



Company: Anadarko Petroleum Corp.
 Well/API: Megan H 16-4J/05-123-15080
 Tool Type: North Seeking Rate Gyro
 Rig Name: Production/VES
 County/State: Weld/Colorado
 Latitude: 40.222, Longitude: -104.664
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = GL Elevation = 4823

DRILLOG GYRO SURVEY CALCULATIONS

Filename: gyro-de_01.ut

Minimum Curvature Method

Report Date/Time: 9/29/2014 / 14:17

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	0.766	160.712	99.997	-0.631	0.221	-0.631	0.668	160.712	0.766
200.000	0.609	108.987	199.991	-1.434	0.944	-1.434	1.717	146.645	0.616
300.000	0.463	69.581	299.987	-1.466	1.825	-1.466	2.341	128.772	0.387
400.000	0.287	10.020	399.985	-1.079	2.248	-1.079	2.493	115.635	0.403
500.000	0.393	317.006	499.983	-0.581	2.058	-0.581	2.138	105.776	0.318
600.000	0.556	237.961	599.981	-0.588	1.413	-0.588	1.530	112.587	0.616
700.000	0.574	140.788	699.978	-1.233	1.319	-1.233	1.806	133.083	0.848
800.000	0.411	92.486	799.974	-1.637	1.994	-1.637	2.580	129.389	0.430
900.000	0.579	302.648	899.973	-1.380	1.927	-1.380	2.370	125.614	0.957
1000.000	0.472	225.185	999.970	-1.398	1.209	-1.398	1.848	139.148	0.663
1100.000	0.524	248.138	1099.966	-1.859	0.492	-1.859	1.923	165.175	0.205
1200.000	0.229	184.337	1199.964	-2.229	0.052	-2.229	2.229	178.657	0.470
1300.000	0.314	100.824	1299.963	-2.480	0.306	-2.480	2.499	172.966	0.367
1400.000	0.458	286.675	1399.962	-2.417	0.192	-2.417	2.424	175.458	0.771
1500.000	0.155	53.143	1499.961	-2.221	-0.083	-2.221	2.222	182.135	0.564
1600.000	0.940	70.168	1599.956	-1.861	0.797	-1.861	2.025	156.821	0.793
1700.000	0.669	82.921	1699.946	-1.511	2.148	-1.511	2.626	125.132	0.323
1800.000	0.930	46.359	1799.937	-0.879	3.314	-0.879	3.429	104.858	0.559
1900.000	1.093	51.394	1899.921	0.276	4.646	0.276	4.655	86.603	0.185
2000.000	0.887	48.399	1999.906	1.384	5.970	1.384	6.129	76.944	0.212
2100.000	1.091	48.940	2099.892	2.524	7.267	2.524	7.692	70.849	0.205
2200.000	0.984	36.120	2199.875	3.842	8.490	3.842	9.319	65.651	0.255
2300.000	0.913	67.769	2299.862	4.837	9.734	4.837	10.869	63.576	0.522
2400.000	1.175	32.436	2399.847	6.004	11.021	6.004	12.551	61.420	0.681
2500.000	1.745	46.274	2499.814	7.922	12.672	7.922	14.945	57.988	0.666
2600.000	1.635	62.695	2599.771	9.629	15.040	9.629	17.859	57.372	0.495
2700.000	0.760	71.784	2699.748	10.491	16.938	10.491	19.924	58.227	0.893
2800.000	0.315	94.647	2799.744	10.676	17.842	10.676	20.792	59.105	0.486
2900.000	0.740	47.193	2899.740	11.093	18.590	11.093	21.648	59.175	0.576
3000.000	0.965	91.781	2999.730	11.506	19.905	11.506	22.991	59.972	0.680
3100.000	0.569	166.850	3099.722	10.995	20.860	10.995	23.581	62.206	0.986
3200.000	0.958	178.513	3199.713	9.676	20.995	9.676	23.117	65.256	0.416
3300.000	1.130	214.290	3299.698	8.026	20.461	8.026	21.979	68.581	0.662

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	1.260	261.263	3399.678	7.045	18.819	7.045	20.095	69.477	0.960
3500.000	1.619	271.479	3499.647	6.914	16.320	6.914	17.724	67.039	0.440
3600.000	1.856	284.352	3599.601	7.352	13.339	7.352	15.231	61.137	0.455
3700.000	2.776	291.152	3699.519	8.627	9.511	8.627	12.841	47.790	0.959
3800.000	2.890	293.982	3799.396	10.526	4.949	10.526	11.632	25.182	0.180
3900.000	3.088	299.227	3899.260	12.866	0.294	12.866	12.870	1.311	0.338
4000.000	3.255	303.889	3999.107	15.764	-4.413	15.764	16.370	344.362	0.307
4100.000	3.275	303.884	4098.945	18.940	-9.141	18.940	21.030	334.237	0.020
4200.000	3.011	307.572	4198.795	22.134	-13.594	22.134	25.975	328.443	0.333
4300.000	3.016	299.327	4298.657	25.023	-17.968	25.023	30.806	324.319	0.433
4400.000	3.873	302.425	4398.475	28.123	-23.113	28.123	36.402	320.585	0.877
4500.000	3.525	313.293	4498.268	32.042	-28.201	32.042	42.684	318.648	0.781
4600.000	3.728	315.963	4598.068	36.487	-32.699	36.487	48.995	318.134	0.264
4700.000	3.054	324.716	4697.893	40.999	-36.497	40.999	54.891	318.325	0.848
4800.000	3.258	328.115	4797.741	45.587	-39.537	45.587	60.343	319.065	0.277
4900.000	2.344	334.674	4897.621	49.848	-41.913	49.848	65.127	319.942	0.967
5000.000	1.829	342.593	4997.555	53.220	-43.265	53.220	68.587	320.890	0.589
5100.000	1.619	337.385	5097.509	56.047	-44.286	56.047	71.432	321.685	0.262
5200.000	2.465	329.401	5197.445	59.203	-45.924	59.203	74.927	322.199	0.890
5300.000	2.094	350.218	5297.367	62.854	-47.330	62.854	78.681	323.020	0.901
5400.000	1.972	9.878	5397.306	66.350	-47.345	66.350	81.510	324.490	0.704
5500.000	1.683	12.403	5497.255	69.480	-46.734	69.480	83.735	326.074	0.300
5600.000	1.532	7.274	5597.215	72.240	-46.249	72.240	85.777	327.372	0.209
5700.000	2.324	16.504	5697.158	75.510	-45.504	75.510	88.161	328.926	0.848
5800.000	2.784	35.862	5797.060	79.423	-43.505	79.423	90.558	331.288	0.971
5900.000	2.842	53.349	5896.942	82.871	-40.093	82.871	92.060	334.182	0.857
6000.000	2.415	72.078	5996.838	84.999	-36.100	84.999	92.348	336.989	0.953
6100.000	2.338	95.454	6096.755	85.454	-32.064	85.454	91.271	339.433	0.966
6200.000	2.977	110.557	6196.648	84.348	-27.602	84.348	88.749	341.880	0.943
6300.000	2.188	120.590	6296.546	82.465	-23.527	82.465	85.755	344.077	0.907
6400.000	1.333	124.828	6396.498	80.829	-20.929	80.829	83.495	345.483	0.864
6500.000	1.189	91.051	6496.475	80.146	-18.937	80.146	82.353	346.706	0.745
6600.000	1.155	61.530	6596.455	80.607	-17.014	80.607	82.383	348.082	0.598
6700.000	1.392	72.541	6696.430	81.452	-14.969	81.452	82.816	349.586	0.339
6800.000	3.243	75.348	6796.344	82.532	-11.074	82.532	83.271	352.358	1.854
6900.000	3.632	68.712	6896.164	84.397	-5.386	84.397	84.569	356.349	0.556
7000.000	2.743	61.115	6996.009	86.703	-0.340	86.703	86.704	359.776	0.983
7050.000	1.947	57.171	7045.967	87.742	1.422	87.742	87.753	0.928	1.622
HORIZONTAL DISPLACEMENT IS 87.753 FEET AT 0.928 DEGREES									