

Company: Anadarko Petroleum Corp.
 Well/API: UPRR 39 Pan Am C #1/ 05-123-09530
 Tool Type: North Seeking Rate Gyro
 Rig Name: Production/ V.E.S.
 County/State: Weld County / Colorado
 Latitude: 40.249, Longitude: -104.685
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = GL Elevation = 4884 ft

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: uprr39panamc#1-de_01.ut

Minimum Curvature Method

Report Date/Time: 11/22/2014 / 23:28

Lat/Long Obtained By Handheld GPS At Wellhead

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

VES Survey International - Henderson CO

Jay Hinman

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	0.195	284.087	100.000	0.041	-0.165	0.041	0.170	284.087	0.195
200.000	0.279	319.358	199.999	0.267	-0.488	0.267	0.556	298.713	0.164
300.000	0.392	359.153	299.997	0.794	-0.651	0.794	1.027	320.628	0.252
400.000	0.177	56.999	399.996	1.220	-0.527	1.220	1.329	336.638	0.333
500.000	0.244	214.786	499.996	1.129	-0.519	1.129	1.243	335.320	0.413
600.000	0.422	224.733	599.994	0.693	-0.899	0.693	1.135	307.616	0.186
700.000	0.549	222.516	699.991	0.078	-1.482	0.078	1.484	273.028	0.129
800.000	0.458	228.407	799.987	-0.540	-2.105	-0.540	2.174	255.604	0.104
900.000	0.236	239.947	899.985	-0.909	-2.583	-0.909	2.738	250.609	0.232
1000.000	0.345	206.983	999.984	-1.280	-2.897	-1.280	3.167	246.161	0.195
1100.000	0.516	252.064	1099.981	-1.687	-3.462	-1.687	3.851	244.023	0.366
1200.000	0.457	247.586	1199.977	-1.978	-4.259	-1.978	4.696	245.094	0.070
1300.000	0.315	255.148	1299.975	-2.200	-4.893	-2.200	5.365	245.791	0.151
1400.000	0.261	248.365	1399.974	-2.354	-5.370	-2.354	5.864	246.327	0.064
1500.000	0.251	234.747	1499.973	-2.565	-5.761	-2.565	6.306	246.001	0.061
1600.000	0.330	222.695	1599.972	-2.903	-6.135	-2.903	6.787	244.677	0.099
1700.000	0.599	269.564	1699.969	-3.119	-6.854	-3.119	7.530	245.531	0.444
1800.000	0.305	236.887	1799.966	-3.268	-7.600	-3.268	8.273	246.728	0.380
1900.000	0.327	251.340	1899.964	-3.505	-8.093	-3.505	8.820	246.581	0.082
2000.000	0.384	265.909	1999.962	-3.620	-8.697	-3.620	9.421	247.399	0.106
2100.000	0.375	287.034	2099.960	-3.549	-9.344	-3.549	9.995	249.205	0.139
2200.000	0.311	157.206	2199.959	-3.703	-9.552	-3.703	10.244	248.809	0.622
2300.000	0.166	192.491	2299.958	-4.095	-9.478	-4.095	10.325	246.632	0.200
2400.000	0.242	106.211	2399.958	-4.296	-9.306	-4.296	10.250	245.222	0.285
2500.000	0.332	53.447	2499.957	-4.182	-8.871	-4.182	9.807	244.757	0.267
2600.000	0.464	84.302	2599.954	-3.970	-8.235	-3.970	9.142	244.264	0.247
2700.000	0.197	116.850	2699.953	-4.007	-7.678	-4.007	8.661	242.440	0.316
2800.000	0.293	14.136	2799.952	-3.837	-7.462	-3.837	8.391	242.788	0.388
2900.000	0.531	60.603	2899.950	-3.361	-6.996	-3.361	7.762	244.336	0.392
3000.000	0.437	50.997	2999.946	-2.894	-6.296	-2.894	6.929	245.312	0.124
3100.000	0.919	75.581	3099.939	-2.455	-5.223	-2.455	5.771	244.828	0.553
3200.000	0.759	71.127	3199.928	-2.041	-3.820	-2.041	4.331	241.886	0.173
3300.000	1.212	83.644	3299.913	-1.709	-2.142	-1.709	2.740	231.408	0.499

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	1.177	90.541	3399.892	-1.602	-0.064	-1.602	1.603	182.295	0.148
3500.000	0.786	113.369	3499.877	-1.884	1.592	-1.884	2.466	139.800	0.546
3600.000	0.600	76.612	3599.870	-2.034	2.731	-2.034	3.405	126.689	0.471
3700.000	0.260	60.629	3699.867	-1.802	3.438	-1.802	3.881	117.660	0.357
3800.000	0.123	291.008	3799.867	-1.652	3.535	-1.652	3.902	115.045	0.352
3900.000	0.264	17.926	3899.867	-1.395	3.506	-1.395	3.773	111.691	0.285
4000.000	0.257	267.811	3999.866	-1.184	3.352	-1.184	3.555	109.455	0.427
4100.000	0.352	279.761	4099.865	-1.141	2.826	-1.141	3.047	111.983	0.113
4200.000	0.300	215.202	4199.863	-1.303	2.372	-1.303	2.707	118.773	0.351
4300.000	0.356	201.293	4299.862	-1.806	2.109	-1.806	2.777	130.582	0.097
4400.000	0.579	193.442	4399.858	-2.587	1.878	-2.587	3.197	144.019	0.232
4500.000	0.330	179.965	4499.855	-3.367	1.761	-3.367	3.800	152.388	0.269
HORIZONTAL DISPLACEMENT IS 3.800 FEET AT 152.388 DEGREES									