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PŮVODNÍ PRÁCE/ORIGINAL PAPER

New data on sulphosalts from hydrothermal siderite-type veins in the Spišsko-gemerské rudohorie Mts. (eastern Slovakia): 1. Nuffieldite and aikinite from Slovinky-Došťavná vein

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Abstract

A new occurrence of nuffieldite was recently discovered in a siderite-type hydrothermal vein with sulphides in Došťavná near Slovinky, Spišsko-gemerské rudohorie Mts., Spišská Nová Ves Co., Košice Region, Slovakia. It forms lead-gray acicular crystals reaching up to 1 cm in size or aggregates up to 2.5 cm, which are enclosed in quartz-siderite matrix together with chalcopyrite, pyrite, tourmaline and chlorite. Nuffieldite is frequently replaced by minor aikinite, galena and native bismuth. The refined unit-cell parameters of nuffieldite (for the orthorhombic space group *Pbnm*) are: *a* 14.5313(16) Å, *b* 21.454(2) Å, *c* 4.0500(6) Å and *V* 1262.58(19) Å³. The average (n=145 analyses) empirical formula of nuffieldite from Slovinky-Došťavná based on Pb+Bi+Sb = 5 *apfu* is corresponding to $\text{Cu}_{1.30}\text{Pb}_{2.00}\text{Bi}_{2.00}(\text{Pb}_{0.30}\text{Bi}_{0.30}\text{Sb}_{0.40})_{1.00}(\text{S}_{7.12}\text{Se}_{0.03})_{7.15}$. Aikinite forms microscopic, anhedral to subhedral grains or aggregates replacing nuffieldite. The average (n=29) empirical formula of studied aikinite based on (Cu+Pb)/2+(Sb+Bi) = 8 *apfu* is $\text{Pb}_{3.83}\text{Cu}_{3.76}(\text{Bi}_{4.12}\text{Sb}_{0.09})_{4.21}(\text{S}_{12.40}\text{Se}_{0.03})_{12.03}$.

Key words: nuffieldite, aikinite, sulphosalts, X-ray powder data, chemical composition, Došťavná vein, Slovinky, Spišsko-gemerské rudohorie Mts., Slovak Republic

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