



Company: Noble Energy  
 Rig: Production/Coretech  
 API # 05-123-26372  
 Date: 10/14/13  
 Surveyor: Levi Sheldon  
 VS: 0.000  
 Lat : 40.247  
 Long: -104.607

Well: Stroh H 12-27  
 Location: Weld County, Colorado  
 North Reference: GRID  
 Convergence: GRID North is 0.580 Degrees East  
 Declination: 8.45  
 Depth Reference: Ground Level  
 Elevation: 4,874 Feet  
 Total Depth as Drilled: 7,785 Feet

Lat & Long obtained by handheld GPS at wellhead  
 MS 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	1.139	217.888	-0.785	-0.611	99.993	1.139	-0.785	0.994	217.888
200.000	1.154	233.220	-2.172	-2.028	199.974	0.306	-2.172	2.972	223.028
300.000	1.362	195.685	-3.919	-3.155	299.951	0.833	-3.919	5.031	218.838
400.000	0.825	210.575	-5.683	-3.843	399.933	0.603	-5.683	6.860	214.066
500.000	1.240	209.661	-7.243	-4.744	499.916	0.415	-7.243	8.659	213.226
600.000	0.476	195.037	-8.584	-5.388	599.904	0.789	-8.584	10.135	212.112
700.000	0.398	245.778	-9.128	-5.812	699.902	0.381	-9.128	10.821	212.486
800.000	0.802	312.720	-8.796	-6.643	799.897	0.742	-8.796	11.022	217.060
900.000	0.736	307.475	-7.931	-7.666	899.888	0.097	-7.931	11.030	224.028
1000.000	0.339	314.439	-7.333	-8.387	999.884	0.401	-7.333	11.140	228.836
1100.000	0.406	260.185	-7.186	-8.947	1099.882	0.345	-7.186	11.476	231.230
1200.000	0.414	259.140	-7.314	-9.651	1199.879	0.011	-7.314	12.109	232.841
1300.000	0.264	291.420	-7.298	-10.220	1299.878	0.237	-7.298	12.559	234.470
1400.000	0.265	279.644	-7.175	-10.663	1399.876	0.054	-7.175	12.852	236.064
1500.000	0.616	328.524	-6.678	-11.172	1499.874	0.485	-6.678	13.015	239.131
1600.000	0.311	322.781	-6.003	-11.617	1599.870	0.308	-6.003	13.076	242.672
1700.000	0.446	335.782	-5.432	-11.940	1699.868	0.159	-5.432	13.118	245.537
1800.000	0.693	335.551	-4.527	-12.350	1799.863	0.247	-4.527	13.154	249.869
1900.000	0.682	323.297	-3.500	-12.956	1899.856	0.147	-3.500	13.420	254.883
2000.000	0.821	321.470	-2.462	-13.758	1999.847	0.142	-2.462	13.976	259.853
2100.000	0.948	325.281	-1.222	-14.675	2099.835	0.139	-1.222	14.726	265.241
2200.000	0.955	309.091	-0.017	-15.793	2199.822	0.268	-0.017	15.793	269.940
2300.000	0.869	303.514	0.928	-17.073	2299.809	0.124	0.928	17.098	273.110
2400.000	1.340	342.609	2.462	-18.054	2399.792	0.862	2.462	18.222	277.766
2500.000	1.140	23.473	4.491	-18.008	2499.770	0.886	4.491	18.559	284.003
2600.000	0.997	77.789	5.587	-16.761	2599.755	0.984	5.587	17.668	288.435
2700.000	1.345	73.822	6.098	-14.784	2699.734	0.357	6.098	15.992	292.416
2800.000	1.645	62.273	7.093	-12.386	2799.700	0.424	7.093	14.273	299.799
2900.000	1.248	55.965	8.371	-10.212	2899.668	0.427	8.371	13.205	309.341
3000.000	1.089	49.167	9.602	-8.591	2999.647	0.211	9.602	12.884	318.182
3100.000	0.613	85.923	10.261	-7.338	3099.637	0.701	10.261	12.615	324.430
3200.000	0.542	116.768	10.086	-6.382	3199.632	0.315	10.086	11.936	327.675
3300.000	0.169	8.171	10.019	-5.939	3299.630	0.617	10.019	11.647	329.342
3400.000	0.245	333.370	10.357	-6.014	3399.630	0.143	10.357	11.976	329.856
3500.000	0.425	49.250	10.790	-5.829	3499.628	0.436	10.790	12.264	331.621

3600.000	0.391	64.202	11.180	-5.241	3599.626	0.111	11.180	12.348	334.884
3700.000	1.225	17.748	12.347	-4.608	3699.616	0.997	12.347	13.179	339.535
3800.000	1.950	358.192	15.066	-4.335	3799.577	0.895	15.066	15.677	343.946
3900.000	2.530	359.292	18.973	-4.416	3899.500	0.582	18.973	19.480	346.896
4000.000	3.161	351.831	23.909	-4.835	3999.377	0.731	23.909	24.393	348.566
4100.000	2.999	354.756	29.243	-5.466	4099.233	0.226	29.243	29.749	349.412
4200.000	3.422	355.071	34.821	-5.962	4199.075	0.423	34.821	35.328	350.285
4300.000	3.430	352.024	40.757	-6.633	4298.897	0.182	40.757	41.293	350.756
4400.000	3.313	350.327	46.567	-7.534	4398.724	0.154	46.567	47.173	350.810
4500.000	3.442	5.632	52.403	-7.725	4498.552	0.908	52.403	52.969	351.615
4600.000	2.621	13.424	57.615	-6.899	4598.412	0.917	57.615	58.026	353.172
4700.000	1.660	20.107	61.199	-5.870	4698.341	0.991	61.199	61.480	354.521
4800.000	1.723	52.345	63.477	-4.182	4798.300	0.941	63.477	63.615	356.230
4900.000	2.096	80.553	64.696	-1.189	4898.246	0.998	64.696	64.707	358.947
5000.000	1.788	81.228	65.234	2.157	4998.189	0.308	65.234	65.269	1.894
5100.000	1.674	95.109	65.341	5.154	5098.143	0.433	65.341	65.544	4.510
5200.000	0.803	119.108	64.870	7.221	5198.120	0.995	64.870	65.271	6.352
5300.000	0.685	81.261	64.620	8.425	5298.112	0.496	64.620	65.167	7.428
5400.000	0.125	154.359	64.612	9.063	5398.109	0.660	64.612	65.245	7.985
5500.000	0.451	147.051	64.184	9.324	5498.108	0.327	64.184	64.858	8.266
5600.000	0.876	138.705	63.280	10.043	5598.101	0.434	63.280	64.071	9.018
5700.000	0.742	131.265	62.278	11.034	5698.091	0.169	62.278	63.248	10.047
5800.000	0.831	109.798	61.605	12.203	5798.082	0.306	61.605	62.802	11.205
5900.000	0.514	121.034	61.128	13.270	5898.075	0.342	61.128	62.552	12.248
6000.000	0.804	89.346	60.905	14.357	5998.068	0.456	60.905	62.574	13.264
6100.000	0.707	126.689	60.545	15.553	6098.060	0.493	60.545	62.510	14.407
6200.000	0.684	94.938	60.125	16.642	6198.053	0.381	60.125	62.385	15.472
6300.000	0.587	89.871	60.074	17.749	6298.047	0.112	60.074	62.641	16.460
6400.000	0.269	61.905	60.186	18.468	6398.044	0.371	60.186	62.956	17.059
6500.000	0.045	225.748	60.270	18.648	6498.044	0.312	60.270	63.088	17.192
6600.000	0.486	203.455	59.853	18.451	6598.043	0.445	59.853	62.633	17.133
6700.000	0.806	143.162	58.902	18.704	6698.037	0.705	58.902	61.800	17.617
6800.000	0.574	105.812	58.203	19.607	6798.030	0.493	58.203	61.416	18.617
6900.000	0.239	109.537	57.996	20.285	6898.028	0.336	57.996	61.441	19.278
7000.000	0.688	130.441	57.537	20.938	6998.024	0.472	57.537	61.229	19.996
7050.000	0.621	135.079	57.151	21.358	7048.021	0.170	57.151	61.011	20.491

: of True North