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Mineralogy and geochemistry of the Tang-e-hana skarns – Neyriz, Fars Province

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Abstract: Tang-e-Hana skarn is located at part of the Zagros ophiolitic sequence, and then it is considered as a part of the Zagros structural province. According to the current study, this skarn is classified in 4 main groups: 1- Wollastonite skarn 2- Augite wollastonite skarn 3- Grossular wollastonite skarn 4- Andradite titanite augite wollastonite skarn. Geochemical characteristics indicate that Tang-e-hana skarn is lies in the calcic skarn domain. In addition, percentage of TiO_2 in the fourth type of these skarns (bearing titanite) reaches 4%. This fact is important for concentration of REE and other trace elements in titanite. The field and mineralogical evidence illustrated that the studied skarns are endoskarns. These evidences include a high percentage of calc-silicate and non-metallic minerals and in contrast a low percentage of metallic minerals. Therefor, Tang-e-hana skarn is important for its non-metallic minerals such as wollastonite and garnet. The study of mineral paragenetic sequence and the variation diagrams of $\%TiO_2$ and $\%Al_2O_3$ per %CaO suggested that wollastonite skarn is formed at the early stage and andradite – titanite – augite - wollastonite skarn at the late stage of skarnification.

Key words: *Skarn; Tang-e-hana; Neyriz; Fars*.

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