

Sieve-textured plagioclase in dacitic magma: Interference imaging results

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ABSTRACT

The dacite of the Pebble Creek Formation (Mount Meager, BC, Canada) is an extraordinary occurrence of lavas containing coarse, sieve-textured plagioclase phenocrysts that appear to have reacted extensively with the melt. We record this unusual occurrence of a naturally reacted crystal/melt pair utilizing Nomarski Differential Interference Contrast (NDIC) imaging and electron microprobe data. Hieroglyphic textures are common in plagioclase of this study, and appear to represent older plagioclase remnants in sharp contact with new plagioclase forming a palimpsest texture outlining the occurrence of previous pools of melt. Throughout the processes affecting the phenocrysts, capillaries of liquid remained open to the external melt.