

SVC061-01

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## Thermal processes deduced from changes in thermal activities after 1995 phreatic eruption of Kuju volcano, central Kyushu

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Two phreatic eruptions occurred on 11 October (The volume of the erupted material is 2000m<sup>3</sup>.) and on 18 in December (The volume of the erupted material is 5000m<sup>3</sup>.)in 1995 at Kuju volcano in central Kyushu, Japan. A large amount of heat discharge (about 3000MW) from new craters has been continued between two eruptions. The heat discharge rate from the new craters decreased after the second eruption and the center of heat discharge shifted to the pre-existing fumarolic fields and its values decreased to several hundreds MW, which were still larger than that before the eruption (100MW).

The surface temperatures of the new craters increased between two eruptions. However, all the temperatures of the new craters and the pre-existing fumarolic fields decreased after the second eruption.

The repeat measurement of geomagnetic total intensity of the volcano showed continuing magnetization of the volcano after the first eruption. Such magnetization is interpreted in terms of cooling of the volcano.

These thermal phenomena were interpreted by the cold groundwater intrusion to the central part of the volcano accompanying with the rapid decrease of fluid pressure of the central part of the volcano at the time of eruption.

Keywords: Kuju volcano, hydrothermal system, thermal activity, thermal process, phreatic eruption