

Garnet-bearing acidic igneous bodies in Mt. Kenashi-yama area, Fujikawaguchiko-machi, Yamanashi, Japan

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Introduction The garnet-bearing quartz porphyrite body in Mt. Kenashi-yama area Fujikawaguchiko-machi, Yamanashi, Prefecture was described by Katada (1956). On the other hand, there are many reports on garnet-bearing boulders in this area (Togawa et al., 1996; Togawa et al., 1997; Matsubara et al., 2008; Tamura et al., 2010).

On the detailed field works, we recognized three groups of garnet-bearing acidic igneous bodies in this area.

Geology The studied area is in the northern end of Izu-Bonin Arc, and is located east side of Misaka group, middle to late Miocene.

Lithology Three garnet-bearing acidic igneous bodies are recognized, which are named A, B and C groups.

[A group (lava flow(?))] This group exists in 1,100m to 1,200m above sea level, and is located from WSW to ENE over 2km long. The rock consists of quartz (10%-20%, md : maximum diameter = 5mm), feldspar (10%-25%, md = 4mm), garnet (1%, md = 3mm) and groundmass(60%-65%). The rock of A group shows high dense appearance.

[B group (volcanic ash(?))] This group exists at 1,200m, and this group may be exist along above the A group. This group can be assumed as garnet-bearing volcanic ash, because this group contains volcanic glasses (at under microscope) and rock fragments (If B group is not volcanic ash, this group may be the weathered zoon of A group). The B group consists of quartz (10%, md = 5mm), garnet (1%, md = 3mm) and clay matter 80%.

[C group (dike)] This group exists in 1,300m to 1,400m, and is located from WSW to ENE, over 3km long. The rock is little fragile, and consist of quartz (3%-20%, md = 4mm), feldspar (3%-20%, md = 3mm), garnet (0.1%, md = 3mm), hornblende (1%, maximum length = 9mm) and groundmass (65%-85%).

Chemical analysis Representative samples of each groups are analyzed by X-ray fluorescent analysis on 10 major elements. The SiO₂ contents of three groups are 72wt%-76wt%. It mean that these rocks are classified into rhyolite according to alkali-SiO₂ diagram (Le Bas, et al., 1986). There are slightly high in Na₂O, and slightly low P₂O₅ than Tanzawa Hosokawadani rhyolite (Yamashita, 1997).

Discussion and Consideration It can be assumed that three groups of garnet bearing acidic igneous bodies are recognized in Mt. Kenashi-yama area. They are located along WSW-ENE direction 2-3km long. A, B and C groups are possibly lava flow, volcanic ash and intrusive rock, respectively. All of them may be classified into garnet-bearing rhyolite.

Keywords: garnet, quartz, feldspar, rhyolite, Mt. Kenashi-yama, Fujikawaguchiko-machi