PŮVODNÍ PRÁCE/ORIGINAL PAPER

Bi - Se -Au mineralizace z uranového rudního výskytu Smrkovec u Lázní Kynžvart (Česká republika)

Bi - Se - Au mineralization from the uranium ore occurrence Smrkovec near Lázně Kynžvart (Czech Republic)

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Abstract

A mineral association of unnamed Bi-selenide, Bi_4Se_3, and native gold in quartz gangue was found in samples from the abandoned uranium ore occurrence Smrkovec near Lázně Kynžvart, Slavkovský les Mountains (western Bohemia, Czech Republic). The unnamed Bi-selenide forms tabular grains and aggregates up to 250 μm in size replaced by atelestite (partly or to relics) and hemispherical pseudomorphoses after uraninite. Two types of unnamed Bi-selenide were determined on the base of chemical composition. The first, more abundant, is S-poor with empirical formula (mean of 71 analyses) $(Bi_{3.98}Cd_{0.01}Sb_{0.01})_{\Sigma 4.00}(Se_{2.83}S_{0.17})_{\Sigma 3.00}$; the second is slightly S-rich with empirical formula (mean of 16 analyses) $(Bi_{4.01}Cd_{0.01}Sb_{0.01})_{\Sigma 4.03}(Se_{2.59}S_{0.37})_{\Sigma 2.96}$. Gold occurs as irregular elongated grains up to 10 μm in length enclosed in aggregates of unnamed Bi-selenide or atelestite. The primary mineralization (gold, Bi-selenide and uraninite) is strongly altered by supergene processes *in-situ* (origin of (meta)torbernite/(meta)zeunerite, atelestite and heterogenous hemispherical pseudomorphoses after uraninite).

Key words: *unnamed Bi_4Se_3, gold, chemical composition, uranium deposit, Smrkovec near Lázně Kynžvart, Czech Republic*

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