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June 8, 1981

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Mr. Harold Oseroff
NASA Goddard Space Flight Center
Greenbelt, MD 20771

SUBJECT: Progress Report on NAS5-26157

Dear Harold:

During the last reporting period, our efforts have been directed in the following areas:

1. Refinement of MAGNET data.

The aeromagnetic data obtained through the U.S. Project MAGNET are being compiled and analyzed to construct the first contiguous continental U.S. aeromagnetic map. This data is most essential for the project to provide the ground base data which can be compared through the upward-continuation process to the MAGSAT data in the region. Derivation of a proper reference field to be subtracted from the MAGNET data has been problematic. Several field models thus tried do not seem to eliminate properly the main field. Other method such as removing the bestfit polynomial surface representing the main field is presently tested.

2. Compilation of MAGSAT data for the North American continent.

The MAGSAT data in the North American continent for the period of November 1 - December 22, 1979 are being complied and compared with the MAGNET data. Efforts are being made to eliminate the orbital bias errors as much as possible.

3. Derivation of the Curie depth information from magnetic data.

A theoretical study on deriving the depth to the Curie isotherm based on magnetic field data was included in the last quarterly report. A computer program has been developed and successfully tested for theoretically generated data sets. The inversion program computes a topographic profile of the Curie depth isotherm which fits best to the observed vector or scalar field magnetic data. We are presently testing the algorism to real data. The completed results will be included in the future report.

(E82-10193) MAGSAT AND AEROMAGNETIC DATA IN THE NORTH AMERICAN CONTINENT Progress Report (North Carolina State Univ. at Raleigh.) 2 p HC A02/MF A01 CSCL 05B G3/43 N82-22627 Unclas 00193

Mr. Harold Oseroff June 8, 1981

This is an abbreviated report for our current activity. I plan to include detailed results of these studies in my next quartly report.

Sincerely,

I.J. Won
Associate Professor of
Geophysics

IJW:lb