Sustainable Mining Practice: A global perspective

This book considers international developments in sustainable mining practices over the last twenty-five years. It addresses issues such as managing mining waste, mine closure, the environmental impacts of mining, land use planning and energy use management. Sustainable Mining Practice provides detailed coverage both of successful sustainable mining systems and technologies, as practised in large-scale operations in the U.S., Europe and Australia, as well as practices in developing countries such as India for controlling small-scale mining. The concluding chapter of the book presents case histories of sustainable mining practices from the Americas, Asia (with emphasis on India), Australia, Africa (Tanzania and Zambia) and Europe.

The primary audience for this book are mine safety and environment personnel, mine and reclamation planners, practising mining engineers, and environmental managers in mining companies. This book will also be of interest to consulting engineers and scientists, as well as college students, regulators/governmental agencies and their permitting and operations personnel. It contains a wealth of information on cleaner production and advice on minimizing the environmental impacts of mining.

About the authors:

Dr. Vasudevan Rajaram, P.E. is a licensed professional engineer, a certified professional geologist, and an attorney with over 30 years of experience in mining and environmental fields. He is currently an environmental consultant in Chicago, Illinois. His experience covers a wide range of projects in the United States, Canada and India.

Mr. Subijoy Dutta, P.E. is a registered professional engineer with over 15 years of experience in environmental management of hazardous, solid and medical wastes. He has also authored a book on Environmental Treatment Technologies for Hazardous and Medical Wastes: Remedial Scope and Efficacy (Tata McGraw Hill, 2002). His expertise includes the treatment, storage and disposal system design for mining waste, municipal solid waste, and hazardous waste. He designed and completed installation of an unique wastewater treatment (Reuse) system in Hyderabad India in September 2004.

Dr. Krishna Parameswaran, P.E. is a licensed professional engineer with over 30 years of mining industry and engineering and management consulting experience. He is currently Director - Environmental Services and Compliance Assurance in the Environmental Affairs Department at ASARCO LLC (Asarco) in Phoenix. He has held various positions in Asarco’s Central Research and Government Affairs Departments. Dr. Parameswaran’s interests include sustainable development as it relates to mining, implementation of Environmental Management Systems, recycling of metals, energy use in metals production, life cycle energy assessments of competing products.

Contents:

- Cleaner production practices
- Blasting impacts and their control
- Minimizing of surface water impacts, groundwater impacts and surface subsidence
- Use of environmental indicators in mining
- Emerging mining technologies minimizing environmental impacts
- Mineland reclamation and abandoned mineland reclamation
- Waste management issues: tailings management and risk evaluation of facilities
- Waste rock disposal: including acid mine drainage control
- Hazardous waste management: with emphasis on maintenance wastes
- Best Management Practices for Sustainable Mining,
- Small-scale mining: tailings pond management and hazardous waste management