Concentration of heavy metals beneath the Ampar Tenang municipal open-tipping site, Selangor, Malaysia

ABDUL RAHIM SAMSUDIN, WAN ZUHAIRI WAN YAACOB, ABDUL GHANI RAFEK & BAHAA-ELDIN ELWALI A.RAHIM
School of Environmental Science and Natural Resources, Faculty of Science and Technology
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor Darul Ehsan

Heavy metals namely Cu, Cr, Ni, Zn, Pb and Co in soil horizons beneath the Ampar Tenang municipal open-tipping site have been extensively investigated through examination of twenty-one representative triplicate soil samples that were collected from nine auger-boreholes. Soils sampled from the body of the disposal site revealed considerably higher concentration levels of most of the elements analyzed compared to other samples. Moreover, Cr, Zn and Pb show higher levels of concentration among all examined metals. It was found that in most cases, the heavy metal concentration was generally high at the surface and downwards to a depth of 60 cm, then decreased relatively with increasing depth. It is shown that in addition to vertical infiltration of leachate from the solid waste, the hydrological regime of groundwater also has strong impact on contaminant distribution in soils below the site.

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 30, No. 3, May-June 2004