

Conduit drilling at Unzen volcano. Cuttings analysis (part 1)

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<http://hakone.eri.u-tokyo.ac.jp/vrc/usdp/index.html>

Drilling into the conduit of a new lava dome formed during 1991-1995 began in middle February in the Unzen Scientific Drilling Project (USDP), whose second phase started in 2002. This is a joint venture research with ICDP (International Continental Scientific Program). The structure of the conduit is inspected and rocks sampled in and around the conduit are analyzed in order to clarify the magma ascent and degassing mechanism. Drilling is carried out in the rig site on the northern slope of Mount Unzen with the altitude of 850 m. The target of conduit is in the sea level and, laterally, about 1 km west of the dome top. The shape is considered to be plate-like trending to EW. Penetration into conduit without core sampling was aimed at first. (USDP-4) and core sampling will be carried out in the next hole (USDP-4a). Sampling cuttings will be done every 2 m long during drilling.

During drilling, at least, one geologist stands by, such that he can advice to drillers based on cuttings analysis. About 1 kg of cuttings sampled were washed and sieved into three sizes. Magnetic susceptibility was measured after petrographical description such as oxidation, kind, size and amount phenocrysts, extent of oxidation, vesicularity, etc. Samples were forwarded to University of Tokyo for further analysis. The preliminary data of drilling and cuttings analysis are opened in the web site of ICDP, using the Drilling Information System.

Analytical results of cuttings and condition of USDP-4 drilling will be reported.