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

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10 **key points:** paleoclimatology, biostratigraphy, paleoceanography

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16 **Abstract**

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

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