



Company: PDC
Well: Hicks 42-29
API #: 05-123-20278
Rig Name: Production/Nabors
State/County: Colorado/Weld
Latitude: 40.285, Longitude: -104.907
Directions are relative to True North
VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB= Ground Level

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: h gyro-de_01.ut
Minimum Curvature Method
Report Date/Time: 10/9/2014 / 12:24

VES Survey International
Henderson, Colorado
303-853-4976
Mark Simmons

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	2.755	353.419	99.961	2.388	-0.275	2.388	2.403	353.419	2.755
200.000	7.614	302.010	199.562	8.292	-6.174	8.292	10.338	323.329	6.274
300.000	11.044	275.151	298.270	12.667	-21.343	12.667	24.819	300.689	5.456
400.000	13.498	306.914	396.087	20.546	-40.238	20.546	45.180	297.050	7.075
500.000	13.478	308.334	493.329	34.784	-58.710	34.784	68.241	300.646	0.332
600.000	12.950	313.896	590.685	49.782	-75.927	49.782	90.791	303.251	1.376
700.000	12.532	317.491	688.224	65.549	-91.332	65.549	112.420	305.667	0.896
800.000	12.011	305.264	785.956	79.557	-107.161	79.557	133.465	306.590	2.645
900.000	11.274	298.948	883.902	90.296	-124.212	90.296	153.564	306.015	1.471
1000.000	11.134	291.615	982.001	98.584	-141.742	98.584	172.655	304.819	1.431
1100.000	10.763	304.502	1080.196	107.431	-158.416	107.431	191.408	304.143	2.470
1200.000	10.311	301.765	1178.510	117.432	-173.721	117.432	209.688	304.058	0.675
1300.000	9.733	308.030	1276.986	127.350	-187.988	127.350	227.063	304.115	1.233
1400.000	9.310	309.441	1375.609	137.697	-200.893	137.697	243.554	304.428	0.483
1500.000	8.557	306.828	1474.395	147.295	-213.095	147.295	259.047	304.653	0.855
1600.000	8.266	306.867	1573.320	156.067	-224.801	156.067	273.665	304.770	0.291
1700.000	7.726	299.963	1672.349	163.738	-236.376	163.738	287.548	304.710	1.101
1800.000	7.248	298.095	1771.497	170.066	-247.765	170.066	300.516	304.466	0.537
1900.000	6.720	306.783	1870.757	176.540	-258.016	176.540	312.632	304.381	1.179
2000.000	5.818	311.485	1970.159	183.401	-266.499	183.401	323.509	304.535	1.038
2100.000	5.578	302.757	2069.666	189.388	-274.383	189.388	333.397	304.615	0.898
2200.000	4.857	304.124	2169.251	194.393	-281.975	194.393	342.488	304.582	0.731
2300.000	4.205	305.486	2268.938	198.896	-288.465	198.896	350.388	304.586	0.661
2400.000	3.619	311.479	2368.705	203.115	-293.815	203.115	357.187	304.656	0.714
2500.000	3.150	318.207	2468.531	207.254	-298.010	207.254	362.994	304.817	0.614
2600.000	2.790	320.191	2568.397	211.171	-301.399	211.171	368.015	305.017	0.375
2700.000	2.603	320.095	2668.286	214.783	-304.414	214.783	372.558	305.205	0.187
2800.000	2.210	310.369	2768.198	217.773	-307.339	217.773	376.673	305.320	0.566
2900.000	1.731	302.210	2868.139	219.826	-310.086	219.826	380.101	305.334	0.554
3000.000	1.481	302.084	2968.099	221.318	-312.458	221.318	382.899	305.310	0.250
3100.000	1.267	288.136	3068.071	222.348	-314.603	222.348	385.245	305.251	0.395
3200.000	1.175	282.590	3168.048	222.916	-316.654	222.916	387.249	305.144	0.150
3300.000	0.832	294.536	3268.033	223.441	-318.315	223.441	388.909	305.067	0.399
3400.000	0.502	296.171	3368.026	223.935	-319.369	223.935	390.056	305.037	0.331

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	0.330	280.184	3468.023	224.179	-320.046	224.179	390.750	305.010	0.205
3600.000	0.077	303.878	3568.023	224.268	-320.385	224.268	391.079	304.992	0.261
3700.000	0.223	291.405	3668.022	224.377	-320.623	224.377	391.336	304.985	0.149
3800.000	0.360	291.589	3768.021	224.563	-321.096	224.563	391.831	304.968	0.137
3900.000	0.213	310.383	3868.020	224.800	-321.530	224.800	392.322	304.960	0.172
4000.000	0.163	285.877	3968.019	224.959	-321.809	224.959	392.642	304.955	0.094
4100.000	0.544	0.838	4068.017	225.473	-321.939	225.473	393.043	305.006	0.526
4200.000	0.710	3.450	4168.011	226.567	-321.894	226.567	393.635	305.140	0.168
4300.000	0.905	359.286	4268.001	227.975	-321.867	227.975	394.425	305.310	0.203
4400.000	1.111	348.815	4367.986	229.716	-322.065	229.716	395.595	305.499	0.276
4500.000	0.955	359.320	4467.970	231.500	-322.263	231.500	396.794	305.692	0.245
4600.000	0.953	353.386	4567.956	233.160	-322.368	233.160	397.850	305.877	0.099
4700.000	1.123	4.992	4667.940	234.963	-322.379	234.963	398.918	306.086	0.270
4800.000	1.041	352.759	4767.922	236.840	-322.408	236.840	400.051	306.301	0.245
4900.000	1.165	3.576	4867.903	238.756	-322.459	238.756	401.229	306.517	0.242
5000.000	0.936	1.115	4967.887	240.587	-322.380	240.587	402.258	306.733	0.233
5100.000	0.681	358.475	5067.876	241.998	-322.380	241.998	403.103	306.894	0.258
5200.000	0.637	2.847	5167.870	243.147	-322.368	243.147	403.784	307.025	0.067
5300.000	0.445	12.113	5267.865	244.082	-322.259	244.082	404.261	307.141	0.210
5400.000	0.427	37.841	5367.863	244.756	-321.949	244.756	404.421	307.243	0.195
5500.000	0.228	9.570	5467.861	245.247	-321.687	245.247	404.510	307.321	0.250
5600.000	0.493	337.009	5567.859	245.839	-321.822	245.839	404.977	307.376	0.325
5700.000	1.019	329.915	5667.850	247.005	-322.436	247.005	406.173	307.454	0.534
5800.000	0.579	346.036	5767.840	248.265	-323.004	248.265	407.391	307.546	0.490
5900.000	0.641	341.038	5867.834	249.285	-323.308	249.285	408.254	307.634	0.082
6000.000	0.703	7.159	5967.828	250.423	-323.413	250.423	409.033	307.751	0.310
6100.000	0.566	26.833	6067.822	251.473	-323.114	251.473	409.440	307.893	0.256
6200.000	0.961	34.995	6167.813	252.601	-322.410	252.601	409.579	308.078	0.409
6300.000	0.585	335.083	6267.805	253.751	-322.144	253.751	410.081	308.227	0.838
6400.000	0.302	164.392	6367.803	253.961	-322.289	253.961	410.324	308.238	0.884
6500.000	0.106	17.187	6467.803	253.796	-322.190	253.796	410.145	308.228	0.395
6600.000	0.123	301.375	6567.803	253.941	-322.255	253.941	410.285	308.239	0.142
6700.000	0.152	303.785	6667.803	254.070	-322.457	254.070	410.524	308.235	0.029
6750.000	0.245	275.348	6717.802	254.117	-322.619	254.117	410.680	308.226	0.266
HORIZONTAL DISPLACEMENT IS 410.680 FEET AT 308.226 DEGREES									