

**DETERMINATION OF THE RAW WATER
QUALITY PARAMETERS AND EXAMINE THE
REASONS FOR THE FAILURES IN HANTHANA
SEWERAGE TREATMENT PLANT**

A dissertation submitted to the
Faculty of Science & Technology
Uva Wellassa University

In partial fulfilment of the requirements for the award of the
Degree of Bachelor of Science in Mineral Resources and Technology

By

**HERATH MUDIYANSELAGE THARINDU SRINATH
RITIGALA**

Mineral Resources and Technology Degree Program

Uva Wellassa University, Sri Lanka

2012

ABSTRACT

Sri Lanka faces a number of water and wastewater issues and water related health hazards. These problems arise primarily due to the increasing level of qualitative and quantitative depletion of water resources owing to over- utilization and continuous discharge of wastewater. Sewerage treatment plants (STP) have been constructed in most places to reduce the degradation of water quality and to ensure a healthy environment. The present study has been undertaken to evaluate the raw water quality parameters and find out the reasons for failures and defect identification in Hantana STP. The Hantana sewerage treatment plant is operating on biological treatment method (Suspended growth process and attached growth process) and main treatment units are imhoff tanks and trickling filters. Raw wastewater samples were collected and analyzed for the major water quality parameters, such as biological oxygen demand (BOD), chemical oxygen demand (COD), suspended solids (SS) and pH. The obtained results were very much useful in identification and rectification of operational and maintenance problems as well as the future expansion to be carried out in the plant to meet the increased hydraulic and organic loadings. This research will further discuss on the treatment process of Hantana STP along with the findings from the study.

Key Words: Hantana Sewerage Treatment Plant, Imhoff Tank, Trickling Filter, Waste Discharge Frequency, Operation problems in imhoff tank, Operation problems in trickling filters,