



Company: Noble Energy
Rig: Production/VES
API # 05-123-34272
Date: 5/7/13
Surveyor: Levi Sheldon
VS: 0.000
Lat : 40.58992
Long: -104.49

Well: Walcker AB12-08
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid North is 0.65 Degrees East of
Declination: 8.48
Depth Reference: Ground Level
Elevation: 4,831 Feet
Total Depth as Drilled: 7,740 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	0.905	174.388	-0.786	0.077	99.996	0.905	-0.786	0.789	174.388
200.000	0.579	198.482	-2.050	-0.006	199.988	0.444	-2.050	2.050	180.162
300.000	0.307	186.828	-2.795	-0.198	299.984	0.285	-2.795	2.802	184.048
400.000	0.280	216.039	-3.259	-0.373	399.983	0.150	-3.259	3.280	186.533
500.000	0.474	263.145	-3.505	-0.928	499.981	0.350	-3.505	3.626	194.825
600.000	0.810	336.008	-2.909	-1.626	599.976	0.810	-2.909	3.332	209.213
700.000	1.740	351.653	-0.760	-2.134	699.951	0.984	-0.760	2.266	250.398
800.000	1.192	354.695	1.778	-2.451	799.917	0.553	1.778	3.028	305.958
900.000	1.438	2.951	4.067	-2.483	899.891	0.310	4.067	4.765	328.600
1000.000	1.406	357.319	6.546	-2.475	999.860	0.143	6.546	6.998	339.285
1100.000	0.886	329.323	8.436	-2.927	1099.841	0.750	8.436	8.929	340.864
1200.000	1.317	340.623	10.184	-3.703	1199.822	0.481	10.184	10.837	340.021
1300.000	0.933	332.118	11.988	-4.464	1299.803	0.418	11.988	12.792	339.574
1400.000	1.299	10.085	13.823	-4.647	1399.785	0.804	13.823	14.583	341.420
1500.000	1.379	4.930	16.138	-4.345	1499.758	0.145	16.138	16.712	344.932
1600.000	1.056	5.096	18.255	-4.159	1599.735	0.323	18.255	18.723	347.164
1700.000	0.236	350.378	19.376	-4.112	1699.728	0.830	19.376	19.808	348.018
1800.000	1.051	35.173	20.330	-3.618	1799.721	0.899	20.330	20.649	349.909
1900.000	0.506	12.600	21.510	-2.993	1899.712	0.615	21.510	21.718	352.078
2000.000	0.676	117.161	21.672	-2.372	1999.708	0.941	21.672	21.801	353.753
2100.000	0.738	193.252	20.775	-1.995	2099.703	0.873	20.775	20.871	354.515
2200.000	0.404	181.100	19.795	-2.150	2199.698	0.353	19.795	19.912	353.803
2300.000	0.447	199.999	19.076	-2.290	2299.695	0.146	19.076	19.213	353.155
2400.000	0.643	199.158	18.180	-2.607	2399.690	0.196	18.180	18.366	351.839
2500.000	0.719	147.998	17.118	-2.459	2499.684	0.592	17.118	17.294	351.826
2600.000	0.708	139.281	16.118	-1.723	2599.676	0.109	16.118	16.210	353.897
2700.000	0.476	123.473	15.421	-0.973	2699.671	0.282	15.421	15.451	356.388
2800.000	0.288	98.846	15.153	-0.378	2799.669	0.246	15.153	15.157	358.571
2900.000	0.238	14.857	15.315	-0.076	2899.668	0.354	15.315	15.315	359.716
3000.000	0.425	84.955	15.548	0.347	2999.667	0.410	15.548	15.552	1.278
3100.000	0.421	223.546	15.315	0.463	3099.666	0.791	15.315	15.322	1.732
3200.000	0.436	251.576	14.928	-0.151	3199.663	0.208	14.928	14.929	359.421
3300.000	0.195	131.206	14.696	-0.383	3299.662	0.561	14.696	14.701	358.506
3400.000	0.894	19.526	15.318	0.006	3399.658	0.983	15.318	15.318	0.022

3500.000	1.319	32.835	17.021	0.891	3499.639	0.494	17.021	17.044	2.995
3600.000	2.080	41.643	19.344	2.721	3599.595	0.802	19.344	19.534	8.006
3700.000	1.300	23.163	21.743	4.373	3699.551	0.942	21.743	22.179	11.371
3800.000	1.153	25.432	23.695	5.251	3799.528	0.155	23.695	24.270	12.495
3900.000	0.849	31.871	25.233	6.074	3899.513	0.324	25.233	25.954	13.535
4000.000	1.348	39.530	26.769	7.214	3999.494	0.519	26.769	27.724	15.082
4100.000	0.796	22.517	28.318	8.228	4099.477	0.631	28.318	29.489	16.203
4200.000	0.989	15.016	29.793	8.718	4199.465	0.225	29.793	31.042	16.311
4300.000	0.655	354.701	31.195	8.889	4299.454	0.438	31.195	32.437	15.905
4400.000	1.083	310.849	32.382	8.121	4399.444	0.761	32.382	33.385	14.079
4500.000	1.470	316.551	33.931	6.525	4499.419	0.407	33.931	34.552	10.885
4600.000	1.890	314.677	36.021	4.470	4599.375	0.424	36.021	36.297	7.074
4700.000	2.117	305.081	38.242	1.786	4699.315	0.404	38.242	38.284	2.674
4800.000	2.033	316.799	40.597	-0.940	4799.249	0.432	40.597	40.608	358.673
4900.000	2.333	313.354	43.287	-3.634	4899.177	0.327	43.287	43.439	355.201
5000.000	3.040	300.010	46.010	-7.410	4999.067	0.940	46.010	46.603	350.851
5100.000	2.942	301.920	48.694	-11.885	5098.931	0.140	48.694	50.123	346.284
5200.000	2.043	310.479	51.208	-15.419	5198.836	0.971	51.208	53.479	343.243
5300.000	1.056	305.792	52.903	-17.522	5298.798	0.994	52.903	55.730	341.675
5400.000	0.591	345.541	53.941	-18.398	5398.788	0.710	53.941	56.992	341.167
5500.000	0.977	278.796	54.571	-19.369	5498.780	0.921	54.571	57.906	340.459
5600.000	0.390	296.789	54.854	-20.515	5598.773	0.618	54.854	58.565	339.495
5700.000	0.841	199.188	54.314	-21.060	5698.769	0.973	54.314	58.254	338.807
5800.000	0.489	182.698	53.195	-21.321	5798.762	0.397	53.195	57.308	338.158
5900.000	1.207	130.919	52.078	-20.545	5898.751	0.983	52.078	55.984	338.470
6000.000	0.808	137.560	50.868	-19.273	5998.736	0.416	50.868	54.397	339.249
6100.000	0.844	157.405	49.668	-18.515	6098.726	0.287	49.668	53.006	339.556
6200.000	0.098	16.978	49.069	-18.207	6198.722	0.922	49.069	52.338	339.643
6300.000	0.526	52.951	49.428	-17.816	6298.721	0.450	49.428	52.540	340.179
6400.000	0.497	37.395	50.049	-17.186	6398.717	0.141	50.049	52.917	341.048
6500.000	0.776	45.270	50.869	-16.442	6498.710	0.292	50.869	53.461	342.088
6600.000	0.194	244.864	51.274	-16.114	6598.708	0.960	51.274	53.746	342.553

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