



Company: Anadarko Petroleum
 Well: Sawdey Gladys 1
 API: 05-123-12476
 Rig Name: Production/ CoreTech
 State/County: Colorado/Weld
 Latitude: 40.113, Longitude: -105.050
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB= Ground Level

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01_mrg.ut

Minimum Curvature Method

Report Date/Time: 10/25/2013 / 17:49

VAUGHN ENERGY SERVICES

HENDERSON, COLORADO

303-853-4976

SEAN BRATT

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	0.690	339.023	99.998	0.562	-0.216	0.562	0.602	339.023	0.690
200.000	0.749	337.518	199.990	1.729	-0.681	1.729	1.858	338.493	0.062
300.000	0.874	320.944	299.980	2.926	-1.412	2.926	3.249	334.236	0.265
400.000	0.908	318.508	399.968	4.112	-2.418	4.112	4.770	329.543	0.051
500.000	1.433	307.674	499.947	5.470	-3.933	5.470	6.737	324.283	0.568
600.000	2.656	310.058	599.881	7.725	-6.696	7.725	10.223	319.082	1.225
700.000	3.488	312.263	699.736	11.262	-10.721	11.262	15.549	316.411	0.841
800.000	3.603	315.336	799.545	15.543	-15.181	15.543	21.727	315.675	0.222
900.000	3.239	317.829	899.367	19.872	-19.287	19.872	27.693	315.856	0.393
1000.000	2.967	316.271	999.220	23.836	-22.972	23.836	33.104	316.057	0.285
1100.000	2.664	313.580	1099.099	27.308	-26.444	27.308	38.014	315.920	0.331
1200.000	2.057	316.321	1199.014	30.208	-29.367	30.208	42.130	315.808	0.617
1300.000	1.915	308.732	1298.954	32.551	-31.910	32.551	45.583	315.570	0.298
1400.000	1.645	307.380	1398.906	34.468	-34.355	34.468	48.665	315.095	0.273
1500.000	1.523	299.829	1498.868	36.001	-36.649	36.001	51.373	314.489	0.242
1600.000	1.262	300.703	1598.838	37.225	-38.749	37.225	53.732	313.851	0.262
1700.000	1.191	298.370	1698.815	38.281	-40.610	38.281	55.808	313.309	0.087
1800.000	1.072	299.422	1798.796	39.234	-42.339	39.234	57.723	312.820	0.120
1900.000	0.755	308.682	1898.783	40.105	-43.669	40.105	59.291	312.565	0.349
2000.000	0.309	284.879	1998.778	40.586	-44.443	40.586	60.187	312.403	0.489
2100.000	0.248	260.646	2098.777	40.620	-44.917	40.620	60.560	312.125	0.131
2200.000	0.240	261.122	2198.776	40.553	-45.337	40.553	60.827	311.812	0.008
2300.000	0.244	254.213	2298.775	40.463	-45.748	40.463	61.075	311.492	0.029
2400.000	0.294	248.029	2398.774	40.309	-46.191	40.309	61.306	311.110	0.058
2500.000	0.287	246.060	2498.773	40.111	-46.658	40.111	61.529	310.685	0.012
2600.000	0.290	250.105	2598.772	39.923	-47.125	39.923	61.763	310.271	0.021
2700.000	0.408	262.016	2698.770	39.788	-47.716	39.788	62.128	309.823	0.138
2800.000	0.275	269.633	2798.768	39.737	-48.308	39.737	62.552	309.440	0.141
2900.000	0.455	273.954	2898.766	39.763	-48.944	39.763	63.060	309.091	0.182
3000.000	0.481	270.683	2998.763	39.795	-49.760	39.795	63.716	308.651	0.037
3100.000	0.557	277.704	3098.759	39.865	-50.662	39.865	64.466	308.199	0.099
3200.000	0.677	286.904	3198.753	40.102	-51.708	40.102	65.436	307.795	0.155
3300.000	0.631	291.299	3298.746	40.474	-52.787	40.474	66.517	307.479	0.068
3400.000	0.709	301.047	3398.739	40.993	-53.830	40.993	67.662	307.290	0.138
3500.000	0.724	304.080	3498.732	41.666	-54.884	41.666	68.908	307.205	0.041

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
3600.000	0.694	286.880	3598.724	42.196	-55.986	42.196	70.107	307.005	0.214
3700.000	0.987	304.288	3698.713	42.857	-57.277	42.857	71.536	306.805	0.385
3800.000	0.950	308.764	3798.699	43.861	-58.635	43.861	73.224	306.798	0.084
3900.000	1.299	307.912	3898.680	45.076	-60.175	45.076	75.186	306.836	0.349
4000.000	1.877	309.321	3998.641	46.811	-62.337	46.811	77.956	306.904	0.580
4100.000	2.726	306.838	4098.559	49.274	-65.507	49.274	81.970	306.950	0.854
4200.000	3.552	313.728	4198.409	52.841	-69.648	52.841	87.424	307.187	0.907
4300.000	4.260	312.273	4298.176	57.480	-74.635	57.480	94.204	307.602	0.715
4400.000	4.414	313.224	4397.890	62.614	-80.187	62.614	101.737	307.984	0.170
4500.000	4.549	312.885	4497.584	67.948	-85.896	67.948	109.522	308.346	0.137
4600.000	4.638	307.592	4597.263	73.113	-92.005	73.113	117.518	308.473	0.433
4700.000	5.009	297.851	4696.910	77.619	-99.069	77.619	125.855	308.078	0.898
4800.000	5.032	301.752	4796.527	81.966	-106.659	81.966	134.516	307.542	0.342
4900.000	4.816	304.922	4896.158	86.677	-113.830	86.677	143.074	307.288	0.347
5000.000	4.388	300.253	4995.836	91.008	-120.577	91.008	151.067	307.044	0.569
5100.000	4.358	298.390	5095.545	94.742	-127.224	94.742	158.625	306.675	0.145
5200.000	4.122	298.634	5195.271	98.271	-133.721	98.271	165.947	306.312	0.237
5300.000	3.824	298.557	5295.031	101.587	-139.804	101.587	172.815	306.004	0.299
5400.000	3.509	295.399	5394.826	104.494	-145.497	104.494	179.132	305.685	0.373
5500.000	3.317	292.704	5494.649	106.923	-150.931	106.923	184.967	305.315	0.250
5600.000	2.904	290.518	5594.501	108.927	-155.972	108.927	190.243	304.930	0.430
5700.000	2.639	292.929	5694.384	110.712	-160.465	110.712	194.952	304.604	0.289
5800.000	2.776	294.073	5794.272	112.597	-164.796	112.597	199.589	304.343	0.147
5900.000	2.679	296.710	5894.159	114.635	-169.094	114.635	204.289	304.135	0.159
6000.000	2.911	295.633	5994.040	116.783	-173.470	116.783	209.118	303.949	0.238
6100.000	2.698	297.959	6093.920	118.985	-177.838	118.985	213.972	303.785	0.241
6200.000	2.304	300.802	6193.825	121.118	-181.644	121.118	218.321	303.695	0.414
6300.000	2.195	303.218	6293.748	123.196	-184.973	123.196	222.243	303.665	0.144
6400.000	1.974	304.734	6393.682	125.227	-187.990	125.227	225.880	303.669	0.228
6500.000	1.736	306.602	6493.629	127.111	-190.621	127.111	229.115	303.696	0.245
6600.000	1.596	305.134	6593.587	128.816	-192.976	128.816	232.020	303.724	0.147
6700.000	1.542	308.212	6693.549	130.449	-195.172	130.449	234.753	303.758	0.100
6800.000	1.792	295.174	6793.507	131.947	-197.645	131.947	237.641	303.727	0.453
6900.000	1.814	304.567	6893.458	133.510	-200.363	133.510	240.770	303.677	0.296
7000.000	2.032	305.824	6993.402	135.446	-203.104	135.446	244.125	303.698	0.222
7100.000	2.300	320.187	7093.331	138.025	-205.827	138.025	247.821	303.845	0.603
7200.000	2.241	322.139	7193.252	141.110	-208.311	141.110	251.606	304.114	0.098
7300.000	1.959	332.942	7293.186	144.176	-210.289	144.176	254.967	304.435	0.485
7400.000	1.785	345.269	7393.133	147.204	-211.463	147.204	257.654	304.843	0.438
7500.000	1.921	12.694	7493.082	150.345	-211.490	150.345	259.484	305.408	0.888
7600.000	2.781	16.223	7592.997	154.310	-210.444	154.310	260.956	306.251	0.872
7700.000	3.695	21.418	7692.837	159.638	-208.590	159.638	262.668	307.428	0.959
7800.000	4.960	24.840	7792.550	166.562	-205.597	166.562	264.600	309.012	1.291
7900.000	6.688	23.421	7892.030	175.829	-201.466	175.829	267.403	311.113	1.734
7950.000	7.577	24.513	7941.642	181.500	-198.941	181.500	269.295	312.375	1.797

<div> HORIZONTAL DISPLACEMENT IS 269.295 FEET AT 312.375 DEGREES </div>
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