LEACHATE TREATMENT BY USING RECIRCULATION METHOD: A CASE STUDY FROM SEMI AEROBIC SANITARY LANDFILL SITE

By

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DECLARATION BY THE CANDIDATE

I, Ezlina binti Othman (2003359011) confirm that 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

Municipal Solid Waste (MSW) is considered as a nuisance or is said to have a negative value, which suggests that they are cheaper to throw away than to recover. A laboratory scale used leachate recirculation method is done for 3 months to observe the capability of the waste to treat the leachate. The leachate sample quality was taking by using eight parameter that were pH, COD, DO, SS, VSS, nitrate, turbidity and temperature. After 3 months doing the recirculation, the pH value is still in the range of alkali, while COD shows an increasing value within 24^{th} day's operation by optimum value of 10840 mg/L. However, the quality of leachate is improved in COD because the optimum value then decreases to 2485 mg/L on 64^{th} day's operation. Another parameter such as turbidity, SS and VSS of the leachate are also reaching their optimum value within 24^{th} day's operation with 385.7 NTU, 700 mg/L and 600 mg/L. However these parameter start to improved after 27^{th} day's operation by showing the decreasing value of 131.7 NTU,240 mg/L and 140 mg/L on 64^{th} day's operation. From overall, the leachate recirculation method is capable to treat the leachate consequently reduced the contaminants within the leachate. It is suggested that more research about leachate recirculation method will be done in future.

Keywords – Municipal Solid Waste, leachate recirculation method, treat, contaminants.

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