

Source and tectonic setting of Sahand (south of Tabriz) volcanic rocks using geochemical evidences

F. Pirmohammadi*, A. Ameri* , A. Jahangiri* , Ch. Chen** , M. Keskin***

*Department of Geology, University of Tabriz, Iran

***Institute of Earth Sciences, Academia Sinica, Taiwan

**Faculty of Engineering, Dept. of Geological Engineering, Istanbul, Turkey

Abstract

Volcanic rocks of Sahand are situated 40 km south of Tabriz. The volcanic rocks comprise principally lava flow, domes and volcanic debris flow. These rocks are basalticandesite, andesite, dacite and rhyodacite. Disequilibrium texture, for example dusty plagioclase, reaction rims, resorbed mineral shapes are observed in some of these rocks. Textural and geochemical characteristics of plagioclase phenocrysts from these rocks record intrusion of basaltic magma into a dacitic host magma chamber. Plagioclase phenocrysts in dacitic rocks are identified by oscillatory zoning and low An content (An₃₅-An₅₀). These plagioclase phenocrysts are engulfed and resorption and dusty zone develop during intrusion of basaltic magma. An content increase toward rim of these minerals. Chemical and textural zoning patterns preserved in plagioclase phenocrysts provide useful information about magmatic evolutions.

Key word: Tabriz, Sahand, Plagioclase, Basalticandesite, Dacite, Rhyodacite, Magma

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