

**EFFECTIVENESS OF WASTE WATER
TREATMENT SYSTEM FOR PALM
OIL MILL EFFLUENT
(POME)**

ROSLIANA RAZALI

**B.Eng (Hons) (Civil)
UNIVERSITI TEKNOLOGI MARA
2006**

**EFFECTIVENESS OF WASTE WATER
TREATMENT SYSTEM FOR PALM
OIL MILL EFFLUENT
(POME)**

By

ROSLIANA RAZALI

Report is submitted as
the requirement for the degree of
Bachelor Engineering (Hons) (Civil)

**UNIVERSITI TEKNOLOGI MARA
NOVEMBER 2006**

DECLARATION

I Rosliana Binti Razali, UiTM no.2002382843 declared that this thesis is the result of my own work, except the ideas and summaries which I have clarified their sources. The appropriate credit has not been given where reference has been made to the work of others. The work has not been accepted for any degree and is not concurrently submitted in candidature of any degree.

Signed :

Date :

ACKNOWLEDGEMENT

First of all, I from the depth of my heart, praise Allah s.w.t the almighty who is the most praise worthy. Nothing may take place without His leave. I would like to dedicate my special compliment to my supervisor Miss Caroline Marajan for his guidance.

Special thanks to Mr. Faizal AB. Jalil the Assistant Officer Department of Environment (DOE), Penang. Thanks to manager and all staff of Chersonese and kalumpong Oil Mill for granting me permission to completing my research and using their facilities. I get more acknowledgement and new experience by doing this final project. Thanks also to my friends for their cooperation and commitment during this research study.

I express my heartiest indebtedness to my family for their care and affection. Hopely all of us make this small effort useful and beneficial for future reference. Lastly, I would like to say thank you for the involvement, direct or indirect, to all for whom to make this study successfully.

ABSTRACT

Malaysia is one of the countries leading in producing and exporting palm oil. These large activities produced large quantities of high strength palm oil mill effluent (POME). Beside palm oil industry contributes to environmental problems through their effluent. Waste water system must be treated to reduce the volume of effluent.

Within this research are to identify the effectiveness of waste water treatment system for POME according to the parameter limits from the watercourse discharge like as BOD, COD, SS and pH, and then the parameter will be compare with parameter from Environment Quality Act 1974 (EQA). This research also to identify the efficient treatment system of POME varies with the type of treatment.

The two type of treatment was compared is a ponding system from Kalumpung Oil Mill with open digester tank system at Chersonese Oil Mill. Sample of effluent from the POME were tested according to parameter of BOD, COD, SS and pH in a laboratory. In the standard B of watercourse limit the pH range are 5-9, BOD values must be equal or less then 100mg/l, COD values must not exceed 1000mg/l, and SS value 100mg/l.

From the comparing result showed that both of the waste water treatment system in a both palm oil is followed the EQA 1974 and the waste water treatment system are effective and the most efficient treatment system is open digester tank and this will be showed from the result of BOD and COD from final discharge.