Hydrotermálny anhydrit z epitermálneho polymetalického ložiska Banská Štiavnica (Slovenská republika)

Hydrothermal anhydrite from the Banská Štiavnica epithermal base metal deposit (Slovak Republic)

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Števko M., Bačík P. (2011): Hydrotermálny anhydrit z epitermálneho polymetalického ložiska Banská Štiavnica (Slovenská republika). - *Bull. mineral.-petrolog. Odd. Nár. Muz. (Praha)* **19/1**, 83-87. ISSN 1211-0329.

Abstract

Hydrothermal anhydrite was found in short and up to 8 cm thick carbonate vein with base metal mineralization at the 12th level of the Banská Štiavnica epithermal base metal deposit, Slovak Republic. It occurs as pale-blue to colourless tabular crystals up to 3 cm in size, which are intergrown to form groups of parallel or radial aggregates together with calcite, sphalerite, galena and gypsum. The crystals have a vitreous to silky lustre and typical perfect cleavage. The following unit-cell parameters were refined from powder X-ray data of anhydrite: a = 6.2967(2) Å, b = 6.9770(2) Å, c = 6.2268(2) Å and V = 303.53(1) Å^3. An infrared absorption spectrum of anhydrite shows characteristic bands of antisymmetric stretching vibration modes (1157 and 1124 cm^{-1}) and antisymmetric bending vibration modes (675, 613 and 596 cm^{-1}) of SO_4 tetrahedra. A weak band which was observed at 511 cm^{-1} represent most probably symmetric bending vibration of sulfate groups. Anhydrite together with gypsum represents products of relatively low-temperature solutions at the late stage of hydrothermal activity.

Key words: *hydrothermal anhydrite, X-ray powder data, IR absorption spectra, base metal mineralization, Banská Štiavnica ore deposit, Slovak Republic*