

Company: Anadarko Petroleum Corp.

Well: Rademacher Louis J GU 2

API: 05-123-10004

Rig Name: Production/Coretech

Location: Weld County, Colorado

Latitude: 40.201, Longitude: -104.937

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\_run02-01-de\_01.ut

Minimum Curvature Method

Report Date/Time: 12/19/2013 / 14:13

Vaughn Energy Services

Henderson, CO.

Justin Williams

303-853-4976

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	0.202	214.259	100.000	-0.146	-0.099	-0.146	0.177	214.259	0.202
200.000	0.167	241.870	199.999	-0.361	-0.327	-0.361	0.487	222.217	0.095
300.000	0.283	296.145	299.999	-0.320	-0.677	-0.320	0.749	244.693	0.230
400.000	0.223	274.138	399.998	-0.197	-1.094	-0.197	1.111	259.772	0.113
500.000	0.283	186.078	499.997	-0.429	-1.314	-0.429	1.382	251.930	0.354
600.000	0.344	201.025	599.995	-0.955	-1.448	-0.955	1.734	236.602	0.102
700.000	0.535	209.234	699.993	-1.643	-1.784	-1.643	2.425	227.360	0.200
800.000	0.759	257.336	799.987	-2.195	-2.658	-2.195	3.447	230.449	0.566
900.000	0.855	255.501	899.977	-2.527	-4.027	-2.527	4.754	237.887	0.099
1000.000	0.759	239.298	999.967	-3.052	-5.318	-3.052	6.132	240.149	0.246
1100.000	0.815	238.463	1099.958	-3.762	-6.494	-3.762	7.505	239.914	0.057
1200.000	0.777	247.578	1199.948	-4.393	-7.727	-4.393	8.888	240.380	0.132
1300.000	0.761	244.782	1299.939	-4.934	-8.954	-4.934	10.224	241.142	0.041
1400.000	0.717	234.403	1399.931	-5.581	-10.063	-5.581	11.507	240.986	0.141
1500.000	0.607	218.182	1499.924	-6.362	-10.900	-6.362	12.621	239.728	0.216
1600.000	0.568	221.388	1599.919	-7.151	-11.555	-7.151	13.589	238.249	0.051
1700.000	0.567	249.540	1699.914	-7.695	-12.346	-7.695	14.548	238.065	0.276
1800.000	0.348	213.374	1799.911	-8.122	-12.977	-8.122	15.309	237.958	0.352
1900.000	0.388	218.543	1899.909	-8.640	-13.355	-8.640	15.906	237.098	0.052
2000.000	0.285	220.827	1999.907	-9.093	-13.728	-9.093	16.467	236.481	0.104
2100.000	0.510	260.365	2099.905	-9.356	-14.330	-9.356	17.113	236.860	0.342
2200.000	0.368	224.620	2199.902	-9.659	-14.994	-9.659	17.836	237.211	0.301
2300.000	0.430	259.667	2299.900	-9.955	-15.589	-9.955	18.496	237.437	0.247
2400.000	0.107	282.482	2399.899	-10.002	-16.049	-10.002	18.910	238.067	0.334
2500.000	0.141	281.217	2499.898	-9.958	-16.261	-9.958	19.068	238.517	0.035
2600.000	0.386	266.049	2599.897	-9.957	-16.717	-9.957	19.458	239.221	0.252
2700.000	0.395	220.139	2699.895	-10.244	-17.275	-10.244	20.084	239.333	0.305
2800.000	0.404	226.711	2799.893	-10.749	-17.754	-10.749	20.754	238.807	0.047
2900.000	0.391	264.435	2899.891	-11.024	-18.350	-11.024	21.407	239.005	0.257
3000.000	0.467	258.229	2999.888	-11.140	-19.090	-11.140	22.102	239.734	0.089
3100.000	0.577	276.061	3099.884	-11.170	-19.989	-11.170	22.899	240.804	0.195
3200.000	0.697	223.545	3199.878	-11.558	-20.909	-11.558	23.891	241.068	0.574
3300.000	1.036	202.031	3299.867	-12.837	-21.667	-12.837	25.184	239.356	0.464
3400.000	1.177	185.678	3399.849	-14.697	-22.108	-14.697	26.547	236.385	0.344

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	1.015	177.143	3499.830	-16.603	-22.166	-16.603	27.694	233.165	0.230
3600.000	1.129	156.692	3599.813	-18.392	-21.732	-18.392	28.470	229.758	0.397
3700.000	1.186	145.484	3699.793	-20.150	-20.755	-20.150	28.927	225.848	0.233
3800.000	1.407	123.012	3799.768	-21.671	-19.140	-21.671	28.913	221.450	0.550
3900.000	1.170	148.780	3899.743	-23.214	-17.581	-23.214	29.120	217.138	0.619
4000.000	1.233	168.048	3999.722	-25.139	-16.829	-25.139	30.252	213.799	0.407
4100.000	1.649	195.730	4099.691	-27.577	-16.996	-27.577	32.394	211.646	0.799
4200.000	1.808	214.022	4199.646	-30.270	-18.269	-30.270	35.356	211.112	0.571
4300.000	1.825	208.617	4299.596	-32.975	-19.914	-32.975	38.522	211.128	0.172
4400.000	1.453	199.241	4399.555	-35.570	-21.095	-35.570	41.355	210.670	0.457
4500.000	1.018	189.663	4499.532	-37.643	-21.661	-37.643	43.430	209.918	0.480
4600.000	0.788	189.706	4599.519	-39.196	-21.926	-39.196	44.912	209.223	0.230
4700.000	0.913	198.380	4699.508	-40.629	-22.293	-40.629	46.344	208.754	0.179
4800.000	0.977	180.898	4799.495	-42.238	-22.558	-42.238	47.885	208.105	0.294
4900.000	1.008	179.374	4899.480	-43.970	-22.562	-43.970	49.421	207.163	0.040
5000.000	0.936	189.048	4999.466	-45.657	-22.681	-45.657	50.980	206.417	0.179
5100.000	0.847	194.949	5099.454	-47.177	-23.000	-47.177	52.485	205.990	0.128
5200.000	0.703	220.158	5199.445	-48.360	-23.586	-48.360	53.806	205.999	0.366
5300.000	0.613	223.755	5299.438	-49.216	-24.352	-49.216	54.911	206.326	0.100
5400.000	0.610	230.919	5399.432	-49.937	-25.135	-49.937	55.906	206.717	0.076
5500.000	0.509	214.294	5499.428	-50.640	-25.798	-50.640	56.833	206.996	0.190
5600.000	0.312	230.132	5599.425	-51.182	-26.258	-51.182	57.525	207.159	0.226
5700.000	0.448	221.571	5699.423	-51.649	-26.727	-51.649	58.155	207.360	0.147
5800.000	0.464	213.546	5799.420	-52.280	-27.210	-52.280	58.937	207.496	0.066
5900.000	0.367	213.309	5899.417	-52.885	-27.610	-52.885	59.658	207.568	0.098
6000.000	0.387	186.912	5999.415	-53.487	-27.826	-53.487	60.292	207.485	0.173
6100.000	0.443	126.009	6099.413	-54.049	-27.554	-54.049	60.668	207.012	0.423
6200.000	0.349	329.956	6199.412	-54.013	-27.394	-54.013	60.563	206.893	0.774
6300.000	0.709	194.145	6299.410	-54.350	-27.698	-54.350	61.001	207.004	0.989
6400.000	0.809	161.006	6399.401	-55.617	-27.619	-55.617	62.097	206.409	0.443
6500.000	0.745	162.656	6499.392	-56.905	-27.196	-56.905	63.070	205.544	0.067
6600.000	0.792	163.004	6599.383	-58.187	-26.800	-58.187	64.062	204.730	0.047
6700.000	0.631	155.213	6699.375	-59.348	-26.367	-59.348	64.941	203.955	0.188
6800.000	1.213	153.405	6799.362	-60.794	-25.662	-60.794	65.988	202.886	0.583
6900.000	1.389	160.483	6899.336	-62.883	-24.784	-62.883	67.590	201.511	0.238
7000.000	1.805	157.325	6999.297	-65.478	-23.772	-65.478	69.660	199.953	0.426
7100.000	1.711	140.793	7099.251	-68.089	-22.221	-68.089	71.623	198.074	0.514
HORIZONTAL DISPLACEMENT IS 71.623 FEET AT 198.074 DEGREES									