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Acta Geophysica
vol. 58, no. 6, pp. 1040-1055
DOI: 10.2478/s11600-010-0023-8

EM and GPR Investigations of Contaminant Spread Around the Hoc Mon Waste Site, Vietnam

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Abstract

This paper is presenting the results from near-surface geophysical surveys near the waste site of Hoc Mon in southern Vietnam where leachate contamination has been recognized at the surface. Using EM and GPR surveys, we were able to determine the lateral extent of a contaminated area of high electrical conductivity and have identified channels that concentrate the contaminant flow. The simple relationship between the electrical resistivity and the leachate concentration is suggested and estimated the *in situ* leachate concentration from the inversion of the EM data; values are as high as 40%. Thanks to a permeability barrier leachate flow is confined to the shallow subsurface, making it easier to apply possible site remediation projects.

Key words: electromagnetic methods, ground-penetrating radar, leachate flow, contaminant concentration.