Microfacies, paleocasology, carbonate associations and investigation of NB, PB with stages boundaries Asmari Formation by using cyclolog in a well in Marun oilfied

M. Goodarzi [*1], H. Amiri Bakhtiar[2], M. Noraii Nejad[3] and Y. Ezampanah[4]

1- M. Sc., of Geology, Faculty of Science, Ferdowsi University of Mashhad, Mashhad
2- National Iranian South Oil Company (NISOC), Ahwaz
3- Ph. D. student, Faculty of Earth Sciences, Shahid Beheshti University, Tehran
4- Assist. Prof., Dept. of Geology, Faculty of Sciences, Bu-Ali-Sina University, Hamedan

** mohammadgoodarzi45@yahoo.com*

Recieved: 2020/5/10 Accepted: 2020/8/22

Abstract

In this research based on the petrographic analysis 12 microfacies belonging to outer ramp, middle ramp, shoal and inner ramp were introduced, which led to recognition of some paleoeological parameters. In the studied well, the Asmari Formation sediments have been deposited from normal to hypersaline, oligophotic to euphotic and oligotrophic to eutrophic conditions. Deep parts of the basin with low hydrodynamic energy, soft and stable substrate contain foraminifera with thin and elongate tests; the shallow parts of the middle ramp (proximal) and shoal with high hydrodynamic energy, hard and unstable substrate including thick-wall, lenticular hyaline benthic foraminifera and porcelaneous forams with thick walls are distributed in the lagoon facies belt. The high abundance of the large benthic foraminifera, coralinacea red algae and coral fragments indicate warm and tropical to subtropical environments during the deposition of the Asmari Formation. High proportion of the epifaunal to infaunal benthic foraminifera in the studied well suggest an oxygenated marine environment. In adition in this research 4 carbonate associations including Nanofer, Rhodalgal, Foralgal and Foramo were recognized. Finally, 4 positive- and 5 negative-boundary surfaces (PB and NB, respectively) were introduced; some of which are well correlated with stage boundaries.

***Keywords**: Marun oilfields, Asmari formation, paleoecology, microfacies, Cyclolog*