

**OXIDATION-REDUCTION POTENTIAL (ORP) DURING
MICROBIAL TRANSFORMATION PROCESSES UNDER
SEWER CONDITIONS**

By

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ABSTRACT

Sewer systems in Malaysia have been design solely to perform mass transport function, while wastewater treatment plants (WWTPs) are considered stand-alone treatment units. However, microbial transformation processes in sewer have been neglected in design of sewers.

The purposes of this project are to determine the range of ORP that promotes aerobic, anoxic and anaerobic processes in municipal wastewater.

Wastewater samples for this study were taken from wastewater treatment plant (WWTP) at Mawar College, UiTM Shah Alam and a manhole near old civil engineering laboratory.

Two types of batch reactors were used in this study. The first reactor, subjected to aerobic conditions was used to investigate the COD-fraction of the wastewater. The second reactor was used for ORP experiments to determine range of ORP value during the transformation processes.

KEYWORDS

Oxidation reduction potential (ORP), COD-fractions, microbial transformation, in sewer processes

DECLARATION BY THE CANDIDATE

I Farizah Bt Mahaya, 2002238851 confirm that the works is my own and that appropriate credit has been given where reference has been made to the works of others.

(October 13,2004)

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