

Volcanic rocks from the Southern Mariana, Izu-Ogasawara (Bonin)-Mariana arc -- Geological cross section of the island-arc system--

Hidetsugu Taniguchi [1], Hiroshi Sato [2], Teruaki Ishii [2], Satoru Haraguchi [3]

[1] Komazawa Univ.High Sch., [2] Ocean Floor Geotec., Ocean Res. Inst., Univ. Tokyo, [3] Ocean Floor Geotec., Odera. Res. Inst., Univ. Tokyo

Geological and petrological characteristics of volcanic rocks in the Izu-Bonin-Mariana arc, particularly in the southern Mariana, are discussed. The volcanic rocks in the southern Mariana mainly consist of basalt and basaltic andesite, which are divided into alkali series rocks and sub-alkali series rocks. The latter are further classified into low-Ti group and high-Ti group. Characteristics of alkali series rocks in chemistry are similar to those from the Iwo-Jima and Fukutoku-oka islands which situate at the northern tip of the Mariana trough. Sub-alkali series are considered to be active during Middle to Lower Miocene by age determination in K-Ar method, and they are part of the west Mariana ridge.