

Sme Mining Engineering Handbook Volume 1

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Techniques in Underground Mining - Richard E. Gertsch 1998

This 800+ page book contains a wealth of information for mining students and industry professionals. It consists of selected material from the out-of-print industry standard, *Underground Mining Methods Handbook*. More than 40 chapters covering such underground mining topics as sampling, planning, reserve analysis, cost calculations, various methods of support, block and panel caving, and sublevel caving make up this comprehensive text. Numerous tables and figures enhance the extensive material found in each chapter. An excellent teaching tool and source book, *Techniques in Underground Mining* is a must for any mining student or engineer.

Tailings Management Handbook - Kimberly Finke Morrison 2022-02-01

As long as we have mining and mineral processing, tailings and the responsible management thereof will remain at the forefront, with a company's environmental, social, and governance (ESG) performance in part a reflection of how well tailings risks are being managed. The Global Industry Standard on Tailings Management (GISTM) was published in August 2020, aiming to prevent catastrophic failure of tailings facilities by providing operators with specified measures and approaches throughout the mine life cycle, taking into account multiple stakeholder perspectives. In 2021, the International Council on Mining & Metals (ICMM) published the *Tailings Management: Good Practice Guide* intended to support safe, responsible management of tailings across the global mining industry, providing guidance on good governance and engineering practices to support continual improvement in tailings storage facility (TSF) management and help foster and strengthen the safety culture of mining companies. The *Tailings Management Handbook* is important and timely because there is no other comprehensive resource rooted in these new fundamentals and global principles for tailings management. Tailings management requires interdisciplinary and cross-functional understanding and support, which is apparent throughout this handbook. Dive into the wealth of information contributed by more than 100 world-renowned experts, beautifully crafted into a full-color handbook that focuses on the basics, life-cycle planning, site and tailings characterization, TSF design and construction, as well as systems and operations of TSFs. The inclusion of 42 case studies is an added plus with real-world successes and lessons learned.

Mineral Processing Plant Design, Practice, and Control - Andrew L. Mular 2002

Annotation Based on 138 proceedings papers from October 2002, this broad reference will become the new standard text for colleges and will become a must for engineers, consultants, suppliers, manufacturers.

The Chemistry of Gold Extraction - John Marsden 2006

Extensively revised and updated, this edition provides the broad base of knowledge required by all working in the gold extraction and gold processing industries. It bridges the gap between research and industry by emphasizing practical applications of chemical principles and techniques.

Advanced Mine Ventilation - Pramod Thakur 2018-11-23

Advanced Mine Ventilation presents the reader with a unique book providing the theory and applications for designing mine ventilation with computers, controlling respirable coal dust and diesel particulate matter, combustible gas control and, mine fire management. The book summarizes the latest knowledge created in the past 40 years in these areas. Authored by an expert in the field with 50 years' experience, the book is a great combination of theory and applications. The mine ventilation section provides computer programs (both FORTRAN and C++) to calculate not only air quantities and pressure losses but also the concentration of any pollutant in all junctions and branches of the mine network. Small particle mechanics and dust control is covered in the second section of the book. The third section on combustible gas control discusses all aspects of mine gases from origin to control. The last section on mine fire control discusses spontaneous combustion, frictional ignitions, mine explosions, and mine sealing and recovery. The book is not only a very good reference book but also an excellent textbook for two graduate level courses in Mining Engineering. Provides the latest knowledge on the four related topics of mine environment control; that is, ventilation, dust, gas, and fire in a single volume. Computer simulation of mine ventilation in both FORTRAN and C++. State-of-the-art respirable dust control. Mine degasification and methane production from a coal lease. Mine fire management.

Mineral Processing Design and Operation - Ashok Gupta 2006-06-26

Mineral Processing Design and Operations is expected to be of use to the design engineers engaged in the design and operation of mineral processing plants and including those process engineers who are engaged in flow-sheets development. Provides an orthodox statistical approach that helps in the understanding of the designing of unit processes. The subject of mineral processing has been treated on the basis of unit processes that are subsequently developed and integrated to form a complete strategy for mineral beneficiation. Unit processes of crushing, grinding, solid-liquid separation, flotation are therefore described in some detail so that a student at graduate level and operators at plants will find this book useful. *Mineral Processing Design and Operations* describes the strategy of mathematical modeling as a tool for more effective controlling of operations, looking at both steady state and dynamic state models. * Containing 18 chapters that have several worked out examples to clarify process operations * Filling a

gap in the market by providing up-to-date research on mineral processing *
Describes alternative approaches to design calculation, using example calculations
and problem exercises

Hard Rock Miner's Handbook - Jack De la Vergne 2008

Engineering - Unesco 2010-01-01

This report reviews engineering's importance to human, economic, social and cultural development and in addressing the UN Millennium Development Goals. Engineering tends to be viewed as a national issue, but engineering knowledge, companies, conferences and journals, all demonstrate that it is as international as science. The report reviews the role of engineering in development, and covers issues including poverty reduction, sustainable development, climate change mitigation and adaptation. It presents the various fields of engineering around the world and is intended to identify issues and challenges facing engineering, promote better understanding of engineering and its role, and highlight ways of making engineering more attractive to young people, especially women.--Publisher's description.

Surface Mining, Second Edition - B. A. Kennedy 1990

This SME classic is both a reference book for the working engineer and a textbook for the mining student. This hardcover edition gives a brief history of surface mining and a general overview of the state of surface mining today--topics range from production and productivity to technological developments and trends in equipment. This extremely useful text takes the approach that exploration and mining geologists must be expert in a number of fields, including basic finance and economics, logistics, and pragmatic prospecting. Readers will find material on all these topics and more. The book's nine chapters include: Introduction, Exploration and Geology Techniques, Ore Reserve Estimation, Feasibility Studies and Project Financing, Planning and Design of Surface Mines, Mine Operations, Mine Capital and Operating Costs, Management and Organization, and Case Studies. The book is fully indexed.

Open Pit Mine Planning & Design - W. A. Hustrulid 2006

Mining Engineering Analysis - Christopher J. Bise 2003

This textbook sets the standard for university-level instruction of mining engineering principles. With a thoughtful balance of theory and application, it gives students a practical working knowledge of various concepts presented. Its utility extends beyond the classroom as a valuable field reference for practicing engineers.

Engineering Fundamentals: An Introduction to Engineering, SI Edition - Saeed Moaveni 2011-01-01

Specifically designed as an introduction to the exciting world of engineering, ENGINEERING FUNDAMENTALS: AN INTRODUCTION TO ENGINEERING encourages students to become engineers and prepares them with a solid foundation in the fundamental principles and physical laws. The book begins with a discovery of what engineers do as well as an inside look into the various areas of specialization. An explanation on good study habits and what it takes to succeed is included as well as an introduction to design and problem solving, communication, and ethics. Once this foundation is established, the book moves on to the basic physical concepts and laws that students will encounter regularly. The framework of this text teaches students that engineers apply physical and chemical laws and principles as well as mathematics to design, test, and supervise the production of millions of

parts, products, and services that people use every day. By gaining problem solving skills and an understanding of fundamental principles, students are on their way to becoming analytical, detail-oriented, and creative engineers. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Introductory Mining Engineering - Howard L. Hartman 2002-08-09

An introductory text and reference on mining engineering highlighting the latest in mining technology Introductory Mining Engineering 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. This Second Edition is written with a focus on sustainability-managing land to meet the economic and environmental needs of the present while enhancing its ability to also meet the needs of future generations. Coverage includes aboveground and underground methods of mining for a wide range of substances, including metals, nonmetals, and fuels. Completely up to date, this book 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. Also included is new information on landscape restoration, regional planning, wetlands protection, subsidence mitigation, and much more. New chapters include coverage of: * Environmental responsibilities * Regulations * Health and safety issues Generously supplemented with more than 200 photographs, drawings, and tables, Introductory Mining Engineering, Second Edition is an indispensable book for mining engineering students and a comprehensive reference for professionals.

Mineral Economics and Policy - John E. Tilton 2016-03-17

This textbook provides an introduction to the field of mineral economics and its use in understanding the behaviour 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 RioTinto 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. The book should be an ideal text for graduate and undergraduate students in the fields of mining engineering and natural resource economics and policy. It should also be of interest to professionals and investors in mining and commodity markets, and those undertaking continuing education in the mineral sector.

The Social License - Robert Boutilier 2018-09-14

This unique book combines a colourful history of Bolivian politics with some of the most advanced quantitative techniques yet developed for socio-political risk analysis. This is the story of how a foreign-owned private sector mining company (Minera San Cristobal - MSC) earned, lost, and regained its social licence to operate. Robert Boutilier and Ian Thomson, leading experts in stakeholder management theory and practice, transform the concept of the SLO from a metaphor to a management tool. The book traces the development of new concepts and measures in the field of stakeholder engagement while following the narrative of a community struggling with a fundamental change in its identity from a declining, malnourished llama-herding village to one of the richest towns in Bolivia. This remarkable story will inspire practitioners in the field of stakeholder

management; it will provide an invaluable roadmap for professionals working on land re-use projects in the energy, mining, and conservation sectors; it will make stakeholder relations concepts and techniques accessible to students through an engaging and in-depth case study; and it will open your eyes to one of the most fascinating accounts of how two different cultures collided and then came together to address different but aligned goals.

Mineral Property Evaluation - Richard L. Bullock 2017-12-01

"Everything" sums up what must be considered for a properly documented property evaluation. 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. The handbook has a diverse audience: • Professionals in the minerals industry that perform mineral property evaluations. • Companies that have mineral properties and perform mineral property feasibility studies and evaluations or are buying properties based on property evaluation. • Financial institutions, both domestic and overseas, that finance or raise capital for the minerals industry. • Consulting firms and architectural and engineering contractors that utilize mineral property feasibility studies and need standards to follow. • And probably the most important, the mining and geological engineering students and geology and economic geology students that need to learn the standards that they should follow throughout their careers.

Basics of Metal Mining Influenced Water - Virginia T. McLemore 2008

Basics of Metal Mining Influenced Water is a must-read for planners, regulators, consultants, land managers, students, researchers, or others concerned about the environmentally sound management of metal mine wastes and drainage quality. The first of a series of six handbooks on technologies for managing metal mine and metallurgical process draining, this book offers a unique, comprehensive perspective on the subject. Unlike other texts that focus primarily on acid drainage from coal mines, the authors examine both acidic and neutral pH waters that can be hazardous to the environment. 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 by considering all aspects of the mine life cycle, including closure. Written by a team of experts from state and federal governments, academia, and the mining industry, Basics of Metal Mining Influenced Water also discusses the major physical and chemical relationships between mining, climate, environment, and mine

waste drainage quality. The authors have included an extensive glossary defining hundreds of technical terms for easier reading and understanding.

How Mining Works - W. Scott Dunbar 2015

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 colourful book presents a logical and sensible sequence for acquiring a strong working knowledge of the world of mining.

Study Guide for the Professional Licensure of Mining and Mineral Processing Engineers, Seventh Edition - Society for Mining Metallurgy and Explor 2008-12

This handy workbook lets you know what to expect and provides an opportunity to practice your test-taking skills. The text covers the history of professional licensure and the Mining and Minerals Processing exam, explains what licensing can do for you, outlines the engineering licensure process, highlights the six steps to licensure, covers the application process, includes the National Council of Examiners for Engineering and Surveying Model Rules of Professional Conduct and NEEES publications, and describes the testing process.

SME Mining Reference Handbook - Raymond L. Lowrie 2002

A practical field reference for mining and mineral engineers that is small enough to carry into the field. With its comprehensive store of charts, graphs, tables, equations, and rules of thumb, this handbook is the essential technical reference for mobile mining professionals.

SME Mining Engineering Handbook - Howard L. Hartman 1992

This comprehensive reference work distills the entire body of knowledge that characterizes mining engineering as a disciplinary field. It devotes attention to all branches of mining--metal, coal, and nonmetal--and to all locales of mining, including surface, underground, and hybrid.

SME Mining Engineering Handbook - Ivan A. Given 1973

Engineering for Calcareous Sediments Volume 1 - D. Andrews 2021-05-31

Volume 1 of the Proceedings of the International Society of Soil Mechanics and Foundation Engineering, Institution of Engineers Australia with the main topic of Engineering for Calcareous Sediments held in 1988.

Beneficiation of Phosphates - Patrick Zhang 2019-06-01

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. The Florida phosphate industry is seeing improvements in the processing of high dolomite reserves. Recent encouraging developments include new reagents that can float dolomite without using phosphoric acid as a phosphate depressant, reducing MgO content in the "Crago" flotation concentrate thus allowing blending of some high-dolomite pebbles in the final product, and innovative gravity separation. Topics include: Sustainability and the Environment Comprehensive Extraction and Smart Chemistry Flotation Fundamentals and Reagents Advances in

Processing Technology and Equipment

SME Mining Engineering Handbook - Howard L. Hartman 1992

Modern American Coal Mining - Bise, Christopher J. 2013-10-18

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. A useful glossary is included, as are many examples, figures, equations and tables, to make the text even more useful.

SME Mining Engineering Handbook, Third Edition - Peter Darling 2011

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. Virtually all of the information is original content, representing the latest information from more than 250 internationally recognized mining industry experts. Within the handbook's 115 thought-provoking chapters are current topics relevant to today's mining professional: Analyzing how the mining and minerals industry will develop over the medium and long term--why such changes are inevitable, what this will mean in terms of challenges, and how they could be managed Explaining the mechanics associated with the multifaceted world of mine and mineral economics, from the decisions associated with how best to finance a single piece of high-value equipment to the long-term cash-flow issues associated with mine planning at a mature operation Describing the recent and ongoing technical initiatives and engineering developments in relation to robotics, automation, acid rock drainage, block caving optimization, or process dewatering methods Examining in detail the methods and equipment available to achieve efficient, predictable, and safe rock breaking, whether employing a tunnel boring machine for development work, mineral extraction using a mobile miner, or cast blasting at a surface coal operation Identifying the salient points that dictate which is the safest, most efficient, and most versatile extraction method to employ, as well as describing in detail how each alternative is engineered Discussing the impacts that social and environmental issues have on mining from the pre-exploration phase to end-of-mine issues and beyond, and how to manage these two increasingly important factors to the benefit of both the mining companies and other stakeholders

SME Mineral Processing and Extractive Metallurgy Handbook - Courtney A. Young 2019-02-01

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 important cultural and social issues that are important today. Contents Mineral Characterization and Analysis Management and Reporting Comminution Classification and Washing Transport and Storage Physical Separations Flotation Solid and Liquid Separation Disposal Hydrometallurgy Pyrometallurgy Processing of Selected Metals, Minerals, and Materials

SME Mining Engineering Handbook - Arthur B. Cummins 1973

The Mining Valuation Handbook 4e - Victor Rudenno 2012-05-22

An essential, in-depth guide to mining investment analysis Written by a mining investment expert, *The Mining Valuation Handbook: Mining and Energy Valuation for Investors and Management* is a useful resource. It's designed to be utilized by executives, investors, and financial and mining analysts. The book guides those who need to assess the value and investment potential of mining opportunities. The fourth edition text has been fully updated in its coverage of a broad scope of topics, such as feasibility studies, commodity values, indicative capital and operating costs, valuation and pricing techniques, and exploration and expansion effects.

INCOSE Systems Engineering Handbook - INCOSE 2015-06-12

A detailed and thorough reference on the discipline and practice of systems engineering The objective of the International Council on Systems Engineering (INCOSE) Systems Engineering Handbook is to describe key process activities performed by systems engineers and other engineering professionals throughout the life cycle of a system. The book covers a wide range of fundamental system concepts that broaden the thinking of the systems engineering practitioner, such as system thinking, system science, life cycle management, specialty engineering, system of systems, and agile and iterative methods. This book also defines the discipline and practice of systems engineering for students and practicing professionals alike, providing an authoritative reference that is acknowledged worldwide. The latest edition of the INCOSE Systems Engineering Handbook: Is consistent with ISO/IEC/IEEE 15288:2015 Systems and software engineering--System life cycle processes and the Guide to the Systems Engineering Body of Knowledge (SEBoK) Has been updated to include the latest concepts of the INCOSE working groups Is the body of knowledge for the INCOSE Certification Process This book is ideal for any engineering professional who has an interest in or needs to apply systems engineering practices. This includes the experienced systems engineer who needs a convenient reference, a product engineer or engineer in another discipline who needs to perform systems engineering, a new systems engineer, or anyone interested in learning more about systems engineering.

SME (Society of Mining Engineers) Mining Engineering Handbook - - Cummins AB Ed 1973

Mine Tailings - Resa Furey 2020-12-16

Re-imagine the Future of Tailings 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.

SME Mining Reference Handbook, 2nd Edition - Heather N. Dougherty 2020-02-01
The go-to resource for professionals in the mining industry. 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. With its exhaustive trove of charts, graphs, tables, equations, and guidelines, the handbook is the essential technical reference for mobile mining professionals.

Open Pit Mine Planning and Design, Two Volume Set & CD-ROM Pack - William A. Hustrulid 2013-07-31
Building on the success of its 2006 predecessor, this 3rd edition of Open Pit Mine Planning and Design has been both updated and extended, ensuring that it remains the most complete and authoritative account of modern open pit mining available. Five new chapters on unit operations have been added, the revenues and costs chapter has been substantial

Project Management for Mining - Robin J. Hickson 2015-01-16
Before You Ever Put the First Shovel in the Ground—This Book Could Be the Difference Between a Successful Mining Operation and a Money Pit 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. So the Society for Mining, Metallurgy & Exploration has created this road map for you. 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. Each chapter includes several useful aids such as figures, checklists, and flowcharts to guide you through every step, from conception through successful opening.

SME Mining Engineering Handbook - Arthur B. Cummins 1973

An Introduction to Cut-off Grade Estimation - Jean-Michel Rendu 2008
Does the material being mined have enough value to be worth processing? Should it be processed immediately or stockpiled? And if multiple processes are available, like heap leaching and milling, which one should be used? A cut-off grade can provide the answers. 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. Increased cut-off grades can reduce political risks by ensuring higher financial returns over a shorter period of time. Conversely, lower cut-off grades may increase project life with longer economic benefits to shareowners, employees, and local communities. Cut-off grades also impact reported reserves, which are closely monitored by stock exchanges and regulatory agencies. Author Dr. Jean-Michel Rendu, an internationally recognized expert in the management, estimation, audit, and public reporting of mineral resources, provides practical insights into this critical variable. You'll learn about minimum cut-off grades, as well as those for deposits containing multiple valuable minerals. Dr. Rendu explains which costs should be included in cut-off grade calculations and considerations when planning open pit, underground, and block and panel caving operations. He shows how to optimize a copper mining project by changing grind size, and demonstrates the relationship between deposit modeling, ore control, and cut-off grades. An Introduction to Cut-off Grade Estimation includes dozens of charts, graphs, and mathematical formulas to explain basic concepts in a simple, step-by-step fashion. It is a "must read" for mine managers, analysts, geologists, mining engineers, and public policymakers who want to stay on the leading edge of their profession.

Coal Bed Methane - Pramod Thakur 2020-04-17
Coal Bed Methane: Theories and Applications, Second Edition, captures the full lifecycle of a coal bed methane well and offers petroleum geologists and engineers a single source for a broad range of coal bed methane (CBM) applications. The vast coal resources in the United States continue to produce tremendous amounts of natural gas, contributing to a diverse range of energy assets. This book addresses crucial technical topics, including exploration and evaluation of coal bed reservoirs, hydraulic fracturing of CBM wells, coal seam degasification, and production engineering and processing, among others. The book also covers legal issues and permitting, along with an economic analysis of CBM projects. This new edition includes information on new and established research and applications, making it relevant for field geologists and engineers, as well as students. Edited

by a team of coal bed methane experts from industry, academia and government with more than 100 years of combined experience in the field Contains more than 150 figures, photographs and illustrations to aid in the understanding of fundamental concepts Presents the full scope of improvements in U.S. energy independence, coal mine safety and greenhouse gas emissions

Underground Mining Methods - William A. Hustrulid 2001

Underground Mining Methods presents the latest principles and techniques in use today. Reflecting the international and diverse nature of the industry, a series

of mining case studies is presented covering the commodity range from iron ore to diamonds extracted by operations located in all corners of the world. Industry experts have contributed 77 chapters. This book is certain to become a standard for every practicing mining engineer and student alike. Sections include: General Mine Design Considerations, Room-and-Pillar Mining of Hard Rock/Soft Rock, Longwall Mining of Hard Rock, Shrinkage Stopping, Sublevel Stopping, Cut-and-Fill Mining, Sublevel Caving, Panel Caving, Foundations for Design, and Underground Mining Looks to the Future.