SoilHeat Thermal Needle Probe

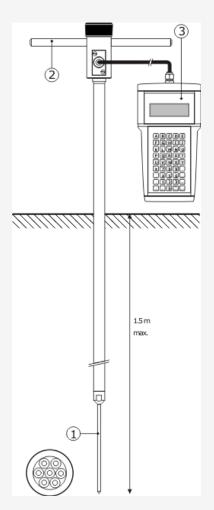
Dave Banks

Holymoor Consultancy Ltd. Chesterfield, Derbyshire, UK

John Findlay and Will King

Carbon Zero Consulting Draycott, Derbyshire, UK

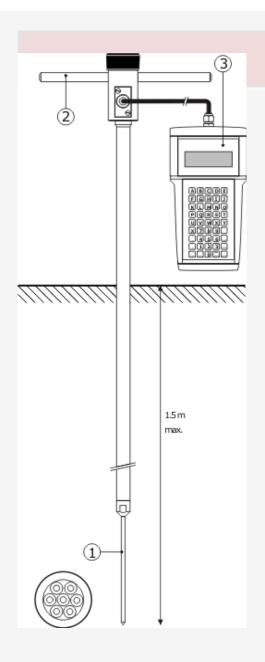






The Thermal Needle

- Thermal probe used for field work in the power cable industry
- One man operation
- Probe inserted into auger excavation or base of trial pits
- Control system provides power& data storage
- One survey day sufficient for most applications







Ecton site





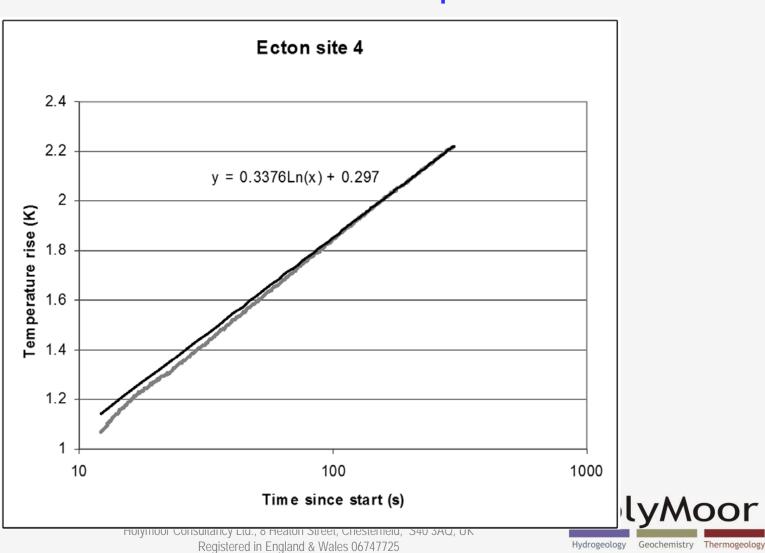


Ecton site

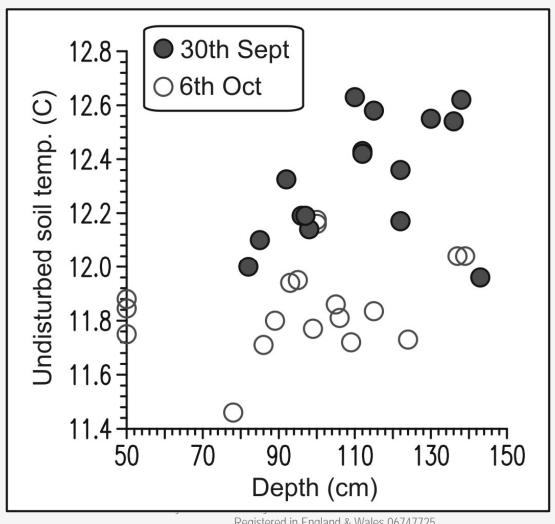




The thermal response

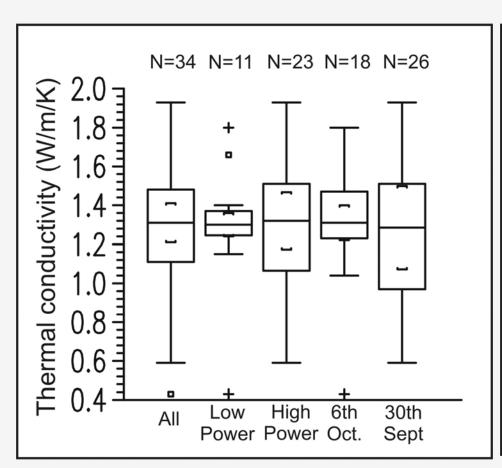


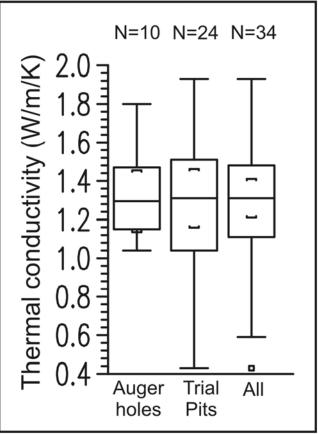
Change of temperature with season



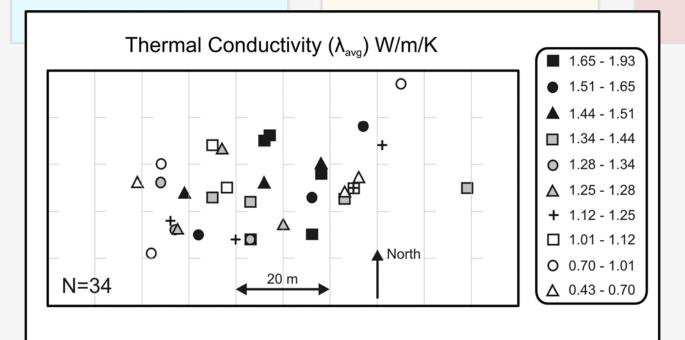


Reproducible data

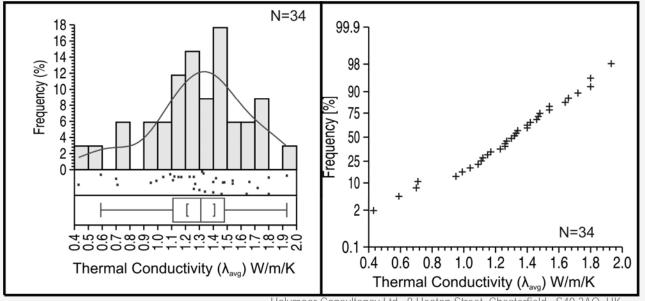






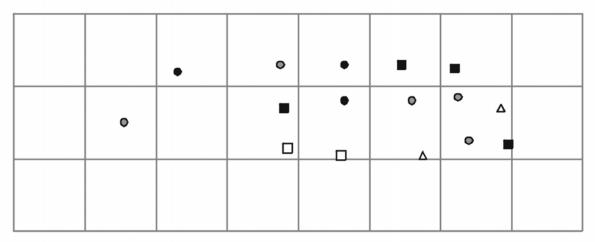


Ecton site



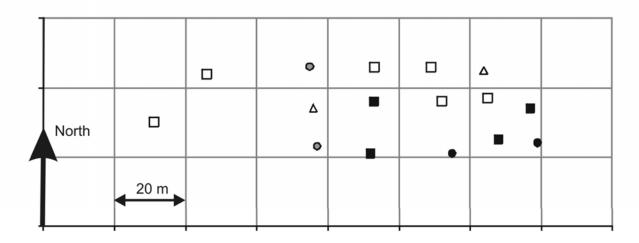


Whatstandwell site



△8 to 8.2 □8.21 to 8.4 ●8.41 to 8.6 ●8.61 to 8.8 ■8.81 to 9.0

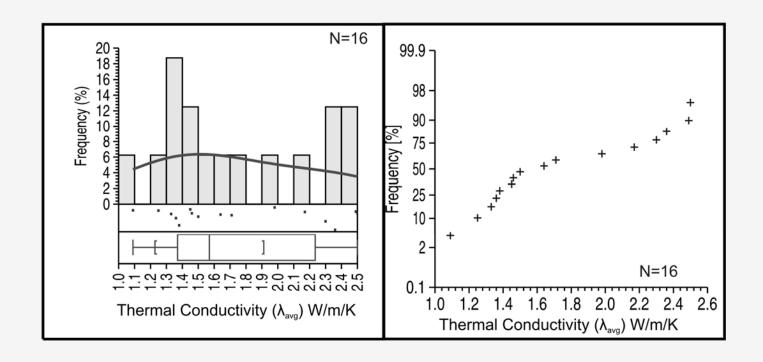
Undisturbed ground temperature (°C)



△1.0 to 1.3 □1.31 to 1.6 ●1.61 to 1.9 ●1.91 to 2.2 ■2.21 to 2.5

Thermal conductivity W/m/K

Whatstandwell site





How many readings?

