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ASSESSMENT OF THE LEVELS OF MANGANESE, COBALT, COPPER AND IRON ALONG THE COASTAL BELT OF GHANA

D. K. Essumang[1*], E. A. Obodai[2], C. K. Adokoh[3], Y. Serfor-Armah[4], B. J. B. Nyarko[4], A. Asabere-Ameyaw[5], and L. K. Boamponsen[6]

[1]Department of Chemistry, University of Cape Coast, Cape Coast-Ghana
[2]Department of Fisheries, University of Cape Coast, Cape Coast-Ghana
[3]Chemistry Department, University of Johannesburg,
Auckland Park Campus 2006, South Africa
[4]National Nuclear Research Institute, Ghana Atomic Energy Commission,
Legon-Accra, Ghana
[5]Faculty of Science Education, University of Education Winneba, Winneba-Ghana
[6]Department of Laboratory Technology, School of Physical Sciences,
University of Cape Coast, Cape Coast, Ghana

ABSTRACT

The study looked at the levels of manganese, copper, cobalt, and iron in water and sediments from seven different water bodies along the coastal belt of Ghana using Atomic Absorption Spectrophotometry method. The concentration of manganese, copper, cobalt, and iron in the sediment ranged between (21.3±7.7 - 178.2±63.6) mg/kg, (0.353±0.1 - 18.3±5.4) mg/kg, (0.45±0.21 - 2.81±0.53) mg/kg, and (700.2±328.7 - 4071±1612) mg/kg respectively. Water also ranged between (0.035 – 0.076) mg/L, (<0.003 - 0.01875±0.002) mg/L, (0.0265±0.04 - 0.21675±0.08) mg/L and (2.3365±0.1 to 1.33575±0.05) mg/L for manganese, copper, cobalt, and iron respectively. The contamination factors and pollution load indices also indicated less pollution of the metals in the seven water bodies. The study, though, revealed that the pollution level is not alarming, however, this seems to be increasing slowly. From this study, it is clear that the metals analyzed in these water bodies do not pose a threat to the ecosystem.

Keywords: Akosombo taihace, Neutron Activation Analysis (NAA), GeoNameId, Pra Estuary, Benya Lagoon, Narkwa Lagoon, Kolmogorov-Smirnov.

[*] Correspondence to kofiessumang@yahoo.com; Department of Chemistry, University of Cape Coast, Cape Coast-Ghana