

State of conduit drilling at Unzen Volcano for clarification of degassing process

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Conduit drilling that started in the early 2003 will penetrate into the target within 2004. The present state of drilling operation and results from this drilling are shown here.

Two main problems related to this drilling were 1) obtaining larger inclination of well within loose and cavity-rich formations in shallow levels, and 2) operation in high temperature, probably over 600 degree C, near and in the conduit. Drilling carried out by last November conquered the first problem by introducing additional water well and TDS, and using DHM and EM-MWD. The well inclination reached 75 degrees from vertical at the drilling depth of 824 m. Casing pipes of the forth step, 9-5/8 inches in diameter, were set down to 796 m. Logging was done in the interval from 167 to 640m, because cuttings bed inhibited the Tough logging in the region of large inclination. Cuttings were taken continuously in 2 m intervals throughout the hole. The analysis of cuttings, FMIs and parameters during drilling operation show the information on geology along the well and on fractures including active faults. The geological formations are composed largely of pyroclastic- and debris-flow deposits and lava flows.

Drilling operation resumes around May, aiming penetration straightly into the target.