

PETROLOGICAL AND GEOCHEMICAL STUDY OF THE LOWER TRIASSIC SILICICLASTIC SUCCESSION OF THE RUDABÁNYA ORE DEPOSIT (NE HUNGARY)

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The open pit and underground mining in the iron and base metal ore deposit of Rudabánya went on from 1872 until 1985. The ore deposit is located in the Lower-Middle Triassic siliciclastic and carbonatic succession, the majority of the ore is metasomatic siderite and limonite, which was generated by the oxidation of the siderite. Beside the iron ore a probably synsediment, stratiform Pb-Zn ore deposit, and furthermore another Pb-, Zn-, Ag- and Cu enrichments also occur. The Oligocene-Miocene, NNE-SSW strike slip faults of Darnó Zone comminuted the ore bearing formations (FÖLDESSY *et al.*, 2010).

We present the petrological and geochemical study of the oldest formations of the Rudabánya ore deposit (Lower Triassic Bódvaszilas Sandstone and Szin Marl Formation). The aim of our work was to get more acquainted with the complex ore-forming system of Rudabánya. We studied the drill cores from the open pit, and the similar formations from the non-ore bearing areas (drill cores from Aggtelek Mts., samples from type localities and other surface outcrops) to describe the alterations in the succession generated through ore formation.

The older formation, the Bódvaszilas Sandstone is built up from sandstone, siltstone and claystone. In the Aggtelek Mts. in Bódvaszilas Sandstone the monocrySTALLINE quartz and muscovite are the most abundant

constituents, and feldspars (plagioclase, K-feldspar) also occur in contrast to the samples of Rudabánya where they are almost absent. In the quantity and quality of the accessory minerals there are no notable differences in both areas. There is a great amount of carbonate cement in the formation, which is calcite in the type locality, but magnesite-ankerite in the drill cores of Aggtelek Mts., and magnesite-ankerite-siderite in Rudabánya where these cementing minerals are dominant. Some mineral phases, which have not been mentioned in the former publications, were also identified.

The Szin Marl Formation is built up from marl, slaty marl and calcareous marl. The clasts are similar to Bódvaszilas Sandstone and there are carbonate fragments also which are dolomite and ankerite. In the Rudabánya area the amount of clay minerals is very low, or they are completely absent in many samples. We have observed the previously mentioned synsediment sulphide accumulation along the laminae.

As a result of our research we were able to separate the posterior alterations, such as the ore-forming processes of Rudabánya from the non-ore-bearing formations; and to outline their regional extension.

Reference

FÖLDESSY, J., NÉMETH, N. & GERGES, A. (2010):
Földtani Közlöny, 140: 281–292.