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International Coal Preparation Congress 2010 Conference Proceedings
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Submittal of the Senate Committee on Interior and Insular Affairs to the Senate Budget Committee Pursuant to Section 301(c) of the Congressional Budget Act
Improving Self-Escape from Underground Coal Mines
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CHASE SHANNON

Coal Production and Processing Technology Woodhead Publishing
Much has been written over the years about life in the coal mines of Appalachia. Not surprisingly, attention has focused mainly on the experiences of male miners. In Daughters of the Mountain, Suzanne Tallichet introduces us to a cohort of women miners at a large underground coal mine in southern West Virginia, where women entered the workforce in the late 1970s after mining jobs began opening up for women throughout the Appalachian coalfields. Tallichet's work goes beyond anecdotal evidence to provide complex and penetrating analyses of qualitative data. Based on in-depth interviews with female miners, Tallichet explores several key topics, including social relations among men and women, professional advancement, and union participation. She also explores the ways in which women adapt to mining culture, developing strategies for both resistance and accommodation to an overwhelmingly male-dominated world.
Code of Federal Regulations Elsevier
This 992-page book is a compilation of 118 state-of-the-art technical papers presented at the industry's most prestigious gathering. A CD containing the full text is included. Read what coal preparation experts from 20 countries have to share on a variety of current issues, including: • Water-based coal processing facilities and a review of plant designs and operations used throughout the world.• Breakthroughs in dense medium separations, water-based separation processes, froth flotation, and de-watering.• New wear-resistant materials proven to help plant operators reduce maintenance costs, elevate plant availability, and maintain a high level of process efficiency.• Groundbreaking methodologies that maximize the amount of coal recovered while meeting the required product specifications.• The processing and potential uses of waste.• Innovative online monitoring and control methods and the latest on the application of modeling and simulation.• Advancements in technologies that can upgrade coal without the use of water, including density-based, thermal, and optical dry cleaning.• And much, much more.
International Coal Preparation Congress

2010 Conference Proceedings University of Pittsburgh Pre
In Mining Engineering operations, mines act as sources of constant danger and risk to the miners and may result in disasters unless mining is done with safety legislations and practices in place. Mine safety engineers promote and enforce mine safety and health by complying with the established safety standards, policies, guidelines and regulations. These innovative and practical methods for ensuring safe mining operations are discussed in this book including technological advancements in the field. It will prove useful as reference for engineering and safety professionals working in the mining industry, regulators, researchers, and students in the field of mining engineering.
Daughters of the Mountain Elsevier
Coal is an important fossil fuel resource for many nations due to its large remaining resources, relatively low production and processing cost and potential high energy intensity. Certain issues surround its utilisation, however, including emissions of pollutants and growing concern about climate change. The coal handbook: Towards cleaner production Volume 1 reviews the coal production supply chain from analysis to extraction and distribution. Part one explores coal characterisation and introduces the industrial use of coal as well as coal formation, petrography, reserves, sampling and analysis. Part two moves on to review coal extraction and preparation. Chapters highlight advances in coal mining technology, underground coal gas extraction, coal sizing, comminution and cleaning, and solid-liquid separation technologies for coal. Further chapters focus on economic factors affecting coal preparation, post-treatment of coal, coal tailings treatment, and the optimisation, simulation and control of coal preparation plants. Finally, part three considers aspects of the coal supply chain including the management approach and individual functions such as coal blending and homogenisation, transportation and handling along the entire supply chain. With its distinguished editor and international team of expert contributors, The coal handbook Volumes 1 and 2 is a comprehensive and invaluable resource for professionals in the coal mining, preparation, and utilisation industry, those in the power sector, including plant operators and engineers, and researchers and academics interested in this field. Reviews the coal production supply chain from analysis to extraction and distribution Explores coal characterisation, formation, petrography, reserves, sampling and analysis Examines coal extraction and preparation and highlights advances in coal mining technology, underground coal gas extraction, coal sizing, comminution and cleaning, and solid-liquid separation technologies
Advances in Productive, Safe, and Responsible Coal Mining Society for Mining, Metallurgy & Exploration
Coal mine disasters in the United States are relatively rare events; many of the roughly 50,000 miners underground will never have to evacuate a mine in an emergency during their careers. However, for those that do, the consequences have the potential to be devastating. U.S. mine safety practices have received increased attention in recent years because of the highly publicized coal mine disasters in 2006 and 2010. Investigations have centered on understanding both how to prevent or mitigate emergencies and what capabilities are needed by miners to self-escape to a place of safety successfully. This report focuses on the latter - the preparations for self-escape. In the wake of 2006 disasters, the U.S. Congress passed the Mine Improvement and New Emergency Response Act of 2006 (MINER Act), which was designed to strengthen existing mine safety regulations and set forth new measures aimed at improving accident preparedness and emergency response in underground coal mines. Since that time, the efforts of the National Institute of Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA) have contributed to safety improvements in the mining industry. However, the Upper Big Branch mine explosion in 2010 served as a reminder to remain ever vigilant on improving the prevention of mine disasters and preparations to help miners survive in the event of emergencies. This study was set in the context of human-systems integration (HSI), a systems approach that examines the interaction of people, tasks, and equipment and technology in the pursuit of a goal. It recognizes this interaction occurs within, and is influenced by, the broader environmental context. A key premise of human-systems integration is that much important information is lost when the various tasks within a system are considered individually or in isolation rather than in interaction with the whole system. Improving Self-Escape from Underground Coal Mines, the task of self-escape is part of the mine safety system.
The Coal Industry CRC Press
The Office of Industrial Technologies (OIT) of the U. S. Department of Energy commissioned the National Research Council (NRC) to undertake a study on required technologies for the Mining Industries of the Future Program to complement information provided to the program by the National Mining Association. Subsequently, the National Institute for Occupational Safety and Health also became a sponsor of this study, and the Statement of Task was expanded to include health and safety. The overall objectives of this study are: (a) to review available information on the U.S. mining industry; (b) to identify critical research and development needs related to the exploration, mining, and processing of coal, minerals, and metals; and (c) to examine the federal contribution to research and development in mining processes.
Coal Bed Methane Springer
Sustainable Management of Coal Preparation explains both the upstream and downstream of coal preparation, stressing clean coal technologies for coal utilization. It not only discusses the sustainability of coal preparation, but also considers the governance and management issues that come with fulfilling economic, social and environmental obligations of a sustainable mining operation. Divided in three parts, the book explains the preparation of coking and non-coking coal, clean technologies, the principles of sustainable management and emerging management issues. The inclusion of case studies also provides a practical perspective for the planning and design of coal preparation activities and environmental management. Offers an integrated approach to pursue sustainable management between mining, coal preparation and final use of coal Explains the economic aspects of coal preparation in a modern/developing society with zero-waste concept Compiles the best technologies from around the world Uses India, a developing country, as a case study to apply technologies where there is maximum potential for application and benefit
Fossil Energy Update Penn State Press
Advances in Productive, Safe, and Responsible Coal Mining covers the latest advancements in coal mining technology and practices. It gives a comprehensive introduction to the latest research and technology developments, addressing problems and issues currently being faced, and is a valuable resource of complied technical information on the latest coal mining safety and health research. As coal's staying power has been at the forefront of the world’s energy mix for more than a century, this book explores critical issues affecting coal mining,

including how to maintain low-cost productivity, address health and safety hazards, and how to be responsible environmental stewards. This book takes a holistic approach in addressing each issue from the perspective of its impact on the coal mining operation and industry as a whole. Explains how to effectively produce coal within existing environmental constraints Encapsulates the latest health and safety research and technological advances in the coal mining industry Written by authors who have developed the latest technology for coal mines

Mine Ventilation and Air Conditioning National Academies Press

Coal Bed Methane: From Prospect to Pipeline is the proceedings of the 25th anniversary of the North American Coal Bed Methane Forum. It provides the latest advancements in the production of coal bed methane covering a variety of topics, from exploration to gas processing, for commercial utilization. Additionally, it presents the origin of gas in coal, reservoir engineering, control of methane in coal mines, production techniques, water management, and gas processing. The vast coal resources in the United States continue to produce tremendous amounts of natural gas, contributing to a diverse range energy assets. Following a rapid advancement and subsequent plateau in technological developments, this book captures the full life cycle of a well and offers petroleum geologists and engineers a single source of a broad range of coal bed methane applications. 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. It also covers legal issues, permitting, and economic analysis of CBM projects. Edited by a team of coal bed methane experts from industry, academia and government who have more than 75 years of combined experience in the field Authored by well-recognized members of the gas and coal industry, universities, US government departments, such as the Department of Energy and the National Institute of Occupational Safety and Health (NIOSH) More than 200 figures, photographs, and illustrations aid in the understanding of the fundamental concepts Presents the full scope of improvements in US energy independence, coal mine safety, and greenhouse gas emissions

Duty Cycle Study of Coal Mine Shuttle Cars National Academies Press

Design of Underground Hard-Coal MinesElsevier

Report of the ... and ... Meetings of the British Association for the Advancement of Science National Academies Press

Your resource for advancements in equipment and technology for coal preparation. 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.

Challenges and Opportunities in Coal Preparation Elsevier

With recent advancements in battery technology, there is an acute interest in increasing the number of battery-powered haulers for use in underground mining. In an attempt to commercialize and implement the new battery technologies, machine manufacturers must determine the capacity, durability, and performance of these batteries over critical and tough conditions in underground mining operations. Study of the duty cycle of underground haulage units is the basis by which verification of the need and demands for power for such units can be determined for the purpose of sizing suitable batteries. This thesis discusses the measurement of duty cycles of coal mine shuttle cars in two underground coal mines in central Pennsylvania along with the discussion and analysis of the measured duty cycles. Observations and measurements were made to quantify/differentiate the performance of the shuttle cars under different road conditions and mine operating requirements. The measurement of the duty cycles for various shuttle cars was mostly performed by recording the available machine information through the vehicle on-board communication ports such as CAN bus interfaces. Each work cycle includes real time power consumption during different work segments (e.g., loading, loaded tramming, dumping, and empty tramming), mean power for the entire duty cycle, order and duration of peak powers, and required energy for the entire cycle and different work segments. Moreover, cycle timing and intermittent delays occurring during each work segment are included in the duty-cycle study. The required energy by work cycle is summed over the course of each work shift and then correlated with utilization.Analysis of the data has allowed for evaluation of these parameters and quantification of the arithmetic average, root mean square, and dispersions of related parameters such as cycle time, delay times, average power and energy consumptions, peak power and energy consumptions, and finally the proportion of power consumption in each segment of the duty cycle as well various functions. Statistical analysis is used to develop formulas for estimation of operating parameters of such haulage units based on the distance, weight of the haulage units, and road conditions. The statistical models include average and peak power and energy consumptions. Also a separate analysis was performed to estimate the amount of machine utilization and delay times for each component of the work cycle. The observations and developed models allow for estimation of the required battery power and storage capacity for underground haulage units and expansion of the results to similar operational conditions with different panel geometries.

Evolutionary and Revolutionary Technologies for Mining CRC Press

For more than one hundred years, until the 1920s, coal production involved blasting a seam of coal and loading it by had into a mine car. In the late 1920s, operators introduced machines into the mines, including the coal loader. In this book, Keith Dix explores the impact of technology on miners and operators during a crucial period in industrial history. Dix reconstructs the social, political, technical and economic environment of the “hand-loading” era and then views the evolution of mechanical coal technology, including the inventions of Joseph Joy. He also examines the rise of the United Mine Workers under John L. Lewis, and the expanded role of the state under New Deal legislation and regulations.

Mine Safety Science and Engineering John Wiley & Sons

This revised edition presents an engineering design approach to ventilation and air conditioning as part of the comprehensive environmental control of the mine atmosphere. It provides an in-depth look, for practitioners who design and operate mines, into the health and safety aspects of environmental conditions in the underground workplace.

Quarterly of the Colorado School of Mines
SME
This book describes the phases for innovative metallurgical process development, from concept to commercialization. Key features of the book include: • Need for process innovation • Selection and optimization of process steps • Determination of the commercial feasibility of a process including engineering and equipment selection • Determination of the environmental footprint of a process • Case-study examples of innovative process development
John Henry No.1 Mine, King County
Woodhead Publishing
Coal Production and Processing Technology provides uniquely comprehensive coverage of the latest coal technologies used in everything from mining to greenhouse gas mitigation. Featuring contributions from experts in industry and academia, this book:Discusses coal geology, characterization, beneficiation, combustion, coking, gasification, and liquef
Labor in a Basic Industry Design of Underground Hard-Coal Mines
The escalating worldwide demand for energy has had the effect, among other things, of promoting the development of coal mining. In some countries specialist design offices were set up and students trained as specialists in mine design and construction. Poland, a country having mining traditions stretching over many centuries, is a good example, and has gained a place in the forefront, not only as a coal producer and exporter, but also as an originator and exporter of technical mining know-how. The author of this book has himself had 25 years of practical experience in mine design, in the supervision of mining investment implementation both at home and abroad, and also in directing the activities of the Chief Mine Design and Studies Office in Poland, plus more than 20 years' teaching experience in the training of mining engineers, in particular as head of the Mine Design Department of the Mining Faculty at the Silesian Polytechnic University in Gliwice. This vast wealth of experience has prompted him to write the present book which discusses the basic problems met with in the design of underground hard-coal mines. The author's primary aim has been to deal with all those questions in mine design which have not yet been answered in mining textbooks and which, from his own personal experience, he considers to be of importance. Accordingly, he presents the general principles governing the design of new mines and the reconstruction of working mines, the development of mining regions, the design of coal-preparation plant, and energy economy in mines. Making use of the broad experience gained by the Polish mining industry in the implementation of mining investment projects, he has quoted several examples of technical and organizational solutions which effectively shorten the mine construction cycle. The book is addressed chiefly to investors and engineers engaged in preparing plans for the development of mining regions, for the construction of new mines, and the reconstruction of existing mines and preparation plants, as well as to students in mining departments of technical schools and universities. The information offered here is of great practical value and may well stimulate the development of new ideas for design and implementation concepts.
Proposed John Henry No. 1 Mine, King County, Washington
Coal will continue to provide a major portion of energy requirements in the United States for at least the next several decades. It is imperative that accurate information describing the amount, location, and quality of the coal resources and reserves be available to fulfill energy needs. It is also important that the United States extract its coal resources efficiently, safely, and in an environmentally responsible manner. A renewed focus on federal support for coal-related research, coordinated across agencies and with the active participation of the states and industrial sector, is a critical element for each of these requirements. Coal focuses on the research and development needs and priorities in the areas of coal resource and reserve assessments, coal mining and processing, transportation of coal and coal products, and coal utilization.
Report of the ... Meeting of the British Association for the Advancement of Science
Design of Underground Hard-Coal Mines

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