

Company: Anadarko Petroleum Corp.
 Well/API: Bell L #12-21/05-123-15851
 Tool Type: North Seeking Rate Gyro
 Rig Name: Production / VESSI
 County/State: Weld/Colorado
 Latitude: 40.240, Longitude: -104.726
 Directions are relative to True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = GL Elevation = 4975 Feet

DRILLOG GYRO SURVEY CALCULATIONS

Filename: 1inchgyro-de_01.ut

Minimum Curvature Method

Report Date/Time: 10/17/2014 / 18:43

Lat/Long Obtained By Handheld GPS At Wellhead

Handheld GPS Reference: NAD83/Device Error: +/- 9 Feet

VES Survey International - Henderson, CO

Kevin McDowell

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	0.298	292.880	100.000	0.101	-0.240	0.101	0.260	292.880	0.298
200.000	0.565	322.408	199.997	0.593	-0.781	0.593	0.981	307.238	0.339
300.000	0.425	331.426	299.993	1.310	-1.259	1.310	1.817	316.140	0.160
400.000	1.062	331.154	399.984	2.448	-1.884	2.448	3.089	322.421	0.637
500.000	1.357	348.127	499.962	4.419	-2.575	4.419	5.114	329.772	0.461
600.000	1.619	9.822	599.929	6.970	-2.577	6.970	7.432	339.707	0.616
700.000	1.074	6.228	699.901	9.294	-2.235	9.294	9.559	346.481	0.551
800.000	1.237	9.010	799.881	11.292	-1.964	11.292	11.461	350.133	0.172
900.000	1.295	4.523	899.856	13.484	-1.706	13.484	13.591	352.789	0.115
1000.000	1.339	6.314	999.830	15.772	-1.488	15.772	15.842	354.609	0.061
1100.000	1.138	359.469	1099.806	17.927	-1.369	17.927	17.979	355.633	0.250
1200.000	0.943	17.023	1199.790	19.706	-1.137	19.706	19.739	356.697	0.372
1300.000	1.116	7.817	1299.774	21.458	-0.764	21.458	21.471	357.961	0.239
1400.000	1.279	2.594	1399.752	23.538	-0.581	23.538	23.545	358.586	0.196
1500.000	1.267	352.313	1499.728	25.749	-0.678	25.749	25.758	358.491	0.228
1600.000	1.263	358.019	1599.703	27.946	-0.864	27.946	27.959	358.228	0.126
1700.000	1.183	338.929	1699.681	30.011	-1.274	30.011	30.038	357.570	0.413
1800.000	0.937	325.727	1799.664	31.650	-2.105	31.650	31.720	356.194	0.345
1900.000	1.014	327.435	1899.649	33.071	-3.042	33.071	33.211	354.744	0.082
2000.000	0.643	325.051	1999.639	34.277	-3.840	34.277	34.491	353.608	0.372
2100.000	0.620	316.278	2099.633	35.128	-4.535	35.128	35.419	352.644	0.099
2200.000	0.948	325.829	2199.623	36.203	-5.374	36.203	36.600	351.557	0.352
2300.000	0.929	332.473	2299.610	37.607	-6.213	37.607	38.117	350.619	0.110
2400.000	1.469	308.570	2399.588	39.125	-7.590	39.125	39.855	349.021	0.725
2500.000	1.351	328.586	2499.558	40.931	-9.207	40.931	41.953	347.323	0.504
2600.000	0.530	348.403	2599.544	42.389	-9.914	42.389	43.533	346.836	0.872
2700.000	0.566	33.319	2699.540	43.255	-9.736	43.255	44.337	347.315	0.420
2800.000	0.626	32.498	2799.535	44.128	-9.171	44.128	45.071	348.259	0.061
2900.000	0.836	2.069	2899.527	45.318	-8.851	45.318	46.174	348.948	0.434
3000.000	1.099	0.199	2999.513	47.006	-8.822	47.006	47.827	349.371	0.265
3100.000	1.366	328.338	3099.491	48.980	-9.444	48.980	49.882	349.086	0.724
3200.000	1.055	14.863	3199.470	50.884	-9.834	50.884	51.825	349.062	0.998
3300.000	1.348	357.289	3299.449	52.948	-9.653	52.948	53.821	349.667	0.467
3400.000	1.285	354.808	3399.422	55.240	-9.811	55.240	56.104	349.929	0.084

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	0.504	31.236	3499.410	56.733	-9.684	56.733	57.554	350.314	0.929
3600.000	0.625	61.301	3599.405	57.372	-8.977	57.372	58.070	351.107	0.315
3700.000	1.265	17.964	3699.392	58.684	-8.158	58.684	59.248	352.086	0.917
3800.000	1.068	54.824	3799.373	60.271	-7.055	60.271	60.683	353.324	0.761
3900.000	1.162	10.542	3899.356	61.805	-6.108	61.805	62.106	354.356	0.845
4000.000	1.149	356.994	3999.336	63.803	-5.975	63.803	64.082	354.650	0.273
4100.000	1.023	347.866	4099.318	65.677	-6.215	65.677	65.971	354.594	0.213
4200.000	1.876	334.549	4199.285	68.029	-7.106	68.029	68.399	354.037	0.911
4300.000	1.717	311.542	4299.237	70.500	-8.931	70.500	71.064	352.780	0.733
4400.000	2.367	296.148	4399.174	72.404	-11.906	72.404	73.376	350.662	0.845
4500.000	2.561	313.067	4499.083	74.839	-15.391	74.839	76.405	348.379	0.750
4600.000	2.596	330.774	4598.983	78.341	-18.129	78.341	80.412	346.970	0.794
4700.000	2.371	330.190	4698.889	82.113	-20.264	82.113	84.576	346.138	0.227
4800.000	2.627	340.342	4798.794	86.066	-22.063	86.066	88.849	345.622	0.510
4900.000	3.057	335.648	4898.671	90.654	-23.934	90.654	93.760	345.211	0.489
5000.000	2.148	334.361	4998.567	94.773	-25.844	94.773	98.233	344.747	0.911
5100.000	1.670	311.084	5098.513	97.420	-27.753	97.420	101.296	344.099	0.901
5200.000	1.560	309.420	5198.473	99.242	-29.904	99.242	103.650	343.231	0.120
5300.000	1.160	307.075	5298.445	100.717	-31.763	100.717	105.607	342.496	0.404
5400.000	0.781	295.774	5398.430	101.623	-33.184	101.623	106.904	341.916	0.423
5500.000	0.508	283.929	5498.424	102.026	-34.228	102.026	107.615	341.454	0.302
5600.000	0.701	256.688	5598.418	101.992	-35.254	101.992	107.913	340.932	0.341
5700.000	0.884	213.929	5698.410	101.211	-36.279	101.211	107.517	340.280	0.603
5800.000	1.325	210.911	5798.391	99.579	-37.304	99.579	106.337	339.463	0.444
5900.000	0.975	208.435	5898.370	97.838	-38.303	97.838	105.069	338.620	0.353
6000.000	1.719	197.721	5998.342	95.661	-39.165	95.661	103.368	337.735	0.782
6100.000	2.235	193.240	6098.282	92.334	-40.068	92.334	100.653	336.542	0.539
6200.000	2.204	211.413	6198.209	88.794	-41.517	88.794	98.021	334.941	0.702
6300.000	1.426	231.513	6298.159	86.378	-43.494	86.378	96.711	333.273	0.994
6400.000	1.012	239.990	6398.136	85.162	-45.233	85.162	96.429	332.025	0.450
6500.000	1.351	225.055	6498.115	83.887	-46.833	83.887	96.075	330.826	0.455
6600.000	1.000	259.543	6598.095	82.896	-48.526	82.896	96.054	329.656	0.774
6700.000	0.550	191.432	6698.087	82.267	-49.479	82.267	96.000	328.975	0.945
6800.000	1.309	231.325	6798.074	81.083	-50.466	81.083	95.505	328.102	0.955
6900.000	0.927	246.812	6898.055	80.050	-52.102	80.050	95.513	326.941	0.484
7000.000	0.181	226.705	6998.050	79.624	-52.961	79.624	95.628	326.371	0.760
7100.000	0.477	98.670	7098.049	79.453	-52.663	79.453	95.321	326.462	0.606
7200.000	0.681	139.739	7198.044	78.937	-51.868	78.937	94.452	326.692	0.449
7250.000	0.878	152.884	7248.039	78.369	-51.501	78.369	93.777	326.689	0.529
HORIZONTAL DISPLACEMENT IS 93.777 FEET AT 326.689 DEGREES									