

ABSTRACT: Considerable amounts of in situ testing have been undertaken at the Bothkennar soft clay National testbed site in the UK. This has been to both characterise the site and also to undertake studies on the in situ testing methods. The paper covers data from cones and piezocones, various type of pressuremeter, vane tests, Marchetti dilatometer and field geophysics. This paper shows how valuable the in situ testing can be as part of a site characterisation.

1 INTRODUCTION

The Bothkennar National testbed site was purchased in 1989 by the then Science and Engineering Research Council (SERC) to provide facilities for research into the properties of low OCR, high plasticity clays. The purpose of this paper is to collect together and compare some of the data from a variety of in situ tests performed at the site.

4 CONCLUSIONS

Data have been presented from a variety of in situ tests on a well documented testbed site. The ability of all devices to give meaningful data has been shown. Those devices such as the CPTU and DMT have been shown to be particularly powerful in establishing detailed profiles of lithology, in situ stress

more clearly interpreted into the lithology now established. Derivations of shear strength are only valid for the methods used in establishing the original correlation databases. It is important to know what you are correlating with.

Pressuremeter testing using a variety of devices has been shown to give assessments of stiffness and strength. Differences between the devices result from differences in the methods of interpretation and/or, for the present deposit, differences in the disturbance caused to the structured clay. All devices gave consistent profiles.

Following established procedures but using the most up to date methods of interpretation can yield most useful information. There is the potential for more detailed profile information, with reduced scat-