

Analysis of sector-zoned clinopyroxene from Kauai, Hawai'i

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Igneous rocks that erupt from volcanoes or form under the Earth's surface provide an excellent opportunity to study the melt and crystallization processes that occur in the uppermost layers of Earth's crust. Minerals, the building blocks of igneous rocks, record information through their chemical compositions and crystalline textures that we can use to interpret these processes. Clinopyroxene is one prominent mineral in Hawaii's igneous rocks in the interpretation.

Notably, some clinopyroxene minerals from Kauai's Lihue Basin are sector-zoned, in which crystal faces vary in their distinct chemical composition. These 'triangle' or 'hourglass' sectors, in which