

Cretaceous relief was considerable, and in some hollows in the old land surface fluviatile sediments accumulated. In other hollows there must have been lakes, since the lowest extrusives filling these are breccias and locally pillow lavas.

Dykes are very numerous in the breccia and picrite formations and may be of picrite, olivine basalt or plagioclase-porphyrific basalt. In the upper basalt formation they are rare, with the notable exception of the SW coast of the peninsula where a NW-trending swarm of dykes dipping NE at angles as low as  $60^{\circ}$  cut the SW-dipping flows. Large sheets and sills of dolerite occur at or near the border between the Cretaceous-Tertiary rocks and the underlying Precambrian but otherwise are not common.

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### FIELD MAPPING IN THE EGEDESMINDE-CHRISTIANSHÅB AREA (SHEETS 68 V.1 AND 68 V.2)

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As part of the programme to produce geological maps at scale 1:500 000 of West Greenland, a photogeological interpretation of the areas covered by the sheets 68 V.1 Egedesminde and 68 V.2 Christianshåb was made in the summer of 1965. It was hoped that an interpretation of the aerial photos, with the help

of the geological reconnaissance map by Noe-Nygaard and Ramberg (1961) would provide not only structural information, but also lithological details in the inland areas not covered by their map. The photo-interpretation provided much structural information. It did not, however, yield as much lithological information as had been hoped, despite the existence of this earlier map; this was mainly due to two factors. (1) The earlier map was based on topographical maps that were not prepared photogrammetrically, so that the positions of the boundaries shown were difficult to identify on the photos. (2) The variations in rock type shown on the map did not show up well on the photos. Lichen cover and insufficient differential weathering since the area was glaciated are the main reasons for this. The area was therefore examined in the field during the summer of 1966; the aim was to cover as much as possible of the two map sheets in the course of one field season.

This area forms part of the Nagssugtoqidian fold belt defined by Ramberg (1949); two of the three constituent complexes, the Egedesminde complex and the Isortoq complex, occur within the area mapped. The Egedesminde complex, which has recrystallized under amphibolite or epidote - amphibolite facies conditions, covers the larger part of the two sheets; the Isortoq complex, which has recrystallized under granulite facies conditions, occurs in the south-west of the area.

The predominant rock type in the Egedesminde complex is a granodioritic hornblende- or biotite-gneiss varying from well banded to weakly banded or homogeneous. The complex contains zones of mica-schist and amphibolite. The schists are particularly well developed in the area near Ikamiut, and also near Christianshåb; in addition to biotite and muscovite, garnet and sillimanite are found in the schists. Bands of marble and calc-silicate rock occur in association with the schists near Christianshåb; a band also occurs in the gneiss in the inner part of Arfersiorfik fjord. Several previously unmapped schist belts were found in the Naternaq (Lersletten) area south of Sydøstbugt. The mica-schists and greenstones that make up a group of small islands north-east of Egedesminde, described in detail by Ellitsgaard-Rasmussen (1954), form a part of this complex.

The photogeological interpretation had already made it clear that the structure of the Egedesminde complex is dominated by "Nagssug toqidian" trends lying between NE-SW and E-W, with rather steeply dipping foliation. In places where the presence of marker bands permits the structural details to be worked out there is clear evidence that the rocks have been subjected to isoclinal

folding, the axial planes of the folds being steeply dipping to vertical. An area where this can be seen very clearly is that south of Ikamiut; the pattern of alternating gneiss and mica-schist bands shown on the reconnaissance map is the result of isoclinal folding about gently plunging axes.

Only a small area of the Isortoq complex, in the lower part of Arfersiorfik fjord, was examined. The rocks in question are hypersthene-gneisses and contain amphibolite layers. The boundary between the two complexes is transitional with some alternation of amphibolite facies gneisses and granulite facies gneisses.

Discordant amphibolite bodies occur, but are not common, and were found almost exclusively in the northern part of the Christianshåb sheet. Some of them have fine-grained margins. There are occasional later pegmatites and quartz veins.

Dolerite dykes, including the globule dyke described by Ellitsgaard-Rasmussen (1952) are present in the area, but are few in number.

Wrench-faulting was observed west of Ikamiut but in general few faults of importance were seen.

Marine Quaternary clays cover a large area inland south of Sydøstbugt and isolated occurrences are present along the sides of Arfersiorfik fjord. These clays reach a height of some 75 m above sea level.

#### References

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