

**TOTAL MAGNETIC FIELD AND  
DETAILED ELECTROMAGNETIC ANOMALIES  
OF PARTS OF THE  
ANIAK AND IDITAROD MINING DISTRICTS,  
SOUTHWESTERN ALASKA**

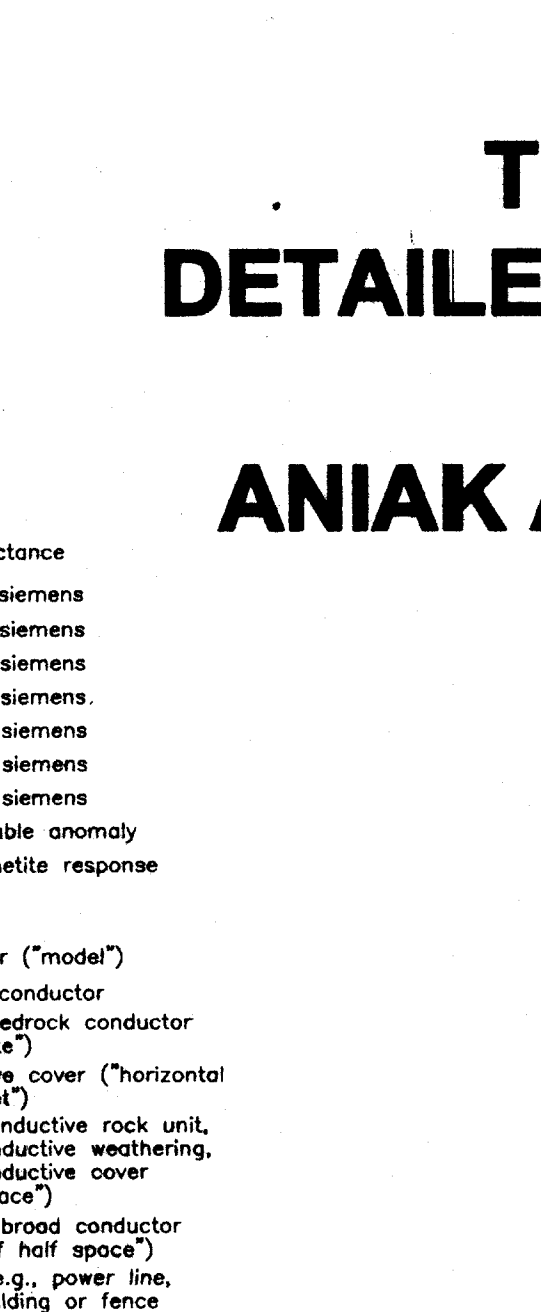
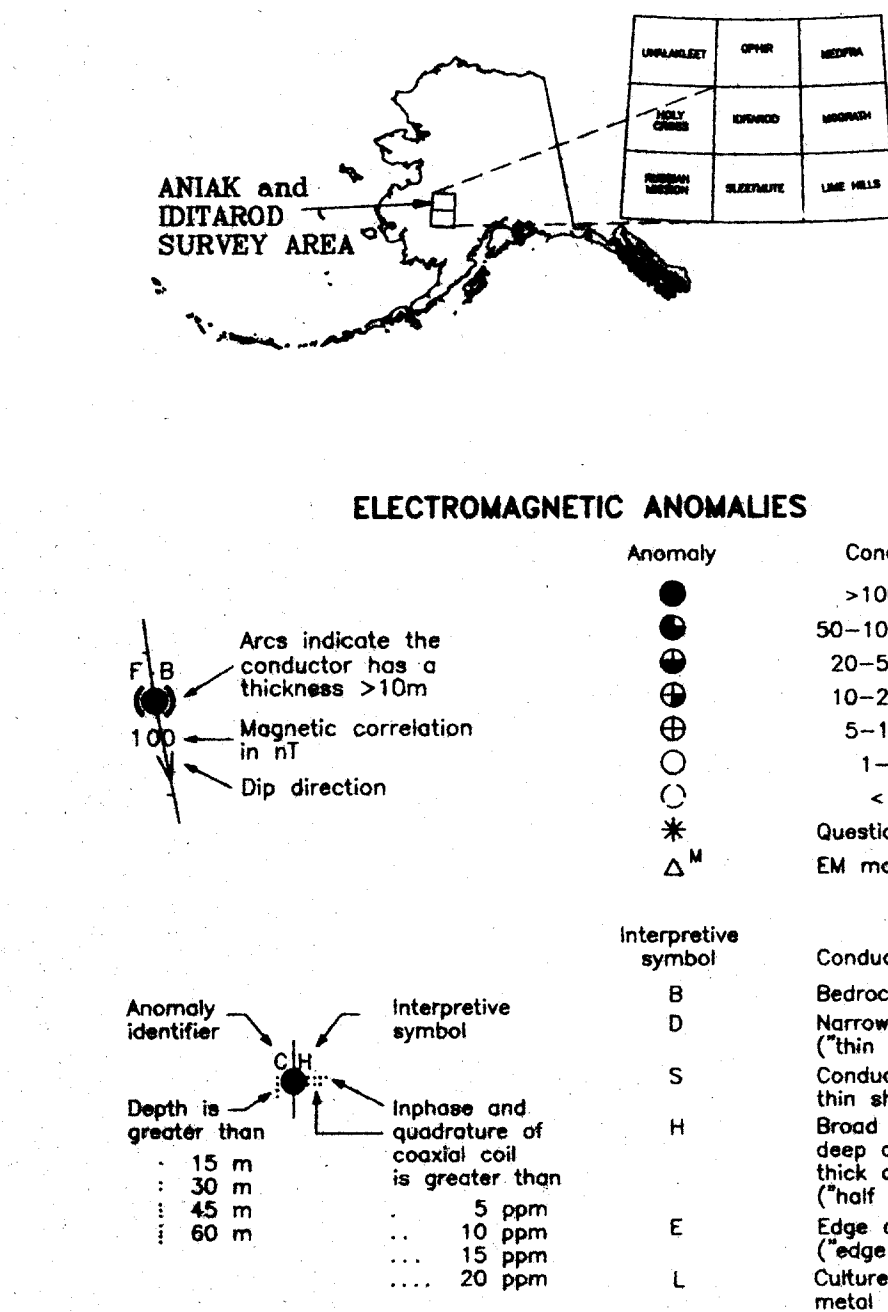
**PARTS OF IDITAROD A-5  
AND A-6 QUADRANGLES**

**2000**

**DESCRIPTIVE NOTES**

The geophysical data were acquired with a DIGEM<sup>®</sup> Electromagnetic (EM) system and a Scintrex cesium magnetometer. Both were flown at a height of 100 feet. In addition, the survey recorded data from a rotor altimeter, GPS navigation system, 50/60 Hz monitors and video camera. Flights were performed with an AS300B-2 Squirrel helicopter at a mean terrain clearance of 200 feet along NW-SE (340°) survey flight lines with a spacing of a quarter of a mile. The lines were flown perpendicular to the flight lines at intervals of approximately 3 miles. The blank regions indicate an area where the survey aircraft had to detour around populated areas.

An Airtach G024 NAVSTAR / GLOMASS Global Positioning System was used for navigation. The helicopter position was derived every 0.5 seconds using post-flight differential positioning to a relative accuracy of better than 5 m. Flight path positions were projected onto the Clarke 1886 (UTM zone 4) spheroid, 1927 North American datum using a central meridian (CM) of 155° a north constant of 0 and an east constant of 500,000. Positional accuracy of the presented data is better than 10 m with respect to the UTM grid.

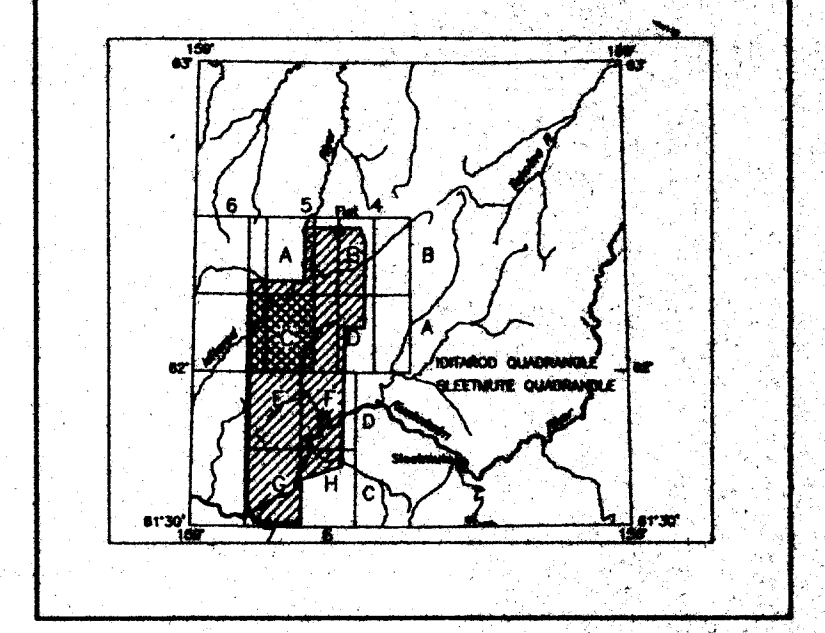


**TOTAL MAGNETIC FIELD**

The total magnetic field data were acquired with a sampling interval of 0.1 seconds, and were (1) corrected for diurnal variations by subtraction of the digitally recorded base station magnetic data, (2) leveled to the tie line data, and (3) interpolated onto a regular 100 m grid using a modified Akima (1970) technique. The regional variation (or IGRF gradient, 2000, updated to May 2000) was removed from the leveled magnetic data.

Akima, H., 1970. A new method of interpolation and smooth curve fitting based on local procedures. Journal of the Association of Computing Machinery, v. 17, no. 4, p. 589-602.

LOCATION INDEX FOR SCALE 1:31,680



**SURVEY HISTORY**

This map and other products from this survey are available by mail order or in person from DGG, 704 University Ave., Suite 200, Fairbanks, Alaska, 99709. Some products are also available in person only at the BLM's Bureau Mineral Information Center, 100 Saville Road, Douglas, Alaska, 99624.