

DESIGN APPROACHES FOR PASSIVE TREATMENT OF COAL COMBUSTION BYPRODUCT LEACHATE

Project Experience within the Utility Industry

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Abstract: Coal combustion byproduct (CCB) leachate can contain elevated concentrations of dissolved metals, requiring treatment to meet regulatory discharge standards. The authors have developed effective design approaches for passive treatment of CCB leachate using systems containing combinations of oxidation/precipitation basins, constructed wetlands, vertical flow wetlands, and manganese-oxidizing bacteria systems. Design approaches are presented for passive treatment systems currently constructed or under development at five CCB landfill sites, variously treating aluminum, arsenic, hexavalent chromium, iron, manganese, and selenium.

Key words: passive treatment, coal combustion byproducts

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