

Video Cone Penetrometer

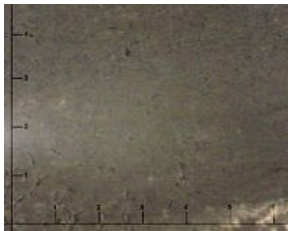
Lankelma's video cone penetrometer (Video-CPT), designed by ARA, is designed to give the project manager a unique "look" at subsurface soils.

Subsurface video is useful in determining soil texture, grain size, and color as well as in capturing images of various contaminants such as coal tar and certain DNAPL. Visually verifying subsurface conditions will give further confidence and supplement sampling activities.

A miniature, colour LCD camera and independent lighting is incorporated inside a module which is attached directly behind the cone penetrometer. The video image is magnified to approximately 7mm across. The video camera operates behind an abrasion-resistant sapphire window.

The system includes a text inserter that lays text over the video image through the data acquisition system (DAS). The text inserter places a depth "stamp" on the video image throughout the CPT test, and other information such as the test identification, date, and real-time CPT sensor readings can also be inserted onto the screen. A colour monitor, located in the CPT truck, enables viewing of the soils during penetration, and video images can be recorded digitally or to standard VHS tape.

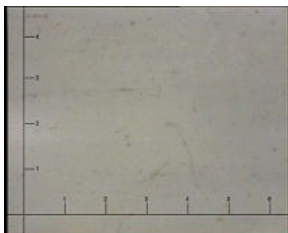
clay



sand



chalk



Advantages

The Video Module is attached directly behind the cone penetrometer.

Recorded video and CPT data in a single push contributes to site information.

The video can capture very thin stratigraphic features that are difficult to resolve with conventional testing methods.

A complete, real time video is recorded from ground surface to maximum depth of penetration, identifying important layers that may be missed in an interval sampling approach.

Employees are not exposed to contaminants, adding to site safety.

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