

# The Doc's Battery Test Report

Battery Details	
Brand	Energiser 2100 (actually Sanyo 2100)
Size	AAA AA C D 9V 6V
Type	Ni-MH Ni-Cd RAM Alkaline Titanium
Current in mAhs	2100
Stated Voltage	1.5 volts 1.2 volts
Number of batteries	Single Set of 2 Set of 4
Battery Set used	Set 1
Times charged before test started	12
Charger used to charge	Rezap RBC883 Vanson Speedy Box UBA4
Time Batteries charged in charger	See UBA graph.

Test Procedures	
Spreadsheet name	Energiser2100NiMH-AA-Set1.123 (Discharge data file)
UBA file name	Energiser2100NiMH-AA-Set1-12.uba (Charge file)
Select Resistance 5 or 10 ohms	5 ohms 10 ohms
Voltage cut off	3.5 volts 3.6 volts
Date of test	10/01/04

Summary of test	
Voltage	Starting voltage 5.6 volts, cut off voltage 3.6 volts
Test duration	8,705 seconds or 145.08 minutes
Max Battery Temp	30.2 degrees Celsius
Min Battery Temp	27 degrees Celsius

## Methodology

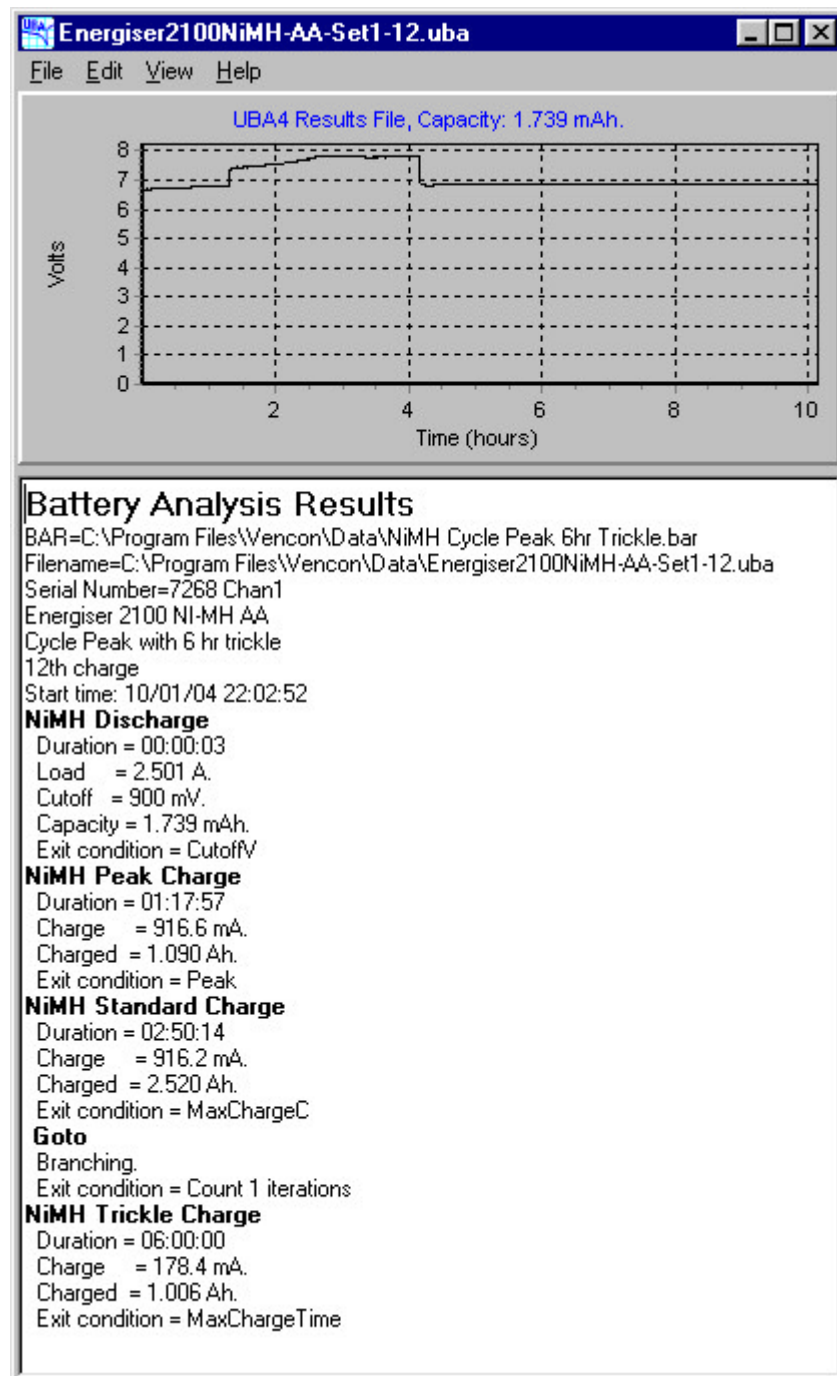
The usual methodology was used here. The Energiser batteries are actually re badged Sanyo 2100 Ni-MH's, so we would expect to see a similar performance to the Sanyo 2100's. Lets see what actually happens. The following pages give various data, including:

1. charging information from the UBA4;
2. a graph of the voltage during the test (cut off voltage being 3.6 volts);
3. a graph of the battery temperature during the test; and
4. a graph of the battery temperature verse ambient air temperature during the test.

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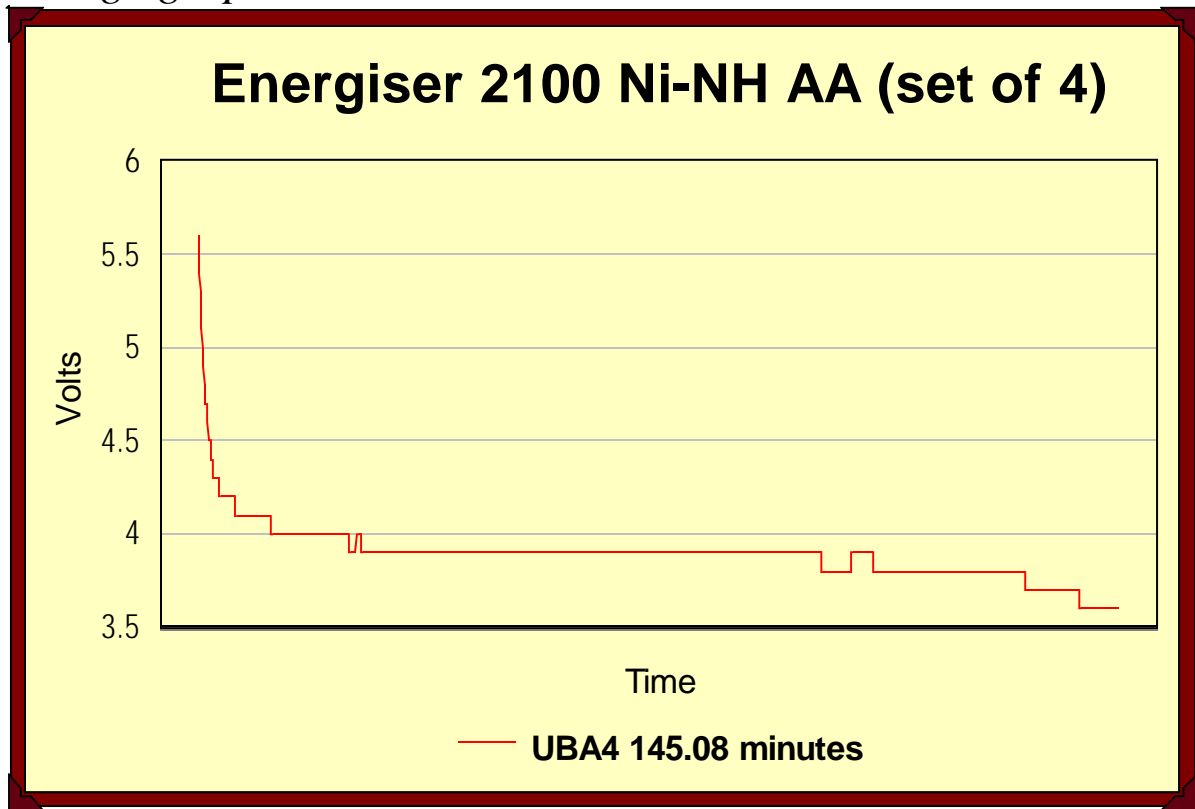
## UBA report

The graph and charging information from the UBA4.

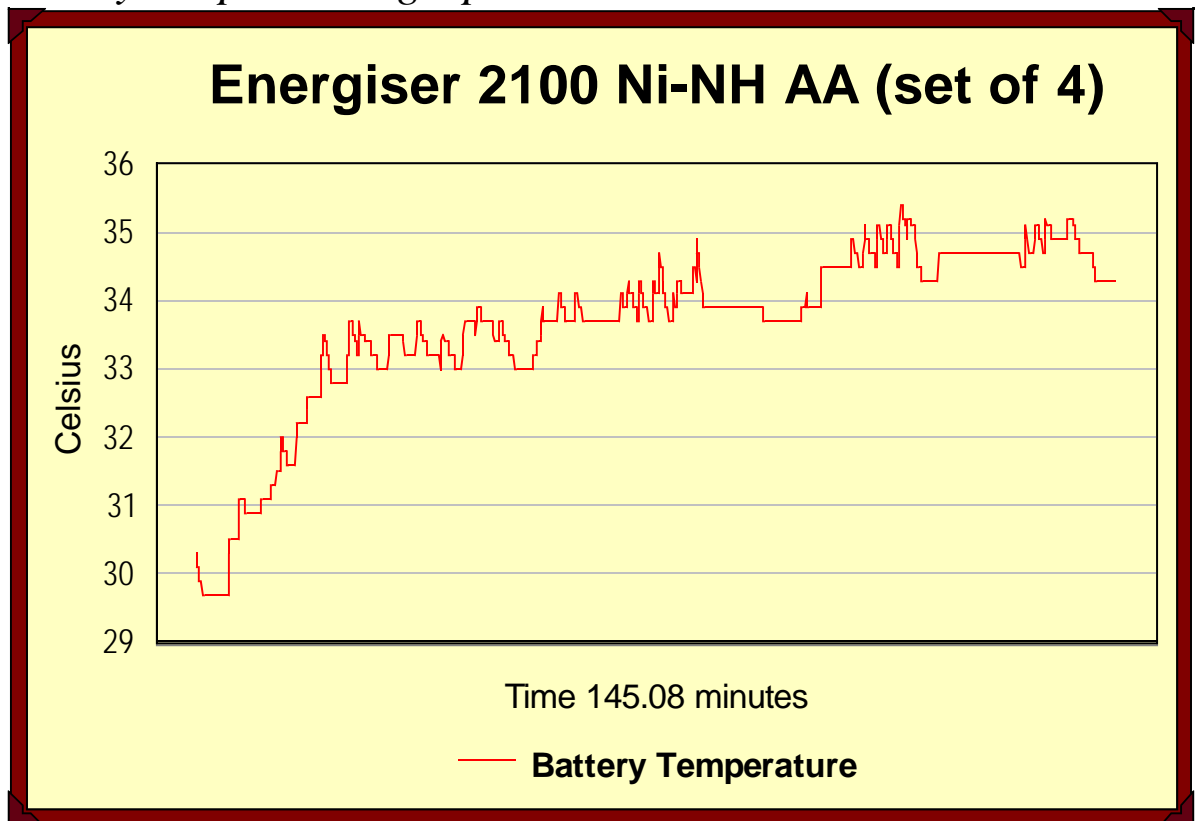


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*Voltage graph*



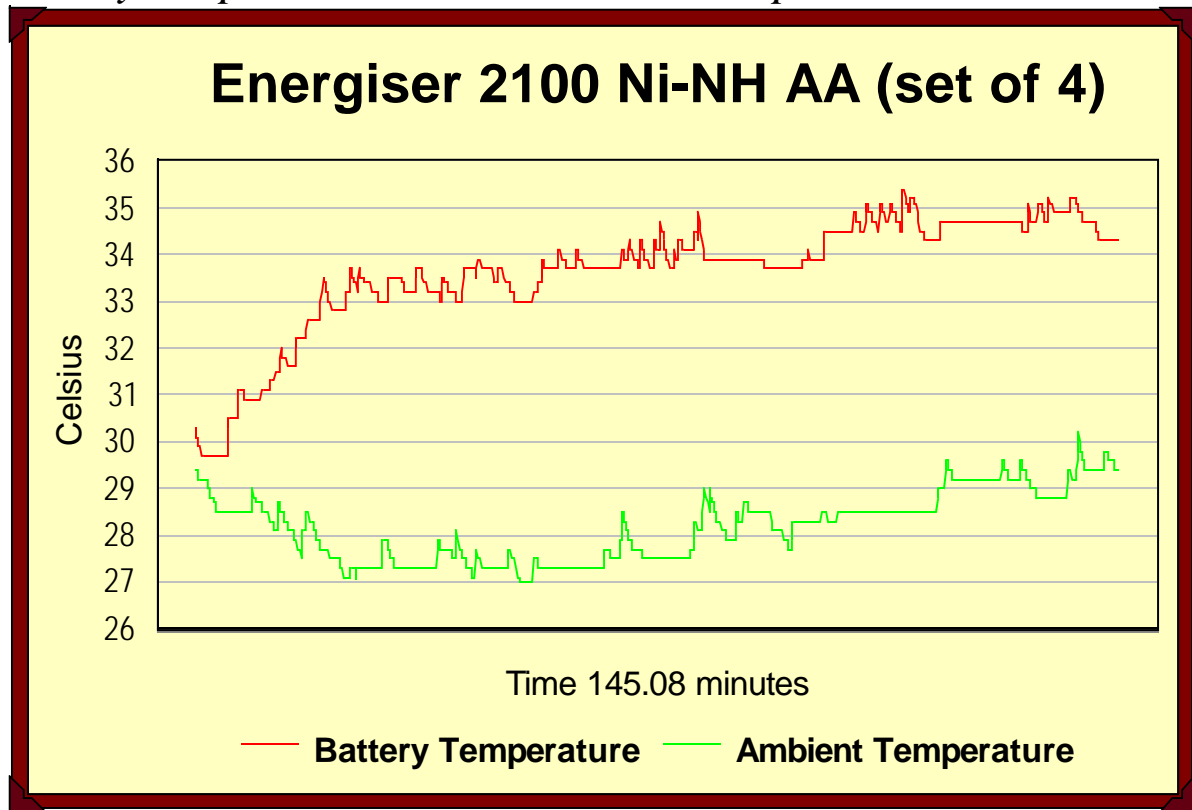
*Battery temperature graph*



Note the battery temperature rises as the battery discharges more energy.

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*Battery temperature -v- Ambient air temperature*



## *Conclusion*

The results are not surprising since they are Sanyo batteries. The Energiser's runtime was 145.08 minutes verse the Sanyo's 2100's 141.83 minutes. This is still within the variation you can expect from within the class of batteries known as Sanyo 2100's. The Doc has seen greater variation within the same battery set. Performance also differs between battery sets and between batches of the same batteries. This testing is not an exact science, but rather a broad guide to performance in the real world. The observant reader would also notice that the Energisers have outperformed the Powerex 2200 mAh battery set. They get the Doc's performance award, since they have all the strengths of the Sanyos.

<b>Run Time (5 ohm)</b>	<b>145.08 minutes</b>
<b>Battery build quality</b>	<b>Excellent</b>
<b>Place of Origin</b>	<b>Japan</b>
<b>Cost (set of 4)</b>	<b>AUD\$25.00</b>

*Report date: 11 January 2004*

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