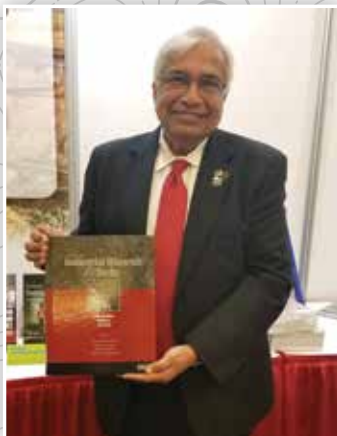


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Advances in Comminution

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

This compilation focuses on state-of-the-art developments and future trends in gravity concentration techniques. 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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National Stone, Sand and Gravel Association

For more than two decades, *The Aggregates Handbook* has been the industry's source of aggregates technology and knowledge. This edition incorporates new and updated material, including the rapidly changing technologies in the aggregates industry. It includes expanded coverage of developments in sustainability, production technology, safety, transportation, design, technology standards, and industry trends, just to name a few. Whether you are new to the industry, a seasoned professional, or simply curious about aggregates mining, you will find this volume informative and a valuable reference book.

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An American Dream: Autobiography of Syd Peng

By Syd Peng

This is the story of a remarkable life—a life of hard work and tenacity and how that life benefitted an industry and inspired many.

Born in 1939 in Taiwan, Syd Peng was one of seven children of a poor but hardworking farmer and his wife. Peng began life in a ramshackle house with a leaky roof, carrying water for his family from a nearby well. But Peng worked and studied hard, in Taiwan and then in America, and—thanks to his intelligence and strong work ethic—built a life as an engineer, researcher, teacher, author, and founder of the acclaimed International Conference on Ground Control in Mining. Peng became an international expert in ground control for mining, longwall mining, and mine subsidence, helping to create safer conditions for miners and higher productivity for the industry.

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Application of Computers and Operations Research in the Mineral Industry

Edited by Sukumar Bandopadhyay

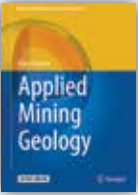
APCOM is an international forum for presentation discussion, and criticism of the state-of-the-art and emerging technologies in the fields of computer and operations research applications applied to the broad minerals industry.

With 113 peer-reviewed papers from all mineral industry sectors—industry, academia, and government agencies—the 37th APCOM proceedings holds current best practices to incorporate computer technology into mining operations and mining public relations.

The mining operations topics cover sophisticated new engineering techniques to identify better mineral deposits and extract them more efficiently in a safer, better-managed mine using the latest tools in geometallurgy, geostatistics, mine design, production planning, 2D and 3D modeling, simulations, mine automation, rock mechanics, mineral processing and unconventional energy resources.

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Applied Mining Geology

By Marat Abzalov

Applied Mining Geology provides a detailed overview of the operational principles of modern mining geology. It includes descriptions of mining geology techniques, including conventional methods and new approaches.

The book presents a comprehensive summary of mining geology procedures from data collection, quality assurance to their utilization in resource/reserve models, and implementation in mine production plans, which can be used as guidelines by mining industry specialists. A good mix of theory and practice is covered and will be of interest to a wide range of experienced geologists, specialists, students, lecturers, and researchers. Applications of the methods are explained using case studies and are facilitated by the computer scripts added to the book as electronic supplementary material.

This book was selected by Choice magazine as an Outstanding Academic Title for 2017.

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Beneficiation of Phosphate Ore

By S. Komar Kawatra and J.T. Carlson

Phosphate rock is an important mineral commodity used in the production of phosphoric acid. The majority of phosphoric acid is produced by the wet process in which phosphate rock is reacted with sulfuric acid to produce phosphoric acid and gypsum (calcium sulfate dihydrate). The wet process demands

a phosphate rock feed that meets certain specifications to produce phosphoric acid efficiently and economically.

Beneficiation of Phosphate Ore thoroughly explains the methods used in beneficiation of different types of phosphate ores for use in the wet process. The mineralogical properties of the two major types of phosphate deposits, sedimentary and igneous, are described along with the processing methods. The benefits and disadvantages of each process are also discussed.

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Beneficiation of Phosphates: Sustainability, Critical Materials, Smart Processes

Edited by: Patrick Zhang, Jan Miller, Guven Akdogan, Ewan Wingate, and Neil Snyders

This compilation from the 2018 Beneficiation of Phosphates Conference includes insights from dozens of internationally respected experts on key breakthroughs that will shape the industry in the years ahead. Learn from the best and the brightest in the industry.

The book reflects on the recent impetus for reviewed research in the recovery of rare earth elements from secondary resources. Recovery of rare earth elements from phosphate processing has been one of the important projects of the Critical Materials Institute (CMI). This compilation highlights some of the findings of the CMI phosphate project.

Learn how competition in the flotation reagent market has stimulated innovative reagent development work. As a result, new reagents have been formulated and targeted at dolomite flotation, calcite flotation, more selective phosphate flotation, and even flotation in seawater.

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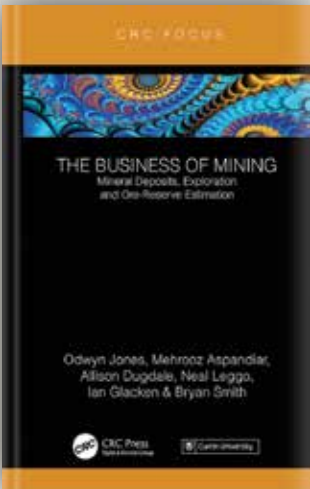
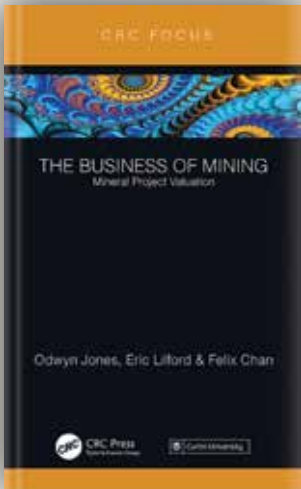
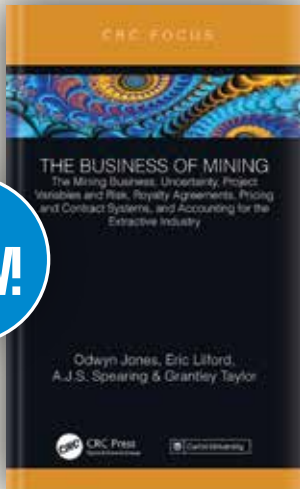
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By Odwyn Jones, Eric Lilford, Sam Spearing, and Grantley Taylor

This first volume presents an overview of the mining business, followed by an analysis of project variables and risk, an overall coverage of the royalty agreements, pricing and contract systems followed by a final chapter on accounting standards and practices for the minerals industry.

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By Odwyn Jones, Eric Lilford, and Felix Chan

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Volume 3: Mineral Deposits, Exploration and Ore-Reserve Estimation

By Odwyn Jones, Eric Lilford, and Felix Chan

This third volume commences with “Our Earth, Its Minerals and Ore Bodies” followed by a review of mineral exploration and sampling of mineral deposits. It continues with detailed sections covering the reporting of mineral resources and reserves in Australia, then concludes with the basic principles and application of the various methods of estimating the in-situ mineral resources and ore reserves.

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Challenges and Opportunities in Coal Preparation

Edited by Mark S. Klima, Barbara J. Arnold, and Peter J. Bethell

With recent reductions in U.S. coal production, it is important for coal preparation engineers and practitioners to be aware of advances in technology to improve plant efficiency and productivity in cost-effective ways. *Challenges and Opportunities in Coal Preparation* provides both a domestic and international perspective on these new technologies and includes papers from industry leaders in the United States, as well as Australia and South Africa.

Opportunities for overall plant efficiency improvements and new technologies that address many aspects of the coal preparation value chain—from pre-sorting to coarse and fine coal cleaning to dewatering—are presented. Read the latest thinking from industry experts in this handy reference that will assist current and future plant engineers and designers in achieving higher efficiency and productivity.



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Challenges in Fine Coal Processing, Dewatering, and Disposal

Edited by Mark S. Klima, Barbara J. Arnold, and Peter J. Bethell

New sources of energy, increased environmental awareness, and more stringent regulations are changing the way coal is found, extracted, and used. As a result, fine coal cleaning, dewatering, and refuse disposal are now at a major crossroads. The increased level of fines and near-density material in the inferior seams being mined today necessitate the development of more efficient fine coal cleaning devices. This, in turn, requires improvements in traditional dewatering techniques to address the need for acceptable moisture levels in plant products. Moreover, the larger volume of fine refuse being generated, coupled with harsher disposal regulations, require upgraded treatment options.

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The Chemistry of Gold Extraction, 2nd edition

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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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 practicas a algunos de los problemas que comunmente enfrentan los disenadores y los operadores de plantas de concentracion de minerales. Desde el diseno de pisos faciles de mantener limpios y seguros para transitar a inventivos detalles para diseno de sistemas de trituracion, transporte, y tecnicas que facilitan el control de operaciones, esta referencia incluye practico enfoques a viejos problemas que pueden inhibir el buen rendimiento de una plant de concentracion.

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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

This classic 1,154-page reference comprehensively covers the industry, with chapters on chemical/physical properties and marketing; preliminary design considerations; 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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Controlling Exposure to Diesel Emissions in Underground Mines

By Aleksandar D. Bugarski, Samuel J. Janisko, Emanuele G. Cauda, James D. Noll, and Steven E. Mischler

The use of diesel-powered equipment in underground mining operations provides many benefits to the industry. It also presents many challenges to the health and safety of workers, as it is a significant source of submicrometer aerosols and noxious gases.


This book was developed to assist the coal and metal/nonmetal underground mining industries in their efforts to reduce the exposure of workers to aerosols and gases from diesel-powered equipment. It includes information collected by researchers at the National Institute for Occupational Safety and Health/Office of Mine Safety and Health Research (NIOSH/OMSHR).

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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 Tankhouse Operations, and Theory and Practice of Solvent Extraction.

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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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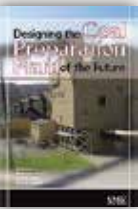
Designing Ergonomic, Safe, and Attractive Mining Workplaces

By Joel Lööv, Bo Johansson, Eira Andersson, and Jan Johansson

Designing Ergonomic, Safe, and Attractive Mining Workplaces gives an understanding of what must be considered in the design of mining workplaces. By reviewing and discussing the historic and current development of the mining industry as well as problems related to the safety, ergonomics, and attractiveness of mining workplaces, it demonstrates that the challenges facing the mining industry often need to be solved on a case-to-case basis.

The processes through which these issues are managed are of significant importance. To facilitate a proactive approach, the book covers the principles of systematic work environment management, together with examples of methods for risk management and work environment monitoring. It introduces a systematic and iterative design and planning method for the mining industry. This method acknowledges that all relevant stakeholders must be able to influence the design of ergonomic, safe, and attractive mining workplaces.

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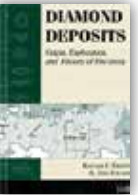
Designing the Coal Preparation Plant of the Future

Edited by Barbara J. Arnold, Mark S. Klima, and Peter J. Bethell

Most coal preparation books focus on theory or day-to-day issues and operations. *Designing the Coal Preparation Plant of the Future* provides a unique, thought-provoking look at the industry from a different point of view—that of the preparation plant designer or engineer. How can we design more effective plants and what will plants look like in the future? What are the new techniques for designing plant layouts, monitoring performance, and building in preventive maintenance? What challenges face the industry, and how can operators capitalize on opportunities to maximize yield, reduce costs, and improve efficiency?

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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, 2nd edition

By María Isabel Sillano and Jorge Pérez Rojas

This dictionary provides clear English to Spanish and Spanish to English dictionary translations of more than 6,000 mining and geological terms shown in context. Translation has never been easier or more interesting. This second edition includes a valuable new section on construction as well as 1,500 new terms. Use the alphabetical lists to search for terms and learn their Spanish or English equivalents. In addition, each entry includes a number that corresponds to one of the process-specific sections. These full-color sections allow you to view translated terms in context. Descriptive graphs, diagram, and photos further enhance the translations.

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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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Economic Evaluations in Exploration, 2nd edition

By F.W. Wellmer, M. Dalheimer, and M. Wagner

Economic Evaluations in Exploration is ideal for the economic geologist who deals with the evaluation of deposits at an early stage of development. It offers rules for quick-and easy calculations based on the application of approximate data. It provides a complete set of rules and methods to enable performance of a quick initial evaluation of the deposit without the support of specialists or computers. All rules for calculations are illustrated with examples, mistakes, and pitfalls the authors encountered during their careers. The case histories, exercises, metal prices and terminology, especially concerning reserves and resources, have been fully updated in this second edition.

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Environmental Considerations in Energy Production

Edited by John R. Craynon

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Equipment Management: Key to Equipment Reliability and Productivity in Mining, 2nd edition

By Paul D. Tomlingson

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 company-wide 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. Tomlingson draws on more than 35 years of direct, worldwide maintenance- management consulting experience in the design, implementation, and evaluation of maintenance programs for the industry.

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Equipment Management Workbook

By Paul D. Tomlingson

The *Equipment Management Workbook* is a companion to the highly acclaimed *Equipment Management: Key to Equipment Reliability and Productivity in Mining*. 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. Tomlingson’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 workforce 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 Jürgen 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 will 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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Functional Fillers and Nanoscale Minerals: New Markets/New Horizons

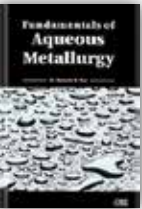
Edited by Jon J. Kellar

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 physiochemical 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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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 book 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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Gold Ore Processing: Project Development and Operations, 2nd edition

By Mike Adams

Gold Ore Processing: Project Development and Operations brings together all the technical aspects relevant to modern gold ore processing, offering a practical perspective that is vital to the successful and responsible development, operation, and closure of any gold ore processing operation.

This completely updated edition includes all aspects of gold ore processing, from feasibility and development stages through environmentally responsible operations, to the rehabilitation stage. It offers a mineralogy-based approach to gold ore process flow sheet development that has application to multiple ore types.

The book covers established, newly implemented, and emerging technologies; updated case studies; and additional topics, such as automated mineralogy and geometallurgy, cyanide code compliance, recovery of gold from e-waste, handling of gaseous emissions, mercury and arsenic, emerging non-cyanide leaching systems, hydro re-mining, water management, and solid-liquid separation.

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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. 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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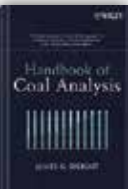


Guidelines for Evaluating Water in Pit Slope Stability

Edited by Geoff Beale and John Read

This book offers slope design practitioners a road map that will help them decide how to investigate and treat water pressures in pit slopes. *Guidelines for Evaluating Water in Pit Slope Stability* includes six sections that outline the latest technology and best practice procedures for hydrogeological investigations. The sections cover the framework used to assess the effect of water in slope stability; how water pressures are measured and tested in the field; how a conceptual hydrogeological model is prepared; how water pressures are modeled numerically; how slope depressurization systems are implemented; and how the performance of a slope depressurization program is monitored and reconciled with the design.

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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.

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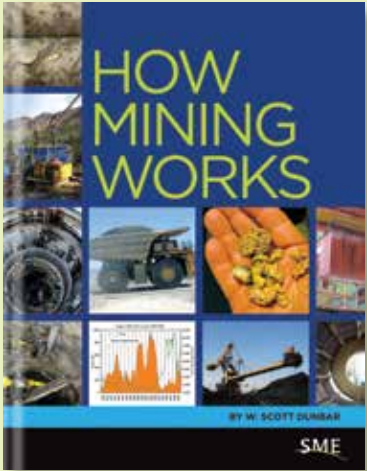
History of Flotation

By Alban Lynch, Greg Harbort, and Mike Nelson

When the improbable process of flotation transformed the nonferrous 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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How Mining Works

By W. Scott Dunbar

How Mining Works explains complex mining concepts in a way simple enough for those who are not familiar with the industry, yet thorough enough to be useful to long-time professionals.

This colorful book presents a logical and sensible sequence for acquiring a strong working knowledge of the world of mining. Chapter 1 provides a quick geology review, explaining how the Earth is structured; how, why, and where mineral ores are created; and how technological advances help us make educated guesses about where to locate new mines.

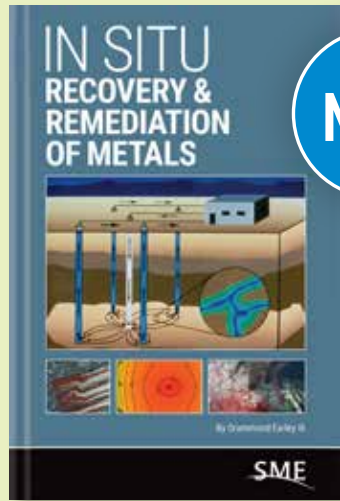
Chapter 2 offers in-depth explanations about the different types of mining, the equipment and procedures needed for both surface and deep mining, and Chapter 3 follows with six methods for processing the ore into usable refined metal. And, since not all mines produce metals, Chapter 4 covers nonmetallic operations that produce coal, diamonds, and aggregates.

The second half of the book puts mining in the context of the wider world. Chapter 5 examines four types of mining waste and how to deal with each. Chapter 6 looks at labor practices, environmental sustainability, and worker and community health and safety—all critical in today's highly regulated environment.

Chapter 7 highlights mining economics, with detailed information on how mine products are priced, monetary arrangements between mines and smelters, and even the impact of reserves on mining's future. Chapter 8 takes a visionary yet practical look at the future of mining, covering not only advances in expected areas (like robotics) but also in biotechnology, with a fascinating look at how plants, insects, and various microbes could be used to detect the presence of minerals and extract metals.

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NEW!

In Situ Recovery & Remediation of Metals

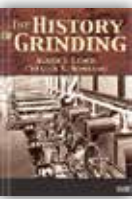
By Drummond Earley III

This book provides a state-of-the-art synopsis of in situ metal recovery and remediation technologies based on both research and commercial projects. In situ recovery uses fluid-based metal dissolution and recovery to extract one or more commodities from a largely intact rock mass using similar processes that create ore deposits. The fluid is circulated through ore by gravity and/or pumps using injection and recovery wells. A processing facility is usually established at the surface of the operation to extract the commodity of interest. The barren fluid is then recirculated back into the recovery circuit. In situ remediation uses similar wellfield technology and chemical processes to stabilize metal contaminants by injecting agents that form stable solids or less toxic species when combined with a contaminant. The fluid depleted in the stabilizing agent is then pumped back to the surface and regenerated.

In situ mining or recovery has been successfully applied to several commodities, including uranium, sulfur, evaporites, and copper, which have favorable chemical properties and deposit types for in situ recovery.

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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 the reader 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, as well as a glossary, reference list, and complete index.



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Hoist & Haul 2015: Proceedings of the International Conference on Hoisting and Haulage

Edited by Borje Johansson

As ore bodies are explored at greater depths and larger payloads need to be transported at higher speeds, larger and more powerful equipment is necessary. *Hoist & Haul 2015* includes information on a range of topics including hoisting, conveying, and rail and truck haulage. Industry experts from ten countries discuss complete transport systems, subsystems and components, design, installation, maintenance, and economic issues. Important developments in mine hoisting safety requirements are covered with the objective of reaching a common understanding and approach when defining new safety requirements.



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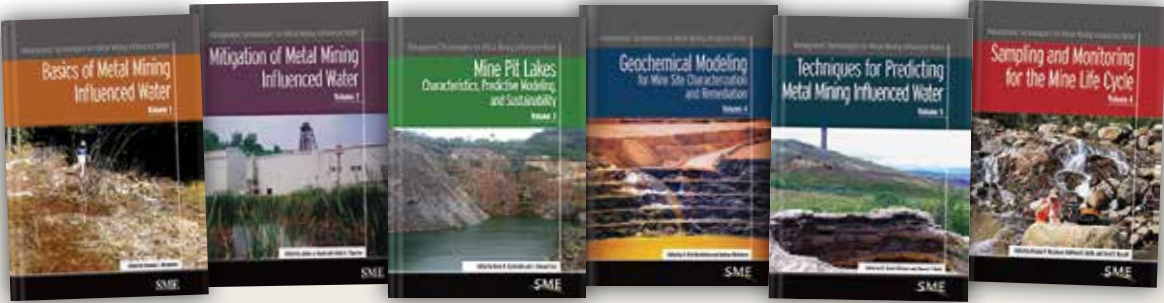


Hydrometallurgy 2008: Proceedings of the Sixth International Symposium

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

This resource tackles 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 startups, and solutions for reducing energy consumption in all aspects of unit operations.

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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.

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Volume 2: Mitigation of Metal Mining Influenced Water

Edited by James J. Gusek and Linda A. Figueroa



Mitigation of Metal Mining Influenced Water is the series' "how to fix it" volume. You will 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.

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Volume 3: Mine Pit Lakes – Characteristics, Predictive Modeling, and Sustainability

Edited by Devin N. Castendyk and L. Edmond Eary



You will learn 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.

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Volume 4: Geochemical Modeling for Mine Site Characterization and Remediation

Edited by D. Kirk Nordstrom and Andrew Nicholson



This handbook describes the important components of hydrogeochemical modeling for mine environments, primarily those mines where sulfide minerals are present—metal mines and coal mines. It provides general guidelines on the strengths and limitations of geochemical modeling and an overview of its application to the hydrogeochemistry of both unmined mineralized sites and those contaminated from mineral extraction and mineral processing. The handbook includes an overview of the models behind the codes, explains vital geochemical computations, describes several modeling processes, provides a compilation of codes, and gives examples of their application, including both successes and failures.

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Volume 5: Techniques for Predicting Metal Mining Influenced Water

Edited by R. David Williams and Sharon F. Diehl



This book identifies the tools available for characterizing mine and processing wastes that can be useful in predicting drainage quality. It shows how effective and accurate characterization and prediction work will result in a mine-life waste management plan that minimizes the exposure of problematic wastes to the environment.

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Volume 6: Sampling and Monitoring for the Mine Life Cycle

Edited by Virginia T. McLemore, Kathleen S. Smith, and Carol C. Russell

Sampling and Monitoring for the Mine Life Cycle provides an overview of sampling for environmental purposes and monitoring of environmentally relevant variables at mining sites. It focuses on environmental sampling and monitoring of surface water, and also considers groundwater, process water streams, rock, soil, and other media including air and biological organisms.

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

(Available as a 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.

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International Coal Preparation Congress: 2010 Conference Proceedings

Edited by Rick Q. Honaker

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An Introduction to Cut-off Grade Estimation, 2nd edition

By Jean-Michel (JM) Rendu

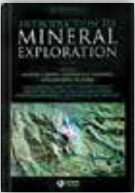
An Introduction to Cut-off Grade Estimation examines one of the most important calculations in the mining industry. Cut-off grades are essential to determining the economic feasibility and mine life of a project. Profitability and socio-economic impact of mining operations are influenced by the choice of cut-off grades. Cut-off grades play a key role in estimating mineral reserves that can be publicly reported.

This second edition is easier to read and of greater practical interest to practitioners. The relationship between optimization of net present value, capacity constraints, and opportunity cost is explained in greater detail. A new section discusses blending strategies, which play a critical role in an increasing number of mining operations.

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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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2006 / 496 pages / 4 lbs

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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.

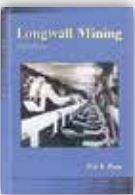
Introductory Mining Engineering presents the latest information on such technologies as remote sensing, GPS, geophysical surveying, and mineral deposit evaluation, as well as continuous integrated mining operations and autonomous trucks. This edition includes information on landscape restoration, regional 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

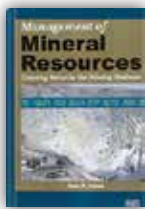
Longwall Mining covers longwall mining technology developed and practiced in the United States during the last 30 years. It begins with a description of the technology and the special characteristics of U.S. longwalls, including their requirements and constraints. It goes on to cover an array of topics, 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.

MEMBERS SAVE \$40

Published by Syd S. Peng

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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 is not 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 Health and Safety Management

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.

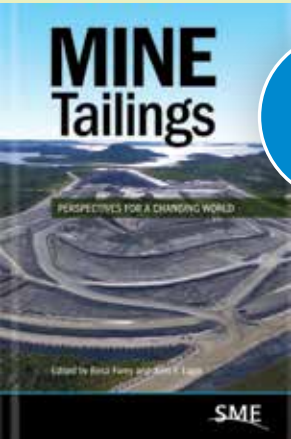
Author Paul D. Tomlinson draws on his 35 years of maintenance management consulting experience to craft these compelling and highly instructional stories. Each reveals a powerful lesson, equipping you with ideas and techniques for solving the maintenance problems you may be grappling with today.

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NEW!

Mine Tailings: Perspectives for a Changing World

Edited by Resa Furey and John F. Lupo

Nearly every recent article on tailings starts by mentioning a large tailings dam failure. The consequences of these failures have been so devastating they have pushed conversations about the risks inherent in these structures beyond the mining community into the general population. We are left to question how we address the risks associated with tailings disposal, and in so doing, transform the image of the mining industry and perhaps the industry itself.

With this as a backdrop, the Society for Mining, Metallurgy & Exploration (SME) challenged tailings and mining professionals to re-imagine the future of tailings. The Mine Tailings: Perspectives for a Changing World symposium, held at the SME 2020 annual conference, started that conversation. Over three days, tailings professionals from around the world gathered to discuss tailings storage practices and the changes both the industry and the world want and need. The discussions squarely focused on how we, as an industry, can collectively make changes that will eliminate catastrophic tailings dam failures and lead to better outcomes for the industry and society.

Through sharing and conversation, the symposium participants recognized risks associated with our approach to tailings management and existing structures and discussed the gaps that need to be addressed, including how the behavior of tailings and mining professionals must change. The human element of risk must be recognized so it can be talked about openly, given the attention it deserves, and adequately addressed. We need to own this problem and the impact of our actions. We have the power to change this; when we own our actions, we can act differently for a different outcome.

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Mine Managers' Handbook

Edited by AusIMM

The *Mine Managers' Handbook* is a comprehensive volume describing all of the important aspects of managing a mining company. It addresses topics such as corporate strategy, leadership, operations management, and world markets for minerals. Written by experts from industry, consulting firms, and academia, it will be of great value to corporate executives, directors of mining companies, students, and all of those wishing to understand the industry. While written primarily for Australian conditions, much of the content is applicable to the global minerals industry.

Topics include overview of mine management; occupational health and safety; environment management; stakeholder relationships; human resources; capital investment and project development; operations management; finance and administration; minerals and markets; and strategic planning. Also included is a CD that covers guidelines for technical economic evaluations of minerals industry projects.

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Mine Rescue Manual: A Comprehensive Guide for Mine Rescue Team Members

By Chris Enright and Robert L. Ferriter

With its clear descriptions, best practice benchmarks, step-by-step lists, and easy-to-follow procedural diagrams, *Mine Rescue Manual* will be your go-to guide if there is an accident at your mine. It will walk you through every contingency: properly dealing with mine fires, toxic gases, loss of oxygen, injured workers, and more. It covers how to stay in legal, regulatory, and National Incident Management System compliance when responding to and reporting an accident. An extensive section on mine recovery (and potentially resuming operation) in the aftermath is also included.

This well-organized handbook is designed to help you respond to a mine emergency successfully, maximizing the protection of human life while minimizing the cost not only of rescue and recovery, but to your corporate reputation.

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Minefill 2017: Proceedings of the 12th International Symposium on Mining with Backfill

Edited by David Stone

Minefill is recognized as an integral component of most underground mining operations. The stability of and safety within underground mines are enhanced by the design, operation, and control of minefill systems. The proceedings of the 12th International Symposium on Mining with Backfill include 37 papers from experts from around the world. It focuses on the application of mine backfill technologies including planning, design, operations, and research.

There is no other forum available that provides this same focus on minefill technology. The information is even more valuable in today's stakeholder-driven economy where the pressure to place mine wastes back underground has never been stronger.

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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

Rapid progress is being made in minerals processing based on biological principles. Microorganisms can play a beneficial role in all facets of mineral processing, from mining to waste disposal and management. Biohydrometallurgical extraction of metals from a wide variety of ores is being commercially practiced 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 Economics and Policy

By John E. Tilton and Juan Ignacio Guzmán

This book provides an introduction to the field of mineral economics and its use in understanding the behavior of mineral commodity markets and in assessing both public and corporate policies in this important economic sector. The focus is on metal and non-metallic commodities rather than oil, coal, and other energy commodities.

The work draws on John Tilton's teaching experience over the last 30 years at the Colorado School of Mines and the Catholic University of Chile, as well as short courses for Rio Tinto and other mining companies. This is combined with the professional consulting and academic research of Juan Ignacio Guzmán over the past decade, in order to demonstrate the industry application of the economic principles described in the earlier chapters.

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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 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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SME PERIODICALS



Mining Engineering

(Published monthly)

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 the magazines' website (www.me.smenet.org) along with daily news, archived issues, and other features. Members have full access to the digital edition of every issue anywhere there is an internet connection.

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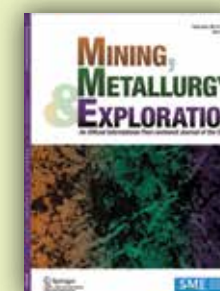


Tunneling & Underground Construction

(Included quarterly with Mining Engineering)

Tunneling & Underground Construction is 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.

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Mining, Metallurgy & Exploration

(Published bi-monthly)

An international peer-reviewed journal covering the latest technical developments in the mining, mineral, and geology communities, *Mining, Metallurgy & Exploration* is published in six issues a year in partnership with Springer Nature, one of the world's leading global research, educational, and professional publishers.

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Mineral Exploration:
Practical Application

By **G.S. Roonwal**

Mineral Exploration covers mineral exploration, mine evaluation, and resource assessment of a discovered mineral deposit. It helps readers understand the important concepts needed when searching for mineral deposits and understanding the chances of success. The book discusses the fundamentals of mineral resources composition, the formation of rock and mineral deposits, and the attempt to search for ore deposits. It includes details on how to conduct surveys and evaluations to arrive at a decision to open and/or carry out further exploration in an operating mine.

The book offers a reference for policy makers and private investors in mining. It will be of great interest to professionals and students alike in both the geology and mining communities.

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Mineral Processing and Extractive
Metallurgy: 100 Years of Innovation

Edited by **Corby G. Anderson, Robert C. Dunne, and John L. Uhrig**

Mineral Processing and Extractive Metallurgy presents more than a century of innovation drivers that have advanced the mineral processing industry. Trends, developments, and improvements are discussed in depth, and likely areas for future innovations are explored. Subject-matter experts share their knowledge, experience, and passion for the metallurgical industry with topics such as comminution equipment, modeling, and instrumentation; magnetic, electrostatic, density-based, dense medium, and liquid/solid separations; nickel and cobalt, zinc and lead, copper and rare earth hydrometallurgy, and gold and silver extraction; innovations in pyrometallurgy, copper smelting, and the iron and steel industry, and refining of platinum group metals; process mineralogy and laboratory automation, analytical chemistry, and measurement of mineral structure and surface chemistry; and environmental breakthroughs.

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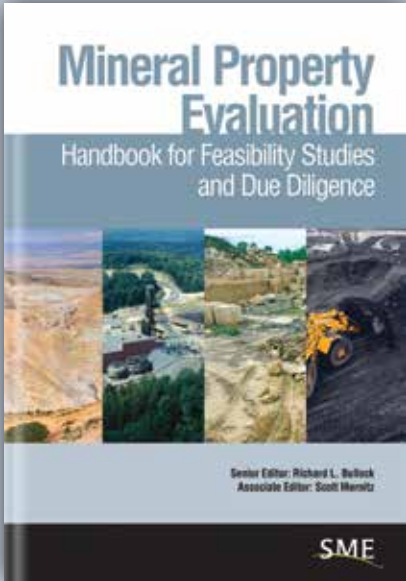
Mineral Processing Design and
Operations, 2nd edition

By **Ashok Gupta and Denis Yan**

Mineral Processing Design and Operations helps readers understand the various methods commonly used in mineral beneficiation and concentration processes Application of theory to practice is explained at each stage, helping operators understand associated implications in each unit process.

This second edition outlines the basics of process controls for efficient and economic modes of separation and includes theory and practice in the design of flow sheets and operation of an integrated mineral processing plant. It introduces the basic magnetism, electrostatic, conductivity, and dielectrophoresis properties of minerals and related separation techniques. The text describes automation in mineral processing plants allowing maximum yields and consistent high concentrate grades. And finally, it outlines problems and offers solutions in the form of various examples.

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Mineral Property Evaluation:
Handbook for Feasibility
Studies and Due Diligence

Edited by **Richard L. Bullock and Scott Mernitz**

Less than 30% of the projects that are developed in the minerals industry yield the return on investment that was projected from the project feasibility studies. The tools described in this handbook will greatly improve the probability of meeting your projections and minimizing project execution capital cost blowout that has become so prevalent in this industry in recent years.

Mineral Property Evaluation provides guidelines to follow in performing mineral property feasibility and evaluation studies and due diligence, and in preparing proper documents for bankable presentations. It highlights the need for a consistent, systematic methodology in performing evaluation and feasibility work.

The objective of a feasibility and evaluation study should be to assess the value of the undeveloped or developed mineral property and to convey these findings to the company that is considering applying technical and physical changes to bring the property into production of a mineral product. The analysis needs to determine the net present worth returned to the company for investing in these changes and to reach that decision point as early as possible and with the least amount of money spent on the evaluation study.

All resources are not reserves, nor are all minerals an ore. The successful conclusion of any property evaluation depends on the development, work, and conclusions of the project team.

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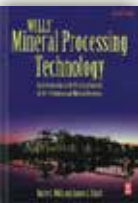
Mineral Processing Plant
Design, Practice, and Control

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 practical, quick-reference guide for engineers, consultants, suppliers, manufacturers, or anyone involved in the design or operation of a mineral processing plant.

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Mineral Processing Technology:
An Introduction to the Practical
Aspects of Ore Treatment and
Mineral Recovery, 8th edition

By **Barry A. Wills and James A. Finch**

Wills' *Mineral Processing Technology* has been the definitive reference for the mineral processing industry for more than thirty years. This industry standard provides practicing engineers and students of mineral processing, metallurgy, and mining with practical information on all the common techniques used in modern processing installations.

Each chapter is dedicated to a major processing procedure—from underlying principles and technologies to the latest developments in strategies and equipment for processing increasingly complex refractory ores. The eighth edition enhances coverage of practical applications with the inclusion of new material focused on meeting the pressing demand for ever greater operational efficiency, while addressing the pivotal challenges of waste disposal and environmental remediation.

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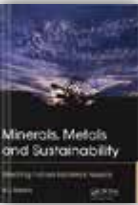
Mineral Resource Estimation

By **Mario E. Rossi and Clayton V. Deutsch**

This comprehensive text covers the modern practice of mineral resource estimation, a field that has changed considerably in the past 25 years. Geostatistical techniques have become commonplace and continue to evolve; computational horsepower has revolutionized all facets of numerical modeling; mining and processing operations are often larger; and uncertainty quantification is becoming standard practice.

Mineral Resource Estimation is about resource modeling. It discusses both theory and practice in sufficient detail for both practitioners and students. It avoids strict theoretical presentations, and focuses on practical adaptations that result in good resource estimation practices. As a bonus, case studies are included.

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Minerals, Metals, and Sustainability:
Meeting Future Material Needs

By **W.J. Rankin**

Minerals, Metals and Sustainability examines the exploitation of minerals and mineral products and the implications for sustainability of the consumption of finite mineral resources and the wastes associated with their production and use. It provides a multi-disciplinary approach that integrates the physical and earth sciences with the social sciences, ecology, and economics.

This is an important reference for students of engineering and applied science and geology; practicing engineers, geologists, and scientists; students of economics, social sciences, and related disciplines; professionals in government service in areas such as resources, environment, and sustainability; and non-technical professionals working in the minerals industry or in sectors servicing the minerals industry.

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Mining and the Environment:
from Ore to Metal, 2nd Edition

By **Karlheinz Spitz and John Trudinger**

Mining and the Environment identifies and discusses the wide range of social and environmental issues pertaining to mining, with particular reference to mining in developing countries, from where many of the project examples and case studies have been selected.

Following an introductory overview of pressing issues, the book illustrates how environmental and social impact assessment, such as defined in “The Equator Principles,” integrates with the mining lifecycle and how environmental and social management aims to eliminate the negative and accentuate the positive mining impacts. This second edition of *Mining and the Environment* includes new chapters on health impact assessment, biodiversity and gender issues, all of which have become more important since the first edition appeared a decade ago.

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Mining and Rock Construction
Technology Desk Reference

Edited by **Agne Rustan**

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

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.

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Mining Economics and Strategy

By Ian C. Runge

This book will help you effectively direct mining operations through the use of innovative economic strategies. The text covers what is meant by a cost-effective mining scheme, 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.

Discounted cash flow techniques are covered in detail. The application of DCF techniques in an operating mine environment is given expanded coverage and examples are drawn from real-life studies. Capital and decision-making procedures associated with capital investments in a risk environment are given extensive coverage. Case studies for capital investment in an operating mine are included. Comprehensive examples investigate “value” from a risk-reduction perspective and from an “expected return on investment” perspective.

This book offers solutions to the problem that many mining projects fail to achieve expectations because of their inability to adapt to change. A new technique is explained that allows calculation of capital that is “at risk” from capital that is not at risk. This promises significant advances in the way that investments are made and capital is valued in the industry.

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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 of 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.

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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 11th 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.

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Mining Haul Roads: Theory and Practice

By Roger Thompson, Rodrigo Peroni, and Alex T. Visser

Mining haul roads are a critical component of surface mining in frastructure and the performance of these roads has a direct impact on operational efficiency, costs, and safety. This book is the most definitive treatise on mining haul roads ever written.

Mining Haul Roads: Theory and Practice presents an authoritative compendium of worldwide experience and state-of-the-art practices developed and applied over the last 25 years by the three authors, over three continents and many of the world's leading surface mining operations. In this book, the authors introduce the four design components of an integrated design methodology for mining haul roads; illustrate how mine planning constraints inform road design requirements; develop the analytical framework for each of the design components from their theoretical basis, and using typical mine-site applications, illustrate how site-specific design guidelines are developed, together with their practical implementation; and summarize the key road safety and geometric design considerations specific to mining haul roads.

This book is a complete practical reference for mining operations, contractors, and mine planners alike, as well as civil engineering practitioners and consulting engineers. It will also be invaluable in other fields of transportation infrastructure provision and for those seeking to learn and apply the state-of-the-art in mining haul roads.

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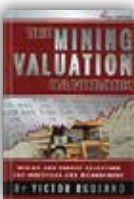


Mining of Mineral Deposits

Edited by Genadiy Pivnyak, Volodymyr Bondarenko, Iryna Kovalevs'ka, and Mykhaylo Illiashov

Mining of Mineral Deposits focuses the mining of coal and ores, geomechanical processes, labor protection and ventilation, and borehole extraction of minerals. The book covers the results of new equipment introduction; experiments on mutual interaction of roof support elements, protective construction, and near-the-contour rock massif; analytical and calculation methods of geomechanical tasks solution; development of gas hydrates and technologies of underground coal gasification; studies on environment protection; economic aspects; management and marketing in mining production, and other important aspects of mineral deposits exploitation.

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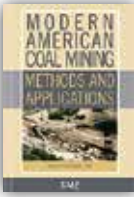
The Mining Valuation Handbook: Mining and Energy Valuation for Investors and Management, 4th edition

By Victor Rudenno

Equity markets have experienced turbulent times in recent years, particularly in resource valuations and commodity prices. In this international bestseller, Victor Rudenno once again provides comprehensive, current information on mining and unravels some of the mystery surrounding the resources industry. Now in its fourth edition, *The Mining Valuation Handbook* will assist those in the mining industry seeking financial information, as well as people in finance looking for characteristics of the resources industry in an economic light.

For the non-professional who is keen to invest in resource companies, this book will also help remove some of the mystique that often surrounds technical disciplines. *The Mining Valuation Handbook* is an essential addition to the libraries of astute investors and mining and financial analysts.

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Modern American Coal Mining: Methods and Applications

Edited by Christopher J. Bise

Modern American Coal Mining: Methods and Applications covers a full range of coal mining and coal industry topics, with chapters written by leading coal mining industry professionals and academicians. Highlights from the book include coal resources and distribution, mine design, advances in strata control and power systems, improvements in surface mining, ventilation to reduce fires and explosions, drilling and blasting, staffing requirement ratios, management and preplanning, and coal preparation and reclamation. The text is enhanced with 11 case studies that are representative of underground and surface mines in the United States. Narrative descriptions and appropriate mine plans are presented, with attention given to unique features and situations that are addressed through mine design and construction.

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Mountain Movers: Mining, Sustainability and the Agents of Change

By Daniel M. Franks

Mountain Movers explores the dynamics of change-making for sustainable development in the resources sector, specifically the mining of mineral and energy resources. The author recounts the stories and insights of over forty change-makers both inside and outside the industry, from anti-mining activists to the professionals charged with the task of reform, introducing the people who are moving an industry that moves mountains. The book takes stock of what has worked and what has not, analyzing the relative influence and dynamics of the key corporate, civil society and government actors with a view to developing new approaches for improving environmental and social outcomes from mineral and energy development.

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Orebody Modelling and Strategic Mine Planning

Edited by R. Dimitrakopoulos

Orebody Modelling 2014 follows the success of previous symposium proceedings. It reassesses methods and ideas as well as highlights the latest advances, state-of-the-art technologies, practices and concerns in the field. Internationally-recognized experts discuss and analyze simultaneous global optimization of multiple operations and mining complexes; mineral supply chains; advances in optimization of open pit and underground mine planning; increasing value and productivity in unforgiving markets; strategic innovation and research needs; open pit to underground transition; mine production scheduling, stockpiling and blending; cloud computing and advances in information technologies for optimization; advances in conditional simulation for complex applications and advances and applications in mine optimization.

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Plant Auditing: A Powerful Tool for Improving Metallurgical Plant Performance

By Deepak Malhotra

The word *audit* brings discomfort to many mine managers and owners. But this book shows you how to turn the audit into something positive, desirable, and profitable. Hiring the right audit team and putting its recommendations into practice can lower costs, increase revenues, and boost profits. In some cases, you can add millions of dollars directly into the bottom line. *Plant Auditing* is the first book ever written to show you how to get maximum benefit out of an audit. This comprehensive guide walks you through the complexities of setting up the right kind of audit, the type that will provide you with actionable steps to profitable outcomes. Also included are 20 case studies illustrating real-life problems typically encountered at plants that can be resolved through the audit procedures described in this book.

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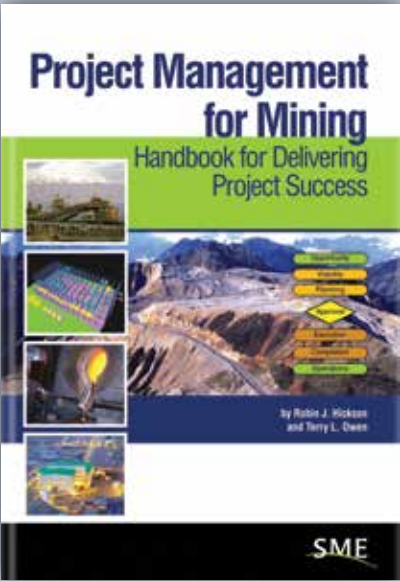
Politics of Mining: What They Don't Teach You in School

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 disciples 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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Project Management for Mining: Handbook for Delivering Project Success

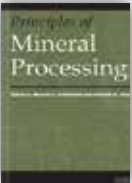
By Robin J. Hickson and Terry L. Owen

Opening a successful new mine is a vastly complex undertaking entailing several years and millions to billions of dollars. In today's world, when environmental and labor policies, regulatory compliance, and impact on the community must be factored in, you cannot afford to make a mistake. Written by two hands-on, in-the-trenches mining project managers with decades of experience who bring some of the world's most successful, profitable mines into operation on time, within budget, and ethically, *Project Management for Mining* gives you step-by-step instructions in every process you are likely to encounter.

Beginning with a discussion of mining ethics and governance, this clearly written handbook walks you through all the project management steps—defining the scope, performing prefeasibility and feasibility studies, gaining societal acceptance, minimizing the impact and risks, creating workable schedules and budgets, setting in place the project execution plan, assembling the human resources, hiring the contractors, and establishing project controls—and then on into the delivery of the engineering and design, construction, progress reviews, pre-launch commissioning, and ramping up for operation.

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Principles of Mineral Processing

Edited by Maurice C. Fuerstenau and Kenneth N. Han

This reference examines all aspects of mineral processing, from raw materials handling to separation strategies to waste product remediation. The book incorporates 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 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; and mineral processing wastes and their remediation.

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Proceedings of the 39th International Conference on Ground Control in Mining

Edited by Ted Klemetti, Brijes Mishra, Heather Lawson, Michael Murphy, and Kyle Perry

The International Conference on Ground Control in Mining (ICGCM) has a rich history in advancing ground control techniques and knowledge. It provides a unique platform for researchers, regulators, consultants, manufacturers, and mine operators to present and exchange challenging industry topics as well as to expedite solutions to ground control problems that require immediate attention.

This proceeding from the 39th International Conference is no exception. It includes 37 peer-reviewed research papers from industry experts covering topics of importance for today and the future.

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Process Plant Equipment: Operation, Control, and Reliability

Edited by Michael D. Holloway, Chikezie Nwaoha, and Oliver A. Onyewuenyi

With this book as their guide, readers have the information and practical guidelines needed to select, operate, maintain, control, and troubleshoot process plant equipment so that it is efficient, cost-effective, and reliable throughout its lifetime. Following careful explanatory text and instruction, readers will find that they are better able to reduce downtime and unscheduled shutdowns, streamline operations, and maximize the service life of processing equipment.

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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. A portion of the proceeds from each book sold is donated to SME by the authors.

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

You will 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.

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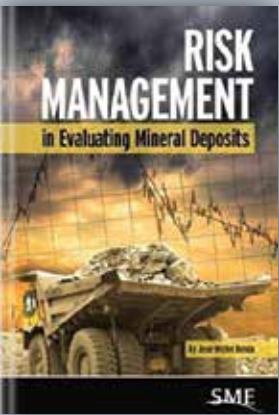
Regulatory Governance and Risk Management: Occupational Health and Safety in the Coal Mining Industry

By Binglin Yang

Regulatory Governance and Risk Management is the first book that addresses the diffusion of risk-based governance in the coal mining industry from a health and safety standpoint. Using a diffusion approach and comparisons between Australia and the United States, 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 not been practiced in the United States. This book answers these questions and makes recommendations on how to remove barriers in moving toward risk-based governance.

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Risk Management in Evaluating Mineral Deposits

By Jean-Michel Rendu

Mining is not for the fainthearted. Yes, the rewards are enormous. But so are the risks—and consequences—of failure. *Risk Management in Evaluating Mineral Deposits* walks you through the many-faceted risk evaluation you need to conduct before you invest your hard-earned dollars.

Written by a mining professional with a strong background in technical and financial studies, risk assessment, and statistics, this book provides a detailed suite of tools so you can determine whether investing in a mining project makes sense for you. Looking at a host of issues—the composition of the ore deposit, the management's previous record, the quality of the information at hand, and your own risk-tolerance comfort level, to name a few—author Jean-Michel Rendu provides a comprehensive guide to determine when to invest with high confidence, when to demand a plan that reduces the risks and increases the chances of a positive outcome, and when to just walk away.

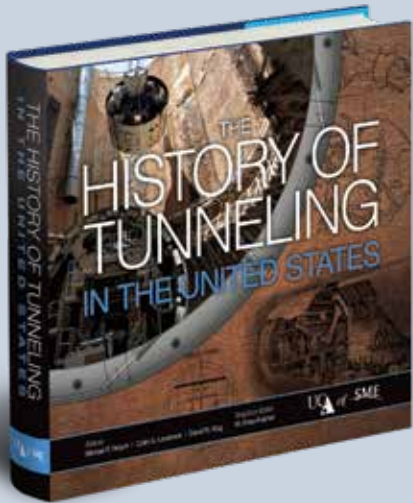
This book will have relevance for many years. Unlike others, Rendu factors in not just financial but environmental and social factors to evaluate the triple bottom line. He shows you why your project needs a different evaluator for each of these three legs and how to combine their evaluations to make one decision. As more and more government agencies and communities insist on these types of metrics, this focus will help keep you up-to-date in a rapidly changing world and increase the possibility that your investment will generate profits even in this complex, uncertain, and time-constrained industry.

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Tunneling and Underground Construction Collection

Covering a wide variety of industry-specific subjects, these books are written especially for the underground construction professional to deepen knowledge and expertise in this ever-changing field.



The History of Tunneling in the United States

Edited by Michael F. Roach, Colin A. Lawrence, and David R. Klug
Graphics Editor: W. Brian Fulcher

Imagine Washington, D.C., without its clean and efficient Metro. Or New York City without the Lincoln and Holland tunnels. Or Boston without the Big Dig. This nation without its tunnels would be a quagmire of clogged streets, urban gridlock, massive sewage and water pipes along our sidewalks, and train routes that would take hours longer just to veer around a mountain instead of going straight through it. Unlivable.

Tunnels have been built for 200 years to solve some of society's most pressing and dangerous problems. And yet the public rarely understands the complexity of boring through the Earth under urban skyscrapers or the danger of burrowing under rivers, lakes, and oceans. This smartly told, beautifully illustrated book, by the construction experts who know the underground world better than anyone, gives tunnels their long-deserved due.

This is a story that can only be told by these industry experts who have studied that two-century journey, learned from it, and created the tools and technology needed to improve it. That is what the Underground Construction Association delivers with its beautifully told, richly illustrated book, *The History of Tunneling in the United States*, which includes a collection of museum-worthy historical photos.

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Concrete for Underground Structures

Edited by Robert J.F. Goodfellow
This practical nuts-and-bolts handbook provides an industry voice as well as recommendations for areas of concrete application. You will 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. The various types of concrete admixtures are discussed, and sample specifications for each are included.

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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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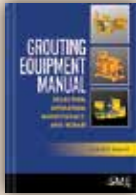
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Geotechnical Baseline Reports for Construction: Suggested Guidelines

By Randall J. Essex
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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Grouting Equipment Manual: Selection, Operation, Maintenance, and Repair

By Donald C. Hegebarth
Grouting Equipment Manual introduces various types of equipment employed in pressure grouting applications performed in geotechnical works and examines the operating principles and maintenance issues relative to each equipment type. Pressure grouting encompasses a wide variety of applications and operations, including dam foundation grouting, soil stabilization and permeation, consolidation and compaction grouting (except low mobility), water cutoff and structural stabilization in rock tunnels, deep foundations via drilled piers, underwater concrete, structural concrete repairs, raising of settled slabs and structures, rock and soil anchors, and machine foundations and bases. The applications for pressure grouting operations are almost limitless, as the equipment can be employed anywhere fluid grout can be used.

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North American Tunneling: 2020 Proceedings

Edited by Brett Campbell, Paul Madsen, Jim Rush, Matthew Preedy, and Dawn Dobson Markman

The 2020 proceedings deliver the knowledge and technical detail you are in search of. Crafted from a collection of 87 papers written by experts and leaders in the industry who share their expertise, real-world applications, and "lessons learned" from around the globe, this book takes you deep inside today's projects. It includes challenging design issues, fresh approach on performance, future projects, and industry trends as well as ground movement and support, structure analysis, risk and cost management, rock tunnels, caverns and shafts, TBM technology, and water and wastewater conveyance.

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Rapid Excavation and Tunneling Conference: 2019 Proceedings

Edited by Christopher D. Hebert and Scott W. Hoffman
Every two years, industry leaders and practitioners from around the world gather at the Rapid Excavation and Tunneling Conference (RETC), the authoritative program for the tunneling profession, to learn about the most recent advances and breakthroughs in this unique field.

This book includes the full text of 111 papers presented at the 2019 conference covering such topics as contracting practices, design and planning, geotechnical considerations, hard-rock tunnel boring machines, new and innovative technologies, pressure-face TBM case histories, and tunneling for sustainability. The papers will inform, challenge, and stimulate each reader.

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Recommended Contract Practices for Underground Construction, 2nd Edition

Edited by Sarah H. Wilson
The first edition of *Recommended Contract Practices for Underground Construction* was a valued resource for the underground industry, serving as a concise guide for drafting and implementation of contract provisions.

This second edition was undertaken because the industry has undergone numerous changes over the last decade. Changes in tunneling technology, more common use of design-build as a contracting mechanism, and many lessons learned have sparked some creative contract approaches.

The recommendations contained in this edition are intended to guide owners and their engineers in developing and administering contracts and to give contractors a better understanding of the rationale behind contract provisions. The goal is that more underground projects in this country can be best projects, where improved relationships and fair contracts enable all project participants to personally invest in cost-effective, profitable projects, ensuring the continued health of the underground industry.

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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 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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World Tunneling Congress: 2016 Proceedings

Written by international experts in the field, this proceeding is a collection of technical and academic papers presented at the World Tunneling Congress (WTC) 2016. The papers address relevant tunneling topics such as safety in design and construction; SEM and caverns; underground support; tunneling advances through innovation; case histories and difficult ground.

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SME Mineral Processing & Extractive Metallurgy Handbook


Managing Editor: Robert C. Dunne
Editors: S. Komar Kawatra and Courtney A. Young


This landmark publication distills the body of knowledge that characterizes mineral processing and extractive metallurgy as disciplinary fields. It will inspire and inform current and future generations of minerals and metallurgy professionals.


Mineral processing and extractive metallurgy are atypical disciplines, requiring a combination of knowledge, experience, and art. Investing in this trove of valuable information is a must for all those involved in the industry—students, engineers, mill managers, and operators.

More than 192 internationally recognized experts have contributed to the handbook’s 128 thought-provoking chapters that examine nearly every aspect of mineral processing and extractive metallurgy. This inclusive reference addresses the magnitude of traditional industry topics and also addresses the new technologies and cultural and social issues that are important today.

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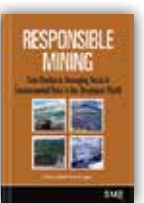


Remote Sensing of the Mine Environment

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. 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.

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Responsible Mining: Case Studies in Managing Social and Environmental Risks in the Developed World


Edited by Michelle E. Jarvie-Eggart

Responsible Mining is your comprehensive guide to addressing social and environmental risks at mines in the developed world.

This book gathers case studies of best practices across the full range of issues. With examples from four continents, you can learn from both your home territory and around the world. Seventy-two leading mine engineers, forestry scientists, conservationists, environmental consultants, sustainability professionals, and geologists from prominent universities, extraction businesses, nongovernmental organizations, and governments have come together within these pages to lead you safely and profitably toward socially, environmentally, and economically beneficial mining practices.

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Rise to the Occasion: Lessons from the Bingham Canyon Manefay Slide

By Brad Ross

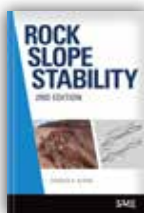
Rise to the Occasion tells the dramatic story of the men and women who safely led Utah’s 107-year-old Bingham Canyon Mine through the largest mining highwall failure in history. The Manefay failure resulted in 144.4 million tons of rock plummeting more than 2,000 feet and traveling 1.5 miles within 90 seconds – without a single death or injury. The story is told through the eyes of an insider, as the author was brought into the mine just six short weeks before the failure and was a key member of the management team. It’s a story only he can tell.

Illustrated with 160 full-color aerial and ground photos, charts, and illustrations, *Rise to the Occasion* details the unfolding events of the preparation, failure, and recovery efforts in moment-by-moment accounts. The author then leads the reader to valuable lessons that were learned and how to apply these lessons to any organization that faces risks.

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Rock Slope Stability, 2nd Edition


By Charles A. Kliche

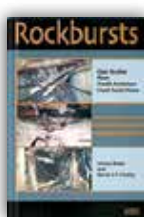
Rock Slope Stability is a comprehensive guide for mining and construction engineers responsible for rock slope stability. This book focuses on rock slope stability, with sections of geological data collection, geotechnical data collection and analysis, surface water and groundwater effects, kinematic and kinetic stability analysis, rock slope stabilization techniques, and rock slope instrumentation and monitoring. Because of the discontinuous nature of rock, the design of stable rock slopes is as much an art as it is applied engineering. Experience can only be achieved from the proper utilization of the theories of soil and rock mechanics, structural geology, and hydrology.

Rock Slope Stability will be invaluable for engineering geologists, geotechnical engineers, mining engineers, civil engineers, and mine managers—as well as anyone else dedicated to engineering slopes that are stable and safe and that enable a financial return.

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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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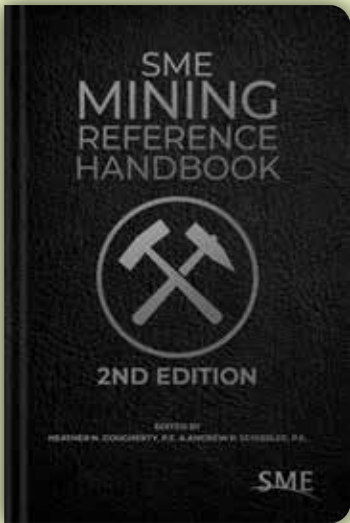
Rotary Drilling and Blasting in Large Surface Mines

By Bhalthandra V. Gokhale

In large surface mining operations, drilling and blasting activities constitute more than 15% of the total costs. In order to optimize performance and minimize costs, a thorough knowledge of drill and blast operations is, therefore, extremely important.

In this unique reference volume, rotary blasthole drilling and surface blasting, as applied in large surface mines, are comprehensively covered. Both new and classic concepts, techniques and methodologies are presented, supported by numerous illustrations and practical data. In 26 chapters, drilling, surface blasting, rock, rock mass, machinery, tools and accessories, compressors and air flushing, computing and practice are many other relevant subjects are treated; the first 16 chapters deal with rotary blasthole drilling, and the 10 next chapters with the concepts, theory and practice of blasting.

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SME Mining Reference Handbook, 2nd edition


Edited by Heather N. Dougherty, P.E. and Andrew P. Schissler, P.E.


The *SME Mining Reference Handbook* was the first concise reference published in the mining field and it quickly became the industry standard. It sits on almost every mining engineer’s desk or bookshelf with worn pages, tabs to find most used equations, and personal notes. It has been the unequalled single reference and the first source of information for countless engineers.

This second edition of the *SME Mining Reference Handbook* builds on that success. With an enhanced presentation, new and updated information is represented in a concise, well-organized guide of important data for everyday use by engineers and other professionals engaged in mining, exploration, mineral processing, and environmental compliance and reclamation.

With its exhaustive trove of charts, graphs, tables, equations, and guidelines, the handbook is the essential technical reference for mobile mining professionals.

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SME Mining Engineering Handbook, 3rd edition

Edited by Peter Darling

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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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 separation, industrial minerals flotation, base metal flotation, flotation equipment and practice, process reagents, magnetic and electrostatic separation, 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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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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Study Guide for the Professional Licensure of Mining and Mineral Processing Engineers, 8th edition

Prepare for your exam with this new study guide. This handy workbook lets you know what to expect and provides the opportunity to practice your test-taking skills. The text covers

what licensing can do for you, outlines the engineering licensure process, highlights the steps to licensure, summarizes the application process, and provides test-taking strategies specific to the PE exam. The text also includes a chapter on ethics for professional engineers and details the rules of professional conduct from the National Council of Examiners for Engineering and Surveying (NCEES). Perhaps the most useful element is a sample test, including the solutions, that is similar in content and format to the actual Principles and Practice of Engineering licensure exam.

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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.

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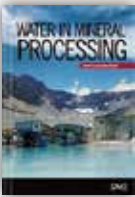
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By Richard Woldendorp, Jim Wark, Karlheinz Spitz, and John Trudinger
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