

Investigations on coexistence of zoisite- clinozoisite in metamorphic rocks; an example from Salmas epidote- amphibolites- NW of Iran

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Abstract: Zoisite and clinozoisite are coexistent in the Salmas epidote- amphibolites, NW Iran. The frequency of zoisite is higher than clinozoisite in the studied epidote- amphibolites. The pistacite content of zoisite is lower than clinozoisite. X_{ps} in zoisite is about 6.46-10.65% while for clinozoisite it is about 16.72-18.73%. Al-Fe³⁺ substitution was effective to create the mineral compositional changes in the Salmas epidote group minerals. Composition of coexisting zoisite and clinozoisite is a function of pressure, temperature and whole rock composition. According to zoisite and clinozoisite phase relations and compositions, epidote- amphibolite metamorphism in the Salmas area occurred at temperature of 500±20 °C and pressure of 6.5-7 Kbar conditions.

Keywords: *zoisite-clinozoisite coexistence; geothermobarometry; epidote- amphibolites; Salmas.*

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