

Relation between the Shikanoshima Granodiorite and gabbroic rocks at the Shikanoshima Island, north Kyushu

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The Shikanoshima Granodiorite, associated with gabbroic rocks, is distributed in the Shikanoshima Island, north Kyushu. These gabbroic rock masses are called the Shikanoshima basic rocks (Karakida, 1967), and gabbro to quartz diorite (Karakida et al., 1994). It is thought that these variations were caused by hybridization from gabbroic and doleritic rocks by the Shikanoshima Granodiorite.

We found new relation between the Shikanoshima Granodiorite and gabbroic rocks at the Kurosaki.

Gabbroic rock mass cropping out at the Kurosaki is composed of coarse to medium-grained hornblende gabbro and quartz monzogabbro. Medium-grained gabbro is mainly distributed on margin of mass, and is scattered in mass. The Shikanoshima Granodiorite is composed of medium-grained hornblende biotite granodiorite and biotite granite. The Shikanoshima Granodiorite, which intruded into gabbroic rocks, is divided into two types. One type ranging in thickness from dozens centimeter to several meter has irregular clear contact. There is chilled margin in surrounding gabbro. Medium-grained gabbroic blocks included in large dyke have irregular shapes, and partly have chilled margin. Another type is straight dyke with thickness of dozens centimeter, and intruded into coarse and medium-grained gabbros and granodiorite dykes. There is no chilled margin in surrounding gabbro. Gabbroic blocks included in these dykes have square shape. Thus, intrusion of the Shikanoshima Granodiorite is divided into two stages. At the first stage, the Shikanoshima Granodiorite magma intruded into gabbroic magma. Rapid cooling of gabbroic magma then formed the chilled margin and medium-grained gabbro. At next stage, the Shikanoshima Granodiorite magma intruded into gabbroic rocks and granodiorite dykes.