

Sequence Stratigraphy and Microfacies Analysis of Tarbur Formation in Brojen Area, Southwest Iran

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Abstract

In order to interpret the facies, depositional environment and sequence stratigraphy of Tarbur Formation in Brojen area, one stratigraphic section was investigated. The study area is part of the Zagros suture-thrust zone and more than 220 samples were collected and studied. Field and petrographic studies were carried out for facies analysis and paleoenvironmental reconstruction of the investigated intervals. Seven different microfacies have been recognized, which can be grouped into four depositional environments: tidal flat, lagoon, shoal and open marine. Lagoon, shoal and open marine are respectively characterized by the occurrence of miliolids, rudist fragments (which are well sorted) and planktonic foraminifera in the studied intervals. Hence, the Tarbur Formation represents sedimentation on a carbonate ramp. In the studied area, presence of siliciclastic lithofacies have been probably related to compressional tectonics as the Maastrichtian had been the closure time for the Arabo-African and Iranian plates. Three third-order sequences are identified in the Tarbur Formation, on the basis of deepening and shallowing patterns in the microfacies. Moreover, the boundary between Gurpi and Tarbur formations is considered as SB2. The SB between sequence 3 and overlying formation (Jahrum Formation) is considered as SB1.