PŮVODNÍ PRÁCE/ORIGINAL PAPER

Chalkonatronit, $Na_2Cu(CO_3)_2(H_2O)_3$, ze žíly sv. Ducha, Jáchymov (Česká republika)

Chalconatronite, $Na_2Cu(CO_3)_2(H_2O)_3$, from the „sv. Duch“ vein, Jáchymov (Czech Republic)

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Abstract

An interesting association of rare carbonate minerals was found in the dump material at the Dušní (Gesiter) vein in Jáchymov, Czech Republic. The mineral assemblage is represented by chalconatronite and abundant čejkaite. Moreover, additional mineral phase was found to be growing inside chalconatronite aggregate. It goes most probably about Na-Ca carbonate, pirsonnite or gaylussite, however, the exact identification cannot be done. Chemical composition of the studied chalconatronite was determined base on electron microprobe data. The empirical formula can be expressed as $Na_{2.01}(Cu_{0.98}Fe_{0.01})_{\Sigma 0.99}[(PO_4)_{0.02}(AsO_4)_{0.01}(SiO_4)_{0.01}]_{\Sigma 0.04}(CO_3)_{1.95} \cdot 3H_2O$ (mean of 4 spot analyzes; Na+Cu+Fe = 3 *apfu*). The refined unit-cell parameters of chalconatronite from the powder X-ray diffraction data (for the monoclinic space group $P2_1/n$) are a = 9.699(4), b = 6.098(3), c = 13.792(6) Å, β = 91.88(4)° and with V = 815.3(4) Å^3.

Key words: *chalconatronite, oxide zone, copper minerals, electron microprobe data, powder diffraction, Jáchymov*
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