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# Petrology and geochemistry of gabbro part of Samsour Ophiolite, South East of Iran

**J.A. Karimzaie, H. Biabangard*, S. Baghari**

*Department of Geology, Faculty of Sciences, University of Sistan and Baluchestan, Zahedan, Iran*

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**Abstract:** Samsour ophiolite is located in Sistan and Baluchestan Province, about 210 Km southwest of Zahedan city. Based on structural and sedimentary classification of Iran, this ophiolite is located adjacent to NosratAbad-Karvandar fault and belongs to Sistan suture zone. Rock units of this ophiolite are mainly composed of ultramafic, including gabbro (Layerd and massive) and doleriteic. In the microscopic studies, igneous rocks include lherzolite, gabbro, olivine gabbro and diabase which have granular, network, cumulale, porphyrytic and ophitic textures. In the geochemical classification diagrams, these rocks are often plotted in the gabbro and picritic gabbro. Also, tectonomagmatic diagrams show magma that formed this ophiolite rocks are belonging to MORB. The REE elements are normalized to Chondrite and MORB show LREE to HRRE has enrichment and compard with E-MORB and N-MORB is enrichment, which is more closed to E-MORB. The study of sequences, cumulative crystals in the layer of gabbro, shows the order of crystallization of olivine, plagioclase and clinopyroxene that is more similar to the crystallization of MORB magma.

**Keywords:** *Ophiolite; Samsoor Plain; Kurin; cumulate gabbro; Sistan suture zone.*

* Corresponding author, Tel: 09153408526, E-mail: h.biabangard@science.usb.ac.ir

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