

## FEATURES OF THE TERTIARY VOLCANIZM OBSERVED AT BİGA PENINSULA AND GÖKÇEADA, TAVŞAN ISLANDS

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ABSTRACT.- Six main volcanic rock groups that formed at different stages between Eocene to late Upper Miocene were differentiated in the area, depending on the field and laboratory studies, namely "Balıklıçeşme volcanics" of Eocene age, "Çan volcanics" of Oligocene age, "Kirazlı volcanics" of Upper Oligocene age, "Behram volcanics" of Lower to Middle Miocene age, "Hüseyinfakı volcanics" of Middle Miocene age and "Ezine volcanics" of Upper Miocene age. Together with petrographic and geochemical studies, K/Ar dating and Stronbium/Neodium isotope ratio measurements ( $87\text{Sr}/86\text{Sr}$  and  $143\text{Nd}/144\text{Nd}$ ) were done on the rocks. Volcanic rocks formed between Eocene and Middle Miocene were found to be of calc-alkaline, whereas only that formed during Upper Miocene were of alkaline type. Geochemical and isotopic studies show that the magma formed the calc-alkaline volcanism have undergone intense contamination and got a hybrid character whereas the source of alcali volcanism is different and formed by partial melting of a heterogeneous mantle material. The rocks are related with tectonic regime of the area; calc-alkaline volcanics have been formed under a compressional regime, but alkaline rocks have been formed under a tensional regime, contrarily.