



Company: Noble Energy

Rig: Production/Coretech

API # 05-123-27282

Date: 3/20/2014

Surveyor: Randy Holcomb

VS: 0.000

Lat : 40.466

Long: -104.525

Well: Schroeder 23-33

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is 0.63 East of True North

Declination: 8.27

Depth Reference: Ground Level

Elevation: 4679 Feet

Total Depth as Drilled: 7050 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	0.551	205.954	-0.432	-0.210	99.998	0.551	-0.432	0.481	205.954
200.000	0.300	189.640	-1.122	-0.465	199.996	0.276	-1.122	1.215	202.485
300.000	0.360	269.829	-1.381	-0.822	299.994	0.427	-1.381	1.608	210.772
400.000	0.610	300.762	-1.110	-1.594	399.991	0.353	-1.110	1.942	235.140
500.000	0.356	275.463	-0.808	-2.360	499.987	0.326	-0.808	2.494	251.088
600.000	0.337	234.290	-0.951	-2.908	599.986	0.244	-0.951	3.059	251.895
700.000	0.312	212.853	-1.351	-3.294	699.984	0.123	-1.351	3.560	247.702
800.000	0.258	206.844	-1.780	-3.543	799.983	0.061	-1.780	3.965	243.324
900.000	0.586	201.993	-2.455	-3.836	899.980	0.330	-2.455	4.555	237.380
1000.000	0.349	227.993	-3.134	-4.255	999.977	0.312	-3.134	5.284	233.627
1100.000	0.465	187.077	-3.741	-4.531	1099.974	0.305	-3.741	5.876	230.458
1200.000	0.116	163.260	-4.241	-4.552	1199.973	0.362	-4.241	6.222	227.024
1300.000	0.266	225.293	-4.502	-4.688	1299.973	0.235	-4.502	6.500	226.159
1400.000	0.106	212.788	-4.743	-4.903	1399.972	0.164	-4.743	6.822	225.949
1500.000	0.188	356.092	-4.658	-4.965	1499.972	0.280	-4.658	6.807	226.828
1600.000	0.279	29.593	-4.282	-4.856	1599.971	0.160	-4.282	6.474	228.590
1700.000	0.311	10.210	-3.804	-4.688	1699.970	0.104	-3.804	6.037	230.941
1800.000	0.178	31.109	-3.404	-4.559	1799.969	0.158	-3.404	5.689	233.256
1900.000	0.169	135.525	-3.376	-4.375	1899.969	0.275	-3.376	5.526	232.347
2000.000	0.658	202.117	-4.013	-4.488	1999.966	0.611	-4.013	6.020	228.198
2100.000	0.631	201.883	-5.056	-4.909	2099.960	0.027	-5.056	7.047	224.157
2200.000	0.909	250.259	-5.835	-5.862	2199.951	0.680	-5.835	8.271	225.129
2300.000	0.972	251.981	-6.366	-7.415	2299.938	0.069	-6.366	9.773	229.355
2400.000	0.973	240.610	-7.045	-8.961	2399.924	0.193	-7.045	11.399	231.828
2500.000	0.970	240.331	-7.881	-10.437	2499.909	0.005	-7.881	13.078	232.945
2600.000	1.008	252.658	-8.562	-12.012	2599.895	0.216	-8.562	14.751	234.520
2700.000	1.010	255.864	-9.039	-13.707	2699.879	0.057	-9.039	16.419	236.596
2800.000	0.995	261.005	-9.390	-15.419	2799.864	0.091	-9.390	18.053	238.658
2900.000	0.702	251.225	-9.723	-16.856	2899.853	0.326	-9.723	19.460	240.023
3000.000	0.651	255.691	-10.061	-17.987	2999.846	0.073	-10.061	20.609	240.780
3100.000	0.616	243.759	-10.439	-19.020	3099.840	0.136	-10.439	21.696	241.240
3200.000	0.661	229.483	-11.051	-19.940	3199.834	0.165	-11.051	22.797	241.004
3300.000	0.723	213.260	-11.953	-20.724	3299.826	0.205	-11.953	23.925	240.025
3400.000	0.965	187.890	-13.315	-21.186	3399.816	0.439	-13.315	25.023	237.851
3500.000	1.262	176.738	-15.248	-21.239	3499.797	0.366	-15.248	26.146	234.324
3600.000	1.385	158.735	-17.473	-20.738	3599.771	0.432	-17.473	27.118	229.883
3700.000	1.475	197.206	-19.829	-20.681	3699.742	0.946	-19.829	28.651	226.204

3800.000	1.312	180.144	-22.203	-21.064	3799.713	0.444	-22.203	30.605	223.493
3900.000	1.381	180.914	-24.552	-21.086	3899.685	0.071	-24.552	32.364	220.657
4000.000	1.539	180.561	-27.100	-21.119	3999.652	0.159	-27.100	34.357	217.929
4100.000	1.460	186.691	-29.708	-21.280	4099.618	0.179	-29.708	36.544	215.614
4200.000	1.278	180.209	-32.089	-21.433	4199.590	0.239	-32.089	38.588	213.740
4300.000	1.117	164.372	-34.143	-21.174	4299.568	0.366	-34.143	40.176	211.806
4400.000	1.090	135.957	-35.766	-20.250	4399.550	0.542	-35.766	41.101	209.518
4500.000	1.138	117.152	-36.903	-18.705	4499.532	0.367	-36.903	41.373	206.878
4600.000	2.298	90.462	-37.373	-15.816	4599.486	1.379	-37.373	40.582	202.937
4700.000	3.063	91.195	-37.445	-11.140	4699.376	0.765	-37.445	39.067	196.568
4800.000	2.960	86.124	-37.326	-5.893	4799.238	0.285	-37.326	37.788	188.972
4900.000	2.649	80.963	-36.788	-1.034	4899.119	0.400	-36.788	36.803	181.611
5000.000	2.486	78.817	-36.005	3.376	4999.018	0.189	-36.005	36.162	174.644
5100.000	2.026	84.409	-35.412	7.263	5098.941	0.510	-35.412	36.149	168.410
5200.000	1.394	74.167	-34.908	10.192	5198.896	0.699	-34.908	36.365	163.724
5300.000	0.887	77.095	-34.403	12.116	5298.876	0.511	-34.403	36.474	160.598
5400.000	0.482	40.081	-33.908	13.142	5398.869	0.579	-33.908	36.366	158.815
5500.000	0.790	72.417	-33.378	14.070	5498.863	0.461	-33.378	36.222	157.143
5600.000	0.641	78.644	-33.059	15.275	5598.855	0.168	-33.059	36.418	155.202
5700.000	0.544	107.438	-33.092	16.275	5698.850	0.309	-33.092	36.877	153.811
5800.000	0.582	107.998	-33.391	17.211	5798.845	0.039	-33.391	37.565	152.731
5900.000	0.665	114.070	-33.784	18.224	5898.839	0.106	-33.784	38.386	151.656
6000.000	0.971	120.711	-34.454	19.483	5998.829	0.320	-34.454	39.581	150.513
6100.000	0.772	107.655	-35.091	20.853	6098.817	0.280	-35.091	40.820	149.278
6200.000	0.682	114.089	-35.539	22.039	6198.809	0.121	-35.539	41.818	148.195
6300.000	0.798	125.686	-36.188	23.148	6298.801	0.188	-36.188	42.958	147.394
6400.000	0.684	108.067	-36.779	24.280	6398.793	0.253	-36.779	44.070	146.568
6500.000	0.900	105.079	-37.168	25.606	6498.783	0.220	-37.168	45.134	145.436
6600.000	0.798	96.972	-37.457	27.055	6598.772	0.158	-37.457	46.206	144.159
6700.000	0.465	131.774	-37.812	28.049	6698.766	0.493	-37.812	47.079	143.432
6750.000	0.730	116.271	-38.088	28.485	6748.764	0.615	-38.088	47.561	143.208