

## Lithofacies and bulk rock chemistry of drilling cuttings from conduit drilling (USDP-4), Unzen volcano, Japan

# Takeshi Sugimoto[1]; Masaru Kurokawa[2]; Setsuya Nakada[2]; Mitsuhiro Yoshimoto[2]; Taketo Shimano[3]; Kazukiyo Oguri[4]; Hideo Hoshizumi[5]

[1] BGRL, Kyoto Univ.; [2] ERI, Univ. Tokyo; [3] CNEAS, Tohoku Univ.; [4] Earth Science, Nihon Univ; [5] GSJ, AIST

Unzen volcano is an active volcano in SW Japan. Its eruptive products are composed of hornblende andesite to dacite lava domes, lava flows and pyroclastics. Unzen volcano reopened the eruption in November 1990 and the extrusion of dacite lava continued from May 1991, until February 1995. Unzen Scientific Drilling Project (USDP) started in April 1999. After two drillings at the flanks of Unzen volcano (USDP-1 and -2), and one pilot drilling (USDP-3), the conduit surveying well was drilled on the northern slope of the Unzen volcano (USDP-4). USDP-4 was ended in July 2004 by reaching to the 1990-95 conduit about 1500m beneath the summit of Unzen volcano. During the conduit drilling, drilling slimes were taken from down to the depth of 1994m with 2m depth intervals. They were washed, sieved into four grain size groups (-2, 2-1, 1-0.25 and 0.25-mm), and dried in the purpose to get the information of stratigraphy and petrological feature along the hole. In this study, 8m to 210m fresh cuttings (washed slimes) were separated into four groups by the tone of color and analyzed major and trace elements compositions. These cuttings samples have radiometric ages in the range 0-225 ka (Matsumoto et al., 2005), correspond to those of Middle (150-300 ka) to Younger (0-150 ka) Unzen volcano. Generally, light colored cuttings have low SiO<sub>2</sub> contents and high K/Rb ratios relative to dark colored cuttings. In SiO<sub>2</sub> versus MgO diagram, each groups have different slopes of their variation trends. As a whole, they are plotted in the same area as outcrop and borehole samples of Middle and Younger Unzen volcano.