

KETCHIKAN SURVEY "Area 4" - March 1999
The geophysical data were acquired with a DIGHEM[®] Electromagnetic (EM) system and a Sincrex cesium magnetometer. Both were flown at a Sincrex 1000 feet. In addition the survey recorded data from a radar altimeter, GPS navigation system, 50/60 Hz monitors and video camera. Flights were performed with an AS350B-2 Sikorski helicopter at a mean terrain elevation of 1000 feet. Altitude and ground track flight lines for the northern portion and east-west flight lines for the southern portion one-quarter mile apart. Tie lines were flown perpendicular to the flight lines at intervals of approximately 3 miles.

An Ashtech/Racal 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 real-time differential positioning to a relative accuracy of better than 10 m. Flight path positions were projected onto the work area (166° 30' 00" approx. 192° North, American datum using a central meridian (CM) of 135°, 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.

HETTA Survey "Area 3" - May 1992
DOLMI Survey "Aero J1" - March 1991

The Hetta Survey was conducted with DIGHEM[®] (Dolmi) systems, and DIGHEM[®] (Hetta Survey). Electromagnetic (EM) systems and a Scaintex cesium magnetometer were used. The Hetta Survey was flown at approximately 1000 feet AGL. The Dolmi survey was flown at recorded data from a radar altimeter, UHF navigation system, 50/60 Hz monitors, VLF receiver and video camera. The Hetta Survey was flown with an eight mile line spacing with tie lines flown perpendicular to the flight lines. The Dolmi survey was flown with an eight mile line spacing. The Hetta Survey was flown with an eight mile line spacing. The Dolmi survey was flown east-west except for the peninsula between Cordova Bay and Nutwaga Bay.

A De Norte UHF electronic positioning system was used for navigation. Flight path recovery was done with a combination of UHF data and visual observations. The accuracy of the Hetta Survey should be considered of low reliability.



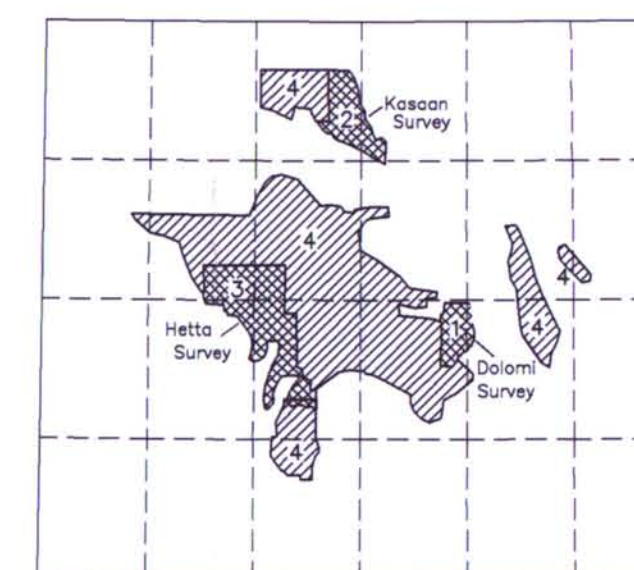
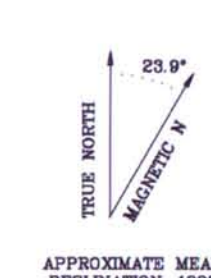
The DIGHEMTM EM system measured inphase and quadrature components at five frequencies. Two vertical coaxial coil pairs operated at 900 and 5500 Hz while three horizontal coplanar-coil pairs operated at 900, 7200, and 56,000 Hz. EM data were sampled at 0.1 second intervals. The EM system responds to bedrock conductors, conductive overburden, and cultural sources. Apparent resistivity is generated from the inphase and quadrature component of the coplanar 56,000 Hz using the pseudo-layer half space model. The data were interpolated onto a regular 100 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. 589-602.

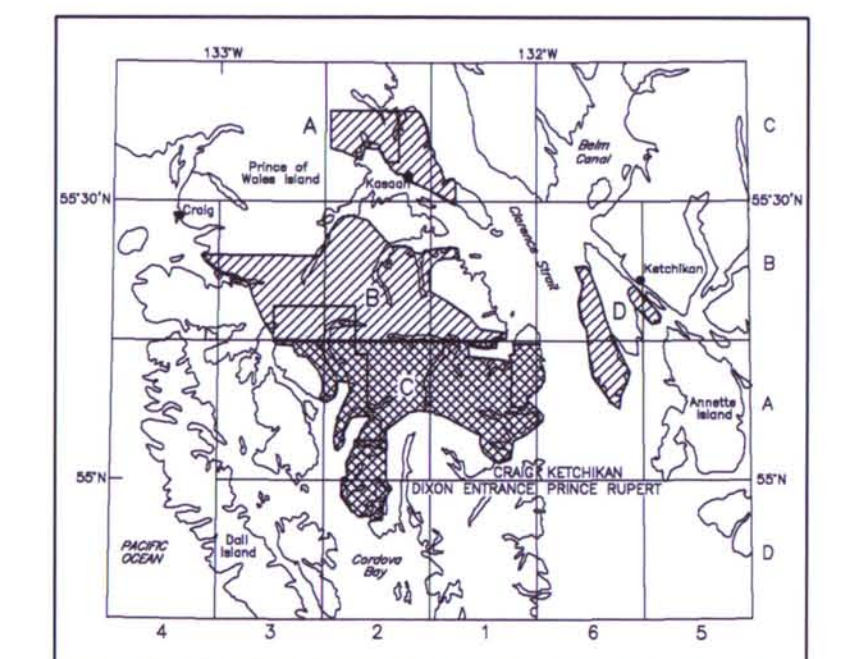
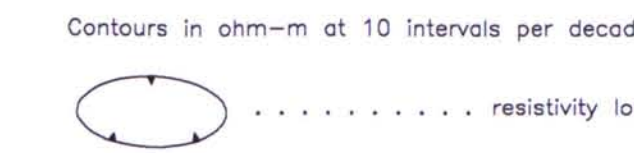
SCALE 1:63,360

1 0 1 2 3 4 MILES

1 0 1 2 3 4 5 KILOMETERS



1000
800
600
500
400
300
250
200
150
125
100



This map has been compiled and drawn under contract between the State of Alaska, Department of Natural Resources (DNR), Division of Geological & Geophysical Surveys (DGGs), and WGM, Mining & Geological Consultants, Inc. Airborne geophysical data for area 4 were acquired in 1999 by Geotrex-Dighem, a division of CGC Geophysical, Inc. Data for areas 1, 2, and 3 were acquired by the U.S. Department of the Interior, Bureau of Land Management (BLM), Ketchikan Gateway Borough, Sealaska Corporation, Alaska State Mental Health Trust Land Office, and the cities of Thorne Bay and Coffman Cove. The data for areas 1, 2 and 3 were flown by Dighem in 1991 and 1992. These data were provided for publication by the Corporation.

This map and other products from this survey are available by mail order, or in person, from DGGs, 794 University Ave., Suite 200, Fairbanks, Alaska, 99709. Some products are also available, in person only, at the BLM's Juneau Minerals Information Center, Mayflower Island, Douglas, AK.