Application of TL-CHERT Smart Characterization Method to Investigate a Groundwater Contaminated Site

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The Environmental Protection Administration in Taiwan effectively integrates Cross-Hole Electrical Resistivity Tomography (CHERT) into remediation planning in the anticipatory improvement project of sites with no polluter. During the reagent injection, Time-lapse Cross-Hole Electrical Resistivity (TL-CHERT) data are collected continuously. After data preprocessing and inversion algorithm, the ERT results are presented in images. 4D images could depict the main transmission range of reagent during the reagent injection, and further adjust or revise the second stage of remediation design. Therefore, CHERT could not only improve the remediation of complex groundwater contaminated sites, but also achieve the goal of precise surgical remediation. Besides, setting geophysical exploration equipment together with monitoring wells could greatly increase the use efficiency of the wells. Because groundwater contamination is usually a severe problem, a cross-professional cooperation is necessary. It is expected that this study will provide a worth case study for the survey application of similar contaminated site.

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