PŮVODNÍ PRÁCE/ORIGINAL PAPER

Minerály vzácných zemin na hydrotermálních polymetalických žilách z historického ložiska Zlatý důl u Hluboček - Mariánského Údolí (kulm Nízkého Jeseníku)

REE minerals on hydrothermal base-metal veins from the historical deposit Zlatý důl near Hlubočky - Mariánské Údolí (Culm of the Nízký Jeseník Upland)

Michaela Kotlánová[1,2)]*, Zdeněk Dolníček[2)] a Jaroslav Kapusta[1,2)]

*[1)]Ústav geologických věd, Přírodovědecká fakulta, Masarykova univerzita, Kotlářská 267/2, 611 37, Brno; *e-mail: kotlmi@seznam.cz*

[2)]Katedra geologie, Přírodovědecká fakulta, Univerzita Palackého v Olomouci, 17. listopadu 12, 771 46, Olomouc

Kotlánová M., Dolníček Z., Kapusta J. (2016) Minerály vzácných zemin na hydrotermálních polymetalických žilách z historického ložiska Zlatý důl u Hluboček - Mariánského Údolí (kulm Nízkého Jeseníku). *Bull. mineral.-petrolog. Odd. Nár. Muz. (Praha) 24, 1, 70-79. ISSN 1211-0329.*

Abstract

Minerals of crandallite group and synchysite were found on base-metal ore veins at historical deposit Zlatý důl near Hlubočky, which is hosted by the Lower Carboniferous flysch sediments of the Moravo-Silesian Culm. Minerals of crandallite group were discovered in a sample which is formed by Fe-rich dolomite, quartz, anatase and ore minerals (primary phases: chalcopyrite, pyrite and galena, secondary phases: chalcocite, covellite, limonite and native copper). The sample is cut by younger calcite vein. Euhedral zoned crystals of minerals of crandallite group, up to 25 μm in size, were found to be enclosed in Fe-rich dolomite. Lighter zones (in BSE image) contained more REE and Sr than darker zones. Four endmembers - crandallite, florencite-(REE), goyazite and gorceixite participate on chemical composition of these minerals, taking 17.4 - 56.5, 14.1 - 53.3, 4.2 - 66.5 and 0.0 - 0.2 mol. %, respectively. Synchysite was found in the same sample and also in a sample, which is formed mostly of quartz and sulphides (chalcopyrite > galena). Synchysite formed isometric or irregular grains, ≤ 70 μm in size. The presence of synchysite-(Y) and synchysite-(Ce) was revealed from available microprobe compositional data. Both phosphates and carbonates are enriched in LREE, carbonates are also enriched in MREE. Rare-earth elements were probably leached by hydrothermal fluids from REE-rich minerals from host Culmian sediments.

***Key words**: Culm, Nízký Jeseník, hydrothermal mineralization, REE minerals, synchysite, minerals of crandallite group*

Obdrženo: 7. 3. 2016; přijato: 26. 5. 2016