This book contains a wealth of information and analysis relating to mineral royalties. Primary information includes royalty legislation from over forty nations. Analysis is comprehensive and addresses issues of importance to diverse stakeholders including government policymakers, tax administrators, society, local communities and mining companies. Extensive footnotes and citations provide a valuable resource for researchers.

The impact of mining is too big to ignore in a world of oversubscribed water. This is true of conventional mining as much as – or even more than – hydraulic fracturing (fracking). The legacy issues of such mining on water have not been fully appreciated, especially the irretrievable effects mining has had on communities and ecosystems around the world through its impact on water. Yet this is not an ‘us-or-them’ problem: the wealth, influence and technical knowledge of mining interests can and must be part of the solution. All of the contributions to this volume either consider the deficiencies of existing governance structures and the need for better ones, or explore the use of new techniques to identify and evaluate social and environmental impacts. The chapters in this book were originally published in the journal Water International.

The history of mining is replete with controversy of which much is related to environmental damage and consequent community outrage. Over recent decades, this has led to increased pressure to improve the environmental and social performance of mining operations, particularly in developing countries. The industry has responded by embracing the ideals of sustainability and corporate social responsibility. 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. Practical approaches are provided for managing issues ranging from land acquisition and resettlement of Indigenous peoples, to the technical aspects of acid rock drainage and mine waste management. Moreover, thorough analyses of ways and means of sharing non-transitory mining benefits with host communities are presented to allow mining to provide sustainable benefits for the affected communities. 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. The wide coverage of issues and the many real-life case studies make this practice-oriented book a
Mining is a transformative activity which has numerous economic, social and environmental impacts. These impacts can be both positive and adverse, enhancing as well as disrupting economies, ecosystems and communities. The extractive industries have been criticised heavily for their adverse impacts and involvement in significant social and environmental scandals. More recently, these industries have sought to respond to negative perceptions and have embraced the core principles of sustainability. This sector could be regarded as a leader in sustainability initiatives, evident from the various developments and frameworks in mining and sustainability that have emerged over time. This book reviews current topical issues in mining and sustainable development. It addresses the changing role of minerals in society, the social acceptance of mining, due diligence in the mining industry, critical and contemporary debates such as mining and indigenous peoples and transit worker accommodation, corporate sustainability matters such as sustainability reporting and taxation, and sustainability solutions through an emphasis on renewable energy and shared-used infrastructure. Written by experts from Australia, Europe and North America, but including examples from both developed and developing countries, the chapters provide a contemporary understanding of sustainability opportunities and challenges in the mining industry. The book will be of interest to practitioners, government and civil society as well as scholars and students with interests in mining and sustainable development.

The mining sector has been an integral part of economic development in many African countries. Although minerals have been exploited for decades in these countries, the benefits have not always been as visible. This has necessitated reforms including nationalisation of mining activities in the distant past; and currently legal and regulatory reforms. This book gives an insight of these reforms and with reference to the fieldwork research undertaken by the author in some African countries, the book highlights the social and environmental impacts of mining activities in Africa. The central question of the book is, why the mining laws have worked in some countries but not others and what can be done to ensure that these laws are effective? Consequently, the book analyses the legal reforms made in the sector and highlights both the challenges and the opportunities for foreign investors as well as the African governments and local communities. The book will be of great interest to researchers and students in Energy and Geography related fields, as well as to practitioners and policy makers.

New Knowledge and Changing Circumstances in the Law of the Sea focuses on the challenges posed to the existing legal framework, in particular the United Nations Convention on the Law of the Sea, and the various ways in which States are addressing these challenges.

Winner of the 2007 E.B. Burwell, Jr. Award of the Geological Society of America Mining activity has left a legacy of hazards to the environment, such as waste, unstable ground and contamination, which can be problematic when redeveloping land. This book highlights the effects of past mining and provides information on the types of problems it may cause in both urban and rural areas. By way of example, the book also demonstrates how such problems may be anticipated, investigated, predicted, prevented and controlled. Furthermore, it shows how sites already affected by mining problems and hazards can be remediated and rehabilitated. Covering subsidence, surface mining, disposal of waste, problems resulting from mine closure and mineral processing, Mining and its Impact on the Environment is an excellent reference for practising mining and geotechnical engineers, as well as to practitioners and policy makers.
of mining activities on PAs and how can they be mitigated? The aim of the paper is to figure out important impacts of mining activities on PAs and to highlight possible solutions for mitigation.

For most countries in the Eastern Europe, Caucasus and Central Asia (EECCA) region, mining is an important economic sector that contributes to employment and public revenue. Despite mining’s potential to cause long-term negative environmental impacts, governments in the region have a vital role to play in supporting better environmental performance in the sector and ensuring the industry can be a progressive part of a greener economy. This report examines the environmental impacts of mining in the EECCA and provides policy makers with guidance to reconcile environmental and competitiveness objectives in the mining sector.

Winner of the 2007 E.B. Burwell, Jr. Award of the Geological Society of America Mining activity has left a legacy of hazards to the environment, such as waste, unstable ground and contamination, which can be problematic when redeveloping land. This book highlights the effects of past mining and provides information on the types of problems it may cause in both urban and rural areas. By way of example, the book also demonstrates how such problems may be anticipated, investigated, predicted, prevented and controlled. Furthermore, it shows how sites already affected by mining problems and hazards can be remediated and rehabilitated. Covering subsidence, surface mining, disposal of waste, problems resulting from mine closure and mineral processing, Mining and its Impact on the Environment is an excellent reference for practising mining and geotechnical engineers, as well as students in this field.

The archipelago of the Philippines is well endowed with nonferrous mineral resources, and in recent years the Philippine government, acting under the influence of the dominant and seemingly ubiquitous neoliberal development paradigm, has liberalized its mining laws in order to accelerate economic development. Yet the Philippines is also a country highly prone to a variety of natural hazards that have the ability to interact adversely with mining’s potential for environmental degradation. Thus there are great dangers inherent in pursuing such a development paradigm: earthquakes can destabilize tailings storage facilities, typhoons can flood tailings ponds, and mine-pit dewatering can enhance the competition for groundwater resources during droughts. This study explores how these hazards amplify the environmental harm prevalent in mining, and reveals the substantial threat posed to the livelihoods of the archipelago’s poor, as well as the inadequacies of the very institutions designed to protect their environment.

Since coal is seen by many as the logical solution to the nation’s energy crisis, strip mining operations will continue. But they will continue amid intense public debate, much of it centering on the standards that will govern reclamation. In this book leading authorities address the economic, environmental, and legal ramifications of land reclamation following coal surface mining, review the status of the coal industry, and look at possible future developments.

Environmental Impact of Mining and Mineral Processing: Management, Monitoring, and Auditing Strategies covers all the aspects related to mining and the environment, including environmental assessment at the early planning stages, environmental management during mine operation, and the identification of major impacts. Technologies for the treatment of mining, mineral processing, and metallurgical wastes are also covered, along with environmental management of mining wastes, including disposal options and the treatment of mining effluents. Presents a systematic approach for environmental assessment of mining and mineral processing projects Provides expert advice for the implementation of environmental management systems that are unique to the mining industry Effectively addresses a number of environmental challenges, including air quality, water quality, acid mine drainage, and land and economic impacts Explains the latest in environmental monitoring and control systems to limit the environmental impact of mining and processing operations
Corporations are among the most powerful institutions of our time, but they are also responsible for a wide range of harmful social and environmental impacts. Consequently, political movements and nongovernmental organizations increasingly contest the risks that corporations pose to people and nature. Mining Capitalism examines the strategies through which corporations manage their relationships with these critics and adversaries. By focusing on the conflict over the Ok Tedi copper and gold mine in Papua New Guinea, Stuart Kirsch tells the story of a slow-moving environmental disaster and the international network of indigenous peoples, advocacy groups, and lawyers that sought to protect local rivers and rain forests. Along the way, he analyzes how corporations promote their interests by manipulating science and invoking the discourses of sustainability and social responsibility. Based on two decades of anthropological research, this book is comparative in scope, showing readers how similar dynamics operate in other industries around the world.

As coal is considered as a substitute for other fuels, more serious attention is being given to the environmental impacts of the whole coal fuel cycle: mining, transport, storage, combustion and conversion. This volume presents an up-to-date account of these environmental impacts and the recent developments to combat and control them. A feature of the book is the way in which it discusses not only the experience and developments in North America and Western Europe but also presents much information made available for this study on the developments in the socialist countries of Eastern Europe.

Since the mining industry is still expanding, comprehensive information on the effects of mining activities on the environment is needed. This book provides information on biological and physico-chemical treatments of mining effluents, on factors affecting human health and on environmental effects that have to be taken into account by the mining industry when aiming for sustainable development of their industry. Further regulatory guidelines and legislation relevant to the decommissioning of mining sites are reviewed. Mining industry, consulting companies, and governmental agencies alike will find a wealth of valuable information in this book.

This first Issue in the series contains nine articles written by leading British and American experts from the mining industry, regulatory authorities, and academia, and incorporates the latest research. Following an introductory overview of many of the issues of current concern to the field, the book deals with a wide variety of topics, ranging from the environmental impact of gold mining in the Brazilian Amazon, through the issues relevant to coal mining, vegetative and other remediation strategies and procedures and water pollution, to a thorough analysis of environmental management and policy initiatives. The issues raised in Mining and its Environmental Impact may point the way to future solutions to the economic, technological and environmental problems associated with mining in all its aspects and make this volume key reading for practitioners and researchers in the field, as well as for environmentalists generally.

The purpose of this book is to examine both the positive and negative socioeconomic impacts of artisanal and small-scale mining in developing countries. In recent years, a number of governments have attempted to formalize this rudimentary sector of industry, recognizing its socioeconomic importance. However, the industry continues to be plagued by a wide range of problems, including environmental and health-related impacts, rampant illegal activity and illicit mineral marketing, and disease. The book provides an up-to-date overview of social and economic conditions in the artisanal and small-scale mining industry, integrating both theoretical assessments with case study research recently undertaken in the field. It features the following five sections: Policy and Regulatory Issues in the Small-Scale Mining Industry; Artisanal and Small-Scale Mining, Labour and the Community; African Case Studies of Artisanal and Small-Scale Mining; Asian Case Studies of Artisanal and Small-Scale Mining; and Latin American Case Studies of Artisanal and Small-Scale Mining. Geared toward servicing a wide-ranging audience, including academics, consultants, and government researchers, The Socioeconomic Impacts of Artisanal and Small-Scale Mining in Developing Countries is an invaluable tool for policy-makers at all levels.

"This second edition examines the problems facing the mining industry, and offers practical case studies, as well as new solutions for environmental restoration and remediation. New topics include bioremediation technology, mountaintop surface coal mining, reclamation procedures, environmental impacts of gold mining, mining in different countries worldwide, and the resulting environmental problems. The book is considered a "must have" book for environmental engineers and professionals in the mining industry, geologists, hydrologists, hazardous waste professionals, and academics"--
This volume investigates how mining affects societies and communities in Mongolia and Kyrgyzstan. As ex-Soviet states, Mongolia and Kyrgyzstan share history, culture and transitions to democracy. Most importantly, both are mineral-rich countries on China's frontier and epicentres of resource extraction. This volume examines challenges communities in these countries encounter on the long journey through resource exploration, extraction and mine closure. The book is organised into three related sections which travel from mine licensing and instigation to early anticipation of benefit through the realisation of social and environmental impacts to finite issues such as jobs, monitoring, dispute resolution and reclamation. Most originally, each chapter will include a final section entitled ‘Notes from the Field’ that presents the voice of in-country researchers and stakeholders. These sections will provide local contextual knowledge on the chapter’s theme by practitioners from Mongolia and Central Asia. The volume thereby offers a distinctively grounded perspective on the tensions and benefits of mining in this dynamic region. Using Mongolia and Kyrgyzstan as case studies, the volume reflects on the evolving challenges communities and societies encounter with resource extraction worldwide. The book will be of great interest to students and scholars of mining and natural resource extraction, corporate social responsibility and sustainable development.

Life Cycle Assessment for Sustainable Mining addresses sustainable mining issues based on life cycle assessment, providing a thorough guide to implementing LCAs using sustainability metrics. The book details current research on LCA methodologies related to mining, their outcomes, and how to relate sustainable mining concepts in a circular economy. It is an in-depth, foundational reference for developing ideas for technological advancement through designing reduced-emission mining equipment or processes. It includes literature reviews and theoretical concepts of life cycle assessments applied in mining industries, sustainability metrics and problems related to mining and mineral processing industries identified by the life cycle assessment results. This book will aid researchers, students and academics in the field of environmental science, mining engineering and sustainability to see LCA technology outcomes which would be useful for the future development of environmentally-friendly mining processes. Details state-of-the-art life cycle assessment theory and practices applied in the mining and mineral processing industries Includes in-depth, practical case studies outlined with life cycle assessment results to show future pathways for sustainability enhancement Provides fundamental knowledge on how to measure sustainability metrics using life cycle assessment in mining industries

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 compiled 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

Assessment, Restoration and Reclamation of Mining Influenced Soils covers processes operating in the environment as a result of mining activity, including the whole spectra of negative effects of anthropopressure and the environment, from changes in soil chemistry, changes in soil physical properties, geomechanical disturbances, and mine water discharges. Mining activity and its waste are an environmental concern. Knowledge of the fate of potentially harmful elements and their effect on plants and the food chain, and ultimately on human health, is still being understood. Therefore, there is a need for better knowledge on the origin, distribution, and management of mine waste on a global level. This book provides information on hazard assessment and remediation of the disturbed environment, including stabilization of contaminated soils and phytoremediation, and will help scientists and public authorities formulate answers to the daily challenges related to the restoration of contaminated land. Provides a thorough overview of the processes operating on mining-devastated areas, as well as origin, distribution, and deactivation of harmful elements Includes outcomes and recommendations of the Global Mining Initiative that are widely regarded as the code of conduct in the minerals industry Contains global case studies that elucidate various aspects of assessment and restoration of mine-contaminated land
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.

Environmental Impacts of Mining is a comprehensive reference addressing some of the most significant environmental problems associated with mining. These issues include destruction of landscapes, destruction of agricultural and forest lands, sedimentation and erosion, soil contamination, surface and groundwater pollution, air pollution, and waste management. The book presents an agenda for minimizing environmental damage and offers solutions for the restoration and remediation of degraded areas. This book is a "must have" for environmental consultants, regulators, planners, workers in the mining industry, geologists, hydrologists, hazardous waste professionals, and instructors in the environmental sciences.

Uranium mining in the Commonwealth of Virginia has been prohibited since 1982 by a state moratorium, although approval for restricted uranium exploration in the state was granted in 2007. Uranium Mining in Virginia examines the scientific, technical, environmental, human health and safety, and regulatory aspects of uranium mining, milling, and processing as they relate to the Commonwealth of Virginia for the purpose of assisting the Commonwealth to determine whether uranium mining, milling, and processing can be undertaken in a manner that safeguards the environment, natural and historic resources, agricultural lands, and the health and well-being of its citizens. According to this report, if Virginia lifts its moratorium, there are "steep hurdles to be surmounted" before mining and processing could take place within a regulatory setting that appropriately protects workers, the public, and the environment, especially given that the state has no experience regulating mining and processing of the radioactive element. The authoring committee was not asked to recommend whether uranium mining should be permitted, or to consider the potential benefits to the state were uranium mining to be pursued. It also was not asked to compare the relative risks of uranium mining to the mining of other fuels such as coal. This book will be of interest to decision makers at the state and local level, the energy industry, and concerned citizens.

This study assesses the impact of artisanal gold mining in the Ngoyla-Mintom Forest Massif (NMFM) on local livelihoods and the environment. The methodology for the research consisted in a literature review, visits to eight mining camps in the periphery of Mintom, interviews with 95 miners, focus group discussions with actors involved in activities related to gold mining, and stakeholder consultations. The results show that miners earn a minimum of XAF 80,000 (US$ 160) per month, which is about three times the average wage in Cameroon (XAF 28,216 or US$56) and as much as XAF 800,000 (US$ 1600) a month. Mining leads to the creation of many associated activities such as portering, catering and the intensification of hunting, collection of NTFPs, and fishing, among others. The most negative social impact of mining is associated with activities such as prostitution, which leads to the quick spread of sexually transmitted diseases (STDs) including HIV/AIDS. Mining and its associated activities also have negative impacts on the environment such as destruction of fragile forest ecosystems especially swamps, diversion, sedimentation and pollution of small water ways, and soil destruction, although at a relatively small scale.

"Heavy Metals: Problems and Solutions" is divided into three sections dealing with basic geochemical processes, remediation and case studies. The basic geochemical processes are discussed with respect to mobility in the environment and impact as well as methods to derive guidelines for heavy metals. Remediation focuses on currently available methods to treat contaminated sediments and soils. In addition, it considers the concept of geochemical engineering for remediation of large areas contaminated by metals. A number of case studies of polluted sediments and soils and their environmental impact highlight the principles discussed in the first two sections.

Ecological Management of Mining: Achieving Environmental Compliance is a study and comparison - global in scope - of current practices used by mining firms striving for ecological management. The author takes an integrated and interdisciplinary approach in addressing, analyzing and working towards solutions regarding the complex challenges posed by managing
the environmental impacts of mining. The issues addressed range from the ecotoxicological effects of metal residues to the land use effects of mining and from socioeconomic impacts to environmental regulation. The goal of this book is to assist mining companies throughout the world to achieve environmental compliance and improve competitiveness in the context of growing environmental regulation and technological innovation. It is an essential book for the wide variety of professionals working on issues in mining. Like the book and the research itself, the audience is integrated and interdisciplinary including engineers, planners, ecologists, policy makers and economists. Features

This volume discusses environmental issues associated with deep-sea mining, with an emphasis on potential impacts, their consequences and the policy perspectives. The book describes the methods and technologies to assess, monitor and mitigate mining impacts on marine environments, and also suggests various approaches for environmental management when conducting deep-sea mining. The volume brings together information and data for researchers, contractors, mining companies, regulators, and NGOs working in the field of deep-sea mining. Section 1 highlights the various environmental issues and discusses methods and approaches that can help in developing environmentally sustainable deep-sea mining. Section 2 details the results and outcomes of studies related to impact assessment of deep-sea mining, and proposes methods for monitoring. Section 3 discusses the need and means for developing data standards and their application to deep-sea mining. Section 4 discusses the policies, approaches, and practices related to deep-sea mining, suggests formats for developing environmental impact statements (EIS) and environmental management plans (EMP), and describes national and international regulations for environmental management. Section 5 concludes the text by putting deep-sea economic activities into an environmental context and conducting techno-economic analyses of deep-sea mining and processing.

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