

UNIVERSITI TEKNOLOGI MARA



LEACHATE TREATMENT BY RECYCLING INTO THE  
SOLID WASTE : A CASE STUDY FOR SEMELING  
LANDFILL LEACHATE

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by

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## **ABSTRACT**

Leachate from a sanitary landfill needs to be treated effectively before it can be discharged to the environment. This study is concentrate for Semeling Landfill leachate in Sungai Petani, Kedah. The recycling method is used to remove the parameter of color, COD, SS and heavy metal from Semeling landfill leachate. The solid waste is used as an adsorption media for treatment of leachate in the preliminary treatment using recycling process. The suitable detention time of this recycling process was determined because it influenced the leachate quality. The 2700 ml/min amount of oxygen concentration is added and fixed during the process to grow up the bacteria. The leachate influent and effluent data will collected and analyzed in order to find out the percentage removal of the leachate parameter. Based on the data analysis, it showed that the two hour detention time will give a better removal percentage. The results indicate that solid waste can satisfactorily remove leachate parameters especially SS up to 60.9%, COD up to 76.2%, and Color up to 46.9% at two hour detention time. The result also showed that the removal of Cr and Zn was not influenced by detention time.

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