

**THE DISTRIBUTION OF HEAVY METAL CONCENTRATIONS
SURROUNDING TEMERLOH MUNICIPAL SOLID WASTE LANDFILL
AREA**

NUR EMYRAA BINTI MOHD YUSOP

**Final Year Project Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Chemistry
in the Faculty of Applied Sciences
Universiti Teknologi MARA**

JANUARY 2015

ACKNOWLEDGEMENTS

Assalamualaikum. Alhamdulillah, gratitude to Allah because permit me to complete this final year project thesis. I would like to express my special thanks to Prof Madya Mohd Tahir bin Abas, my supervisor, who gave me the golden opportunity to this wonderful project on the topic “The distribution of heavy metal concentrations surrounding temerloh municipal solid waste landfill area”. He helped me a lot and I came to know so many new things.

Secondly I would also like to thank to lab assistant, En Fauzi who helped me to handle instrument in laboratory and not forgotten to my friends especially Nur Izatul Nabila binti Mohd Ali Hanafiah who helped me a lot in finishing this project within the limited time. The most important, appreciation to my mother Normah Rashid who pray the best for me. I am really thankful to them.

This project makes me in love to do research and open my mind to contribute benefits to community.

Nur Emyraa binti Mohd Yusop

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ABSTRACT

THE DISTRIBUTION OF HEAVY METAL CONCENTRATIONS SURROUNDING TEMERLOH MUNICIPAL SOLID WASTE LANDFILL AREA

Solid wastes landfill is the source of pollution to the surrounding area by distribution of pollutant through wind. The wastes can be toxic when it contains heavy metal. The aim of this study are to investigate the presence of chromium (Cr), iron (Fe), lead (Pb) and zinc (Zn) near the Ulu Tualang landfill, to assess their concentration and to determine the contamination of heavy metals studied with contamination factors and their enrichment with enrichment factors. Soil sample were taken at dept 10 cm at different distance from the landfill; 0.5 km, 1 km, 2 km, 3 km and 4 km from the landfill. The samples were air dried for 1 week, sieved, grinded, and digest with mixture of HCl and HNO₃ with ratio 1:3 in microwave digester. Then the samples were analysed using FAAS to determine their heavy metal concentrations. Three replicates of each sample were used to obtain the average value. The concentration of heavy metals studied were 40.15 mg/kg for Cr, 3585.77 mg/kg for Fe, 33.83 mg/kg for Pb and 567.8 mg/kg for Zn. From the concentration, their contamination in soil were evaluated with contamination factor. The high contamination for Cr was at 2 km distance from landfill where it was classes as considerable contamination, for Fe at distance 2 km and 3 km (considerable contamination), Pb at distance 3 Km (very high contamination) and Zn at 0.5 Km, 1 Km and 3 Km (very high contamination). Chromium showed a minimal enrichment factor at 0.5 km, Pb showed a moderate enrichment factor at 3 km where as Zn showed a moderate enrichment at 0.5 km, 1 km and 3 km at the sampling site.