



Company: Noble Energy
Rig: Production / VES
API # 05-123-16818
Date: 11/19/13
Surveyor: Brian Brewbaker
VS: 0.000
Lat : 40.307
Long: -104.628

Well: Sallee 14-43
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid north is 0.56 degrees East of
Declination: 8.46
Depth Reference: Ground Level
Elevation: 4704
Total Depth as Drilled: 7202

Lat & Long obtained by handheld GPS at wellhead

HA Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbrg
100.000	0.070	191.423	-0.060	-0.012	100.000	0.070	-0.060	0.061	191.423
200.000	0.061	306.989	-0.088	-0.067	200.000	0.111	-0.088	0.111	217.317
300.000	0.103	246.934	-0.091	-0.192	300.000	0.090	-0.091	0.213	244.708
400.000	0.160	260.536	-0.149	-0.413	400.000	0.065	-0.149	0.439	250.148
500.000	0.265	294.569	-0.076	-0.761	499.999	0.160	-0.076	0.765	264.301
600.000	0.413	317.134	0.285	-1.216	599.997	0.197	0.285	1.249	283.165
700.000	0.325	324.912	0.781	-1.625	699.995	0.101	0.781	1.803	295.675
800.000	0.318	330.259	1.254	-1.926	799.994	0.031	1.254	2.298	303.078
900.000	0.344	329.621	1.754	-2.215	899.992	0.027	1.754	2.826	308.378
1000.000	0.439	329.268	2.343	-2.563	999.990	0.095	2.343	3.473	312.433
1100.000	0.383	322.675	2.939	-2.962	1099.987	0.074	2.939	4.172	314.775
1200.000	0.385	339.541	3.519	-3.282	1199.985	0.113	3.519	4.812	316.998
1300.000	0.582	351.186	4.336	-3.477	1299.981	0.220	4.336	5.558	321.273
1400.000	0.562	355.577	5.327	-3.593	1399.976	0.048	5.327	6.425	326.004
1500.000	0.657	17.017	6.365	-3.463	1499.971	0.245	6.365	7.246	331.452
1600.000	0.607	16.729	7.421	-3.142	1599.965	0.050	7.421	8.058	337.049
1700.000	0.286	23.757	8.157	-2.889	1699.961	0.325	8.157	8.653	340.495
1800.000	0.141	134.958	8.298	-2.701	1799.961	0.362	8.298	8.727	341.970
1900.000	0.593	196.458	7.715	-2.760	1899.959	0.540	7.715	8.194	340.312
2000.000	0.811	181.817	6.510	-2.930	1999.951	0.281	6.510	7.139	335.773
2100.000	1.119	168.833	4.844	-2.763	2099.937	0.376	4.844	5.577	330.302
2200.000	1.320	148.732	2.902	-1.976	2199.915	0.469	2.902	3.511	325.746
2300.000	1.668	134.901	0.890	-0.347	2299.881	0.499	0.890	0.955	338.676
2400.000	1.298	146.145	-1.077	1.314	2399.848	0.469	-1.077	1.699	129.349
2500.000	0.610	160.518	-2.520	2.122	2499.833	0.723	-2.520	3.294	139.890
2600.000	0.622	200.150	-3.531	2.113	2599.828	0.418	-3.531	4.115	149.100
2700.000	0.386	211.538	-4.327	1.750	2699.824	0.255	-4.327	4.667	157.977
2800.000	0.491	172.838	-5.039	1.628	2799.821	0.307	-5.039	5.295	162.100
2900.000	0.649	74.141	-5.309	2.226	2899.818	0.871	-5.309	5.757	157.258
3000.000	0.865	69.099	-4.885	3.475	2999.809	0.226	-4.885	5.995	144.572
3100.000	1.637	80.227	-4.374	5.588	3099.785	0.805	-4.374	7.096	128.048
3200.000	2.003	100.944	-4.463	8.712	3199.735	0.747	-4.463	9.788	117.126
3300.000	2.839	103.418	-5.369	12.836	3299.645	0.842	-5.369	13.914	112.700
3400.000	3.185	99.395	-6.397	17.985	3399.507	0.405	-6.397	19.089	109.581
3500.000	3.465	95.726	-7.152	23.733	3499.339	0.352	-7.152	24.787	106.771
3600.000	2.852	106.939	-8.179	29.119	3599.187	0.868	-8.179	30.246	105.688

3700.000	2.477	109.794	-9.635	33.532	3699.079	0.397	-9.635	34.889	106.032
3800.000	2.422	115.720	-11.284	37.470	3798.988	0.259	-11.284	39.132	106.760
3900.000	2.045	110.571	-12.828	41.044	3898.912	0.427	-12.828	43.002	107.356
4000.000	1.780	105.181	-13.862	44.213	3998.856	0.320	-13.862	46.335	107.407
4100.000	1.372	104.147	-14.561	46.873	4098.818	0.409	-14.561	49.083	107.257
4200.000	1.242	113.673	-15.289	49.026	4198.792	0.253	-15.289	51.355	107.320
4300.000	1.138	106.130	-16.000	50.973	4298.771	0.188	-16.000	53.425	107.426
4400.000	0.884	114.709	-16.598	52.628	4398.755	0.295	-16.598	55.183	107.505
4500.000	1.236	119.409	-17.450	54.268	4498.738	0.363	-17.450	57.005	107.826
4600.000	1.962	122.900	-18.910	56.645	4598.698	0.732	-18.910	59.718	108.461
4700.000	2.003	118.719	-20.679	59.615	4698.638	0.150	-20.679	63.100	109.131
4800.000	1.553	110.899	-22.003	62.414	4798.590	0.510	-22.003	66.179	109.419
4900.000	0.901	128.017	-22.970	64.300	4898.567	0.741	-22.970	68.279	109.659
5000.000	1.112	130.979	-24.091	65.652	4998.552	0.218	-24.091	69.933	110.151
5100.000	1.600	117.688	-25.377	67.621	5098.523	0.577	-25.377	72.226	110.570
5200.000	2.217	97.039	-26.262	70.777	5198.469	0.914	-26.262	75.492	110.358
5300.000	1.517	75.465	-26.167	73.978	5298.416	0.980	-26.167	78.469	109.479
5400.000	1.182	34.748	-24.987	75.847	5398.391	0.990	-24.987	79.857	108.234
5500.000	1.105	343.430	-23.216	76.161	5498.373	0.993	-23.216	79.620	106.953
5600.000	1.323	339.336	-21.212	75.478	5598.351	0.235	-21.212	78.402	105.697
5700.000	1.542	334.809	-18.914	74.498	5698.319	0.246	-18.914	76.862	104.246
5800.000	1.747	316.215	-16.596	72.871	5798.279	0.569	-16.596	74.737	102.830
5900.000	1.563	347.440	-14.165	71.520	5898.239	0.908	-14.165	72.909	101.203
6000.000	1.601	326.619	-11.668	70.455	5998.202	0.573	-11.668	71.414	99.403
6100.000	1.262	320.677	-9.649	68.988	6098.170	0.369	-9.649	69.659	97.962
6200.000	0.275	335.079	-8.580	68.189	6198.160	0.999	-8.580	68.727	97.171
6300.000	0.312	17.466	-8.102	68.170	6298.159	0.215	-8.102	68.649	96.778
6400.000	0.517	4.220	-7.392	68.285	6398.156	0.225	-7.392	68.684	96.179
6500.000	0.391	33.666	-6.658	68.507	6498.153	0.261	-6.658	68.830	95.551
6600.000	0.817	103.860	-6.545	69.388	6598.149	0.777	-6.545	69.696	95.389
6700.000	1.414	109.784	-7.134	71.242	6698.129	0.607	-7.134	71.599	95.718
6800.000	2.089	95.986	-7.742	74.216	6798.082	0.791	-7.742	74.619	95.955
6900.000	2.849	98.358	-8.293	78.488	6897.989	0.767	-8.293	78.925	96.031
6950.000	3.290	96.761	-8.643	81.142	6947.917	0.898	-8.643	81.601	96.080

True North