

Issue 5

Summer 2002



Summer Newsletter

LANKELMA CPT LTD

LANKELMA CHALLENGE

Lankelma were given a task to carry out cone penetration testing at a site in the River Thames. The consultant, WSP Environmental Limited, were seeking both over-water and on-land ground investigation. The on-land part of the investigation was carried out by our track truck. Over-water was a bigger challenge. Tests had to be carried out on the dry falling banks. Normally these tests would be carried out from a jack-up platform but budget restrictions made this impossible. It was also not possible to carry out the tests with lightweight rigs, as we had to push through the Thames gravels with values up to 55 Mpa. Lankelma decided to design a landing craft on which the 20 tonne crawler could be driven on and off. The crawler was loaded on at the east side of the river at low tide. At high tide the pontoons were sailed over to the west side where the crawler could be driven off at 2 hrs before low tide and driven on at 2 hrs past low tide. Eleven tests were carried out in 3 days where depths were reached up to 20 metres.



Above: Crawler unloaded from pontoon

Below: Crawler on the banks of the Thames



DYNAMIC PROBING

Lankelma CPT Ltd have acquired the dynamic probing activities of the Pennine Group with effect from 4th March 2002.

The Pennine Group and Lankelma CPT Ltd are both client driven organizations which means that clients can still look forward to tailored and novel solutions to environmental and geotechnical services.

Lankelma will now be able to offer its cone testing services for the North of the country and Scotland from the yard in Bacup. For more info contact Andy Molloy at the Bacup office on 01706 878 692 or 07740082413 or Eric Zon, Managing Director, Lankelma CPT Limited on 01797 280050.



VIDEOCONE TECHNOLOGY

On 18th April Lankelma CPT Ltd demonstrated the future in cone penetration testing, the video cone. The cone, developed by Geodelft, uses a small video camera mounted in the side of the cone with a halogen light behind sapphire glass to record a constant image as it is pushed in the ground. The resulting imagery gives a clear undisturbed picture of the ground with 7 times magnification allowing you to see individual grains and colours of material. The site had large solution features in chalk in-filled by sand and gravel. The solution features are to be grouted to improve their stability. Conventional CPT's were used to profile these large features. The video cone was used to confirm depth of the contact between the sand and gravel and the highly weathered chalk, which is sometimes hard to distinguish from normal CPT's and boreholes.

OFFSHORE SURVIVAL

Lankelma employees undertook offshore survival training in April. This is to prepare them for upcoming CPT offshore work. As you can see from the photograph this was a truly bonding experience for all of the team. Lankelma was joined by members of Webber Associates who will be responsible for offshore design.



ROYAL SOCIETY FELLOW

Dr Omer, who is a Royal Society Fellow at Lankelma, recently presented a paper entitled "Semi-analytical solutions for vertically loaded piles in clay/weak rocks" at the 8th International Symposium on Numerical Models in Geomechanics (NUMOG VIII) held in Rome, Italy on 10-12th April 2002. This work forms part of the on-going industry project being carried out by Dr Omer of the University of Glamorgan in collaboration with Lankelma. The prime objective of the project is to develop improved foundation analysis methods, based exclusively on CPT data, for use by Engineers, to enhance reliability and cost-effectiveness in foundation design. The present paper describes a numerical technique for analysing the loaded behaviour of piles and includes some case histories of practical application to load capacity and settlement prediction.

Please come and visit us at stand No: 12F/127 at Civils 2002 at the NEC in Birmingham 11th–13th June. We would welcome the opportunity to discuss what CPT testing can do for you

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