

# **The Detection of Abandoned Mineshafts Using GPS and Capacitively Coupled Resistivity Imaging**

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**Key words:** GPS, Capacitively Coupled Resistivity, Geophysics.

## **ABSTRACT**

The re-development of derelict land in the built environment frequently encounters potential geohazards, such as old mine shafts and workings, which pose serious risk to health and safety. Apart from the physical risk to new structures from subsidence, people are also at risk from mine contaminants. Trial pits and boreholes test only a statistically small volume of ground, therefore, a technique is required that is non-invasive and provides ultra-high density volumetric images of the subsurface.

The research underway at the University of Nottingham and the British Geological Survey investigates the integration of single frequency RTK GPS with a novel capacitively coupled resistivity imaging (CCRI) system. The system is designed to enable the real time positioning and resistivity of the ground to be determined, and hence the characteristics to be evaluated.

The following paper details the work, and focuses on the research into the integration of GPS into such a high voltage system.

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JS27 Engineering Survey Databases and Facility Management Systems  
Gethin W. Roberts, Kathryn Strange and Martin Waller  
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FIG XXII International Congress  
Washington, D.C. USA, April 19-26 2002