

DISTRIBUTION OF HEAVY METALS IN DIFFERENT SIZE FRACTION OF
SEDIMENT AT SETIU LAGOON

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FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
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SEDIMENT AT SETIU LAGOON**

By

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**This research report is submitted in partial fulfillment of the requirement for the degree of
Bachelor of Science (Marine Science)**

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2008**



**JABATAN SAINS MARIN
FAKULTI PENGAJIAN MARITIM DAN SAINS MARIN
UNIVERSITI MALAYSIA TERENGGANU**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:
Distribution of Heavy Metals in Different Size Fraction of Sediment at Setiu Lagoon oleh
Nor Hafizoh Bt. Abdul Razak, No.Matrik UK11380 telah diperiksa dan semua
pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan
Sains Marin sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah
Sarjana Muda Sains (Sains Marin), Fakulti Pengajian Maritim dan Sains Marin,
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Tarikh: 11/5/08

ACKNOWLEDGEMENT

First of all, thanks to God for blessing me for His blessings and also to complete my Final Year Project. I would like expressing my gratitude to Prof. Noor Azhar bin Mohamed Shazili because of his guidance, advice and monitoring through out this project as my supervisor. Thanks also to Mr Joseph anak Bidai for his patient in teaching me everything during the project.

My gratitude also goes to Master student, Kak Diana, Kak Ija, Kak Nazirah, Kak Zurina that also helped me in order to complete my project. Not forget, also thanks to my friends Hani, Farizan, Raja, Nokey, Khalisah, Affizah, Azlisham, Idham and others. Thanks for always support me when I really need it.

Most important to my beloved family, especially my parents, my brothers and sisters, thank you for your advice and support when I'm in trouble. You are always in my side and in my heart no matter who I am.

Lastly, thank you very much to all who were involved directly during the completion of my project.

ABSTRACT

The concentration and distribution of heavy metals (Cd, Cu, Zn and Pb) in different size fraction of sediment at Setiu Lagoon was carried out and the correlation between concentration of heavy metals with size fraction (40 μm , 63 μm , 90 μm , 125 μm , 250 μm , and 500 μm). Beside the sedimentological characteristics of the sediment was studied also. Cadmium shows the very high correlation between particle size and concentration of heavy metals. The r value for this correlation is 0.8152 with $p < 0.01$. It is followed by Zinc (Zn) that also have high correlation with r value = 0.7454, $p < 0.01$. The correlation for Pb is define as moderate correlation; substantial related with $r = 0.6561$, $p < 0.01$. Cu also shows the moderate correlation with $r = 0.5415$, and $p < 0.05$. It shows that the concentration of heavy metals are tends to decrease with increasing particles size of sediment.

ABSTRAK

Kajian kepekatan serta taburan logam berat (Cd, Cu, Zn and Pb) dalam saiz fraksi sediment di Setiu Lagoon, Laut China Selatan dijalankan dan perkaitan antara kepekatan logam berat dengan saiz fraksi sediment (40 μm , 63 μm , 90 μm , 125 μm , 250 μm , and 500 μm) dikaji. Disamping itu, analisa ciri-ciri sedimentologi seperti min saiz, penyisihan, kepencongan, serta kurtosis turut dijalankan. Logam Kadmium (Cd) menunjukkan perkaitan antara kepekatan logam dan saiz partikel yang paling tinggi. Nilai r yang diperolehi daripada kajian ini ialah 0.8152 dengan $p < 0.01$, diikuti logam Zinc (Zn) yang mempunyai tahap korelasi atau perkaitan yang tinggi, iaitu $r = 0.7454$, $p < 0.01$. korelasi bagi logam Plumbum (Pb), menunjukkan perkaitan sederhana dengan nilai r iaitu 0.6561, $p < 0.01$, manakala logam Kuprum (Cu) menunjukkan korelasi paling rendah dengan nilai $r = 0.5415$, and $p < 0.05$. Ini menunjukkan bahawa terdapat perkaitan antara kepekatan logam berat dengan saiz partikel, dimana kepekatan logam berkurang apabila saiz partikel bertambah.