

MINERALOGICAL AND GEOCHEMICAL PROPERTIES OF CRETACEOUS-TERTIARY AGED DAVUTLAR FORMATION FROM DEVREKANI/KASTAMONU (W – TURKEY): TO INTERPRETE THE ORIGIN and PROVINCE

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This study area is carried out north of Kastamonu region. Devrekani, Seydiler, Ağlı and Küre are the most important villages in the investigated area. In the study area, Mesozoic aged units unconformably overlay on the Precambrian aged basement rocks (marble, schist, amphibolite, dolomite, granite, gneiss, diorite). Cretaceous-Tertiary aged Davutlar formation is formed by sandy sediments, shallow marine sandy-silty carbonate, marl and conglomerate. In the investigated area, unconformities were determined between Paleozoic and Mesozoic series, but Upper Cretaceous and lower Tertiary epoch is continuous.

A number of samples were collected from the measured stratigraphical sections at the different locations. Mineralogical analyses were conducted on the samples by XRD methods. In the whole rock, clay, calcite, quartz, feldspar, mica and dolomite are the common minerals. In clay fraction analyses, illite is found as a dominant mineral, the other clay minerals smectite, smectite-chlorite, chlorite, kaolinite and serpentine. Chemical analyses were made on 14 samples. The purpose of this study, to determine the origin and the provenances of the sediments from the global tectonic view. Source-related factors are affected chemical composition and mineralogy. From this reason, tectonic environment studies on sedimentary rocks were made according to the geochemical composition. In this study, $\text{Fe}_2\text{O}_3+\text{MgO}$, TiO_2 , and $\text{Al}_2\text{O}_3/\text{SiO}_2$, $\text{Fe}_2\text{O}_3+\text{MgO}$ major elements ratios are used in these diagrams. Study area rocks are found continental arc, active and passive continental margins fields. Geochemical analyses results and mineralogical studies show that, sediments are fed from different sources and therefore are affected by tectonism. It is considered that intensive tectonic activity in the region can cause the change of source area depending on the gradual uplift of basement rocks (ofiolitic, metamorphic and magmatic source).

Key Words: Kastamonu-Devrekani, Cretaceous-Tertiary, Mineralogy, Province.