



Company: Noble Energy

Rig: Production/Coretech

API # 05-123-07790

Date: 6-25-14

Surveyor: Justin Williams

VS: 0.000

Lat : 40.119

Long: -104.581

Well: Dale 01

Location: Weld County, Colorado

North Reference: GRID

Convergence: GRID North is 0.59 Degrees East c

Declination: 8.34

Depth Reference: RKB = Ground Level

Elevation: 4971

Total Depth as Drilled: 7770

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	0.000
100.000	0.552	168.880	-0.473	0.093	99.998	0.552	-0.473	0.482	168.880
200.000	0.260	52.736	-0.808	0.366	199.997	0.706	-0.808	0.887	155.616
300.000	0.271	13.432	-0.441	0.602	299.996	0.179	-0.441	0.746	126.214
400.000	0.294	90.456	-0.213	0.913	399.995	0.352	-0.213	0.937	103.102
500.000	0.480	208.299	-0.583	0.971	499.994	0.669	-0.583	1.133	120.985
600.000	0.248	267.608	-0.961	0.556	599.992	0.412	-0.961	1.110	149.927
700.000	0.370	137.292	-1.207	0.559	699.991	0.563	-1.207	1.330	155.155
800.000	0.488	208.224	-1.819	0.576	799.989	0.507	-1.819	1.908	162.434
900.000	0.475	215.072	-2.534	0.136	899.985	0.059	-2.534	2.538	176.928
1000.000	0.342	140.029	-3.103	0.090	999.984	0.509	-3.103	3.104	178.347
1100.000	0.345	175.496	-3.632	0.305	1099.982	0.209	-3.632	3.645	175.199
1200.000	0.505	205.574	-4.330	0.139	1199.979	0.269	-4.330	4.332	178.166
1300.000	0.460	205.187	-5.090	-0.222	1299.976	0.045	-5.090	5.095	182.501
1400.000	0.529	204.764	-5.873	-0.587	1399.972	0.069	-5.873	5.902	185.704
1500.000	0.445	187.235	-6.677	-0.829	1499.968	0.170	-6.677	6.729	187.076
1600.000	0.721	191.646	-7.679	-1.005	1599.963	0.279	-7.679	7.744	187.455
1700.000	0.744	185.372	-8.941	-1.193	1699.955	0.084	-8.941	9.020	187.597
1800.000	0.974	190.490	-10.424	-1.408	1799.944	0.242	-10.424	10.518	187.693
1900.000	1.064	188.194	-12.179	-1.695	1899.928	0.099	-12.179	12.296	187.924
2000.000	0.881	204.020	-13.800	-2.140	1999.914	0.324	-13.800	13.965	188.816
2100.000	1.043	222.946	-15.168	-3.074	2099.900	0.355	-15.168	15.477	191.455
2200.000	1.086	239.114	-16.321	-4.507	2199.883	0.302	-16.321	16.932	195.437
2300.000	1.534	237.650	-17.524	-6.451	2299.856	0.449	-17.524	18.673	200.210
2400.000	1.321	238.609	-18.840	-8.566	2399.825	0.215	-18.840	20.696	204.449
2500.000	1.319	272.163	-19.397	-10.699	2499.800	0.762	-19.397	22.152	208.881
2600.000	1.255	280.272	-19.159	-12.927	2599.775	0.193	-19.159	23.112	214.008
2700.000	1.036	295.885	-18.569	-14.817	2699.755	0.379	-18.569	23.756	218.589
2800.000	0.805	297.012	-17.855	-16.257	2799.742	0.232	-17.855	24.147	222.317
2900.000	0.629	284.912	-17.395	-17.413	2899.734	0.231	-17.395	24.613	225.030
3000.000	0.445	348.908	-16.872	-18.018	2999.731	0.590	-16.872	24.684	226.882
3100.000	0.617	344.800	-15.971	-18.234	3099.726	0.176	-15.971	24.240	228.785
3200.000	0.344	316.247	-15.235	-18.583	3199.723	0.355	-15.235	24.030	230.654
3300.000	0.433	335.628	-14.674	-18.946	3299.721	0.157	-14.674	23.964	232.242
3400.000	0.354	334.026	-14.052	-19.237	3399.718	0.079	-14.052	23.823	233.853
3500.000	0.648	328.606	-13.292	-19.667	3499.714	0.297	-13.292	23.738	235.948

3600.000	0.433	343.612	-12.447	-20.068	3599.710	0.256	-12.447	23.615	238.192
3700.000	0.561	343.649	-11.615	-20.313	3699.706	0.128	-11.615	23.399	240.239
3800.000	0.768	336.113	-10.533	-20.722	3799.699	0.224	-10.533	23.245	243.056
3900.000	0.508	354.181	-9.479	-21.038	3899.693	0.325	-9.479	23.075	245.746
4000.000	0.514	350.331	-8.595	-21.158	3999.689	0.035	-8.595	22.838	247.891
4100.000	0.483	9.816	-7.738	-21.162	4099.685	0.171	-7.738	22.532	249.915
4200.000	0.906	18.877	-6.574	-20.834	4199.678	0.435	-6.574	21.847	252.486
4300.000	1.016	34.602	-5.097	-20.075	4299.664	0.284	-5.097	20.712	255.754
4400.000	1.372	24.323	-3.277	-19.079	4399.642	0.414	-3.277	19.358	260.255
4500.000	1.393	37.573	-1.222	-17.844	4499.613	0.320	-1.222	17.886	266.082
4600.000	1.537	26.075	0.946	-16.514	4599.581	0.327	0.946	16.541	273.279
4700.000	1.766	22.925	3.570	-15.324	4699.539	0.246	3.570	15.734	283.115
4800.000	1.503	18.761	6.231	-14.302	4799.499	0.289	6.231	15.600	293.542
4900.000	2.180	18.794	9.273	-13.267	4899.446	0.677	9.273	16.187	304.951
5000.000	1.732	21.970	12.475	-12.089	4999.388	0.460	12.475	17.372	315.899
5100.000	1.558	41.063	14.901	-10.631	5099.347	0.572	14.901	18.305	324.495
5200.000	1.815	32.107	17.268	-8.896	5199.304	0.367	17.268	19.425	332.742
5300.000	1.494	37.622	19.641	-7.259	5299.262	0.358	19.641	20.940	339.716
5400.000	1.128	40.535	21.422	-5.824	5399.236	0.371	21.422	22.199	344.791
5500.000	1.027	25.762	22.977	-4.794	5499.219	0.295	22.977	23.472	348.214
5600.000	0.648	29.725	24.275	-4.125	5599.208	0.383	24.275	24.623	350.357
5700.000	0.822	52.880	25.198	-3.272	5699.200	0.341	25.198	25.410	352.601
5800.000	0.806	48.225	26.100	-2.176	5799.190	0.068	26.100	26.190	355.234
5900.000	0.528	131.415	26.263	-1.306	5899.185	0.910	26.263	26.296	357.153
6000.000	0.274	184.611	25.720	-0.980	5999.182	0.425	25.720	25.738	357.819
6100.000	0.311	249.970	25.388	-1.254	6099.181	0.317	25.388	25.419	357.173
6200.000	0.828	356.146	26.016	-1.557	6199.178	0.962	26.016	26.062	356.575
6300.000	0.502	15.487	27.159	-1.489	6299.171	0.391	27.159	27.199	356.863
6400.000	0.428	323.527	27.881	-1.594	6399.168	0.413	27.881	27.927	356.729
6500.000	0.533	296.322	28.388	-2.232	6499.165	0.248	28.388	28.475	355.504
6600.000	0.216	350.952	28.780	-2.679	6599.163	0.444	28.780	28.904	354.683
6700.000	0.544	43.177	29.312	-2.383	6699.161	0.446	29.312	29.409	355.352
6800.000	0.588	57.116	29.938	-1.627	6799.156	0.144	29.938	29.982	356.889
6900.000	0.497	165.210	29.797	-1.085	6899.153	0.880	29.797	29.817	357.914
7000.000	0.796	165.058	28.706	-0.795	6999.147	0.299	28.706	28.717	358.413
7100.000	0.450	94.847	28.002	-0.225	7099.142	0.771	28.002	28.002	359.540
7200.000	0.600	140.539	27.564	0.500	7199.138	0.431	27.564	27.568	1.039
7300.000	0.623	123.304	26.861	1.287	7299.132	0.185	26.861	26.892	2.743
7400.000	1.162	120.098	26.054	2.619	7399.120	0.541	26.054	26.185	5.739
7500.000	0.750	117.029	25.248	4.079	7499.106	0.415	25.248	25.575	9.177
7550.000	0.610	91.212	25.094	4.637	7549.102	0.666	25.094	25.519	10.469

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