

## **FILLING OF AMIGDALES BY MUD INFILTRATION INTO CAMBRIAN VOLCANICS OF SOUTHERN BRAZIL**

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Cambrian volcanic flows and pyroclastics of andesitic and trachytic composition occur in the Caçapava do Sul Region of the Rio Grande do Sul State, Southern Brazil. These rocks are interlayered with lithic and feldspathic conglomerates, sandstones and mudrocks. The amigdalar portions at the top of the volcanic flows commonly show rounded vesicles 0.3 to 15cm across, mostly interconnected and filled by detrital clastic material. This material is characterized by thin laminations of clays and quartzose and micaceous silt, often stained by iron oxide. Within many vesicles, the mud occurs in a geopetal distribution, partially filling the bottom of the vesicles, whereas the top is filled by drusiform microcrystalline quartz, which is ascribed to precipitation during later burial and diagenesis. The mud is interpreted as a product of the mechanical infiltration of fine sediments carried in suspension by episodic floods under dry climate. This interpretation is supported by alluvial depositional facies of the interbedded sediments, by the lack of any thermal effect along their contacts with the underlying lavas, and by the clastic aspect of the muddy vesicle-filling material itself. Mechanical infiltration of mud is common within the intergranular pores of coarse continental sediments deposited by episodic floods, but its occurrence within vesicles of lavas under similar conditions has, to our knowledge, not so far been documented and looks to be a common process in subaerial volcanic flows.