

PREFACE

The shoreline along the east and west coasts of India provides fascinating opportunity to study geology for researchers especially to economic geologists due to their richness in heavy mineral contents. The beaches bearing placer deposits show variations in heavy mineral contents as well as their morphology. In Maharashtra, rich ilmenite placer deposits occur as lenses in the beach sands along the coastal tract of Ratnagiri district between latitudes $16^{\circ} 47'$ and $17^{\circ} 14'$. The physiographic setting of the Newara beach in the vicinity of Ratnagiri (Lat. $17^{\circ} 07'$ N and Long. $73^{\circ} 17'$ E) along Konkan of Maharashtra indicate maximum concentration of ilmenite bearing heavy minerals.

Keeping in view, characteristic occurrence and factors responsible for the formation of economically important Newara beach placers, investigations have been carried out to examine the distribution pattern and concentration of ilmenite with respect to other heavy minerals. The existing minerals have been identified and their distribution pattern is studied to know the source. The results / conclusions of these investigations constitute the contents of this thesis and have been presented in five successive chapters.

In the first chapter brief introduction on characteristics and types of placers along with the area of investigation and objectives of the study have been presented.

The second chapter covers the brief account of process variables, methods used during field work and details of various methods adopted for the laboratory studies.

The third chapter has been devoted to geological setting of the area. The petrological and mineralogical studies have also been included.

The fourth chapter details the grain size studies of the sediments of the Newara beach along with different parameters. The characteristics occurrence and the distribution of ilmenite bearing black sand have also included with the bulk density studies to delineate richer zones. An attempt has also been made to know the source and the factors responsible for heavy mineral concentration.

A summary of the viable conclusions arrived at from this study and the implications comprises the fifth chapter.