



Company: Anadarko

Well: Miller L 29-22

API #: 05-123-29720

Rig Name: Production/Cable

State/County: Colorado/Weld

Latitude: 40.195, Longitude: -104.797

Directions are relative to True North

VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : Ground Level

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro\_run01-01\_ed.ut

Minimum Curvature Method

Report Date/Time: 2/29/2012 / 10:46

Vaughn Energy Services

Henderson, Colorado

866-835-8333

Randy Holcomb

RKB=Ground Level

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	****
100.000	0.814	188.011	99.997	-0.703	-0.099	-0.703	0.710	188.011	0.814
200.000	0.365	222.319	199.991	-1.642	-0.412	-1.642	1.693	194.102	0.552
300.000	0.430	168.504	299.989	-2.245	-0.552	-2.245	2.312	193.819	0.364
400.000	0.429	142.643	399.987	-2.910	-0.250	-2.910	2.921	184.918	0.192
500.000	0.578	180.279	499.983	-3.711	-0.026	-3.711	3.712	180.398	0.354
600.000	0.451	174.644	599.979	-4.607	0.008	-4.607	4.607	179.894	0.136
700.000	0.167	162.670	699.977	-5.139	0.089	-5.139	5.139	179.011	0.289
800.000	0.202	269.668	799.977	-5.279	-0.044	-5.279	5.279	180.476	0.297
900.000	0.286	244.353	899.976	-5.388	-0.445	-5.388	5.407	184.724	0.135
1000.000	0.276	227.724	999.975	-5.659	-0.849	-5.659	5.722	188.533	0.082
1100.000	0.542	282.412	1099.973	-5.719	-1.490	-5.719	5.910	194.599	0.444
1200.000	0.623	285.468	1199.967	-5.473	-2.475	-5.473	6.006	204.339	0.086
1300.000	0.719	284.205	1299.961	-5.174	-3.607	-5.174	6.307	214.886	0.098
1400.000	1.164	284.426	1399.947	-4.767	-5.199	-4.767	7.053	227.483	0.444
1500.000	1.178	299.375	1499.926	-4.009	-7.078	-4.009	8.135	240.471	0.305
1600.000	0.792	289.598	1599.911	-3.273	-8.625	-3.273	9.226	249.219	0.420
1700.000	1.004	280.001	1699.899	-2.889	-10.139	-2.889	10.543	254.095	0.259
1800.000	0.576	271.620	1799.889	-2.723	-11.505	-2.723	11.823	256.685	0.442
1900.000	0.803	245.586	1899.882	-2.998	-12.646	-2.998	12.996	256.662	0.381
2000.000	0.952	227.838	1999.871	-3.845	-13.900	-3.845	14.422	254.536	0.308
2100.000	1.328	215.186	2099.851	-5.350	-15.183	-5.350	16.098	250.590	0.450
2200.000	1.291	197.216	2199.825	-7.373	-16.184	-7.373	17.784	245.508	0.411
2300.000	1.698	195.266	2299.791	-9.878	-16.907	-9.878	19.582	239.704	0.410
2400.000	1.315	228.668	2399.758	-12.066	-18.159	-12.066	21.802	236.398	0.940
2500.000	0.866	243.094	2499.740	-13.165	-19.694	-13.165	23.689	236.238	0.523
2600.000	0.805	239.687	2599.729	-13.861	-20.974	-13.861	25.141	236.540	0.078
2700.000	0.722	272.644	2699.721	-14.187	-22.210	-14.187	26.354	237.431	0.441
2800.000	1.015	268.191	2799.709	-14.186	-23.724	-14.186	27.642	239.123	0.300
2900.000	1.219	254.554	2899.690	-14.497	-25.634	-14.497	29.450	240.510	0.334
3000.000	1.318	257.142	2999.666	-15.036	-27.781	-15.036	31.589	241.576	0.115
3100.000	1.043	262.418	3099.645	-15.412	-29.804	-15.412	33.553	242.656	0.296
3200.000	1.236	273.758	3199.625	-15.462	-31.782	-15.462	35.343	244.057	0.296
3300.000	1.227	263.577	3299.602	-15.511	-33.921	-15.511	37.299	245.428	0.219
3400.000	1.384	280.983	3399.576	-15.400	-36.171	-15.400	39.313	246.937	0.424

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N-S FT	+E-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3500.000	1.557	275.453	3499.543	-15.041	-38.709	-15.041	41.528	248.765	0.223
3600.000	1.299	256.335	3599.513	-15.180	-41.163	-15.180	43.873	249.757	0.538
3700.000	2.225	252.281	3699.465	-16.038	-44.113	-16.038	46.938	250.020	0.933
3800.000	2.566	245.109	3799.377	-17.571	-47.993	-17.571	51.108	249.891	0.454
3900.000	1.676	243.024	3899.308	-19.177	-51.327	-19.177	54.792	249.513	0.893
4000.000	1.324	242.731	3999.273	-20.370	-53.657	-20.370	57.393	249.212	0.352
4100.000	1.447	253.581	4099.244	-21.256	-55.895	-21.256	59.800	249.179	0.289
4200.000	2.193	261.443	4199.193	-21.897	-58.998	-21.897	62.930	249.637	0.785
4300.000	2.290	254.467	4299.117	-22.717	-62.815	-22.717	66.796	250.117	0.290
4400.000	1.822	241.128	4399.053	-24.020	-66.132	-24.020	70.359	250.039	0.667
4500.000	1.951	241.266	4498.999	-25.605	-69.016	-25.605	73.613	249.645	0.129
4600.000	2.300	251.374	4598.930	-27.064	-72.409	-27.064	77.302	249.506	0.511
4700.000	2.735	245.731	4698.833	-28.686	-76.486	-28.686	81.688	249.442	0.501
4800.000	3.205	254.922	4798.699	-30.394	-81.361	-30.394	86.852	249.516	0.667
4900.000	3.475	257.790	4898.530	-31.762	-87.022	-31.762	92.637	249.949	0.318
5000.000	3.457	262.099	4998.347	-32.817	-92.970	-32.817	98.592	250.558	0.261
5100.000	3.575	264.471	5098.159	-33.532	-99.061	-33.532	104.582	251.299	0.187
5200.000	3.291	271.377	5197.979	-33.764	-105.034	-33.764	110.327	252.180	0.502
5300.000	2.785	279.151	5297.839	-33.308	-110.302	-33.308	115.221	253.197	0.651
5400.000	2.526	268.533	5397.732	-32.978	-114.903	-32.978	119.542	253.986	0.555
5500.000	2.035	287.345	5497.654	-32.505	-118.801	-32.505	123.168	254.698	0.888
5600.000	1.809	281.695	5597.598	-31.656	-122.042	-31.656	126.081	255.459	0.295
5700.000	1.776	304.250	5697.550	-30.464	-124.868	-30.464	128.531	256.289	0.702
5800.000	2.212	296.705	5797.489	-28.725	-127.873	-28.725	131.059	257.339	0.508
5900.000	2.388	298.737	5897.409	-26.856	-131.424	-26.856	134.140	258.451	0.194
6000.000	2.011	287.928	5997.335	-25.314	-134.920	-25.314	137.274	259.374	0.559
6100.000	1.982	294.213	6097.275	-24.065	-138.167	-24.065	140.247	260.120	0.221
6200.000	1.601	293.204	6197.226	-22.805	-141.028	-22.805	142.860	260.815	0.382
6300.000	0.912	288.120	6297.201	-22.007	-143.069	-22.007	144.752	261.255	0.698
6400.000	0.939	274.143	6397.188	-21.700	-144.643	-21.700	146.262	261.468	0.227
6500.000	0.668	292.976	6497.178	-21.413	-145.997	-21.413	147.559	261.656	0.375
6600.000	0.798	286.829	6597.170	-20.984	-147.201	-20.984	148.689	261.887	0.152
6700.000	0.774	280.810	6697.161	-20.656	-148.531	-20.656	149.961	262.083	0.086
6800.000	0.683	249.283	6797.153	-20.740	-149.752	-20.740	151.182	262.115	0.406
6900.000	0.686	268.177	6897.146	-20.969	-150.908	-20.969	152.358	262.089	0.225
7000.000	0.281	241.545	6997.142	-21.105	-151.722	-21.105	153.183	262.081	0.453
7100.000	0.378	227.669	7097.141	-21.445	-152.182	-21.445	153.686	261.979	0.125
7200.000	0.546	259.376	7197.138	-21.755	-152.895	-21.755	154.435	261.902	0.300
7300.000	0.299	343.478	7297.136	-21.592	-153.438	-21.592	154.949	261.990	0.595
7400.000	0.498	45.917	7397.134	-21.040	-153.199	-21.040	154.638	262.180	0.447
7500.000	0.318	46.763	7497.131	-20.548	-152.685	-20.548	154.062	262.336	0.181
7600.000	0.317	300.150	7597.130	-20.219	-152.723	-20.219	154.055	262.459	0.509
7700.000	0.268	269.747	7697.129	-20.081	-153.196	-20.081	154.506	262.532	0.161
HORIZONTAL DISPLACEMENT IS 154.506 FEET AT 262.532 DEGREES									