

Borehole multi-purpose investigation program for bed-rock performance assessment

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During the initial field characterization of preliminary investigation for the siting of repository, a few number of borehole investigation will be conducted to provide basic but precise information to meet the siting factors. In order to avoid the interference among the investigation procedures, not to mention the disturbance of the drilling itself, well-planned programs of drilling and borehole investigation will be the first issue.

To help planning and evaluation of the programs, we have conducted a series of surface and drilling surveys in a shallow Tertiary sedimentary section on a crystalline basement. An array of shallow exploring wells were drilled to study; lithological and geochemical stratigraphy, monitoring of the hydraulic pressure and sampling of pressured pore-water, in-situ hydraulic conductivity tests, hydraulic head distribution, and direct measurements of ground-water flow direction, along with a series of borehole loggings.

Based on these on-site applications of various tools and techniques, several key issues and additional development requirements are summarized for a single-well exploration and multi-well cases.