

Hidden basalt magma intruding into felsic chambers - Sulfur-rich, boiling magma

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Melt inclusion studies suggest that arc basalt magmas are expected to provide large amounts of sulfur and water, inherited from the subduction slabs, to the frontal volcanic systems. However, most of frontal basaltic magma had probably vapor-saturated and distilled out much volatiles before the entrapment in olivine phenocrysts, therefore, the evidence of the primary large vapor concentrations was extinguished for current quantitative melt inclusion analyses. Only a few of olivine-hosted melt inclusions from the very limited volcanic ejecta reveals very high-sulfur and water contents.