

For understanding the boundary layer fractionation in the magma chamber: the study of the anorthosite in the Murotomisaki Gabbro

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For better understanding the boundary layer fractionation in the magma chamber, the anorthosite vein in the Murotomisaki Gabbroic Complex was studied.

It is becoming evident that the processes in the boundary layer developing in the margin of the magma chamber play an important role in the evolution of the magma cooling along the margins (Langmuir, 1989; Kuritani, 1998). In recent years, the structures considered the traces of the boundary layer fractionation are founded in the natural layered intrusion (Simura & Ozawa, 2006; Hoshide et al., 2006a, b; Bedard et al., 2007). We study the Murotomisaki Gabbroic Complex aiming to understand the actual condition of the boundary layer fractionation in the magma chamber.

Anorthosite layer or lenticular pegmatitic pod associated with anorthosite are distributed in specific horizons of the olivine gabbro in the Murotomisaki Gabbroic Complex, which is located in the end of the Muroto Peninsula in Kochi Prefecture. The diapiric structure of the anorthosite is observed in the layer. We consider the anorthosite layer the mixture of the plagioclase crystals and the differentiated melt derived in the boundary layer.

Bedard et al., 2007. *Jour. Petrol.* 48, 2289-2326.

Hoshide et al., 2006a. *Jour. Mineral. Petrol. Sci.*, 101, 223-239.

Hoshide et al., 2006b. *Jour. Mineral. Petrol. Sci.*, 101, 334-339.

Kuritani, 1998. *Jour. Petrol.*, 39, 1619-1640.

Langmuir, 1989. *Nature*, 340, 199-205.

Simura & Ozawa, 2006. *Jour. Petrol.*