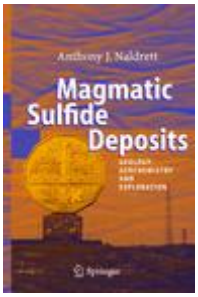

About this book
|

Magmatic Sulfide Deposits
Geology, Geochemistry and Exploration
Naldrett, Anthony J.
2004, XVIII, 728 p. 325 illus., Hardcover
ISBN: 978-3-540-22317-7

Sample pages

About this book

This book is written by a leading authority on the subject of magmatic sulfide deposits. An overview of deposit types, accompanied by a summary of the resources of nickel, copper and platinum-group elements in the world's principal known deposits, is followed by a summary of the relevant physical chemistry. The core of the book comprises a discussion about the geology and geochemistry of each of the deposit types in turn, accompanied by the implications of this data to the origin of the deposits in the light of our understanding of the chemical processes involved. A final chapter focuses on the use of the genetic concepts in exploration.

Written for:
Practitioners/professionals, academic/corporate/hospital libraries, scientists/researchers, graduates

Keywords:
Exploration
Mafic/ultramafic rocks
Nickel
Palladium
Platinum

CIMMEC
Colegio de Ingenieros de Minas, Metalurgistas y Geólogos de México A.C.

A - Z OF POWDER METALLURGY

By
Randall German, Brush Chair Professor in Materials and Director, Center for Innovative Sintered Products, Pennsylvania State University, USA

Description
The A-Z of Powder Metallurgy is a comprehensive, easy-to-use desk reference, which can be consulted endlessly for quick and authoritative answers - an essential resource for manufacturers, specifiers, end-users and research workers of powdered metals. Metal Powders are being used with increasing frequency in the manufacture of diverse objects, such as watch-cases and piston connecting-rods. Metal properties, techniques for their use and the quality of the objects made are only part of this complex industry which is growing year-on-year. This volume provides a reference source defining terms, explaining processes and illustrating equipment, giving a thorough overview of the industry as a whole. With this book on your desk, you will? 1. Have instant access to definitions, properties and data on powder metallurgy, ensuring you always have accurate information to hand 2. Be able to write with authority for customers and publications 3. Save time, money and effort by researching metal powders properties, processes and the industry as a whole

Audience
Manufacturers of powdered metals, specifiers, end-users in many industries, research workers in powder metallurgy.

CIMMGM
COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MÉXICO A.C.

Contents

From Ab initio calculation through to Zirconium

Bibliographic & ordering Information
Hardbound, 288 pages, publication date: DEC-2005
ISBN-13: 978-1-85617-429-9
ISBN-10: 1-85617-429-8
Imprint: ELSEVIER

APPLIED COAL PETROLOGY

The Role of Petrology in Coal Utilization

Edited By
Isabel Suárez-Ruiz, Instituto Nacional del Carbon (INCAR-CSIC), Oviedo, Spain
John Crelling, Southern Illinois University at Carbondale, Department of Geology, U.S.A.

Description
This book is an integrated approach towards the applications of coal (organic) petrology and discusses the role of this science in the field of coal and coal-related topics.
Coal petrology needs to be seen as a continuum of organic (macerals) and inorganic (minerals and trace elements) contributions to the total coal structure, with the overprint of coal rank. All this influences the behavior of coal in utilization, the coal by-products, the properties of coal as a reservoir for methane or a sequestration site for carbon dioxide, and the relationships of coal utilization with health and environmental issues.
The interaction of coal properties and coal utilization begins at the mine face. The breakage of the coal in mining influences its subsequent beneficiation. Beneficiation is fundamental to the proper combustion of coal and is vital to the preparation of the feedstock for the production of metallurgical coke. An understanding of basic coal properties is important for achieving reductions in trace element emissions and improving the efficiency of combustion and combined-cycle gasification. The production of methane from coal beds is related to the properties of the in situ coal. Similarly, coal bed sequestration of carbon dioxide produced from combustion is dependent on the reservoir properties. Environmental problems accompany coal on its way from the mine to the point of utilization and beyond. Health aspects related with coal mining and coal utilization are also included because, in planning for coal use, it is impossible to separate environmental and health issues from the discussion of coal utilization.
The book is aimed at a wide audience, ranging from researchers, lecturers and students to professionals in industry and discusses issues (such as the environmental, and health) that are of concern to the general public as a whole.

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Audience
This book is suitable for coal-fired utilities, power plants etc., steel companies/carbonization companies, Universities, Libraries, Public Organisms of Scientific and Applied Researchers and Industries using the coal and coal blends as precursor materials.

Contents
Preview Acknowledgements Contents 1. Introduction 2. Basic factors controlling coal quality and technological behavior of coal 3. Mining and benefication 4. Coal combustion 5. Coal gasification 6. Coal liquefaction 7. Coal carbonization 8. Coal-derived carbons 9. Coal as a Petroleum Source Rock and Reservoir Rock 10. Environmental and health aspects 11. Other applications of coal petrology Bibliography Name Index Subject Index

Bibliographic & ordering Information
Hardbound, 312 pages, publication date: AUG-2008
ISBN-13: 978-0-08-045051-3
ISBN-10: 0-08-045051-2
Imprint: ELSEVIER

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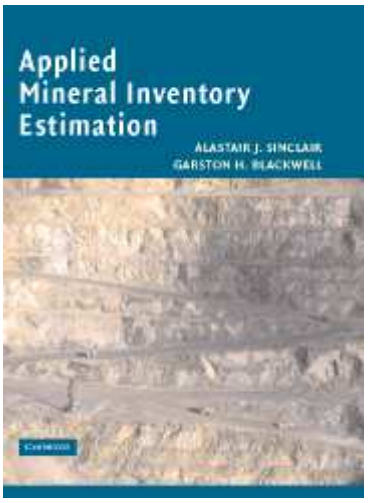
Colegio de Ingenieros de Minas, Metalurgistas y Geólogos de México A.C.



Applied Mineral Inventory Estimation

Alastair J. Sinclair
University of British Columbia, Vancouver

Garston H. Blackwell

Queen's University, Ontario

Hardback

(ISBN-13: 9780521791038 | ISBN-10: 0521791030)

Applied Mineral Inventory Estimation presents a comprehensive applied approach to the estimation of mineral resources/reserves with particular emphasis on the geological basis of such estimations, the need for and maintenance of a high quality assay data base, the practical use of comprehensive exploratory data evaluation, and the importance of a comprehensive geostatistical approach to the estimation methodology. Practical problems and real data are used throughout as illustrations. Each chapter ends with a summary of practical concerns, a number of exercises and a short list of references for supplementary study. This textbook is suitable for any university or mining school that offers senior undergraduate and graduate student courses on mineral resource/reserve estimation.

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COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MEXICO A.C.

Contents

1. Mineral inventory: an overview; 2. Geological control of mineral inventory estimation; 3. Continuity; 4. Statistical

concepts in mineral inventory estimation: an overview; 5. Data and data quality; 6. Exploratory data evaluation; 7. Outliers; 8. An introduction to geostatistical concepts; 9. Spatial analysis: an introduction to semivariograms; 10. Kriging; 11. Global reserve/resource estimation; 12. Grade-Tonnage curves; 13. Local estimation of resources/reserves; 14. Simulation: an introduction to conditional simulation; 15. Bulk density; 16. Dilution; 17. Geostatistics and reality; 18. Reserve/resource classification; 19. Metal accounting; Bibliography; Appendices: A.1. British and international measurement systems: conversion; A.2. US Standard sieves; A.3. Drill hole and core diameters; Index.

Review

"The book will find wide use as a reference in exploration and mining companies, and as a text in professional short courses. Geologists working on exploration projects that have moved beyond discovery drilling will want access to this book. It also should find wide use in mine offices, to be consulted by geologists and engineers dealing with mine planning and ore quality problems. It will also serve as a useful guide for the selection and evaluation of consulting specialists." Economic Geology

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COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MEXICO A.C.

Economic Evaluations in Exploration
Wellmer, Friedrich-Wilhelm, **Dalheimer**, Manfred, **Wagner**, Markus
Based on the original German edition "Rechnen für Lagerstättenkundler und Rohstoffwirtschaftler, Teil 1" © by Verlag Ellen Pilger, 1986
2nd corr. and revised ed., 2008, XIV, 250 p.
68 illus., Hardcover
ISBN: 978-3-540-73557-1

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About this textbook
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Table of contents
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Sample pages

About this textbook

The textbook is intended for the economic geologist who deals with the evaluation of deposits at an early stage of development. It offers rules for quick and easy calculations based on the application of approximate data. It provides both the student and the geologist in the field with a complete set of rules and methods enabling them to perform a quick initial evaluation of the deposit without the support of specialists or computers – even if he is left to his own resources.

All rules for calculations are illustrated with examples and mistakes and pitfalls the authors encountered during their careers are pointed out. The case histories, exercises, metal prices and terminology, especially concerning "reserves and resources", have been fully updated in this second edition. New chapters discuss topics including the life time of deposits, derivation of interest rates for the net present value (NPV) calculations, the influence of political risk and the evaluation of mineral prospects without known mineralization.

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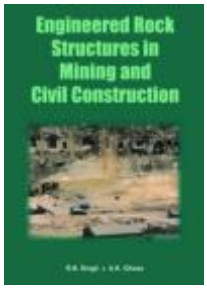
Colegio Oficial de Ingenieros de Minas, Metalurgistas y Geólogos de Madrid

Written for:
Economic geologists

Keywords:
Economic Geology
Exploration Geology
Mineral Deposits
Resource Estimation
Statistics

Engineered Rock Structures in Mining and Civil Construction

Author(s) - Raghu N Singh, Ajoy K Ghose



List Price: $199.95
ISBN: 9780415400138
ISBN-10: 0415400139
Publisher: Taylor and Francis
Publication Date: 01/26/2006
Pages: 536

COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MEXICO A.C.
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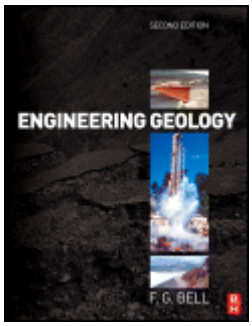
About the Title

The book collates and sifts a vast amount of literature on the design of structures in the mining and construction industries to synthesize a comprehensive text on the subject area. The focus is on the application of theory to practice and the book is richly illustrated with worked out examples. The presentation is lucid and based on the extensive professional, teaching and research experience of the authors. The text seeks to address the key issues of design of 'engineered' structures in or on rock. The book will serve as a standard text for undergraduate courses in mining, civil engineering and engineering geology.

ENGINEERING GEOLOGY



Second Edition

By
F G Bell, Formerly University of Natal, South Africa

Description
Every engineering structure, whether it's a building, bridge or road, is affected by the ground on which it is built. Geology is of fundamental importance when deciding on the location and design of all engineering works, and it is essential that engineers have a basic knowledge of the subject. Engineering Geology introduces the fundamentals of the discipline and ensures that engineers have a clear understanding of the processes at work, and how they will impact on what is to be built. Core areas such as stratigraphy, rock types, structures and geological processes are explained, and put in context. The basics of soil mechanics and the links between groundwater conditions and underlying geology are introduced. As well as the theoretical knowledge necessary, Professor Bell introduces the techniques that engineers will need to learn about and understand the geological conditions in which they intend to build. Site investigation techniques are detailed, and the risks and risk avoidance methods for dealing with different conditions are explained.

Audience
Civil engineering, structural engineering, mining, water engineering students at undergraduate and post-graduate level. Professionals in the same disciplines.

Contents
Rock types & stratigraphy; Geological structures; Surface processes; Groundwater conditions & supply; Description, properties & behaviours of soils & rocks; Geological materials used in construction; Site investigation; Geology, planning & development; Geology & construction

Bibliographic & ordering Information
Paperback, 592 pages, publication date: DEC-2006
ISBN-13: 978-0-7506-8077-6
ISBN-10: 0-7506-8077-6
Imprint: BUTTERWORTH HEINEMANN

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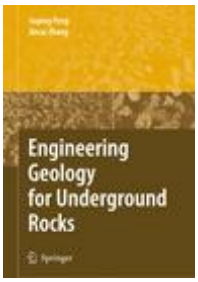
COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MÉXICO A.C.



Engineering Geology for Underground Rocks
Peng, Suping, **Zhang**, Jincai
2007, XX, 320 p. 191 illus., Hardcover
ISBN: 978-3-540-73294-5

About this book
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Table of contents

About this book

Engineering geology for underground rocks is a sub-discipline of engineering geology that is used to describe and solve geological engineering problems encountered in underground mining, petroleum and civil engineering.

It covers rock mechanics for underground rocks, rock hydraulics, wellbore mechanics, mine geology and mine hydrogeology.

This book clearly and systematically explains underground engineering geology principles, methods, theories and case studies.

It goes on to lay out some knotty engineering problems in underground rock engineering and then shows the reader how to solve them.

The book specially emphasizes mechanical and hydraulic couplings in rock engineering for wellbore stability, mining near aquifers and other underground structures where inflow is a problem.

Using the methods and models given in this book, the reader is able to analyze underground geological engineering problems. He or she will also find that the work is an invaluable aid in the design of underground structures.

Written for:
Libraries, researchers, institutes, scientists
Keywords:

Engineering Geology

Geological Engineering

Geotechnics

Mining engineering

Rock mechanics

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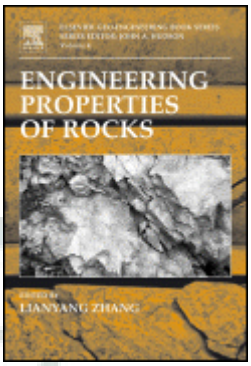
ENGINEERING PROPERTIES OF ROCKS, 4



By
Lianyang Zhang, Professor Lianyang Zhang IFC Consulting MA, USA

Audience
Practising civil engineers working in rock, whether undertaking site investigations or for design, excavation, etc;
Researchers and post-graduate students wanting to gain practical knowledge in the field of rock mechanics.

Bibliographic & ordering Information
Hardbound, 208 pages, publication date: NOV-2005
ISBN-13: 978-0-08-044672-1
ISBN-10: 0-08-044672-8
Imprint: ELSEVIER

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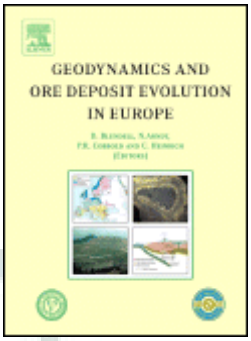
COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MÉXICO A.C.

GEODYNAMICS AND ORE DEPOSIT EVOLUTION IN EUROPE



Edited By
D. Blundell, University of London, Surrey, UK
N. Arndt, University Joseph Fourier, St. Martin d'Heres, France
P.R. Cobbold, Geosciences-Rennes, Rennes, France
C. Heinrich, ETH Zentrum, Zurich, Switzerland

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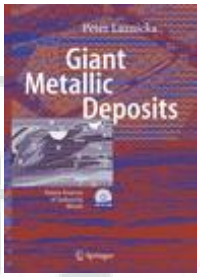
Audience
The global economic geology community,researchers in global tectonics and the role of fluids in the crust and upper mantle, minerals industry and economic geology researchers and advanced course students

Contents
Preface. Introduction. 1. Subduction, slab detachment and mineralization: the Neogene in the Apuseni Mountains and Carpathians (F. Neubauer, A. Lips et al.). 2. Hydrothermal ore deposits related to post-orogenic extensional magmatism and core complex formation: the Rhodope Massif of Bulgaria and Greece (P. Marchev, M. Kaiser-Rohrmeier, et al.). 3. Geochronology and geodynamics of Late Cretaceous magmatism and Cu-Au mineralization in the Panagyurishte region of the Apuseni-Banat-Timok-Srednogorie belt, Bulgaria (A. van Quadt, R. Moritz, I. Peytcheva, C. Heinrich). 4. Transpressional tectonics, lower crust decoupling and intrusion of deep mafic sills: a model for the unusual metallogenesis of SW Iberia (F. Tornos, C. Casquet, J. Relvas). 5. Late-Variscan mineralizing systems related to orogenic processes: the French Massif Central (V. Bouchot, P. Ledru, et al.). 6. Classification of VMS deposits: Lessons from the Uralides (R. Herrington, V. Maslennikov, et al.). 7. Extensional tectonics and the timing and formation of basin-hosted deposits in Europe (P. Muchez, W. Heijlen, et al.). 8. Precambrian geodynamics and ore formation: the Fennoscandian shield (P. Weihed, N. Arndt, et al.) 9. Processes of tectonism, magmatism and mineralization: lessons from Europe (D. Blundell, N. Arndt, et al.).

Bibliographic & ordering Information
Hardbound, 360 pages, publication date: DEC-2005
ISBN-13: 978-0-444-52233-7
ISBN-10: 0-444-52233-6
Imprint: ELSEVIER



Giant Metallic Deposits
Future Sources of Industrial Metals
Laznicka, Peter
2006, XIV, 732 p. 458 illus., Hardcover
ISBN: 978-3-540-33091-2

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COLEGIO DE INGENIEROS DE MINAS, Y GEÓLOGOS DE MÉXICO A.C.
CIMMG

About this book
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System requirements

About this book

Metals in the earth's crust are very unevenly distributed and, traditionally, a small number of ore deposits, districts or countries have dominated the world supply and have influenced commodity prices. The importance of exceptionally large, or rich, deposits has greatly increased in the age of globalization when a small number of international corporations dominate the metals market, based on few very large ore deposits, practically anywhere in the world. Search for giant orebodies thus drives the exploration industry: not only the in-house teams of large internationals, but also hundreds of junior companies hoping to sell their significant discoveries to the "big boys".

Geological characteristics of giant metallic deposits and their setting and the politico-economic constraints of access to and exploitation in prospective areas have been a "hot topic" in the past fifteen years, but the knowledge generated and published has been one-sided, scattered and fragmented. This is the first comprehensive book on the subject that provides body of solid facts rather than rapidly changing theories, written by author of the Empirical Metallogeny book series and founder of the Data Metallogenica visual knowledge system on mineral deposits of the world, who has had an almost 40 years long international academic and industrial experience. The book will provide abundant material for comparative research in metallogeny, practical information for the explorationists as to where to look for the "elephants", and some inspiration for commodity investors.

Written for:
Institutes, libraries, scientists, researchers, exploration companies

Keywords:

Economic geology

global metals resources

metallogeny

mineral economics

ore deposits

International Mining Forum, 2007, Technical, Technological and Economical Aspects of Thin-Seams Coal Mining: Proceedings of the Eighth International Mining Forum 2004 Cracow - Szczyrk - Wieliczka, Poland, February 2007

Editor(s) - Jerzy Kicki, Eugeniusz Sobczyk

Principio del formulario

COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MÉXICO A.C.
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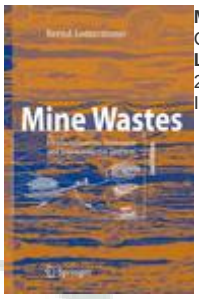
About the Title

The International Mining Forum is a recurring event, hosted by the University of Science and Technology in Cracow, Poland, bringing together an international group of scientists, including those working in rock mechanics and computer engineering as well as mining engineers. The topics are wide-ranging, including papers on remote sensing to assess primary impact; treatment of sealed-off coal mine fires; sustainable development in mine closure; and monitoring of natural hazards and safety issues.



Mine Wastes
Characterization, Treatment and Environmental Impacts
Lottermoser, Bernd G.
2nd ed., 2007, XIV, 304 p. 70 illus., Hardcover
ISBN: 978-3-540-48629-9

About this book
|
Table of contents

About this book

This book provides a thorough, up-to-date overview of wastes accumulating at mine sites. It deals comprehensively with sulfidic mine wastes, mine water, tailings, cyanidation wastes of gold-silver ores, radioactive wastes of uranium ores, and wastes of phosphate and potash ores. The book emphasizes the characterization, prediction, monitoring, disposal and treatment as well as environmental impacts of problematic mine wastes. The strong pedagogical framework is supported by case studies from around the world, end-of-chapter summaries as well as lists of resource materials and www sites for each waste type.

CIMMEM
Instituto de Ingenieros de Minas, Metalurgistas y Geólogos de México A.C.

Written for:
Researchers, scientists, libraries, institutes, graduates, undergraduates, professionals
Keywords:

- Applied earth science
- environmental management
- mine site pollution
- mineral resources
- waste management

Mineral Deposit Research: Meeting the Global Challenge
Proceedings of the Eighth Biennial SGA Meeting, Beijing, China, 18 - 21 August 2005
Mao, Jingwen; Bierlein, Frank P. (Eds.)
2005, XX, 1580 p. 800 illus., Hardcover
ISBN: 978-3-540-27945-7

COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE A.C.

About this book
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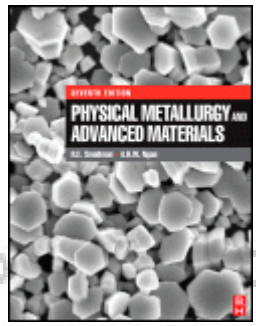
System requirements

About this book

The proceedings volume (incl. CD-ROM) is a compilation of approximately 400 extended abstracts (up to 4 pages long) of presentations given at the 8th Biennial SGA Meeting. The papers are grouped according to the thematic sessions within which they were presented, including Tectonics, lithospheric, and deep mantle controls on global metallogenic provinces and giant ore deposits; Base and precious metal mineralization in sediments during basin evolution; Metallogeny and exploration of uranium deposits; Magmas and base-metal ore deposits; Epigenetic gold systems; Submarine ore systems and ancient analogues; Understanding ore systems though precise geochronology, isotope tracing and microgeochemistry; Geology and economics of non-metallic resources; Conceptual targeting of mineral deposits. Due to the meeting being held in Beijing, the conference and proceedings volume also feature thematic sessions that focus on specific regions throughout Asia, such as Mesozoic to recent geodynamics and metallogeny of eastern Asia; Metallogeny of the Tethys-Himalayan Orogen; Geodynamics and metallogeny of the Altaid Orogen; and Exploration, Discovery, and Mine Developments in China. As such, the volume represents a comprehensive summary of cutting-edge developments across a wide range of subject matters that are of extreme relevance to the global research, mining and exploration community.

Written for:
Scientists, researchers, libraries, professionals, lecturers
Keywords:
Economic geology
metallogenic processes
ore deposits research and exploration
ore-forming processes

PHYSICAL METALLURGY AND ADVANCED MATERIALS



Seventh Edition

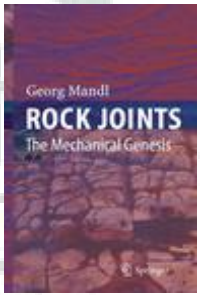
CIMMGM
Colegio de Ingenieros de Minas, Metalurgistas y Geólogos de Mexico A.C.

By
R E Smallman, Emeritus Professor of Metallurgy and Materials Science, Department of Metallurgy and Materials, University of Birmingham, UK
A.H.W. Ngan, Professor, Department of Mechanical Engineering, University of Hong Kong

Audience
Mid/senior undergraduate and graduate students taking courses in metallurgy, materials science, physical metallurgy, mechanical engineering, biomedical engineering, physics, manufacturing engineering and related courses

Contents
Part I – The Fundamentals of Materials Science 1. Structure and bonding of atoms 2. Atomic arrangements in materials 3. Structural phases; their formation and transitions 4. Defects in solids 5. NEW Characterisation of materials 6. Physical properties of materials 7. Mechanical behaviour of materials 8. NEW Chapter on Materials Simulation (atomistic simulation, phase diagram calculation, stress/thermal analyses by finite element method, etc.) Part II – Structure and Properties of Metals and Alloys 9. Alloy development 10. Strengthening and toughening of metals and alloys 11. Corrosion and surface engineering 12. NEW Surface properties, comprising surface-energy-related properties (laying out the background for thin-film deposition), mechanical properties of surfaces, nanoindentation, etc. Part III – Structure and Properties of Non-metallic Materials 13. Ceramics and glasses 14. Plastics and composites Part IV – Processing and Applications 15. NEW chapter on thin-film deposition by PVD and CVD, electronic applications 16. Biomaterials 17. Materials for sports 18. NEW Materials for information technology (electronic materials, optoelectronic materials, quantum dots, molecular self-assembly, etc.) 19. NEW Nano-scale materials (catalysts, drug-delivery materials, superplastic materials, etc.)

Bibliographic & ordering Information
Hardbound, 672 pages, publication date: OCT-2007
ISBN-13: 978-0-7506-6906-1
ISBN-10: 0-7506-6906-3
Imprint: BUTTERWORTH HEINEMANN



Rock Joints
The Mechanical Genesis
Mandl, Georg
2005, VIII, 222 p. 153 illus., Hardcover
ISBN: 978-3-540-24553-7

COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MÉXICO A.C.

About this book
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Table of contents

About this book

Rock Joints deals exclusively with the mechanical genesis of joints in rocks. It is aimed at a coherent, critical and comprehensible presentation of the underlying mechanical processes of various types of joints and joint systems. Special care is taken to elucidate and quantify the role of high fluid pressures in the formation of joints. The background is an offshoot of the author's courses on "Genesis of Rock Joints" in the Department of Rock Mechanics and Tunneling at the Technical University of Graz, Austria.

Written for:
Engineers and geologists specialized in rock mechanics, rock engineering and engineering geology

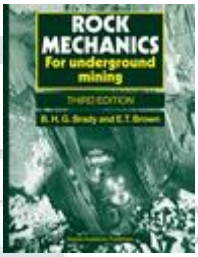
Keywords:

Hydraulic Intrusion

Tectonophysics

Tension Fractures

Springer
the language of science
springer.com



Rock Mechanics
For underground mining
Brady, B.H.G., **Brown**, E.T.
3rd ed., 2004, XVIII, 626 p., Softcover
ISBN: 978-1-4020-2064-3

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COLEGIO DE INGENIEROS DE MINAS, Y GEÓLOGOS DE MÉXICO A.C.

About this textbook
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About this textbook

Although **Rock Mechanics** addresses many of the rock mechanics issues which arise in underground mining engineering, it is not a text exclusively for mining applications. It consists of five categories of topics on the science and practice of rock engineering: basic engineering principles relevant to rock mechanics; mechanical properties of rock and rock masses; design of underground excavations in various rock mass conditions; mining methods and their implementation; and guidelines on rock mechanics practice. Throughout the text, and particularly in those sections concerned with excavation design and design of mining layouts, reference is made to computational methods of analysis of stress and displacement in a rock mass. The principles of various computational schemes, such as boundary element, finite element and distinct element methods, are considered. This new edition has been completely revised to reflect the notable innovations in mining engineering and the remarkable developments in the science of rock mechanics and the practice of rock engineering that have taken place over the last two decades.

Based on extensive professional, research and teaching experience, this book will provide an authoritative and comprehensive text for final year undergraduates and commencing postgraduate students. For professional practitioners, not only will it be of interest to mining and geological engineers but also to civil engineers, structural and mining geologists and geophysicists as a standard work for professional reference purposes.

B.H.G. Brady is Emeritus Professor and former Dean of the Faculty of Engineering, Computing and Mathematics at The University of Western Australia, and a consulting rock mechanics engineer.

E.T. Brown is Senior Consultant, Golder Associates Pty Ltd, Brisbane, Australia and formerly Senior Deputy Vice-Chancellor of The University of Queensland, Australia.

Written for:
Professional practitioners, mining and geological engineers, geotechnical engineers, civil engineers, structural and mining geologists and geophysicists

Advanced undergraduate and graduate students of civil and geotechnical engineering and geology

Keywords:

engineering geology

geotechnical engineering

mining

rock mechanics

structural geology
tunneling

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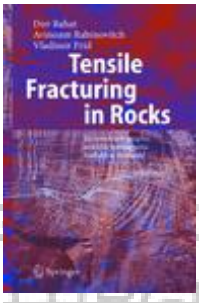

Tensile Fracturing in Rocks
Tectonofractographic and Electromagnetic Radiation Methods
Bahat, Dov, **Rabinovitch**, Avinoam, **Frid**, Vladimir
2005, XIV, 570 p. 302 illus., Hardcover
ISBN: 978-3-540-21456-4

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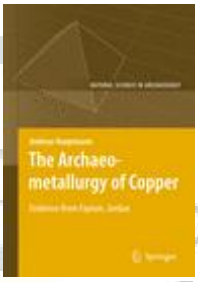
Sample pages

About this book

Understanding tensile fracture in rocks provides an important key for the interpretation of many problems in structural geology. This book presents a multidisciplinary approach to tensile fracture in rocks (faulting is briefly addressed), starting with an introduction to fracture physics and progressing through tectonofractographic features, characterized both in experimental settings and in geological outcrops. Four examples of sedimentary rocks and two of granites have been chosen to demonstrate the principles and problems in fracture geology. Principles of fracture mechanics and rock mechanics are applied throughout the book, which also explores current understanding about electromagnetic radiation induced by fractures and how such radiation can be used to monitor and predict earthquakes and hazardous collapses in mines. The monograph serves not only as a manual on how to handle specific problems and their solutions in fractual geology but also as a starting point for researchers and graduate students interested in the field of rock fracturing.

Written for:
Graduate students and researchers
Keywords:
Electromagnetic radiation
Fracture geology
Fracture physics
Joint fracture provinces
Rock fractures
Sedimentary rocks
Tectonofractography



The Archaeometallurgy of Copper
Evidence from Faynan, Jordan

Series: Natural Science in Archaeology

Hauptmann, Andreas

Original German edition published by
Deutsches Bergbau-Museum Bochum, 2000
2007, XII, 388 p. 170 illus., 24 in color.,
Hardcover
ISBN: 978-3-540-72237-3

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About this book

The book deals with the ancient exploitation and production of copper, exemplified by the mining district of Faynan, Jordan. It is an interdisciplinary study that comprises (mining-) archaeological and scientific aspects. The development of organizational patterns and technological improvements of mining and smelting through the ages (5th millennium BC to Roman Byzantine period), in a specific mining region, is discussed.

Principles of modern archaeometallurgy in the field and laboratory are explained. An important focus is on mineralogical and chemical slag investigations and on the role of trace elements and lead isotope abundance ratios in ores and metals. Provenance studies show the distribution of Faynan copper in the Southern Levant in the Early Bronze Age.

The author has led and been involved in major expeditions to Jordan, Oman and Georgia and has participated in many excavations.

Written for:
Graduates, lecturers, scientists, professionals, undergraduates, libraries

Keywords:

Archaeometallurgy

ancient slags

copper

metal supply

mining activities

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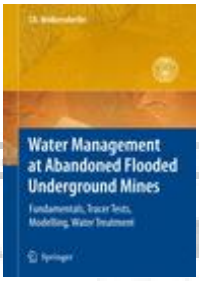

Water Management at Abandoned Flooded Underground Mines
Fundamentals, Tracer Tests, Modelling, Water Treatment
Wolkersdorfer, Christian
2008, XX, 466 p. 125 illus., 124 in color., Hardcover
ISBN: 978-3-540-77330-6

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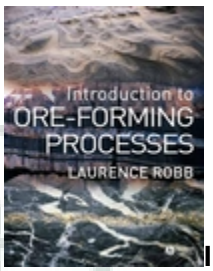
About this book

Switching off the pumps of a mine is one of the last steps in the lifetime of a surface or underground mine. As the water in the open space raises, the water might become contaminated with different pollutants and eventually starts to flow in the open voids. This book addresses the processes related to mine abandonment from a hydrogeological perspective. After an introduction to the relevant hydrogeochemical processes the book gives detailed information about mine closure procedures. Based on in-situ measurements the hydrodynamic processes in a flooded mine are described and some of the mine closure flow models exemplified. As all investigations base on precise data, the book gives some key issues of monitoring and sampling, especially flow monitoring. Then the book shows some new methodologies for conducting tracer tests in flooded mines and gives some hints to passive mine water treatment. At the end 13 well investigated case studies of flooded underground mine and mine water tracer tests are described and interpreted from a hydrodynamic point of view.

Written for:
Libraries, institutes, researchers, scientists

Keywords:
hydrodynamics
hydrogeology
hydrology
mining
mining engineering
tracer tests



Introduction to Ore-Forming Processes

Laurence Robb

COLEGIO DE INGENIEROS DE MINAS, METALURGISTAS Y GEÓLOGOS DE MÉXICO A.C.
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ISBN: 978-0-632-06378-9

Paperback

384 pages

April 2004, Wiley-Blackwell

Introduction to Ore-Forming Processes is the first senior undergraduate – postgraduate textbook to focus specifically on the multiplicity of geological processes that result in the formation of mineral deposits.

- Opens with an overview of magmatic ore-forming processes
- Moves systematically through hydrothermal and sedimentary metallogenic environments, covering as it does the entire gamut of mineral deposit types, including the fossil fuels and supergene ores
- The final chapter relates metallogeny to global tectonics by examining the distribution of mineral deposits in space and time
- Boxed examples of world famous ore deposits are featured throughout providing context and relevance to the process-oriented descriptions of ore genesis

- Brings the discipline of economic geology back into the realm of conventional mainstream earth science by emphasizing the fact that mineral deposits are simply one of the many natural wonders of geological process and evolution.

WILLS' MINERAL PROCESSING TECHNOLOGY

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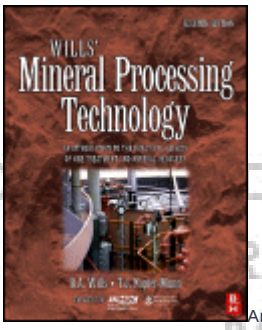

An Introduction to the Practical Aspects of Ore Treatment and Mineral Recovery
Seventh Edition

By
Barry Wills, Senior Partner with Minerals Engineering International, UK
Tim Napier-Munn, Professor and former Director of Julius Kruttschnitt Mineral Research Centre, University of Queensland, Australia

Description
Wills' Mineral Processing Technology provides practising engineers and students of mineral processing, metallurgy and mining with a review of all of the common ore-processing techniques utilized in modern processing installations. Now in its Seventh Edition, this renowned book is a standard reference for the mineral processing industry. Chapters deal with each of the major processing techniques, and coverage includes the latest technical developments in the processing of increasingly complex refractory ores, new equipment and process routes. This new edition has been prepared by the prestigious J K Minerals Research Centre of Australia, which contributes its world-class expertise and ensures that this will continue to be the book of choice for professionals and students in this field. This latest edition highlights the developments and the challenges facing the mineral processor, particularly with regard to the environmental problems posed in improving the efficiency of the existing processes and also in dealing with the waste created. The work is fully indexed and referenced.

Audience
Students and Practitioners of Mineral Processing, Metallurgy, Mining and related fields.

Contents
Introduction; Ore Handling; Metallurgical Accounting, Control and Simulation; Particle Size Analysis; Comminution; Crushers; Grinding Mills; Industrial Screening; Classification; Gravity Concentration; Dense Medium Separation (DMS); Froth Flotation; Magnetic and High Tension Separation; Ore Sorting; Dewatering; Tailings Disposal; Appendices; Index

Bibliographic & ordering Information
Paperback, 456 pages, publication date: AUG-2006
ISBN-13: 978-0-7506-4450-1
ISBN-10: 0-7506-4450-8
Imprint: BUTTERWORTH HEINEMANN

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