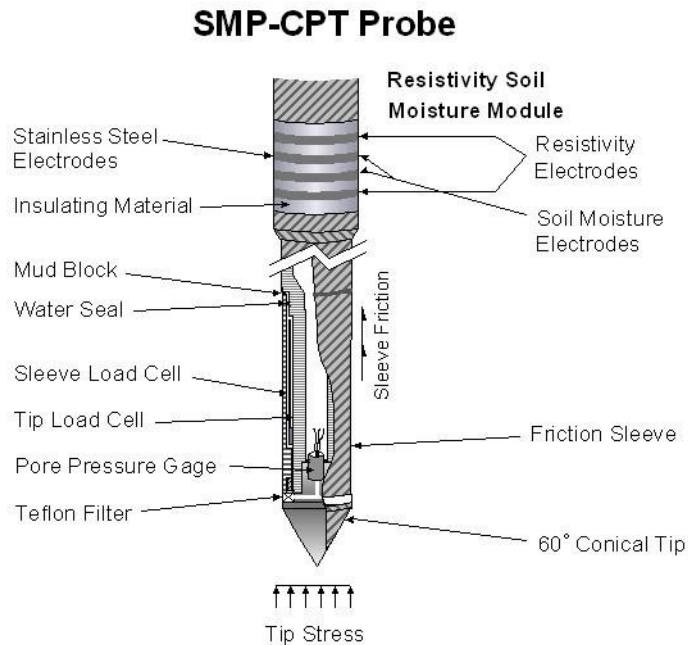


Soil Moisture / Resistivity Testing



Soil moisture measurement capability

Lankelma Inc's soil moisture / resistivity module takes advantage of a relationship between the soil dielectric constant and the moisture content. This relationship, known as Topp's Equation, is not heavily influenced by soil type and resistivity if the dielectric measurements are performed above a critical frequency. The soil moisture content, or the volumetric percentage of water in soil, is determined measuring the frequency shift of a high frequency excitation signal as it passes through the soil.

Resistivity measurement capability

Resistivity surveys measure the electrical contrasts between different geological materials. More recently, resistivity measurements have been used for characterization on contaminated sites using the difference in electrical resistivity in contaminated and uncontaminated soils.

see next page

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Advantages

The soil moisture / resistivity module attaches directly behind the cone penetrometer. Recording soil moisture, resistivity and CPT data in a single push contributes to site information and project efficiency.

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

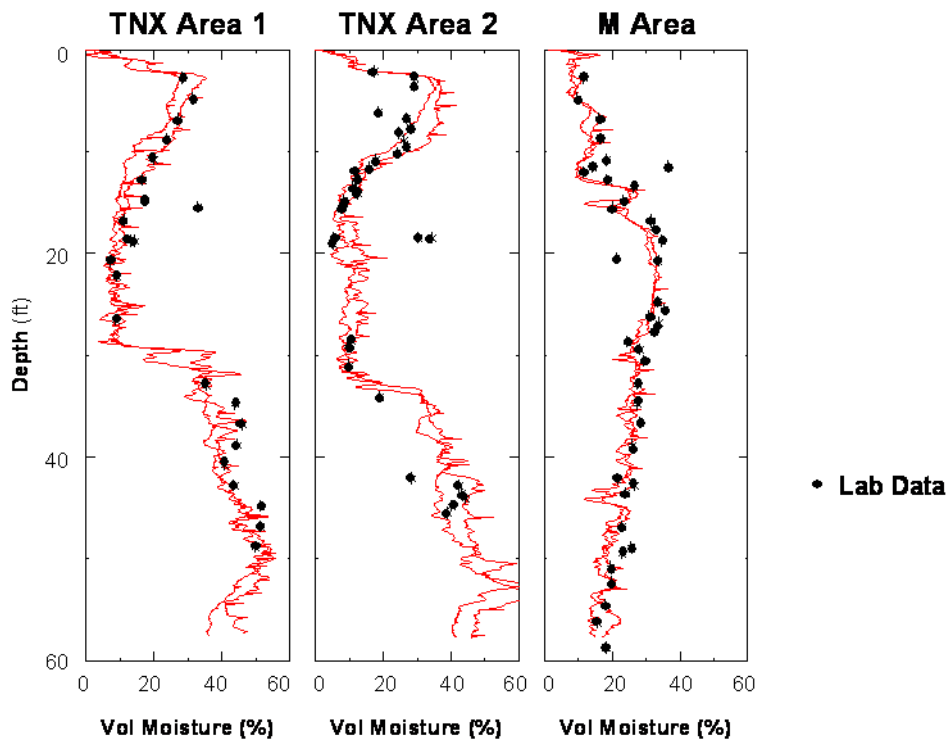
Drilling waste is virtually eliminated, resulting in significant hazardous waste disposal cost savings.

No soil sampling and lab work required, adding efficiency to any project.

SMP probe features

- Simultaneous measurement of soil resistivity and apparent dielectric (ϵ_a)
- Correlation of dielectric to θ (volumetric soil moisture)
- For saturated sites, porosity = θ
- Dielectric measured at 100 MHz, hence influence of conductivity is minor
- SMP outputs voltage directly into A/D system

Soil moisture data



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