THE BORDER PEGMATITES OF THE ILÍMAUSSAQ INTRUSION

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Detailed studies of the unique Ilímaussaq intrusion were continued in the summer of 1968. The importance of the pegmatites lies in their content of rare minerals which, in many cases, are also of economic interest (Sørensen, 1962). In the present study attention was focussed on the border pegmatites.

The north-west boundary of the intrusion, over a distance of about 1 km, is made up of a zone rich in pegmatite. The host rock has a pronounced poikilitic texture and is so similar to the naujaite that it is referred to as such. The whole zone - naujaite and pegmatite - is called the border-pegmatite. At a few places a kakortokite-like rock has been found.

The numerous pegmatitic veins in the naujaite and "kakortokite" in the border-pegmatite zone occur in a net-like way. The veins are 10-60 cm thick, mainly non-poikilitic, and contain tabular or prismatic feldspar, aegirine, arfvedsonite, and rounded grains of sodalite (often altered to natrolite). Common accessories are fluorite, lithium-mica, and rinkite. Other rare minerals, e.g. steenstrupine, britholite and Be-minerals, have been found, though they are not so common. Eudialyte is abundant in a few places. The boundary between pegmatite and "kakortokite" is much sharper than the boundary between pegmatite and naujaite, probably because there is a greater difference in grain size between pegmatite and "kakortokite".

The naujaite of the border-pegmatite is altered near the lujavrite contact. The dark minerals are converted into a green aegirine felt, the light minerals are natrolitized and albitized, and the poikilitic habit disappears. The resulting rock is a homogenous-looking grey-green rock with a reddish hue.

The contact between the border-pegmatite and the lava is sharp, with only a few small apophyses running into the lava. It dips towards N or NW.

The naujaite and foyaite inclusions in the lujavrite on the Kvanefjeld plateau are of all sizes and shapes. Different types of naujaite occur, some are albitized and/or natrolitized. The naujaite is generally white or grey, because eudialyte is rare or is altered to a form with faint colours.

The border zone between the kakortokite and the augite syenite in the Kangerdluarssuk area is structurally very similar to the border-pegmatite on the Kvanefjeld plateau. The pegmatitic veins are roughly of the same composition, but here the kakortokite is the main inter-pegmatitic rock. Many parts of the border zone are rich in eudialyte. Inclusions of augite syenite of different sizes are found both in the kakortokite and in the border zone. Of special interest is a large inclusion (about 10 m across) of augite syenite, which is situated about 5 m from the boundary. This inclusion is fringed by a narrow belt of pegmatitic naujaite. Naujaitic rocks are also found in several places in the pegmatitic border zone, instead of kakortokite.

Reference

Sørensen, H. (1962) On the occurrence of steenstrupine in the Ilímaussaq massif, Southwest Greenland. Bull. Grønlands geol. Unders., No. 32 (also Meddr Grønland, Bd. 167, Nr. 1).