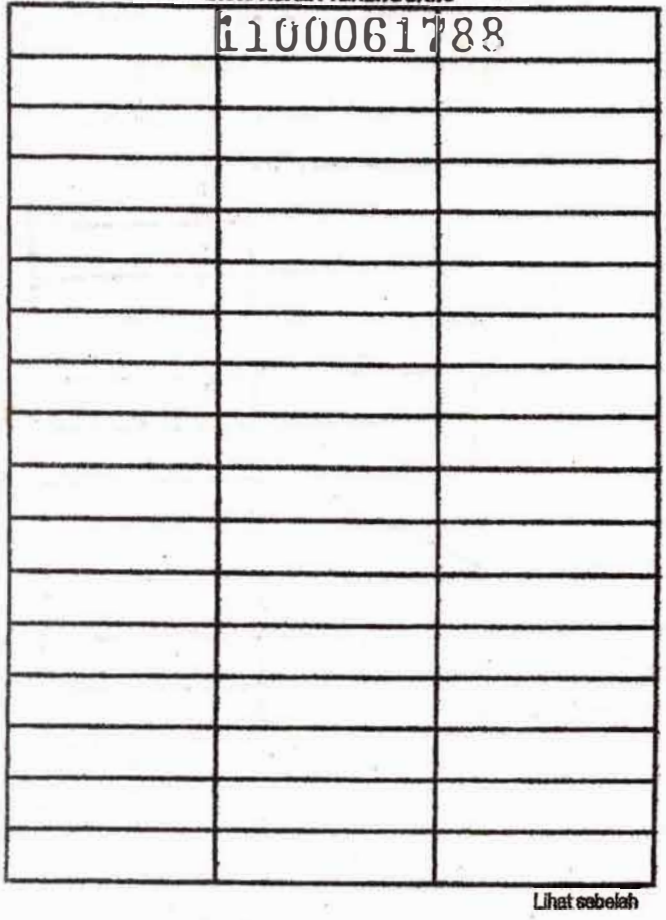
DISTRIBUTION OF MERCURY IN THE SEDIMENT OF TERENGGANU RIVER ESTUARY, TERENGGANU

KHAIRUNIZAH BINTI RAHMAT

FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU
2008

Distribution of mercury in the sediment of Terengganu River Estuary, Terengganu / Khairunizah Rahmat.



Lihat sebelah

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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 Mercury In Sediment of Terengganu River Estuary,Terengganu by Khairunizah Bt Rahmat, No.Matrik UK12230 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains (Sains Marin), Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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ABSTRAK

Kajian ini merujuk kepada penentuan taburan mercury (Hg) dalam sedimen serta turut mengkaji perkaitan kepekatan logam merkuri dengan saiz partikel sedimen dan kandungan karbon organik di muara sungai Terengganu serta perkaitannya dengan perubahan monsun yang berlaku.Proses penyampelan telah dilakukan sebanyak dua kali dan setiap kali penyampelan dilakukan,analisis dilakukan di 10 stesen yang sama.Kepekatan Hg ditentukan menggunakan lCP-MS .Berdasarkan keputusan kajian,taburan kepekatan Hg adalah dalam julat 0.0052-0.0112 µg/g semasa penyampelan pertama (sebelum monsun) dan 0.1738-0.3878 µg/g untuk penyampelan kali kedua (selepas monsun).Bagi hubungan kolerasi antara kepekatan Hg dengan min saiz partikel bagi penyampelan sebelum monsun,ia menunjukkan hubungan yang terlalu lemah(r=0.1844) manakala bagi kepekatan Hg dengan min saiz partikel bagi penyampelan selepas monsun,ia menunjukkan hubungan kolerasi yang lemah (r=0.361).Kepekatan Hg mempunyai hubungan kolerasi yang terlalu lemah dengan stesen penyampelan pada kali pertama (r=0.0632) dan pada penyampelan kedua,kepekatan Hg mempunyai hubungan kolerasi yang sederhana dengan stesen penyampelan (r= 0.4550). Hubungan kolerasi untuk kepekatan Hg bagi penyampelan sebelum monsun dan selepas monsun adalah lemah (r=0.2449).Selain itu,kepekatan merkuri mempunyai hubungan kolerasi yang sederhana dengan karbon organik (r=0.5273 dan r=0.5797) untuk kedua-dua penyampelan.Daripada keputusan yang didapati,secara keseluruhannya,kebanyakan stesen yang di analisis mempunyai kepekatan merkuri melebihi nilai kepekatan Hg dalam sediment yang tidak tercemar iaitu 0.05 µg/g untuk penyampelan kedua (selepas monsun).

ABSTRACT

The focus of this study was to determine the mercury distribution in sediment and also to study about relationship between Hg concentration and mean particle size of sediment and total organic carbon at Terengganu river Estuarine sediment and also its relationship with changes of monsoon season.Sampling was done for twice and for each sampling,involving 10.Concentration of Hg was determined using ICP-MS.According to the result,distribution of Hg concentration varied from 0.0052-0.0112 μg/g for first sampling (Pre Monsoon) and 0.1738-0.3878 μg/g for second sampling (Post Monsoon).For the correlation between Hg concentration with mean particle size for Pre Monsoon sampling,it shows almost negligible correlation (r=0.1844) while for sampling Post Monsoon,it shows low correlation with mean particle size (r=0.361).Hg concentration has almost negligible correlation with sampling stations for first sampling (r=0.0632) and for the second sampling,Hg concentration has moderate correlation with sampling stations (r= 0.4550).Correlation between Hg concentration before Pre Monsoon and Post is low (r=0.2449).Besides that,Hg concentration has moderate correlation with organic carbon for both sampling.From the result obtained,overall almost stations which was analysed have Hg concentration exceed the Hg concentration in uncontaminated sediment which is 0.05 μg/g for second sampling (Post Monsoon).