

Cambrian Brønlands Fjord dolomite and a tillite at the base of which the boundary of the Eocambrian is placed. A dating of the discordant sills in the Precambrian below the tillite has recently given an age of about 1000 m. y. (see Henriksen & Jepsen, this report).

The chert sample is black in colour; it shows a layer a few cm thick with abundant ooliths, the diameter of which is up to about 3 mm. A section perpendicular to the bedding plane shows that most of the ooliths are of a flat elliptical shape and many are lying oriented in about the same way following the bedding plane. Many of the ooliths are in contact with each other.

The microfossils are found between and within the ooliths with a clear concentration in the outer part of the ooliths.

A thread-formed microfossil is very abundant. It shows close affinity to the genus *Eomycetopsis* described from the late Precambrian of Australia (Schopf, 1968). It consists of long unbranched tubes with distinct, rather thick, granulate walls. The diameter varies around 4 micron and the length is up to 400 micron. The tubes occur in dense clusters or as long straight single tubes. Only a few indistinct septations are observed in the tubes. Another type of microfossil from the chert also closely resembles the Australian flora described by Schopf. It has a globular form with a diameter of 120 micron and is related to colonies of the genus *Myxococcoides*.

Besides these two forms others have been observed.

Organo-chemical investigations of the material have not been carried out because too little material is available but it is hoped that new collections can be made in the coming years.

References

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FIELD WORK IN THE AGTO – NORDRE STRØMFJORD REGION

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Mapping in the Agto region was continued in 1969; during this, the fourth, season seven teams participated. The following review of the season's work summarises only the new information. Outlines of the general geology of the area are to be found in previous annual reports and K. Sørensen (in press).

The main activity was in the area north of the outer part of Nordre Strømfjord and around Gieseckes Sø where a lightweight dinghy was in use. Long ENE trending belts of metasediments were mapped in this region. The mountain Kingigtoq (730 m) was found to be made up of coarse microcline granite in a variety of textural developments. The position of this granite apparently controls the closures of the large metasediment synforms.

The mapping in the Ataneq fjord region was brought to a preliminary conclusion. The extensive areas of agmatites north of this fjord are traversed by metadykes which below the metasediment synforms apparently acquire the character of sills. The agmatites themselves may to some extent be derived from basic dykes, and thus there is a possibility that the rocks have undergone a twofold basement history. It was also noted that the granulite facies gneisses are retrometamorphosed to garnet-biotite gneisses and that this retrogression is accompanied by large microcline-biotite pegmatites.

P. Brøgger Sørensen (this report) made an extensive collection and examination of calc-silicate rocks and marbles in the whole Nordre Strømfjord-Ataneq region. A reconnaissance field trip was made to the interior parts of Nordre Strømfjord (Ugssuit) to make systematic collections of various lithologies crossing the mineral facies boundaries mapped by Noe-Nygaard & Ramberg (1961), and to visit the supracrustals in Ugssuit, reported by Escher (1966).

On the north shore of Ugssuit, the easternmost inlet from Nordre Strømfjord, a narrow belt of vaguely migmatized metasediments (marbles and banded biotite gneisses), garnet amphibolites and ultrabasics occurs. These rocks are possibly equivalents to the metasediments farther west in Nordre Strømfjord and the Agto area. Approximately 2 km north of the main river in Ugssuit and a few hundred metres from the easternmost extension of the metasediments mentioned, supracrustal rocks consisting of basic actinolite schists, quartzites (white and rusty) and gneissic schists, alternating with amphibolite bands, are found. In one locality biotite-bearing quartzites showed well-preserved current bedding. The base of the supracrustals could not be observed, but there appears to be a 30° angle between the strike of the supracrustals and the strike of the foliation of the underlying, strongly migmatized, agmatitic gneisses. The thickness of the supracrustals in the examined, westernmost region is of the order of 300 m. Upwards and towards north strong pegmatization and migmatization affect the supracrustals. Their structural setting and position in an open syncline, as suggested by Escher (1966), could not be established from the present work. Towards west the supracrustals are cut off by a fault and towards the east they seem to trend as a narrow belt to the Inland Ice 5 km farther east. They seem nowhere to be really extensive, an impression supported by the scarcity of boulders of supracrustal rocks.

It has not been possible in the poorly exposed ground to establish any definite age relations between the Ugssuit metasediments and the supracrustals. Some differences, however, should be noted. There is a metamorphic contrast between the two

rock series, the metasediments in Ugssuit being in the almandine-amphibolite facies and the supracrustals in a lower facies although above the biotite isograd. There are lithological differences as the supracrustals found are dominantly quartzites and their derivatives, whereas the metasediments in Ugssuit are characterised by marbles, calc-silicate rocks, and gneisses of a presumably pelitic origin. The metasediments are double-folded, with varying flat-lying lineations in a flat-lying axial plane. In the supracrustals only a nearly horizontal E-W axis in folds with steep, northerly dipping axial planes, was found. The difference in character and degree of migmatisation could also be noted.

The use of GGU helicopters made it possible to map the inland area south of Nordre Strømfjord and a structural cross-section, based on the mapping of a broad belt at 1:50 000, was established. This mapping and also a reconnaissance flight served a ground control for photogeological interpretation. The large, very regular, open synforms east of Tiggait tasiat (Noe-Nygaard & Berthelsen, 1953) appear to be made up of complex triple-folded metasediments with large-scale isoclinal folds. The cores of the late large synforms are made up of hypersthene gneisses.

References

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FIELD WORK ON MARBLE AND CALC-SILICATE ROCKS IN THE NORDRE STRØMFJORD REGION

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As a member of the group working in the Agto-Nordre Strømfjord area (see Bondesen, this report) the writer studied and collected from the extensive outcrops of marble and associated calc-silicate rocks which occur in the region, especially around Nordre Strømfjord. Ramberg (1949) divided the Nagssugtoqidian fold belt in this region into the Isortoq Complex and the Egedesminde Complex, the first characterised by granulite facies metamorphism and the latter by amphibolite facies. K. Sørensen (personal communication) has indicated that a metamorphic gradient exists in the Isortoq Complex from the north to the south in the western part of the Agto sheet area, as seen by the increasing amount of orthopyroxene in the basic