

1. Record Nr.	UNINA9910784527603321
Titolo	Long-term performance of permeable reactive barriers [[electronic resource] /] / edited by K.E. Roehl ... [et al.]
Pubbl/distr/stampa	Amsterdam ; ; London, : Elsevier, 2005
ISBN	1-281-04877-1 9786611048778 0-08-053561-5
Descrizione fisica	1 online resource (345 p.)
Collana	Trace metals and other contaminants in the environment ; ; 7
Altri autori (Persone)	Roehl K. E (Karl Ernst)
Disciplina	628.164
Soggetti	Membranes (Technology) Groundwater - Purification
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Long-term Performance of Permeable Reactive Barriers; Copyright Page; Contents; Preface; Contributors; About the editors; Acknowledgements; Chapter 1. Permeable Reactive Barriers; A Introduction; B Concept of permeable reactive barriers; C Reactive materials for contaminant attenuation; D Application and long-term performance of PRBs; E Outlook; References; Chapter 2. Construction Methods of Permeable Reactive Barriers; A Introduction; B Construction of cut-off walls; C Construction of reactive barriers; References Chapter 3. Materials and Processes for Uranium Removal from Contaminated Water A Introduction; B Materials and experimental procedures; C. Attenuation processes; D. Summary and conclusions; References; Chapter 4. Behaviour of Uranium in Elemental Iron and Hydroxyapatite Reactive Barriers: Column Experiments; A. Introduction; B. Initial laboratory column test systems; C. Experiments with radiotracers; D Conclusions; References; Appendix 4A; Chapter 5. Laboratory Tests Using Natural Groundwater; A Introduction; B Column experiments; C Floor-scale tests; D Conclusions; References; Appendix 5A Appendix 5B Chapter 6. On-site Column Experiments; A Introduction; B Columns in monitoring wells; C Large-scale field column experiments; D Conclusions; Acknowledgement; References; Chapter 7. New Barrier

Materials: The Use of Tailored Ligand Systems for the Removal of Metals from Groundwater; A Introduction; B Concept and development; C The preparation of PANSIL; D Efficiency of contaminant attenuation; E Technological applicability; F Conclusions; References; Chapter 8. Electrokinetic Techniques; A Introduction; B Scope and approach; C Experimental set-ups and methods; D Theoretical model
E ResultsF Discussion and conclusions; G Outlook; References; Chapter 9. Mecsek Ore, Pecs, Hungary Case Study; A Historical overview; B Waste characterisation; C Monitoring; D Site characterisation, site selection; E Detailed investigation of Sites II and III; F Conclusions; Acknowledgements; References; Appendix 9A; Appendix 9B; Appendix 9C; Chapter 10. Experimental Iron Barrier in Pecs, Hungary; A Introduction; B Design of the permeable reactive barrier; C Construction phase; D Results of operation; E Conclusions; References
Chapter 11. Installation and Operation of an Adsorptive Reactor and Barrier (AR&B) System in Brunn am Gebirge, AustriaA Introduction; B General description; C Site assessment; D Concept of project implementation; E Assessment of system- and site-specific suitability; F AR&B system implementation; G System operation - hydraulics and water chemistry; H Perspectives and outlook; References; Chapter 12. Regulatory and Economic Aspects; A Introduction; B Regulatory aspects; C Economic aspects; D Outlook; References; Index

Sommario/riassunto

While extensive research has been performed on many technological aspects of permeable reactive barriers and a number of contaminants have so far been successfully treated by PRB systems, long-term performance has not been extensively considered and little is known about the processes influencing long-term behaviour. This gap in our knowledge is all the more disadvantageous as design life has a decisive influence on the economic viability of PRBs. The book describes methods for evaluation and enhancement of the long-term performance of PRB systems, especially of those targeting heav
