

Mineralogy, paragenesis, texture and mineral facies of skarns in west of Malayer

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Abstract: Triassic (mostly volcanic-carbonate) and Jurassic (mainly shale and sandstone) rocks in west of Malayer were affected by a number of shear zone, folding, deformation and metamorphic events. Regional metamorphism in the area led to the formation of Triassic and Jurassic rocks such as phyllite, slate and crystalline carbonate which folded during deformational events. In the contact metamorphism event, granitoid plutons with predominantly granodiorite to quartz-diorite composition intruded the metamorphic rocks, forming mineralized skarn zones in Anjireh, Iraneh and SarabSaman areas. The present research shows that plutons producing the mineralized skarn zones in the area are on average granodioritic in composition. Pyroxene and garnet minerals in the skarn zone comprise of diopside, augite and grandite (mainly andradite), respectively. In these skarns, various sub-zones are recognized and defined on the basis of their mineral paragenesis. High temperature facies (pyroxene-fels) formed in the temperature range of 650-800 °C and wollastonite up to 800 °C. However, hornblende-fels and albite-epidote-fels facies formed in the temperature ranges 500-650 and 350-500 °C, respectively.

Keywords: *Metamorphic facies; paragenesis; mineralogy; fabrics; skarn; west of Malayer.*

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