



## MICROFACIES AND DEPOSITIONAL ENVIRONMENT OF THE GAJ FORMATION (MIOCENE) EXPOSED NEAR BHATIA, DISTRICT JAMNAGAR, SAURASHTRA

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### ABSTRACT

*Complex tectonic features surround the Saurashtra Peninsula of the Gujarat state on the western extremity of India, a consequence of the breaking up of Gondwanaland in the Triassic. The arching up of the Saurashtra peninsula was a result of pre-Eocene thermal expansion of the crust while moving northeastward over the Reunion hot spot. This, together with lower eustatic sea level during the Eocene in comparison to higher global sea level in the Miocene, has resulted in the absence of Eocene sediments from the Saurashtra upland. The oldest sediments deposited at the northwestern coast of Saurashtra, which forms the Palaeogene-Neogene pericratonic sedimentary basin, belong to the Miocene. These Miocene sediments of Saurashtra have been, lithostratigraphically, grouped into the lower Ashapura Clay Member and the upper Ranjitpur Limestone Member of the Gaj Formation. Fossil records suggest a marine environment of deposition, however, rapid temporal change of facies can be attributed to fluctuating depositional environments. In the present paper, a 1.5 m thick section of the Ranjitpur Limestone Member exposed along a ridge near Bhatia, district Jamnagar, Saurashtra, has been investigated and interpreted to represent nearshore to subtidal environments.*

**Keywords:** Gaj Formation, Saurashtra, depositional environment, microfacies, molluscs