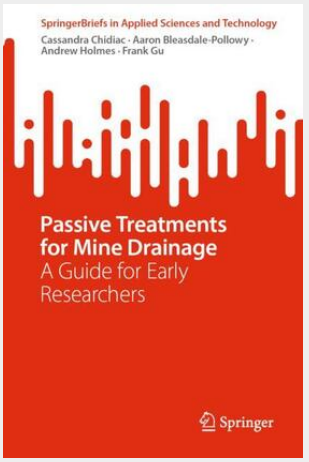
Chidiac / Gu / Bleasdale-Pollowy

Passive Treatments for Mine Drainage

A Guide for Early Researchers



This book allows readers to grasp both the fundamentals and the latest technological advances in the field of mine drainage, which is increasingly crucial both environmentally and economically. Its extensive coverage of current and promising passive treatment technologies, combined with numerous practical guides, makes it an indispensable tool for early researchers seeking promising trends and identifying gaps. The book systematically explores recent literature on passive treatment research, classifying them as preventative, in-situ, and ex-situ solutions. It covers relevant passive treatments such as permeable reactive barriers, constructed wetlands, gravel bed reactors, saturated rock fills, and passivation techniques, among other common source control tactics. Each technology is discussed in terms of principal mechanisms, state-of-the-art technological advances, advantages and disadvantages, and suitability for a given mine drainage chemistry and flow regime. Thebook provides a comprehensive view of the entire field, offering researchers and policymakers a reference guide, research ideas, understanding, and practical applications for each technology. Furthermore, the contains an overview of recent trends in material selection for passive treatment applications, primarily through the use of industrial waste and by-products, which incorporate more sustainable practices in mine drainage remediation. Uniquely, the manuscript includes a flowchart based on water chemistry and flow rates to guide readers to ideal treatment options, along with written analysis to further support the readers' decision-making. Overall, this equips early researchers in the field with knowledge of fundamentals and promising research routes when dealing with different mine drainage complexities while also providing them with promising research avenues that can advance the field further.

This book provides the latest knowledge and advances in mine drainage, an increasingly important field due to its environmental and economic importance. The book contains a comprehensive overview of the most promising current passive treatments for mine drainage. Specifically, this book methodically explores recent literature of passive treatment research and classifies them as source control, in situ, and ex situ solutions. Each type of technology is discussed in terms of mechanisms, applicability, advantages, disadvantages, current research, and trends in the field. This work emphasizes the comprehensiveness of the entire field, offering researchers and policymakers a guide for reference, research ideas, understanding, and application of each technology. It further discusses recent trends in the material selection of passive treatment applications, and largely the use of industrial waste and by-products to incorporate moresustainable practices for mine drainage remediation.

48,14 €
44,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783031320484
Medium: Buch
ISBN: 978-3-031-32048-4
Verlag: Springer International Publishing
Erscheinungstermin: 02.09.2023
Sprache(n): Englisch
Auflage: 1. Auflage 2024
Serie: SpringerBriefs in Applied Sciences and Technology
Produktform: Kartoniert
Gewicht: 236 g
Seiten: 137
Format (B x H): 155 x 235 mm

Kundenservice Fachmedien Otto Schmidt
Neumannstraße 10, 40235 Düsseldorf | kundenservice@fachmedien.de | 0800 000-1637 (Inland)