



Company: Anadarko Petroleum Corp.
 Well/API: Davis 13-15/05-123-21703
 Tool Type: North Seeking Rate Gyro
 Rig Name: Production/CoreTech
 County/State: Weld/Colorado
 Latitude: 40.219, Longitude: -104.884
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB=GL Elevation= 4795 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 12/4/2014 / 12:40

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	0.432	355.831	99.999	0.376	-0.027	0.376	0.377	355.831	0.432
200.000	0.287	149.081	199.998	0.537	0.074	0.537	0.542	7.840	0.701
300.000	0.384	305.595	299.998	0.517	-0.070	0.517	0.522	352.294	0.658
400.000	0.489	282.802	399.995	0.807	-0.759	0.807	1.108	316.767	0.201
500.000	0.215	332.263	499.993	1.068	-1.262	1.068	1.653	310.230	0.385
600.000	0.762	288.993	599.989	1.450	-1.978	1.450	2.453	306.248	0.623
700.000	0.549	277.156	699.983	1.726	-3.082	1.726	3.533	299.253	0.251
800.000	1.321	264.381	799.969	1.673	-4.705	1.673	4.994	289.576	0.795
900.000	1.299	276.255	899.943	1.684	-6.979	1.684	7.179	283.565	0.272
1000.000	0.887	253.954	999.925	1.593	-8.850	1.593	8.992	280.206	0.585
1100.000	1.199	281.527	1099.909	1.588	-10.619	1.588	10.737	278.507	0.582
1200.000	1.363	268.459	1199.884	1.765	-12.832	1.765	12.953	277.833	0.334
1300.000	2.001	271.438	1299.840	1.777	-15.767	1.777	15.866	276.431	0.644
1400.000	2.252	275.683	1399.771	2.016	-19.467	2.016	19.571	275.911	0.296
1500.000	2.171	274.187	1499.697	2.348	-23.311	2.348	23.429	275.753	0.100
1600.000	2.275	278.365	1599.622	2.776	-27.164	2.776	27.305	275.834	0.193
1700.000	1.965	287.744	1699.553	3.587	-30.760	3.587	30.969	276.651	0.465
1800.000	2.328	287.423	1799.483	4.717	-34.331	4.717	34.653	277.824	0.364
1900.000	2.239	290.797	1899.404	6.019	-38.095	6.019	38.568	278.979	0.161
2000.000	2.213	297.626	1999.328	7.608	-41.632	7.608	42.321	280.356	0.266
2100.000	2.174	296.143	2099.255	9.339	-45.045	9.339	46.003	281.713	0.069
2200.000	2.130	309.278	2199.185	11.352	-48.187	11.352	49.506	283.256	0.494
2300.000	2.621	307.426	2299.099	13.918	-51.442	13.918	53.291	285.139	0.497
2400.000	2.647	309.089	2398.993	16.764	-55.050	16.764	57.546	286.936	0.080
2500.000	3.147	303.507	2498.865	19.735	-59.131	19.735	62.337	288.456	0.574
2600.000	2.870	309.489	2598.728	22.842	-63.352	22.842	67.344	289.827	0.418
2700.000	3.094	304.920	2698.592	25.980	-67.498	25.980	72.325	291.052	0.327
2800.000	3.205	305.482	2798.441	29.148	-71.987	29.148	77.664	292.043	0.115
2900.000	3.301	302.282	2898.280	32.308	-76.697	32.308	83.224	292.843	0.205
3000.000	2.878	306.806	2998.135	35.350	-81.142	35.350	88.507	293.540	0.488
3100.000	2.952	298.584	3098.006	38.086	-85.413	38.086	93.519	294.032	0.424
3200.000	2.553	296.540	3197.890	40.313	-89.666	40.313	98.312	294.208	0.410
3300.000	2.393	290.269	3297.797	42.031	-93.618	42.031	102.620	294.179	0.314

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	2.359	288.931	3397.711	43.422	-97.523	43.422	106.753	294.001	0.065
3500.000	2.317	284.301	3497.628	44.589	-101.428	44.589	110.797	293.731	0.193
3600.000	2.355	284.850	3597.545	45.615	-105.373	45.615	114.822	293.407	0.044
3700.000	2.521	276.427	3697.455	46.388	-109.544	46.388	118.961	292.951	0.395
3800.000	2.732	278.648	3797.350	46.992	-114.086	46.992	123.385	292.387	0.233
3900.000	2.673	277.411	3897.239	47.651	-118.754	47.651	127.958	291.864	0.083
4000.000	2.856	269.580	3997.122	47.934	-123.557	47.934	132.530	291.204	0.419
4100.000	2.746	271.023	4097.003	47.958	-128.444	47.958	137.105	290.475	0.131
4200.000	2.537	270.471	4196.897	48.019	-133.052	48.019	141.452	289.845	0.210
4300.000	2.629	273.048	4296.795	48.159	-137.555	48.159	145.742	289.296	0.148
4400.000	2.336	266.119	4396.701	48.143	-141.878	48.143	149.823	288.744	0.419
4500.000	2.308	260.126	4496.620	47.660	-145.894	47.660	153.482	288.091	0.244
4600.000	2.106	265.128	4596.545	47.159	-149.709	47.159	156.961	287.485	0.279
4700.000	1.896	259.960	4696.484	46.714	-153.169	46.714	160.134	286.961	0.277
4800.000	1.742	262.188	4796.434	46.219	-156.305	46.219	162.995	286.473	0.169
4900.000	1.619	260.189	4896.391	45.772	-159.203	45.772	165.652	286.040	0.136
5000.000	1.404	276.104	4996.357	45.661	-161.813	45.661	168.132	285.758	0.470
5100.000	1.313	271.765	5096.328	45.827	-164.176	45.827	170.452	285.596	0.137
5200.000	1.137	269.412	5196.306	45.852	-166.313	45.852	172.518	285.413	0.183
5300.000	0.899	271.909	5296.290	45.868	-168.088	45.868	174.234	285.263	0.242
5400.000	0.941	276.742	5396.277	45.991	-169.687	45.991	175.809	285.165	0.088
5500.000	1.044	278.140	5496.262	46.216	-171.404	46.216	177.525	285.090	0.106
5600.000	1.193	286.756	5596.243	46.645	-173.303	46.645	179.470	285.064	0.225
5700.000	1.486	292.406	5696.215	47.439	-175.498	47.439	181.797	285.126	0.321
5800.000	1.662	289.736	5796.178	48.423	-178.062	48.423	184.529	285.213	0.191
5900.000	1.800	286.793	5896.132	49.367	-180.930	49.367	187.544	285.262	0.164
6000.000	2.008	280.936	5996.077	50.153	-184.154	50.153	190.861	285.235	0.285
6100.000	2.058	286.418	6096.014	50.993	-187.597	50.993	194.404	285.207	0.201
6200.000	2.027	285.481	6195.950	51.972	-191.024	51.972	197.968	285.220	0.046
6300.000	1.974	281.500	6295.890	52.788	-194.416	52.788	201.455	285.191	0.149
6400.000	2.062	280.391	6395.828	53.455	-197.872	53.455	204.966	285.118	0.096
6500.000	2.206	285.220	6495.758	54.285	-201.499	54.285	208.684	285.078	0.231
6600.000	2.222	283.215	6595.684	55.234	-205.244	55.234	212.546	285.062	0.079
6700.000	2.408	292.305	6695.602	56.474	-209.075	56.474	216.568	285.116	0.411
6800.000	2.765	294.711	6795.500	58.280	-213.209	58.280	221.031	285.288	0.373
6900.000	2.848	291.767	6895.380	60.209	-217.707	60.209	225.879	285.459	0.166
6950.000	2.952	299.882	6945.317	61.311	-219.976	61.311	228.361	285.574	0.847
HORIZONTAL DISPLACEMENT IS 228.361 FEET AT 285.574 DEGREES									