

Depositional environments & Sequence stratigraphy of the Albian to Turonian intervals (Kazhdumi & Sarvak Formations) in the NW Fars Area (Zagros Basin)

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The Albian to Turonian sediments (Kazhdumi and Sarvak Formations) are over 600 meters thick in the study area consisting mainly of shallow-water carbonates. Five stratigraphic sections were measured in the Coastal and sub-Coastal Fars for determination of facies, sedimentary environments and sequence stratigraphy then correlated with eleven wells. Based on obtained data from microfacies studies four carbonate facies belts (tidal flat, lagoon, barrier and open marine) and one none carbonate facies (sandstone) were identified.

Six 3rd order sedimentary sequences are distinguished in this time interval. The Albian sediments (sequence 1 to 3) show a variable thickness in the study area, while the sedimentary facies show limited changes through these sequences. The Cenomanian sediments (sequences 4 to 5) consist mostly of the rudistic platform carbonates and oligosteginids of the intrashelf basin. In terms of thickness the Cenomanian interval shows remarkable variations throughout the area. A well known Cenomanian- Turonian unconformity strongly influenced the development of the Turonian sediments (Sequence 6). Sedimentary facies of the Turonian are more or less the same as the Cenomanian sediments. Lateral facies and thickness changes introduce local and regional controls on the sedimentation patterns. The regional factors could be related to the Cenomanian/Turonian uplift and erosion which are the main controls of patchy natures in these units, while the local factors are attributed to the salt movements and influence of the well known Kazerun and Nezam Abad faults. The overall thickness changes show that the depocentre locates between these two faults in the sub-coastal Fars area.

Toward NW (Dezful Embayment) carbonates of the Albian changes to shales which can be considered as the source rock. The Cenomanian and Turonian sediments play role of reservoir rock in that area. Toward NW (Lurestan) the Albian, Cenomanian and Turonian sediments grade to deep facies.

Key words: *Depositional environment, Sequence stratigraphy, Albian, Turonian, Kazhdumi & Sarvak Formations, Zagros Basin*