

Mixed Treatment (Physical-Chemical and Biological) of Ouled Fayet Landfill Leachates

Authors : O. Balamane-Zizi, L. M. Rouidi, A. Boukhrissa, N. Daas, H. Ait-amar

Abstract : The objective of this study was to test the possibility of a mixed treatment (physical-chemical and biological) of Ouled Fayet leachates which date of 10 years and has a large fraction of hard COD that can be reduced by coagulation-flocculation. Previous batch tests showed the possibility of applying the physical-chemical and biological treatments separately; the removal efficiencies obtained in this case were not interesting. We propose, therefore, to test the possibility of a combined treatment, in order to improve the quality of the leachates. Estimation of the treatment's effectiveness was done by analysis of some pollution parameters such as COD, suspended solids, and heavy metals (particularly iron and nickel). The main results obtained after the combination of treatments, show reduction rate of about 63% for COD, 73% for suspended solids and 80% for iron and nickel. We also noted an improvement in the turbidity of treated leachates.

Keywords : landfill leachates, COD, physical-chemical treatment, biological treatment

Conference Title : ICESBE 2015 : International Conference on Environmental Science and Biological Engineering

Conference Location : London, United Kingdom

Conference Dates : July 25-26, 2015