

The groundmass textural analysis of conduit samples of USDP4

Satoshi Noguchi[1]; Atsushi Toramaru[2]; Setsuya Nakada[3]

[1] Earth Planet Sci., Kyushu Univ.; [2] Earth and Planet. Sci, Kyushu Univ.; [3] ERI, Univ. Tokyo

We carried out the microlite textural analysis and description of core samples from boreholes drilled into the conduit of 1990-1995 eruptions at 1.3 km depth. The conduit samples are porphyritic dacite with phenocrysts of plagioclase, biotite and hornblende. Most of hornblende is hydrothermally altered into chlorite and carbonate minerals. The characteristics of groundmass textures are quite different from last eruption products. Groundmass is holocrystalline with abundant quartz, K-feldspar, plagioclase, pyrite, rare Fe-Ti oxide and pyroxene microlites. Groundmass glass cannot be observed in all of samples.

Plagioclase (Pl) microlite number density in conduit samples is similar to that in last erupted products. However, microlite crystallinity of Pl is lower compared with last erupted products. Crystal size distribution (CSD) curve of conduit samples is exponential, whereas last erupted products indicates the power law like distribution. Assuming that the last erupted products ascends through the same conduit as drilled samples, their different crystallinities imply the difference in their pressure, temperature and water-content histories. We will discuss the origin of these differences of textures between conduit samples and last erupted products.