Retgersite from the Rudňany deposit (Slovak Republic)

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Abstract

A relatively rare hydrated sulphate of Ni, retgersite, was identified on the ore samples originating from the crosscut P-3, located on the 16th level of the Zlatník vein, Rudňany deposit, Slovak Republic. Retgersite is rare and occurs on the surface of fragments of siderite gangue with abundant aggregates of coarse-grained gersdorffite. It forms light blue to blue-green, often curved fibrous to crystalline aggregates up to 3 mm in size with vitreous lustre, which are grouped to rich crust and efflorescences growing directly on surface of gersdorffite. Retgersite was identified by PXRD and its refined unit-cell parameters (for the tetragonal space group \( P_4_1_2_1_2 \)) are: \( a = 6.7820(5) \) Å, \( c = 18.281(2) \) Å and \( V = 840.8(1) \) Å³. Results of semiquantitative chemical analysis (EDS) as well as vibrational spectra (Raman, infrared) including their tentative assignments are also given. Retgersite from the Rudňany deposit was formed as a product of post-mining decomposition of gersdorffite.

Key words: supergene minerals, sulphates, retgersite, X-ray powder data, Raman spectrum, infrared spectrum, Rudňany, Slovak Republic

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