

Abstract

It is known from previous studies that VMS deposits were formed in the underwater environment in volcanically active areas, e.g. mid-ocean ridges or volcanic arcs. The occurrence is known in many countries around the world, and they are one of the most important sources of zinc, copper, lead, silver and gold in association with secondary elements such as Co, Sn, Ba, S, Se, Mn, Cd, In, Bi, Te, Ga, Ge. Massive sulfide mineralization can occur in host rock types ranging from mafic, felsic to siliciclastic. Typical ore minerals occurring in VMS deposits are, for example, pyrite, chalcopyrite, sphalerite and galena. In the context of gold-enriched VMS deposits, of the world's approximately 800 known VMS deposits, anomalous gold occurrences appear only in some of them. Despite the rare occurrence of gold-rich VMS deposits, Au-VMS are of great economic importance. The task of the research part of the bachelor's thesis is to state the geology and mineralogy of VMS deposits, the distribution and mineralogical bond in these deposits, what are the mechanisms of gold redistribution and what is the geology and mineralogy of the Zlaté Hory – West deposit (ZH-Západ). The stratiform polymetallic deposit Zlaté Hory – West is defined by the mineral association Cu-Zn-(Au). Previous investigations and historical mining confirm the occurrence of massive sulphide ore with exceptional gold enrichment. On quartzite rock samples from the "golden column", the main task of the practical part will be to analyze these samples microscopically and chemically.

Key words: Volcanogenic massive sulphide deposits, VMS, gold, Zlaté Hory, mineralogy