

Application of Bio-filtration Wastewater Treatment Using Iraqi Gypsum and Phosphate Bio-filters

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Abstract

-Field experimental work was carried out at the College of Agriculture, University of Anbar, Iraq, for the period from 15/1/2012 to 15/5/2012 using phosphate and gypsum rocks bio-filters to determine the impact on the purification of the sewage by analyzing parameters EC, TDS, Cations (Mg^{+2} , Na^{+} , K^{+}) and anions (HCO_3^{-} and Cl^{-}). Two trenches were designed with dimension of (20 m long and 6 m wide) nearby a wastewater tank. Then samples were taken from the inlet and outlet, the water was withdrawn from the bio-filtration system and then repeated the filling and emptying process again. Results showed a significant decrease in the value of EC, TDS Cations (Mg^{+2} , Na^{+} , K^{+}) and anions (HCO_3^{-} and Cl^{-}) concentrations for phosphate bio-filters compared to gypsum bio-filters