

IMPLICATIONS ON GEOLOGY, GENESIS AND ORIGIN OF ÇAYIRLI MANGANESE DEPOSIT, ANKARA, CENTRAL ANATOLIA

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ABSTRACT.— Çayırli manganese deposit occurs in radiolarite related to Ankara ophiolitic melange of Lower Cretaceous-Upper Cenonian age. The ore body consistent with the host rock is located in the minor folds within this unit. The ore minerals are pyrolusite and psilomelane. Regarding the chemical composition of the ore, it appears that the ore is Mn-rich ( $Fe/Mn < 0.1$ ) and resembles to the deposits precipitated rapidly from the hot aqueous solutions near the submarine hydrothermal sources. The barium content of the deposit is higher than that of the normal seawater. In addition, the concentrations of the elements such as Ni, Co and Cu are lower than that of the present-day hydrogenous manganese deposits. According to these data, it might be suggested that Çayırli manganese deposit is formed by the hydrothermal convection processes at the seafloor spreading centers.