



Title: Treatment of Landfill Leachate using Limestone/Sandstone Filters Under Aerobic Batch Conditions

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Abstract: The suitability of a passive technology, consisting of filters composed of a mixture of limestone and sandstone rocks, for the treatment of landfill leachates containing 6.6 mg L^{-1} iron and 1.8 mg L^{-1} manganese were investigated. The limestone and the limestone/sandstone filters successfully removed iron from the prepared solutions. The filters removed on average a minimum of 97.60% of the iron from solution on a daily basis. The removal of manganese from solution was not as efficient as iron removal. The filters removed between 22.22% and 100% of the manganese from solution. Neither the filter type nor the solution type affected the iron and manganese removal efficiencies. Although iron precipitate was evident during the 7 day experimental period, armoring did not affect the removal efficiency of the elements. The pH of the water samples did not exceed 7.7. Therefore, the wetland ecosystem should be able to adjust to water having a slightly higher pH without suffering adverse effects.