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Mineral Exploration and Mining Essentials

The mining business is extremely complex and involves a wide variety of geological professionals working alongside others with technical skills. An overview of the industry, explaining concepts and bringing an appreciation of how its various parts link up, has long been needed.

This book has the wide-ranging ambition to fill this gap, and it does it admirably. Developed from course materials developed by the author to inform the business and investment sector, it should find a wider audience among the general public, where there is little understanding of the need for resources and what their development entails. It should also prove invaluable for students contemplating a career in the minerals industry, who may have studied the occurrence and formation of mineral deposits and exploration techniques, but perhaps not the rationale behind mining as a business, and its wider context.

The structure of the book is well thought-out, nine chapters following the 'Mining Life Sequence', following Exploration through Mining to Closure and Reclamation. Readers with a special expertise in any field may well find that to them the corresponding chapter lacks 'full technical coverage'; but this is to be expected and does not detract from the book.

The introductory chapter is followed by one on basic geology. Following this the Mineral Deposits chapter introduces 10 major types of ore deposit, covering precious and base metals, diamonds and uranium. Particularly useful here is the information on the distribution, range of size, shape, grade and tonnage, and mining techniques for each type. The next chapter, on Exploration Techniques, introduces aspects of economics, as well as a clear description of the main techniques. The concepts of Reserves and Resources are clearly explained in the next chapter and here also is a very good explanation as to how decisions are made over the uncertainty of size and grade of a deposit and the probability of success (becoming a mine). The environmental impact of mining, sustainability and reclamation of sites are explained in the penultimate chapter. The final chapter provides suggested questions to ask when evaluating companies, together with a discussion on how to interpret company press releases.

This is a well written and illustrated overview of the mining business. A particular strength lies in linking financial, technical and environmental aspects, giving the reader a clear picture of how and why things are done the way they are. Anyone reading it will have gained a very good introduction to the business and will be able to enter into informed debate on aspects of an industry which underpins our everyday life.

Reviewed by Bill Gaskarth