

Zeolitová mineralizace z Klučku u Heřmaniček u České Lípy (Česká republika)

Zeolite mineralization from Kluček Hill at Heřmaničky near Česká Lípa (Czech Republic)

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Abstract

The Kluček Hill is situated on the western end of the Heřmaničky village, 4 km SE of the Česká Lípa, northern Bohemia (Czech Republic). It consists of a couple of hillocks, the western of them being higher (276.5 m) than the eastern one (265 m). The hill is formed by an E-W striking dyke of basaltic rock (nephelinite) cutting a body of intrusive breccia. More interesting, from a mineralogical point of view, is the abandoned small quarry in the eastern elevation, where a zeolite mineralization with analcime, harmotome, offretite and chabazite-Ca was found. Phillipsite-Ca was observed only in the small quarry of the western elevation. Harmotome and offretite are the most interesting zeolites of this locality. Harmotome occurs mainly in spherical radial aggregates or as twinned crystals. Its unit-cell parameters, refined from powder X-ray data, are: a 9.8783(15), b 14.1387(18), c 8.6925(11) Å, β 124.81(4)° and V 996.8(2) Å³. Chemical analyses of harmotome correspond to the empirical formula $(\text{Ba}_{1.47}\text{Ca}_{0.63}\text{K}_{0.76}\text{Na}_{0.06}\text{Sr}_{2.89})_{\Sigma}(\text{Si}_{11.21}\text{Al}_{4.74})\text{O}_{32} \cdot 12\text{H}_2\text{O}$. Offretite forms in nephritic or spheroidal cavities mostly ball-shaped aggregates or isolated prismatic crystals. The unit cell parameters of offretite, refined from the powder X-ray data, are: a 13.302(5), c 7.5904(12) Å and V 1163.1(6) Å³. Its chemical analyses correspond to the empirical formula $\text{Ca}_{1.24}\text{K}_{0.94}\text{Mg}_{0.74}(\text{Si}_{12.92}\text{Al}_{5.10})\text{O}_{36} \cdot 15\text{H}_2\text{O}$. Analcime, chabazite-Ca and phillipsite-Ca occur as additional zeolites at this locality.

Key words: analcime, harmotome, chabazite-Ca, offretite, phillipsite-Ca, Cenozoic basaltic rocks, powder X-ray diffraction data, unit-cell parameters, chemical composition, Kluček near Heřmaničky, Czech Republic

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