

Geochemical Investigation on the Sources and Influences of Heavy Metal Pollution in Fishing Harbours of Ramin and Beris

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Received Date: April 7, 2012

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Accepted Date: January 21, 2014

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Abstract

The levels of some heavy metals in sediments of two harbors along the Iranian coasts of the Gulf of Oman were investigated in the present study. Sediment samples were taken from 15 stations throughout the Ramin and Beris harbors in March 2010. Grain size, total organic carbon content and concentration of heavy metals were determined in sediment samples to assess the extent of contamination level in the area. The range of concentrations measured in $\mu\text{g.g}^{-1}$ dry weight were 4-12 for As, 0.01-1.5 for Cd, 17.5-287 for Cu, 31.6-94.9 for Ni, 11.7-1780 for Pb and 42-547 for Zn. The geo-accumulation index and enrichment factor showed the degree of pollution in study area as follow: $\text{Cu} > \text{Zn} > \text{Pb} > \text{Cd} > \text{Ni} > \text{As}$. Data revealed that high concentrations of Cu, Zn and Ni can pose moderate to severe biological effects in the area. Reparation and maintenance of fishing boats and ships in semi-closed harbors can be the source of contamination.

Keywords: Heavy metals, Pollution, Fishing harbors, Gulf of Oman.
