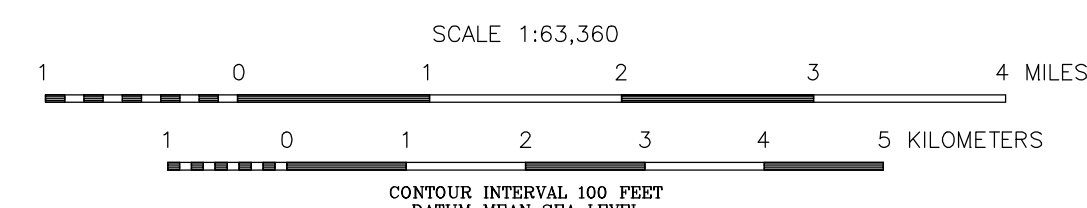
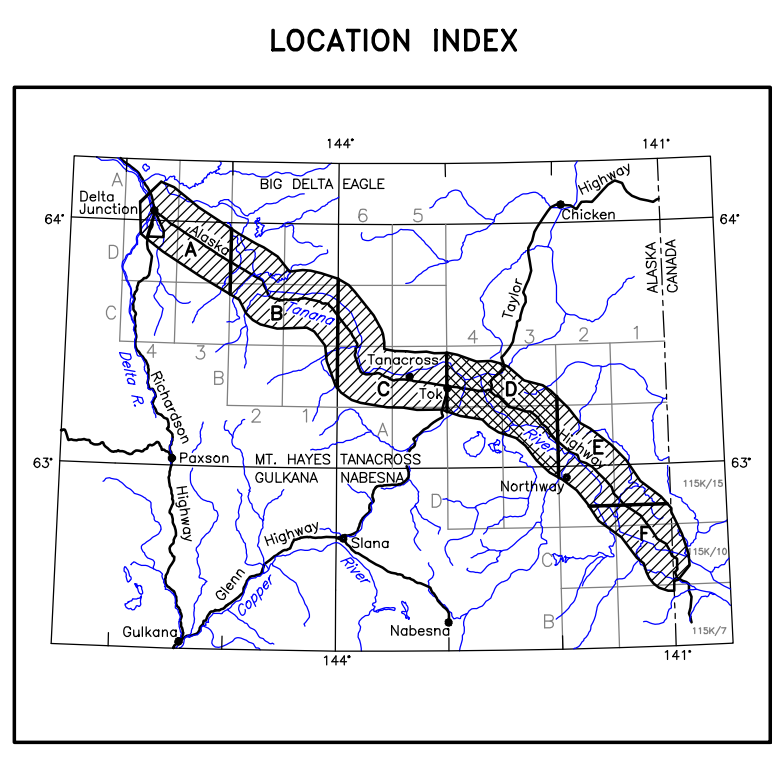
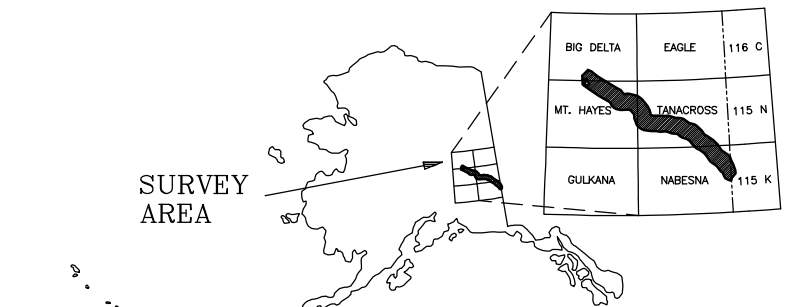


Map from U.S. Geological Survey Open-File Report 83-104, 1983, and U.S. Geological Survey Open-File Report 83-104, 1983.



TOTAL MAGNETIC FIELD OF THE ALASKA HIGHWAY CORRIDOR, EAST-CENTRAL ALASKA

PARTS OF NABESNA and TANACROSS QUADRANGLES
by
Laurel E. Burns, Fugro Airborne Surveys Corp., and Stevens Exploration Management Corp.
2006



DESCRIPTIVE NOTES

The geophysical data were acquired with a RESOLVE Electromagnetic (EM) system and a Scintrex cesium magnetometer. The EM and magnetic sensors were flown at a height of 100 feet. In addition to the survey recorded data from a radio altimeter, GPS navigation system, 50/60 Hz monitors and video cameras, flights were performed using AS350B-2 and AS350B-3 Squirrel helicopters at a mean terrain clearance of 200 feet along NW-SE (350) 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 Aantech CG24 NAVSTAR / GLONAVSS 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 7) spheroid, 1927 North American datum using a central meridian (CM) of 141°, 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 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 IGR gradient, 2005, updated to November 2005) using allimeter adjusted IGRF, (3) leveled to the tie line data, and (4) interpolated onto a regular 80 m grid using a modified Akima (1970) technique.

Adapted from: IGRF, 2005, 6th Edition of International Geomagnetic Reference Field, published by the International Association of Geomagnetism and Aeronomy (IAGA), 2005. Copyright International Association of Geomagnetism and Aeronomy, 2005.

COLOR BAR HISTOGRAM

Approximately 98% of the entire Alaska Highway Corridor aeromagnetic data lie within the range displayed on the color bar. Data values actually range from 56108 nT (dark blue) to about 60180 nT (magenta). Actual values can be seen on digital publication DPR 2006-6.

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 new area were acquired and processed by Fugro Airborne Surveys Corp. in late 2005 and early 2006.

This map and other products from this survey are available by mail order or 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.dgggs.state.ak.us/pubs/>).