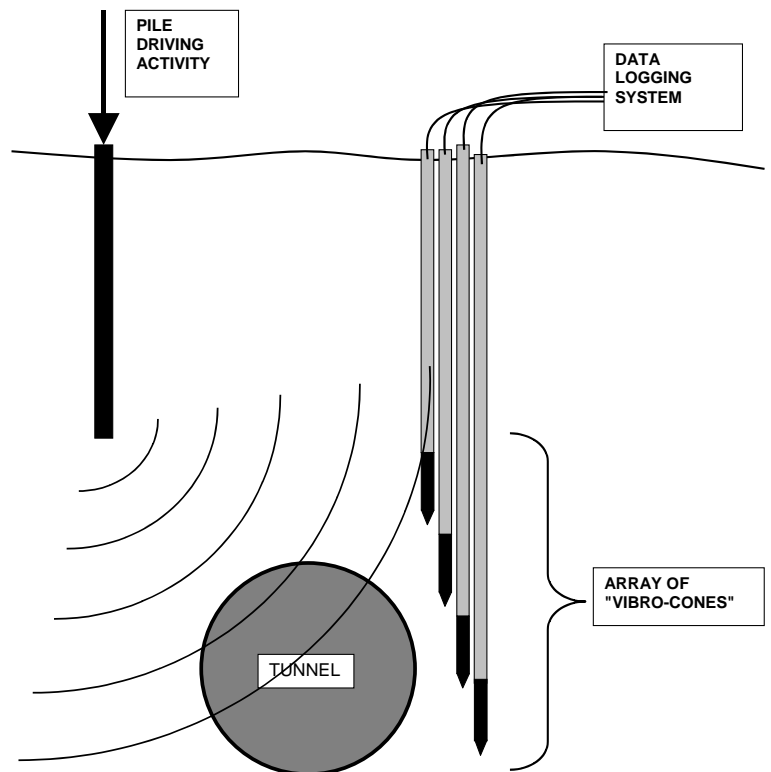


In addition to Fugro’s ground and structures monitoring capabilities Fugro carry out a unique high quality in-situ (in ground) vibration measurements using Fugro’s “Vibro-cone”

Fugro’s “Vibro-cone” is designed to accurately measure vibrations in the 3 orthogonal planes at an array of depths. The “Vibro-cone” is pushed to the required depth(s) using standard Cone Penetration Test (CPT) rigs. The “Vibro-cone” is fitted with a triaxial array of calibrated accelerometers.

The “Vibro-cone” can provide in situ vibration data from background and construction activities, these measurements can then be used to assess the effect on buried structures such as:-

- underground tunnels
- foundations
- structures
- utilities
- assess liquefaction potential



The “Vibro-cone” is rapidly installed into the ground, typically 10 installations to 15 metres depth in a working day. Once installed the “Vibro-cone” is immediately available to collect ground vibration data. Monitoring can be for any length of time required, from a few days to many years as required.

Some of the advantages of using the “Vibro-cone” are:-

- rapid installation
- excellent coupling of accelerometer array with ground
- no alteration of ground conditions during installation
- no drill cuttings or fluids to dispose of
- no physical impact on buried tunnels \ structures



CPT rig used to push in “Vibro-Cone”



Data Logging System



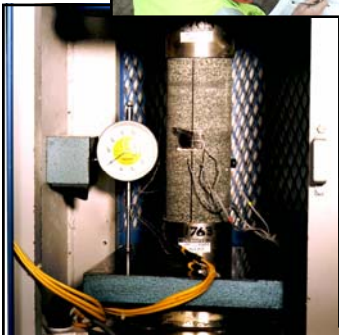
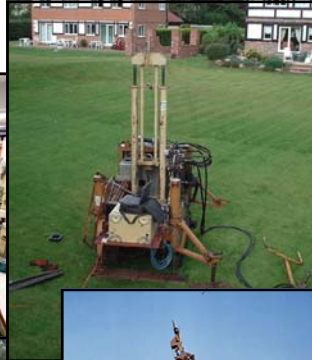
“Vibro-Cone” Accelerometer system

OTHER SERVICES AVAILABLE FROM FUGRO



Other Services:

- Soil and Structures Instrumentation
- Geotechnical site investigation
- Environmental site investigation
- Geophysical Investigation
- Buried Services surveying
- Buried foundations \ structures investigation
- Laboratory testing of soil and rock



EUROPEAN & WORLD WIDE SUPPORT

Wherever you are in the world Fugro is at hand to be your local specialist for geotechnical survey and instrumentation services. Our unrivalled spread means that we have local specialists who will fully understand the technology, logistics and projects management requirements of your work.

Our 8,800 employees are distributed through over 200 offices worldwide. By using our regional staff, supplemented where necessary by specialists drawn from our international centres of expertise, we can provide the optimal mix of resources to support your projects.

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