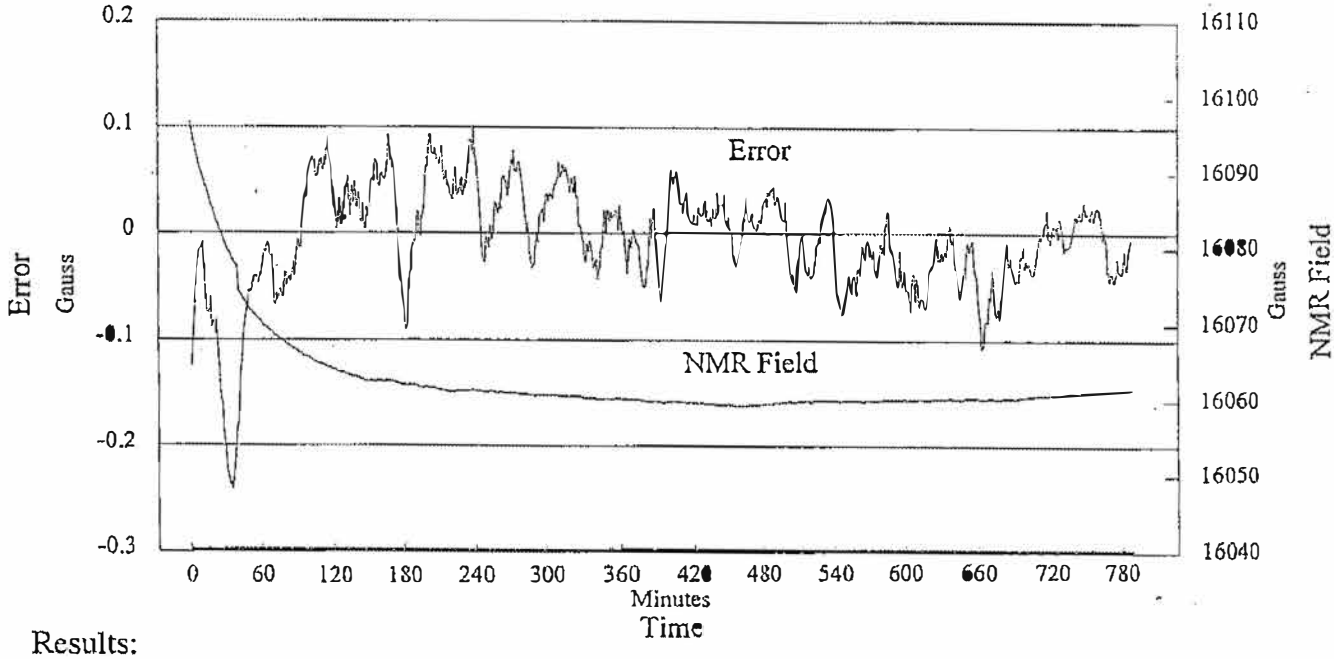
DTM-151 Long Term Stability

Method:

The field reading generated by a DTM-151 instrument with a standard production MPT-141 Hall effect probe was compared against the field reading obtained from an NMR instrument. The two probes (NMR and Group3 Hall Effect) were mounted between the poles of a 2.2T laboratory magnet, and held at constant temperature for the duration of the test. The magnetic field was held at a constant value of approximately 1.6T. These conditions were maintained (to within the abilities of the constant temperature and constant field controllers) for over 12 hours.

The graphed results are shown below. The NMR trace is the lower of the two, and is taken as the reference to measure against. The upper trace is the error, or difference, between the Group3 reading and the NMR field reading.



Results:

After ignoring the first couple of hours, (to allow for final temperature and other system parameters to settle) it can be seen that the Group3 reading deviates at most by 0.1G from the NMR reading over the next 8 hours.
This value of 0.1 gauss equates to 6ppm maximum.

The long term stability for this probe, at constant temperature, was found to be ±0.1 gauss, (6ppm) max. over 8 hours.

Distributed By:
GMW Associates
955 Industrial Road, San Carlos, CA, 94070 USA
PHONE: +1 650-802-8292 FAX: +1 650-802-8298 EMAIL: sales@gmw.com WEB: www.gmw.com