

Řepová u Mohelnice - mineralogicky nejpestřejší žilný rudní výskyt v moravskoslezském kulmu

Řepová near Mohelnice - mineralogically the most diverse ore vein mineralization in the Moravo-Silesian Culm

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Abstract

The ore occurrence Řepová near Mohelnice is formed by NE-SW-trending hydrothermal ore veins, which are arranged concurrently with strata of the host greywackes and conglomerates of the Mírov „Culm“. Primary and secondary mineralizations were studied in terms of mineral and crystal-chemical compositions, resulting in discovery of 32 primary and 8 secondary phases. The gangue is formed by baryte (with up to 0.27 wt. % SrO), carbonates (Fe-rich dolomite to Mg-rich ankerite, siderite to Mg-rich siderite) and quartz. Ore minerals, locally disseminated in the gangue, are dominated by galena (containing up to 0.4 wt. % Ni, 1.4 wt. % Ag and 1.6 wt. % Sb) and sphalerite (with up to 1.2 wt. % Fe, 0.3 wt. % Cd and 2.4 wt. % Hg). Numerous other accessory ore minerals are mostly enclosed in galena, including millerite, gersdorffite, ullmannite, siegenite, cobaltite, arsenopyrite, pyrite, marcasite, chalcopyrite, tetrahedrite (with up to 16.4 wt. % Ag), freibergite, Ag-amalgams, bournonite, cinnabar, acanthite and gold (electrum with up to 2.9 wt. % Hg). Secondary minerals are represented by cerussite, anglesite, smithsonite, pyromorphite, covellite, *limonite* and *manganomelane*. In addition, four new mineral phases have been recognized, showing the following compositions: Ni₂S₃, Co₂S₃, (Ni, Cu, Fe, Zn)₁₄Sb₇S₂₇, and HgSO₄·~2.5 - 4.9 H₂O. The ore deposit Řepová is the mineralogically most diverse hydrothermal vein mineralization in the whole Moravo-Silesian Culm. In addition, the unique features include also the occurrence of numerous Co- and Ni-sulphides and minerals rich in As, Sb, Ag and Hg and also unusual chemical composition of some „common“ phases. The observed enrichment in Co and Ni can be associated with leaching of these elements by hydrothermal fluids from the underlying and neighbouring Zábřeh Crystalline Complex containing bodies of amphibolites and serpentinites. The textural features, mineral assemblage, chemical composition of individual minerals and character of fluid inclusions indicate low-temperature crystallization conditions, which are in accordance with presupposed origin of this mineralization during the Late Variscan metallogenic epoch.

Key words: baryte vein, sulphidic mineralization, galena, sphalerite, gold, Ni-Co sulphides, Řepová, Moravo-Silesian Culm

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