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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 Results F 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, Austria A Introduction; B General description; C Site assessment; D Concept of project implementation; E Assessment of system- and site-specific suitabilities; 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

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#### 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

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