

Mineralogy of brucite bearing marbles, eastern margin of Shirkuh batholith (west of Yazd province)

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Abstract: Igneous bodies in Manshad-Taft fault zone are intruded into Shirkuh granitic batholithic basement. They also cause different skarn-marble mineralization in dolomitized limestones which are covered granitic basement. Skarns are composed of variety of minerals. Marbles consist of various minerals such as brucite, forsterite, diopsid, periclase, talc, calcite, dolomite, and hydromagnesite. Petrographic and geochemical data have revealed that there is several stages during the formation of marble minerals. At the first stage, anhydrous minerals formed, then followed by hydrous assemblage. Generation of brucite occurs at the second stage and is due to late hydrothermal system with low X_{CO_2} and high X_{H_2O} fluids. Hydromagnesite deposition is occurred by oxidation of brucite.