

Imaging the Fate and Transport of a Salt Spill During Remediation with Time-lapse Electrical Resistivity (Year 3 of 3)

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The present research project focused on developing methods for using electrical resistivity imaging (ERI) combined with other methods to monitor the changes in salinity distribution of salt-affected soils and groundwater. Insights into the performance of a tile drain system installed at the study site were also gained during the project. The objectives of this study include;

- develop methodologies for creating detailed 3-D images of the electrical resistivity distribution of the subsurface;
- calculate volumes of salt-affected soils and the degree of impact;.
- monitor changes in electrical resistivity of the subsurface over a 3-year research period using time-lapse surveys;
- monitor natural and induced remediation progress

- and transport of salt in soils and groundwater;
 - evaluate the effects that changes in environmental factors such as temperature and saturation introduce into the time-lapse images;
 - develop survey methodology and correction procedures to account for time variable temperature and saturation; and
- To achieve these objective, we completed a four-year research project at a salt- affected site in which we developed methods for using electrical resistivity imaging (ERI) combined with other methods to monitor the changes in salinity distribution. Time- lapse electrical resistivity surveys were used to monitor the movement and remediation of a saline contaminant plume over the span of the project.

2005 UoC_Imaging the Fate and Transport of a Salt Spill During Remediation with Time-lapse Electrical Resistivity Yr 3

2008 UoC_Imaging the Fate and Transport of a Salt Spill During Remediation with Time-lapse Electrical Resistivity Report

2008 UoC_Fate and Transport of a Salt Spill with TimeLapse Electrical Resistivity

2009 UoC_Tile Drainage Presentation Yr 1

2010 UoC_Tile Drainage Presentation Yr 2

2011 UoC_Tile Drainage Presentation Yr 3