

Siegenit a heazelwoodit v asociaci s milleritem z haldy dolu Lill (černojamské ložisko), Příbram, Česká republika

Siegenite and heazelwoodite in association of millerite from the mine dump of the Lill mine (Černojamské ore deposit), Příbram, Czech Republic

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Abstract

At mine dump of the mine Lill, the Černojamské ore deposit, Příbram, central Bohemia, Czech Republic, rich aggregates of millerite crystals with rare aggregates of siegenite and heazelwoodite were found. Millerite forms golden acicular crystals up to 1 mm in length with metallic luster growing to rich aggregates in gangue represented by dominant dolomite with minor quartz and siderite. Its empirical formula $(\text{Ni}_{0.94}\text{Co}_{0.05})_{\Sigma 0.99}\text{S}_{1.01}$ is close to ideal composition. Siegenite forms rare aggregates up to 8 μm in association with millerite and galena. Its chemical composition corresponds to empirical formula $(\text{Ni}_{1.39}\text{Co}_{1.27}\text{Fe}_{0.28}\text{Ag}_{0.01})_{\Sigma 2.95}\text{S}_{4.06}$ on the basis of 7 *apfu*. Very rare heazelwoodite was observed as single crystal with size 35 x 180 μm in association with millerite. It is strongly chemically zoned, compositions of individual zones is possible to express by following empirical formulae (on the basis of 5 *apfu*): Pb-rich phase: $(\text{Ni}_{2.35}\text{Pb}_{0.30}\text{Sb}_{0.18}\text{As}_{0.02})_{\Sigma 2.85}\text{S}_{2.15}$; Sb-rich phase: $(\text{Ni}_{2.28}\text{Sb}_{0.31}\text{Pb}_{0.08}\text{Fe}_{0.05}\text{Co}_{0.03}\text{Ag}_{0.01}\text{As}_{0.08})_{\Sigma 2.84}\text{S}_{2.16}$ and Pb-Sb-rich phase $(\text{Ni}_{2.37}\text{Pb}_{0.25}\text{Sb}_{0.24}\text{Ag}_{0.02}\text{Co}_{0.02}\text{As}_{0.01})_{\Sigma 2.91}\text{S}_{2.10}$. The higher contents of Pb and Sb at heazelwoodite was determined for the first time.

Key words: siegenite, heazelwoodite, millerite, chemical composition, microhardness, Lill mine dump, Příbram, Czech Republic