

Preface

Geologists and mining people are concerned mostly with the geological aspects of mineral resources and required to be able to judge the technical feasibility and the estimate of economic potential of a mineral deposit when recommending a defended exploration. We need to recognize the significance of geological, technical, administrative and political influence on mining and mineral processing when evaluating economic potential of a prospective deposit. Mining engineers here have to understand the ways in which geological, economic and political factors affect the feasibility of a project.

In this book, I wish to introduce students, beginners and possibly professionals to the essentials of concepts of mineral exploration, mine evaluation and resource assessment of the discovered mineral deposit. It is true that each of these aspects is available in detail in the specialized literature. I have attempted to integrate their important aspects with an aim to give them to those who are willing to get involved in mineral exploration and resources with broad synthesis.

As we have the knowledge of the earth crust, structure and in particular the regional setting of ore deposits have no doubt increased during the past decades. But much of it is concerned with petrology, mineralogy, structural and stratigraphy. Little is on the exploration of mineral deposits. When present, it is in papers scattered through the journals. The Society of Economic Geology, a geochemical exploration society, has added to our knowledge of mineral exploration. It is thus important to present a book hard for adoption for starting serious interest in exploration of ore deposits.

The task of compiling this book proved to be a formidable one. To achieve this, I needed the support and cooperation of several people. I should acknowledge the direct support so readily and cheerfully provided. A ready and cheerful support came from my colleagues at the Inter University Accelerator Centre (IUAC), and I should specially mention my sincere thanks to Dr. D. Kanjilal, the Director of IUAC, and Dr. Sundeep Chopra, Head of our AMS Unit. They both cheerfully supported my endeavour. However, this has become possible only due to support of the Department of Science and Technology (DST), and the in-charge of USERS scheme Dr. S.S. Kohli in particular.

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After all mineral exploration is like: *“A child lies in a grey pebble on the shore until a certain teacher picks him up and dips him in the water, and suddenly you see all the colours and patterns in the dull stone, and it’s marvellous for the teacher”* (Elizabeth Hay in *Alone in the Classroom*, McClelland and Steward 2011, p.94).

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G.S. Roonwal



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Roonwal, G.S.

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