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Calcareous nannofossils of the late Eocene- early Oligocene from the Pabdeh – Asmari transition in Dezful embayment (SW Iran): Evidence of a climate cooling event

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key points: paleoclimatology, biostratigraphy, paleoceanography

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Abstract

The Calcareous nannofossil assemblages have been investigated at the uppermost Eocene – lowermost Oligocene at Marun Oil Field in Dezful embayment (SW Iran). The studied interval mainly consists of marly shales, marlstones, and limestones. Seventeen genera and 36 species of calcareous nannofossil have been determined. Regarding the succession of nannofossil bioevents, the studied interval is ranging from late Eocene (Priabonian, CNE18/NP18) to early Oligocene (Rupelian, CNO2/NP22). High relative abundance of warm water taxa (such as *Sphenolithus* spp., *Discoaster* spp. and *Helicosphaera* spp.) is recorded at the late Eocene, while towards the Eocene – Oligocene boundary (EOB), an increase in the relative abundance of cool and temperate taxa (such as *Reticulofenestra* spp., *Cyclicargolithus floridanus*, *Dictyococcites bisecta* and *Markalius inversus*) is identified. A marked decrease in abundance of warm water taxa along with a decrease in species diversity indicate the cooling event at the EOB at Marun Oil Field in Iran similar to other parts of the world.

Key words: Calcareous nannofossils, biostratigraphy, Eocene, Oligocene, paleoecology, Zagros Basin.