PŮVODNÍ PRÁCE/ORIGINAL PAPER

Dewindtit z uranového ložiska Zálesí u Javorníka v Rychlebských horách (Česká republika)

Dewindtite from the uranium deposit Zálesí in Rychlebské hory Mountains (Czech Republic)

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Abstract

A rare hydrated lead uranyl phosphate, mineral dewindtite, was found in the mine dump material of the abandoned uranium deposit Zálesí, Rychlebské hory Mountains, Silesia, Czech Republic. Dewindtite occurs there as lemon yellow acicular crystals, having about 0.1 mm in length and forming crystalline aggregates in fissures and cavities of *"gummite"* in association of dark green metatorbernite crystals. It is orthorhombic, space group *Bmmb*, the unit-cell parameters refined from X-ray powder diffraction data are: *a* 16.032 (4), *b* 17.263(6), *c* 13.605(4) Å and *V* 3765(2) Å^3. Chemical analyses of dewindtite correspond to the empirical formula $(Pb_{1.17}Ca_{1.13}K_{0.52}Cu_{0.13}Ba_{0.12}Co_{0.04}Ni_{0.01})_{\Sigma 3.12}(UO_2)_{5.92}[(PO_4)_{3.49}(AsO_4)_{0.41}(SO_4)_{0.10}]_{\Sigma 4.00}O_2(OH)_{1.66}\cdot 12H_2O$ on the basis of P+As+P 4 *apfu*. The origin of dewindtite is interpreted as product of *in-situ* supergene alteration of primary uranium mineralization in environment near under the present surface.

Key words: *dewindtite, X-ray powder data, chemical composition, uranium deposit, Zálesí, Silesia, Czech Republic*
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