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Szmikit z Chvaletic u Přelouče (Česká republika)

Szmikite from Chvaletice near Přelouč (Czech Republic)

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Abstract

A very rare mineral szmikite, $Mn(SO_4)\cdot H_2O$, was determined at historical samples from the western part of upper level of the Chvaletice quarry (10 km W from Přelouč, eastern Bohemia, Czech Republic). This is the first occurrence of this mineral in the Czech Republic. Szmikite occurs there as soft distinctly porous crusts up to 10 cm in size formed by tiny (1 - 5 μm) transparent, imperfectly developed crystals. It is white, sometimes with a weak pink or yellow tints. Szmikite is monoclinic, space group *C2/c*, the unit-cell parameters refined from X-ray powder diffraction data are: *a* 7.063(3), *b* 7.6418(18), *c* 7.836(3) Å, β 118.14(2)° and *V* 372.9(4) Å^3. The result of ICP OES analysis corresponds to following cation composition of studied szmikite: 0.649 *apfu* Mn, 0.339 *apfu* Mg, 0.009 *apfu* Fe and 0.004 *apfu* Ca. Vibrational (Raman and infrared) spectroscopy documents the presence of molecular water and sulphate units in the crystal structure of szmikite.

Key words: *szmikite, powder X-ray diffraction data, unit-cell parameters, chemical composition, Raman spectra, Chvaletice near Přelouč, Czech Republic*

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