LIST OF FIGURES

Fig. 1  a. Map of Chhattisgarh basin & location of present area.  

b. Distribution of Purana (Late Precambrian) in the Indian Shield.  

Fig. 2  Detailed columnar section showing full stratigraphic succession of Chhattisgarh basin (Data from Borehole logging at Stadium, Durg)  

Fig. 3  Detailed columnar section of the upper parts of Chhattisgarh basin (Data from borehole logging at Nandini primary school)  

Fig. 4  Lithostratigraphic columns of Chhattisgarh Supergroup and its equivalent sedimentary sequences  

Fig. 5  Geological map of the study area  

Fig. 6  Geological map showing lithofacies distribution of the study area (Chandi formation)  

Fig. 7  Histogram showing distribution of different particles in Raipur limestone.  

Fig. 8  Triangular diagram showing variation in grain composition of different carbonate facies of Raipur limestone.  

Fig. 9  Relation of various elements with CaO and MgO  

Fig. 10  a. Scatter diagram of Sr Vs Mn for the Raipur limestones  

b. Relation of Mn, MgO, IR and Sr plotted against lithofacies  

Fig. 11  a. Scatter diagram showing the relation between Sr Vs Ca (A), Sr Vs Mg (B), Sr Vs IR (C) of Raipur limestone.  

b. Scatter diagram showing the relation between Sr Vs Mn (D), IR Vs Mn (E) (Sr/Ca)1000 Vs Mn of Raipur limestone
Fig. 12 Histogram showing the distribution of trace elements in Lithofacies A, B and C, Raipur limestone

Fig. 13 Relation of various trace elements with CaO and MgO

Fig. 14 XRD patterns of Raipur limestone samples

Fig. 15 XRD patterns of insoluble residue (Lithofacies A)

Fig. 16 XRD patterns of insoluble residue (Lithofacies B, I, J, K and Lithofacies C, L to O).

Fig. 17 Columnar stromatolites from Raipur limestone (around Nandini, Durg, M.P.)

LIST OF TABLES

Table I Proterozoic formations of Peninsular India. 15

Table II Geological succession of Chhattisgarh Basin (Murti, 1987). 18

Table III Comparative stratigraphic scheme of Chhattisgarh Supergroup. 30

Table IV Distribution of trace elements in Raipur limestones 76

Table V Distribution of transition elements in Raipur limestones 77

Table VI Correlation coefficient 78

Table VII Major elemental analysis of Raipur limestone 79

Table VIII a. Classification of Raipur limestone (According to Chillingar, 1957) 80

b. (According to Frolova, 1959)
Table IX  Acid insoluble residue (%) in Raipur limestone

Table X  XRD results of different Lithofacies of Raipur limestones

Table XI  Lithofacies and depositional environments of Raipur limestones.

ABBREVIATIONS USED IN THIS THESIS

AAS: Atomic Absorption Spectroscopy
Av: Average
BSP: Bhilai Steel Plant.
Cal.: Calcareous
CC: Correlation coefficient
CPS: Count per second
DGI: Directorate of Geology and Mining, (M.P.)
GSI: Geological Survey of India.
IAS: Indian Association of Sedimentologists.
IIT: Indian Institute of Technology.
IGC: Indian Geological Congress.
Lab: Laboratory.
S.No.: Sample Numbers for Table VII & IX
Vill.: Village.

SAMPLE LOCALITIES.

Location
No.
15 to Nandini Mines.
25