PŮVODNÍ PRÁCE/ORIGINAL PAPER

Prvý výskyt kobaltpentlanditu na Slovensku (Ca-Mg skarn, Vysoká-Zlatno)

First occurrence of cobaltpentlandite in the Slovak Republic (Ca-Mg skarn, Vysoká-Zlatno)

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Abstract

In this paper we describe the first occurrence of cobaltpentlandite in Slovak Republic. Cobaltpentlandite was found in borehole the R-1 in depth 677 m in Ca-Mg skarn at the Cu-Au skarn-porphyry deposit Vysoká-Zlatno. One grain of cobaltpentlandite forms euhedral crystal up to 0.014 mm in size and it is chemically homogenous. It occurs in assemblage with pyrrhotite, magnetite, monticellite, calcite, anhydrite, minerals of ellestadite and garnet group (andradite, kerimasite), anhydrite, perovskite and valleriite. Average of seven precise microprobe analyses gave empirical formula $(Co_{5.71}Fe_{1.77}Ni_{1.62}Cu_{0.01})_{\Sigma 9.11}S_{7.89}$. Cobaltpentladite contains up to 13.02 wt. % Fe, 12.65 wt. % Ni and 0.16 wt. % Cu. Its chemical composition is characteristic by dominantly positive correlation of Fe and Ni and by negative correlation (Fe, Ni)Co_{-1}. Presence of opposite correlation is questionable. Origin of cobaltpentladite is related to adjacent Fe-dominant phases, pyrrhotite and magnetite, which formed in Ca-Mg skarn during younger hydrothermal sulphide stage together with galena and sphalerite.

Key words: *cobaltpentlandite, electron microprobe, skarn-porphyry deposit, Vysoká-Zlatno, Štiavnické vrchy Mts., Slovakia*

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