

Geothermobarometry and determination type of metamorphism in the amphibolites of the north and north-west of Khoy on the basis of amphibole chemistry

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Abstract: Amphiboles are one of the major minerals in metabasic rocks in greenschist to upper amphibolite facies. Amphiboles have variable chemical composition, therefore, various elements with different ionic charge and radius can intering into their structure that occupy special mineralogical sites. There are some elements in amphiboles which are sensitive to the changes of pressure and temperature. The important elements from this points of veiw are Al, Na, Ti and Ca. **Once that pressure and temperature of metamorphism is determined, the type of metamorphism can be distinguished.** On this basis, we studied metabasic rocks of north and northwest of khoy township in north-west (NW) Iran. Geothermobarometry estimation indicates that amphiboles have crystallized at temperatures between 550^oC and 680^oC and pressures between 4.5 and 7 kbars. Therefore, metamorphism in the Khoy area was low to medium grade.

Keywords: *Amphibole, Metabasite, Khoy, Geothermobarometry.*