

Sedimentological Studies of the Zakeen and Faraghan Formations in the North Bandar- Abbas (SE Zagros)

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The stratigraphic column of Zakeen and Faraghan formations were measured and sampled in Tang-e-Abzagh of kuh-e-Gahkum, which is located 130km north of the Bandar Abbas city. The stratigraphical column of Tang-e-Abzagh in ascending stratigraphic order is divided into the Barut (Late Infracambrian), Sarchahan (Early Silurian), Zakeen (Early-Late Devonian), Faraghan (Early Permian) and Dalan (Late Permian) formations.

The Zakeen and Faraghan formations (210m) consist of detrital lithofacies which have been abbreviated such as Gm, Gms, Gt, Sp, Sm, Sh, Sl, Sr, Fl, F and carbonates. Likewise, the related petrofacies are called subarkose, quartz arenite, lithic arenite, grain supported conglomerate (Gs) and matrix supported conglomerate (Gm).

The main encountered diagenetic processes are dolomitization, silicification, chloritization, calcification in Zakeen Formation ,whereas for Faraghan Formation dolomitization, calcification and fracture filling are more common .Furthermore, the sedimentary structures are: parallel lamination, cross lamination, cross bedding, convolute bedding, flaser and lenticular bedding, reactivation surface, ripple marks, climbing ripple, mud cracks, , channeling, bioturbation and stromatolite.

According to the lithofacies (e.g., Gms and Gt) and sedimentary structure (e.g. Herring-bone cross bedding, linguoidal and interference ripple, mud cracks, convolute and flaser bedding) the sediments of Zakeen Formation could be refereed to the tidal flat and alluvial fan environments.

The Faraghan Formation has also precipitated in tidal flat (inter-supratidal) because of sedimentary data such as domal and planar stromatolite, dolomite and interference ripple. An igneous origin is suggested for detrital elements of Zakeen and Faraghan formations in this stratigraphic column since there are zircon and tourmaline minerals within the studied samples of these two rock units.

The most of sandstone facies in this section are subarkose (submature with subangular grains).The conglomerate beds are consist of subangular-angular grains and polymictic composition as well as special types of sedimentary structures such as slumping and climbing ripple, suggesting rapid sedimentation or sediment transportation in a short distance.

Key words: *Zakeen, Faraghan, ripple, mud cracks, tidal flat, stromatolites*