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GEOLOGICAL AND GEOPHYSICAL WORK ON ULTRAMAFIC ROCKS IN THE NANORTALIK AREA, SOUTH GREENLAND

Hans K. Schönwandt

The detailed investigation of various ultramafic intrusions in the Nanortalik area started in 1969 (see Schönwandt, 1971) was continued in 1971. During July and August field groups led by the present author, Kai Sørensen (Geol. Inst., Univ. Aarhus) and Niels Abrahamsen (Lab. Geofysik, Univ. Aarhus) carried out geophysical and prospecting programmes concerned with the mineralisation (nickel, copper, platinum etc.) of the ultramafic rocks.

The ultramafic body on Amitsoq (see Berrangé, 1970) was subject to renewed and more accurate magnetic measurements and the same area was covered by an electromagnetic programme. The measurements obtained have not yet been completely interpreted but it has become clear that two magnetic anomalies exist in the central covered part of the body. In connection with these smaller electromagnetic anomalies occur.

A magnetic survey was also carried out in a valley about 4 km south of the main ultramafic body where ultramafic blocks were found. No additional anomalies were discovered and it must be assumed that the origin of the boulders is the main pluton.

Tracing of boulders has however helped in the discovery of a hitherto unknown ultramafic body on the south coast of Sermilik fjord. This body is continually exposed along the coast for 200 m and can be traced inland for about 350 m. A group of smaller exposures of the same rock type exists about 2 km south-east along

the coast but the intervening area is covered by fluvio-glacial deposits. If these exposures are part of the same body, then a pluton having a minimum length of 2.5 km must be added to the known occurrences. The pluton is composed of hornblende peridotite of the same type as that forming the main body on Amitsoq. About 1% of sulphides are disseminated throughout the peridotite.

A reconnaissance of the supracrustal rocks in the northern part of the peninsula between Sermilik and Tasermiut fjords showed that the metaconglomerates outcropping there carry small amounts of sulphides, mainly chalcopyrite.

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FIELD MAPPING AND GEOPHYSICAL WORK IN THE SCORESBY SUND REGION, EAST GREENLAND

Niels Henriksen

The fourth season of the five-year mapping programme in the Scoresby Sund region was carried out in July and August. A tent base camp was established at the head of Hurry Inlet and served as operation centre for 3 helicopters. The Norwegian sealer "Brandal", and a small cutter provided transport in the fjords. The expedition members numbered 44, comprising 16 geological two-man parties and supporting personnel. Five parties mapped in the crystalline complex of Liverpool Land and one party the Caledonian supracrustal and igneous rocks on Canning Land. Mapping of the post-Caledonian sediments in Jameson Land and southern Scoresby Land was undertaken by six parties (see Birkelund and Perch-Nielsen, this report). Two parties mapped the eastern part of the Tertiary basalt area south of Scoresby Sund and one undertook Quaternary investigations in the central and eastern part of the Scoresby Sund region. A geophysical party carried out a terrestrial magnetometer investigation across central Jameson Land and a shipborne investigation in Scoresby Sund and Hall Bredning.

Approximately 2500 km² were mapped in the Caledonian crystalline complex and about 4500 km² were mapped and remapped in the post-Caledonian sediments. In the south approximately 2000 km² of Tertiary basalts were investigated.