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Nota di contenuto	1. Permeable reactive barriers : cost-effective and sustainable remediation of groundwater / Ravi Naidu, Dawit N. Bekele, and Volker Birke -- 2. Two decades of application of permeable reactive barriers to groundwater remediation / Scott D. Warner -- 3. Choosing the best design and construction technologies for permeable reactive barriers / Dawit N. Bekele, Ravi Naidu, Volker Birke, and Sreenivasulu Chadalavada -- 4. Groundwater modeling involving PRBs : general aspects, case study / Sreenivasulu Chadalavada, Martin Wegner, and Ravi Naidu -- 5. Impact of trace elements and impurities in technical zero-valent iron brands on reductive dechlorination of chlorinated ethenes in groundwater / Volker Birke, Christine Schuett, Harald Burmeier, and Hans-Jurgen Friedrich -- 6. Fourteen-year assessment of a permeable reactive barrier for treatment of hexavalent chromium and trichloroethylene / Richard T. Wilkin, Tony R. Lee, Mary Sue McNeil, Chunming Su, and Cherri Adair -- 7. Sequenced permeable reactive barrier for the pretreatment of nitrate and remediation of trichloroethene / Keely Mundle, Janet Macmillan, and Ben McCarthy -- 8. Organic-based permeable reactive barriers for the treatment of

heavy metals, arsenic, and acidity / Ralph D. Ludwig, Richard T. Wilkin, Steven D. Acree, Randall R. Ross, and Tony R. Lee -- 9. Effective cleanup of groundwater contaminated with radionuclides using permeable reactive barriers / Franz-Georg Simon and Tamas Meggyes -- 10. Reactive (oxygen) gas barrier and zone technologies / Ronald Giese, Frank Ingolf Engelmann, Dietrich Swaboda, Uli Uhlig, and Ludwig Luckner -- 11. Remediation of PAHs, NSO-heterocycles, and related aromatic compounds in permeable reactive barriers using activated carbon / Wolf-Ulrich Palm, Jan Sebastian Manz, and Wolfgang Ruck -- 12. Case study of PRB application for the remediation of groundwater / James Stening -- 13. Permeable reactive barriers in Europe / Volker Birke and Harald Burmeier.

Sommario/riassunto

<P>Remediation of ground water is complex and often challenging. The passive remediation technology, currently in vogue, is based on permeable reactive barriers (PRB) that allow water to pass through while the fence/barrier made of reactive materials remediates the contaminants. Although PRB has been in operation for over a decade there are limited published books available. This book covers in one single volume all the information needed to plan, design/model and apply a successful, cost-effective and sustainable PRB technology.</P>