

Company: Anadarko Petroleum Corp.  
 Well/API: UPRC 19-10J/05-123-16996  
 Tool Type: North Seeking Rate Gyro  
 Rig Name: Production/CoreTech  
 County/State: Weld/Colorado  
 Latitude: 40.209, Longitude: -104.704  
 Directions are relative to True North  
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = GL Elevation = 4942

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro.ut

Minimum Curvature Method

Report Date/Time: 10/1/2014 / 14:05

Lat/Long & Elevation Obtained By Handheld GPS At Wellhead

Handheld GPS Reference: NAD83/Device Error: ±9 Feet

VES Survey International - 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	0.106	281.737	100.000	0.019	-0.090	0.019	0.092	281.737	0.106
200.000	0.448	277.362	199.999	0.088	-0.568	0.088	0.575	278.764	0.342
300.000	0.347	264.466	299.996	0.108	-1.256	0.108	1.261	274.933	0.134
400.000	0.111	331.585	399.995	0.164	-1.603	0.164	1.612	275.855	0.320
500.000	0.127	317.792	499.995	0.332	-1.724	0.332	1.756	280.895	0.033
600.000	0.075	318.311	599.995	0.463	-1.842	0.463	1.900	284.112	0.052
700.000	0.241	338.139	699.995	0.708	-1.965	0.708	2.088	289.807	0.172
800.000	0.394	353.612	799.993	1.245	-2.081	1.245	2.425	300.885	0.174
900.000	0.454	356.099	899.990	1.982	-2.146	1.982	2.922	312.722	0.062
1000.000	0.372	355.675	999.988	2.701	-2.198	2.701	3.483	320.868	0.082
1100.000	0.183	1.510	1099.987	3.185	-2.218	3.185	3.881	325.143	0.191
1200.000	0.263	54.339	1199.986	3.478	-2.027	3.478	4.026	329.763	0.211
1300.000	0.473	11.592	1299.984	4.017	-1.758	4.017	4.385	336.367	0.332
1400.000	0.234	54.742	1399.982	4.539	-1.508	4.539	4.783	341.623	0.343
1500.000	0.372	256.540	1499.982	4.582	-1.657	4.582	4.872	340.114	0.595
1600.000	0.302	232.329	1599.980	4.345	-2.182	4.345	4.862	333.336	0.157
1700.000	0.335	230.720	1699.978	3.998	-2.617	3.998	4.779	326.792	0.034
1800.000	0.226	11.799	1799.978	4.006	-2.803	4.006	4.890	325.017	0.531
1900.000	0.026	0.335	1899.978	4.222	-2.763	4.222	5.046	326.802	0.200
2000.000	0.777	232.156	1999.974	3.830	-3.298	3.830	5.054	319.264	0.794
2100.000	0.664	226.079	2099.967	3.012	-4.251	3.012	5.210	305.319	0.136
2200.000	0.736	213.320	2199.959	2.073	-5.021	2.073	5.432	292.435	0.171
2300.000	0.962	202.944	2299.948	0.763	-5.701	0.763	5.752	277.621	0.272
2400.000	0.988	192.229	2399.934	-0.853	-6.211	-0.853	6.269	262.180	0.184
2500.000	0.875	176.012	2499.921	-2.458	-6.341	-2.458	6.800	248.813	0.285
2600.000	0.336	180.733	2599.915	-3.513	-6.291	-3.513	7.206	240.820	0.541
2700.000	0.190	150.293	2699.914	-3.951	-6.213	-3.951	7.363	237.547	0.197
2800.000	0.417	161.340	2799.912	-4.440	-6.014	-4.440	7.475	233.566	0.233
2900.000	0.299	65.787	2899.911	-4.677	-5.660	-4.677	7.342	230.431	0.536
3000.000	0.089	96.065	2999.910	-4.578	-5.344	-4.578	7.037	229.414	0.226
3100.000	0.082	111.521	3099.910	-4.613	-5.200	-4.613	6.951	228.425	0.024
3200.000	0.474	359.796	3199.909	-4.225	-5.135	-4.225	6.650	230.551	0.510
3300.000	0.403	266.986	3299.907	-3.830	-5.487	-3.830	6.692	235.086	0.637

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
3400.000	0.662	274.526	3399.903	-3.803	-6.414	-3.803	7.457	239.336	0.268
3500.000	0.737	254.762	3499.896	-3.926	-7.610	-3.926	8.564	242.710	0.251
3600.000	0.691	265.950	3599.888	-4.138	-8.833	-4.138	9.754	244.897	0.147
3700.000	0.710	234.197	3699.881	-4.543	-9.936	-4.543	10.926	245.430	0.384
3800.000	0.497	287.281	3799.876	-4.776	-10.853	-4.776	11.857	246.245	0.572
3900.000	0.619	254.074	3899.871	-4.796	-11.786	-4.796	12.725	247.859	0.340
4000.000	0.802	316.136	3999.865	-4.439	-12.791	-4.439	13.539	250.861	0.749
4100.000	0.844	324.172	4099.855	-3.337	-13.707	-3.337	14.108	256.316	0.122
4200.000	0.781	336.303	4199.845	-2.117	-14.412	-2.117	14.566	261.645	0.183
4300.000	1.464	348.919	4299.825	-0.240	-14.931	-0.240	14.933	269.081	0.722
4400.000	1.442	350.564	4399.793	2.255	-15.383	2.255	15.547	278.340	0.047
4500.000	0.772	357.647	4499.774	4.169	-15.617	4.169	16.164	284.948	0.683
4600.000	0.449	353.613	4599.768	5.231	-15.688	5.231	16.537	288.442	0.325
4700.000	0.571	338.960	4699.764	6.086	-15.911	6.086	17.035	290.932	0.178
4800.000	0.206	264.900	4799.762	6.535	-16.269	6.535	17.532	291.884	0.551
4900.000	0.541	240.219	4899.760	6.284	-16.858	6.284	17.991	290.445	0.364
5000.000	1.137	205.191	4999.749	5.152	-17.689	5.152	18.424	286.239	0.760
5100.000	1.341	196.722	5099.726	3.134	-18.448	3.134	18.713	279.643	0.274
5200.000	0.806	203.747	5199.708	1.370	-19.068	1.370	19.117	274.109	0.550
5300.000	0.494	205.055	5299.701	0.335	-19.534	0.335	19.537	270.983	0.312
5400.000	0.217	178.672	5399.699	-0.245	-19.712	-0.245	19.714	269.289	0.315
5500.000	0.190	45.052	5499.699	-0.316	-19.590	-0.316	19.593	269.075	0.374
5600.000	0.358	20.808	5599.698	0.093	-19.362	0.093	19.362	270.275	0.200
5700.000	0.765	19.069	5699.693	1.015	-19.033	1.015	19.060	273.053	0.407
5800.000	1.092	32.215	5799.680	2.452	-18.307	2.452	18.471	277.627	0.388
5900.000	1.050	354.251	5899.664	4.169	-17.891	4.169	18.371	283.118	0.698
6000.000	1.075	13.737	5999.647	5.992	-17.760	5.992	18.744	288.644	0.360
6100.000	0.392	333.441	6099.638	7.209	-17.691	7.209	19.103	292.172	0.816
6200.000	0.359	69.243	6199.637	7.626	-17.551	7.626	19.136	293.486	0.557
6300.000	0.424	49.075	6299.635	7.980	-16.979	7.980	18.760	295.173	0.152
6400.000	0.559	346.550	6399.632	8.697	-16.812	8.697	18.929	297.353	0.523
6500.000	0.451	53.519	6499.629	9.406	-16.610	9.406	19.088	299.522	0.564
6600.000	0.496	7.756	6599.626	10.068	-16.235	10.068	19.104	301.804	0.370
6700.000	0.642	29.969	6699.621	10.981	-15.897	10.981	19.321	304.636	0.262
6800.000	0.741	39.715	6799.613	11.964	-15.205	11.964	19.347	308.197	0.154
6900.000	1.150	20.666	6899.600	13.400	-14.437	13.400	19.698	312.866	0.511
7000.000	1.638	16.635	6999.570	15.709	-13.674	15.709	20.826	318.961	0.497
7100.000	1.713	21.468	7099.527	18.468	-12.718	18.468	22.424	325.448	0.160
7200.000	1.636	28.594	7199.485	21.112	-11.488	21.112	24.035	331.448	0.222

HORIZONTAL DISPLACEMENT IS  
24.035 FEET AT 331.448 DEGREES