

The DC resistivity and time-domain IP monitoring system of Alingsås

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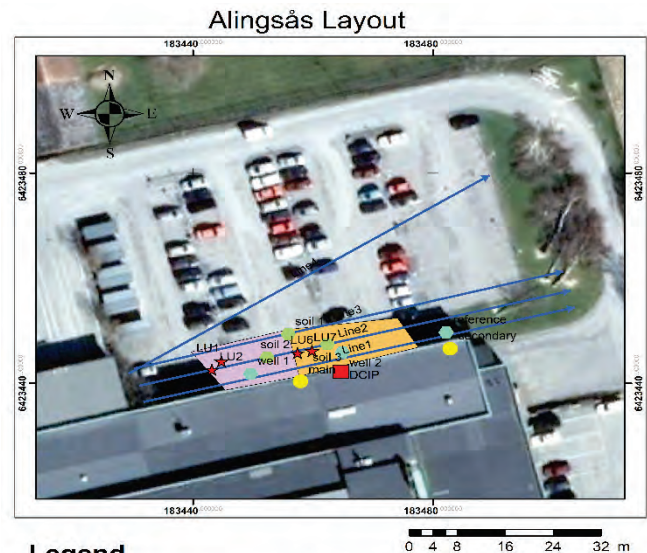
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A monitoring system for Direct Current resistivity and time-domain Induced Polarisation tomography (DCIP) is being installed in Alingsås, Sweden. The aim is to follow changes in the DCIP signatures caused by the in-situ remediation of Tetrachloroethylene (PCE) and correlate the changes with other information (soil moisture/temperature, water conductivity, redox potential). For that purpose, we have successfully installed four DCIP electrode lines, four boreholes with ring electrodes around the chassing and several sensors for collecting complementary data (TDR, thermistors, weather station, etc.) during October. The sensors are needed to be able to take into account changes caused by other processes like e.g. rainfall and seasonal variation.

A dry-cleaning facility was operated at the site by the military for many years. The main solvent used was PCE, where a huge amount of the solvent was spilled into the ground. This contributed to an increasing concentration of PCE over the years until the use of PCE was stopped, resulting in the formation of a DNAPL plume beneath the building.

The site is relatively flat with a rather simply geology. At the top there is a layer of clayey sediments, followed by a thinner layer of sand and the bedrock. The conceptual model, which is made by the consultant company WSP, suggests that most of the PCE is trapped inside the clay layer. In early November 2017, a pilot test of in-situ bio-remediation will take place by injecting two different products that are designed to enhance the bio-degradation.

Preliminary results from the monitoring system will be presented.



The layout of the installed monitoring system in Alingsås.