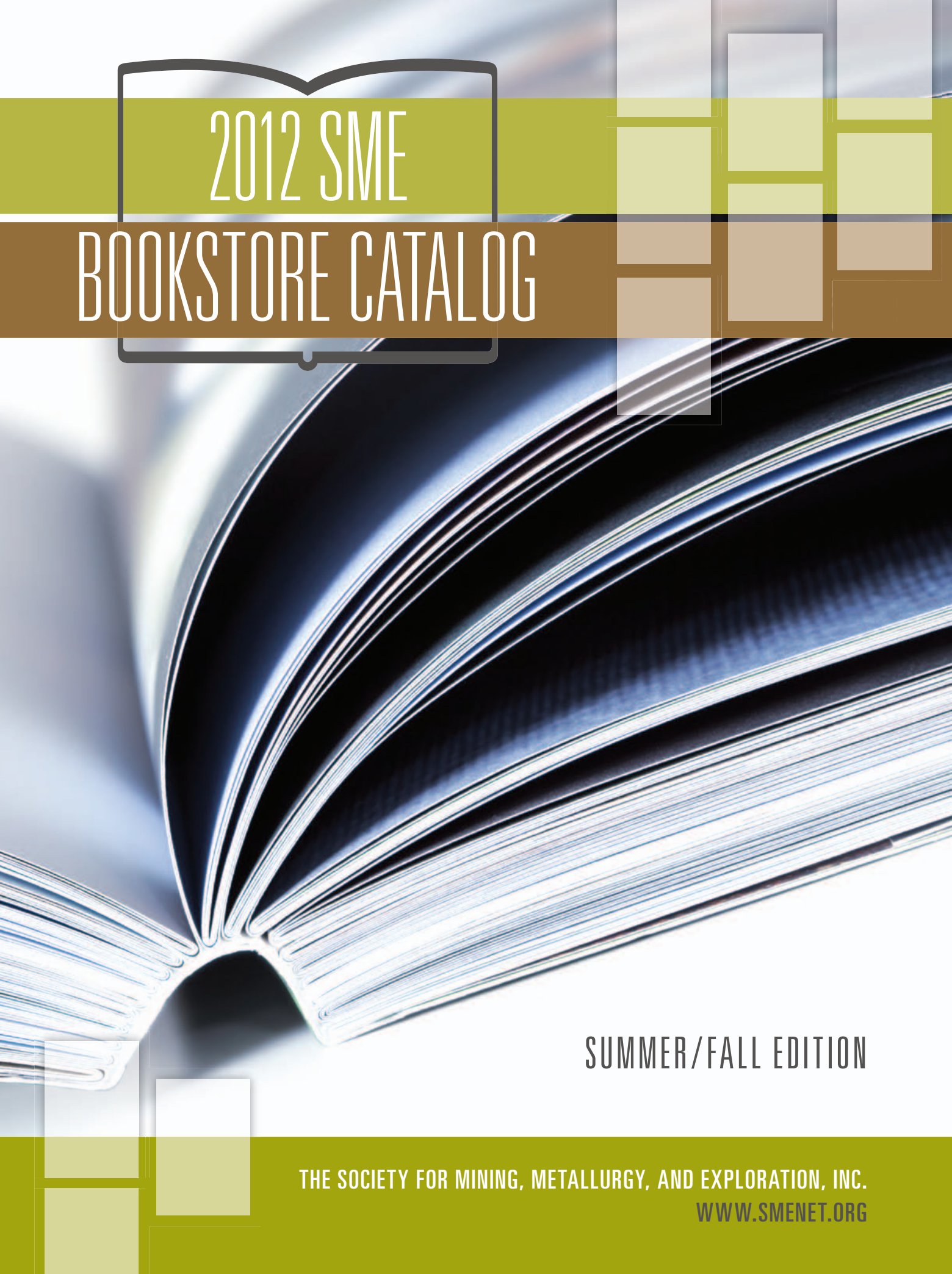




2012 SME BOOKSTORE CATALOG

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Advances in Comminution

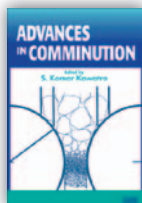
Edited by S. Komar Kawatra

Advances in Comminution focuses on the dilemma of needing to grind materials to finer sizes while maintaining reasonable energy costs. Because the selection and sizing of stirred mills for regrinding and ultrafine-grinding applications do not lend themselves to conventional methodologies, new approaches are being developed. Activity has been directed toward improving ore characterization to predict AG/SAG mill energy requirements, as well as developing improved models and instrumentation for the optimization and control of comminution circuits. Instrumentation, modeling, and control functions in particular have benefited from rapidly advancing computer technology. These advances will minimize energy waste and provide the increased energy efficiency needed to maintain ongoing success.

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Advances in Gravity Concentration

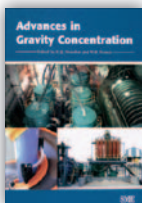
Edited by R.Q. Honaker and W.R. Forrest

This compilation focuses on state-of-the-art developments and future trends in gravity concentration technologies. Leading experts discuss recent developments in the design, optimization, and control of gravity-based separation processes and their associated applications. *Advances in Gravity Concentration* is divided into three sections: fundamentals, coal applications, and non-coal applications. The fundamentals section reviews developments in the knowledge of particle characterization, particle-setting kinetics, slurry rheology, and overall process modeling. Chapters examine novel technological and circuitry advances in coal and non-coal applications and discuss technologies incorporating other physical forces, such as those associated with surface chemistry properties and their relative efficiencies.

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Edited by R. Dimitrakopoulos

In an ever-changing world of uncertain markets, mismatches between demand and reserve base growth, new emerging technologies, and new technical problems and their solutions, this book represents a contribution to both old and new dimensions of a most intricate, complex, challenging and critically important technical part of mining ventures and the industry. These and other issues add complexity and uncertainty to the already challenging domains of orebody modelling and strategic mine planning, which are arguably the backbone of our industry. This volume comprises 43 papers under the following topics: Modelling and Planning in the New World; Modelling Orebodies and Applications; Mining Optimisation and Case Studies; Large-Scale Integrated Applications; Uncertainty Models and Recoverable Reserves; Optimisation is Moving Underground and The New World and Strategic Innovation.

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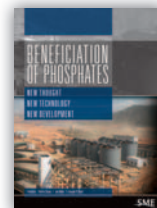
Edited by Patrick Zhang, Jan Miller, Hassan El-Shall

Fueled by climbing food prices, the demand for fertilizers is on the rise. The phosphate industry is responding aggressively by bringing significant projects online across the globe. But meeting this unprecedented demand comes with a host of challenges: environmental lawsuits have put a stop to one of the largest phosphate mines in the world; other operations are closing because of the depletion of phosphate reserve; the increasing proportion of high organic and high dolomite ores has caused beneficiation costs to skyrocket; there is a growing urgency for the sustainable development and recycling of phosphate resources.

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Beneficiation of Phosphates: Technology Advance and Adoption

Edited by Patrick Zhang, Karen Swager, Laurindo Leal Filho, and Hassan El-Shall

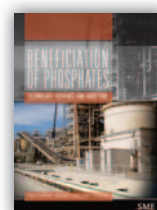
Beneficiation of Phosphates: Technology Advance and Adoption is the exclusive information source on research and technological advances in phosphate mineral processing. More than 100 internationally respected authors from 20 countries explore the latest developments in an industry experiencing unprecedented change and prosperity.

This book covers promising new technologies such as enhanced flotation, breakthroughs in online analysis, and flocculation-based deep cone thickening technology for fine waste tailings treatment, an advancement with the potential to eliminate a host of environmental problems associated with waste disposal. These and other compelling case histories provide insights into ensuring the long-term viability of an industry that "feeds" the world with this life-sustaining, yet nonrenewable resource.

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By William Hustrulid

Blasting Principles for Open Pit Mining covers the engineering and the scientific aspects of blasting, with special attention to open pit mining. Serving as both textbook and reference for practicing mining, civil, and construction engineers involved in surface rock excavation, Volume 1 (*General Design Concepts*) identifies and explains the basic engineering concepts that make up a blast design and Volume 2 (*Theoretical Foundations*) provides additional depth and understanding.

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Edited by Mark Alspaugh

In this book, two dozen leading engineers and researchers from seven countries share their insights on successful, cutting-edge bulk material handling solutions and methods of improving conveyor performance. Thanks to breakthroughs in numerical analysis and simulation techniques, conveyor belt systems and component designs are evolving at an unprecedented speed. Anyone responsible for designing or managing operations requiring the transport of bulk material will find this book useful and thought provoking.

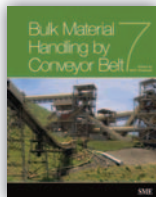
Bulk Material Handling includes the latest thinking on design considerations for long overland conveyors and solving real problems using numerical analysis and simulation. Its numerous case studies from around the world will assist the reader in understanding, designing, and building larger, more reliable, and more efficient equipment and components.

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The Chemistry of Gold Extraction

By John O. Marsden and C. Iain House

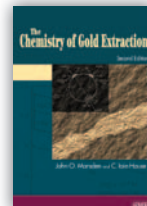
The Chemistry of Gold Extraction provides the broad knowledge base required by those working in the gold extraction and gold processing industries. This book bridges the gap between research and industry by emphasizing the practical applications of chemical principles and techniques. It includes in-depth discussions on historical developments; ore deposits and process mineralogy; process selection; principles of gold hydrometallurgy; oxidative pretreatment; leaching; solution purification and concentration; recovery; surface chemical methods; refining; effluent treatment; and industrial applications.

A valuable asset for all professionals involved in the precious metals industries, *The Chemistry of Gold Extraction* will be particularly useful to engineers and scientists (including extractive metallurgists, mineral/metallurgical engineers, electrochemists, chemical engineers, mineral technologists, mining engineers, and material scientists); plant operators and managers; academics; educators; and students working in the production, research, or consulting capacities of gold extraction.

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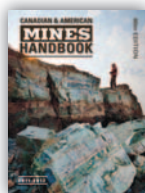
Canadian & American Mines Handbook 2011–2012

This handbook provides concise snapshots of thousands of U.S. and Canadian mining companies, mines, and associated organizations. The most comprehensive mining company directory on the market for the past 79 years, the *Canadian & American Mines Handbook* lists company profit/loss statements, authorized capital, dividends, assets, and more.

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The Circulating Load: Practical Mineral Processing Plant Design by an Old-Time Ore Dresser

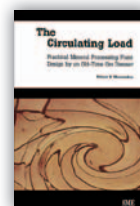
By Robert S. Shoemaker

This how-to guide is loaded with innovative ideas and practical solutions to some of the most troublesome mineral processing challenges. From mess-free flooring and inventive crusher and conveyor designs to time-saving quality-control techniques, *The Circulating Load* captures fresh approaches to age-old problems that can inhibit mill operating performance. Part engineering, part common-sense; this treasure trove of tips and tricks presents smarter methods of minerals processing management.

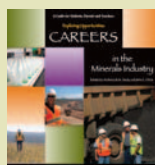
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La Carga Circulante: Guía Práctica para el Diseño de Plantas de Concentración de Minerales por un Veterano en la Especialidad

By Robert S. Shoemaker, Translation by Mario E. Watkins

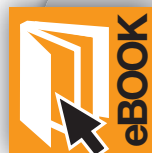
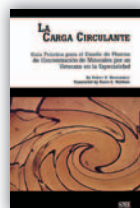
This is the Spanish version of the popular SME book, *The Circulating Load: Practical Mineral Processing Plant Design by an Old-Time Ore Dresser*

Esta guía es un compendio de ideas innovativas y soluciones prácticas a algunos de los problemas que comúnmente enfrentan los diseñadores y los operadores de plantas de concentración de minerales. Desde el diseño de pisos fáciles de mantener limpios y seguros para transitar a inventivos detalles para diseño de sistemas de trituración, transporte, y técnicas que facilitan el control de operaciones, esta referencia incluye prácticos enfoques a viejos problemas que pueden inhibir el buen rendimiento de una planta de concentración.

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Coal Mine Ground Control, 3rd edition

By Syd S. Peng

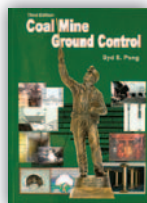
This is the complete and authoritative reference on U.S. coal mining methods. Authored by expert Syd S. Peng, this book covers all areas of coal mine ground control: rock properties and in-situ stresses; geological conditions that form the rock strata, their anomalies, and geophysical methods employed to detect the anomalies; roof bolts and roof bolting systems; pillar design; recent myths of high horizontal stresses; longwall mining; multiple seam mining; bumps, occurrence, mechanisms, and control; entry stability problems; theories and methods of underground and surface instrumentation; material models; surface subsidence; and highwall stability.

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Published by Syd S. Peng

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Coal Preparation, 5th edition

Edited by Joseph W. Leonard III

By popular demand, the fifth edition of *Coal Preparation* is now available as an eBook. This classic 1,154-page reference comprehensively covers the industry, with chapters on chemical/physical properties and marketing; preliminary design consideration; coal preparation costs; pre-preparation; size reduction; sizing; concentration; dewatering; post-preparation/storage and loading; process control; plant waste and environmental considerations; sampling and analysis; and utilization.

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Concrete for Underground Structures

Edited by Robert J.F. Goodfellow

Concrete is a vital component of almost every underground construction project. Because it significantly impacts both the durability and cost of a project, owners, designers, and contractors are constantly challenged with designing and placing the concrete to meet their quality standards in the most cost-effective way.

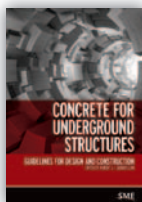
The first resource of its kind, this practical nuts-and-bolts handbook provides an industry voice as well as recommendations for areas of concrete application. You'll get valuable insights into current best practices for all aspects of the design and construction of underground structural concrete.

Internationally respected authors examine three key applications: cast-in-place concrete, precast concrete segmental linings, and shotcrete. Each chapter addresses the differences between aboveground and underground use. The various types of concrete admixtures are also discussed, and sample specifications for each are included.

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Construction Contract Administration

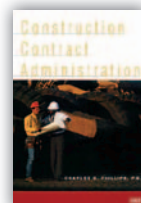
By Charles S. Phillips

Students, contractors, foremen, superintendents and managers, project managers and engineers, site and contract administrators and managers, owners' representatives, and others associated with the industry will appreciate the timely and valuable information provided here. *Construction Contract Administration* serves as a guide and general reference on the subjects one must consider for the production and site management of a construction contract. The book is divided into three parts: Part 1 deals with the selection, production, and assembly of the elements required for a construction contract. Part 2 reviews the basics of a reasonable, fair, practical, logical, and orderly contract administration system, using the sample bid package included in Appendix B. Part 3 presents four case studies from construction projects to teach those who manage contracts how to recognize potential problem areas. The author also details the latest advances in information technology for construction contract administration.

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Copper Leaching, Solvent Extraction, and Electrowinning Technology

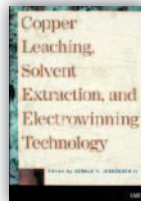
Edited by Gerald V. Jergensen II

This book recognizes the growing role of solvent extraction and electrowinning technology—an efficient and cost-effective process for extracting copper—in the global copper business. These proceedings document the status of the SX-EW business, representing a substantial body of historical, scientific, engineering, and commercial information on the technology's growth and application. The book includes the following sections: Business and Technology of SX-EW, Theory and Practice of Copper Leaching, Theory and Practice of Tank-house Operations, and Theory and Practice of Solvent Extraction.

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In practical language, *Crystalline Silica* addresses what crystalline silica is, where it is found and used, and how it is identified. In addition, the book discusses the regulatory decisions yielding new interest in this ubiquitous substance and presents an overview of the techniques used to determine its presence and abundance. A list of selected readings and supplemental resources and a glossary of terms beyond the scope of this publication round out the text.

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De Re Metallica

By Georgius Agricola

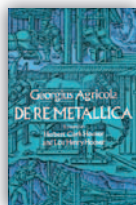
Originally published in 1556, Agricola's groundbreaking *De Re Metallica* was the first mining book based on field research and observation. For almost 200 years it remained the only authoritative work in this area, and by modern times it had become one of the most highly respected scientific classics on the subject. The oft-referenced book's original Latin text prevented its wider use until 1912, when future president Herbert Clark Hoover and his wife translated *De Re Metallica*. Printed in a limited edition, the work was quickly acquired by book collectors, historians, and medievalists who found much to be learned from its pages. The book contains an unprecedented wealth of material on alluvial mining, alchemy, silver refining, smelting, surveying, timbering, nitric-acid making, and hundreds of other phases in the medieval art of metallurgy.

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Design Analysis in Rock Mechanics, 2nd edition

By William G. Pariseau

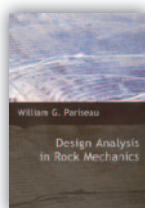
This comprehensive text addresses the basics of rock mechanics in a clear and straightforward manner. The author tackles design problems in terms of materials mechanics. *Design Analysis in Rock Mechanics* covers such major applications as rock slope stability in surface excavations; shaft and tunnel stability; entries and pillars in stratified ground; three-dimensional caverns; and geometry and forces of chimney caving. Appendices supplement the main text with information on rock, joint, and composite properties; rock-mass classification schemes; useful formulas; and an extensive literature list.

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Design-Build Subsurface Projects, 2nd edition

Edited by Gary S. Brierley, David H. Corkum, and David J. Hatem

With its opportunities for cost containment and substantial risk transfer, design-build is increasingly becoming the delivery method of choice for owners with challenging funding limitations. But deciding to use the design-build system for underground projects is one thing; successfully implementing it is quite another.

Design-Build Subsurface Projects can bridge that gap. This cutting-edge book provides a straightforward, comprehensive look at how to make design-build work on complicated projects involving tunnels, highways, dams, and deep foundations. The authors represent a "who's who" of subsurface construction experts. Drawing on their wealth of practical experience, they spell out a list of common sense best practices that can be used by today's project owners and designers.

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Diamond Deposits: Origin, Exploration, and History of Discovery

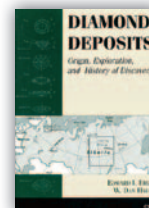
By Edward I. Erlich and W. Dan Hausel

The material found in *Diamond Deposits* provides a foundation for discussing some of the most fundamental problems of theoretical geology, such as the timing of geological events and the development of cratonic areas. Written for geologists and diamond prospectors, this book provides a general overview of diamond exploration and exploitation. The text covers how to find, recognize, and evaluate the potential of diamond deposits. The book offers examples of these processes by reviewing the history of important diamond discoveries in the western United States and Russia. *Diamond Deposits* primarily focuses on the geology of common diamond host rocks, including kimberlite and lamproite. It also reviews the occurrence of some unconventional host rocks that have produced notable diamond discoveries.

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Diccionario de Minería

An English-Spanish / Spanish-English Mining Dictionary
By María Isabel Sillano and Jorge Pérez Rojas

This dictionary provides clear English-to-Spanish and Spanish-to-English translations of more than 4,500 mining and geology terms shown in context. Its unique, visual approach lends itself to quick and accessible translation. Use the alphabetical lists to search for terms and learn their Spanish or English equivalents. In addition to translations, each entry includes a number in square brackets that corresponds to one of fifteen process-specific sections. These full-color sections allow you to view translated terms in context. Descriptive graphs, diagrams, and photos further enhance the translations. Translation has never been easier or more interesting.

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Dictionary of Mining, Mineral, and Related Terms, 2nd edition

A wealth of information at your fingertips, this industry standard defines not only standard mining terms but also terminology in the related but peripheral environmental, marine mining, leaching, pollution, automation, and health and safety fields. Containing more than 28,500 definitions, this edition incorporates the technological developments and environmental regulations that have changed the minerals industry.

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Engineered Rock Structures in Mining and Civil Construction

By R.N. Singh and A.K. Ghose

Intended to hone students' skills in applying principles to real-world design situations, *Engineered Rock Structures in Mining and Civil Construction* is also a comprehensive text for mining engineers, civil engineers, and engineering geologists.

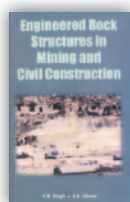
Chapters cover rock characterization for rock mechanics design; uniaxial testing of rock in compression; tensile, triaxial, and shear strength of rock; time-dependent behavior of rocks; properties of rocks; large-scale in-situ testing of rock mass; evaluation of rock mass parameters by borehole testing; measurement of stress in rock; design of structures in rock; stability of underground openings by mathematical modeling; design and stability of pillars and associated structures; design and stability of rib pillars and chain pillars in longwall mining; structural stability of excavations in jointed rock; supports in mining and tunneling; mining subsidence; stability analysis of surface mining slopes; and risk analysis for design in geomechanics.

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By Paul D. Tomlinson

Maintenance has typically been regarded as a "necessary evil" rather than a vital contributor to effective mining operations. Today's enlightened mining managers acknowledge the urgent need for a new

approach. An integrated and accessible companywide strategy is essential to succeeding in today's fiercely competitive, high-stakes marketplace.

Equipment Management explains how to make that strategy come alive. Essential reading for mining professionals, this book explains how to create an environment and a culture that allow maintenance to thrive. Author Paul D. Tomlinson draws on more than 35 years of direct, worldwide maintenance-management consulting experience in the design, implementation, and evaluation of maintenance programs for heavy industry. He explains how an equipment management strategy successfully focuses the efforts of all mining departments on the essential task of delivering consistently reliable production equipment, guaranteeing a profitable operation.

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Equipment Management Workbook

By Paul D. Tomlinson

The *Equipment Management Workbook* is a companion to the highly acclaimed *Equipment Management: Key to Equipment Reliability and Productivity in Mining, Second Edition*. The workbook's step-by-step approach focuses on the most critical aspects of a successful maintenance management program.

Each chapter challenges the reader to recall the real-world experiences and recommendations from the text. Engaging multiple-choice, true/false, and yes/no exercises reinforce every key concept. Tomlinson's textbook and workbook comprise a how-to guide that enables mining organizations to implement a comprehensive equipment management strategy that ensures equipment reliability, as well as work-force productivity.

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Evaluating Mineral Projects: Applications and Misconceptions

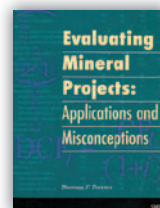
By Thomas F. Torries

Designed to complement traditional engineering texts, this book emphasizes mineral project evaluation concepts rather than computational details. *Evaluating Mineral Projects* describes the various economic evaluation techniques employed (including conventional cost analysis, discounted cash flow, and option analysis), their uses, and their relationships with geological, technological, and financial assessments. Torries also discusses the strengths and weaknesses of commonly practiced evaluation methods. This book explains the practical difficulties with conducting an analysis and correctly interpreting the results, as well as alternative techniques.

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Extracting the Science: A Century of Mining Research

Edited by Jurgen Brune

Extracting the Science: A Century of Mining Research is an authoritative compilation of research and a description of technological achievements written especially for mine operators, researchers, faculty, and students of mining education programs, as well as regulators and enforcement agencies—indeed, anyone concerned with improving the health and safety of mine workers while enhancing mine productivity.

You'll learn the latest information on preventing catastrophic events, such as fires and major roof or slope failures; providing adequate ventilation to dilute explosive or toxic gases and dusts; avoiding hearing loss; offering emergency communication and life support for miners trapped underground; developing training materials and guidelines for improving safety, health, and productivity in mines; and a host of other critical topics.

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Froth Flotation: A Century of Innovation



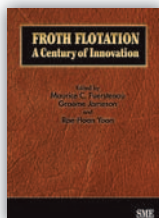
Edited by Maurice C. Fuerstenau,
Graeme Jameson, and Roe-Hoan Yoon

This thorough volume describes state-of-the-art research and practice in mineral froth flotation as known and practiced a century after its introduction. Recognized experts provide in-depth coverage on the historical aspects of flotation; flotation fundamentals; flotation chemistry; flotation cells, modeling, and simulation; and flotation plant practice.

Froth Flotation is an invaluable reference for industry professionals, researchers, and graduate students. A supplemental CD includes presentations from the Centenary of Flotation Symposium managed by the Australasian Institute of Mining and Metallurgy.

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Edited by Jon J. Kellar

Mineral additives are widespread in industrial manufacturing processes. Mineral fillers are used to extend raw materials and cut costs. Minerals and associated inorganics have been increasingly used for their functionality and other mineral-specific qualities. Likewise, the emergence of nanoscale minerals parallels the global pursuit of nanotechnology. These minerals play an important role in the low-cost, high-performance application of nanotechnology.

Functional Fillers and Nanoscale Minerals is intended for mineral suppliers, industrial users of mineral fillers, and those concerned with new trends in mineral processing and nanotechnology. Contributions by leading international researchers highlight the emerging markets and applications of functional fillers and nanoscale minerals.

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Fundamentals of Aqueous Metallurgy



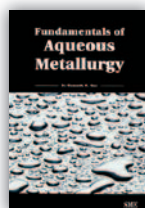
By Kenneth N. Han

Intended for college and graduate-level instruction, this book presents the fundamentals of aqueous metallurgy and its applications in mineral processing operations. The text presents the physicochemical principles of various water-based processes, including interfacial phenomena, hydrometallurgy, and metallurgical kinetics.

A valuable reference for those studying mineral processing, resource recovery, and the corrosion of metals and alloys, *Fundamentals of Aqueous Metallurgy* also serves environmental and chemical engineers, chemists, and mineral processing engineers responsible for mineral processing plant design and operations. To enhance learning and provide practical experience, each chapter closes with a series of homework problems based on the concepts presented. Solutions to the problems, including full explanations, are provided in the back of the book.

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NEW!

Geological Methods in Mineral Exploration and Mining, 2nd Edition

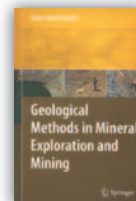
By Roger Marjoribanks

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.

Geological Methods in Mineral Exploration and Mining explains the various tasks that 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. The book emphasizes traditional skills and shows how they can be combined effectively with modern technological approaches.

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Geology: Basics for Engineers

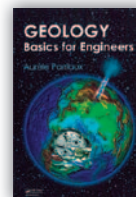
By Aureule Parriaux

Geology: Basics for Engineers examines Earth's physical and chemical characteristics, the nature and the properties of rocks and unconsolidated deposits/sediments, the action of water, and how the earth is transformed by various phenomena at different scales of time and space. The book shows the engineer how to take geological conditions into account in projects and how to intelligently exploit a wide range of natural resources, reduce geological hazards, and manage subsurface pollution.

Through a problem-based learning approach, this instructional text imparts knowledge and practical experience to engineering students as well as experts in the fields of civil engineering, environmental engineering, earth sciences, land and urban planning, and architecture. A supplemental DVD presents solutions to the problems presented and animations illustrating additional features of the living Earth.

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The Georgia Kaolins: Geology and Utilization



By Jessica Elzea Kogel, Sam M. Pickering Jr.,
Evgenya Shelobolina, Tim Chowns, Jun Yuan, and David M. Avant Jr.

The Georgia Kaolins looks at the various disciplines involved in kaolin production, including geology, mining, mineralogy, geochemistry, and microbiology. It gives industry practitioners a better understanding of this versatile material in order to improve exploration, processing, and product quality. The text presents an excellent overview of the types and grades of kaolin, their mineralogy, and how these qualities relate to various commercial applications, and processing techniques employed to remove impurities and improve kaolin quality.

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Geotechnical Baseline Reports for Construction: Suggested Guidelines

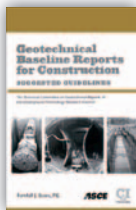
Geotechnical Baseline Reports for Construction examines the role of the geotechnical baseline report (GBR) as a means of allocating and managing the risks associated with subsurface construction. The guidelines identify the rationale for using GBRs as risk-management tools, the organization and content of a GBR, and the importance and benefit of ensuring compatibility between the GBR and other contract documents. The book also addresses owners' perspectives and the importance of involving experienced professionals in GBR preparation and review.

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Published by the American Society of Civil Engineers

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Ground Control Failures: A Pictorial View of Case Studies

By Syd S. Peng

Ground Control Failures contains a storehouse of color photos investigating 50 case studies about topics such as pillar failures, roof falls, cutters, roof bolting failures, floor heave, multiple-seam mining, flooding, abandoned mine workings, and longwalls from coal producing areas in the United States, Canada, and Mexico.

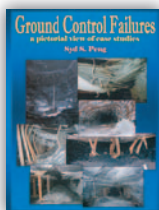
The book emphasizes visual analysis of on-site scenes using approximately 1,000 fully annotated underground color photos accompanied by 89 illustrations and 84 text pages. Each case study identifies the year, the mining and geological conditions encountered, a summarized history, current ground control problems, and recommended solutions and results. Detailed event illustrations demonstrate the varying forms that change over time and the different degrees of failure severity that can occur in a mine's structure.

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Published by Syd S. Peng

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Guidelines for Open Pit Slope Design

Edited by John Read and Peter Stacey

Guidelines for Open Pit Slope Design is a comprehensive, four-color account of the open pit slope design process. Created as an outcome of the Large Open Pit Project—an international research and technology transfer project on the stability of rock slopes in open pit mines—this compendium presents guidelines for required slope design processes and the tools available to slope design practitioners.

This book links innovative mining geomechanics research on the strength of closely jointed rock masses to the most recent advances in numerical modeling, creating more effective ways for predicting rock slope reliability in open pit mines. It identifies the key elements of slope design, the required levels of effort, and the acceptance criteria needed to adhere to best practices in pit slope investigation, design, implementation, and performance monitoring.

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NEW!

Handbook of Coal Analysis

By James G. Speight

Handbook of Coal Analysis provides readers with everything they need to know about testing and analyzing coal. It explains the meaning of test results and how these results can predict coal behavior and its corresponding environmental impact during use. The thorough coverage of coal analysis includes detailed information on necessary standard tests and procedures; explanation of coal behavior relative to its use alongside the corresponding environmental issues; and coverage of nomenclature, terminology, sampling, accuracy, and precision of analysis.

Step-by-step test method protocols are included for proximate and ultimate analysis, mineral matter, and physical, electrical, thermal, mechanical, spectroscopic, and solvent properties.

Emphasis is placed on relevant American Society for Testing and Materials (ASTM) standards and test methods, including corresponding International Organization for Standardization (ISO) and British Standards Institution (BSI) test method numbers. To assist readers in understanding the material, a glossary of terms is provided.

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History of Flotation

By Alban Lynch, Greg Harbort, and Mike Nelson

The improbable process of flotation transformed the non-ferrous mining industry—100 years ago, no one could have predicted that floating highly specific gravity particles on water would become one of the world's greatest technologies.

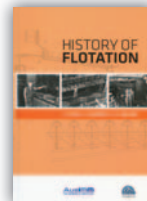
This book chronicles the early days of flotation and the evolution of this technology, as well as the engineers, managers, and financiers who supported flotation experimentation and development. Flotation practitioners will enjoy learning about the history of flotation machines, the ingenuity applied to this process, and the competitive tensions between manufacturers.

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The History of Grinding

By Alban J. Lynch and Chester A. Rowland

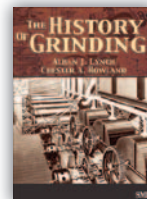
An in-depth examination of the oldest engineering process, *The History of Grinding* begins at the start of agriculture and outlines the development of size reduction, without overwhelming you with technical details.

Chapters cover size reduction from the Stone Age to the space age; the science of grinding and the scientists behind it; hand stones, water wheels, windmills, and beyond; stamp mills and crushers; roller mills; tumbling mills; fine-grinding mills; classifiers; explosive rock breakage; and size reduction in the 21st century. The book includes photos and illustrations gleaned from numerous sources, a glossary, reference list, and a complete index.

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Hoist & Haul 2010: Proceedings of the International Conference on Hoisting and Haulage

Edited by Peter Brokenshire and Susan Andersen

Today's mining professionals must meet the ever-increasing challenges of larger, more efficient, and safer ore handling systems. New technological developments have ushered in a host of different transport solutions. These advancements can dramatically impact the financial requirements for new projects, thus shaping design decisions. *Hoist & Haul 2010* provides the most current and cutting-edge insights into these important issues. From ore handling at the point of extraction to stockpiling on the surface, dozens of case histories document the latest trends in shaft hoisting, incline and drift hoisting, conveying, hydraulic hoisting, rail haulage, tramming, and truck haulage.

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Human Factors for the Design, Operation, and Maintenance of Mining Equipment

By Tim John Horberry, Robin Burgess-Limerick, and Lisa J. Steiner

Machines have become an increasingly pervasive asset to the mining industry, reducing manual labor and raising production. While the use of new remote control, vision enhancement, continuous haulage, and automated equipment technologies have grown, so has the potential for health and safety risks. The book supplies a much-needed overview of the human element in optimizing mining equipment design.

The authors provide up-to-date research, case studies, and examples, starting with a general but essential review of the human factors related to equipment use. Next, they examine the physical environment and the importance of key concerns such as vibration, noise, heat, and dust in maintaining and operating mining equipment. Finally, the book presents the broader organizational and task factors related to mining equipment, including long-standing issues such as operator fatigue and stress, and newer concerns such as distraction and information overload.

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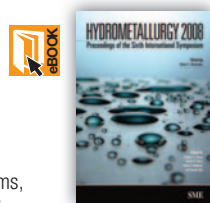
Hydrometallurgy 2008: Proceedings of the Sixth International Symposium

Edited by Courtney A. Young, R. Taylor, Corby G. Anderson, and Yeonuk Choi

Following the tradition of previous international symposiums, this resource tackles the newest advances in primary and secondary resource recovery with sections on environmental hydrometallurgy, research and industrial applications, base and precious metals, and leaching. Case histories from around the world provide a hands-on look at how industry leaders continue to solve problems and set new standards. Experts share insights on minerals biotechnology, plant design and operation, the challenges of plant start-ups, and solutions for reducing energy consumption in all aspects of unit operations.

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Industrial Minerals & Rocks: Commodities, Markets, and Uses, 7th edition

(Available as Book, CD, or Set)

Edited by Jessica Elzea Kogel, Nikhil C. Trivedi, James M. Barker, and Stanley T. Krukowski

This widely read international reference is one of the most authoritative sources for timely information on industrial minerals and rocks, the markets they serve, and their many uses. Changes in the global economy have greatly impacted the mining, processing, and marketing of industrial minerals. Additionally, new technologies and customer-based globalization have driven fast-paced innovation in processing, packaging, transporting, and end use. *Industrial Minerals & Rocks* examines these important and diverse changes and their complex ramifications.

Part I — Introduction and Overview: Features introductory topics broadly relevant to the industry as a whole as well as stand-alone chapters on industrial minerals transportation, marketing, and sustainable development.

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International Coal Preparation Congress: 2010 Conference Proceedings

Edited by Rick Q. Honaker

The coal preparation industry faces its most complex and daunting challenges today. China, India, and South Africa are experiencing unprecedented growth, with India expected to become the world's largest importer of coal through 2030. How will increasing coal demand affect pricing? Meanwhile, new environmental regulations in the United States are forcing more innovation and resourcefulness from operators. How can these companies employ more effective coal cleaning processes and technologies to reduce the environmental footprint of their mining facilities and waste storage areas?

You'll find answers to these and hundreds of other critical questions in *International Coal Preparation Congress: 2010 Conference Proceedings*. This 992-page book is a compilation of 120 state-of-the-art technical papers from the industry's most prestigious gathering. Coal preparation experts from 20 countries share the latest thinking on a variety of current issues.

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An Introduction to Cut-off Grade Estimation

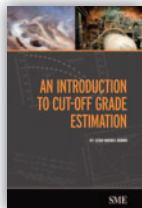
By Jean-Michel (JM) Rendu

An Introduction to Cut-off Grade Estimation examines one of the most important calculations in the mining industry. Cut-off grades are essential to determining the economic feasibility and the mine life of a project. Increased cut-off grades can reduce political risks by ensuring higher financial returns over shorter periods of time. Conversely, lower cut-off grades may increase project life with longer economic benefits to shareowners, employees, and local communities. Cut-off grades also impact reported reserves, which are closely monitored by stock exchanges and regulatory agencies.

Jean-Michel Rendu provides practical insights into this critical variable. You'll learn about minimum cut-off grades, as well as those for deposits containing multiple valuable minerals. Rendu also identifies which costs to include in cut-off grade calculations and considerations when planning open pit, underground, and block and panel caving operations. He explains how to optimize a copper mining project by changing grind size, and demonstrates the relationship between deposit modeling, ore control, and cut-off grades.

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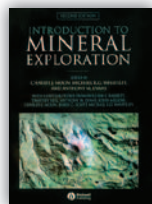
Introduction to Mineral Exploration, 2nd edition

Edited by Charles Moon, Michael Whateley, and Anthony M. Evans

Introduction to Mineral Exploration provides a comprehensive overview of all aspects of mineral exploration. It covers the nature of mineral exploration and considers other factors essential to successful exploration—from target evaluation to feasibility studies for extraction and production. The book includes six detailed case studies, selected for the range of problems addressed and the issues they introduce to the mineral explorationist. This is essential reading for upper-level undergraduates studying ore geology, mineral exploration, mining geology, coal exploration, or industrial minerals, and a trusted reference for professional geologists.

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Introductory Mining Engineering, 2nd edition

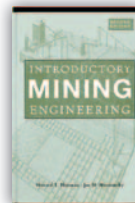
By Howard L. Hartman and Jan M. Mutmanský

This introductory mining engineering text highlights the latest in mining technology. It outlines the role of the mining engineer throughout the life of a mine, including prospecting for the deposit, determining the site's value, developing the mine, extracting the mineral values, and reclaiming the land afterward.

Introductory Mining Engineering presents the latest information on such technologies as remote sensing, GPS, geophysical surveying, and mineral deposit evaluation, as well as continuous integrated mining operations and autonomous trucks. This edition includes information on landscape restoration, regional planning, wetlands protection, and subsidence mitigation. Chapters discuss coverage of environmental responsibility, regulations, and health and safety issues.

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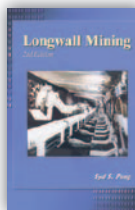
Longwall Mining, 2nd edition

By Syd S. Peng

Longwall Mining covers longwall mining technology developed and practiced in the United States during the last 30 years. It begins with a description of the technology and the special characteristics of U.S. longwalls, including their requirements and constraints. It goes on to cover an array of topics, including the factors involved in a preliminary evaluation of longwall feasibility for a coal reserve; abutment pressures; methods for multiple-entry development; two-leg shield support; shearer and automated plow systems; coal transportation systems; ventilation requirements and practices and methane and dust control; methods and equipment required for a face move; mine power distribution and system control; and surface subsidence and dewatering.

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Management of Mineral Resources: Creating Value in the Mining Business

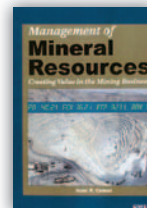
By Juan P. Camus

The mining industry's strategy for coping with low profitability has primarily focused on controlling production costs. Despite mechanization, automation, and other technical improvements, mining's aggregate profitability still falls far short of that realized by most industries. Author Juan Camus contends that additional technical knowledge isn't required, but rather the implementation of sound management practices that utilize the existing knowledge base more productively.

Management of Mineral Resources explores mining management—the process of generating plans and supervising their implementation. This book is concerned with the analysis of some of the internal, controllable factors that influence mining production effectiveness. It combines the best thinking in mining and management, allowing practitioners to devise concrete strategies for generating maximum shareholder value.

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Mine Design: Examples Using Simulation

By John R. Sturgul

Solve everyday mining problems quickly and easily by applying the GPSS (General Purpose Simulation System) computer language. Part I of this book reviews mining simulation and describes why the GPSS/H simulation language was selected. Part II provides an overview of the language itself to help you maximize the mining examples contained on the included CD, which present a variety of mining operations and include GPSS/H programs.

You don't need computer language experience to use these; you can run the programs by keying in a simple list of instructions. If you are more experienced with the language, you can modify one or more of the programs to suit your particular problem. All examples are interactive—you are prompted to input data for the simulation and then run the animation to view your mining operation.

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Edited by Michael Karmis

Mine Health and Safety Management presents the management, leadership, regulation, and compliance factors involved in mining health and safety. It focuses on the importance of instilling a safety culture and fostering the ability to recognize and manage health and safety responsibilities and requirements. The book also details effective health and safety management systems and concentrates on safety and health-hazard anticipation, identification, evaluation, and control.

Intended for practicing engineers and supervisors, health and safety professionals, and members of the research community, this book will also prove useful to undergraduate and graduate students in the minerals disciplines.

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Mine Maintenance Management Reader

By Paul D. Tomlinson

The *Mine Maintenance Management Reader* is an indispensable handbook for maintenance managers and supervisors, as well as mine and plant managers in heavy industry. Virtually every aspect of this essential function is addressed, from organizing maintenance around a plant-level production strategy to creating a road map for increasing organization efficiency. These critical "big picture" issues are brought to life through engaging vignettes on maintenance men and women dealing with real-life, day-to-day problems and concerns.

Author Paul D. Tomlinson draws on his 35 years of maintenance management consulting experience to craft these compelling and highly instructional stories. Each reveals a powerful lesson, equipping you with ideas and techniques for solving the maintenance problems you may be grappling with today.

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Management Technologies for Metal Mining Influenced Water Series

These handbooks describe the technical aspects of sampling, monitoring, mitigation, and prediction programs of the mine-life cycle. The audience includes planners, regulators, consultants, land managers, researchers, students, stakeholders, and anyone with an interest in mining influenced water.

Volume 1: Basics of Metal Mining Influenced Water

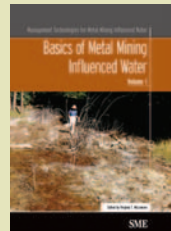
Edited by Virginia T. McLemore

Planning a new mine in today's increasingly contentious regulatory and political environment demands a different philosophy. *Basics of Metal Mining Influenced Water* takes an innovative, holistic approach to these issues by considering all aspects of the mine-life cycle, including closure. The handbook discusses the major physical and chemical relationship between mining, climate, environment, and mine-waste drainage quality. The authors examine both acidic and neutral pH waters that can be hazardous to the environment.

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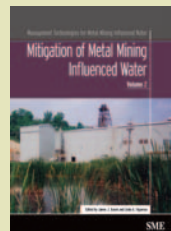
Edited by James J. Gusek and Linda A. Figueroa

Mitigation of Metal Mining Influenced Water is the series' "how-to-fix-it" volume. You'll learn how to reduce mining influenced water concerns by disrupting the geochemical relationship that contributes to the release of metals and/or acidity. Industry experts provide insights into understanding a mine's physical environment and how it can influence waste and drainage quality. The mining and processing situations discussed in the case histories offer insights into planning and design considerations by illustrating what has worked and what has not.

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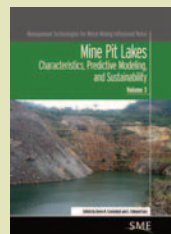
Edited by Davin N. Castendyk and L. Edmond Eary

You'll learn both the theory and science of predicting pit lake water quality and get insights into the best practices of pit lake management. As ore grades decrease and operators strive to improve efficiency, the number of active pit mines will continue to outpace their underground counterparts. Find out how to protect water resources while meeting society's growing demand for raw materials.

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Mineral Biotechnology: Microbial Aspects of Mineral Beneficiation, Metal Extraction, and Environmental Control

Edited by S.W. Kawatra and K.A. Natarajan

Microorganisms can play a beneficial role in all facets of minerals processing, from mining to waste disposal and management. The commercial practice of biohydrometallurgical metal extraction occurs all over the world.

Mineral Biotechnology provides the technical knowledge necessary to compete in this arena by presenting specific, detailed technologies and real-world case studies.

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Mineral Exploration and Mining Essentials

By Robert Stevens

The mineral exploration and mining industry is a dynamic, diverse, and profitable sector involving a wide range of people in different stages of their professional careers and investments. At the same time, it is an industry based on applied science and technology with a lexicon not widely understood by many of these participants. This book bridges that gap.

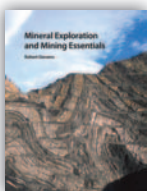
Mineral Exploration and Mining Essentials is an indispensable primer for anyone interested in the mineral exploration and mining industry but who lacks experience in the field. Consider this book if you need to make informed mining-related investment decisions; want to better evaluate mineral-development proposals; or are interested in the basics of exploration, discovery, geology, and mining.

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Published by Robert Stevens

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Mineral Processing Plant Design, Practice, and Control

Edited by Andrew L. Mular, Doug N. Halbe, and Derek J. Barratt

This extensive compilation on the design and operation of mineral processing facilities covers all aspects of plant design—from concept and pilot plant to full-scale production. In addition to valuable guidance on overall project management, chapters address the design, optimization, and control of all related processes, including crushing and grinding, separation, flotation, pumping and material transport, preoxidation, extraction, and proper disposal of by-products and tailings. This book offers the most current thinking on minerals processing from the mining industry's leading engineers, consultants, and operators.

Mineral Processing Plant Design, Practice, and Control is a standard text for university-level instruction and a valuable guidebook for operators considering new construction, plant renovations, or expansions. Most importantly, it's a practical, quick-reference guide for engineers, consultants, suppliers, manufacturers, or anyone involved in the design or operation of a minerals processing plant.

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Mineral Processing Technology: An Introduction to the Practical Aspects of Ore Treatment and Mineral Recovery, 7th edition

By Barry Wills and Tim Napier-Munn

Mineral Processing Technology provides practicing engineers and students of mineral processing, metallurgy, and mining with a comprehensive overview of ore-processing techniques used in modern processing installations. This renowned book clearly explains the principles and practices of mineral processing with real-work examples.

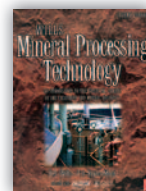
It highlights the latest technologies in processing increasingly complex refractory ore, new equipment, and process routes. It also covers the developments and the challenges facing the mineral processor, particularly the environmental concerns involved in improving the efficiency of existing processes and waste management.

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Mining and Its Impact on the Environment

By Fred G. Bell and Laurance J. Donnelly

This book highlights the environmental effects of past mining and the problems specific to urban and rural areas. Examples demonstrate how such problems can be anticipated, investigated, predicted, prevented, and controlled. Furthermore, it explains how sites affected by mining problems and hazards might be amended and rehabilitated.

Covering subsidence, surface mining, disposal of waste, mine closure, and mineral processing, *Mining and Its Impact on the Environment* is an excellent reference for practicing mining and geotechnical engineers as well as students in the field.

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Mining and Rock Construction Technology Desk Reference

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A comprehensive and illustrated desk reference with terms, definitions, explanations, abbreviations, trade names, quantifications, units, and symbols used in rock mechanics, drilling, and blasting.

This guide presents 5127 terms, 637 symbols, 507 references, 236 acronyms, 108 formulas, 68 figures, 47 tables, 58 abbreviations, and 7 shortened forms.

Terms are included from related disciplines, such as chemistry, detonics, fractography, fracture dynamics, mechanics and strength of materials, micro mechanics, geology, geophysics, image analysis, petrology, physics, seismology, and more.

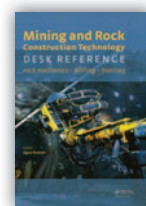
This is an essential reference for engineers and advanced students in mining, geotechnical, geological, tunneling, and construction engineering.

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Mining and the Environment: From Ore to Metal

Edited by Karlheinz Spitz and John Trudinger

This beautifully written and illustrated book discusses the wide range of social and environmental mining issues, with particular reference to mining in developing countries.

The extensive issues covered and real-life case studies presented make this practice-oriented book an indispensable reference for environmental consultants, engineers, regulators, and operators. *Mining and the Environment* is also an excellent course textbook.

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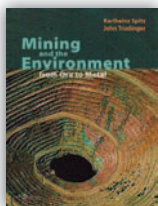
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Mining Economics and Strategy

By Ian C. Runge

Economic skill is just as important as technical skill in every step of the mining process. *Mining Economics and Strategy* will help you effectively direct mining operations through the use of innovative economic tactics.

The text covers what a cost-effective mining scheme means, the economics of information, and the procedures for rational evaluation of uncertain projects. It defines "ore" from an economic perspective and covers the influence of scheduling on ore reserves. Author Ian C. Runge also covers discounted cash flow procedures; the application of DCF techniques in an operating mine environment; the differences between economic decision making (a forward-looking activity) and the reporting of results via accounting methods (a backward-looking activity); as well as the capital required and decision-making procedures associated with investing in a risk environment.

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Mining Engineering Analysis, 2nd edition

By Christopher J. Bise

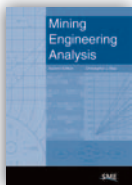
This bestseller sets the standard for university-level instruction of mining engineering principles. Striking a thoughtful balance between theory and application, *Mining Engineering Analysis* imparts students with a practical working knowledge of all the concepts presented. Its utility extends beyond the classroom as a valuable field reference for practicing engineers and those preparing for the Mining/Mineral Professional Engineering Exam.

This useful book covers virtually every aspect of mine design and operation, making it an excellent reference for engineering students studying mine design or those looking for help in assembling a mine-design project, as well as industry professionals in need of a comprehensive mine-design reference book. Topics range from mine preplanning and ventilation to pumping, power, and hauling systems.

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Mining Explained: Discovery, Extraction, Refining, Marketing, Investing, 11th edition

This basic reference on exploration, mining, metallurgy, and investing explains in lay terms how minerals are discovered, extracted, refined, and marketed. The tenth edition simplifies and clarifies the scientific, engineering, and fiscal processes used to transform a mine prospect into a metal producer. *Mining Explained* covers: basic geology, ore deposits, high-tech prospecting, sampling and drilling, mining methods, ore processing, mining and the environment, the mining team, the business of mining, feasibility, metal markets, making sense of the numbers, and investing in mining. The glossary clearly defines the industry's myriad geological and financial terminology.

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The Mining Valuation Handbook: Mining and Energy Valuation for Investors and Management, 3rd edition

By Victor Rudenno

Globally, equity markets have endured a rollercoaster of fortunes in recent years, particularly in resource and commodity prices. The *Mining Valuation Handbook* is the most comprehensive guide to mining valuation on the market. This third edition provides up-to-date information and unravels the mysteries surrounding the resources industry.

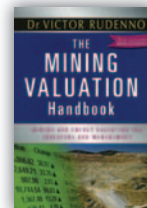
This handbook presents mining information for the financial industry and financial information for the mining industry. It will help you better understand feasibility studies, commodity values and forecasting, classification of resources and reserves, hedging commodities and exchange rates, valuation and pricing techniques, quantifying risk, dealing with inflation, share price performance, and commodity profiles. Rudenno imparts valuable insights about the resources sector, making this an essential reference for astute investors and mining and financial analysts.

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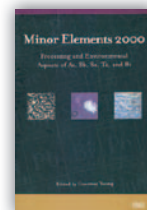
Edited by Courtney Young

Often, the production of primary commodities isn't profitable without by-product credits. Improper handling and disposal of these minor elements can result in environmental challenges that lead to regulatory difficulties and costly remediation obligations. Furthermore, companies risk reduced profits and penalization for selling a primary commodity with excessive minor-element concentrations. This compilation will help you better understand minor elements so you can stay profitable and satisfy environmental imperatives.

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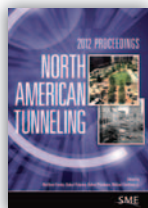
Edited by Matthew Fowler, Robert Palermo,
Robert Pintabona, Michael Smithson Jr.

North American Tunneling is the premier forum to discuss new trends and developments in underground construction in North America. With every conference, the number of attendees and breadth of topics has grown. This collection of papers presented at the highly regarded 2012 North American Tunneling Conference records many of the tremendous advances that have been made in the delivery of more cost-effective and less disruptive solutions to the underground infrastructure needs of North America.

With more than 100 papers from engineers, contractors, owners, suppliers, manufacturers, and others in the industry, the proceedings documents the progress being made in the methods, practices, and technologies used in underground infrastructure. The authors share the latest case histories, expertise, lessons learned, and real-world applications from around the globe on a wide range of topics including: better geologic characterization methods for predicting TBM advance rates; corrosion protection for sewer tunnels; tunnel ventilation design; TBM modifications for the world's second deepest civil works tunnel; alternative project delivery approaches and risk allocation, and structural designs for large highway tunnels.

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Open Pit Mine Planning & Design, 2nd edition

By W. Hustrulid and M. Kuchta

Open Pit Mine Planning & Design is a proven textbook for surface mine design, open pit design, geological and excavation engineering, and advanced open pit mine planning and design. Professionals also benefit from this practical best-selling reference.

Volume 1 outlines the fundamental concepts involved in the planning and design of open pit mines, covering subjects such as mine planning, mining revenues and costs, orebody descriptions, geometrical considerations, pit limits, production planning, mineral resources and ore reserves, and responsible mining. Volume 2 features CSMine software, a CSMine tutorial, a user's guide, and various orebody case examples.

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Politics of Mining: What They Don't Teach You in School

Edited by Deepak Malhotra

The mining industry presents many challenges, such as the necessity of working in remote locations with unfamiliar cultures; the business of permitting, environmental protection, and sustainable development; the existence and persistence of negative stereotypes about the business; and the sometimes-tricky mechanics of training and transferring technology. In addition, tensions may arise between the competing interests of the various disciplines represented—engineers, attorneys, accountants, and environmentalists often encounter difficulty in speaking a common language. Engineer schooling rarely prepares students for these issues, but the *Politics of Mining* does!

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2001 / Available only as an eBook at www.smenet.org/ebooks/ / 164 pages
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Principles of Mineral Processing

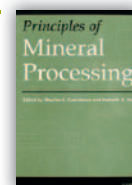
Edited by Maurice C. Fuerstenau and Kenneth N. Han

This comprehensive reference examines all aspects of mineral processing, from raw materials handling to separation strategies to waste product remediation. The book incorporates state-of-the-art developments from the engineering, chemistry, computer science, and environmental science fields and explains how these disciplines contribute to the ultimate goal of economically producing minerals and metals from ores.

Chapters cover the following topics: particle characterization; size reduction and liberation; size separation; movement of solids in liquids; gravity concentration; magnetic and electrostatic separation; flotation; liquid-solid separation; metallurgical balances and efficiency; bulk solids handling; hydrometallurgy and solution kinetics; mineral processing wastes and their remediation; and economics of the minerals industry.

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Race Against Time: Building a Culture of Mine Safety

By Gregory M. Anderson and Stephen R. Rosene

Everyone agrees—one serious accident is too many. *Race Against Time* introduces you to a proven process for eliminating such incidents from mining processes, as well as everyday life. The book demonstrates how each of us impacts safety in the mining industry and how our individual commitment can make a real difference in every miner's life. Easy to read, this accessible book provides a blueprint to building a culture of mine safety.

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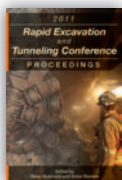
Edited by Steve Redmond and Victor Romero

Every two years, industry experts and practitioners from around the world gather at the prestigious Rapid Excavation and Tunneling Conference (RETC) to learn about the latest developments in tunneling technology, and the signature projects that help society meet its growing infrastructure needs. Inside this authoritative book, you'll find the 115 influential papers that were presented providing valuable insights from projects worldwide.

Virtually every aspect of tunneling is examined, from contract practices to design, drill-and-blast excavations, tunnel boring machines, ground support and final lining, and ground modification. A substantial portion of the book is devoted to new technologies and excavation techniques. The latest developments in environmental, health, safety, and risk management issues are also discussed.

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Recent Advances in Mineral Processing Plant Design

Edited by Deepak Malhotra, Patrick R. Taylor, Erik Spiller, and Marc LeVier

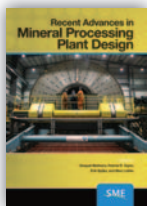
A compilation of engaging and insightful papers from the prestigious 2009 plant design conference, this volume is a sequel to *Mineral Processing Plant Design, Practice, and Control*, an industry standard published in 2002.

You'll learn about the role of innovation, how to finance and conduct feasibility studies, and how to reduce your plant's carbon footprint. The book also includes extensive discussions on the latest advances in flotation, extractive metallurgy, crushing and grinding, separation processes, and process developments. Case studies and plenary speakers highlight which process design concepts work well and which do not.

Both books are essential for university-level instruction and valuable guides for operators considering new construction, plant renovation, or plant expansion.

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Recommended Contract Practices for Underground Construction

Edited by William W. Edgerton

Underground construction is more complex than ever, with the growing demand for space, the rapid development of new technologies, and the increased involvement of stakeholders. This book addresses one of the most challenging and frustrating characteristics of underground construction: contract language that fails to account for the unique nature of building underground.

Recommended Contract Practices for Underground Construction represents the first industry-wide effort to improve contract procedures in more than 30 years. This manual is an indispensable resource for contractors, consultants, suppliers, and owners anticipating underground projects. The authors suggest better practices for all project stages that will improve decision making and positively affect contracts. Part 1 focuses on the practices and disciplines that build the foundation for effective contracts during the early project phases. Part 2 discusses best practices for contract provisions, payment mechanisms, and dispute resolution.

By following these recommendations, you'll reduce the mistrust and costly disputes that often arise in the contract process, resulting in improved relationships, better contracts, and more cost-effective and profitable projects for owners and contractors.

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NEW!

Regulatory Governance & Risk Management: Occupational Health and Safety in the Coal Mining Industry

By Binglin Yang

Regulatory Governance and Risk Management: Occupational Health and Safety in the Coal Mining Industry is the first book that addresses the diffusion of risk-based governance in the coal mining industry from a health and safety standpoint.

Since the 1990s, the approach of risk-based governance has been widely adopted in most developed countries. It has diffused much more slowly in the US. Using a diffusion approach and comparisons between Australia and the US, this book examines mechanisms that both drive and prevent the diffusion of risk-based governance in the coal mining industry.

This is a timely work given the Upper Big Branch coal mine explosion of April 2010. After this disaster, many asked why an enhanced level of enforcement has not prevented catastrophic accidents from occurring and why risk-based governance, which helps other countries achieve better safety performance, has been not practiced in the US. This book answers these questions and makes recommendations on how to remove barriers in moving toward risk-based governance.

This book embeds theories into storytelling and gives particular emphasis on the influence of key strategic individuals.

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NEW!

Remote Sensing of the Mine Environment

By Sebnem Duzgun and Nuray Demirel

A guide for students and professionals, *Remote Sensing of the Mine Environment* covers the basic principles of remote sensing and its applications in mine environment monitoring.

Building from a reader's basic knowledge of mine monitoring, the text discusses how to implement remote sensing techniques and how to interpret the acquired data for different purposes.

Following a general introduction to remote sensing principles and image analysis, the book covers mine subsidence monitoring, slope stability monitoring, reclamation planning and implementation, and post-closure mine and land use analysis. The techniques and tools presented are demonstrated in case studies.

This text is intended for the education of university students in mining, civil, geological, and environmental engineering. Researchers and professionals in these disciplines will find it beneficial in professional monitoring investigations.

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Rock Slope Stability

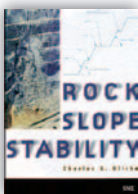
By Charles A. Kliche

Whether you're involved in surface mine design, surface mine production, construction, education, or regulation, this is an important addition to your reference library. *Rock Slope Stability* describes the basic rock slope failure modes and methods of analysis—both kinematic and kinetic techniques. Chapters cover geotechnical and geomechanical analysis practices, hydrology, rock slope stabilization techniques, and geotechnical instrumentation and monitoring. Numerous examples, drawings, and photos enhance the text.

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Rockbursts: Case Studies from North American Hard-Rock Mines

By Wilson Blake and David G.F. Hedley

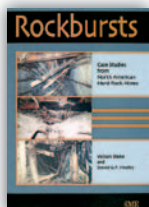
Rockbursts pose a significant and growing threat to mines—and miners—throughout North America. High stress on brittle rock structures during mining operations can produce sudden, explosive reactions that result in costly mine failures, serious injury, and even death.

Through a series of case studies, this book documents the experiences of 15 of the most rockburst-prone mines in the United States and Canada over the last century. The book provides a historical analysis of rockburst activity along with state-of-the-art strategies for anticipating and preventing this dangerous and disruptive phenomenon.

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Separation Technologies for Minerals, Coal, and Earth Resources

Edited by Courtney A. Young and Gerald H. Luttrell

Separation Technologies for Minerals, Coal, and Earth Resources is an authoritative digest of the latest developments in the mineral processing industry.

Dozens of authors share their insights on how practitioners can develop earth resources more economically while simultaneously addressing vital factors ranging from sustainability to environmental stewardship.

The book examines coal processing, surface forces and hydrophobicity, process improvements and environmental controls, dewatering and drying, gravity separations, industrial minerals flotation, base metal flotation, flotation equipment and practice, process reagents, magnetic and electrostatic separations, modeling and process control and resource engineering. Important current issues such as gas hydrates, oil sands, secondary materials, metals and waste and process waters are also discussed.

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Shovel-Truck Systems: Modelling, Analysis, and Calculations

By Jacek Czaplicki

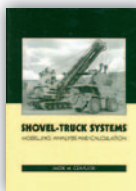
Shovel-Truck Systems presents an alternative to the simulation methods typically used for shovel-truck systems. The unique process for analyzing and calculating this type of machinery takes into account the majority of stochastic phenomena that occur during system operation. Chapters cover queuing systems used; the purpose and method applied and the field of consideration; reliability and the exploitation process; probabilistic properties of components of the machinery system exploitation process; modeling and analysis of a shovel-truck system's exploitation process; selection verification of the system's structural parameters; spare loaders; systems with priority and the ideal dispatcher; hauling distance; and system characteristics.

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Slope Stability in Surface Mining

Edited by William A. Hustrulid, Michael K. McCarter, and Dirk J.A. Van Zyl

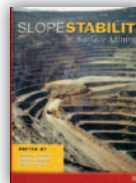
So far, the 21st century has seen mines more than 1,100 meters deep; waste rock embankments 600 meters tall; tailings dams 200 meters high; and heap leach facilities have topped 150 meters. The push toward higher, deeper, and steeper, combined with the use of larger and more productive equipment, continues to test our tools and capabilities.

Slope Stability in Surface Mining documents the progressive rise in technical understanding and sophistication in the field. Only by continuously collecting and exchanging information can design concepts, construction methods, monitoring strategies, and reclamation practices keep pace with the times. This text creates a common platform on which to base correct, economical, and safe slope design and construction decisions.

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This publication identifies educational institutions offering programs in mining-related environmental engineering, geological engineering, geophysical engineering, materials science and engineering, metallurgical engineering, mineral engineering, mineral processing engineering, mining engineering, and mining engineering technology.

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SME Mining Reference Handbook

Edited by Raymond L. Lowrie, P.E.

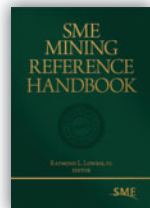
The *SME Mining Reference Handbook* is a proven best-selling reference for mining and mineral engineers. With its comprehensive store of charts, graphs, tables, equations, and rules of thumb, this handbook is the essential technical reference for mobile mining professionals, as well as a convenient desk reference for in-office use.

The 25 chapters cover most topics that mining and mineral engineers are likely to encounter in their day-to-day operations, including weights, measures, and conversions; the periodic table; project costing tips; health and safety issues; and guidelines for mineral processing, ventilation, pumping, power, and working with explosives. To keep the handbook portable, content was carefully selected to include only the most relevant and widely used information. This distillation of vital technical data was culled from volumes of mining and engineering literature. Its compact size and durable cover make it a handy reference, ideal for a briefcase, glove compartment, or personal bookshelf.

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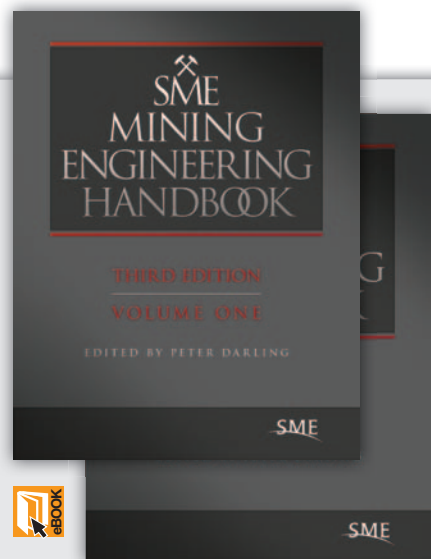
SME Mining Engineering Handbook, 3rd edition

Edited by Peter Darling

(Available as a Book, CD, or Set)

This third edition of the *SME Mining Engineering Handbook* reaffirms its international reputation as "the handbook of choice" for today's practicing mining engineer. It distills the body of knowledge that characterizes mining engineering as a disciplinary field and has subsequently helped to inspire and inform generations of mining professionals.

More than 250 internationally recognized experts have contributed to this completely revised edition. The handbook's 115 thought-provoking chapters examine nearly every aspect of mining, including market economics, exploration, deposit assessment, management and administration, method selection, rock breaking, ground mechanics, infrastructure and services, surface extraction, hydraulic and pipeline mining, underground development and extraction, mineral processing, and health and safety, as well as environmental, community, and social issues.



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Recognized as the foremost trade magazine of the worldwide minerals industry, *Mining Engineering* covers the full spectrum of current topics in the field. Each month the entire issue is posted on SME's website, available to members anywhere that there is an Internet connection.

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Tunneling & Underground Construction

(Included quarterly with Mining Engineering)

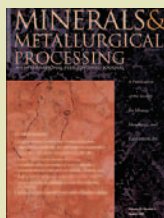
Tunneling & Underground Construction is the official publication of the Underground Construction Association of SME. It promotes the use of underground space and provides information on the technologies related to underground tunneling and construction.



Minerals & Metallurgical Processing (Published quarterly)

This professional journal offers the latest information on the processing of coal, industrial minerals, gold, aluminum, iron, zinc, lead, chrome, rare earths, radionuclides, and other minerals. All technical papers are peer reviewed and approved by experts in the field.

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2011 Transactions (Published yearly)

Transactions includes all technical papers from the 2011 *Mining Engineering* and *Minerals & Metallurgical Processing* publications, plus more than 30 previously unpublished papers on subjects ranging from mine ventilation solutions to the best ways to estimate costs and risks. *Transactions* remains one of the best sources for new research from NIOSH.

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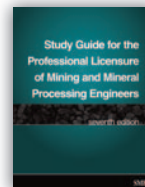
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Study Guide for the Professional Licensure of Mining and Mineral Processing Engineers, 7th edition, revised



This handy workbook prepares you for professional licensure and allows you to practice your test-taking skills. The text covers the history of professional licensure and the Mining and Minerals Processing exam; explains what licensing can do for you; outlines the engineering licensure process; highlights the six steps to licensure; covers application procedures; includes Model Rules of Professional Conduct; lists NCEES publications; and describes the testing process.

A sample test complete with questions and answers is similar in content and format to an actual principles and practice (PE) licensure exam.

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Surface and Underground Excavations: Methods, Techniques, and Equipment

By Ratan Raj Tatiya

This practical guide details the latest technologies and developments available for any type of surface or underground excavation. The opening chapters focus on unit operations including drilling, explosives and blasting, mucking, haulage, hoisting, supports, and reinforcement. Additional chapters describe excavation techniques for various operations, such as tunneling, raising, sinking, drifting, stoping, quarrying and surface mining, underground mining, pillar blasting, and liquidation.

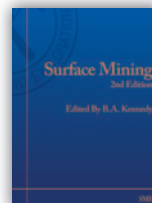
Surface and Underground Excavations also addresses the design, planning, and development of excavations, with special attention paid to the construction of surface and subsurface excavations and new ways of choosing stoping methods through incremental analysis.

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Surface Mining, 2nd edition



Edited by B.A. Kennedy

This classic is a reference book for the working engineer and a textbook for the mining student. It presents a brief history of surface mining and a general overview of the state of surface mining today.

Topics range from production and productivity to technological developments and equipment trends. *Surface Mining* adopts the approach that exploration and mining geologists must become experts in a number of fields, including basic finance and economics, logistics, and pragmatic prospecting.

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Sustainable Management of Mining Operations

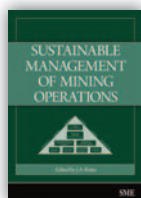
Edited by J.A. Botin

The pressure is on to enhance corporate reputations, achieve higher operational efficiency, improve planning and control, gain access to mineral resources, build trust with stakeholders, attract financing, recruit and retain a quality workforce, and lower costs. *Sustainable Management of Mining Operations* provides a holistic, practical approach to achieving these goals. The key, say the authors, is to foster an organizational culture that recognizes the value of sustainability by effectively integrating economic, environmental, and social considerations.

Each section of this book focuses on sustainable management from a different perspective, management level, or stage in a mine's life cycle. You'll benefit from the real-life, practical insights of 27 internationally respected authors whose job titles range from CEO to master mechanic.

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Technology Innovation in Underground Construction

Edited by Gernot Beer

A primary focus in the technological development of underground engineering is simplifying practical execution and reducing time, cost, and risk in the construction and maintenance of underground facilities such as tunnels and caverns. New tools for designers, instant data access for engineers, virtual prototyping and training for manufacturers, and repair robotic devices for maintenance can accomplish these goals.

Technology Innovation in Underground Construction presents the latest technological innovations in underground design, construction, and operation and comprehensively discusses novelties in ground improvement, simulation, process integration, safety, monitoring, environmental impact, equipment, boring and cutting, personnel training, materials, robotics, and more. The innovations presented result from a large research project involving many players in the field and aimed at advancing underground engineering.

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Sustainable Mining Practices

Edited by Vasudevan Rajaram, Subijoy Dutta, and Krishna Parameswaran

This basic overview of international sustainable mining practices since 1992 highlights processes used in the Americas, Asia, and Europe. It addresses issues such as waste volume and the environmental impacts of mine closures.

Sustainable Mining Practices also details cleaner production practices in Australia; blasting impacts and their control in the United States; minimizing surface water impacts; reducing groundwater impacts; using environmental indicators in mining; and emerging technologies that curtail adverse environmental repercussions.

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Underground Mining Methods: Engineering Fundamentals and International Case Studies

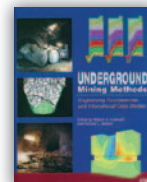
Edited by William A. Hustrulid and Richard L. Bullock

Underground Mining Methods has become the standard for practicing mining engineers and students alike, covering current mining principles and techniques.

Reflecting the highly international and diverse nature of the industry, the book features a series of mining case studies detailing the commodity range from iron ore to diamonds, as extracted by operations located across the world.

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Techniques in Underground Mining

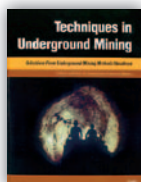
Edited by Richard E. Gertsch and Richard L. Bullock

This 836-page book contains a wealth of information for mining students and industry professionals. It consists of selected material from the out-of-print industry standard, *Underground Mining Methods Handbook*.

More than 40 chapters covering such underground mining topics as sampling, planning, reserve analysis, cost calculations, various methods of support, block and panel caving, and sublevel caving round out this comprehensive text.

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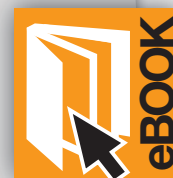
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Underwater Tailing Placement at Island Copper Mine: A Success Story

By George W. Poling, Derek V. Ellis, James W. Murray, Timothy R. Parsons, and Clem A. Pelletier

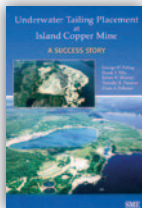
This book documents the use of deep-sea tailing placement at the Island Copper Mine on Canada's Vancouver Island, providing the most extensive study on underwater tailing placement ever conducted. Over the course of 30 years, more than 400 million tons of tailing solids were deposited on the ocean floor with minimal environmental impact.

The study evaluates the relevant issues associated with the implementation of a deep-sea tailing placement program, including engineering, chemical, biological, and environmental considerations.

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NEW!

Water in Mineral Processing

Edited by Jaroslaw Drelich

One of the major challenges confronting the mining and minerals processing industry in the 21st century will be managing in an environment of ever decreasing water resources. Because most mineral processing requires high water use, there will be even more urgency to develop and employ sustainable technologies that will reduce consumption and the discharge of process-affected water.

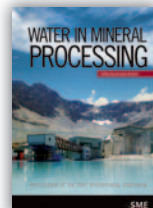
Water in Mineral Processing provides a comprehensive, state-of-the-art examination of this vital issue. A compilation of papers presented at the First International Symposium on Water in Mineral Processing, this book shares the insights of dozens of respected experts from industry and academia.

A significant portion of the content is devoted to saline solutions and processing with sea water. Other chapters explore the latest in water treatment and biological methods, the effect of water quality on minerals processing, and water and tailings management.

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NEW!

The World of Mining

By Richard Woldendorp, Jim Wark, Karlheinz Spitz, and John Trudinger

In this truly unique celebration of mining, breathtaking aerial photographs by award-winning photographers Jim Wark and Richard Woldendorp accompany ground-level pictures of mines, mine-side oddities, and mine communities. Informed but breezy narratives by mining experts John Trudinger and Karlheinz Spitz identify and explain the images.

The World of Mining shows that mining and associated activities can be impressive, attractive, and even spectacular. The book illustrates most if not all aspects of mining and mineral processing, in all its varieties, and from different environments throughout the world. It illustrates the colorful history of mining and its importance to the development of civilization as we know it. It depicts the wide range of activities in modern mining, from exploration to mine closure, as well as traditional mining by skilled practitioners, using methods adapted to local conditions.

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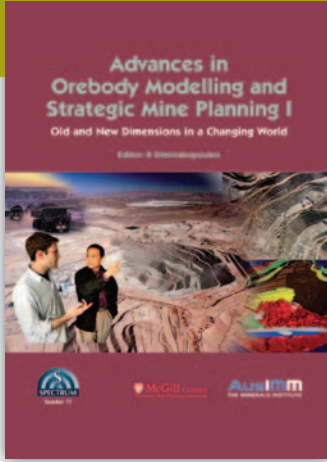
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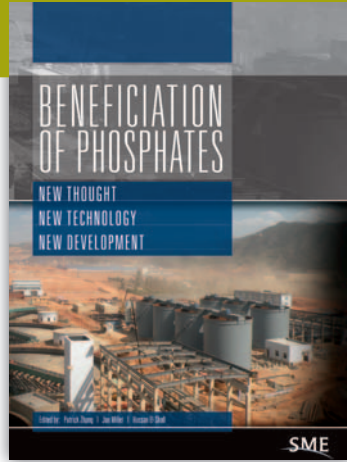
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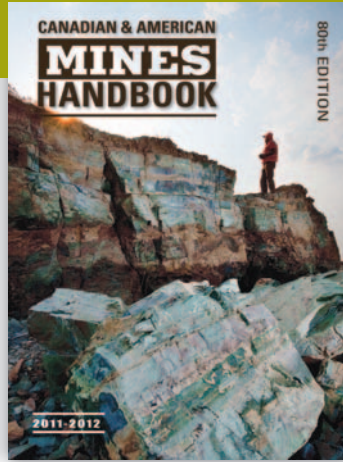
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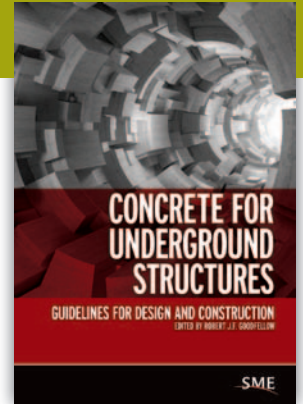
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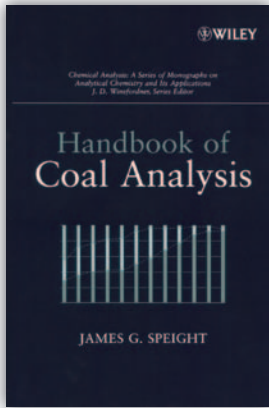
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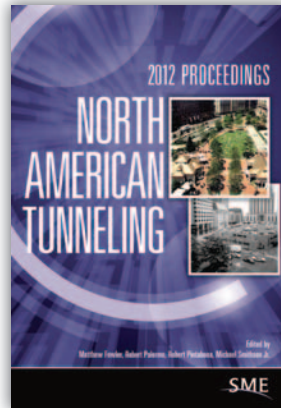
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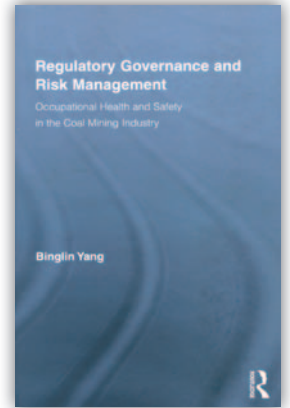
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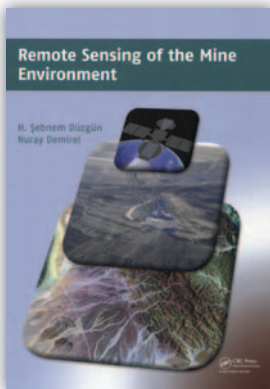
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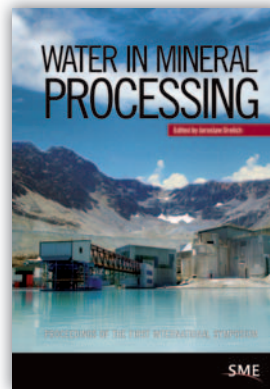
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