

## **Geological Methods In Mineral Exploration And Mining**

Discovery of Oyu Tolgoi: A Case Study of Mineral and Geological Exploration provides a detailed account of the exploration for copper deposits that took place in Mongolia in the mid-1990s, an exploration that was first started by Magma Copper and then continued by BHP Billiton World Exploration Inc., and which subsequently lead to the discovery of Oyu Tolgoi, a major metal mine. This book commemorates the 20-year anniversary for the global mining industry, including details on exploration methods, the tools applied throughout the discovery, and how the applied models evolved over the course of the execution of the exploration program. In addition, the book presents how the knowledge of the team evolved as they further understood the regional geology and the necessary geological conditions for a significant porphyry discovery. Includes a detailed description of the anthology of the Oyu Tolgoi mine discovery, a major copper-gold porphyry deposit Offers practical lessons for exploration companies through coverage of the critical factors that lead to the success of the discovery, along with the institutional factors that hindered discovery Features nearly 70 never-before-seen full-color illustrations and photos of Oyu Tolgoi Using the concepts and practices of applied geology as its central theme, here is

a balanced and comprehensive treatment of the geological, geochemical, geophysical, and economic elements of exploration and mining. Offers an overview of the methods and aims in mineral exploration and production and gives coverage of the geologic principles of ore deposits and the geomorphic environment. Deals with "hard" minerals and the nonfluid sources of materials and energy in the continental masses and in ocean basins. This edition has been expanded to include recent advances in applications of satellite imagery, lithochemical surveys, isotope geochemistry, and other developments in the field. Also covers current uses of computers in mineral exploration programs. Features case histories, a current references section, and financial data.

Methods and Applications in Petroleum and Mineral Exploration and Engineering Geology is an interdisciplinary book bridging the fields of earth sciences and engineering. It covers topics on natural resources exploration as well as the application of geological exploration methods and techniques to engineering problems. Each topic is presented through theoretical approaches that are illustrated by case studies from around the globe. Methods and Applications in Petroleum and Mineral Exploration and Engineering Geology is a key resource for both academics and professionals, offering both practical and applied knowledge in resources exploration and engineering geology. Features new

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exploration technologies including seismic, satellite images, basin studies, geochemical modeling and analysis Presents cases studies from different countries such as the Hoggar area (Algeria), Urals and Siberia (Russia), North of Chile (II and III regions), and North of Italy (Trentino Alto adige) Includes applications of the novel methods discussed

This is the completely revised edition of a book which was published in 1978 and, such was its popularity, was sold out within two years. It was described as An excellent compilation and condensation of a vast field of literature and experience in economic geology. Clear illustrations, charts and tables punctuate the text material very nicely...Valuable for all economic geologists and resource developers." (Choice). The material is illustrated by 215 text figures and 76 tables, and is presented in two parts. The first part covers the geological background of the genesis of mineral deposits as a clue to new discoveries, and the methods of geological, geochemical and geophysical prospecting. The second part concerns sampling, documentation and computation of ore reserves and economic assessment of mineral deposits. This new edition has been very extensively revised and brought up to date.

The past 20 years have seen extensive marine exploration work by the major industrialized countries. Studies have, in part, been concentrated on Pacific

manganese nodule occurrences and on massive sulfides on mid-oceanic ridges. An international jurisdictional framework of the sea-bed mineral resources was negotiated by the United Nations Conference on the Law of the Sea (UNCLOS III). A most important outcome of this conference was the establishment of an Exclusive Economic Zone (EEZ) of at least 200 nautical miles for all coastal states and the recognition of a deep-sea regime. Mineral deposits in EEZ areas are fairly unknown; many areas need detailed mapping and mineral exploration, and the majority of coastal or island states with large EEZ areas have little experience in exploration for marine hard minerals. This book describes the systematic steps in marine mineral exploration. Such exploration requires knowledge of mineral deposits and models of their formation, of geophysical and geochemical exploration methods, and of data evaluation and interpretation methods. These topics are described in detail by an international group of authors. A short description is also given of marine research vessels, evaluation of marine exploration examples; and an overview is provided of the jurisdictional situation after UNCLOS III.

This comprehensive textbook covers all major topics related to the utilization of mineral resources for human activities. It begins with general concepts like definitions of mineral resources, mineral resources and humans, recycling

mineral resources, distribution of minerals resources across Earth, and international standards in mining, among others. Then it turns to a classification of mineral resources, covering the main types from a geological standpoint. The exploration of mineral resources is also treated, including geophysical methods of exploration, borehole geophysical logging, geochemical methods, drilling methods, and mineral deposit models in exploration. Further, the book addresses the evaluation of mineral resources, from sampling techniques to the economic evaluation of mining projects (i.e. types and density of sampling, mean grade definition and calculation, Sichel's estimator, evaluation methods – classical and geostatistical, economic evaluation – NPV, IRR, and PP, estimation of risk, and software for evaluating mineral resources). It subsequently describes key mineral resource exploitation methods (open pit and underground mining) and the mineral processing required to obtain saleable products (crushing, grinding, sizing, ore separation, and concentrate dewatering, also with some text devoted to tailings dams). Lastly, the book discusses the environmental impact of mining, covering all the aspects of this very important topic, from the description of diverse impacts to the environmental impact assessment (EIA), which is essential in modern mining projects.

Essentials of Mineral Exploration and Evaluation offers a thorough overview of

methods used in mineral exploration campaigns, evaluation, reporting and economic assessment processes. Fully illustrated to cover the state-of-the-art exploration techniques and evaluation of mineral assets being practiced globally, this up-to-date reference offers balanced coverage of the latest knowledge and current global trends in successful mineral exploration and evaluation. From mineral deposits, to remote sensing, to sampling and analysis, *Essentials of Mineral Exploration and Evaluation* offers an extensive look at this rapidly changing field. Covers the complete spectrum of all aspects of ore deposits and mining them, providing a "one-stop shop" for experts and students. Presents the most up-to-date information on developments and methods in all areas of mineral exploration. Includes chapters on application of GIS, statistics, and geostatistics in mineral exploration and evaluation. Includes case studies to enhance practical application of concepts.

*Mineral Exploration: Principles and Applications, Second Edition*, presents an interdisciplinary approach on the full scope of mineral exploration. Everything from grass root discovery, objective base sequential exploration, mining, beneficiation, extraction, economic evaluation, policies and acts, rules and regulations, sustainability, and environmental impacts is covered. Each topic is presented using theoretical approaches that are followed by specific applications that can be used in the field. This new edition features updated references, changes to rules and regulations, and new sections on oil and gas exploration and classification, air-core

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drilling, and smelting and refining techniques. This book is a key resource for both academics and professionals, offering both practical and applied knowledge in mineral exploration. Offers important updates to the previous edition, including sections on the cyclical nature of mineral industry, exploration for oil and gas, CHIM-electro-geochemical survey, air-core drilling, classification of oil and gas resources, smelting, and refining technologies Presents global case studies that allow readers to quickly apply exploration concepts to real-world scenarios Includes 385 illustrations and photographs to aid the reader in understanding key procedures and applications

Gravity and magnetic methods can be directly related to physical properties of rocks, i.e. the density and the susceptibility, and are very useful to field geologists and geophysicists in the mapping and identification of various rock types. They are also used for the detection of minerals with large contrast in density and susceptibility compared to country rock. This reference volume consists of two parts: The first part describes the basic principles and methodology of the gravity and the magnetic methods of geophysical exploration with global examples. It deals with geological studies and gravity & magnetic methods; geodynamic studies (plate tectonics, crustal structures, plume tectonics); resource exploration (geological mapping, hydrocarbon, mineral and groundwater exploration); environmental studies (seismotectonics, engineering sites, climate changes, mining geophysics, volcanoes and volcanic activity, landslides, impact craters) and different modes of surveying. The second part is dedicated to the Indian Continent and deals with the application of geological data, integrated with other geophysical and geological information. It discusses geodynamics and seismotectonics with respect to the Indian Plate zone, including the Indian Ocean, Himalaya,

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Tibet and Archean- Proterozoic Cratons and Mobile Belts. It also presents ways for integrated exploration for hydrocarbons, minerals, groundwater and a number of environmental issues relevant in engineering and archaeology. The accessible style of this unique work will benefit researchers, professionals, advanced students and interested readers in Geophysics, Geology, Economic Geology, Geological Engineering, Geography, Mineralogy and related disciplines.

This title is also available as a softcover edition. Since the 1st edition of this book was published, both science and practice of economic geology have advanced in great strides. Improvements in understanding the Earth's process systems that form raw material deposits are reflected in this revised second edition. The scientific ambition of the book is to place the extraordinary variability of mineral deposits into the framework of fundamental petrogenetic-geological process systems. The book covers the entire field of geology applied to mineral deposits, including industrial minerals, coal and hydrocarbons. Illuminating insights, for example, can be gained from sediments, rich in organic matter, that are primarily source rocks of conventional hydrocarbons, but also host unconventional oil and gas, and metal deposits. Numerous individual mineral deposits are presented as practical examples, covering reserve figures, ore grade, origin and geological characteristics. The principles of searching for ores and minerals (exploration), the study and valuation of newly found deposits, and environmental issues are treated in a separate chapter. The overview character enforces waiving much detail but for compensation, ample cross-references and references to web and printed sources are provided. The number of humans on our globe continues to increase and standards of living improve rapidly. Both contribute to a steadily rising consumption of raw materials. Economic

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geology is a central actor in satisfying this growing demand by exploration and mining, and by mediating social and environmental impacts. The text also discusses related issues that arise during the life cycle of a mine and after its closure, with an emphasis on sustainable and 'green' mining. Worldwide, students and teachers of economic geology and related disciplines will find the great lines of thinking and tangible information throughout the book. For professionals in mining and exploration, in intergovernmental and nongovernmental organizations (NGOs), the service sector and state administrations, current professional practice is introduced. About the Author Walter L. Pohl is Emeritus Professor and former Dean of the Department of Geosciences at the Technical University of Braunschweig, Germany, and a longtime consulting geologist in economic, engineering and environmental geology. For more information visit his homepage at <http://www.walter-pohl.com>.

As mineral exploration becomes increasingly difficult, costly and competitive, success is essential; there is no room for waste or inefficiency. Exploration must be truly cost effective. The present book is concerned ultimately with the interpretation of geochemical surveys. However the data to be interpreted are the product of the field survey and thus only as good as the work that went into these earlier phases. The truism 'garbage in - garbage out' is as relevant here as anywhere.

For some years I have felt there was a need for a single, comprehensive, reference book on exploration geology. Numerous textbooks are available on subjects such as geophysical prospecting, exploration geochemistry, mining geology, photogeology and general economic geology, but, for the geologist working in mineral exploration, who does not require a specialist's knowledge, a general book on exploration techniques is needed. Many

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undergraduate university courses tend to neglect economic geology and few deal with the more practical aspects in any detail. Graduate geologists embarking on a career in economic geology or mineral exploration are therefore often poorly equipped and have to learn a considerable amount 'on the job'. By providing a book that includes material which can be found in some of the standard texts together with a number of practical aspects not to be found elsewhere, I hope that both recent graduates and more experienced exploration geologists will find it a useful reference work and manual. In addition, students of economic geology and personnel working in related fields in the mining and mineral extraction industries will find it informative.

J. H. REEDMAN v Acknowledgements The author would like to thank Dr K. Fletcher, geochemist with the Department of Geology, University of British Columbia, and Kari Savario, geophysicist with Finnish Technical Aid to Zambia, for reading the original drafts and offering constructive criticism and advice on the chapters on geochemical and geophysical prospecting respectively.

This special volume offers a snapshot of the latest developments in mineral exploration, in particular, geophysical, geochemical, and computational methods. It reflects the cutting-edge applications of geophysics and geochemistry, as well as novel technologies, such as in artificial intelligence and hyperspectral exploration, methods that have profoundly changed how exploration is conducted. This special volume is a representation of these cutting-edge and pioneering methods to consider and conduct exploration, and should serve both as a valuable compendium of the most innovative exploration methodologies available and as a foreshadowing of the form of future exploration. As such, this volume is of significant importance and would be useful to any exploration geologist and company

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The Office of Industrial Technologies (OIT) of the U. S. Department of Energy commissioned the National Research Council (NRC) to undertake a study on required technologies for the Mining Industries of the Future Program to complement information provided to the program by the National Mining Association. Subsequently, the National Institute for Occupational Safety and Health also became a sponsor of this study, and the Statement of Task was expanded to include health and safety. The overall objectives of this study are: (a) to review available information on the U.S. mining industry; (b) to identify critical research and development needs related to the exploration, mining, and processing of coal, minerals, and metals; and (c) to examine the federal contribution to research and development in mining processes.

The understanding of Earth processes and environments over geological time is highly dependent upon both the experience that can only be gained through doing fieldwork, and the collection of reliable data and appropriate samples in the field. This textbook explains the main data gathering techniques used by geologists in the field and the reasons for these, with emphasis throughout on how to make effective field observations and record these in suitable formats. Equal weight is given to assembling field observations from igneous, metamorphic and sedimentary rock types. There are also substantial chapters on producing a field notebook, collecting structural information, recording fossil data and constructing geological maps. The volume is in a robust and handy size, with colour coded chapters for ease of use and quick reference in the field. Geological Field Techniques is designed for students, amateur enthusiasts and professionals who have a background in geology and wish to collect field data on

rocks and geological features. Teaching aspects of this textbook include: step-by-step guides to essential practical skills such as using a compass-clinometer, making a geological map and drawing a field sketch; tricks of the trade, checklists, flow charts and short worked examples; over 200 illustrations of a wide range of field notes, maps and geological features; appendices with the commonly used rock description and classification diagrams; a supporting website hosted by Wiley Blackwell.

Remote Sensing and Mineral Exploration contains the proceedings of the international workshop on remote sensing and mineral exploration, held in Bangalore, India in June 1979. The compendium is comprised of papers presented at the workshop and reflects the state of remote sensing in the field of geology and exploration for mineral and energy resources. The two-day conference serves as a platform for geologists and other experts in related fields to share experiences and research studies on the use of satellites and other remote sensing techniques in geologic mapping and mineral and energy exploration. Topics presented include, contributions of LANDSAT data to the geological survey of India; characteristics of the LANDSAT system and data for geologic applications; application of remote sensing techniques to petroleum exploration; and an automatic method of discriminating rock outcrops using LANDSAT data. Geologists, petroleum and mineral exploration experts, and researchers will find this book an interesting reading material.

Applied Geochemistry: Advances in Mineral Exploration Techniques is a book targeting

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all levels of exploration geologists, geology students and geoscientists working in the mining industry. This reference book covers mineral exploration techniques from multiple dimensions, including the application of statistics - both principal component analysis and factor analysis - to multifractal modeling. The book explains these approaches step-by-step and gives their limitations. In addition to techniques and applications in mineral exploration, Applied Geochemistry describes mineral deposits and the theories underpinning their formation through worldwide case studies. Includes both conventional and nonconventional techniques for mineral exploration, including lithochemical methods Highlights the importance and applications of multifractal models, 3D - mineral prospectivity modeling Features case studies from mines and mineral exploration ventures around the world

The Business of Mining complete set of three Focus books provides readers with a holistic all-embracing appraisal of the analytical tools available for assessing the economic viability of prospective mines. Each volume has a discrete focus. This third volume commences with "Our Earth, its Minerals and Ore Bodies", followed by a review of mineral exploration and sampling of mineral deposits. It continues with detailed sections covering the reporting of mineral resources and reserves in Australia, and concludes with the basic principles and application of the various methods of estimating the in-situ mineral resources and ore reserves. The books were written primarily for undergraduate applied geologists, mining engineers and extractive metallurgists and

those pursuing course-based postgraduate programs in mineral economics. However, the complete series will also be an extremely useful reference text for practicing mining professionals as well as for consultant geologists, mining engineers or primary metallurgists.

Presents effective methods for using Lotus 1-2-3 techniques to solve problems in exploration and mining geology. 1-2-3 programmes are provided in conjunction with named worksheets or templates, together with brief explanatory text. Problem solving is based on a well-established and maintained software package. A floppy diskette is supplied enabling users, following brief instructions, to solve problems immediately. *Developments in Economic Geology, 7: Nuclear Methods in Mineral Exploration and Production* elaborates on the status of applicable nuclear techniques used in mineral exploration and production. The selection first offers information on radiometric methods and X-ray analysis in mineral exploration. Discussions focus on gamma-ray spectrometry, radon detection, autoradiography of uranium and thorium, X-ray diffraction, and application of X-ray analysis. The text then examines X-ray fluorescence geochemical analysis on the surface of Mars and radioactivation methods, as well as nuclear geochemical measurements of planetary surface; radioactivation methods for mineral exploration; and radioactivation sources. The publication takes a look at nuclear well logging for petroleum and the potential of plowshare for resource development. Topics include natural radiation, induced logs, description of potential

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applications related to energy resources, and obstacles to the development of a commercial plowshare program in the U.S. The selection is a dependable source of data for readers interested in the use of nuclear techniques in mineral production and exploration.

The latest knowledge on mineral ore genesis and the exploration of ore deposits Global demand for metals has risen considerably over the past decade. Geologists are developing new approaches for studying ore deposits and discovering new sources. Ore Deposits: Origin, Exploration, and Exploitation is a compilation of diverse case studies on new prospects in ore deposit geology including atypical examples of mineral deposits and new methods for ore exploration. Volume highlights include: Presentation of the latest research on a range of ore deposit types Application of ore deposits to multiple areas of geology and geophysical exploration Emphasis on diverse methods and tools for the study of ore deposits Useful case studies for geologists in both academia and industry Ore Deposits: Origin, Exploration, and Exploitation is a valuable resource for economic geologists, mineralogists, petrologists, geochemists, mining engineers, research professionals, and advanced students in relevant areas of academic study.

This book describes the main industrial types of economic mineral deposits, the signs and indicators for recognizing them, and the criteria for evaluating them. The work of prospecting and the methods used in searching for deposits, and in exploring them, are

treated at length. Full information is given on the techniques and systems of prospecting, on the sampling of mineral deposits, on the working down, testing, and controlling of samples. Methods of estimating and evaluating the ore reserves and economic value of deposits are discussed with practical advice; and the geological service of operational mines is described. Professor Kreiter's work is a textbook for students of the geological faculties of universities and mining colleges, specializing in the geology and exploration of mineral deposits. The author of this textbook, the late Prof. Vladimir Kreiter, was a distinguished and honored scientist, who at the time of his death held the chair of mineral deposits and exploration at the Patrice Lumumba Friendship University in Moscow. In addition to his teaching work, Prof. Kreiter carried on extensive research, his main work being devoted to the study of mineral deposits, the prospecting for and exploration of minerals and the structure of ore fields and deposits. Prof. Kreiter was the author of more than 100 published works, many of them well known abroad as well as in the USSR. In addition to the present volume, they included *The Structure of Ore Fields and Deposits*, *Semi-metallic Deposits of Central Asia*, and *The Behavior of Gold in the Oxidation Zone of Pyrite Deposits*. His books enjoy great authority with the teachers and students of geological faculties.

This book is written as a practical field manual to effective. Each geologist has to develop his/her be used by geologists engaged in mineral exploration techniques and will ultimately be judged on results. It is also hoped that it will serve as a text results, not

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the process by which these results and reference for students in Applied Geology were reached. In mineral exploration, the only courses of universities and colleges. The book 'right' way of doing anything is the way that aims to outline some of the practical skills that locates ore in the quickest and most cost-effective turn the graduate geologist into an explo manner. It is preferable, however, for an individ rationist:. It is intended as a practical 'how to' ual to develop his/her own method of operation book, rather than as a text on geological or ore after having tried, and become aware of, those deposit theory. procedures which experience has shown to work An explorationist is a professional who search well and which are generally accepted in indus try as good exploration practice. es for ore bodies in a scientific and structured way. Although an awkward and artificial term, The chapters of the book approximately fol this is the only available word to describe the low the steps which a typical exploration pro totality of the skills which are needed to locate gramme would go through. In Chapter 1, the and define economic mineralization.

Incorporating recent advances made in remote sensing technology, this text draws attention to ways in which remote sensing may minimize the environmental impact of exploration and improve cost-effectiveness. Topics include image processing, geographic information systems, current and future sensing

Providing a balance between principles and practice, this state-of-the-art overview of geophysical methods takes readers from the basic physical phenomena, through the

acquisition and processing of data, to the creation of geological models of the subsurface and data interpretation to find hidden mineral deposits. Detailed descriptions of all the commonly used geophysical methods are given, including gravity, magnetic, radiometric, electrical, electromagnetic and seismic methods. Each technique is described in a consistent way and without complex mathematics. Emphasising extraction of maximum geological information from geophysical data, the book also explains petrophysics, data modelling and common interpretation pitfalls. Packed with full-colour figures, also available online, the text is supported by selected examples from around the world, including all the major deposit types. Designed for advanced undergraduate and graduate courses in minerals geoscience, this is also a valuable reference for professionals in the mining industry wishing to make greater use of geophysical methods. In 2015, Dentith and Mudge won the ASEG Lindsay Ingall Memorial Award for their combined effort in promoting geophysics to the wider community with the publication of this title.

Geochemical methods of prospecting for and evaluation of minerals are applied widely today at all stages of geological exploration. However, geochemical methods of prospecting for many classes of non-metallic minerals have not been elaborated. This book is a completely revised, updated and expanded edition of the publication by the same authors, which was published in 1987. The contains a collection the latest data on geochemical prospecting for non-metals, which is valuable in view of the anticipated

increase of consumption and utilization of non-metallic minerals in the future. The information on various types of raw material is presented in the following sequence: 1) general data (genetic types, conditions of formation, geological prospecting indications); 2) indicator minerals and elements; 3) geochemical methods of prospecting along dispersion trains and haloes, plus hydrogeochemical and geobotanical methods; 4) primary endogenic haloes; 5) vertical geochemical zonation; 6) methods, stages and sequence of work.

This is the completely revised edition of a book which was published in 1978 and, such was its popularity, was sold out within two years. It was described as "An excellent compilation and condensation of a vast field of literature and experience in economic geology. Clear illustrations, charts and tables punctuate the text material very nicely... Valuable for all economic geologists and resource developers." (Choice). The material is illustrated by 215 text figures and 76 tables, and is presented in two parts. The first part covers the geological background of the genesis of mineral deposits as a clue to new discoveries, and the methods of geological, geochemical and geophysical prospecting. The second part concerns sampling, documentation and computation of ore reserves and economic assessment of mineral deposits. This new edition has been very extensively revised and brought up to date. This holds true particularly for the chapters on geochemical and geophysical methods, the use of photo-geology and satellite imagery, oil and gas prospecting, exploration of underwater minerals, the

application of the principles of global tectonics in prospecting for deposits, and the evaluation of reserves. These new or thoroughly revised chapters comprise almost half of the entire text.

This practical step-by-step guide describes the key geological field techniques needed by today's exploration geologists involved in the search for metallic deposits. The techniques described are fundamental to the collection, storage and presentation of geological data and their use to locate ore. This book explains the various tasks which the exploration geologist is asked to perform in the sequence in which they might be employed in an actual exploration project. Hints and tips are given. The steps are illustrated with numerous examples drawn from real projects on which the author has worked. The book emphasizes traditional skills and shows how they can be combined effectively with modern technological approaches.

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Few knowledgeable people would deny that the field of mineral exploration is facing some difficult times in the foreseeable future. Among the woes, we can cite a worldwide economic uneasiness reflected by sluggish and at times widely fluctuating metal prices, global financial uncertainties, and relentless pressures on costs despite a substantial slowing down of the rate of inflation. Furthermore, management is forced to turn to more sophisticated and expensive technologies and to look farther afield to more

remote regions, as the better quality and more easily accessible ore deposits have now been revealed. This rather gloomy outlook should persuade explorationists to cast about for a new philosophy with which to guide mineral exploration through the challenging decades ahead. Once already, in the early 1960s, a call for change had been heard (Ref. 30 in Chapter 1), when it became obvious that the prospecting methods of yesteryear, so successful in the past, could not keep up with the rapidly growing demand for minerals of the postwar period. The answer, a massive introduction of sophisticated geophysical and geochemical technologies backed by new geological models, proved spectacularly successful throughout the 1960s and the 1970s. But for both economic and technological reasons, the brisk pace of the last two decades has considerably slowed down in the early 1980s, as if a new threshold has been reached. The book introduces essential concept of mineral exploration, mine evaluation and resource assessment of the discovered mineral deposit to students, beginners and professionals. The book is divided into nine chapters which will help the readers to incorporate the concepts of search for mineral deposits and understand the chances of success. The book discusses the fundamental details like composition of earth and mineral resources, formation of rock and mineral deposits, and the attempt to search for ore deposits to advance applications of remote sensing in mineral exploration. It also covers the details on how to conduct system of survey, evaluation, and how to arrive at a decision to open and carryout further exploration in the operating mine. The book

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shall be of great interest to geologists and mining community.

This new, up dated edition of Introduction to Mineral Exploration provides a comprehensive overview of all aspects of mineral exploration. Covers not only the nature of mineral exploration but also considers other factors essential to successful exploration, from target evaluation to feasibility studies for extraction and production. Includes six detailed case studies, selected for the range of different problems and considerations they present to the mineral explorationist. Features new chapters on handling mineral exploration data and a new case study on the exploration for diamonds. Essential reading for upper level undergraduates studying ore geology, mineral exploration, mining geology, coal exploration, and industrial minerals, as well as professional geologists. Artwork from the book is available to instructors online at [www.blackwellpublishing.com/moon](http://www.blackwellpublishing.com/moon).

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