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PŮVODNÍ PRÁCE/ORIGINAL PAPER

Mineralogická charakteristika barytové mineralizace z lokality Ruda-hájenska (hornoměstský rudní revír, silezikum)

Mineralogy of baryte mineralization from the locality Ruda-hájenska (Horní Město Ore District, Silesicum, Czech Republic)

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Abstract

The previously unknown remnants of old mining activity were recently found at the locality Ruda-hájenska in the SW part of the Horní Město Ore District (Northern Moravia, Czech Republic). Partly weathered fragments of baryte mineralization in association with acid metavolcanites of the Vrbno Group (Devonian, Silesicum) were found in the dump material. Baryte mineralization exhibits a fine-grained marble-like appearance and locally contains minor disseminated pyrite. A detailed mineralogical study also revealed the presence of trace amount of other hypogene sulphides (galena and sphalerite), whose chemical composition is similar to those reported from the Horní Město Ore District. In addition, baryte also contains individual grains or aggregates of quartz, K-feldspar, and muscovite, which are often corroded and replaced by baryte. The silicates contain negligible amount of Ba (up to 0.02 *apfu*), which is only slightly higher than those in the same mineral phases from the host metavolcanic rock. The isotope composition of sulphur in baryte and pyrite indicates at least two different sources of sulphur (marine sulphate and likely sulphur leached from wall rocks) and isotope disequilibrium between co-existing minerals. The texture and mineral composition of the studied mineralization resemble metamorphosed baryte mineralizations occurring in the wider area (including local stratiform baryte bodies), but the absence of elevated contents of Ba in feldspars and especially in mica contradicts with an idea of Variscan metamorphic re-crystallization of the studied mineralization together with its host rock environment under the greenschist facies conditions. Therefore, one cannot exclude the possibility that it can be a post-metamorphic vein mineralization, which experienced intense deformation and recrystallization at very low temperatures, associated with rejuvenation of fault-related tectonic activity. The supergene mineral phases are represented especially by *limonite*, less frequent are minerals of the hollandite group (hollandite, coronadite, cryptomelane), anglesite, cerussite, and a not very well identified Ce-mineral, most likely cerianite-(Ce). Supergene origin is also presupposed for rarely found acanthite.

Key words: Ruda, Horní Město Ore District, old mining, hydrothermal mineralization, baryte, sulphur isotopes, Vrbno Group, Bohemian Massif

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