

## PREFACE

Using the definition of the Paleogene from the wall chart of Van Eysings (1978), this period extends from 65 m.y. to 22.5 m.y. to the present. This also corresponds with magnetic anomalies 29 to 3, which cover some remarkable events in the Earth history.

On the global area, this was the time around which (i.e. 60 m.y. ago) the configuration of the continents and the prototypes of all the major world oceans were already in existence. North America and Africa were separated by some 600-700 km with the North Atlantic being a broad and well established ocean and South Atlantic being a triangular shaped ocean by this time. Newzealand had already separated from Australia so forming the Tashman sea. It was again a time when Madagaskar had separated from east Africa taking with it India and Antratica.

It is once again an established fact that by the beginning of the Paleogene India had separated from Madagaskar, Antratica and Australia and was making rapid progress northwards as the southern Indian ocean was growing in size. North of India Tethys was still a major ocean extending from the pacific to the Mediterranean. This ocean then rapidly subducted along the Indian line of the Himalayan/Alpine belt.

Paleogene onwards some rather dramatic changes are known to have taken place in many areas of the world as a result of plate motion and rather substantial changes in sea-level are believed to have occurred over the various time intervals from Paleocene to Oligocene. Thus, interpretations

based on various global changes including climatic, oceanographic and biospheric for the entire Paleogene time period has been a subject of much speculation.

From the Indian point of view the Paleogene sedimentary sequences have gained world wide importance because of the excellent potentials for their commercial grade oil and natural gas contents. It is therefore imperative to provide high resolution information on the various exploratory aspects on a rather reliable time scale.

One such aspect has been to draw the details of the basinal information on the basis of Palynological studies. To achieve such a goal, the author has selected eight shallow wells drilled by the ONGC in Broach Depression of South Cambay Basin, Western India.

The thesis presented in the following chapters elaborates many important aspects of the Paleogene, Palynofloral assemblages.