

## **Mineralogical investigation of the Neogene aged units around of Mihalıççık in the Eskişehir region, central Anatolia, Turkey**

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The study area is located South and Southwest of Mihalıççık, Central Anatolia, Turkey. Middle-late Miocene aged sedimentary sequence overlies unconformably on the basement rocks. Whole rocks and clay fraction minerals were determined of samples taken from the measured sections of Neogene sequence. The purpose of this study, to clarify the whole rock and clay fraction minerals, to determine the geochemical characteristics and to investigate the provenances of these minerals belong to Neogene aged sequences.

Clay, dolomite, mica, feldspar, quartz, calcite were found in the whole rock; illite, smectite, paligorskite, kaolinite, chlorite, vermiculite, serpentine and sepiolite were determined in the clay fraction. Illite is dominant clay mineral in the region. Serpentine mineral was found in the east part of the study area which illite was not exist in these sections. This situation indicates that, sediments were transported to the basin from the different sources. These are ophiolitic and metamorphic provenances. Calcite and dolomite are exist as carbonates in the study area. Distribution and abundance of dolomite is more than calcite. The chemical analyses results reflect that, the dolomites occurred in the saline and alkaline lacustrine environment due to evaporation of the fresh water according to Mg/Ca-Sr/Ca, Na/Ca-Sr/Ca, Na/Ca-Mg/Ca diagrams.

Keywords: Mihalıççık, Mineralogy, Geochemistry, Dolomite,  
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