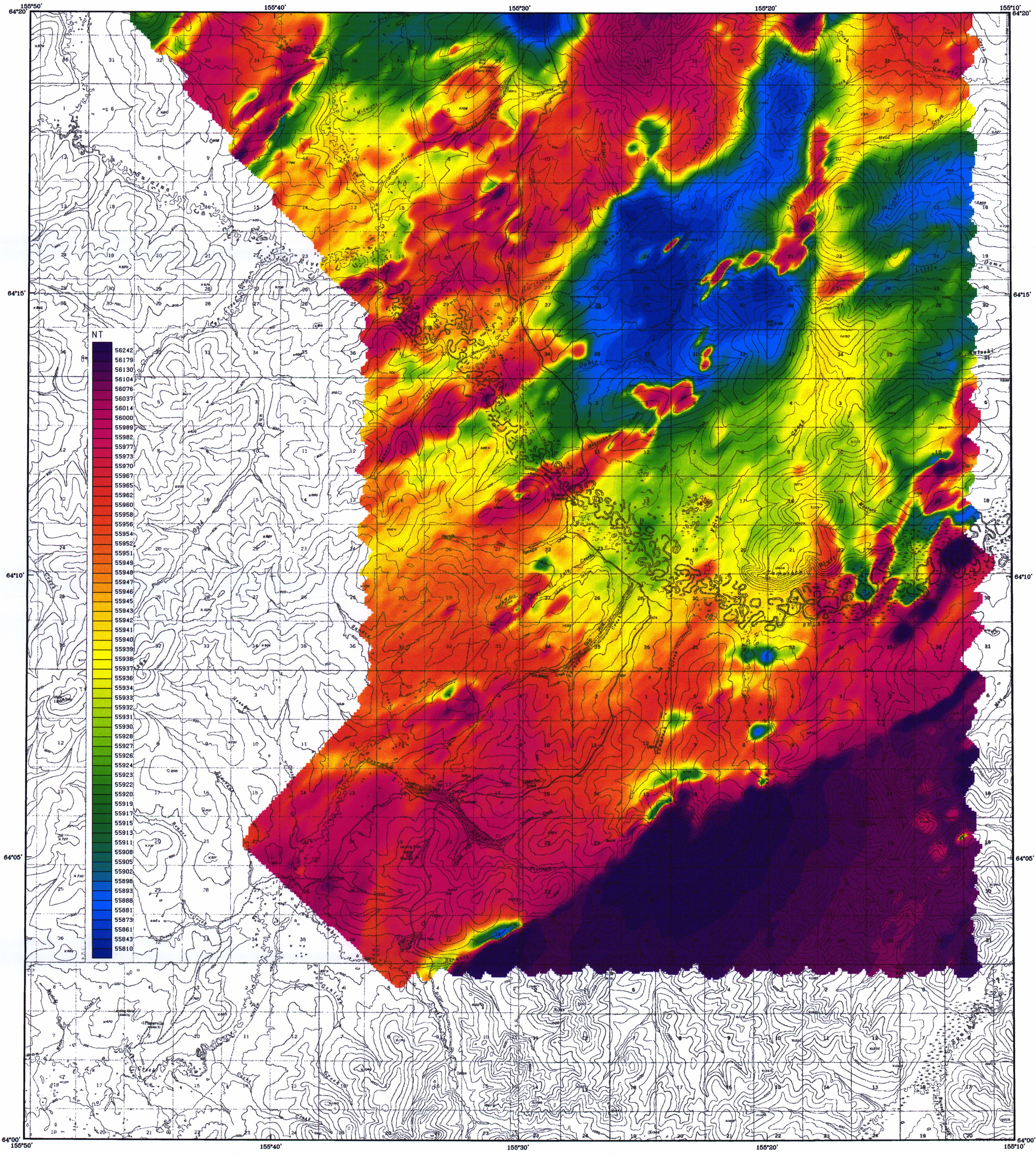
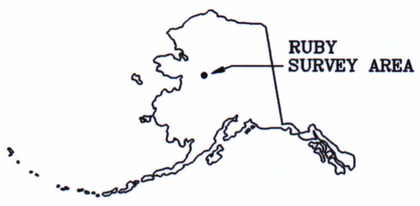


Base from U.S. Geological Survey Ruby A–5, A–6, 1952; B–5, B–6, 1952; Quadrangles, Alaska

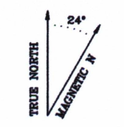


SCALE 1:63,360

1 0 1 2 3 4 MILES

1 0 1 2 3 4 5 KILOMETERS

CONTOUR INTERVAL 100 FEET
DATUM MEAN SEA LEVEL



APPROXIMATE MEAN DECLINATION, 1952

TOTAL FIELD MAGNETICS OF THE RUBY AREA, CENTRAL ALASKA

1998

DESCRIPTIVE NOTES

The geophysical data were acquired with a DIGHEM^{V} Electromagnetic (EM) system, a Scintrex cesium magnetometer, and a Herz VLF system installed in an AS350B–2 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. Tie lines were flown perpendicular to the flight lines at intervals of approximately 3 miles.

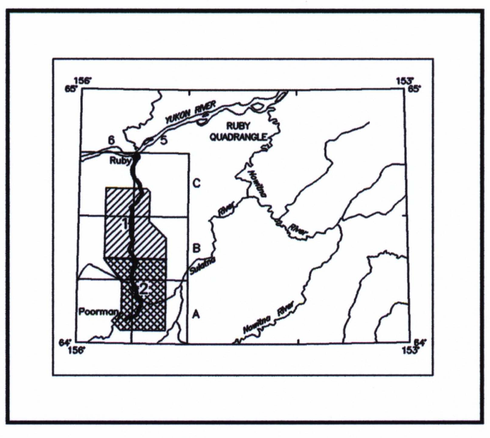
A Sercel Real–Time Differential Global Positioning System (RT–DGPS) was used for both navigation and flight path recovery. The helicopter position was derived every 0.5 seconds using real–time differential positioning to a relative accuracy of better than 10 m. Flight path positions were projected onto the Clark 1866 (UTM zone 5) 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.

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, 1995, updated to August 1997) 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



SURVEY HISTORY

This map has been compiled and drawn under contract between the State of Alaska, Department of Natural Resources, Division of Geological & Geophysical Surveys (DGGS), and WGM, Mining and Geological Consultants, Inc. Airborne geophysical data for the area were acquired by Geoterrex–Dighem, a division of CGG Canada Ltd., in 1997.

This map and other products from this survey are available by mail order or in person from DGGS, 794 University Ave., Suite 200, Fairbanks, Alaska, 99709.