



CENOZOIC LITHOSTRATIGRAPHY OF THE JAISALMER BASIN, RAJASTHAN

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ABSTRACT

The Jaisalmer Basin represents the eastern shelf part of the Indus Basin and belongs to a major tectonic province known as "West Rajasthan Shelf" which hosts a number of sedimentary basins viz. Barmer, Jaisalmer and Bikaner-Nagaur. The present study is confined to the detailed Cenozoic lithostratigraphy of the Jaisalmer Basin. Availability of voluminous subsurface data generated in ONGC's exploratory wells has facilitated the above study.

The Cenozoic lithounits are well exposed in southeastern part of the basin. Based on the study of surface and subsurface sections, the entire Cenozoic sequence is divisible into four formations which are Sanu, Khuiala, Bandah and Shumar. The maximum development of these formations of the order of more than 2100m is recorded in deeper part of the basin in the Shahgarh area. One major unconformity between Tertiary and Quaternary sequences along with disconformities/paraconformities has been mapped. Similarly, non-extension of marine Palaeocene in the outcropping area, thinning and erosion of Tertiary-Quaternary formations in shoreward areas and facies changes in basinward area have been observed.

The surface and subsurface lithofacies could be tied up precisely based on adequate biostratigraphic control, and lithostratigraphy has been standardized. Stratotypes of all formations have been established and their depositional characters along with faunal and floral elements and their stratigraphic relationship with succeeding formations have been discussed.

Keywords: Jaisalmer Basin, Rajasthan, Cenozoic, Lithostratigraphy, larger foraminifera