

## Mineral chemistry and Tectonic setting of diabasic dykes of Kamyaran ophiolite complex, Western Iran

M. Sudi Ajirlu, R. Hajialioghli, M. Moazzen\*

*Department of Geology, University of Tabriz, Tabriz, Iran*

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**Abstract:** The Kamyaran ophiolite complex as a part of the Kermanshah ophiolite is located in western Iran, along the Zagros orogeny and Neotethys suture zone. The Kamyaran ophiolite complex includes serpentinized harzburgites, isotropic and layered gabbros, diabasic dykes and pillow basalts. The diabasic dykes have experienced upper green schist facies metamorphism. Based on mineral chemistry of the diabasic dykes, plagioclases are oligoclase to andesine and clinopyroxenes are diopside in these rocks. Tetrahedral site is occupied completely by Si and partially by Al (AlIV) in the clinopyroxenes. Oxygen fugacity during crystallization of the diabasic dykes magma, calculated using crystallization composition, points to effects of subduction process on diabasic dykes of the Kamyaran ophiolite complex. Clinopyroxene crystallized at less than 5 Kbar pressure in the presence of almost 2.5 percent H<sub>2</sub>O. Chemistry of clinopyroxenes indicates IAT characteristics for the original magmas, showing a supra-subduction environment for generation of the Kamyaran ophiolites.

**Keywords:** *Diabase; Mineral Chemistry; Tectonic Setting; Kamyaran Ophiolite; Western Iran.*

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\*Corresponding author, Tel: 09144069907, Fax: 04133393922, Email: moazzen@tabrizu.ac.ir