

A geochemical approach to the restoration plans for the Odiel River basin (SW Spain), a watershed deeply polluted by acid mine drainage

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© 2016, Springer-Verlag Berlin Heidelberg. The Odiel River Basin (SW Spain) drains the central part of the Iberian Pyrite Belt (IPB), a world-class example of sulfide mining district and concomitantly of acid mine drainage (AMD) pollution. The severe AMD pollution and the incipient state of remediation strategies implemented in this region, coupled with the proximity of the deadline for compliance with the European Water Framework Directive (WFD), urge to develop a restoration and water resources management strategy. Furthermore, despite the presence of some reservoirs with acid waters in the Odiel basin, the construction of the Alcolea water reservoir has already started. On the basis of the positive results obtained after more than 10 years of developing a specific passive remediation technology (dispersed alkaline substrate (DAS)) for the highly polluted AMD of this region, a restoration strategy is proposed. The implementation of 13 DAS treatment plants in selected acid discharges