



**Company:** Noble Energy  
**Rig:** Production/ V.E.S  
**API #** 05-123-32108  
**Date:** 12/30/2013  
**Surveyor:** Jay Hinman  
**VS:** 0.000  
**Lat :** 40.48289  
**Long:** -104.46542

**Well:** Peppler PC AA 17-25  
**Location:** Weld County, Colorado  
**North Reference:** GRID  
**Convergence:** Grid North is 0.67 Deg  
**Declination:** 8.36  
**Depth Reference:** Ground Level  
**Elevation:** 4667'  
**Total Depth as Drilled:** 6961'

**Lat & Long obtained by handheld GPS at wellhead**

HA Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD
0.000	0.000	0.000	0.000	0.000	0.000	****	0.000	0.000
100.000	0.277	126.696	-0.144	0.194	100.000	0.277	-0.144	0.242
200.000	0.273	28.180	-0.079	0.500	199.999	0.417	-0.079	0.506
300.000	0.421	94.738	0.100	0.979	299.997	0.400	0.100	0.984
400.000	0.987	87.907	0.102	2.206	399.989	0.571	0.102	2.208
500.000	0.907	71.308	0.387	3.816	499.976	0.284	0.387	3.836
600.000	0.952	93.866	0.585	5.395	599.963	0.366	0.585	5.426
700.000	0.942	97.339	0.423	7.039	699.949	0.058	0.423	7.052
800.000	0.332	129.058	0.136	8.080	799.943	0.682	0.136	8.081
900.000	0.148	204.547	-0.164	8.251	899.942	0.328	-0.164	8.253
1000.000	0.166	42.012	-0.174	8.295	999.942	0.311	-0.174	8.297
1100.000	0.165	198.908	-0.202	8.346	1099.942	0.324	-0.202	8.348
1200.000	0.492	160.533	-0.743	8.442	1199.940	0.377	-0.743	8.475
1300.000	0.345	146.323	-1.399	8.752	1299.938	0.179	-1.399	8.863
1400.000	0.136	173.117	-1.767	8.934	1399.937	0.232	-1.767	9.107
1500.000	0.368	65.279	-1.750	9.240	1499.936	0.430	-1.750	9.404
1600.000	0.285	186.406	-1.863	9.504	1599.935	0.570	-1.863	9.685
1700.000	0.266	29.849	-1.909	9.592	1699.935	0.540	-1.909	9.780
1800.000	0.223	92.204	-1.715	9.902	1799.934	0.256	-1.715	10.049
1900.000	0.149	160.809	-1.845	10.139	1899.934	0.219	-1.845	10.306
2000.000	0.423	150.977	-2.291	10.361	1999.932	0.277	-2.291	10.611
2100.000	0.698	158.741	-3.181	10.761	2099.927	0.284	-3.181	11.221
2200.000	0.475	131.395	-4.023	11.293	2199.922	0.351	-4.023	11.988
2300.000	0.253	86.814	-4.285	11.825	2299.920	0.344	-4.285	12.577
2400.000	0.368	80.801	-4.221	12.362	2399.919	0.119	-4.221	13.063
2500.000	0.379	58.057	-3.995	12.960	2499.917	0.148	-3.995	13.562
2600.000	0.248	322.679	-3.648	13.109	2599.916	0.472	-3.648	13.607
2700.000	0.159	340.598	-3.345	12.932	2699.915	0.108	-3.345	13.357
2800.000	0.058	53.893	-3.184	12.926	2799.915	0.153	-3.184	13.313
2900.000	0.382	271.789	-3.144	12.634	2899.914	0.429	-3.144	13.019
3000.000	0.274	275.823	-3.109	12.063	2999.913	0.110	-3.109	12.458
3100.000	0.732	298.366	-2.781	11.264	3099.909	0.490	-2.781	11.602
3200.000	1.070	285.428	-2.230	9.802	3199.896	0.392	-2.230	10.052
3300.000	1.852	278.605	-1.739	7.304	3299.863	0.800	-1.739	7.508
3400.000	1.748	265.796	-1.609	4.184	3399.814	0.415	-1.609	4.483
3500.000	1.796	262.454	-1.927	1.110	3499.766	0.114	-1.927	2.224

3600.000	1.899	265.321	-2.268	-2.095	3599.714	0.138	-2.268	3.087
3700.000	1.738	258.232	-2.712	-5.231	3699.664	0.276	-2.712	5.892
3800.000	2.139	265.746	-3.160	-8.577	3799.607	0.474	-3.160	9.140
3900.000	2.468	262.786	-3.569	-12.574	3899.526	0.350	-3.569	13.071
4000.000	1.785	264.645	-3.985	-16.261	3999.456	0.686	-3.985	16.743
4100.000	1.280	265.036	-4.227	-18.925	4099.420	0.505	-4.227	19.392
4200.000	0.707	275.456	-4.265	-20.653	4199.405	0.599	-4.265	21.089
4300.000	0.628	194.822	-4.736	-21.408	4299.400	0.866	-4.736	21.925
4400.000	0.728	175.694	-5.899	-21.500	4399.393	0.246	-5.899	22.295
4500.000	0.290	71.485	-6.452	-21.212	4499.390	0.848	-6.452	22.172
4600.000	0.956	5.427	-5.541	-20.893	4599.385	0.879	-5.541	21.615
4700.000	1.369	12.317	-3.544	-20.559	4699.364	0.435	-3.544	20.863
4800.000	0.960	15.630	-1.570	-20.079	4799.343	0.414	-1.570	20.140
4900.000	1.247	8.872	0.312	-19.685	4899.324	0.315	0.312	19.687
5000.000	1.008	7.104	2.260	-19.408	4999.305	0.242	2.260	19.540
5100.000	0.957	17.306	3.931	-19.051	5099.290	0.182	3.931	19.452
5200.000	1.150	12.203	5.709	-18.590	5199.273	0.214	5.709	19.447
5300.000	1.296	25.628	7.709	-17.889	5299.251	0.320	7.709	19.480
5400.000	1.053	45.575	9.372	-16.744	5399.230	0.472	9.372	19.188
5500.000	0.751	25.529	10.607	-15.805	5499.218	0.433	10.607	19.034
5600.000	0.460	16.349	11.584	-15.409	5599.212	0.306	11.584	19.278
5700.000	0.835	62.991	12.299	-14.648	5699.206	0.617	12.299	19.126
5800.000	1.044	50.881	13.205	-13.292	5799.193	0.288	13.205	18.736
5900.000	1.348	60.721	14.355	-11.559	5899.171	0.365	14.355	18.430
6000.000	1.452	70.344	15.356	-9.340	5999.141	0.257	15.356	17.974
6100.000	1.927	86.135	15.896	-6.469	6099.098	0.661	15.896	17.162
6200.000	2.127	91.183	15.971	-2.936	6199.036	0.268	15.971	16.238
6300.000	2.255	80.940	16.242	0.862	6298.963	0.411	16.242	16.265
6400.000	2.041	87.221	16.638	4.583	6398.893	0.318	16.638	17.258
6500.000	1.653	89.220	16.744	7.804	6498.841	0.393	16.744	18.473
6600.000	2.384	93.418	16.640	11.322	6598.778	0.746	16.640	20.127
6700.000	2.772	104.652	15.904	15.738	6698.677	0.635	15.904	22.375

0

rees East of True North

**Cbrg**

0.000  
126.696  
98.986  
84.143  
87.365  
84.214  
83.817  
86.557  
89.038  
91.141  
91.200  
91.385  
95.030  
99.080  
101.187  
100.725  
101.090  
101.255  
99.826  
100.316  
102.470  
106.470  
109.608  
109.920  
108.853  
107.133  
105.551  
104.502  
103.837  
103.973  
104.452  
103.871  
102.815  
103.396  
111.038  
150.066

222.727  
242.591  
249.774  
254.154  
256.231  
257.410  
258.333  
257.526  
254.658  
253.082  
255.146  
260.219  
265.528  
270.909  
276.643  
281.657  
287.071  
293.313  
299.237  
303.867  
306.933  
310.019  
314.812  
321.157  
328.690  
337.855  
349.583  
3.037  
15.400  
24.988  
34.233  
44.699