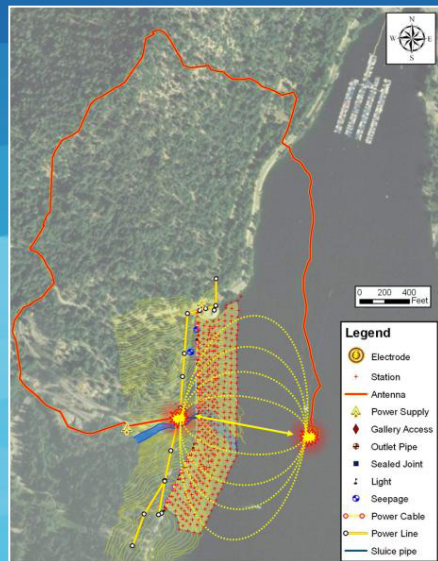


Case study

Shaver Lake Dam Willowstick Survey

Willowstick significantly reduces grouting works at heavily reinforced concrete dam

A Willowstick survey of Shaver Lake dam successfully identified seepage paths underneath the copper faced dam. As a result the survey significantly reduced the amount of grouting required bringing large cost savings to the client.



Plan image of the survey setup

Interference from reinforcement and copper sheeting was successfully avoided through survey alignment and post survey modelling. The project has subsequently set the benchmark for further use on heavily reinforced concrete dams.

Successfully avoiding interference from reinforcement

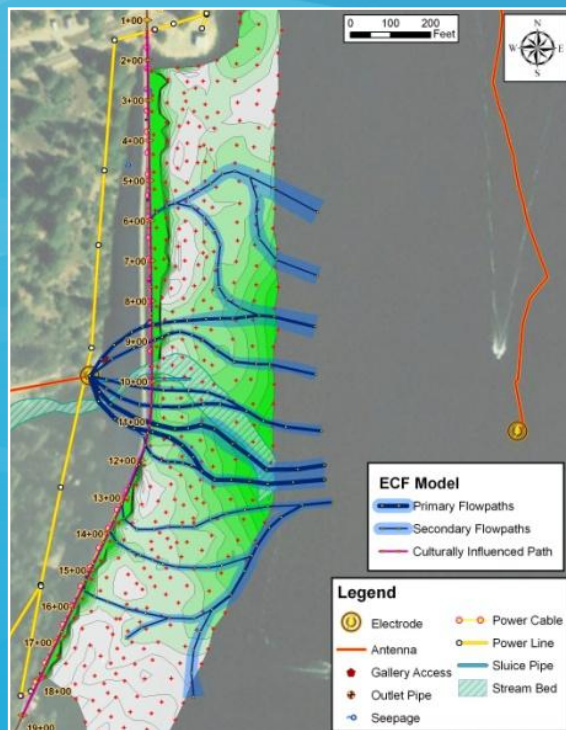
Shaver Lake dam, completed in 1927, is 600 metres long and 50 metres high. Despite various efforts to minimize and control seepage through and beneath

the dam seepage out of the reservoir had steadily increased over the dam's 82 year history. It became an issue for the client and the dam was scheduled for repair works lining the up-stream face of the dam with an impermeable liner and grouting to minimise seepage flowing beneath the dam.

One of the concerns with conducting an electromagnetic survey of a concrete dam is the influence of reinforcement on the magnetic field.

To avoid impacts from the copper sheeting and reinforcement the study area was located in front of the dam. Enabling the location of the leakage paths immediately before passing under the dam where they could then be grouted.

Large areas of potential seepage ruled out



View of Electric Current Flow model

Willowstick identified that large areas underneath the abutments of the dam were free from seepage.

This enabled targeted grouting of the problem areas only and ruled out significant volumes of grouting.