

Petrography of Ti-clinohumite-bearing garnet peridotite from Kundry-Kol area in the Kokchetav Massif

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The constitute minerals of this rock are garnet, Ti-clinohumite, olivine, ilmenite and pyroxene. The characteristics of this rock are 1)Chemical heterogeneity of garnet. Some garnet have core part, rich in Fe and Mn and poor in Mg and Ca. 2)Abundant TiO₂-bearing phases. 3)Abundant zircon. 4)Mineral rods in Ti-clinohumite. 5)Three different occurrences of ilmenite. Okamoto and Maruyama(2000) suggests 7GPa for this rock by K₂O content in pyroxene. Even in such high pressure, hydrous mineral, Ti-clinohumite, was stable. For this, Nakajima et al(1998) suggested that this rock originally existed at mantle above the subducting slab and was metasomatized by fluid from slab. Adopting this idea, the core parts of garnet keep the composition before metasomatism and the source for HFSE may slab.