

Petrological characteristics of dolerite from Rebun Island, Japan: with special reference to their compositional variation

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Doleritic bodies, intruding into the Miocene sedimentary rocks, are exposed in the Capes of Sukoton and Gorota, Rebun Island, Hokkaido. Geological and petrographical studies have indicated that the body in the Cape of Sukoton consists of olivine-pyroxene dolerite, pyroxene dolerite and hornblende-clinopyroxene porphyrite masses. Investigation of whole-rock and mineral chemistries of three masses indicates that they were formed by fractional crystallization of plagioclase and clinopyroxene from the common parental magma before intrusion. On the other hand, the body in the Cape of Gorota is composed of single mass consisting of several rock types. These rock types were formed by fractional crystallization of plagioclase and clinopyroxene from a common parental magma at the time of intrusion.