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High Resolution Sequence Stratigraphy of the Bangestan Group in a Tectonically Active Setting (Dezful- Izeh) Zagros - Iran

The middle Cretaceous Bangestan Group in the Central Zagros region is one of the major carbonate petroleum systems of the Middle East with the Khazdumi source rocks underlying the Sarvak and Ilam shallow water carbonates (reservoirs). The subject of this paper is the stratigraphic organisation of the Sarvak Formation, and in particular how this carbonate system responded to the change from a dominantly eustatic control to a dominantly tectonic control on the sedimentation pattern (change from passive to active margins of the arabian plate at that time).

Based on well data and outcrop sections (Ardal and Meymand areas) a regional sequence stratigraphic model has been constructed, documenting the overal paleogeographical organisation of the Sarvak Formation in terms of intra-shelf basins, paleo-highs and the position of the open ocean. The system is organised at three scales of depositional sequences (3rd to 5th order). The sequence framework (stacking pattern) in combination with geometrical and bedding information obtained from the outcrop, and paleo-ecological data obtained from subsurface paleologs, allowed to propose a depositional model for the Sarvak rudist platform.

In addition, the stratigraphic contact of the top of the formation has been followed towards the north, showing gradual loss of stratigraphic sections, with eventually Eocene red beds deposited on top of the Turonian shallow water carbonates, testifying of the succession of obduction and subduction events that started at the end of the Sarvak deposition.