



CPT and seismic testing for HS2 Phase One

Client	Multiple GI contractors
Location	West Midlands
Duration	6 week
Scope	CPTu, seismic

As part of site investigation for Phase One of HS2, London to West Midlands, Lankelma were instructed to carry out over 500 piezocone cone penetration tests, dissipation testing and seismic testing at sites along the route in the West Midlands.

Lankelma developed a constant energy source to enable seismic shear wave damping analysis, undertaken by Lankelma, required for the track bed design of the high speed rail. It was critical that the source was efficient and compatible with all rigs working on this long-running project.

Due to the nature of down-hole testing refraction is often present in the first few meters, adding uncertainty to the travel path assumption. To overcome this the seismic source normal move-out method was used in combination with refraction



analysis to obtain high quality data at shallow depths.

With many of the test positions located on sites spread over a vast area along the railway route, the 20.5 tonne track-truck was perfect for moving quickly between sites and lowering the tracks to navigate soft surface conditions and access the positions.

When built, the High Speed Rail Network will span from London Euston to North Birmingham and reduce journey times to 49 minutes.