

Locating the leakage route at Torside Reservoir using the Willowstick AquaTrack system.

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SYNOPSIS At the 2006 BDS conference in Durham, Val Kofoed and Jerry Montgomery of Willowstick Technologies and Keith Gardiner of United Utilities and Supervising Engineer for Torside Reservoir, introduced the AquaTrack subsurface water-mapping methodology (Kofoed et al 2006) While the technology seemed promising, at that time there was relatively little data to confirm its accuracy. Now there is a wealth of results which provide a clearer picture of this technology's reliability and capacity

This paper will analyse just such results from a seepage-diagnosis project conducted at United Utilities's Torside Dam in Derbyshire. That project investigated the source of water that was leaking into the drawoff tunnel running beneath the dam. As per the AquaTrack procedure, the reservoir was charged with a low-voltage electrical current, which emitted a magnetic signal representing the subsurface water flow. When read and analysed, that signal indicated the path of the water flow into the adit. Following the investigation, UU lowered the reservoir and found a sinkhole where the mapping procedure had predicted.