

Zeolitová mineralizace z Lískového vršku u Okřešic u České Lípy (Česká republika)

Zeolite mineralization from Lískový hill at Okřešice near Česká Lípa (Czech Republic)

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Abstract

Zeolite mineralization with an interesting occurrence of stilbite-Ca and offretite were discovered at the Lískový hill (280 m) 1.5 km NE from Okřešice, 4 km SE from Česká Lípa, northern Bohemia, Czech Republic. The Lískový hill is formed by Tertiary volcanites penetrating a formation of Upper Cretaceous (Coniac) sediments. Stilbite-Ca forms pearly shiny, most often yellowish striped crystals up to 5 mm in size. The refined unit-cell parameters for stilbite-Ca are: a 13.6399(18), b 18.239(3), c 11.2698(16) Å, β 128.01(3)° and V 2209.4(5) Å³. Its chemical analyses correspond to the empirical formula $\text{Ca}_{4.05}\text{Na}_{0.48}\text{K}_{0.29}(\text{Si}_{27.13}\text{Al}_{8.87})\text{O}_{72} \cdot 28 \text{H}_2\text{O}$. The relatively common zeolite of this locality is the offretite, which occurs there in five different morphological forms. The refined unit-cell parameters for offretite are: a 13.297(8), b 7.6008(4) Å and V 1163.9(8) Å³. Chemical analyses of fibrous offretite correspond to the empirical formula $\text{K}_{1.08}\text{Ca}_{1.89}\text{Mg}_{0.08}\text{Sr}_{0.05}(\text{Si}_{12.80}\text{Al}_{5.22})\text{O}_{36} \cdot 15 \text{H}_2\text{O}$ and tabular offretite $\text{K}_{0.76}\text{Ca}_{1.85}\text{Mg}_{0.33}\text{Sr}_{0.03}\text{Ba}_{0.01}(\text{Si}_{12.44}\text{Al}_{5.65}\text{Fe}_{0.03})\text{O}_{36} \cdot 15 \text{H}_2\text{O}$. Chabazite-Ca forms whitish brown crystals up to 5 mm in length. Its refined unit-cell parameters are: a 13.821(2), c 15.0182(2) Å and V 2484.4(9) Å³. Chemical analyses of chabazite-Ca correspond to the empirical formula $\text{Ca}_{1.39}\text{Sr}_{0.13}\text{K}_{0.80}(\text{Si}_{8.40}\text{Al}_{3.43})\text{O}_{24} \cdot 11 \text{H}_2\text{O}$. The phillipsite-Ca forms whitish cross-piece up to 2 mm across. Its refined unit-cell parameters are: a 9.9242(11), b 14.3143(17), c 8.7417(9) Å, β 124.92(7)° and V 1018.2(2) Å³. Chemical analyses of phillipsite-Ca correspond to the empirical formula $\text{K}_{1.78}\text{Na}_{0.04}\text{Ca}_{1.92}\text{Ba}_{0.01}(\text{Si}_{10.19}\text{Al}_{5.85})\text{O}_{32} \cdot 12 \text{H}_2\text{O}$.

Key words: stilbite-Ca, offretite, chabazite-Ca, phillipsite-Ca, powder X-ray diffraction data, unit-cell parameters, chemical composition, Lískový hill near Okřešice, Czech Republic

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