Storm deposits in lower part of Niur Formation (Lower Silurian) in SW Kashmar

E. Khazaee[1], M. H. Mahmudy-Gharaie[2]*, A. Mahboubi[3] and J. Taheri[4]

1, 2, 3- Dept., of Geology, Faculty of Science, Ferdowsi University of Mashhad
4-Geological Survey of Iran, Mashhad Branch, Iran

* mhmgharaie@um.ac.ir

Recieved: 2017/3/13 Accepted: 2017/6/18

Abstract

The lower part of Niur Formation is located in SW Kashmar in the Central Iran microplate. This Formation consists of limestone and sandstone in the study area. Petrography and field observations including texture, structure and other properties such as hummocky cross-stratification (HCS), conglomerate with erosion base (storm erosion), intraclasts particles in the conglomerate and graded beddings, which were the most important documented sedimentary structures in the succession, led to identification of the storm wave deposits in the Niur Formation. A proximal tempestite model was proposed for sedimentary deposits in this area based on above mentioned evidence and also vertical facies variations in the sedimentary sequence. Tropical storms (cyclone) affected the sedimentation pattern in studied area due to paleo-latitude position of the Central Iran microplate (about 25^{o} to 30^{o} south paleo-latitude). These tempestites were deposited on a ramp setting in northof supercontinent Gondwana. Identification of the Silurian tempestite in north of Tabas block is significant in the paleogeography and paleoclimate interpretations.

Keywords: Storm waves, Tempstite, Niur Formation, Iran microplate, Silurian