

**ANOXIC/AEROBIC TREATMENT OF MUNICIPAL LANDFILL  
LEACHATE**

By

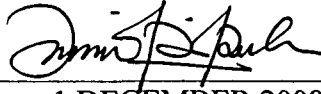
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Report is submitted as the partial requirement for the degree of  
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## DECLARATION BY THE CANDIDATE

I (Nur Azrinawati Binti Ab Rahman, 2006877540) confirm that the work is my own and that appropriate credit has been given where reference has been made to the work of others.



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## ABSTRACT

In Malaysia, more landfills are opened to solve municipal solid waste problem. At the same time, the production of leachate at these landfills has increased over the years. This project was initiated to study the characteristics of leachate and to evaluate the changes of selected bulk parameters, anions and cations when leachate is subjected to changing anoxic/aerobic treatment. The findings of this study were established by conducting in-situ testing and running batch experiments at the laboratory. Anoxic condition was created by the addition of 15mg  $\text{NO}_3\text{-N/L}$  to the sample. Anoxic process was allowed for 8 hours. Aerobic process takes place after anoxic process for an hour. During in-situ testing, pH value was found to be 5.15 and the temperature of the leachate was 31.1°C. The COD, TSS and conductivity of raw leachate were high as the leachate can be classed as acetogenic leachate. Throughout the experiment, the removal of COD is about 73%, TSS was increase by 10% and conductivity also increased by 10%. Most of the anions and cations showed reduction. It is concluded that there are changes when leachate is subjected under anoxic/aerobic treatment.

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