Groundwater Wells Fletcher G Driscoll

Publisher Description

Introductory technical guidance for civil engineers interested in water supply systems. Here is what is discussed: 1. INTRODUCTION 2. WATER REQUIREMENTS 3. CAPACITY OF WATER SUPPLY SYSTEM 4. WATER SUPPLY SOURCES 5. GROUND WATER SUPPLIES 6. SURFACE WATER SUPPLIES 7. INTAKES 8. RAW WATER PUMPING FACILITIES 9. WATER SYSTEM DESIGN PROCEDURE 10. APPENDIX A: BIBLIOGRAPHY 11. APPENDIX B: SAMPLE WELL DESIGN 12. APPENDIX C: DRILLED WELLS.

Suitable for courses in water/wastewater treatment and environmental engineering this text provides an introduction to the design of water and wastewater treatment systems. This edition has been revised to incorporate recent improvements in the understanding of fundamental phenomena, applications of new technologies and materials, and new computational techniques. It focuses on designing treatment, distribution, and collection systems that work and includes coverage of factors involved in cost analysis, stressing the importance of economics in engineering design. Changes to this edition include: an expanded treatment of important theoretical and practical aspects of hydraulics, including control and measurement;modern treatment of urban hydrology and storm water control;an emphasis on the inter-relationship of environmental problems.

Natural Resources and Sustainability explores how human needs and desires, from sustenance and shelter to recreation and travel, have spurred the consumption of Earth's material resources. Scientists, ecologists, and other expert authors present the historical impact of commercial activities (in industries as varied as fisheries, agriculture, energy, and mineral extraction), discuss the global distribution and use of renewable and nonrenewable resources, and focus on innovative approaches for the future. Readers will learn why renewal doesn't necessarily put a resource beyond harm and why the no-free-lunch adage applies to all natural resources.

Groundwater and WellsReynolds Guyar Designs

Written by an environmental consultant with more than 20 years of experience, and based on a course he taught for 10 years, Environmental Consulting Fundamentals: Investigation and Remediation introduces the basic building blocks of environmental consulting. Rather than formulas and equations, it emphasizes the thought processes that go into designing an environmental study, interpreting the data, and selecting the next step—be it further investigation or remediation. The book begins with an overview of environmental consulting, the regulatory structures that impact the work, and the underlying science of environmental processes. It then takes you through the steps of subsurface investigations and remediations, from Phase I and Phase II Environmental Site Assessments through to remedial actions. This is followed by an outline of ecological risk assessment and mitigation and a chapter on environmental impact assessments, a large subfield in environment consulting. Moving indoors, the book then covers environmental issues related to buildings, including asbestos, lead-based paint, radon, mold, and indoor air quality. The final chapter describes a typical environmental consulting project, from designing the scope of work to developing a prospective budget and project schedule. Throughout, photographs, illustrations, and examples of environmental problems make the theoretical concepts more concrete. A primer for those interested in a career in this dynamic, multidisciplinary field, this is also a handy reference for practicing consultants. Combining theory and practical advice, it provides an accessible introduction to the type of projects you may encounter as an environmental consultant.

This publication offers short descriptions of best practices and reviews of technology regarding water, sanitation and hygiene projects. The document is intended to provide guidance to field workers and non-technical program managers and decision makers. Topics include ecological

sanitation, WASH needs assessments, rainwater collection, borehole drilling equipment and irrigation for home gardens.

Written by an expert team of scientists, engineers, and toxicologists, MTBE: Effects on Soil and Ground-Water Resources provides complete in-depth coverage of the assessment and potential remediation strategies of methyl tertiary-butyl ether (MTBE). In addition to a history and overview of fuel oxygenates and MTBE, the book contains the latest information on: Physical and chemical properties Toxicity and health effects Taste and odor thresholds Transport and fate in the environment Detection and treatment in soil and groundwater Environmental policy Get rapid access to the precise data you need with: Dozens of tables and diagrams Safety data sheets State-by-state clean-up standards Useful web sites Geological principles Subsurface investigation tools Synthesis, properties, and environmental breakdown products Plume geometries Remediation strategies Toxicity and human health risk calculations Extensive conversion tables MTBE: Effects on Soil and Ground-Water Resources examines and clarifies every issue in the national debate on this controversial environmental problem.

Site Characterization Sampling and Analysis HMTRI Site Characterization: Sampling and Analysis is an introductory environmental sampling textbook intended for use in community/technical college environmental technology curricula or in industrial training programs. Comprehension of the subject matter is enhanced by associated coursework in chemistry, biology, environmental regulations, and college-level mathematics. The goal of the present textbook is to provide the environmental technician with the knowledge and skills necessary to assist a site characterization project planner in the sampling and monitoring process. Among the tasks the students will learn how to perform are: * assisting the research of a site's background for data that a project manager will use in the development of a site sampling plan * meeting representative sampling objectives and quality control/quality assurance objectives * preparing to go onsite for a sampling event * monitoring a site for potentially hazardous atmospheres * following the sampling plan in collecting samples from various media (e.g., soil, surface water, ground water, and containers) * troubleshooting under unforeseen circumstances * preparing samples for transport to the laboratory * documenting field activities * communicating with laboratory personnel * interpreting lab reports, including the validation of quality control data The text contains photographs and line drawings to help students visualize equipment and processes. Included are instructional aids such as chapter objectives, concept statements before major sections, review questions (as well as application and critical thinking activities) after each section, and a glossary of the terminology.

Standard work in demand.

This volume is a component of Encyclopedia of Water Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The volume presents state-of-the art subject matter of various aspects of The Desalination Processes Site Selection, Layout and Civil Works such as: Site selection, Design Guidelines of Seawater Intake Systems, Water Intakes by Wells And Infiltration Galleries, Effluent Discharge Using Boreholes and Ponds,

Effluent Discharge Using Boreholes and Ponds, Overall Site Layout, MSF Plant Layout, Reverse Osmosis Plant Layout, Electrodialysis Plant Layout, Civil Engineering in Desalination Plants, Mechanical Vibration Insulation, Wind Design, Durability and Repair of Reinforced Concrete In Desalination Plants, Link to Power Station, Disposal and Recirculation of Saline Water. This volume is aimed at the following five major target audiences: University and College Students Educators, Professional Practitioners, Research Personnel and Policy and Decision Makers.

This book provides the basic knowledge in sample collection, field and laboratory quality assurance/quality control (QA/QC), sample custody, regulations and standards of environmental pollutants. The text covers sample collection, preservation, handling, detailed field activities, and sample custody. It provides an overview of the occurrence, source, and fate of toxic pollutants, as well as their control by regulations and standards. Environmental Sampling and Analysis for Technicians is an excellent introductory text for laboratory training classes, namely those teaching inorganic nonmetals, metals, and trace organic pollutants and their detection in environmental samples.

Negative environmental events make the headlines. Mining industry examples are the recent incidents at Summitville, Colorado, US, and the cyanide leak at Cambria Resource's Omai Operation in Guyana. In this volatile atmosphere, the publication of the Mining Environmental Handbook comes at an opportune time. It presents an objective, comprehensive and integrated examination of the effects of mining on the environment, and the environmental laws that deal with mining. Though stressing activities in the United States of America, it covers all of North America. North American environmental standards are currently being exported around the world. Consequently, this handbook will be of prime interest in countries that are now coming to terms with mining environmentalism. It should benefit working engineers and environmentalists, manufacturers, legislators, regulators, financiers and journalists. It has been selected as a university textbook. Finally, it will be an indispensable reference during serious discussions about mining environmentalism. Contents: Development of the Mine Environmental Precept and Its Current Political StatusThe Legal Bases of Federal Environmental Control of MiningEnvironmental Control at the State LevelEnvironmental Effects of MiningTechnologies for Environmental ProtectionEnvironmental PermittingSystems Design for Site Specific Environmental ProtectionOperations Environmental ManagementSolution Mining and In-Situ LeachingPlacer or Alluvial MiningCoalAcid Mine Drainage and Other Mining-Influenced Waters (MIW)Uses of Mines as Landfills and RepositoriesEconomic Impact of Current Environmental Regulations on MiningFinancial Assurances for Corrective Actions, Closure and Post ClosureInternational Environmental Control of MiningEnvironmental Case Studies from the Hard Rock IndustryCurrent and Projected IssuesDirectory of State Regulatory AgenciesGlossaryIndex Readership: Engineers,

environmentalists and geologists. Keywords:History;Legal Aspects;Problems;Technology;Permitting;Case Studies;Economic ImpactReviews:“… is a useful, and very readable, first point of reference for those needing to have a general overview of the various environmental issues arising from mining and mineral processing … There is much to commend the book to wider international use, as it contains a considerable amount of universal 'best practice' which can be applied to mining situations in most countries seeking to adopt credible western standards.”MININGtechnology

This book contains a selection of papers presented at the Symposium and Workshop on Groundwater Economics, held in Barcelona, Spain, 19-23 October 1987. The editors' aim was to produce a publication with useful contributions, containing basic concepts, general formulations, relevant specific studies usable as reference cases, and issues of interest for developing areas and countries.

In recent years, the focus in groundwater studies has expanded to also include groundwater contamination and remediation studies as a part of resource evaluations. While there are other books on the subject, Field Hydrogeology-A Guide for Site Investigations and Report Preparation provides the first integrated presentation of the American Society of Testing Materials (ASTM) standards, US Geological Survey (USGS), and US Environmental Protection Agency (EPA) field techniques. It also includes access to a Web site that contains software for designing aquifer tests and aquifer-recharge experiments. Written by an author with more than 40 years of experience in hydrology and geology, this reference treats the subject from a field standpoint. Useful as a field guide and a textbook, it contains standard methods for planning and undertaking hydrogeologic investigations. It incorporates case studies, contains a glossary of field-hydrogeology technical terms, and provides a detailed list of ASTM standards and key hydrologic Web sites. The guide is based on ASTM standards, EPA, and US Department of Interior (DOI) field technical manuals. The text covers hydrogeologic fundamentals, conceptual models, planning an investigation, surface investigations, subsurface investigations, field inventory, stream flow measurements, water quality measurements, and report preparation. It includes more recent groundwater evaluation techniques such as tracing and isotope techniques. Field Hydrogeology will allow students and seasoned professionals to have a vast array of clearly written descriptive materials and an extensive source of references available at their fingertips. About the Author: John E. Moore, Ph.D., is a hydrogeologist at the USEPA Region 8 in Denver, Colorado. Dr. Moore is also an adjunct professor of hydrology at Metro State College in Denver and a consulting hydrologist. He has more than 40 years of experience in hydrogeology and geology as a researcher, teacher, and consultant. He is internationally recognized as an expert in these fields. Dr. Moore was deputy assistant chief hydrologist and field scientist with the USGS and served as a technical advisor to the USEPA and the U.S. House of Representatives. He is past president of the International Association of Hydrogeologists (IAH) and the

American Institute of Hydrology (AIH) and is the chairman of the IAH Education Commission.

An attractive, lower-cost alternative to site-built homes, factory-constructed housing is becoming increasingly popular. New, more sophisticated methods of construction and strict federal, state, and local codes have resulted in safer, more attractive, and more affordable homes. Written by a specialist with over 20 years of experience in the field, Factory-Constructed Housing Developments: Planning, Design, and Construction fills the gaps in existing literature on the subject. Although some information on the design of small subdivisions and manufactured home communities can be found scattered throughout various government documents, until now there has been no single guide to the creation of new developments. This reference assembles and cites the existing literature, and adds to it useful information from the author's two decades of practical field experience. This one-stop reference explains the planning, development, and construction processes for factory-constructed housing, including everything from the roles of municipal boards, to roads and development configurations, to water and sewerage. The book also considers factors unique to manufactured home communities and modular home subdivisions. No other single volume contains the information in this book.

This manual covers the latest laboratory techniques, state-of-the-art instrumentation, laboratory safety, and quality assurance and quality control requirements. In addition to complete coverage of laboratory techniques, it also provides an introduction to the inorganic nonmetallic constituents in environmental samples, their chemistry, and their control by regulations and standards. Environmental Sampling and Analysis Laboratory Manual is perfect for college and graduate students learning laboratory practices, as well as consultants and regulators who make evaluations and quality control decisions. Anyone performing laboratory procedures in an environmental lab will appreciate this unique and valuable text.