



Company: Anadarko Petroleum Corp.
 Well/API: UPRC 11-12L/05-123-17061
 Tool Type: North Seeking Rate Gyro
 Rig Name: Production/CoreTech
 County/State: Weld/Colorado
 Latitude: 40.238, Longitude: -104.864
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB=GL Elevation= 4788 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run02-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 11/12/2014 / 19:46

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	0.475	267.747	99.999	-0.016	-0.415	-0.016	0.415	267.747	0.475
200.000	0.395	247.606	199.996	-0.164	-1.147	-0.164	1.159	261.876	0.172
300.000	0.260	254.958	299.994	-0.354	-1.685	-0.354	1.722	258.139	0.141
400.000	0.448	283.026	399.992	-0.325	-2.285	-0.325	2.308	261.910	0.250
500.000	0.436	276.787	499.990	-0.192	-3.043	-0.192	3.049	266.394	0.050
600.000	0.257	316.039	599.988	0.015	-3.576	0.015	3.576	270.234	0.287
700.000	0.405	309.705	699.986	0.402	-4.004	0.402	4.024	275.733	0.152
800.000	0.488	274.079	799.983	0.658	-4.701	0.658	4.747	277.970	0.285
900.000	0.453	277.211	899.980	0.738	-5.518	0.738	5.567	277.619	0.044
1000.000	0.758	255.054	999.974	0.617	-6.549	0.617	6.578	275.384	0.379
1100.000	0.686	252.715	1099.966	0.269	-7.760	0.269	7.764	271.983	0.077
1200.000	0.601	259.186	1199.960	-0.008	-8.847	-0.008	8.847	269.950	0.112
1300.000	0.757	257.046	1299.953	-0.254	-10.006	-0.254	10.009	268.545	0.157
1400.000	0.916	259.910	1399.942	-0.542	-11.436	-0.542	11.449	267.286	0.165
1500.000	1.057	253.998	1499.927	-0.936	-13.109	-0.936	13.143	265.914	0.174
1600.000	1.256	263.816	1599.907	-1.309	-15.085	-1.309	15.142	265.042	0.280
1700.000	1.708	270.129	1699.874	-1.423	-17.665	-1.423	17.722	265.393	0.481
1800.000	1.846	270.796	1799.825	-1.398	-20.766	-1.398	20.813	266.150	0.139
1900.000	2.092	278.255	1899.766	-1.113	-24.182	-1.113	24.208	267.364	0.355
2000.000	2.156	270.807	1999.698	-0.825	-27.870	-0.825	27.882	268.305	0.283
2100.000	2.296	273.977	2099.622	-0.659	-31.749	-0.659	31.756	268.811	0.186
2200.000	2.295	289.240	2199.543	0.140	-35.638	0.140	35.638	270.224	0.610
2300.000	2.875	299.670	2299.442	2.041	-39.708	2.041	39.760	272.942	0.745
2400.000	2.755	299.386	2399.321	4.462	-43.982	4.462	44.207	275.793	0.121
2500.000	2.714	302.466	2499.207	6.912	-48.073	6.912	48.568	278.182	0.153
2600.000	2.445	298.726	2599.106	9.208	-51.941	9.208	52.751	280.053	0.317
2700.000	2.127	298.482	2699.026	11.118	-55.443	11.118	56.547	281.339	0.318
2800.000	1.952	299.974	2798.963	12.854	-58.550	12.854	59.944	282.383	0.183
2900.000	1.815	296.854	2898.908	14.421	-61.438	14.421	63.108	283.209	0.171
3000.000	1.625	307.565	2998.864	16.001	-63.975	16.001	65.946	284.042	0.373
3100.000	1.366	300.922	3098.830	17.478	-66.122	17.478	68.393	284.806	0.311
3200.000	1.245	281.915	3198.804	18.314	-68.207	18.314	70.623	285.030	0.447
3300.000	0.702	276.989	3298.789	18.613	-69.878	18.613	72.315	284.915	0.548

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	0.327	255.282	3398.785	18.615	-70.762	18.615	73.170	284.739	0.416
3500.000	0.281	202.898	3498.784	18.317	-71.134	18.317	73.454	284.440	0.271
3600.000	0.367	176.079	3598.782	17.772	-71.207	17.772	73.392	284.014	0.172
3700.000	0.200	168.922	3698.781	17.282	-71.152	17.282	73.220	283.652	0.170
3800.000	0.227	186.749	3798.780	16.914	-71.142	16.914	73.125	283.374	0.071
3900.000	0.270	175.232	3898.780	16.482	-71.145	16.482	73.029	283.044	0.066
4000.000	0.284	171.535	3998.778	16.002	-71.089	16.002	72.868	282.686	0.023
4100.000	0.640	158.944	4098.775	15.236	-70.852	15.236	72.472	282.136	0.368
4200.000	0.801	168.996	4198.767	14.030	-70.518	14.030	71.900	281.252	0.204
4300.000	0.535	213.964	4298.761	12.957	-70.646	12.957	71.824	280.393	0.567
4400.000	0.825	231.626	4398.754	12.123	-71.471	12.123	72.492	279.627	0.355
4500.000	0.939	235.199	4498.742	11.208	-72.708	11.208	73.567	278.763	0.126
4600.000	0.772	233.948	4598.731	10.344	-73.925	10.344	74.645	277.966	0.168
4700.000	1.259	226.296	4698.715	9.189	-75.264	9.189	75.823	276.961	0.505
<div> <div>HORIZONTAL DISPLACEMENT IS</div> <div>75.823 FEET AT 276.961 DEGREES</div> </div>									