Sekundárne minerály z polymetalickej mineralizácie pri Valaskej Belej, Slovenská republika

Secondary minerals from the base metals mineralization near Valaská Belá, Slovak Republic

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Abstract

We describe hydrothermal base metal mineralization, which has not yet been particularly investigated in previous works. Small mine dump occurs in quartz-biotite paragneissis near Valaská Belá in the Strážovské vrchy Mts., the western part of Slovak Republic. Primary filling of the hydrothermal vein is formed by quartz, carbonates, galena, sphalerite, chalcopyrite, pyrite, tetrahedrite and bournonite. Our research was oriented on the interesting supergene zone. Cerussite as well as pyromorphite is the most abudant secondary mineral. Transparent cerussite crystals are up to 3 mm in size. The unit-cell parameters of cerussite are a = 5.175 (2), b = 8.486 (2), c = 6.136 (2) Å and V = 269.5 (1) Å^3. Yellow to yellow-green pyromorphite occurs in three morphological forms – fine-like, globular and chaotically grown crystals on matrix. The pyromorphite unit-cell parameters a = 9.986 (2), c = 7.353 (2) Å and V = 635.1 (3) Å^3 suggest low substitution P→As. Chemically clear hemimorphite forming tabular crystals grouping to radial aggregates up to 2 mm in size has unit-cell parameters a = 8.352 (3), b = 10.697 (4), c = 5.107 (3) Å and V = 456.3 (3) Å^3. X-ray pattern and unit-cell parameters of orange wulfenite (a = 5.432 (1), c = 12.110 (3) Å and V = 357.4 (2) Å^3) forming dipyramidal crystals up to 2 mm in size are the first analytical data after a 80 years from Slovak Republic. Hemimorphite crystalized single in cavities and fissures and succesion other secondary minerals is as follows: cerussite → pyromorphite → wulfenite.

Key words: *base metals mineralization, cerussite, hemimorphite, pyromorphite, wulfenite, X-ray powder data, unit-cell parameters, Valaská Belá, the Strážovské vrchy Mts., Slovak Republic*