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PŮVODNÍ PRÁCE/ORIGINAL PAPER

Aluviální zlato v oblasti Dlouhá Ves - Řepová (zábřežské krystalinikum)

Alluvial gold in the area Dlouhá Ves - Řepová (Zábřeh Crystalline Complex)

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Abstract

A detailed panning prospection of the Řepovský potok, Míroveček and Ospitský potok creeks (northern part of the Zábřeh Upland) proved that trace amount of alluvial gold occurs in the whole studied area. The collected gold sheets are 0.2 to 3 mm in size and mostly have shapes only weakly modified by transport in the stream. Although the chemical composition varies widely between Au-rich silver and pure gold (28.1 - 99.8 at. % Au), individual sheets are typically (few exceptions exist) compositionally homogeneous. Less than half of them has the narrow high-fineness rim, which was formed by leaching of silver in supergene conditions. In lower reach of the Řepovský potok creek there were also found gold sheets containing elevated mercury (0.1 - 5.1 at. %), which most probably originated from neighbouring vein-type Ag-Zn-Pb deposit Řepová. In contrast, the source of Hg-free gold sheets was not unambiguously established. The first possibility includes small vein-type mineralizations similar to the Řepová ore deposit and containing trace amount of gold (an occurrence of this type was newly recognized in the vicinity of Dlouhá Ves village). Second, one cannot exclude the trace occurrence of gold sheets directly in underlying metasiltstones or acid metavolcanic rocks of the Zábřeh Crystalline Complex [with respect to repeatedly observed intergrowths of gold with polymineral aggregates of phyllosilicates (muscovite, chlorite, biotite, clay minerals), feldspars (K-feldspar, albite, K-Na feldspar) and minor quartz in the alluvial gold sheets]. The particles of metallic Cu-Zn-Sn alloys with admixture of Ni, Sb and In, panned from the Řepovský potok creek, could contain metals originated from smelting of base-metals ores from the deposit Řepová, which comprise the same minor elements.

Key words: gold, silver, mercury, electrum, base-metals vein mineralization, Řepová, Zábřeh Crystalline Complex

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