

# Aeromag 1995

## Description of an aeromagnetic survey in Greenland 1995

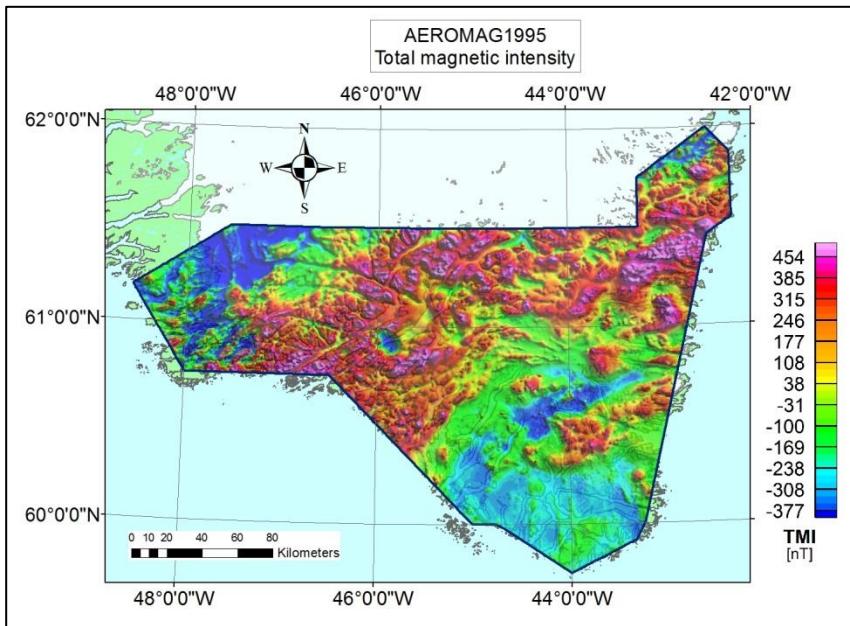
Most of South Greenland (south of 62°N) was covered by the Aeromag 1995 survey (size: 39 902 km<sup>2</sup>). Data were acquired and processed by Sanders Geophysics Ltd. and financed by the governments of Greenland and Denmark. The survey lines are oriented N30W and spaced at 500 metres intervals. Tie-lines were flown at 5 000 metres intervals in an orthogonal direction to the survey lines.

The main geological units in the survey area are the Archean craton to the north and the Palaeoproterozoic Ketilidian orogen to the south. The Palaeoproterozoic Ketilidian orogenic belt can be divided into four zones: the Border zone, the Julianehåb batholith, the Psammite Zone and the Pelite Zone.

The Aeromag 1995 project covers most of the Ketilidian mobile belt and the boundary to the older Archean rocks to the north. The boundary between the two regions is at the west coast placed near 61°30'; north of this is what is usually referred to as 'the border zone'. A part of the Archean craton is to varying degrees overlain by the Ketilidian supracrustal rocks and influenced by tectonic events and the later Midproterozoic Gardar events.

The Archean craton of Greenland is the largest and best exposed craton of the North Atlantic cratons. It consists mainly of granitoid quartz-feldspathic gneisses, probably largely derived from acid to intermediate igneous rocks, but encompasses also rafts of amphibolites. There are many occurrences of supracrustal rocks of varying age within the surveyed area. Most of the craton experienced several phases of folding, faulting and/or metamorphism, often in granulite facies.

South Greenland has historically been a site for mining of cryolite, copper, graphite and gold. It hosts mineral deposits with gold, uranium, zinc, niobium, tantalum, zirconium, hafnium, REE, iron, titanium, vanadium, fluorite and graphite. Additionally, the area has potential for lithium, beryllium, phosphorus, allium and thorium. Several exploration projects are currently active, e.g. gold- and graphite projects.



Total magnetic intensity map from the Aeromag 1995 survey of South Greenland.

Data compilations can be directly downloaded from [Greenland Portal](#) by entering "Geophysics – individual surveys" and selecting this survey. To order hardcopies of map sheets, please contact Geus by email [bhm@geus.dk](mailto:bhm@geus.dk).

#### Selected references:

- Meusy, G. 1996: Project report. High Sensitivity Aeromagnetic Survey. Project Aeromag 1995, South Greenland. For The Geological Survey of Denmark and Greenland. Sander Geophysics Ltd. April 1996. Unpublished report available from GEUS, 37 pp., 9 app.
- Thorning, L. & Stemp, R.W. 1997: Projects Aeromag 1995 and Aeromag 1996. Results from aeromagnetic surveys over South Greenland (1995) and South-West and southern West Greenland (1996). Geological Survey of Denmark and Greenland Report **1997/11**, 44 pp.