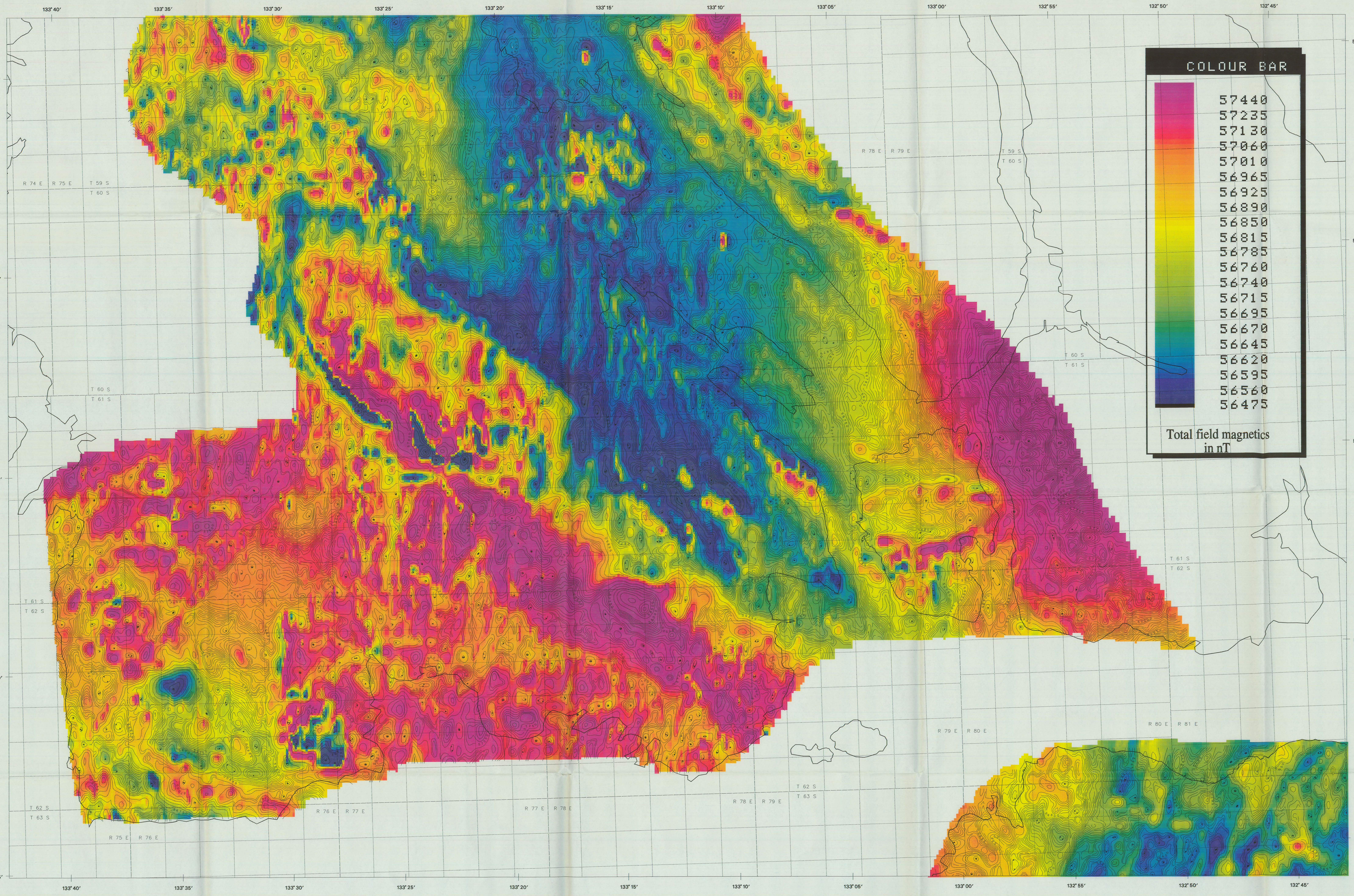
ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS IN COOPERATION WITH U.S. BUREAU OF LAND MANAGEMENT AND CITY OF WRANGELL

REPORT OF INVESTIGATIONS 97-17B



Department of Natural Resources
Division of Geological and Geophysical Surveys
Geologic Data Modeling System

Department of the Interior
Bureau of Land Management

City of Wrangell

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. Funding for the project was provided by the U.S. Department of the Interior Bureau of Land Management (BLM) and the City of Wrangell.

This map and other products from this survey are available from DGGS, 794 University Ave., Suite 200, Fairbanks, Alaska, 99709. Phone: (907) 451-5020. FAX: (907) 451-5050. Some products are also available at the BLM's Juneau Mineral Information Center, Mayflower Island, Juneau, Ak.

DESCRIPTIVE NOTES

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 three miles.

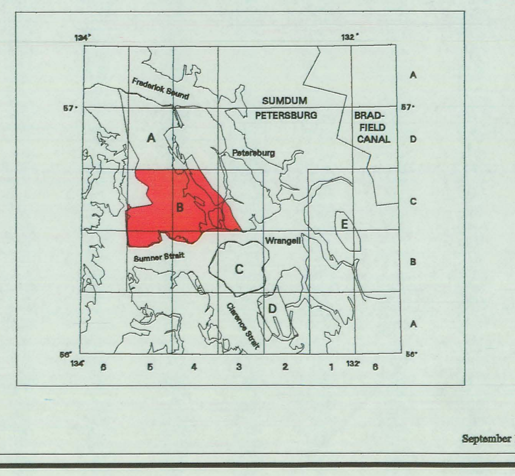
A Sercel Real-Time Differential Global Positioning System (RT-DGPS) was used for both navigation and flight path recovery. The helicopter position was derived every 0.5 seconds using both real-time and post-processing differential positioning to a relative accuracy of better than 10 m. Flight path positions were projected onto the Clarke 1866 (UTM) spheroid, 1927 North American datum using a Central Meridian (CM) of 135 degrees, 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.

NOTICE:

THE COLOR SCHEME USED IS IDENTICAL FOR MAPS RI 97-17A-D IN ORDER THAT THE MAPS CAN BE COMPARED EASILY WITH ONE ANOTHER. SOME DETAILS ON MAPS C AND D MAY BE LOST BECAUSE OF THIS. CUSTOM PLOTS SHOWING DIFFERENT COLOR SCHEMES FOR MAPS C AND D ARE AVAILABLE ON REQUEST.

THE COLOR SCHEME USED FOR MAP RI 97-17E IS DIFFERENT THAN THAT USED FOR MAPS RI 97-17A-D.

LOCATION INDEX



Section outlines from U.S. Geological Survey Petersburg B-3, 1948; B-4, B-5, 1949; B-6, 1951; C-6, 1948; Quadrangles, Alaska

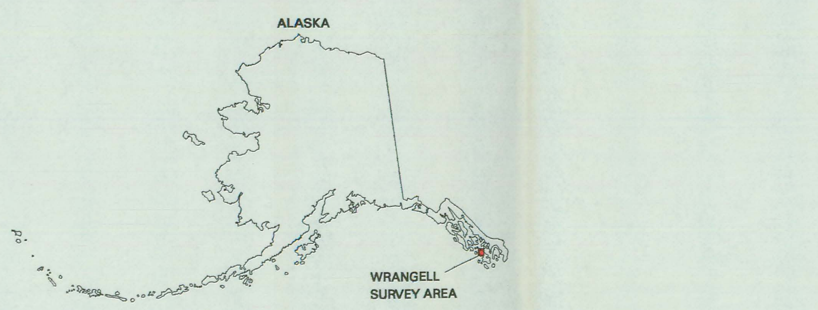
TOTAL FIELD MAGNETICS

The total field magnetic data were acquired 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) 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, 1985 updated to October 1996) 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.

TRUE NORTH
MAGNETIC N
29.5°
APPROXIMATE MEAN DECLINATION, 1951

SCALE 1:63 360



TOTAL FIELD MAGNETICS OF THE STIKINE AREA, SOUTHEASTERN ALASKA
MAP B -- SOUTH DUNCAN CANAL

1997

amls: /files10/laurel/wrang/data/amls/bwrmag.aml plot: /files10/laurel/wrang/data/plots/bwrmag.gra

September 17, 1997