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PŮVODNÍ PRÁCE/ORIGINAL PAPER

Mineralogická charakteristika U-Pb výskytu u obce Bezděkov (Tachovsko, Česká republika)

Mineralogical characteristic of the U-Pb occurrence near the Bezděkov village (Tachov area, Czech Republic)

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Abstract

The uranium-lead mineralisation was found in the mine dump material in the locality Bezděkov (Tachov area, western Bohemia, Czech Republic). Galena occurs as coarse-grained aggregates up to 5 cm in size in quartz gangue, partly replaced by cerussite. Cerussite forms massive and powdery aggregates replacing galena. It is orthorhombic, space group *Pmcn* with unit-cell parameters refined from X-ray powder diffraction data: *a* 5.1848(2), *b* 8.5001(3), *c* 6.1478(2) Å and *V* 270.937(13) Å³. Kasolite forms globular aggregates covering the area up to several cm². It is monoclinic, space group *P2₁/c*, the unit-cell parameters refined from X-ray powder diffraction data are: *a* 6.7133(6), *b* 6.9516(8), *c* 13.2666(14) Å, β 104.156(8)° and *V* 600.33(11) Å³. The chemical analyses of kasolite correspond to the empirical formula $\text{Pb}_{1.12}\text{Fe}_{0.03}\text{Ca}_{0.02}\text{K}_{0.01}(\text{UO}_2)_{1.11}(\text{SiO}_4)_{1.00} \cdot \text{H}_2\text{O}$ on the base of Si = 1 *apfu*. The Bezděkov ore occurrence belongs to the shear-zone hosted uranium mineralisation. The discovered mineralization originated by the weathering of galena and uraninite in conditions of supergene zone *in-situ*.

Key words: kasolite, cerussite, galena, Bezděkov ore occurrence, supergene mineralization, X-ray powder data, unit-cell parameters, chemical composition, Czech Republic

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