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Western Regional Group

Geology and Engineering on the Severnside Levels

Dr Alan Cattell, Structural Soils Ltd.

S.H Reynolds Lecture Theatre, Bristol University, Bristol.

18th October 2016. 6:30pm Start

The Western Regional Group is pleased to invite Dr Alan Cattell. Alan is a Principal Geotechnical Engineer and Associate Director at Structural Soils Ltd. Alan will be here to share his knowledge about the ground conditions and engineering considerations of the Severnside Levels.

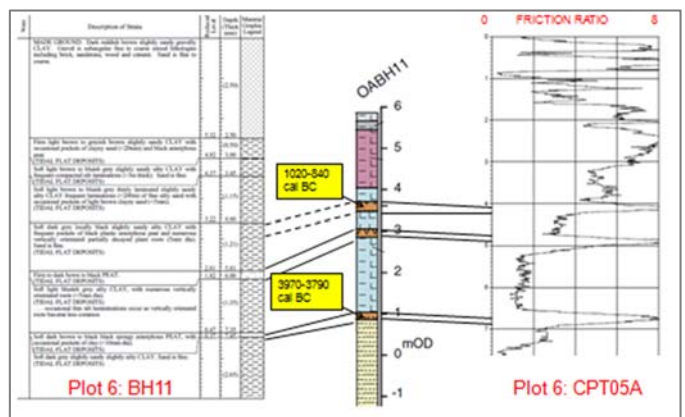


The geology and engineering properties of the estuarine alluvium of the Severnside Levels were investigated and reported on in the 1960s to 1980s, spurred by the construction of the M5, culminating in Hawkins' (1984) observations on engineering consequences of the geology.

Structural Soils have carried out many site investigations on the Severnside Levels in subsequent years, which have included >140 boreholes, most of which reached bedrock, and many extended into bedrock by rotary coring. Many investigations include CPT testing.

Based on these, maps are presented showing features such as the depth to bedrock, buried cliff lines, the distribution of sands with the Holocene alluvium, the extent of earlier gravels and even the distribution of a cockle bed which provides a useful marker horizon.

Also presented are detailed logs and photographs of typical profiles based on piston samples and adjacent CPT tests, which show the true nature of the soft alluvium and peats, which is far removed from that depicted in a typical borehole log. The soils are often layered, and contain long and open root traces, down to 15m depth, which will dramatically affect consolidation rates, a key factor in construction. The stratigraphy is compared with that used in archaeological reports, which provide very detailed descriptions of the upper parts of the alluvium. The effects of these observations on estimates of the amount and rate of settlement are discussed, and also correlations of the engineering properties are presented.



Forthcoming Talks

The WRG is constantly on the lookout for fascinating talks. If you would like to present, know someone who is willing please contact the WRG committee (details below) and we will try our very best to accommodate your requests.

Contact

For all enquiries regarding the Western Regional Group and events please contact us using the details below.

Venue

S.H. Reynolds Lecture Theatre (Room G25), Department of Earth Sciences, University of Bristol, Wills Memorial Building, Queen's Road, Bristol BS8 1RJ. For directions see <http://www.gly.bris.ac.uk/about/directions.html>.

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