FORMATİON OF TÜRKMENTOKAT-KARATEPE (ESKİŞEHİR) MAGNESITE ORE BEDS

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ABSTRACT.— Magnesite ore has a tendancy to settle in the F. W directcd cracksand fissurcs developed strictly under structural control of serpentines and comprises vein and lensoid beddings; in addition, it is observed that it shows transitions to irregular and stockswork beddings. Two different mineral associations were found after analyzing the samples taken from the veins and the lenses. The first one is the primary association, magnesite and quartz and the other is the secondary association, calcitc and dolomite. The mineral content of the samples have been figured out from their basic element analysis and seemed that magnesite shoes 91.74%, cjuartz 0.74 %, dolomite 2.42 %, calcite 1.17 % and serpentine shows 1.72 % average values. Because the magnesite ore with having concentric and colloform structure refiects a rhythmic dcposition in a gel like colloidal media, the physicochemical environmental behavior of solutions containing water with CO_2 (Mg , dissolved from serpentines, is included) have been investigated, the experimental Studies on the $MgO—SiO_2$- CO_2 - H_2O and the MgO— CO_2 -H_2O systems have been performed. According to this, the observed primary mineral association of the ore bed seems to be the product of the $MgO—SiO_2$— CO_2 — H_2O system, it is determined that the magnesite ore has formed under 150 C thermal and 2000 bar liquid pressured conditions with various mole fractions of CO2 When the magnesite ore, bedded as batroidal and concretional masses on the surface (around Sığıryatağı hill and other small occurrences) and in the shallow depths (near 12 meter), in the MgO— CO_2— F_2O system is taken into consideration and evaluated, it is presumed that the magnesite ore might have formed from the mineral deposits containing Mg $(OH)_2$ or 3 Mg $(OH)_3$-$3H_2O$ in their compositions. According to the data given above, the formation of the local magnesites reveals two different facts. The first is having a hydrothermal origin, the sccond is being an infiltration type gel magnesite deposition which its process is stili Continuing and will continue.