

Study of pegmatites from Ebrahim Attar and related skarns (southwest of Qorveh)

S. Salami*, A. A. Sepahi, M. Maanijou

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

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Abstract: The study area is located in west of Iran (38 km SW of Qorveh). This region is part of Sanandaj-Sirjan zone. This area contains several pegmatitic dikes and based on mineralogical and geochemical characteristics belong to muscovite-rare-element pegmatites. The lithology of this body varies from pegmatitic syenogranite to granodiorite. Various rock bodies in this suite are mostly I-type and calc-alkaline, with moderate to high K and regarding to the aluminum saturation degree they are subaluminous to peraluminous. The low $(La/Yb)_N$ ratio in the pegmatitic samples (2.28) indicates progression of fractional crystallization in the initial magma. The low Eu/Eu^* ratio (0.137) in these pegmatites indicates differentiation of calcic plagioclase before pegmatitic stage. In the spider diagrams, LILE elements such as K, Rb and Th are enriched relative to HFSE elements specially Nb and Ti. Intrusion of this pegmatite in the carbonate rocks led to skarn development. These skarns have different minerals such as tremolite, epidote, scapolite, clinozoisite, pyrrhotite, pyrite, chalcopyrite and magnetite. Based on geochemical characteristics of these pegmatites, their composition, in accordance with bodies, is related to Sn, W and Mo skarns. This fact is in agreement with the studies in area regarding Sn & W mineralization.

Keywords: *Geochemistry; calc-alkaline; pegmatites of Ebrahim Attar; skarn; Qorveh.*

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* Corresponding author, Tel-fax: (081) 38381460, Email: Sedigheh.Salami91@gmail.com