Frontier Researches in Exploration Geophysics

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Tue. Apr 29, 2014 2:15 PM - 4:00 PM  421 (4F)

Geophysical exploration methods are widely used to estimate physical or chemical properties of media that are located in the environment where it is difficult for human beings to access. We would welcome presentations and discussions on theories, applications, case studies in which geophysical exploration schemes are applied for using artificial/natural signals or potentials.

3:45 PM - 4:00 PM

Issues and Countermeasures for the Geophysics Investigation of Contaminated with Chlorinated Hydrocarbon

3-min talk in an oral session

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Keywords:Geophysical survey, Electrical Resistivity Tomography, Borehole Radar

Environmental geophysics survey has the advantages of survey rapidly, high resolution result and less affected by the surface topography and objects. It is suitable to either a wide range of general survey or a small-scale precise survey. Recently, non-invaded technologies such as geophysical technology have been introduced to provide the plane and space information of pollution in subsurface by integrating few bore-hole dates. The most common used geophysical technologies are ground-penetrating radar method (GPR) and electrical resistivity tomography (ERT). The electrical resistivity tomography (ERT) is one of the most widely used geophysical methods in geological, hydro-geological, and geo-environmental investigations. This study would first discuss how DNAPL and its soluble-phase components invade into the low permeable layer based on the field observation. Then, the importance of geophysical technology is introduced with comparing to the limitations of bore-hole investigation. Last, the case studies on using geophysical technologies including geophysical well logging are introduced to snapshot the complex profile of DNAPL distribution for improving future application.