

PORTABLE FIELD TECHNIQUES FOR THE INSTRUMENTATION AND MONITORING  
OF LOW PERMEABILITY SEDIMENTS

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The hydrogeological investigation of low permeability sediments such as clays has become a topic of considerable importance as these materials are being more commonly used to retard the movement of contaminants in groundwater environments.

Detailed instrumentation and sampling can be extremely expensive and access to the sites of interest may be quite limited for large drilling rigs. A series of field techniques have recently been developed at the Institute for Groundwater Research of the University of Waterloo in Canada to permit the installation of piezometers and the collection of continuous core through the use of hand operated tools.

These portable techniques alleviate the need for heavy drilling equipment and are easily transported to sites with very poor access. In the Valley of Mexico, piezometers have been installed to depths of over 25 m and continuous core samples obtained to a depth of 12 m in lacustrine clays using these inexpensive techniques. The most important components of the piezometer installation and coring techniques will be displayed along with preliminary data collected from the Valley of Mexico Project.

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