

The Doc's Battery Test Report

Battery Details	
Brand	Powerbase 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	11
Charger used to charge	Rezap RBC883 Vanson Speedy Box UBA4
Time Batteries charged in charger	See UBA graph.

Test Procedures	
Spreadsheet name	Powerbase2100NiMH-AA-Set1.123 (Discharge data file)
UBA file name	Powerbase2100NiMH-AA-Set1-11.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	13/02/04

Summary of test	
Voltage	Starting voltage 5.4 volts, cut off voltage 3.6 volts
Test duration	7,504 seconds or 125.06 minutes
Max Battery Temp	33.2 degrees Celsius
Min Battery Temp	29.0 degrees Celsius

Methodology

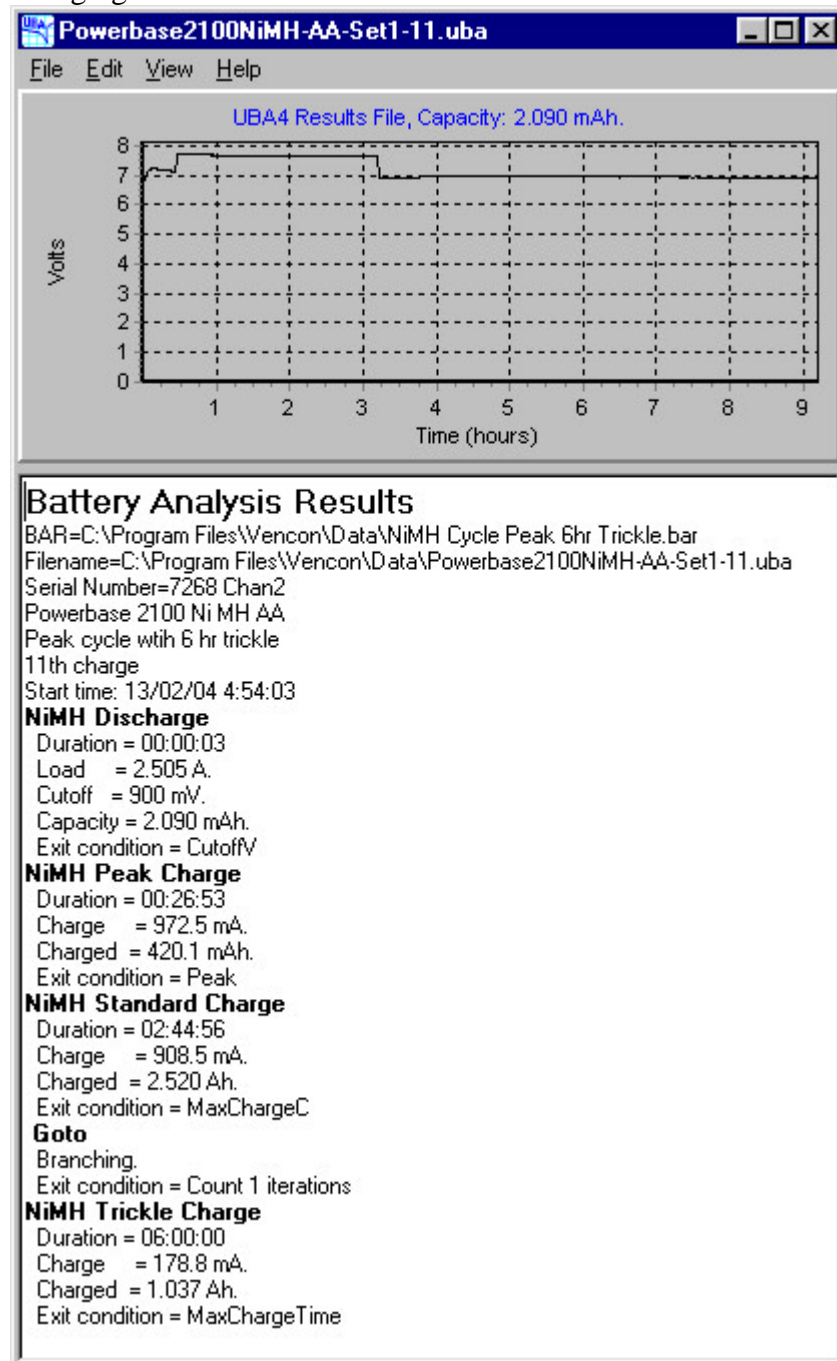
The battery set being tested has been charged at least 5 times. The charge actually used in the test is noted above. The battery set is charged in a Universal Battery Charger (UBA4). It is then tested under a load of 5 ohms, in the scientific dooverlackie. In this test the battery set was also charged in several different types of charger. Once the charger tests were completed, the battery set was charged in the UBA4 and tested. The last test is designed to discover whether the battery set's charging capacity has been materially affected during the tests. The first and last test in the UBA, while not identical, should not be materially different. The following pages give various data, including:

1. charging information from the UBA4;
2. charging information for the first 10 charging cycles
3. a graph of the voltage during the test (cut off voltage being 3.6 volts);
4. a graph of the battery temperature during the test; and
5. a graph of the battery temperature verse ambient air temperature during the test.

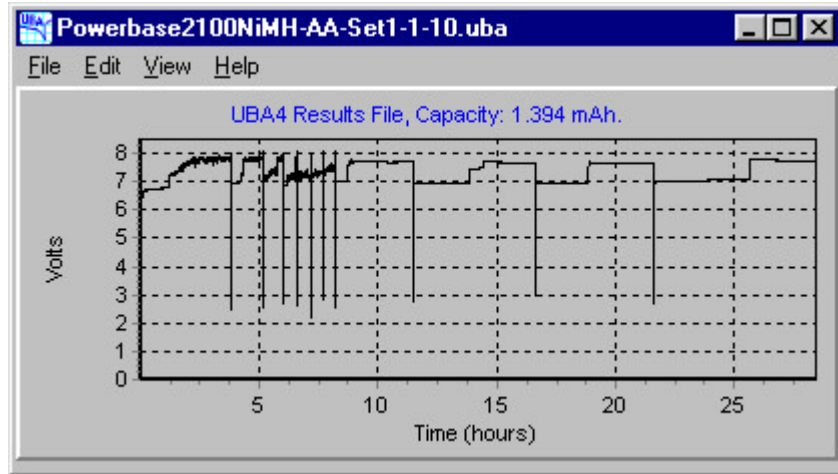
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UBA report

The graph and charging information from the UBA4.



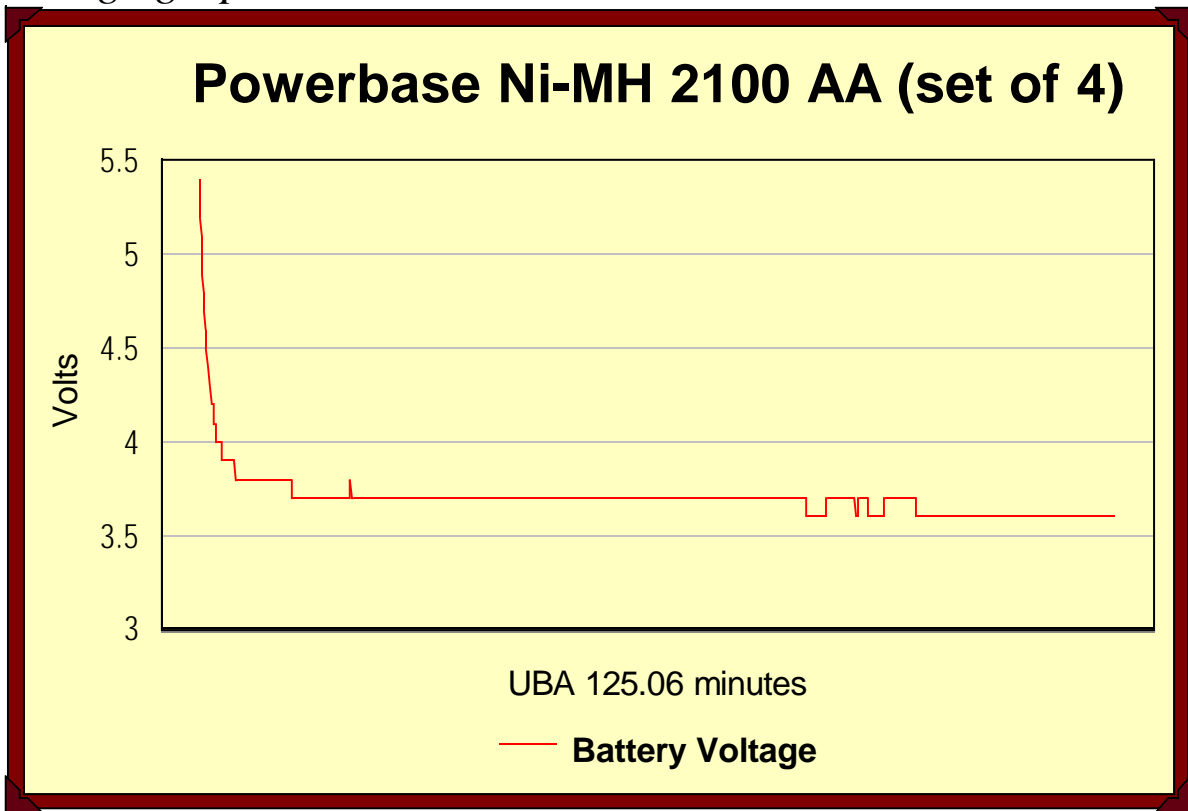
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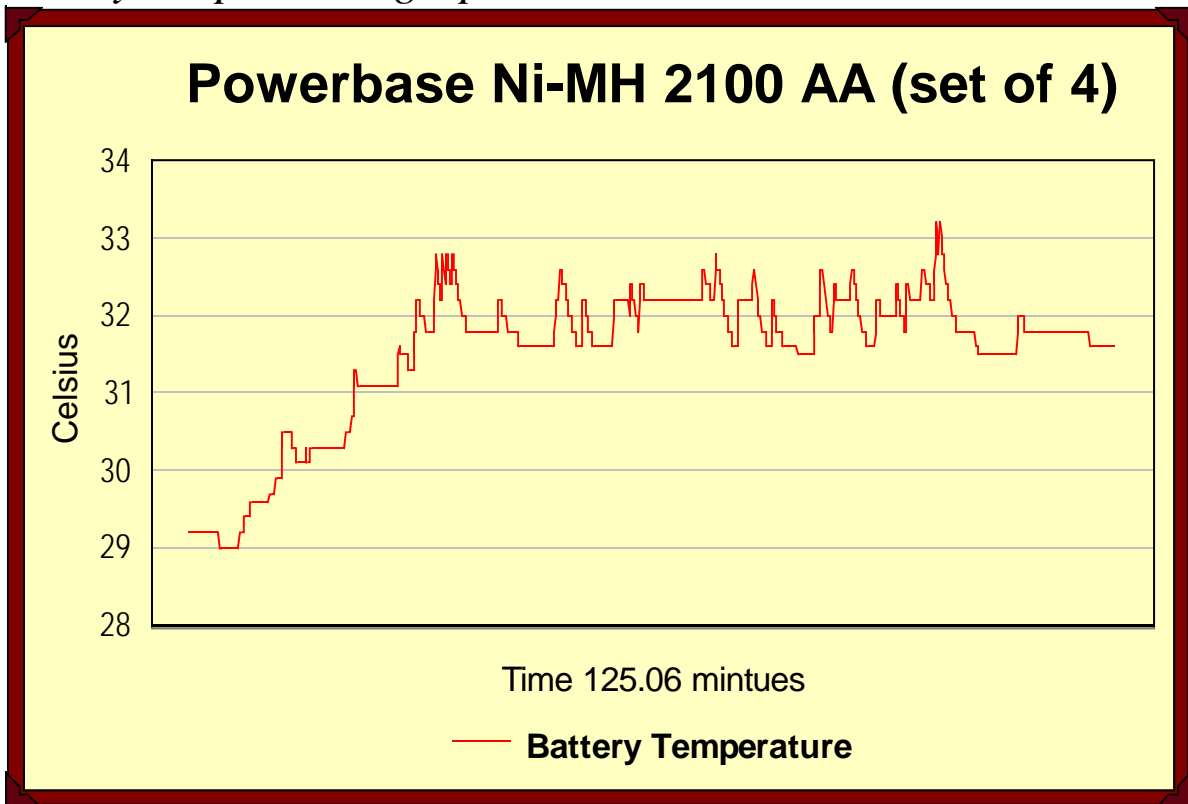
The Doc included this graph because there are some interesting features. In the early cycles the battery did not appear to be fully charging – see cycles 2-6 on the graph. Moreover, the graph shape is very odd. The Doc has not seen this shape before. The latter cycles are what you normally expect to see. The batteries were also very hot during charging.

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Voltage graph



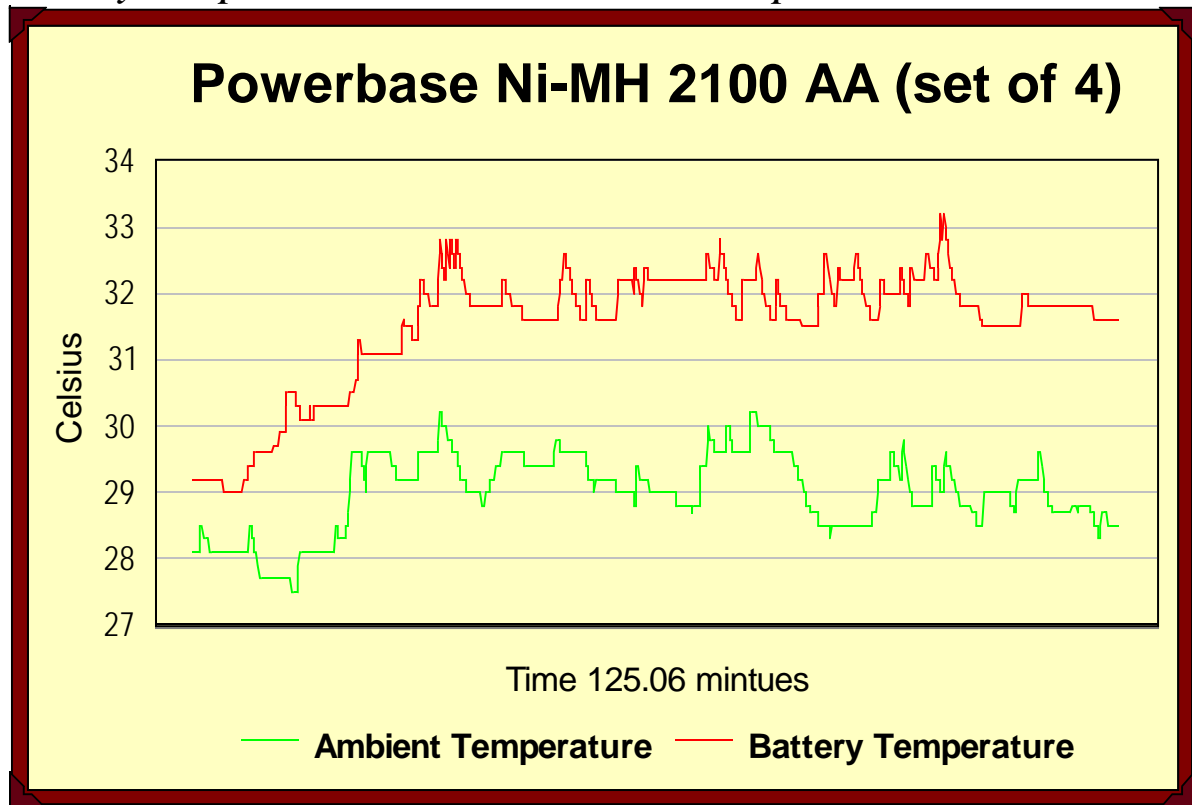
Battery temperature graph



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

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Battery temperature -v- Ambient air temperature



Conclusion

The fanciest looking batteries The Doc has ever tested, for sure. But the performance is below par for a battery rated at 2100 mAh. Also the batteries were very hot during charging – even more so when using the Powerbase charger. Poor matching there Powerbase! The batteries get so hot it must shorten the overall battery life. Look elsewhere for performance and value. The performances of the Powerbase 2300 battery set was better, but they did not last much longer than the Sanyo 2100s and Powerex 2200s, that report soon.

Run Time (5 ohm)	125.06 minutes
Battery build quality	Very good
Place of Origin	China
Cost (set of 4)	AUD\$20.00

Report date: 18 February 2004

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