On the orbicular structure in the norite of Romsaas, Norway

By

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The orbicular norite of Romsaas has been described by C. Bugge (1906) and J. H. L. Vogt (1921). Reference to earlier literature on the subject is found in these papers.

It is the purpose of the present note to show that although the orbicular structure proper is mainly localized to the border of the norite massif, embryonic orbs are developed in the normal quartz-norite of Romsaas.

Two varieties of the orbicular norite, with large and small orbs respectively, were distinguished by Bugge.

The great orbs, having a diameter of 4—9 cm (averagely about 5 cm), consist almost exclusively of hypersthene, *radially arranged*. A concentric structure may, however, be present near the margin in the largest orbs. A thin shell of biotite and/or hornblende separates the orbs from the groundmass which consists of plagioclase and quartz.

The small orbs of the other variety (diameter 2 cm), differ from the greater orbs by the absence of the outer biotite/hornblende shell. The delimination of the orbs from the groundmass is therefore not so sharp as in the former case.

Bugge pointed out that all gradations between the two varieties exist. The present writer noticed during a short visit to Romsaas that the diameter of the orbs sometimes did not exced 2—5 mm. The orbicular structure is not, however, so readily noted in these norites.

Considering thin sections of the ordinary quartz-norite it is often observed that the hypersthene crystals have accumulated in groups (the texture is synneusis according to Vogt). And we are at once struck by the fact that in the individual groups, the radial arrangement of the hypersthene is still commonly a characteristic feature.

Thus, it has been proved that *a continuous transition exists between the structure of the normal norite and the orbicular norite.*

What fastors controlled the orientation of the hypersthene in the norite of Romsaas? It may be worth while to study a contrasted type of preferred orientation of hypersthene crystals in some other Norwegian norites, before any attempt is made to answer this question. In the augite-bearing norites of Raana and Skjaekerdal the hypersthene, elongated parallel to the c-axis, shows a planar orientation, and sometimes also a tendency to linear structure has been observed. The coexisting monoclinic pyroxene, on the other hand, forms stubby, unoriented crystals. Now and then they may attain great sizes, containing inclusions of hypersthene, and a pseudo-porphyritic texture is produced.

It seems likely to assume that the orienting tendency of the hypersthene in the norites, whether the texture be spheroidal or parallel, is due to the early separation of hypersthene from a magma in movement. (It is suggested that strong turbulent motion may be favourable for the development of a spheroidal texture.)

Statens Råstofflaboratorium, March 1957.

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Manuscript received April 4, 1957.

Printed August 1957.

Vannboring i Leikanger, Indre Sogn.

Av

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Våren 1954 ble det foretatt to vannboringer i Leikanger, Indre Sogn. Den ene ble utført for hotelleier Gustav Lie på Leikanger Hotells grunn. Resultatet ble over all forventning. Vannet er av førsteklasses kvalitet, og temperaturen ligger på ca. 5° C. hele året. Prøvepumpingen ga 2000 liter pr. time. Kartet (fig. 1) viser borhullets lokalitet. Borhullet ligger ca. 50 m fra sjøen, og ca. 3 m o.h. Den vannførende sone ble påtruffet 15—20 m under havets overflate. Det ble først boret gjennom en sone av finkornet granittisk gneis, hvoretter en traff på glimmerskifer. Et stykke ned i glimmerskiferen var det at vannåren ble funnet. Borhullet var av artesisk karakter.

Den annen brønnboring ble utført for Jon Husabø like ved hjørnet på huset hans (fig. 1). Denne har forfatteren ikke fått anledning til å se, men av innsamlete opplysninger fremgår det at den er en parallell til borhullet ved Leikanger Hotell. Også på Husabø boret en først gjennom en gneissone, hvoretter en traff på glimmerskifer. Trykket