

941232

Statistical methodology to analyse the effect of changes in testing technology on measurement results

Livneh, M; Ben-Akiva, M

Geotech Test J V16, N2, June 1993, P216-227

In comparisons of different instruments or measuring techniques to measure the same characteristics, statistical methods are used to separate natural variability of the characteristic and that caused by measurement error. Measurement error has three components, random error, instrumental systematic additive bias, and instrument systematic multiplicative bias. The third component has routinely been neglected in earlier work, but this omission is remedied in analysis of data from DCP tests on clay in confined rigid rings with free or constrained surfaces.

941233

Quantifying geologic uncertainty in site characterization

Gnirk, P; Boyle, W J; Parrish, D K

*Proc ISRM Symposium: Eurock'92, Chester, 14-17**September 1992 P468-473. Publ London: Thomas Telford, 1992*

Determination of geotechnical conditions at a site is always uncertain because of limited data and imperfect interpretation. These uncertainties were required to be quantified for input data for the Exploratory Studies Facility Alternatives Study for the proposed Yucca Mountain Repository. Definition and relation of such uncertainties using a probabilistic decision tree is described. This allows a relation between actual conditions and expected conditions to be determined in site investigation.

Suggested testing methods and standards

941234

Suggested method for describing the activity of a landslide

UNESCO Working Party on Landslide Inventory

Int Assoc Engng Geol Bull N47, April 1993, P53-57

A classification of landslides is proposed which has three constituent parts. State of activity can be assessed as active, reactivated, suspended, or inactive (dormant, abandoned, stabilised, or relict). Distribution of activity can be described as retrogressing, advancing, widening, confined, enlarging, diminishing, or moving. Style of activity maybe complex, composite, multiple, successive, or single. Some examples are given.

941235

Suggested improvement to the Schmidt rebound hardness ISRM suggested method with particular reference to rock machineability. Technical note

Goktan, R M; Ayday, C

Int J Rock Mech Min Sci V30, N3, June 1993, P321-322

Erroneous values in Schmidt hammer tests can be minimised by careful mechanical preparation of the surface and avoidance of areas with discontinuities. It is also necessary to detect and remove outlier values resulting from improper functioning of the hammer. A simple statistical procedure for this end is presented.

Monitoring rock and soil mass performance*See also: 941352, 941432*

941236

Reinstrumentation of an earthfill dam

Hanna, A; Lum, K Y; Lou, J K

Can Geotech J V30, N2, April 1993, P193-210

The Hugh Keenleyside Dam on the Columbia River was constructed in 1968. After 25 years, many of the original piezometers installed to monitor the dam and blanket had failed. The adequacy of the remaining instruments and requirements for additional instrumentation were assessed on the basis of available piezometric data and finite element seepage analysis. The upgraded monitoring system, its implementation, and its performance are described.

941237

Borehole temperature measurements using distributed fibre optic sensing

Hurtig, E; Schrotter, J; Grosswig, S; Kuhn, K; Harjes, B; Wieferig, W; Orrell, R P

Sci Drilling V3, N6, 1993, P283-286

Distributed Optical Fibre Temperature Sensing (DTS) is a technique which enables measurement of temperature over a distance of several km and temperature range greater than 100 deg C using standard telecommunications fibre. It is based on the temperature dependence of Raman backscattering of light pulses propagating through an optical fibre. The principles are outlined and pilot evaluation in a 200m deep well described. The many advantages over conventional techniques are considered.

941238

Distinct applications of MWD, weight on bit, and torque

Belaskie, J P; Dunn, M D; Choo, D K

SPE Drilling Compl V8, N2, June 1993, P111-117

Real-time information on downhole torque and weight on bit available from the latest MWD tools has allowed improvement of drilling efficiency in directional wells on the north slope of Alaska. PDC bit rate of penetration was maximised by maintaining optimum downhole WOB and torque. Another bit was rapidly recognised as unsuitable. Bit trips were avoided, undergaged bits quickly detected, and locked cones and a fractured mud motor diagnosed.

941239

Field measurements in the Frido Project

Binetti, S; Loiacono, P L; Fidelibus, C; Lenti, V; Spilotro, G

Proc 3rd International Symposium on Field Measurements in Geomechanics, Oslo, 9-11 September 1991 V2, P707-716.*Publ Rotterdam: A A Balkema, 1991*

The Frido Project in the Basilicata region of Italy involves tapping springs issuing along the contact line of limestone and Frido formation shales and schists, channelling flow to a pool, and then via a pipeline to a tunnel connecting to a neighboring valley. Many instability phenomena have been observed in the area. Comprehensive instrumentation was installed to monitor climatic and hydrological parameters, slope stability in the complex and tectonized environment, and deformation of a section of the tunnel. Selection and performance of the instrumentation is discussed.