

Base from U.S. Geological Survey
Chandler A-4, 1961, B-4, 1970, C-6, 1975
Wiseham A-1, 1970, A-5, 1970, B-1, 1975,
C-1, 1971, C-1C-2, 1971.
Quadrangles, Alaska
Projected in UTM zone 6

This publication, released by the Division of Geological & Geophysical Surveys, was produced and printed by Hargreave in Quebec, Canada, at a cost of \$5.00 per copy. Publication is required by Alaska Statute 41. To determine the potential of Alaska land for production of metals, minerals, fuels, and geothermal resources; the location and supply of ground water and construction materials; the relative geologic hazards to buildings, roads, bridges, and other installations and structures; and shall conduct such other surveys and investigations as will advance knowledge of the geology of Alaska.

DESCRIPTIVE NOTES

The geophysical data were acquired with a SIGHEM-5 Electromagnetic (EM) system, a Scintrex cesium CS2 magnetometer, and a 1000 Hz VLF system installed in a LAMA-N48087 Squirrel helicopter. In addition, the survey recorded data from a radar altimeter (TERA), GPS navigation system, 50/60 Hz monitors, and video camera. Flights were performed at a mean terrain clearance of 200 ft 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 three miles.

Two Trimble-4000 SE Differential Post-processing Global Positioning Systems were used for both navigation and flight path recovery. The helicopter position was derived every one second to a relative accuracy of better than 10 m. Flight path positions were projected onto the Clarke 1866 (UTM) spheroid, 1927 North American datum using a Central Meridian (CM) of 147° W, 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 SIGHEM-5 EM system measured in-phase and quadrature components at five frequencies. Two vertical coaxial coil-pairs operated at 870 and 4785 Hz while three horizontal coplanar coil-pairs operated at 945, 4212 and 36360 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 the cultural sources. The EM anomalies that are indicated are classified by conductance.

ELECTROMAGNETIC ANOMALIES

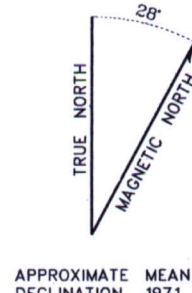
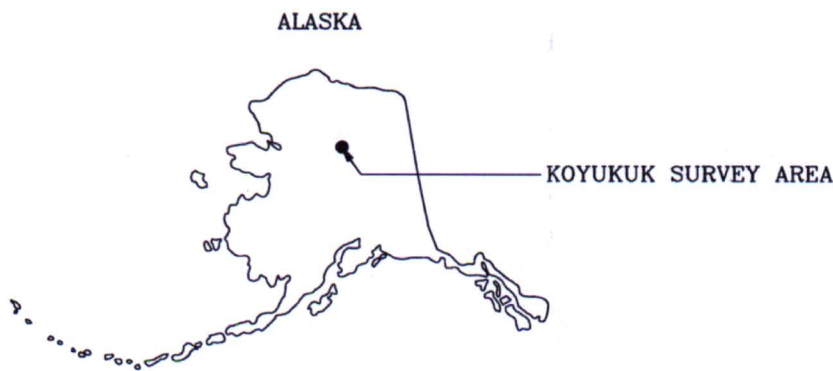
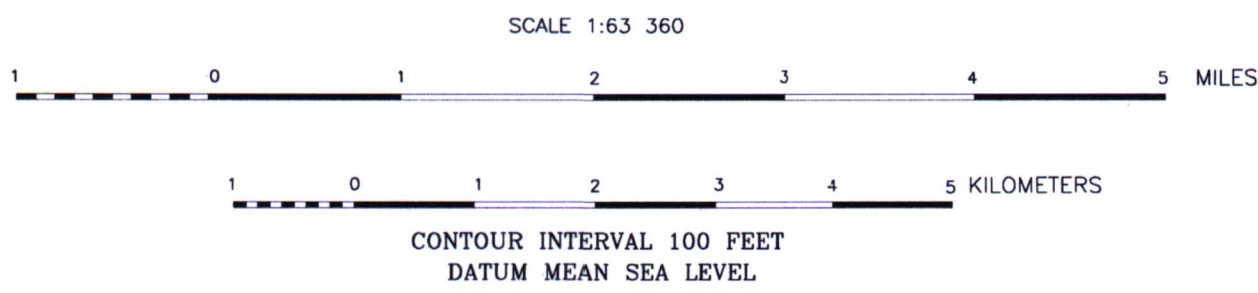
Anomaly
●
>50 siemens
<50 siemens

MAGNETIC CONTOURS

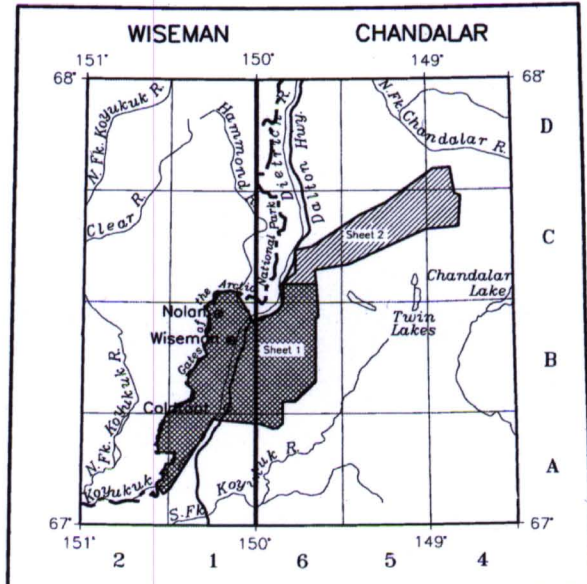
500
100
25
5
magnetic low
magnetic high

FLIGHT PATH INFORMATION

LINE DIRECTION
LINE NUMBER
FIDUCIALS
LINE NUMBER
LINE DIRECTION



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, and On-Line Exploration Services, Inc. Airborne geophysical data for the area were acquired by Sial Geosciences, Inc., in 1997. Funding for the project was provided by the U.S. Department of Interior Bureau of Land Management (BLM).

This map and other products from this survey are available from the Alaska Division of Geological & Geophysical Surveys, 784 University Ave., Suite 200, Fairbanks, Alaska, 99709.

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. A regional trend (IGRF 1995, updated to August 1997) was then 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.588-602.