

# GREENLAND

## MINEX News

### GREENLAND MINERAL EXPLORATION NEWSLETTER

Greenland MINEX News No. 20

March 2001

## AEM Greenland 1994–1998

*A powerful prospecting tool, now on CD-ROM*

A new CD-ROM release with images of airborne electromagnetic and magnetic data from the project AEM Greenland 1994–1998 is hereby announced by the Geological Survey of Denmark and Greenland (GEUS). The Government of Greenland financed this five-year project, which successfully acquired airborne electromagnetic and magnetic data from six different regions.



### Contents

Page

- AEM Greenland 1994–1998 – A powerful prospecting tool, now on CD-ROM .....1
- Aeromag 2001 – Extends the aeromagnetic coverage to the North.....2
- Abrasive garnet sand surprises – Industrial minerals in the spotlight again in Greenland.....3
- 'Ujarassiorit' or the Greenland mineral hunt – Prize-winners for 2000!.....4
- Short Notice...  
– PGE exploration tops agenda .....4
- And the winner is...  
– The MINEX News South Greenland CD-ROM lottery .....4

The CD-ROM provides an overview of data acquired during the five-year campaign. The data are supplied as Oasis Montaj™ maps that can be viewed using the Oasis Montaj Free Interface. The viewer can be installed from the CD-ROM or it can be downloaded from the Geosoft web <http://www.geosoft.com>

Images are also provided as geo-referenced images in TIF-format that can be imported to GIS-software, e.g. ArcView™ and PCI™.

### GEOLOGICAL SURVEY OF DENMARK AND GREENLAND (GEUS)

Thoravej 8 • DK-2400 Copenhagen NV • Denmark

Tel.: +45 38 14 20 00 • Fax.: +45 38 14 20 50 • e-mail: [minex@geus.dk](mailto:minex@geus.dk) • homepage: [www.geus.dk](http://www.geus.dk)

### BUREAU OF MINERALS AND PETROLEUM (BMP)

Government of Greenland • P.O. Box 930 • DK-3900 Nuuk • Greenland

Tel.: +299 34 68 00 • Fax: +299 32 43 02 • e-mail: [hmn@gh.gl](mailto:hmn@gh.gl) • homepage: [www.hmn.gl](http://www.hmn.gl)

AEM Greenland 1994–1998 encompassed high-resolution, multi-parameter surveys (electromagnetic, magnetic and in one case also radiometric data) each from 1994 to 1998 producing a total of 75 000 line-kilometres.

- 1994: GEOTEM survey in Inglefield Land, North-West Greenland. The area is underlain by the Early Proterozoic crystalline shield (Inglefield mobile belt) overlain by Proterozoic to Cambrian platform sequences.
- 1995: GEOTEM survey in the Maniitsoq-Nuuk area of southern West Greenland, located within the northern part of the Archaean craton of West Greenland. Massive sulphides are known in the so-called 'Norite Belt' and in Archaean greenstones, together with late kimberlite dykes/diatremes(?) are some of the probable targets in this region.
- 1996: Helicopter-borne survey in the Grønnedal region, South-West Greenland. Five separate blocks were mapped, primarily covering the Archaean Tartoq and the Early Proterozoic Ketilidian supracrustal belts.
- 1997: GEOTEM survey of the northern portion of the Jameson Land basin. This basin is composed of thick sequences (up to 17 km) of Palaeozoic and Mesozoic sediments of continental and marine provenance, injected by Tertiary sills, dykes and intrusions.
- 1998: GEOTEM surveys in two areas. A survey was conducted in Washington Land and Daugaard-Jensen Land of western North Greenland over Lower Palaeozoic sedimentary deposits. The other survey was in J.C. Christensen Land, eastern North Greenland where the thick Proterozoic and Paleozoic succession contains basaltic rocks.

The CD-ROM is issued with a report that gives a brief description of the data, an introduction to the geology and a number of key references.

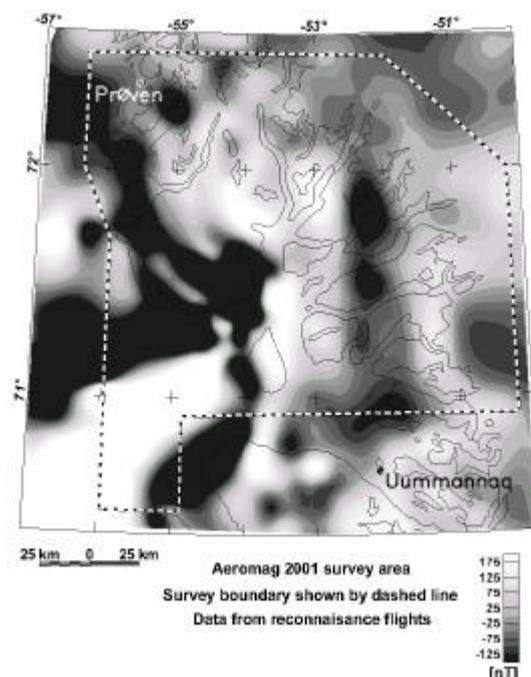
## Aeromag 2001

*Extends the aeromagnetic coverage to the North*

After a break from the flying in 2000, the Bureau of Minerals and Petroleum (BMP) has decided to initiate a new aeromagnetic survey to be carried out in 2001, covering a region in West Greenland between Uummannaq and Prøven (approximately 81 000 line-kilometres). Together with data from previous projects (see MINEX News 16), the new survey will provide full coverage with modern high-resolution, regional magnetic data of West Greenland from 60°N to 72°30'N.

Most of the survey will cover onshore areas but some part will be offshore. This survey will provide valuable information for the exploration of both mineral and hydrocarbon resources.

The area between Uummannaq and Prøven is characterised by an Archaean crystalline-basement, an impressive succession of Pa-



Aeromag 2001 survey area

laeoproterozoic sediments intruded by a granitic complex, minor outcrops of down-faulted Cretaceous sediments, and Tertiary plateau basalts. The Archaean rocks, which have been correlated with similar rocks on neighbouring Baffin Island in Canada, were folded and metamorphosed during the Hudsonian orogeny c. 1.85 Ga and intruded by a 1.65 Ga old dolerite dyke swarm.

The Palaeoproterozoic Karrat Group hosts the now exhausted Black Angel lead-zinc deposit (see MINEX News 12) which was mined 1973–1990. Similar marble-hosted lead-zinc occurrences at other localities indicate an additional potential for this type of mineralisation. The clastic rocks of the Karrat Group comprise extensive sulphide facies iron-formation and vein-type mineralisation with base and precious metals.

Additionally, the group offers a potential for shale-hosted sulphides and turbidite-hosted gold-bearing veins and shear zones. The Tertiary volcanic rocks have units of ex-

tremely reduced lavas with native iron, indicating a potential for Ni-Cu-PGM Norilsk-type occurrences.

The basaltic rocks in the outer, coastal areas, with both normal and reverse magnetisation, are clearly going to dominate the measured magnetic responses. Farther inland, the magnetic signatures as presently known are difficult to interpret. Results from reconnaissance flights indicate a very prominent, broad magnetic low extending about 150 km north-south, which has no obvious expression in the surface geology. The programme will be carried out as a fixed-wing aeromagnetic survey with similar parameters as used further to the south i.e. following a gently draped surface at 300 m above ground, with a line spacing of 500 m and tie-lines 5000 m apart. The survey is funded by the BMP. As in previous years, data are expected to be released by March the following year (2002).

## **Abrasive garnet sand surprises**

### ***Industrial minerals in the spotlight again in Greenland***

Garnet sand has recently been added to the catalogue of commodities explored for in Greenland. In mid-2000, a beach deposit of garnetiferous sand in southern West Greenland caught the attention of A.H. Clark & Associates of Blind River, Ontario, Canada. The company has conducted preliminary investigations on site in relation to a prospecting licence and subsequently applied for an exploration licence covering 9 sq. km around the deposit. The first results suggest that the deposit may hold a resource of 10 Mt of sand with at least 20%

garnet. The garnet sand has been tested for waterjet cutting purposes and its properties were found to be favourable. Another garnet sand deposit was discovered nearly 500 km to the north by a local resident, who submitted a sample for the public mineral hunt programme 'Ujarassiorit' (the collector of the sample was awarded 2nd prize, see below). The sample contains 80% garnet and the quality for waterjet cutting purposes seems promising. An exploration licence has been applied for in January 2001.

## **'Ujarassiorit' or the Greenland mineral hunt**

### ***Prize-winners for 2000!***

With the announcement of the awards for the 2000 campaign, the Greenland domestic mineral hunt programme, Ujarassiorit, has entered the second decade. The programme (see MINEX News 16 for a detailed description) is organised by the Bu-

reau of Minerals and Petroleum (BMP) in Nuuk as a competition with annual prizes. For the year 2000, BMP has received 450 rock samples and about 150 of these were chosen for chemical analysis. The 1st prize of 25 000 DKK was given for a 5 ppm gold-

bearing amphibolite from the Palaeoproterozoic terrain south of Aasiaat, West Greenland. Two 2nd prizes (15 000 DKK each) were awarded for a massive ilmenite sample from Tasiilaq in South-East Greenland and a heavy mineral sample of pure garnet sand from a beach placer north of

Upernivik Ø, central West Greenland. In addition three prizes of 5000 DKK are awarded for gold-rich and titanium-rich samples from other parts of Greenland. Detailed information on the year 2000 samples will be available on the BMP web site in the near future: <http://www.bmp.gl>

## Short Notice...

### *PGE exploration tops agenda*

This was the message on page 6 in the Northern Miner No. 50 of February 2001, that reported on the just concluded Cordilleran Roundup event in Vancouver. Our staff at this gathering also reported an extraordinary interest for the PGEs, especially palladium, following our presentation of the Greenland Skaergaard palladium deposit (MINEX News 19). GEUS has just

released a new report based on many years of work and interest, thoroughly elucidating the Pd potential of this already famous deposit. The report is available from GEUS.

*Nielsen, T.F.D. 2001: The palladium resource of the Skaergaard Intrusion, southern East Greenland. Danmarks og Grønlands Geologiske Undersøgelse Rapport 2001/23, 40 pp.*

## And the winner is...

### *The MINEX News South Greenland CD-ROM lottery*



“The future with Greenland MINEX News” was the headline to our questionnaire in the former issue of our newsletter (MINEX News 19). Our aim was to review the need for hard copy issues versus web issues. Around 10% of the overseas receivers of MINEX News had taken the time to inform us of their views. A clear majority (70%) clearly prefers the hard copy version, whereas the remaining replies want only the web edition. This is certainly a clear hint to the editorial staff and we will seriously consider how to continue and improve

a hard copy MINEX News issue along with a parallel presentation on the MINEX News homepage at <http://www.geus.dk>. We also assume that the 90% silent majority probably would like to continue as they are used to – the latest MINEX News printed edition for the office coffee-table display!

The draw among replies resulted in the free **South Greenland CD-ROM being sent** to:

Mr. R.B. Cook  
Exploration Geologist  
75 Denlow Blvd.  
Don Mills, Ontario  
M3B 1P8  
Canada



The MINEX News' staff and supporters congratulate.

Editor: Karsten Secher  
Lay-out: Birgit Eriksen  
Stop press time: 1 March 2001

ISSN 0909-0649