



Company: Noble Energy
Rig: Production/ VES
API # 05-123-32415
Date: 4/5/2013
Surveyor: Justin Williams
VS:
Lat : 40.46048
Long: -104.62

Well: Lutz E25-30D
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid North is -0.57 of True North
Declination: 8.55 Degrees
Depth Reference: Ground Level
Elevation: 4687 Feet

Total Depth as Drilled: 7350 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	0.000
100.000	0.798	125.009	-0.400	0.570	99.997	0.798	-0.400	0.696	125.009
200.000	0.965	124.977	-1.282	1.831	199.985	0.167	-1.282	2.235	124.997
300.000	0.764	105.878	-1.947	3.162	299.974	0.349	-1.947	3.714	121.621
400.000	0.492	70.531	-1.987	4.208	399.968	0.461	-1.987	4.653	115.271
500.000	1.169	18.466	-0.876	4.936	499.958	0.950	-0.876	5.013	100.062
600.000	1.559	22.478	1.349	5.779	599.929	0.401	1.349	5.934	76.864
700.000	1.177	32.032	3.476	6.844	699.901	0.443	3.476	7.676	63.073
800.000	1.848	9.842	5.935	7.664	799.866	0.879	5.935	9.693	52.245
900.000	3.031	3.317	10.163	8.092	899.774	1.213	10.163	12.991	38.530
1000.000	5.212	355.961	17.333	7.925	999.510	2.240	17.333	19.059	24.572
1100.000	7.149	356.319	28.074	7.206	1098.924	1.938	28.074	28.984	14.396
1200.000	9.091	351.932	42.108	5.697	1197.918	2.037	42.108	42.491	7.706
1300.000	10.895	347.010	59.140	2.464	1296.399	1.994	59.140	59.191	2.386
1400.000	12.937	350.861	79.402	-1.438	1394.240	2.191	79.402	79.415	358.962
1500.000	14.369	349.406	102.652	-5.498	1491.412	1.472	102.652	102.799	356.934
1600.000	15.446	348.679	127.907	-10.393	1588.045	1.094	127.907	128.329	355.355
1700.000	16.353	347.198	154.693	-16.127	1684.219	0.993	154.693	155.531	354.048
1800.000	17.929	348.482	183.505	-22.320	1779.774	1.621	183.505	184.857	353.065
1900.000	17.992	349.624	213.778	-28.175	1874.902	0.358	213.778	215.627	352.492
2000.000	17.628	353.722	244.022	-32.613	1970.113	1.305	244.022	246.192	352.388
2100.000	17.327	350.834	273.776	-36.641	2065.498	0.918	273.776	276.217	352.377
2200.000	17.658	351.650	303.483	-41.215	2160.874	0.412	303.483	306.269	352.266
2300.000	17.618	352.028	333.476	-45.517	2256.173	0.121	333.476	336.568	352.228
2400.000	17.780	352.654	363.607	-49.568	2351.439	0.250	363.607	366.970	352.237
2500.000	17.835	354.263	393.987	-53.051	2446.649	0.495	393.987	397.543	352.331
2600.000	17.544	353.293	424.192	-56.342	2541.921	0.414	424.192	427.918	352.434
2700.000	17.529	354.783	454.158	-59.471	2637.274	0.449	454.158	458.035	352.540
2800.000	18.524	355.227	484.986	-62.162	2732.364	1.005	484.986	488.953	352.696
2900.000	20.100	353.909	517.904	-65.307	2826.735	1.635	517.904	522.005	352.813
3000.000	18.282	353.988	550.591	-68.774	2921.174	1.818	550.591	554.870	352.880
3100.000	18.936	355.756	582.372	-71.617	3015.945	0.864	582.372	586.759	352.989
3200.000	18.865	355.248	614.664	-74.157	3110.554	0.180	614.664	619.122	353.121
3300.000	18.098	352.374	646.171	-77.558	3205.398	1.191	646.171	650.809	353.156
3400.000	18.981	357.029	677.809	-80.462	3300.213	1.723	677.809	682.568	353.230
3500.000	19.909	356.031	711.036	-82.484	3394.508	0.985	711.036	715.804	353.383

3600.000	19.480	356.461	744.664	-84.692	3488.658	0.452	744.664	749.464	353.512
3700.000	20.390	352.271	778.571	-88.064	3582.670	1.693	778.571	783.536	353.547
3800.000	22.657	355.156	815.031	-92.034	3675.693	2.501	815.031	820.211	353.557
3900.000	24.290	348.164	854.364	-97.881	3767.432	3.226	854.364	859.952	353.464
4000.000	26.045	351.555	896.215	-105.325	3857.941	2.271	896.215	902.383	353.297
4100.000	26.394	349.845	939.811	-112.468	3947.653	0.832	939.811	946.516	353.176
4200.000	23.837	359.078	981.917	-116.715	4038.226	4.672	981.917	988.830	353.221
4300.000	22.804	352.899	1021.359	-119.436	4130.069	2.654	1021.359	1028.319	353.330
4400.000	21.020	354.454	1058.444	-123.565	4222.841	1.876	1058.444	1065.632	353.341
4500.000	19.107	355.470	1092.614	-126.591	4316.768	1.945	1092.614	1099.923	353.391
4600.000	18.453	357.444	1124.741	-128.590	4411.445	0.912	1124.741	1132.067	353.478
4700.000	17.334	356.423	1155.420	-130.226	4506.607	1.162	1155.420	1162.736	353.569
4800.000	15.325	356.945	1183.487	-131.860	4602.568	2.015	1183.487	1190.810	353.643
4900.000	13.957	357.223	1208.729	-133.148	4699.319	1.370	1208.729	1216.041	353.714
5000.000	12.658	355.945	1231.704	-134.507	4796.632	1.332	1231.704	1239.027	353.768
5100.000	11.051	354.680	1252.177	-136.171	4894.496	1.628	1252.177	1259.560	353.794
5200.000	9.005	352.865	1269.487	-138.032	4992.963	2.070	1269.487	1276.969	353.795
5300.000	6.209	3.424	1282.653	-138.681	5092.078	3.115	1282.653	1290.128	353.829
5400.000	4.795	4.178	1292.220	-138.054	5191.615	1.415	1292.220	1299.574	353.902
5500.000	2.416	22.472	1298.338	-136.943	5291.413	2.614	1298.338	1305.540	353.979
5600.000	1.540	59.266	1300.973	-134.982	5391.356	1.500	1300.973	1307.957	354.076
5700.000	1.509	61.346	1302.291	-132.671	5491.321	0.064	1302.291	1309.032	354.183
5800.000	1.208	89.321	1302.935	-130.462	5591.294	0.719	1302.935	1309.450	354.282
5900.000	1.247	122.984	1302.355	-128.495	5691.272	0.712	1302.355	1308.678	354.365
6000.000	1.199	134.593	1301.028	-126.837	5791.249	0.252	1301.028	1307.196	354.432
6100.000	1.247	145.226	1299.399	-125.471	5891.227	0.232	1299.399	1305.443	354.485
6200.000	0.818	115.741	1298.195	-124.207	5991.211	0.669	1298.195	1304.124	354.535
6300.000	0.248	166.496	1297.675	-123.514	6091.206	0.689	1297.675	1303.540	354.563
6400.000	0.063	48.331	1297.502	-123.422	6191.206	0.283	1297.502	1303.359	354.566
6500.000	0.211	196.393	1297.362	-123.433	6291.206	0.266	1297.362	1303.220	354.565
6600.000	0.273	143.661	1296.993	-123.344	6391.205	0.222	1296.993	1302.845	354.568
6700.000	0.701	230.172	1296.409	-123.672	6491.202	0.737	1296.409	1302.295	354.551
6800.000	0.868	229.549	1295.526	-124.718	6591.193	0.167	1295.526	1301.515	354.501
6900.000	1.338	225.411	1294.215	-126.126	6691.174	0.476	1294.215	1300.346	354.434
7000.000	2.194	217.090	1291.869	-128.112	6791.126	0.891	1291.869	1298.206	354.337
7100.000	1.100	215.910	1289.565	-129.829	6891.083	1.094	1289.565	1296.084	354.251