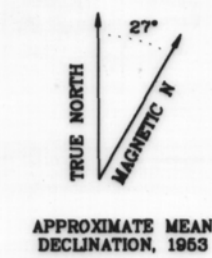
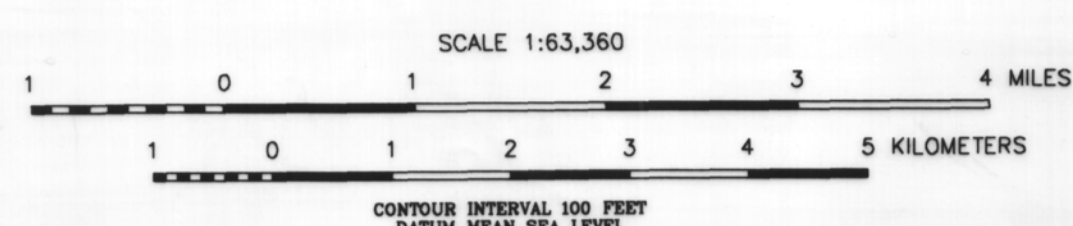
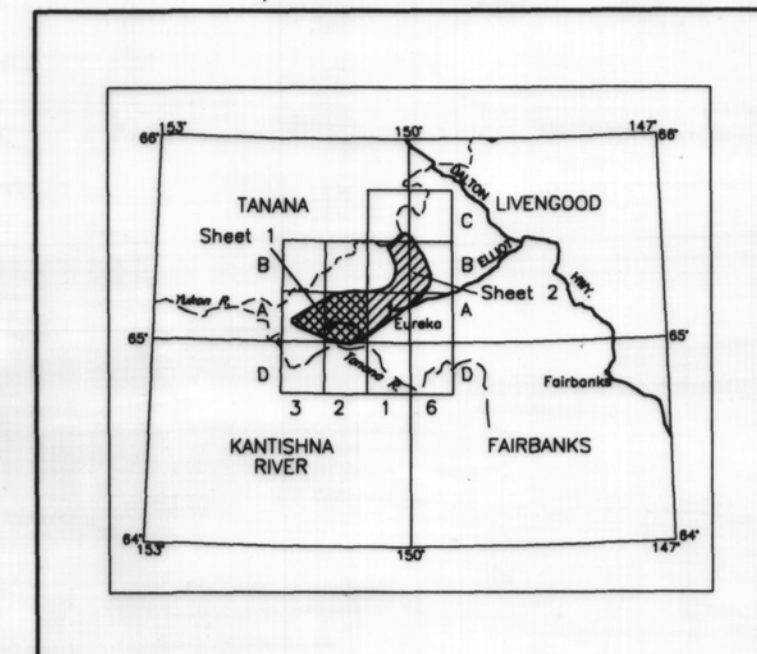


Map from U.S. Geological Survey, Matanuska River 3-C, D-3, 1962;  
Tanana 4, A-3, 1965; B-2, B-3, 1966; Quadregies, Alaska.



LOCATION INDEX



## TOTAL FIELD MAGNETICS AND ELECTROMAGNETIC ANOMALIES OF THE RAMPART-MANLEY MINING DISTRICT ALASKA

1996  
IGRF GRADIENT REMOVED

## DESCRIPTIVE NOTES

The geophysical data were acquired with a DIGHEM<sup>®</sup> Electromagnetic (EM) system, a Scintrex cesium CS2 magnetometer, and a Herz VLF system installed in an AS-350B-1 Squirrel helicopter. In addition, the survey recorded data from a radar altimeter, GPS navigation system, 50/60 Hz monitors and video camera. Flights were performed at a mean terrain clearance of 200 feet along 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.

A Serce Real-Time Differential Global Positioning System (RT-DGPS) was used for both navigation and flight path recovery. The helicopter position was derived every 0.5 seconds using real-time differential positioning to a relative accuracy of better than 10 m. Flight path positions were projected onto the Clark 1866 (UTM) spheroid, 1927 North American datum using a central meridian (CM) of 153°, 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.

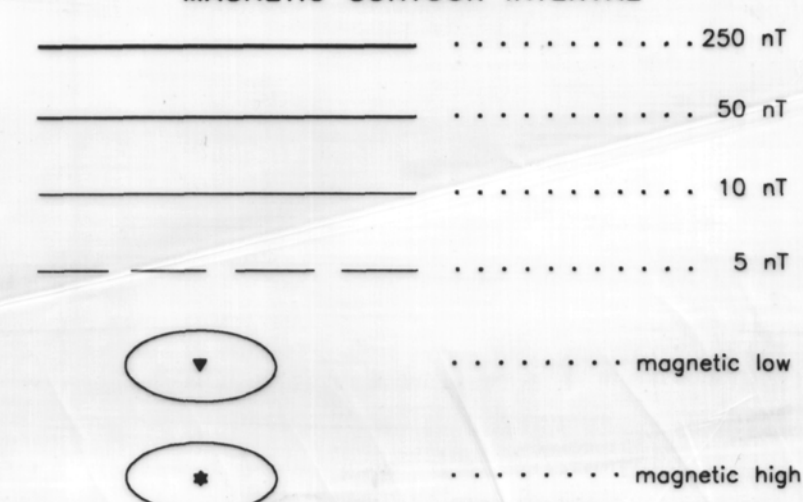
## ELECTROMAGNETICS

To determine the location of EM anomalies or their boundaries, the DIGHEM<sup>®</sup> EM system measured inphase and quadrature components at five frequencies. Two vertical coaxial-coil pairs operated at 900 and 5000 Hz while three horizontal coplanar-coil pairs operated at 800, 7200, and 56,000 Hz. EM data were sampled at 0.1 second intervals. The EM system responds to bedrock conductors, conductive overburden, and cultural sources. The power line monitor and the flight track video were examined to locate cultural sources. The EM anomalies that are indicated are classified by conductance.

## ELECTROMAGNETIC ANOMALIES

Anomaly  
● Conductance >50 siemens  
○ Conductance <50 siemens  
\* Questionable anomaly  
△ Weak conductivity associated with an EM magnetic response

## MAGNETIC CONTOUR INTERVAL



## TOTAL FIELD MAGNETICS

The total field magnetic 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, 1985, updated to October 1995) 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.