

## Review of the Survey's activities in 1983

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The Geological Survey of Greenland (GGU) continued in 1983 its scientific and practical investigations of the geology of Greenland and assisted in the promotion and control of exploration and exploitation of raw materials in Greenland.

GGU's work encompasses systematic geological mapping, geochemical and geophysical studies, petroleum geology, ore geology and glaciology. Much of this work is of scientific nature, but since it has often practical applications, a clear distinction between 'scientific' and 'applied' studies cannot be made.

The geological mapping of the Ivisártoq sheet (64 V.2 N) in inner Godthåbsfjord was completed by a group from Exeter University (U.K.). Work on the nearby Fiskefjord sheet (64 V.1 N), started in 1981, was continued, and mapping of the map sheet Svartenhuk (71 V.1 N) in central West Greenland was concluded. In South Greenland, detailed mapping of the southern part of the Ilímaussaq intrusion near Narssaq was completed by a group from the University of Copenhagen. Preparations were made for the field activities in the central part of North Greenland scheduled for 1984 and 1985, and a reconnaissance trip was made to South-East Greenland in cooperation with the Geodetic Institute. A geochemical/geo-chronological reconnaissance was carried out in the area between Holsteinsborg and Disko Bugt.

The petroleum geological field investigation in Jameson Land (East Greenland), started in 1982, was concluded. The aim of this study was to gain knowledge of the structure and evolution of the sedimentary basin, and to assess the petroleum potential of the basin in general. Regional gravity data were acquired for GGU by the Geodetic Institute in Jameson Land and along the coast south of Scoresby Sund, in connection with the petroleum geological field work. GGU has, on the basis of these investigations, continued to assist the Mineral Resources Administration in their negotiations with ARCO-Nordisk Mineselskab concerning a petroleum concession in Jameson Land.

The programme of mineral resources mapping in West Greenland was continued. An investigation of sulphide mineralisation was carried out in the Ivigtut district, with special emphasis on the possibility of gold mineralisation in the Sermiligårssuk area north of Ivigtut. Studies were continued on the occurrence of scheelite mineralisation in Godthåbsfjord. A short reconnaissance investigation of niobium mineralisation was carried out in the Narssarssuaq area, to facilitate the start of a larger scale niobium project in 1984.

Environmental studies, focused on the heavy metal content of sea water, and coring of recent bottom sediments in order to determine the rate of accumulation, were carried out around the lead-zinc mine at Marmorilik, along the coast between Godthåb and Frederikshåb, and near the cryolite mine in Arsuk Fjord. This programme was carried out in cooperation with the Greenland Fisheries Research, with participation of the Technical University of Denmark.

GGU's glaciological-hydrological investigations, related to the possibility of hydropower

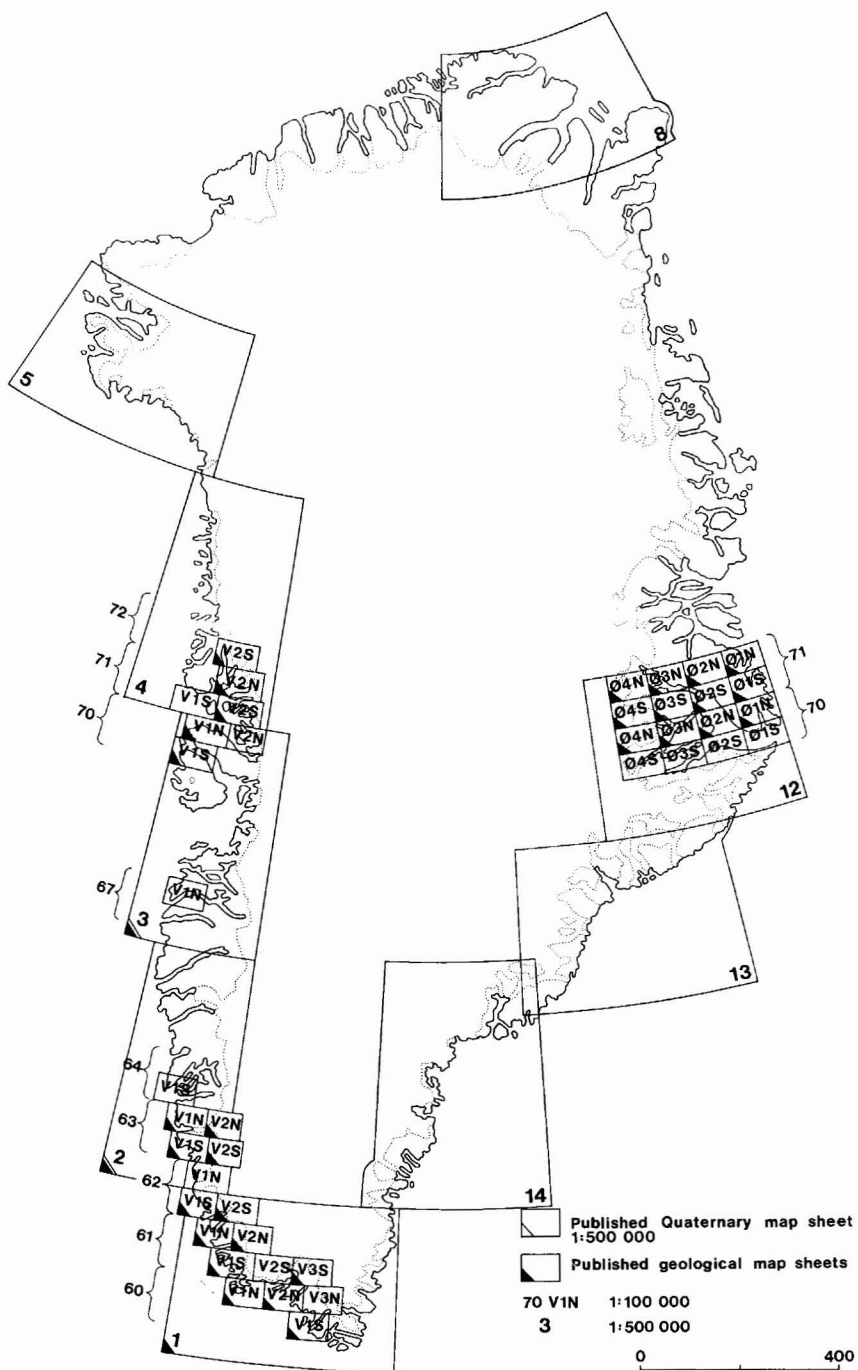


Fig. 2. Map sheets published and in preparation by the Survey (see inside rear cover).

development in Greenland, were continued in 1983 in three type areas in West Greenland near the Inland Ice and in a number of minor basins near Greenlandic towns. The work in the southernmost area, Johan Dahl Land, was concluded after six years' measurements, and a final report on this investigation was prepared.

Aeromagnetic measurements were carried out over the Inland Ice, in cooperation with the Geological Survey of Canada and the National Aeronautical Establishment of Canada, in order to study the continuation of geological structures from the ice free areas beneath the ice cap.

In 1983 the Survey also had the responsibility for a number of projects funded partly from external sources. The project NAD (supported by the EEC and the Danish Ministry of Energy) continued the interpretation of offshore geophysical data from East Greenland. This project, which will finish in 1984, has already provided a wealth of data on the structure and regional petroleum potential of the East Greenland shelf.

The project 'Syduran' (supported by the Ministry of Energy) was concluded at the end of 1983 and a final report is being prepared. Financial support for continued uranium exploration in South Greenland has been applied for.

The hydropower investigations in Johan Dahl Land, mentioned above, were supported by the Ministry of Energy, and the studies of the near-town basins by the EEC.

A project to study phosphate occurrences in relation to carbonatites in West Greenland (supported by the EEC) was initiated in 1983. New projects on petroleum source rock geology in North Greenland and niobium exploration in South Greenland (supported by the Ministry of Energy and by the EEC, respectively) will start during 1984.

GGU's director for more than 25 years, K. Ellitsgaard-Rasmussen, retired on 1st July 1983. He led GGU from the time of its expansion and became the first director when the Survey became a Directorate under the Ministry of Greenland in 1966. He saw the growth of the Survey from a handful of staff seconded from the University of Copenhagen to a staff of over 100 at his retirement. Throughout the years he has done more than any other to define GGU's sphere of activity and objectives, and his geological background had a strong influence in his approach to the scientific and practical work involved. Dr.phil. Martin Ghisler was appointed as GGU's director from 1st January 1984.