

UNIVERSITI TEKNOLOGI MARA

Declaration by Student

CASE STUDY ON WHOLE EFFLUENT TOXICITY TESTING FROM BULKY LANDFILL LEACHATE

Project entitled A Case Study on Whole Effluent Toxicity Testing from Bulky Landfill Leachate is a presentation of my original research work. Wherever contribution of other involve, every effort is made to indicate this clearly, with due references to the literature, and acknowledgement of collaborative research and discussion. The project was done under the guidance of Mdm. Shentakumari Rajan as a project Supervisor and Dr. Subramaniam Karuppannan as Co-supervisor. It has been submitted to the Faculty of Health Sciences in a partial fulfillment of the requirement for the degree of Bachelor in Environmental Health and Safety (Hons.)

MOHD ZIKRI BIN IBRAHIM

Student's Signature



**Project paper submitted in partial fulfillment of the requirement for
the degree of Bachelor in Environmental Health and Safety (Hons.)**

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Faculty of Health Sciences

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Date: _____

6/3/15

JULY 2015

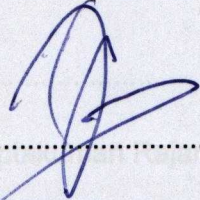
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Approval by Supervisors

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Date: 6/7/15

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CHAP

Alhamdulillah, I would like to express my gratitude to my beloved mother, Almarhumah Siti Bedah Binti Abu Samah (1947-2014), my beloved wife and kids for their support and love. Thanks mother, u are always in my heart.

1.0 Introduction

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1.1

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

1.2

1.3

1.4 Concious Parenting

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CHAP

I am highly indebted to Mdm. Shantakumari Rajan for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

2.1 Definition of Learning

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2.2

I would like to express my gratitude towards my family & member for their kind co-operation and encouragement which help me in completion of this project. I would like to express my special gratitude and thanks to Mdm. Shantakumari Rajan for giving me such attention and time. My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

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Abstract

All the while, waste authorities either assume that they know enough about the bulky waste stream or that it is too insignificant to deserve attention. Bulky waste describes those solid waste materials having a large physical dimension such as appliances, furniture, large auto parts, trees, stumps, and in addition wooden pallets and waste tires. The Objectives of this study is to identify the whole leachate toxicity test from a selected bulky landfill and its effects to the environment. Leachate samples were collected from leachate pond (n=4) and the discharge point (n=4). Leachate characterized was carry out followed by whole leachate toxicity test using *Cyprinus Carpio*. The result for physic-chemical characteristics of leachate showed that all the parameter was compliance except manganese and chemical oxygen demand (COD). However the result for dose response relationship at leachate pond and discharge point for fish species *Cyprinus Carpio* showed that the toxicity in the leachate and discharge point to river water relatively higher with the increasing of the percent of concentration (%). Based on the result, it showed that there was a poor environmental management from the landfill operator and that may become the source of environmental contamination and would disrupt the aquatic ecosystem.

Keywords: *Bulky waste, Bulky Landfill, Leachate, Whole Effluent Toxicity*