

A screening level method to derive contaminant distributions in groundwater for early stage assessments of brownfields

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Abstract The complexity and scale of groundwater contamination at mega-sites requires an early identification and prioritization of focal areas and risks in order to drive further decisions concerning detailed investigation programmes and remediation measures. There is a need for the enhancement and appropriate processing of sparse amounts of groundwater contamination data, especially during the early investigation stages of mega-sites. We present a flow guided interpolation method (FGI) that has been adapted to the type, scale and information basis that are typically available at the early stages of revitalization projects at contaminated sites. Comparison of remediation cost estimations against investigation expenses show how uncertainty about required remediation measures and associated costs change during tiered brownfield revitalization projects.

Key words particle tracking; interpolation; mega-site management; groundwater contamination; GIS; remediation costs; FGI