

Company: ANADARKO PETROLEUM  
 Well: **KUIPERS POOLING UNIT #2**  
 API #: 05-123-09896  
 Rig Name: PRODUCTION / CORETECH  
 State/County: COLORADO/WELD  
 Latitude: 40.156, Longitude: -104.843  
 Directions are relative to True North  
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB= GROUND LEVEL

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro\_7700\_2-01-de\_01.ut

Minimum Curvature Method

Report Date/Time: 10/11/2013 / 19:17

Vaughn Energy Services  
 Henderson, Colorado  
 866-835-8333  
 Brian Brewbaker

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	0.200	278.065	100.000	0.024	-0.173	0.024	0.174	278.065	0.200
200.000	0.428	200.523	199.999	-0.301	-0.476	-0.301	0.563	237.707	0.432
300.000	0.465	204.286	299.996	-1.021	-0.774	-1.021	1.282	217.173	0.047
400.000	0.483	219.297	399.992	-1.718	-1.209	-1.718	2.100	215.128	0.125
500.000	0.719	261.105	499.987	-2.141	-2.095	-2.141	2.996	224.382	0.482
600.000	0.774	283.836	599.979	-2.077	-3.371	-2.077	3.959	238.363	0.299
700.000	0.865	256.378	699.969	-2.093	-4.760	-2.093	5.200	246.265	0.399
800.000	1.090	280.472	799.955	-2.098	-6.429	-2.098	6.762	251.926	0.463
900.000	1.038	278.810	899.937	-1.787	-8.259	-1.787	8.450	257.794	0.060
1000.000	0.945	269.834	999.923	-1.650	-9.978	-1.650	10.114	260.610	0.181
1100.000	0.751	293.498	1099.912	-1.391	-11.404	-1.391	11.488	263.044	0.396
1200.000	0.875	306.460	1199.902	-0.676	-12.618	-0.676	12.636	266.931	0.221
1300.000	0.640	315.488	1299.893	0.176	-13.624	0.176	13.625	270.738	0.262
1400.000	0.954	313.423	1399.883	1.146	-14.620	1.146	14.665	274.482	0.315
1500.000	0.900	320.294	1499.870	2.323	-15.727	2.323	15.897	278.401	0.123
1600.000	0.664	327.142	1599.861	3.414	-16.543	3.414	16.892	281.661	0.254
1700.000	0.907	291.994	1699.852	4.198	-17.592	4.198	18.086	283.421	0.528
1800.000	0.621	334.754	1799.844	4.984	-18.557	4.984	19.215	285.034	0.618
1900.000	0.711	333.548	1899.837	6.030	-19.064	6.030	19.995	287.551	0.091
2000.000	0.355	29.651	1999.833	6.854	-19.187	6.854	20.375	289.657	0.591
2100.000	0.376	31.308	2099.831	7.404	-18.864	7.404	20.264	291.429	0.024
2200.000	0.316	139.958	2199.830	7.474	-18.516	7.474	19.967	291.981	0.563
2300.000	0.501	133.561	2299.827	6.962	-18.022	6.962	19.320	291.121	0.191
2400.000	0.470	126.426	2399.824	6.417	-17.375	6.417	18.523	290.270	0.068
2500.000	0.551	132.787	2499.820	5.847	-16.693	5.847	17.687	289.304	0.099
2600.000	0.435	135.997	2599.816	5.247	-16.076	5.247	16.911	288.077	0.119
2700.000	0.327	165.345	2699.814	4.698	-15.740	4.698	16.426	286.618	0.220
2800.000	0.388	205.620	2799.812	4.117	-15.814	4.117	16.341	284.591	0.253
2900.000	0.404	222.444	2899.810	3.552	-16.198	3.552	16.583	282.368	0.117
3000.000	0.565	226.440	2999.806	2.952	-16.793	2.952	17.050	279.971	0.165
3100.000	0.632	218.997	3099.801	2.184	-17.496	2.184	17.632	277.116	0.102
3200.000	0.950	256.568	3199.792	1.563	-18.650	1.563	18.715	274.792	0.592
3300.000	0.992	256.829	3299.777	1.173	-20.300	1.173	20.334	273.308	0.042
3400.000	1.061	254.487	3399.761	0.728	-22.035	0.728	22.047	271.893	0.080

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
3500.000	1.107	252.818	3499.743	0.195	-23.850	0.195	23.851	270.470	0.056
3600.000	1.300	248.161	3599.721	-0.512	-25.826	-0.512	25.831	268.864	0.217
3700.000	1.169	232.269	3699.698	-1.559	-27.687	-1.559	27.731	266.778	0.365
3800.000	1.008	231.805	3799.680	-2.727	-29.185	-2.727	29.312	264.662	0.162
3900.000	1.220	261.596	3899.662	-3.426	-30.929	-3.426	31.118	263.679	0.608
4000.000	1.349	249.158	3999.637	-4.001	-33.082	-4.001	33.323	263.105	0.307
4100.000	0.983	227.103	4099.617	-5.003	-34.811	-5.003	35.168	261.821	0.573
4200.000	1.177	246.354	4199.599	-5.999	-36.379	-5.999	36.871	260.636	0.408
4300.000	0.980	261.680	4299.582	-6.534	-38.166	-6.534	38.721	260.285	0.347
4400.000	1.105	253.880	4399.565	-6.926	-39.939	-6.926	40.535	260.162	0.189
4500.000	1.079	260.063	4499.547	-7.356	-41.793	-7.356	42.435	260.017	0.121
4600.000	1.068	265.519	4599.530	-7.591	-43.650	-7.591	44.305	260.134	0.103
4700.000	0.974	241.081	4699.514	-8.075	-45.323	-8.075	46.037	259.897	0.442
4800.000	1.107	265.556	4799.498	-8.561	-47.030	-8.561	47.803	259.683	0.460
4900.000	1.015	238.542	4899.482	-9.098	-48.749	-9.098	49.590	259.428	0.504
5000.000	0.580	241.665	4999.472	-9.801	-49.950	-9.801	50.902	258.899	0.437
5100.000	0.792	238.801	5099.465	-10.399	-50.986	-10.399	52.036	258.472	0.214
5200.000	0.637	257.652	5199.457	-10.876	-52.120	-10.876	53.243	258.213	0.279
5300.000	0.820	254.687	5299.449	-11.184	-53.354	-11.184	54.514	258.161	0.187
5400.000	0.813	241.590	5399.439	-11.710	-54.668	-11.710	55.908	257.910	0.186
5500.000	0.638	233.409	5499.431	-12.379	-55.739	-12.379	57.097	257.478	0.203
5600.000	0.448	252.570	5599.426	-12.828	-56.558	-12.828	57.995	257.221	0.260
5700.000	0.715	241.952	5699.421	-13.239	-57.482	-13.239	58.987	257.031	0.287
5800.000	0.493	253.405	5799.415	-13.655	-58.445	-13.655	60.019	256.850	0.252
5900.000	0.646	247.492	5899.410	-13.994	-59.379	-13.994	61.005	256.739	0.164
6000.000	0.591	247.527	5999.405	-14.407	-60.377	-14.407	62.072	256.579	0.055
6100.000	0.874	261.624	6099.396	-14.715	-61.608	-14.715	63.341	256.566	0.334
6200.000	0.729	234.684	6199.387	-15.194	-62.882	-15.194	64.691	256.416	0.399
6300.000	0.941	233.294	6299.376	-16.052	-64.059	-16.052	66.040	255.932	0.214
6400.000	0.762	242.115	6399.365	-16.855	-65.306	-16.855	67.446	255.528	0.221
6500.000	0.780	263.856	6499.356	-17.239	-66.570	-17.239	68.766	255.482	0.291
6600.000	1.001	234.823	6599.345	-17.815	-67.961	-17.815	70.257	255.312	0.495
6700.000	1.068	237.483	6699.328	-18.819	-69.460	-18.819	71.965	254.841	0.083
6800.000	0.886	239.662	6799.314	-19.710	-70.914	-19.710	73.602	254.467	0.186
6900.000	0.833	264.601	6899.303	-20.169	-72.304	-20.169	75.065	254.414	0.375
7000.000	0.834	262.734	6999.292	-20.329	-73.750	-20.329	76.501	254.589	0.027
7100.000	0.512	314.095	7099.286	-20.111	-74.793	-20.111	77.449	254.950	0.652
7200.000	0.541	298.601	7199.282	-19.574	-75.528	-19.574	78.023	255.471	0.145
7300.000	0.272	350.454	7299.280	-19.114	-75.982	-19.114	78.349	255.879	0.430
7400.000	0.164	325.939	7399.279	-18.761	-76.101	-18.761	78.380	256.151	0.140
7500.000	0.212	324.480	7499.278	-18.492	-76.289	-18.492	78.498	256.375	0.048
7600.000	0.237	297.223	7599.278	-18.247	-76.580	-18.247	78.724	256.598	0.108
7700.000	0.330	311.742	7699.276	-17.961	-76.979	-17.961	79.047	256.867	0.117
HORIZONTAL DISPLACEMENT IS 79.047 FEET AT 256.867 DEGREES									