

HEAVY METALS INFLUENCE OF SEWAGE SLUDGE ON THE GROUNDWATER.

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Heavy metals influence of sewage sludge on the groundwater
ABSTRACT The aim of this study is to research the influence of sludge produced by Wastewater Treatment Plant of Barueri SP, Brazil. Over the groundwater of site recovered by sewage sludge layers that remained exposed at tropical climate conditions till 60 months. The work was done through determination of some metals (Ag, Cd, Cr, Cu, Fe, Mn, Ni, Pb and Zn), anions (SO_4^{2-} , NO_2^- , NO_3^- , Cl^- and PO_4^{2-}) and physic-chemical properties (pH, Eh and t) of groundwater samples collected at 8 monitoring wells, at 4 different dates of one year. Samples of leached solutions of sludge was collected too at 1 monitoring well installed in a sludge layer site. The pH, Eh and t of samples was determined at field conditions. The samples for chemical determinations was submitted to filtration at 20 μm membrane before cations determinations by Atomic Absorption method and anions determinations by Anionic Liquid Chromatography method. The results of that analysis showed important sludge's influence over pH and Eh of groundwater in some monitoring wells, as well as some degree of metal contamination. They showed too, pH, Eh and chemical characteristics of leached solutions originated from sludge. x