

Mineral chemistry of Paleozoic metabasites, evidence for metamorphic evolution of these rocks (south Chah Palang, NE of Isfahan Province)

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Abstract: Lower Paleozoic metabasites of south Chah Palang are located in north of the Yazd block in Central Iran with limited distribution and are associated with Doshakh metamorphites. Metabasites divided in to two portions: metavolcanics, and metagabbro, amphibolite and metadiabase masses. Metavolcanic with basaltic composition are presented by foliation and vesicles filled by calcite. Amphibole, plagioclase and biotite are essential rock forming minerals. Actinolite, chlorite, epidote, calcite and albite are index minerals of greenschist facies that found in melanocratic groundmass of metabasites. On the basis of amphibole barometries at pressure of 8kbar, equilibrium temperatures for magnesio-hornblende in amphibolites and for ferro-hornblendes and ferrotschermac-hornblendes in metadiabase are 622 and 659 - 694°C, respectively. Biotite thermometry indicate crystallisation temperature, 648 - 665°C for metavolcanic biotites and 585 - 596°C for biotites of metadiabasic dykes. Petrography and chemistry of minerals reveal alkaline nature of magmatism and polymetamorphism. These metabasites at the first metamorphosed in amphibolite facies and then in greenschist facies.

Keywords: *mineral chemistry, metabasite, paleozoic, central Iran, Chah palang, Isfahan.*

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