



REVISED STRATIGRAPHY AND PALEOENVIRONMENTAL ANALYSIS OF WESTERN PART OF THE EREGLI-ULUKISLA BASIN (AROUND HALKAPINAR)

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ABSTRACT

Eregli-Ulukisla basin is one of the important Upper Cretaceous - Cenozoic basins located in the north of Taurus Mountains. This study is related to western part geology of the Eregli-Ulukisla basin (around Halkapinar). In this study, the litho-stratigraphical and paleoenvironmental characteristics of the Late Maastrichtian- Middle Eocene units which crop out within the region were investigated. For this purpose, two different cross-sections were measured, and a total of 95 samples were examined. The investigation involves micropaleontological and microfacies analyses integrated with stratigraphic interpretations. Rock units ranging in age from the Late Maastrichtian to the Middle Eocene records point out phases of transgression, subsidence, volcanism and uplift. The oldest unit cropping in the vast northern margin of the study area in the region, is the Dedeli Formation of Late Maastrichtian age, which transgressively overlies ophiolitic melange that were emplaced southwards onto the Tauride microcontinent during the latest Cretaceous time. The Dedeli Formation is characterized by deposition of the conglomerate, sandstones, limestone olistoliths and hemipelagic-pelagic limestone in submarine slope to deep marine environments. It is unconformably overlain by the Paleocene age Guneydagi Formation which is composed of the calcarenite-calclrudite limestone alternation, limestone with abundant benthic foraminifera and mudstone-marl with planktonic foraminifera in shallow marine to outer shelf environments. This stratigraphic data show that these areas during the latest Cretaceous or Early Paleocene had exposed due to a sea level drop or uplift along the margin of the basin. At the same period (Late Maastrichtian-Paleocene), there is no sediment in the narrow southern parts of the basin. Especially in the narrow southern parts of the basin, during Late Paleocene and Early Eocene large masses of material were transported into basinal areas and deposited along base of slope areas (Halkapinar Formation). The basal part of Halkapinar Formation mainly consists of alternation of siliciclastic rocks (conglomerate-sandstone-marl and mudstone) with olistoliths; its middle part alternates sandstone-marl-mudstone and sandy limestone with nummulites interrupted by volcanic material; its upper part comprises depositional units grading from conglomerates to mudstone. Halkapinar Formation comprises an upwardly-deepening succession, as evidenced by a progressive change from a relatively shallow upper-slope setting to a deeper water basinal one. The region is the period of erosion and uplifted after Middle Eocene. This study was supported by the Research Fund of Mersin University in Turkey with Project Number: 2016-2-TP2-1817.

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