312	35.674	46.463	-17.239	2699.307	0.238	46.463	49.558	339.644
2800.000	0.313	43.045	46.884	-16.893	2799.306	0.040	46.884	49.835	340.185
2900.000	0.279	20.453	47.312	-16.622	2899.304	0.121	47.312	50.147	340.642
3000.000	0.633	333.892	48.036	-16.780	2999.301	0.485	48.036	50.882	340.745
3100.000	0.498	345.096	48.952	-17.135	3099.296	0.174	48.952	51.864	340.708
3200.000	0.598	286.835	49.523	-17.746	3199.292	0.541	49.523	52.606	340.285
3300.000	0.503	306.758	49.937	-18.597	3299.288	0.212	49.937	53.287	339.574
3400.000	0.867	349.288	50.943	-19.090	3399.281	0.602	50.943	54.402	339.458

3500.000	1.639	329.097	52.914	-19.965	3499.257	0.877	52.914	56.555	339.328
3600.000	0.403	321.937	54.417	-20.916	3599.239	1.240	54.417	58.298	338.975
3700.000	0.812	219.319	54.146	-21.581	3699.235	0.982	54.146	58.288	338.269
3800.000	1.314	201.781	52.533	-22.455	3799.218	0.593	52.533	57.131	336.855
3900.000	1.440	212.942	50.414	-23.564	3899.189	0.296	50.414	55.649	334.948
4000.000	1.211	208.047	48.427	-24.744	3999.163	0.255	48.427	54.382	332.935
4100.000	0.707	204.388	46.931	-25.496	4099.148	0.508	46.931	53.410	331.486
4200.000	0.717	189.695	45.752	-25.857	4199.141	0.182	45.752	52.553	330.527
4300.000	0.640	127.124	44.798	-25.517	4299.135	0.708	44.798	51.556	330.335
4400.000	1.051	104.264	44.235	-24.183	4399.124	0.524	44.235	50.414	331.335
4500.000	1.232	107.014	43.695	-22.266	4499.104	0.190	43.695	49.041	332.998
4600.000	1.809	100.496	43.093	-19.686	4599.069	0.601	43.093	47.376	335.448
4700.000	2.076	99.708	42.500	-16.348	4699.011	0.269	42.500	45.535	338.960
4800.000	1.714	113.725	41.592	-13.193	4798.957	0.586	41.592	43.635	342.401
4900.000	1.908	144.407	39.637	-10.856	4898.909	0.976	39.637	41.097	344.684
5000.000	2.276	167.702	36.343	-9.464	4998.844	0.918	36.343	37.555	345.404
5100.000	1.661	187.011	32.964	-9.218	5098.786	0.897	32.964	34.229	344.378
5200.000	1.730	220.819	30.383	-10.381	5198.744	0.988	30.383	32.108	341.135
5300.000	0.851	240.757	28.878	-12.016	5298.718	0.975	28.878	31.278	337.407
5400.000	0.728	317.585	28.984	-13.093	5398.711	0.986	28.984	31.804	335.690
5500.000	1.185	345.171	30.452	-13.786	5498.698	0.636	30.452	33.428	335.644
5600.000	2.139	338.264	33.185	-14.742	5598.654	0.973	33.185	36.312	336.048
5700.000	1.625	314.639	35.915	-16.442	5698.602	0.920	35.915	39.500	335.402
5800.000	1.132	318.461	37.650	-18.105	5798.572	0.502	37.650	41.778	334.318
5900.000	0.740	356.268	39.034	-18.802	5898.560	0.711	39.034	43.326	334.280
6000.000	0.448	0.812	40.069	-18.839	5998.554	0.295	40.069	44.276	334.819
6100.000	0.253	330.191	40.651	-18.943	6098.552	0.264	40.651	44.848	335.015
6200.000	0.195	9.282	41.010	-19.025	6198.552	0.159	41.010	45.208	335.113
6300.000	0.440	25.931	41.523	-18.830	6298.550	0.259	41.523	45.593	335.607
6400.000	0.822	48.309	42.345	-18.126	6398.544	0.448	42.345	46.062	336.826
6500.000	0.751	61.265	43.137	-17.016	6498.535	0.191	43.137	46.372	338.473
6600.000	0.482	61.939	43.650	-16.070	6598.529	0.269	43.650	46.514	339.788
6700.000	0.551	353.299	44.325	-15.755	6698.526	0.585	44.325	47.042	340.433
6800.000	0.514	72.111	44.941	-15.384	6798.522	0.677	44.941	47.501	341.103
6900.000	0.552	63.334	45.295	-14.527	6898.518	0.090	45.295	47.567	342.218
7000.000	0.968	38.877	46.168	-13.566	6998.509	0.518	46.168	48.120	343.625
7100.000	0.662	84.749	46.878	-12.460	7098.500	0.695	46.878	48.506	345.115

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