

A narrow swarm of basic dykes trending 120° crosses the Neria area and cuts the Midternæs Ketilidian rocks. These dykes, and a few scattered examples with trends of about 140° , predate the main Gardar dykes and may be of late Ketilidian age.

Several generations of Gardar dykes are found in the Neria area. The oldest are thin lamprophyres found mainly in the south of the area. They are succeeded by several generations of broad brown dolerites (B. D. s) with ESE to NE trends. Locally up to 7 successive phases of B. D. s have been established from intersections. A few narrow trachytes are also known.

There are many major tear faults in the area mainly with WNW, NE or E-W trends. Some of these faults can be shown to have been active at several different occasions between pre-Ketilidian and post-Gardar time.

The youngest dykes are coast-parallel dolerites (T. D. s) which post-date all other events (dykes and faults) apart from a few small carbonatite dykes, which have recently been found in the area around Frederikshåb. The carbonatite dykes are less than 1.5 m wide, are dark grey with a rusty weathering and contain porphyritic pyroxene and biotite. They have the same trend as the T. D. s which they cut and are probably of similar age.

QUATERNARY DEPOSITS IN THE FREDERIKSHÅB DISTRICT, SOUTH-WEST GREENLAND

M. Kelly

The Quaternary geology of an area of approximately 3000 km² in the vicinity of Frederikshåb has been mapped during the summers 1964-1966. In this part of Greenland the unglaciated land between the outer coast and the margin of the Inland Ice is 40-70 km wide. The ice-free area is mostly a plateau at about 1000 m with isolated tops reaching 1600 m, and is deeply dissected by fjords some of which reach the ice margin. Small cirque glaciers occur in the higher parts of the plateau.

Quaternary deposits cover extensive areas though they are generally

very thin and often only occur as scattered erratics. Thick deposits are restricted to the valley floors and to the outer parts of the coast. The principal deposits are of glacial, fluvio-glacial and colluvial facies, and less commonly, of marine or lacustrine facies. Stratigraphically the deposits are all late Quaternary. During their deposition the principal events in the area have been the intermittent retreat of the ice and the isostatic recovery of the area.

The glacial and fluvio-glacial deposits have been grouped into five morpho-lithostratigraphic units which show the successive stages in the recession of the Inland Ice and local glaciers. The history of this deglaciation is apparently as long as the deglaciation of what are now temperate regions. The outer coast was deglaciated before 10 000 BP (C^{14} dates by H. Tauber, National Museum, Copenhagen).

The close association of isostatic recovery with deglaciation means that the highest sea level, about 55 m above present sea level in this area, is of similar age as the deglaciation of the outer coast. Isostatic recovery was largely finished by 4 000 BP.

Work is in progress relating the vegetational and edaphic history of the area to the deglaciation and isostatic recovery.

REMANENT MAGNETIC DIRECTIONS OF SOME DYKES FROM SOUTHERN WEST GREENLAND

D. H. Tarling

During the summer of 1965 Survey geologists collected 57 oriented samples from 25 dykes for palaeomagnetic investigations. The main problem was to see if palaeomagnetic methods could be used to distinguish dyke swarms of different ages. Of the 25 dykes, two were thought to be "Trap Diabase" (TD) dykes of late Phanerozoic age and seven dykes were thought to be Gardar in age (ca. 1100 m. y.); the other dykes were all of uncertain age.

An estimate of the stability of remanence was made on ten pilot specimens chosen at random from the dykes which had been most extensively sampled.