

Melt migration in a cumulus pile of the Nosappumisaki dolerite sill

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Crystal-liquid interaction and melt migration in a cumulus pile is constrained by texture and composition of plagioclase and their spatial distribution in the Nosappumisaki dolerite sill. The igneous body is divided into lower cumulus pile and upper melt-rich zone. In the chilled margin, most of plagioclase phenocrysts are clear type with $An_{60}Or_{0.05}$, but dissolution texture with $An_{70}Or_{0.01}$ is predominant in the cumulus pile. The systematic difference in plagioclase texture and composition demonstrate that differentiated H₂O-rich melt migrated through the cumulus pile to the melt-rich zone.