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Ferrierit-Mg a Ba bohatý heulandit z Chvaletic u Přelouče (Česká republika)

Ferrierite-Mg and Ba-rich heulandite from Chvaletice near Přelouč (Czech Republic)

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Abstract

Two zeolites are described from the pyrite-manganese deposit Chvaletice near Přelouč, central Bohemia, Czech Republic. Ferrierite-Mg forms brown, up to 5 mm long flat needles, radially arranged, which grow on grey-brown fine-grained rock composed of quartz, pyrite and Mn-silicates. The unit-cell parameters of ferrierite-Mg, refined from the powder X-ray diffraction data, are *a* = 19.162(14), *b* = 14.125(13), *c* = 7.495(6) Å and *V* = 2028.8(9) Å^3 (space group *Immm*). Chemical analyses correspond to the empirical formula $(Mg_{2.66}Ca_{0.44}Mn_{0.41}Fe_{0.30}Ba_{0.29}K_{0.16}Na_{0.10}Sr_{0.03})_{\Sigma 4.39}(Al_{7.77}Si_{27.96}O_{72})\cdot 18\ H_2O$. The Ba-rich heulandite forms aggregates up to several cm in size composed of transparent gold-brown grains with characteristic pearly luster at cleavage planes. The unit-cell parameters of heulandite, refined from the powder X-ray diffraction data, are *a* = 17.732(2), *b* = 17.823(4), *c* = 7.4290(15) Å, *β* = 116.3(2) ° and *V* = 2104.2(6) Å^3 (space group *Cm*). In BSE images, its aggregates are not homogenous. Ba-poor part of analyses corresponds to heulandite-Ca and heulandite-K, Ba-rich part beside Ca- and K-dominant members also to very rare heulandite-Ba. Both studied zeolites contain a significant content of Mn, ranging between 0.32 - 0.70 *apfu* (ferrierite-Mg) and 0.09 - 0.28 *apfu* (Ba-rich heulandite).

Key words: *ferrierite-Mg, Ba-rich heulandite, powder X-ray diffraction data, unit-cell parameters, chemical composition, Chvaletice near Přelouč, Czech Republic*

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