



Company: Anadarko Petroleum Corp.  
 Well/API: Mayer 14-22A/05-123-21248  
 Tool Type: North Seeking Rate Gyro  
 Rig Name: Production/CoreTech  
 County/State: Weld/Colorado  
 Latitude: 40.205, Longitude: -104.879  
 Directions are relative to True North  
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB=GL Elevation= 4804 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro\_run01-01-de\_01.ut

Minimum Curvature Method

Report Date/Time: 11/6/2014 / 14:34

Lat/Long Obtained By Handheld GPS At Wellhead

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

VES Survey International - Henderson CO

Mark Simmons

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	0.217	304.985	100.000	0.108	-0.155	0.108	0.189	304.985	0.217
200.000	0.169	317.854	199.999	0.326	-0.408	0.326	0.522	308.584	0.064
300.000	0.325	275.225	299.998	0.461	-0.789	0.461	0.914	300.279	0.231
400.000	0.256	285.665	399.997	0.547	-1.286	0.547	1.397	293.036	0.087
500.000	0.449	276.387	499.995	0.651	-1.890	0.651	1.999	288.995	0.201
600.000	0.831	307.603	599.989	1.136	-2.854	1.136	3.072	291.716	0.504
700.000	1.146	312.989	699.974	2.261	-4.160	2.261	4.734	298.526	0.329
800.000	1.174	319.584	799.954	3.723	-5.555	3.723	6.688	303.828	0.136
900.000	1.098	313.135	899.934	5.158	-6.919	5.158	8.630	306.704	0.149
1000.000	1.234	313.383	999.913	6.553	-8.400	6.553	10.654	307.955	0.137
1100.000	1.100	309.291	1099.892	7.900	-9.926	7.900	12.686	308.516	0.158
1200.000	1.195	306.342	1199.872	9.126	-11.509	9.126	14.688	308.413	0.112
1300.000	1.114	300.293	1299.852	10.234	-13.188	10.234	16.693	307.812	0.146
1400.000	1.144	291.430	1399.833	11.089	-14.957	11.089	18.619	306.554	0.177
1500.000	1.130	284.801	1499.813	11.706	-16.840	11.706	20.509	304.805	0.132
1600.000	1.211	287.871	1599.792	12.282	-18.799	12.282	22.456	303.158	0.102
1700.000	1.184	294.102	1699.770	13.028	-20.748	13.028	24.499	302.126	0.133
1800.000	1.208	297.037	1799.749	13.929	-22.630	13.929	26.573	301.614	0.066
1900.000	1.315	314.809	1899.725	15.217	-24.382	15.217	28.741	301.968	0.404
2000.000	1.355	325.628	1999.698	17.002	-25.864	17.002	30.952	303.319	0.255
2100.000	1.419	317.028	2099.669	18.884	-27.376	18.884	33.258	304.598	0.218
2200.000	1.739	306.574	2199.631	20.695	-29.439	20.695	35.985	305.106	0.429
2300.000	1.939	314.552	2299.579	22.785	-31.863	22.785	39.171	305.569	0.324
2400.000	2.316	308.876	2399.510	25.240	-34.641	25.240	42.861	306.078	0.431
2500.000	2.344	307.897	2499.428	27.764	-37.827	27.764	46.923	306.277	0.049
2600.000	2.182	315.381	2599.350	30.375	-40.778	30.375	50.848	306.682	0.337
2700.000	2.020	314.500	2699.283	32.965	-43.372	32.965	54.478	307.237	0.165
2800.000	2.123	319.666	2799.217	35.612	-45.828	35.612	58.038	307.850	0.213
2900.000	2.166	320.933	2899.147	38.491	-48.218	38.491	61.697	308.600	0.064
3000.000	1.832	314.036	2999.087	41.069	-50.557	41.069	65.136	309.088	0.411
3100.000	1.782	293.931	3099.038	42.811	-53.128	42.811	68.230	308.862	0.633
3200.000	1.770	275.956	3198.991	43.602	-56.085	43.602	71.039	307.863	0.555
3300.000	1.843	256.755	3298.942	43.394	-59.186	43.394	73.389	306.248	0.607

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	2.118	259.030	3398.882	42.673	-62.566	42.673	75.733	304.296	0.286
3500.000	2.031	277.849	3498.818	42.564	-66.136	42.564	78.649	302.764	0.684
3600.000	1.860	280.550	3598.760	43.103	-69.487	43.103	81.770	301.811	0.194
3700.000	2.012	292.888	3698.703	44.083	-72.699	44.083	85.020	301.231	0.442
3800.000	1.979	267.388	3798.645	44.686	-76.041	44.686	88.199	300.441	0.881
3900.000	2.059	292.686	3898.584	45.301	-79.423	45.301	91.434	299.699	0.888
4000.000	1.809	272.993	3998.528	46.076	-82.658	46.076	94.632	299.137	0.706
4100.000	1.876	285.617	4098.477	46.599	-85.811	46.599	97.647	298.504	0.411
4200.000	1.994	284.703	4198.420	47.482	-89.071	47.482	100.936	298.061	0.122
4300.000	2.004	280.049	4298.359	48.229	-92.475	48.229	104.296	297.543	0.163
4400.000	1.833	283.753	4398.303	48.914	-95.750	48.914	107.520	297.060	0.211
4500.000	1.242	288.958	4498.267	49.646	-98.328	49.646	110.150	296.789	0.606
4600.000	1.161	300.211	4598.245	50.508	-100.229	50.508	112.236	296.745	0.249
4700.000	1.045	309.587	4698.227	51.599	-101.807	51.599	114.137	296.877	0.214
4800.000	1.185	307.770	4798.208	52.814	-103.328	52.814	116.042	297.073	0.144
4900.000	1.174	306.711	4898.186	54.059	-104.966	54.059	118.069	297.249	0.024
5000.000	1.345	300.218	4998.162	55.262	-106.801	55.262	120.251	297.358	0.222
5100.000	1.599	298.880	5098.129	56.526	-109.036	56.526	122.817	297.403	0.256
5200.000	1.598	293.517	5198.090	57.756	-111.536	57.756	125.603	297.376	0.150
5300.000	1.700	281.288	5298.049	58.603	-114.269	58.603	128.420	297.151	0.365
5400.000	1.783	276.012	5398.003	59.056	-117.271	59.056	131.301	296.729	0.180
5500.000	1.967	275.856	5497.950	59.394	-120.524	59.394	134.364	296.234	0.184
5600.000	2.128	286.728	5597.886	60.103	-124.009	60.103	137.807	295.858	0.420
5700.000	2.401	299.312	5697.809	61.663	-127.614	61.663	141.731	295.790	0.566
5800.000	2.593	289.039	5797.714	63.427	-131.579	63.427	146.069	295.736	0.486
5900.000	2.756	290.063	5897.605	64.990	-135.975	64.990	150.708	295.546	0.169
6000.000	2.933	289.348	5997.482	66.662	-140.647	66.662	155.645	295.359	0.181
6100.000	2.923	293.825	6097.351	68.540	-145.394	68.540	160.739	295.239	0.229
6200.000	3.025	292.750	6197.217	70.590	-150.160	70.590	165.924	295.178	0.116
6300.000	3.194	293.954	6297.069	72.741	-155.139	72.741	171.346	295.121	0.181
6400.000	3.110	292.952	6396.918	74.930	-160.183	74.930	176.842	295.069	0.100
6500.000	3.502	294.928	6496.752	77.276	-165.451	77.276	182.607	295.035	0.408
6600.000	3.587	289.837	6596.561	79.624	-171.163	79.624	188.777	294.948	0.326
6700.000	3.078	289.698	6696.391	81.591	-176.633	81.591	194.567	294.793	0.508
6800.000	3.830	294.624	6796.209	83.888	-182.198	83.888	200.582	294.722	0.808
6900.000	4.218	299.567	6895.962	87.094	-188.433	87.094	207.587	294.806	0.520
7000.000	4.841	297.577	6995.650	90.862	-195.372	90.862	215.467	294.942	0.642
7100.000	4.433	294.172	7095.322	94.398	-202.638	94.398	223.546	294.978	0.492
7200.000	4.026	297.293	7195.050	97.590	-209.283	97.590	230.918	295.000	0.467
7300.000	3.875	302.872	7294.813	101.034	-215.240	101.034	237.774	295.145	0.413
7400.000	4.364	300.776	7394.554	104.814	-221.347	104.814	244.909	295.339	0.511
7500.000	4.599	294.096	7494.249	108.398	-228.275	108.398	252.704	295.401	0.572

<div> HORIZONTAL DISPLACEMENT IS  252.704 FEET AT 295.401 DEGREES </div>
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