## CONTENTS

### TOPIC

<table>
<thead>
<tr>
<th>CHAPTER 'A'</th>
<th>INTRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Previous Geological Work</td>
<td>2</td>
</tr>
<tr>
<td>2. Climate and Rainfall</td>
<td>3</td>
</tr>
<tr>
<td>3. Soils and Vegetation</td>
<td>4</td>
</tr>
<tr>
<td>4. Topography and Drainage</td>
<td>5</td>
</tr>
<tr>
<td>5. Accessibility and the Nature of Outcrops</td>
<td>7</td>
</tr>
<tr>
<td>6. Present work</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 'B'</th>
<th>GEOLOGICAL SETTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>11</td>
</tr>
<tr>
<td>2. General structural characters</td>
<td>12</td>
</tr>
<tr>
<td>3. Greenschists</td>
<td>15</td>
</tr>
<tr>
<td>4. Argillites and Shales</td>
<td>15</td>
</tr>
<tr>
<td>5. Gneiss and Granitic rocks</td>
<td>16</td>
</tr>
<tr>
<td>6. Limestone</td>
<td>17</td>
</tr>
<tr>
<td>7. Banded iron quartzites and Iron ores</td>
<td>17</td>
</tr>
<tr>
<td>8. Basic and Acidic intrusives</td>
<td>17</td>
</tr>
</tbody>
</table>
CHAPTER 'C'  BANDED IRON QUARTZITES

1. Introduction
   a. Banded iron quartzites of India. ................... 22
   b. Banded iron quartzites of Karnataka State. .... 23
   c. Stratigraphic position of Banded iron quartzites of Karnataka State. .... 23

2. Nomenclature. ............................................. 24

3. Field Characters
   a. Structural features. ............................... 29
   b. Sedimentary features. ............................. 36
   c. Nature of Outcrops. .............................. 37
   d. Physical properties. ............................... 39

4. Microscopic Characters
   a. Petrographic Characters. ......................... 42
   b. Ore-microscopic Characters. ..................... 45

5. Chemistry
   a. Chemical Characters of the banded iron quartzites under study. .......... 50
   b. Comparative study. ................................ 58
   c. Statistical study. ................................ 61
   d. Trace elemental study. ........................... 63

6. Classification. ............................................. 64
# Origin

7. Origin

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Introduction</td>
<td>68</td>
</tr>
<tr>
<td>b. Source for iron and silica</td>
<td>70</td>
</tr>
<tr>
<td>c. Derivation of iron and silica from pre-existing rocks</td>
<td>76</td>
</tr>
<tr>
<td>d. Transportation</td>
<td>79</td>
</tr>
<tr>
<td>e. Deposition</td>
<td>80</td>
</tr>
<tr>
<td>f. Site of Depositn</td>
<td>84</td>
</tr>
<tr>
<td>g. Precambrian atmosphere and Oceans</td>
<td>87</td>
</tr>
<tr>
<td>h. Origin of Banding</td>
<td>90</td>
</tr>
<tr>
<td>i. Conclusion</td>
<td>93</td>
</tr>
</tbody>
</table>

# Igneous Activity

8. Igneous Activity

## IRON ORES

### CHAPTER 'D'

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>95</td>
</tr>
<tr>
<td>2. Topographical and Geological set up of the Orebody</td>
<td>96</td>
</tr>
<tr>
<td>3. Nature of Orebody</td>
<td>97</td>
</tr>
<tr>
<td>4. Types of the ores</td>
<td></td>
</tr>
<tr>
<td>a. Massive hematite ore</td>
<td>99</td>
</tr>
<tr>
<td>b. Laminated hematite ore</td>
<td>100</td>
</tr>
<tr>
<td>c. Blue dust</td>
<td>100</td>
</tr>
<tr>
<td>d. Specularite</td>
<td>101</td>
</tr>
<tr>
<td>e. Lateritic ore</td>
<td>102</td>
</tr>
<tr>
<td>f. Limonitic ore</td>
<td>102</td>
</tr>
</tbody>
</table>