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DETECTION OF GROUNDWATER POLLUTION USING RESISTIVITY IMAGING AT SERI PETALING LANDFILL, MALAYSIA

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ABSTRACT
An electrical resistivity imaging survey, together with the results obtained from ground and surface water hydrochemistry and hydrogeological setting were used to detect pollution and subsurface flow of contaminants from the Seri Petaling Landfill, Selangor, Malaysia. Subsurface flow of leachate was east to west in the eastern sector of the landfill and north to south towards a downstream area. These flows were found to coincide with the general and local groundwater flow directions within the landfill area. A high concentration of contami-nants exists in the downstream area coinciding with local groundwater flow. High concentra-tions of Cl, Na, and K were detected in the downstream area. Also, Ca and Mg are high compared to upstream areas and the river water, probably due to the release of contaminants from the waste body. Heavy metals concentrations are very low and do not show any sign of pollution in the area, although they are relatively high downstream. Leachate is also detected on the western side of the landfill, coinciding with the general eastward groundwater flow.

Reference: Mukhtar, A.L., W.N. Sulaiman, S. Ibrahim, P.A. Latif and M.M. Hanafi; Detection of Groundwater Pollution Using Resistivity Imaging at Seri Petaling Landfill, Malaysia, Journal of Environmental Hydrology, Vol. 8, Paper 3, January 2000.

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