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Supergenní mineralizace hydrotermálního Ag-Pb-Zn ložiska Hříva u Louňovic pod Blaníkem (Česká republika)

Supergene mineralization of the hydrothermal Ag-Pb-Zn deposit Hříva near Louňovice pod Blaníkem (Czech Republic)

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Abstract

At the Ag-Pb-Zn deposit Hříva near Louňovice pod Blaníkem (Central Bohemian Region, Czech Republic), supergene mineralization with relatively abundant samples of coronadite, pyromorphite and hinsdalite was newly detected. Coronadite forms black to several mm thick crusts on quartz vein or hinsdalite crusts. Coronadite is monoclinic, space group *I*2/*m*, the unit-cell parameters refined from X-ray powder diffraction data are: *a* 9.946, *b* 2.866(2), *c* 9.839 Å, *β* 90.34(2)° and V 280.4(4) Å^3. Chemical analyses of coronadite correspond to the empirical formula $(Pb_{1.32}Na_{0.05}Co_{0.03}Ba_{0.02}K_{0.01}Ca_{0.01}Mg_{0.01})_{\Sigma 1.45}Mn^{4+}_{5.25}(Mn^{3+}_{1.95}Al_{0.38}Cu_{0.30}Fe_{0.08}Si_{0.02}Zn_{0.01}P_{0.01})_{\Sigma 2.74}(O_{15.82}F_{0.17}Cl_{0.01})_{\Sigma 16}$ calculated on the basis (Mn+Fe+Al+Cu+Zn+Si+P) = 8 *apfu*. Pyromorphite occurs there as white to creamy crusts up to 2 mm thick. Its empirical formula calculated on the basis P+As = 3 *apfu* is $Ca_{0.04}Pb_{5.04}[(PO_4)_{2.98}(AsO_4)_{0.02}]_{\Sigma 3.00}Cl_{1.14}$. Most interesting is relatively rare hinsdalite, which forms light green to blue-green crystalline crusts up to 0.1 mm thick on quartz or pyromorphite. Hinsdalite is trigonal, space group *R*-3*m*, the unit-cell parameters refined from X-ray powder diffraction data are: *a* 7.002(6), *c* 16.807(7) Å and *V* 713.6(7) Å^3. Chemical analyses of hinsdalite correspond to the empirical formula $Pb_{1.06}Al_{2.73}Cu_{0.11}[(PO_4)_{1.18}(SO_4)_{0.82}]_{\Sigma 2.00}(OH)_{6.36}$ on the basis P+S+As = 2 *apfu*.

Key words: *hinsdalite, coronadite, pyromorphite, sulphide hydrothermal deposit, powder X-ray diffraction data, unit-cell parameters, chemical composition, Hříva near Louňovice pod Blaníkem, Czech Republic*

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