



Facies Analysis of Fahliyan Formation in North Dezful Embayment, Southwest Iran: Implications for Porosity Distribution

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Fahliyan Formation (Neocomian) is one of the important hydrocarbon reservoirs of khami group in south west of Iran. This Formation has 332m thickness in type section and mainly consist of carbonate rocks. In this study, the Fahliyan Formation was investigated in subsurface section of AZN#B Well in the north Dezful Embayment (with 281m thickness). Lower boundary of Fahliyan Formation with Garau Formation is continuous and the upper contact with Gadvan formation is conformable. According to this study 13 carbonate microfacies and one shaly facies were recognized which are grouped into four facies associations(micro facies group). These facies associations present platform to basin depositional setting and are nominated as : A (Tidal-flat), B (Lagoon), C (Bar) and D (Open marine).

Based on available data set including cutting samples, thin sections and well log analysis, it seems the Fahliyan Formation was deposited in a Carbonate shelf setting and the studied profile indicates the shallowest part of the platform.

Secondary porosities due to dolomitization and Stylolitization played an important role in increasing reservoir quality of the formation. Other types of porosities occupied by later cementations and had no contribution in reservoir quality.