



Reduction of lead pollution in groundwater using soil based protective liner bed in land fill pits

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ABSTRACT

Liner provides resistance to pollutant such as lead which seeps into groundwater from the polluted landfill, hence the study of its characteristics is important. Of the various methods to provide better and effective properties of landfill liners, the method of using clay as liner materials has been explored in laboratory scale. The purpose is to overcome the problem and deficiencies of the liners made of Geo-membrane. It is observed that using clay with some amount of admixture like cement, gypsum, lime, bentonite, etc, the concentration of lead at lower portion of membrane is reduced to 89–98%. A mathematical treatment of the phenomenon has been developed. The experimental result shows satisfactory agreement with the model.

Keywords: Ground water contamination; Liner; Lead poisoning; Clay; Admixture

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