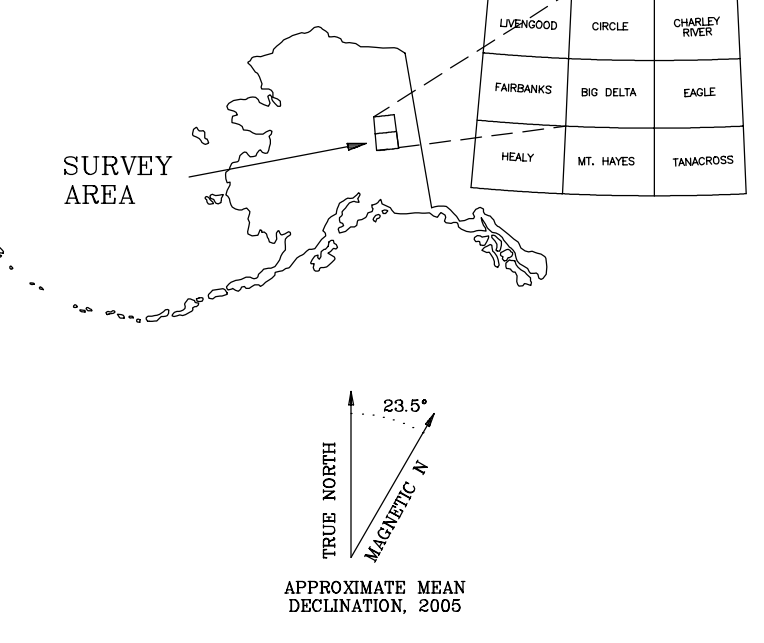
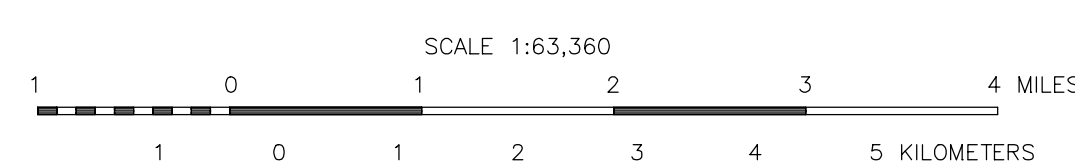


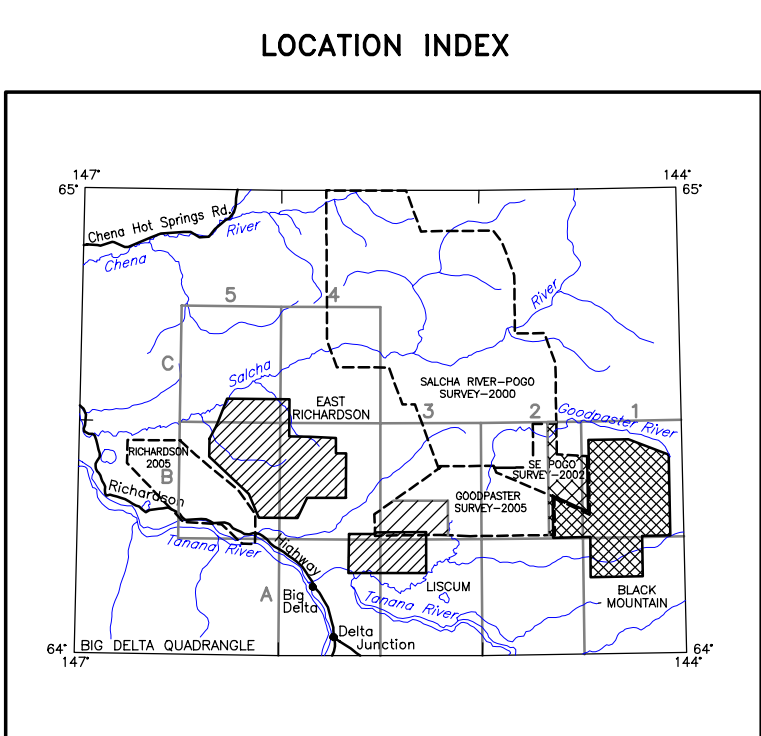
Section outlines from U.S. Geological Survey Big Delta A-1, 1965; A-2, 1964; B-1, 1972; B-2, 1970. Goodpasture, Alaska.



7200 Hz COPLANAR APPARENT RESISTIVITY OF THE BLACK MOUNTAIN AREA, GOODPASTER MINING DISTRICT, INTERIOR ALASKA

PARTS OF BIG DELTA QUADRANGLE

by
Laurel E. Burns, Fugro Airborne Surveys Corp., and Stevens Exploration Management Corp.
2006



DESCRIPTIVE NOTES

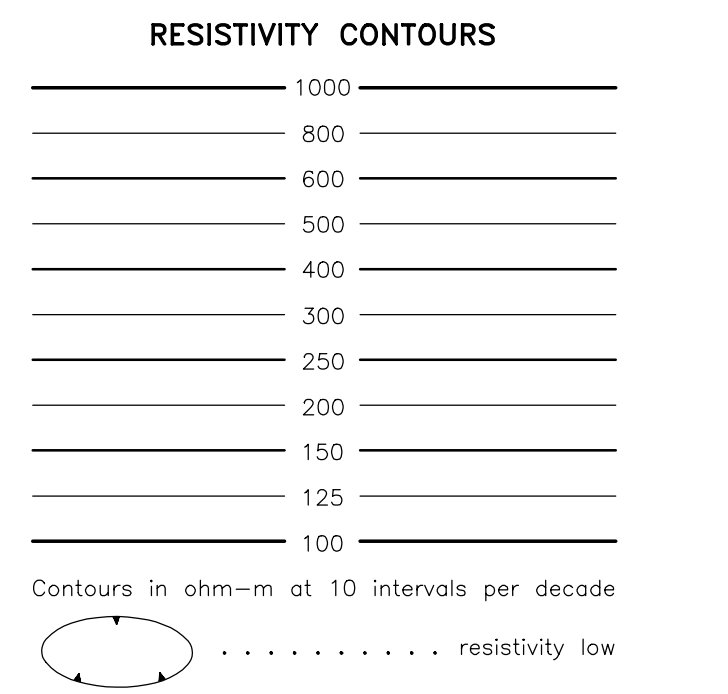
The geophysical data were acquired with a DIGHEM[®] Electromagnetic (EM) system and a Scaintrex cesium magnetometer. The EM and magnetic sensors were flown at a height of 100 feet. In addition the survey recorded data from a rotor altimeter, GPS navigation system, 50/80 Hz monitors and video camera. Flights were performed with an AS350B-2 Squirrel helicopter at a mean terrain clearance of 200 feet along N-S (O) 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.

RESISTIVITY

The DIGHEM[®] EM system measured in-phase and quadrature components at five frequencies. Two vertical coaxial coil-pairs operated at 1000 and 5000 Hz while three horizontal coplanar coil-pairs operated at 900, 7200 and 35,000 Hz. EM data were sampled at 0.1 second intervals. The EM system responds to bedrock conductors, conductive overburden, and cultural sources. Apparent resistivity is generated from the in-phase and quadrature component of the coplanar 7200 Hz using the pseudo-layer half space model. The data were interpolated onto a regular 80 m grid using a modified Akima (1970) technique.

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.989-920.



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 2005.

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.dgggs-dnr.state.ak.us/pubweb/>).