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Application of geochemical data for determining tectonic setting of the diabasic dykes in the Kermanshah ophiolite; Sahneh- Harsin area

A. Torkian[*1], Z. Daraeezadeh[1], F. Aliani[1], M. Noghreyan[2]

1- Department of Geology, Faculty of Sciences, Bu -Ali Sina University, Hamedan, Iran
2- Department of Geology, Faculty of Sciences, University of Isfahan, Isfahan

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Abstract: The Kermanshah Ophiolite Complex (KOC) lies in the structural – tectonic zone of western Iran in northern part of Zagros main thrust and is a part of highly dismembered Kermanshah – Panjvin Ophiolitic belt. The best outcrops of the sheeted and isolated dykes in this complex are present in south of Sahneh area. They are basic in composition. The geochemical studies show parent magma is in its initial melt stage with LIL elements enriched signature. Also, this magma belongs to high Mg and low K, tholeiitic subalkaline series. The patterns of incompatible trace elements demonstrate an island arc affinity for these dykes. The N-MORB- normalized multi-elements plots indicate nearly flat patterns for HFSE. Geotectonic diagrams reveal transitional characteristics between mid-oceanic ridge basalts and island-arc tholeiites. Therefore, the dykes of the KOC may be originated in a back-arc basin tectonic setting.

Keywords: *Ophiolite; dyke; back-arc basin; tholeiite; Kermanshah; Sahneh.*

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[*]Corresponding author, Tel-fax: (0811) 8381460, E-mail: a-torkian@basu.ac.ir