



**Company:** Noble Energy  
**Rig:** Production  
**API #** 05-123-14531  
**Date:** 11/19/13  
**Surveyor:** Brian Brewbaker  
**VS:** 0.000  
**Lat :** 40.31067  
**Long:** -104.62336

**Well:** Sallee 14-02  
**Location:** Weld County, Colorado  
**North Reference:** GRID  
**Convergence:** Grid north is 0.57 deg  
**Declination:** 8.45  
**Depth Reference:** Ground Level  
**Elevation:** 4719  
**Total Depth as Drilled:** 7142

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

HA Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD
100.000	0.165	212.188	-0.122	-0.077	100.000	0.165	-0.122	0.144
200.000	0.211	187.895	-0.426	-0.178	199.999	0.091	-0.426	0.461
300.000	0.499	145.452	-0.966	0.043	299.997	0.371	-0.966	0.967
400.000	0.417	162.598	-1.672	0.399	399.994	0.159	-1.672	1.719
500.000	0.458	171.250	-2.415	0.569	499.991	0.078	-2.415	2.481
600.000	0.425	181.679	-3.182	0.619	599.988	0.087	-3.182	3.241
700.000	0.358	178.066	-3.865	0.618	699.986	0.072	-3.865	3.914
800.000	0.386	145.484	-4.455	0.819	799.984	0.210	-4.455	4.529
900.000	0.339	144.637	-4.973	1.181	899.982	0.047	-4.973	5.112
1000.000	0.282	142.952	-5.411	1.501	999.981	0.058	-5.411	5.616
1100.000	0.142	88.171	-5.604	1.773	1099.980	0.231	-5.604	5.877
1200.000	0.179	80.056	-5.573	2.050	1199.980	0.044	-5.573	5.938
1300.000	0.196	2.581	-5.375	2.212	1299.979	0.235	-5.375	5.812
1400.000	0.109	352.636	-5.109	2.208	1399.979	0.090	-5.109	5.566
1500.000	0.197	19.726	-4.853	2.253	1499.978	0.112	-4.853	5.350
1600.000	0.249	3.531	-4.474	2.325	1599.978	0.081	-4.474	5.042
1700.000	0.418	333.335	-3.931	2.174	1699.976	0.239	-3.931	4.493
1800.000	0.461	311.241	-3.340	1.708	1799.973	0.173	-3.340	3.752
1900.000	0.445	314.973	-2.800	1.131	1899.970	0.033	-2.800	3.020
2000.000	0.276	344.989	-2.293	0.794	1999.968	0.248	-2.293	2.426
2100.000	0.155	277.894	-2.041	0.598	2099.968	0.259	-2.041	2.127
2200.000	0.170	349.499	-1.877	0.437	2199.967	0.190	-1.877	1.927
2300.000	0.066	294.606	-1.707	0.358	2299.967	0.143	-1.707	1.744
2400.000	0.180	6.423	-1.527	0.323	2399.967	0.171	-1.527	1.561
2500.000	0.200	78.444	-1.336	0.512	2499.966	0.224	-1.336	1.431
2600.000	0.341	15.114	-1.013	0.760	2599.965	0.309	-1.013	1.267
2700.000	0.355	66.457	-0.602	1.122	2699.964	0.302	-0.602	1.273
2800.000	0.113	8.575	-0.381	1.421	2799.963	0.310	-0.381	1.471
2900.000	0.173	344.950	-0.138	1.396	2899.963	0.083	-0.138	1.403
3000.000	0.228	24.945	0.189	1.441	2999.962	0.147	0.189	1.453
3100.000	0.123	26.729	0.465	1.573	3099.962	0.106	0.465	1.640
3200.000	0.239	321.404	0.723	1.491	3199.961	0.218	0.723	1.657
3300.000	0.424	266.678	0.864	0.991	3299.960	0.347	0.864	1.315
3400.000	1.236	306.538	1.485	-0.245	3399.949	0.950	1.485	1.505
3500.000	1.890	288.910	2.662	-2.672	3499.912	0.804	2.662	3.771
3600.000	2.343	304.702	4.360	-5.912	3599.844	0.735	4.360	7.346

3700.000	2.837	290.600	6.394	-9.910	3699.743	0.803	6.394	11.794
3800.000	2.763	297.546	8.380	-14.363	3799.624	0.347	8.380	16.629
3900.000	2.405	309.291	10.823	-18.124	3899.523	0.638	10.823	21.109
4000.000	2.153	322.601	13.644	-20.888	3999.444	0.584	13.644	24.949
4100.000	1.753	331.430	16.479	-22.761	4099.386	0.499	16.479	28.100
4200.000	0.795	342.063	18.483	-23.706	4199.360	0.982	18.483	30.060
4300.000	0.642	355.272	19.702	-23.966	4299.352	0.225	19.702	31.025
4400.000	0.618	353.527	20.796	-24.073	4399.346	0.030	20.796	31.811
4500.000	0.764	24.381	21.939	-23.858	4499.339	0.394	21.939	32.412
4600.000	0.752	55.993	22.914	-23.039	4599.331	0.413	22.914	32.494
4700.000	1.039	78.152	23.467	-21.607	4699.319	0.445	23.467	31.899
4800.000	1.158	120.810	23.136	-19.851	4799.302	0.807	23.136	30.485
4900.000	1.148	155.442	21.707	-18.567	4899.283	0.686	21.707	28.564
5000.000	1.647	134.245	19.793	-17.121	4999.254	0.711	19.793	26.171
5100.000	1.651	141.820	17.658	-15.201	5099.212	0.218	17.658	23.299
5200.000	1.222	144.495	15.657	-13.691	5199.181	0.434	15.657	20.799
5300.000	1.699	123.917	13.962	-11.841	5299.149	0.702	13.962	18.307
5400.000	1.391	141.791	12.181	-9.860	5399.113	0.568	12.181	15.671
5500.000	1.249	135.765	10.446	-8.349	5499.086	0.198	10.446	13.372
5600.000	0.948	169.747	8.850	-7.441	5599.069	0.704	8.850	11.563
5700.000	1.429	158.556	6.876	-6.838	5699.047	0.531	6.876	9.697
5800.000	1.322	165.947	4.596	-6.102	5799.018	0.207	4.596	7.639
5900.000	0.683	155.351	2.936	-5.573	5899.003	0.663	2.936	6.299
6000.000	0.893	143.588	1.767	-4.862	5998.993	0.264	1.767	5.173
6100.000	0.798	152.516	0.522	-4.078	6098.982	0.162	0.522	4.111
6200.000	0.490	141.206	-0.429	-3.489	6198.976	0.331	-0.429	3.515
6300.000	1.053	170.811	-1.669	-3.074	6298.967	0.671	-1.669	3.498
6400.000	0.370	131.668	-2.790	-2.686	6398.959	0.801	-2.790	3.873
6500.000	0.843	173.879	-3.737	-2.367	6498.953	0.621	-3.737	4.423
6600.000	0.266	190.478	-4.696	-2.331	6598.948	0.593	-4.696	5.243
6700.000	0.796	98.221	-5.024	-1.686	6698.945	0.849	-5.024	5.299
6800.000	0.701	53.407	-4.758	-0.507	6798.937	0.577	-4.758	4.785
6900.000	0.770	80.978	-4.288	0.648	6898.929	0.357	-4.288	4.337
6950.000	1.021	84.832	-4.195	1.423	6948.923	0.515	-4.195	4.430

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212.188
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202.744
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177.445
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166.586
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168.998
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170.912
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152.911
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158.005
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160.904
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163.682
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166.896
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168.160
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168.040
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159.043
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143.132
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118.216
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105.012
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95.639
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82.541
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73.542
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64.130
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350.619
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314.890
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306.405
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302.833  
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305.906  
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314.844  
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161.263