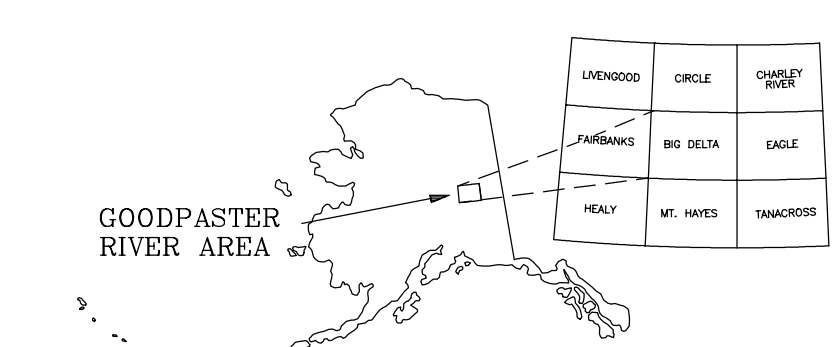


Scale: 1:63,360. 0 1 2 3 4 MILES. 0 1 2 3 4 5 KILOMETERS. SOURCE: U.S. GEOLOGICAL SURVEY. DATA: B-1, 1956; B-2, 1956; B-3, 1956; B-4, 1956. QUADRANGLE: ALASKA.



DESCRIPTIVE NOTES

The geophysical data were acquired with a DIGHEM[®] Electromagnetic (EM) system and a Scintrex cesium magnetometer. The EM and magnetic sensors 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 AS350B-2 Squirrel helicopter at a mean terrain clearance of 200 feet along E-W (90°) 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. 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.

ELECTROMAGNETIC ANOMALIES

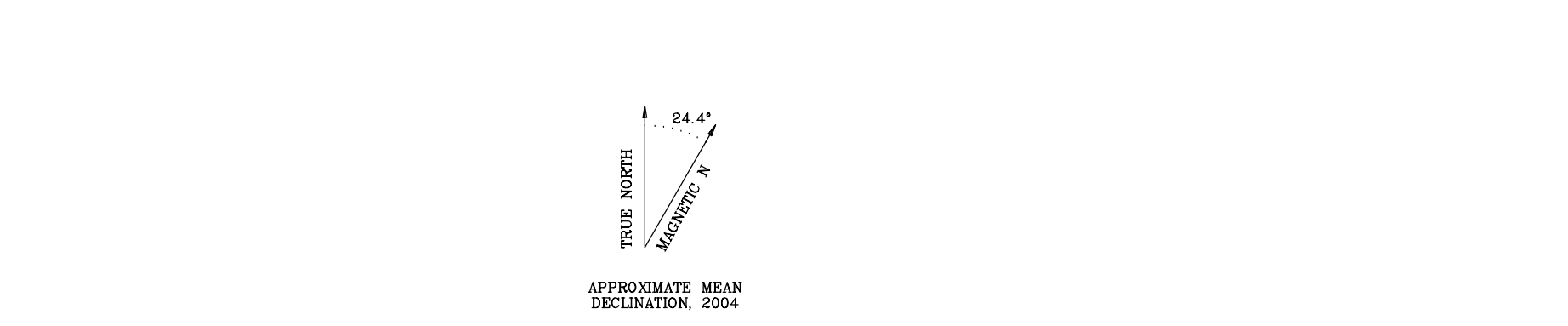
- Conductance >50 siemens
- Conductance <50 siemens
- * Questionable anomaly
- △ Weak conductivity associated with an EM magnetic response

ELECTROMAGNETICS

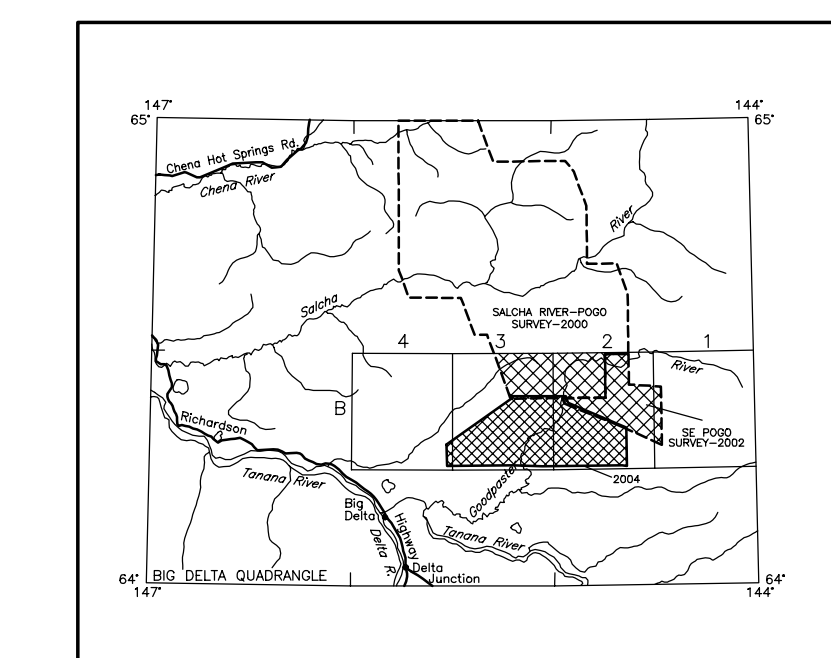
To determine the location of EM anomalies or their boundaries, the DIGHEM[®] EM system measured inphase and quadrature components at five frequencies. Two vertical coplanar-coil pairs operated at 1000 and 5500 Hz while three horizontal coplanar-coil pairs operated at 300, 7200, and 50,000 Hz. EM data 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.

TOTAL MAGNETIC FIELD AND ELECTROMAGNETIC ANOMALIES OF PART OF THE GOODPASTER RIVER AREA, GOODPASTER MINING DISTRICT, INTERIOR ALASKA
BIG DELTA QUADRANGLE

by **Laurel E. Burns, Fugro Airborne Surveys Corp., and Stevens Exploration Management Corp.**
2005



LOCATION INDEX



TOTAL MAGNETIC FIELD

The magnetic total field contours were produced using digitally recorded data from a Scintrex cesium CS2 magnetometer, with a sampling interval of 0.1 seconds. The magnetic data were (1) corrected for diurnal variations by subtraction of the digitally recorded base station magnetic data, (2) adjusted for regional variations (or IGRF gradient, 2000, updated to October 2004) using altimeter adjusted IGRF, (3) leveled to the tie line data, and 4) interpolated onto a regular 80 m grid using a modified Akima (1970) technique.

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 (DGGGS), and Stevens Exploration Management Corp. Airborne geophysical data for the area were acquired and processed by Fugro Airborne Surveys Corp. in 2004. This map and other products from this survey are available by mail order in person from DGGGS, 3354 College Road, Fairbanks, Alaska, 99709-3707. Published maps are also available for viewing or downloading as Adobe Acrobat Files (*.pdf) on our Web site (<http://www.dggs.dnr.state.ak.us/pubs/>).