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Source Assessment and Analysis of Polycyclic Aromatic Hydrocarbon (PAH' s) in the Oblogo Waste Disposal Sites and Some Water Bodies in and around the Accra Metropolis of Ghana

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ABSTRACT

The study looked at the levels of polycyclic aromatic hydrocarbons (PAHs) in leachates from a solid waste disposal site and an effluent from an oil refinery in some water bodies around Accra. Sixteen (PAHs) were extracted simultaneously by solid phase and analysis by gas chromatograph. The results of this study gener-ally demonstrated that there were elevated levels of PAHs in the water sample of the Densu River, Chemu, Korle and Kpeshi Lagoons. The average concentration of PAHs in the water ranged from 0.000 of many of the PAHs to 0.552µg/L, for Acenaphthene to 11.399µg/L for Benzo (ghi) perylene of the Chemu Lagoon, 0.00µg/L for Benzo (a) Pyrene to 8.800µg/L for Benzo (ghi) perylene (Korle Lagoon) and 0.052µg/L for Pyrene to 4.703ug/L for Acenaphthylene of the Kpeshi Lagoon and 0.00µg/L for pyrene to Acenaphthylene 2.926µg/L of the Weija Dam. Concentrations ranging from below detection level to 14.587µg/L were also recorded at the Oblogo solid waste dump and it' s environ. The Weija dam supply over two million gallons of portable water daily to the people of Accra and the levels of the PAH determined is worrying, as a result, the Oblogoh disposal site ought to be re-located to avert any possible epidemic.

KEYWORDS

Accra Metropolitan Assembly (AMA), Oblogo Dumping Site, Weija Dam, Densu River, PAHs, Chemu Lagoon, Korle Lagoon, Kpeshi Lagoon

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