CASE STUDY
Tottenham Hotspur Hotel Basement Investigation

The Contract
The site is part of a wider redevelopment scheme including a basement carpark and a hotel. The investigation was required to provide assessment of the ground conditions for both geotechnical design and potential contamination. Two boreholes to depths of 35 and 50m were required along with High Pressure Dilatometer (HPD) testing and Class 1 core subsamples.

The Challenge
The anticipated geology included Made Ground, River Terrace Gravels, London Clay, Lambeth Group, Thanet Sands and Chalk. Some aspects of these London basin deposits can prove difficult to drill, particularly the granular and cemented beds of the Lambeth Group.

There were time constraints during the site investigation to make sure that Class 1 core subsamples were taken, prepped and waxed within 30 minutes of the core being removed from the ground.

High Pressure Dilatometer (HPD) testing within the non-cohesive Lambeth Group were specified which required the drilling of a pocket (in order to insert the HPD probe) using a T6-H core barrel (99mm). In order to provide accurate HPD results the pocket had to stay open throughout the test period. The challenge also included the difficult task of recovering good quality core in order to accurately characterise the material in which the HPD tests were undertaken.

Other challenges associated with this site included operating in an operational car park and working alongside third party subcontractors as well as stringent time constraints.

The Solution
A Pioneer3 rig with Geobor S wireline capabilities was chosen for the investigation, this self-casing methodology being very well suited to drilling within the London Basin. The chosen method of investigation, along with the skills of the lead driller, meant that there was excellent quality core and core recovery. The effect on the public was also a prime consideration and so the drill site, site compound and logging area were fenced off using Heras panels covered in debris netting to stop the dispersion of drill fluids and dust. All deliveries and plant and vehicle movement also had to be planned carefully to take into account the safety of the public and other subcontractors. At the end of the project, a ‘gully sucker’ was used to wash down the work area and clean out the surface drains. The site was left clean and safe, two days ahead of schedule, to both the Client’s and Engineer’s satisfaction.

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For further details, please contact: lyndon.barton@geoeng.co.uk
Or visit our website www.geoeng.co.uk

Geotechnical Engineering Limited, Centurion House, Olympus Park, Quedeley, Gloucester. GL2 4NF
Tel: 01452 527743