

THE MAIN FEATURES OF METAMORPHOSED FE-MN DEPOSITS FROM ROMANIA

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The Mn-Fe deposits from Romania are differentiated through age, metamorphic facies, mineralogical composition, source of manganese and iron, geological setting and metamorphic evolution. The Razoare Fe-Mn deposit exhibits a granulite facies metamorphism and is hosted by the Precambrian Baia de Aries series. It has a predominantly Fe-Mn silicates composition with some Mn-carbonates, Fe-Mn oxides and Fe-sulphides. Manganoan fayalite, manganoan orthoferrosilite, manganese humites and rhodochrosite are the chief minerals. The Bistrita Mn deposits are located in the polymetamorphic retrograde Cambrian Tulghes series and have a predominant Mn -carbonates composition and a very large number of Mn-silicates, (tephroite, manganese humites, nambulite, manganpyrosmalite, etc.), Mn-oxides and Mn-Co-Ni-As sulphides. The source of manganese is mixed: submarine hydrothermal and sedimentary. A well expressed oxidation zone occurs only in the Bistrita deposits, as they are carbonate dominated.

The Sebes Mn-Fe deposits are situated in Precambrian Sebes-Lotru series - metamorphosed in amphibolite facies and belongs to two petrographic types: tephroite and gondite some relics of granulite facies were found in Rascoala deposit. The source of Mn and Fe is sedimentary of marine nodules type. The Delinesti Mn-Fe deposit from Semenic Mountains is located in the same series, like the Sebes deposits, but has a different mineralogical composition and metamorphic evolution. After the main metamorphic stage, that produced old Mn-silicates, Fe-Mn-oxides and Mn-carbonates, there followed a granite-related thermal metamorphism, characterised by high oxidation conditions (presence of hematite and spessartine - calderite, disappearance of tephroite, etc). and the statical growth of Mn-tremolite, magnetite, alkali pyroxene etc.