

Contents

| | |
|---|-----|
| Preface: M. G. Culshaw, J. C. Cripps, F. G. Bell & J. R. Coffey | v |
| Organizing Committee | vi |
| Acknowledgements | vi |
| Session 1: Introduction | |
| F. G. BELL, J. C. CRIPPS & M. G. CULSHAW: Field testing methods for engineering geological investigations | 3 |
| Session 2: Pressuremeter testing in soils | |
| W. F. ANDERSON, I. C. PYRAH & L. S. PANG: Strength and deformation parameters from pressuremeter tests in clay | 23 |
| B. G. CLARKE: Consolidation characteristics of clays from self-boring pressuremeter tests | 33 |
| A. S. O'BRIEN & R. L. NEWMAN: Self-boring pressuremeter testing in London Clay | 39 |
| D. J. CORKE: Self-boring pressuremeter in situ lateral stress assessment in London Clay | 55 |
| Discussion | 63 |
| Session 3: Pressuremeter and dilatometer testing in rocks | |
| M. C. STEVENSON, J. H. MARTIN & P. O. SQUIRE: Some recent in situ stress testing experience with strong clays and weak rocks in Britain | 67 |
| D. C. CURTIS, P. ANSELL & B. A. LEACH: Calibration and its effect on the results of pressuremeter tests in weak rocks | 77 |
| I. W. JOHNSTON & C. M. HABERFIELD: Pressuremeter interpretation for weak rock | 85 |
| A. MARSLAND & J. J. M. POWELL: Pressuremeter tests on stiff clays and soft rocks: factors affecting measurements and their interpretation | 91 |
| D. H. SHIELDS, L. DOMASCHUK, B. H. KJARTANSON & F. AZIZI: Measuring the creep properties of ice in situ | 111 |
| Discussion | 117 |
| Session 4: Penetration testing: the standard penetration test | |
| M. E. BARTON: The interpretation of standard penetration tests in geologically aged sands | 121 |
| G. B. CARD, D. P. ROCHE & S. M. HERBERT: Applications of continuous dynamic probing in ground investigation | 129 |
| A. R. DAWSON & N. H. THOM: Field tests on pavement foundations | 137 |
| S. L. HUNTLEY: Use of a dynamic penetrometer as a ground investigation and design tool in Hertfordshire | 145 |
| J. PITTS: The use of Swedish ram sounding and weight sounding in residual soils and weathered rocks | 161 |
| Discussion | 173 |
| Session 5: Penetration testing: static methods | |
| J. LEWANDOWSKA: Field testing of lime sediments and the interpretation of test data | 177 |
| J. A. LITTLE & D. R. CARDER: In situ and laboratory testing of Anglian stage Pleistocene sands and gravels | 181 |
| Discussion | 193 |

| | |
|---|-----|
| Sessions 6 and 7: Load, vane and direct shear testing | |
| E. MULLER, E. A. NOWATZKI & J. S. DENATALE: A determination of the shear strength parameters of a fine-grained cemented alluvium in the U.S. Desert Southwest | 197 |
| H. NIENHUIS & D. G. PRICE: The scale effect with regard to the deformability of calcarenite | 205 |
| A. MARSLAND: Measurements of effective strength parameters of stiff fissured clays using large in situ shear boxes | 217 |
| J. H. ATKINSON & C. A. JESSETT: Measurement of relative density of saturated sand using a piezovane | 229 |
| Discussion | 235 |
| Session 8: Surface geophysical testing | |
| S. G. LEE & M. H. DE FREITAS: Seismic refraction surveys for predicting the intensity and depth of weathering and fracturing in granitic masses | 240 |
| D. M. McCANN, M. G. CULSHAW & K. J. NORTHMORE: Rock mass assessment from seismic measurements | 257 |
| P. W. McDOWELL: The determination of the dynamic elastic moduli of rock masses by geophysical methods | 267 |
| M. G. WINTER & A. R. SELBY: The measurement of reinstatement backfill quality by a non-intrusive method | 275 |
| R. D. BARKER, D. N. LERNER & H. V. RODRIGUEZ-ESTRADA: Resistivity sounding for a landfill investigation at Bray, Berkshire | 287 |
| Discussion | 295 |
| Session 9: Downhole geophysical testing | |
| G. M. PINCHES & R. P. THOMPSON: Crosshole and downhole seismic surveys in the UK Trias and Lias | 299 |
| Discussion | 309 |
| Session 10: Permeability testing | |
| J. H. BLACK: Focussed packer testing: a structured approach to save time and improve results | 313 |
| D. J. CORKE & A. SMITH: Developments in in situ permeability testing | 323 |
| J. H. TELLAM & S. F. EYRE: Estimating rates and electrical conductivities of borehole inflows using a logging/two-level pumping technique | 335 |
| S. WALTHALL: Packer testing in geotechnical engineering | 345 |
| Subject index | 351 |
| Index of authors and contributors to discussion | 355 |