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Administrative report of TC16 – Ground property characterization from in-situ testing activities

Compte rendu technique de la No. CT 16 – Caractérisation des propriétés des sols d'après les essais in-situ

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1 TERMS OF REFERENCE

- 1 To promote co-operation and exchange of information about the execution and interpretation of in-situ testing for site and ground characterization.
- 2 To continue liaison with the various international standards organizations working on test procedures.
- 3 To continue the working parties on the CPT and DMT, resulting in Reference Test Procedures or Technical Reports.
- 4 To participate in the organization of the next International Conference on Site Characterization.

2 ACTIVITIES

In the past 25 years there have been many interesting and informative conferences on topics related to site characterization for geotechnical engineering concerns. In addition to conventional drilling and sampling techniques, there have emerged a number of new in-situ tests, including the electric cone penetration test, piezocone, flat dilatometer, new types of pressuremeter, and other specialty probes, blades, and push-in devices. New drilling and sampling methods have been introduced, including sonic drilling, continuous sampling, combined rotary/hydraulic/percussive tools, as well as automated devices. A marked increase in the utilization of geophysical techniques has also occurred, notably the profiling of shear wave velocities, ground penetrating radar, resistivity, and other nondestructive measurements. As a consequence, a number of successful symposia and conferences have been held on specialty topics related to site characterization. These prior conferences have set high standards in communication of research and practice related to site characterization and in-situ testing. The members of TC 16 felt that it was appropriate for a major international conference that would link all the different areas related to geotechnical site characterization. Hence, with the assistance of TC 10 (Geophysical Site Characterization) and TC 24 (Soil Sampling) TC 16 initiated and sponsored the First International

2.1 *Conference on Site Characterization (ISC'98) which was held in Atlanta, Georgia, USA in April 1998.*

The objectives of ISC '98 were to provide a forum for discussion on all aspects of geotechnical and geoenvironmental site characterization including planning, specification, drilling, sampling, in-situ testing and geophysical testing. Particular emphasis was placed on the exchange of practical experience and application of research results. The aim of the conference was to enhance the exchange of knowledge between researchers and practitioners from countries all over the world and to facilitate interaction between experienced and younger geotechnical engineers and engineering geologists. A further theme of the conference was the exchange of novel and innovative ideas, new technologies, and practical applications related to geotechnical and geoenvironmental

site characterization. The Technical Program included six Theme Lectures by eminent international experts in the main areas of site characterization along with Discussion Sessions on each of main theme with presentations by leading experts as Discussion Leaders and selected presentations from authors of papers. A Poster Session, Technical Exhibition and Field Demonstration were also arranged to allow participants an opportunity to see and discuss new techniques in greater detail.

This conference attracted over 200 papers from almost all parts of the world with an attendance of close to 500. The Proceedings of ISC'98, which are published by Balkema, also included a report entitled Pressuremeter Testing in Onshore Investigations prepared by B.G. Clarke and M. Gambin for TC 16 with additional input from other members of TC 16. The objective of the report was to describe pressuremeter equipment, site operations, interpretations and applications to guide practitioners in the use and application of pressuremeters. The conference was a huge success mainly due to the dedicated work and competence of the many authors and hard work and enthusiasm of the many individuals and organizations and companies that provided the basis for the planning and successful implementation of ISC'98. A particular thanks goes to Dr. Paul Mayne who was the Chair of the local organizing committee.

2.2 *Other meetings*

A meeting of TC 16 was held in Amsterdam in June 1999, as part of the European Soil Mechanics and Geotechnical Conference. As part of the proceedings for the European Conference, TC 16 published the International Reference Test Procedure (IRTP) for the CPT. This IRTP included full details on the recommended test procedures for using the CPT with pore pressure measurements. A team of international experts prepared this report, lead by Tom Lunne of NGI.

TC 16 also sponsored the International Conference on In-situ Testing, In-Situ 2001 in Bali during May 21 to 23, 2001. The Conference included a series of special lectures by invited international experts, technical sessions and poster sessions on the theme of in-situ testing. A field demonstration and technical exhibition was arranged to allow an opportunity for users and producers to discuss equipment and new ideas. The Proceedings of In-Situ 2001 also included a report entitled The Flat Dilatometer Test (DMT) in Soil Investigations prepared by the Geotechnical Group of L'Aquila University (S. Marchetti, P. Monaco, G. Totani and M. Calabrese) for TC 16 with additional input from other members of TC 16. The main aims of the report are to provide; a general overview of the DMT and its design applications; guidelines for proper execution of the DMT and to highlight a number of significant recent findings and practical developments. The report is not intended to be a Standard or Reference test procedure on DMT execution.

With the formation of the new CEN committee a major new initiative on international standards is about to take place. The link between CEN and ISO means that there is a direct exchange

of standards, i.e. there will be no duplication of committees so that whatever CEN produce is expected to be adopted/considered by ISO. The new committee will initially work on SPT, DP, CPTU, drilling and pressuremeters. The work will expand as champions are found to lead the work with support from national standards organizations. TC 16 will likely play a key role in the development of these new standards.