

Primární zlatonosná mineralizace v Andělském údolí u Starého Města pod Sněžníkem (Česká republika)

Primary gold mineralization in the Andělské údolí Valley near Staré Město pod Sněžníkem (Czech Republic)

ZDENĚK DOLNÍČEK^{1)*}, MIROSLAV NEPEJCHAL²⁾, JAROSLAV KAPUSTA³⁾, JANA ULMANOVÁ¹⁾
A BOHUSLAV FOJT⁴⁾

¹⁾Mineralogicko-petrologické oddělení, Národní muzeum, Cirkusová 1740, 193 00 Praha 9 - Horní Počernice;

*e-mail: zdenek_dolnicek@nm.cz

²⁾Žižkova 8, 787 01 Šumperk

³⁾Katedra geologie, Přírodovědecká fakulta, Univerzita Palackého, 17. listopadu 12, 771 46 Olomouc

⁴⁾Ústav geologických věd, Přírodovědecká fakulta, Masarykova univerzita, Kotlářská 2, 611 37 Brno

DOLNÍČEK Z, NEPEJCHAL M, KAPUSTA J, ULMANOVÁ J, FOJT B (2018) Primární zlatonosná mineralizace v Andělském údolí u Starého Města pod Sněžníkem (Česká republika). Bull Mineral Petrolog 26(1): 12-27. ISSN 2570-7337

Abstract

Placers after extensive old mining of alluvial gold occur in the Andělské údolí Valley near Staré Město pod Sněžníkem. However, nothing is known about primary gold mineralization in this area. New detailed investigation resulted in the discovery of three types of primary gold mineralization hosted by an up to 5 m thick NE-SW trending shear zone cutting mica schists and gneisses of the Staré Město Unit. The first type of Au mineralization is represented by small pyrite-rich lenses enclosed in mylonite. These lenses are dominated by Au-As-bearing pyrite containing also inclusions of galena, chalcopyrite, sphalerite and tetrahedrite, with ore minerals hosted by fine-grained matrix composed of muscovite, quartz and chamosite. The second type of Au mineralization is large quartz "blasts" hosted by mylonite. Small grains of As-bearing pyrite and arsenopyrite (both containing Au) are enclosed sporadically in quartz "blasts". The third (and youngest) type of gold mineralization is tiny steep NW-SE trending chlorite-dominated veinlets containing also native gold, xenotime and monazite. Gold sheets reaching up to 0.5 mm in size belong to electrum (fineness ranges between 663 and 830 w/w, i.e. 51.7 to 72.8 at. % Au, which is comparable to composition of alluvial gold). The composition of both chlorite (delessite) and alteration phyllosilicates in wall rock adjacent to chlorite veinlets (illite-smectite) are anomalous when compared with typical orogenic vein gold mineralizations, probably due to low temperatures of precipitation (probably below ca. 200 °C). We interpret small lenses of Au-bearing pyrite mineralization as well as Au-bearing quartz "blasts" to be the boudins of earlier mineralizations, which were incorporated into the mylonite during tectonic evolution of the host shear zone. The gold-bearing chlorite veinlets are considered to be the product of remobilization of gold from both older mineralizations, which took place during late evolution of the host shear zone. With respect to spatially very restricted occurrence of gold mineralization, we do not presuppose some significant fluid-mediated transport of gold from a deep source. All three newly recognized types of Au mineralization have not been reported in the wider area yet.

Key words: *orogenic gold deposits, shear zone, gold, electrum, chlorite, delessite, monazite, xenotime, Staré Město Crystalline Complex*

Obdrženo: 10. 5. 2018; přijato: 10. 7. 2018