

**LITHOFACIES AND BIO STRATIGRAPHY OF NARI FORMATION AROUND
THANA BULA KHAN, LOWER INDUS BASIN, SINDH, PAKISTAN**

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Abstract

The study of benthic foraminifera of Nari Formation in the Lower Indus Basin reveals some major changes across the Rupelian-Chatian boundary of Lower Indus Basin. The very base of the Chatian is characterized by the bloom of the benthic foraminifer *Asterigerinoides guerichi* (>70%). A biohorizon referred to as “*Asterigerina* Horizon”. Other significant bio-events with in the Rupelian and presented as a regional zonal scheme based on the sedimentological and biostratigraphic study of the Nari Formation from the key stratigraphic section of the Thana Bola Khan area of Lower Indus Basin, Pakistan. The stratigraphic thickness of the Nari Formation is 200 feet. In Nari Formation, A total of 75 species have been identified in which 49 benthic foraminifera. The smaller benthic foraminifera are identified up to generic and species level. Based on detail petrographic study four microfacies have been identified in the Nari Formation namely alveolina wack-packstone microfacies, assilina grainstone microfacies, nummulites pack-grainstone microfacies and discocyclina microfacies. The forams identified in this study include: *Rotaliidae, Lituolidae, Fusulinidae, Nonionidae, Camerinidae, Ophthalmidiidae, Ammodiscidae, Anomalinidae, Silicinidae, Trochamminidae, Amphisteginidae, Planorbulinidae, Cymbaloporidae, Cymbaloporididae, Lagenidae, Cassidulinidae, Miogypsinidae, Alveolinellidae, Nonionidae, Miliolidae and Discocyclinidae*. The benthic foraminifera such as *A. acutus*, *Cibicidoides* species, and *Lenticulinids* are moderately abundant at the base of this formation, such that they have been defined as the midway faunas. They indicate shallow marine environment.

Keywords: Nari Formation, Oligocene, lithofacies, depositional environments and bio-zonation