

AN AUTOCHTHONOUS. RECENT LATERITIC OCCURRENCE IN THE EASTERN TAURUS BELT: BÜYÜKBELEN
(FARAŞA-YAHYALI) IRON OCCURRENCE

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ABSTRACT.- In the study area, which is located 28 km southeast of the Yahyalı (Kayseri) village, are cropped out Upper Cretaceous aged pelagic sediments and ophiolitic rocks. These lithologies of the Bozkır unit are studied into the two main groups as Çavdaruşağı olistostrome and Pozantı-Faraşa peridotite nappe. Büyükbelen Laterites are composed of recent, autochthonous lateritic iron crust and red soils derived from pelagic carbonates intercalated with chert of the Upper Cretaceous aged Çavdaruşağı olistostrome. Above mentioned ores were formed by lateritization and partly karstification processes affected after Miocene. Lateritic iron ore is principally composed of goethite, hematite, ferrihydrite, quartz, illite, kaolinite, malahite, azurite and amorphous matter aggregates. Major oxide percentages of the laterites are, in average, 49.71 % Fe₂O₃, 3.12 % Al₂O₃, 30.75 % SiO₂ and 0.09 % CaO. Above mentioned lateritic ore was enriched in Fe, but was depleted in Si and Ca compared to the parent rock. Al component was also removed under poorly acidic-neutral weathering conditions. The red soils including average 4.05 % Fe₂O₃, 7.13 % Al₂O₃, 79.49 % SiO₂ and 1.73 % CaO are made up of quartz, montmorillonite, calcite, illite, opal-CT and amorphous matter. In electron microscopic investigation, it is observed that thin-fibrous goethite and euhedral hematite crystals in the laterite samples are authigenic, and transformations between these two minerals are common. The studied laterites are relatively rich in Cu, Cr, Co, Zn, Ba, Ni but poor in Ce, La, Th and Zr. On the other hand Cr, Cu and Mo concentrations are also high in the parent rock.