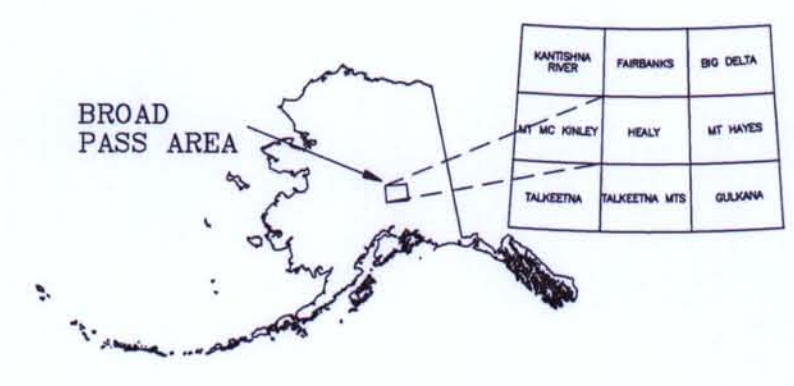


Section outlines from U.S. Geological Survey Healy B-3, 1970; B-4, 1996; B-6, 1993; Healy C-3, 1976; C-4, 1996; C-5, 1978; Quadrangle, Alaska.

SCALE 1:63,360
1 0 1 2 3 4 MILES
1 0 1 2 3 4 5 KILOMETERS

**COLOR SHADOW TOTAL MAGNETIC FIELD
OF THE BROAD PASS AREA,
SOUTHWESTERN BONNIFIELD MINING DISTRICT,
CENTRAL ALASKA
PARTS OF HEALY QUADRANGLE
2002**

**Sun Azimuth: 135 degrees
Sun Inclination: 35 degrees**



DESCRIPTIVE NOTES

The geophysical data were acquired with a DIGEM[®] 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 radar altimeter, GPS navigation system, 50/60 Hz monitors and video camera. Flights were performed with an AS350B-2 Squirrel helicopter at a mean terrain clearance of 200 feet along North-South (0°) 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. The blank regions indicate an area where the survey aircraft had to detour around populated areas.

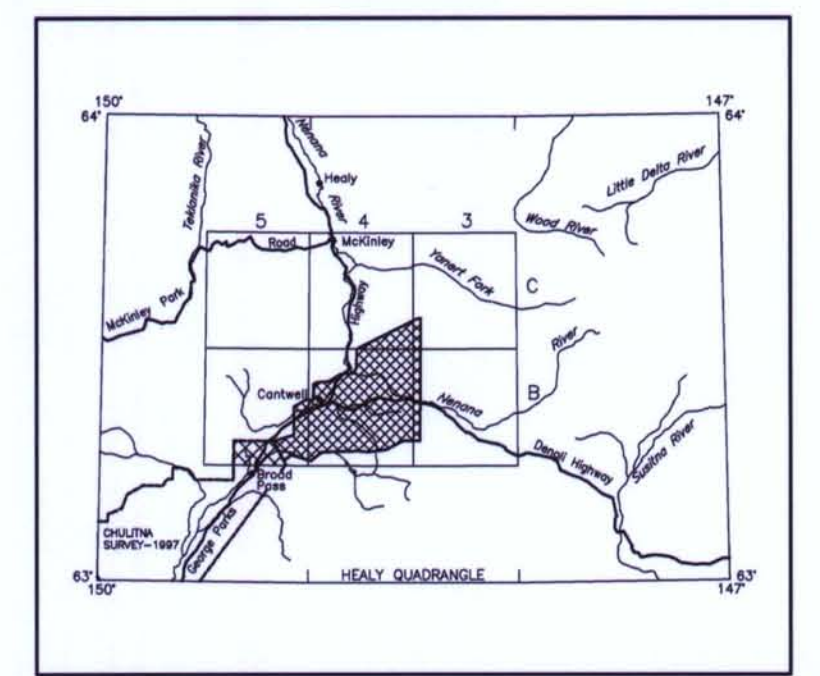
An Ashtech GG24 NAVSTAR / GLONASS Global Positioning System was used for navigation. The helicopter position was derived every 0.5 seconds using post-flight differential positioning to a relative accuracy of better than 5 m. Flight path positions were projected onto the Clarke 1866 (UTM zone 6) spheroid, 1927 North American datum using a central meridian (CM) of 147°, 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 August 2001) 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 (DGG), and Stevens Exploration Management Corp. Airborne geophysical data for the area were acquired and processed by Fugro Airborne Surveys in 2001. Laurel Burns was the contract manager for DGG.

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

