https://doi.org/10.46861/bmp.32.031 PŮVODNÍ PRÁCE/ORIGINAL PAPER

Enargite, tennantite-(Cu) and tangdanite from the Gápeľ copper deposit near Dobšiná, Spišsko-gemerské rudohorie Mts., Slovakia

Martin Števko[1,2)]*, Marek Szabó Dózsa[3], and Jiří Sejkora[2)]

*[1)]Earth Science Institute, v.v.i., Slovak Academy of Sciences, Dúbravská cesta 9, 840 05 Bratislava, Slovak Republic; *e-mail: martin.stevko@savba.sk*
[2)]Department of Mineralogy and Petrology, National Museum, Cirkusová 1740, 193 00 Praha 9 - Horní Počernice, Czech Republic
[3)]Gemerská Hôrka 389, 049 12, Slovak Republic

Števko M, Szabó Dózsa M, Sejkora J (2024) Enargite, tennantite-(Cu) and tangdanite from the Gápeľ copper deposit near Dobšiná, Spišsko-gemerské rudohorie Mts., Slovakia. Bull Mineral Petrolog 32(1): 31-36 ISSN 2570-7337

Abstract

A new occurrence of enargite, tennantite-(Cu) and tangdanite was recently discovered at the Gápeľ copper deposit near Dobšiná, Spišsko-gemerské rudohorie Mts., Rožňava Co., Košice Region, Slovakia. Enargite is rare mineral at the studied locality and it occurs as dark-grey, metallic, prismatic crystals up 2.5 mm with perfect cleavage, developed on fractures of quartz-dolomite gangue. Its refined unit-cell parameters (for the orthorhombic space group $Pmn2_1$) are: *a* 7.4031(7) Å, *b* 6.4321(6) Å, *c* 6.1466(7) Å and *V* 292.68(4) Å^3. Its chemical composition corresponds to empirical formula $Cu_{3.04}As_{0.98}S_{3.98}$. Tennantite-(Cu) forms anhedral grains and aggregates replacing crystals of enargite. Its empirical formula is $Cu_{6.00}[Cu_{4.00}(Cu_{1.07}Fe_{0.64}Zn_{0.42})_{\Sigma 2.13}]As_{3.87}S_{13.04}$. Tangdanite occurs as turquoise-blue to blue-green radial aggregates up to 3 mm with silky lustre, developed on fractures of quartz gangue with partly weathered aggregates of minerals of the tennantite series. Its chemical composition corresponds to empirical formula $Ca_{2.12}(Cu_{8.77}Zn_{0.19})_{\Sigma 8.96}[(AsO_4)_{3.91}(PO_4)_{0.08}(SiO_4)_{0.01}]_{\Sigma 4.00}(SO_4)_{0.43}(OH)_{9.30}\cdot 9H_2O$.

Key words: *enargite, tennantite-(Cu), tangdanite, chemical composition, siderite veins, Gápeľ copper deposit, Dobšiná, Gemeric Unit, Spišsko-gemerské rudohorie Mts., Slovak Republic*

Received 14. 4. 2024; accepted 22. 6. 2024