

and remote sensing data; expert system for lineament extraction from optical sensor data and to discriminate geological units; geostatistical systems in ore-reserve assessment and binary relation as an useful mathematical concept to describe geological relations leading to a practical computer algorithm.

This volume concerns mainly with the practical use of artificial intelligence as a tool for mineral exploration which started only a decade ago. In fact, many of the systems are in the development stage and the present decade may mark further advancement in its application in the field of mineral exploration. There are many intricate problems in geological exploration which challenges both the computer specialists and the geologists. This issue is recommended for study by the explorationists even though many of the papers deal mostly with the mathematical aspect.

*Geological Survey of India
Operations Karnataka & Goa, Bangalore*

K. R. RAGHU NANDAN

EXPLORATION WITH A COMPUTER GEOSCIENCE DATA ANALYSIS APPLICATIONS. William R. Green, Computer methods in the Geosciences, Vol. 9, Pergamon Press, 1991, 225 pages.

This book is the ninth in the series – ‘Computer Methods in the Geosciences’. According to the blurb, this book is of interest to exploration geologists, geophysicists, geotechnical engineers, environmental specialists and students of earth sciences as well. The Series Editor – D. F. Merriam, states in the foreword, that the book, to be specific, is on how to look for mineral deposits; and the author William Green, focuses on the methods rather than the applications. This work is a follow-up to an earlier book – ‘Computer Aided Data Analysis’ by the same author.

There are eight chapters in this book – starting with a very general chapter on exploration, which is followed by others: requirements of geoscience data analysis; on specific exploration methods viz., geochemical and geophysical surveys; remote sensing and image analysis; drill hole data analysis; resource amount estimation and the last chapter is on other uses of computers in exploration like preparation of reports and spreadsheets, GIS, expert system etc. Besides, there are 3 appendices providing useful information on guidelines for effective computer analysis, selecting a complex software system. There is a concise bibliography on data processing and analysis. The inherent problems in various exploration methods and the difficulties encountered in data analyses are lucidly explained.

The collection of spatial data is a common feature in all the methods of exploration and the emphasis in this book is on how to use the general capabilities of data analysis and graphical display. The author rightly stresses on flexibility as the most important criteria in the computer data analysis system. It is almost impossible to keep pace with the rapid developments in computer technology. Current hardware is likely to be replaced in a short period of time and the present software could be changed to another system. This book is however, an useful guide to the uses of computer in exploration. It is rightly said that the exploration geologist has to keep up with the fast developing approaches that can be made with the aid of a computer to stay current. It is said that a portable computer can be taken to the field these days so that data processing and analysis are done at the exploration site itself. This book is recommended for use by the exploration geologists and other specialists. It is an useful reference volume.

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Operations Karnataka & Goa, Bangalore*

K. R. RAGHU NANDAN