PŮVODNÍ PRÁCE/ORIGINAL PAPER

Bi-Te mineralizace z Vysoké u Havlíčkova Brodu (Česká republika)

Bi-Te mineralization from Vysoká near Havlíčkův Brod (Czech Republic)

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Abstract

The Bi-Te mineralization was found at W-bearing hydrothemal quartz gangue at the Vysoká hill (587 m) near Havlíčkův Brod, Českomoravská vrchovina Mountains, Czech Republic. Primary aggregates up to 3 mm in size are formed by joséite-B replacing older native bismuth; microscopic grains of galena and joséite-A were also observed. The chemical composition of joséite-B correspond to empirical formula $(Bi_{3.99}Sb_{0.03}Pb_{0.01})_{\Sigma 4.03}Te_{1.92}(S_{1.04}Se_{0.01})_{\Sigma 1.05}$. Empirical formula of rare Pb-rich joséite-A is $(Bi_{3.66}Pb_{0.17}Sb_{0.02})_{\Sigma 3.85}Te_{1.12}(S_{2.02}Se_{0.01})_{\Sigma 2.03}$. The margins of joséite-B/bismuth grains were late hydrotermally altered to microcrystalline aggregates of Bi-O, Bi-O-Cl and Bi-O-F phases (probable bismite, bismoclite and zavaritskite). The supergenne russelite forms yellow coatings and aggregates at cracks and cavities of quartz gangue. The unit-cell parameters of russellite refined from X-ray powder data are: *a* 5.446(10), *b* 5.428(8), *c* 16.56(5) Å and *V* 489.4(2) Å^3.

Key words: *Bi-Te mineralization, joséite-B, joséite-A, bismuth, russellite, X-ray powder diffraction, chemical composition, Vysoká near Havlíčkův Brod, Czech Republic*

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