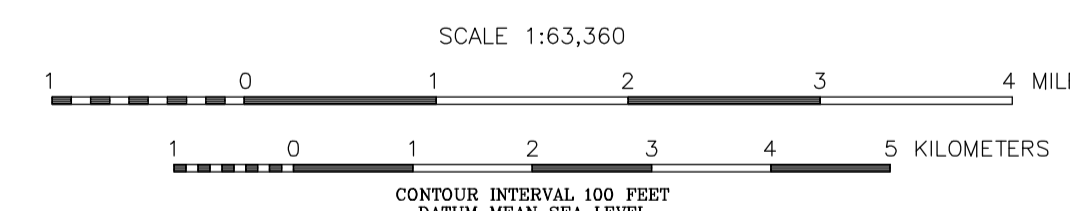


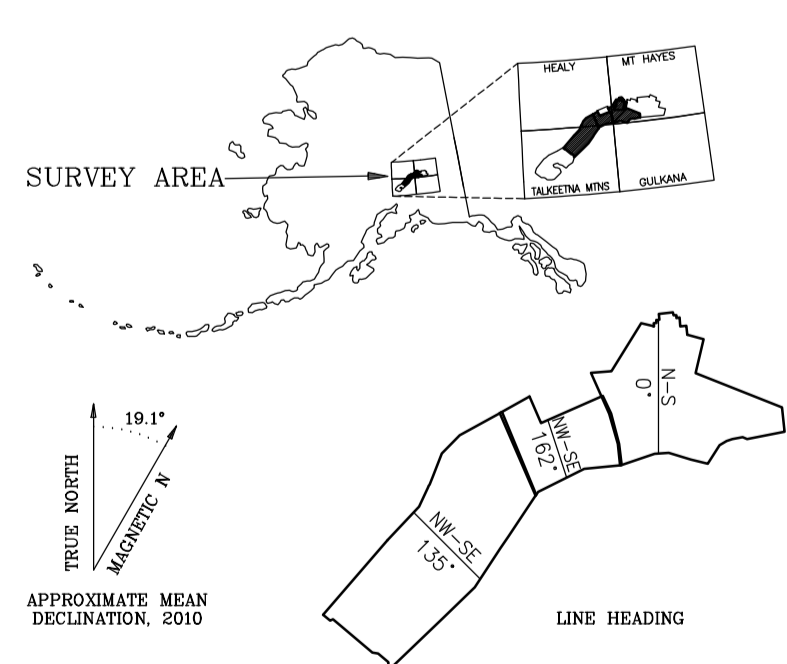
Base from U.S. Geological Survey Talkootna Maps C-2, 1963; C-3, 1977; C-4, 1966; D-2, 1968; D-3, 1969; D-4, 1969; Quadrangles, Alaska.



MAGNETIC TILT DERIVATIVE WITH TOPOGRAPHY AND DATA CONTOURS, WRANGELLIA SURVEY AREA, SOUTH-CENTRAL ALASKA

PARTS OF THE TALLEETNA MTNS, HEALY, AND MT HAYES QUADRANGLES

by
Laurel E. Burns, CCG, and Fugro GeoServices, Inc.
2014



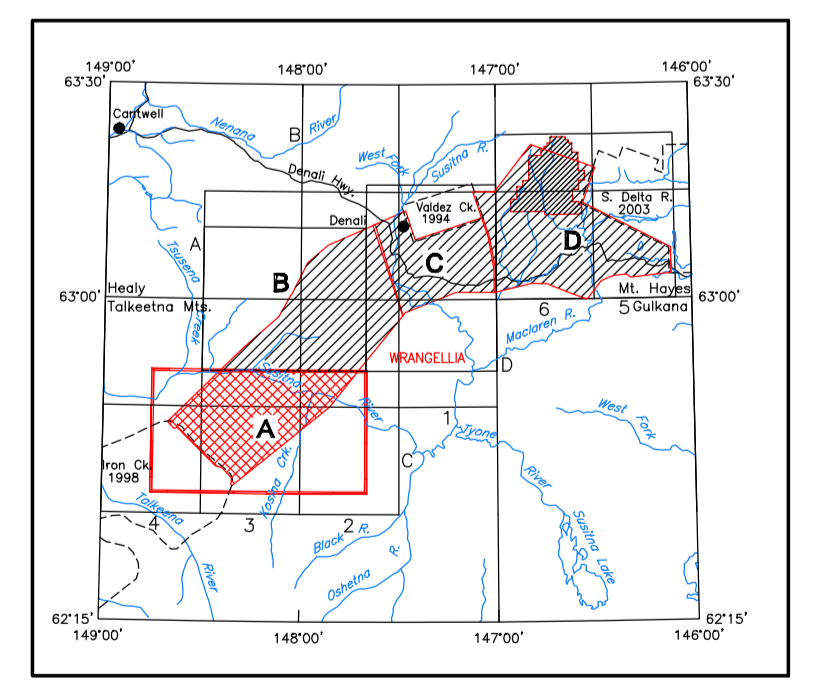
DESCRIPTIVE NOTES

The geophysical data were acquired with a DIGHEMY Electromagnetic (EM) system and a Fugro D1344 cesium magnetometer with a Scintrex CS3 cesium sensor. The EM and magnetic sensors were flown at a height of 100 feet. In addition the survey recorded data from radar and laser altimeters, GPS navigation system, 50/60 Hz monitors and video camera. Flights were performed with an AS-350-B3 Squirrel helicopter at a mean terrain clearance of 200 feet with a spacing primarily of a quarter of a mile, and one eighth of a mile for about 97.9 sq miles. Tie lines were flown perpendicular to the flight lines at intervals of approximately 3 miles.

MAGNETIC TILT DERIVATIVE

The tilt derivative is the angle between the horizontal gradient & the total gradient, which is useful for identifying the depth & type of source. The tilt angle is positive over the source, crosses through zero at, or near, the edge of a vertical sided source, and is negative outside the source region. It has the added advantage of responding equally well to shallow and deep sources and is able to resolve deeper sources that may be masked by larger responses from shallower sources.

LOCATION INDEX FOR 1:63,360-SCALE MAPS



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 Fugro GeoServices, Inc. Airborne geophysical data for the area were acquired and processed by CCG in 2013 and 2014. Previously flown DGGs surveys adjacent to the current survey are shown in the location map by dashed lines, survey name, and date of publication. The project was funded by the Alaska State Legislature as part of the Alaska Strategic and Critical Minerals Assessment project, which is part of the Alaska Airborne Geophysical and Geological Mineral Inventory Program. Millrock Exploration Corporation contributed infill data for a portion of the area shown above as denser hatching. All data and maps produced to date from this survey are available in digital format on DVD for a nominal fee through DGGs, 3354 College Road, Fairbanks, Alaska, 99709-3707, and are downloadable for free from the DGGs website (www.dggs.alaska.gov/pub/). Maps are also available on paper through the DGGs office, and are viewable online at the website in Adobe Acrobat .PDF file format.

