

Origin of welded pyroclastic deposit including gigantic lithic blocks on the eastern upper slope of Fuji volcano.

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The youngest eruptive products, on the eastern upper slope of Fuji volcano along the Subashirikuchi trail between the Rokugome and Hachigome mountain huts, are the Subashirikuchi lava, Fujyonagare lava and an underlying welded pyroclastic deposit. The Subashirikuchi lava is mainly composed of agglutinate with minor amount of lava flows, which are associated with feeder dikes trending WNW - ESE; the ¹⁴C dating of charcoal beneath the Subashirikuchi lava yields the age of 2100±100 y.B.P. (Tsuya, 1971). The Fujyonagare lava also consists of agglutinate and lava flows, which is estimated to have been erupted near the Hon-Nanagome mountain hut. The underlying welded pyroclastic deposit comprises piles of welded spatters and scoria, which characteristically includes a lot of light grey colored large lithic blocks ranging from 1 to 10m in diameter. The lithic blocks are composed of densely welded pyroclastic rocks which resemble Toraiwa in the summit crater. The welded pyroclastic deposit is lithologically similar to SWD1 (Yasui et al., 2002) at the rim of summit crater, which also includes light grey colored lithic blocks with a diameter of several tens of cm up to about 10m. The thick piles of SWD1 must have slid down the slope and accumulated to form thick welded pyroclastic deposit in the area lower than the altitude of the Hachigome mountain hut, because it is almost lacking in the upper-most slope of the Subashirikuchi route higher than the Hachigome. The whole-rock chemical composition and petrography of essential clasts of the Subashirikuchi lava, Fujyonagare lava, welded pyroclastic deposit, and a part of SWD1 are similar ($\text{SiO}_2=50.7-51.7\text{wt}\%$, $\text{FeO}^*/\text{MgO}=2.11-2.17$); it means that the magma erupted at the summit crater and flank vent is nearly the same. It may be concluded that the eruption began at the summit crater and then moved down to flank fissure vents, because there is no evidence of significant time gap between the Subashirikuchi-Fujyonagare lavas and underlying welded pyroclastic deposit.