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PŮVODNÍ PRÁCE/ORIGINAL PAPER

Gersdorffit, tyrolit a Bi-minerály z žilné Cu mineralizace z lomu Smrčník u Lipové-lázně u Jeseníku (Česká republika)

Gersdorffite, tyrolite and Bi-minerals from vein Cu mineralization from the quarry Smrčník at Lipová-lázně near Jeseník (Czech Republic)

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Abstract

A previously unknown primary Ni-As-Bi and supergene As-Bi mineralization was found in the active marble quarry Smrčník located 2 km WNW of the village of Lipová-Lázně, 7 km WNW of Jeseník, Rychlebské hory Mountains, Czech Republic. An electron-microprobe study of newly collected samples from a weakly Cu-mineralized quartz-carbonate vein cutting the marbles showed the presence of gersdorffite, bismuthinite, an unidentified Cu-Bi sulphide, bismite, and tyrolite, which were not known from the wider area. The microscopic grains of gersdorffite are part of primary ore mineralization of the studied vein with prevailing chalcopyrite, which is in places rimmed by chalcocite and djurleite. Nickel is partly replaced especially by Co (0.002 - 0.246 *apfu*) and Fe (0.030 - 0.158 *apfu*), less by Cu (0.008 - 0.038 *apfu*), whereas arsenic is weakly substituted by Sb (0.008 - 0.083 *apfu*) and in part of collected analyses by Bi (0.001 - 0.033 *apfu*) in the studied gersdorffite. All mentioned Bi minerals hosted by chalcopyrite were recorded in a single aggregate only. The blue-green tyrolite is a rare compound of supergene mineral assemblage of the same vein. Its chemical composition is characterized by small contents of S (0.050 - 0.248 *apfu*), P (0.052 - 0.104 *apfu*), and mostly also Cl (0.022 - 0.070 *apfu*). The new findings suggest much richer mineralogical and chemical variability of primary (hypogene) mineralization of hydrothermal veins, than was indicated by previous studies in the wider area.

Key words: gersdorffite, chalcopyrite, chalcocite, djurleite, bismuthinite, hydrothermal mineralization, tyrolite, supergene mineralization, Smrčník quarry

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