

# GEOARCHAEOLOGY

Geoarchaeology sets out to understand and interpret both man-made and natural sediments, and relies heavily on the design and execution of augering, or borehole surveys where exposed sections are not available. Palaeoenvironmental and sedimentological specialists form part of the project team, ensuring that ancient sediments from almost any urban or rural situation can be tackled. MoLAS geoarchaeological projects often take place during archaeological evaluation or excavation, but can also be carried out entirely independently of other fieldwork.

During MoLAS excavations, geoarchaeological techniques are used to supplement standard archaeological stratigraphic work, examining and clarifying depositional sequences and aiding environmental sampling strategies. Research aims addressed by geoarchaeological techniques on MoLAS sites have recently included the interpretation of 'dark earth' (a Roman and later soil horizon associated with post abandonment processes and found at many sites in central London), mapping past migrations of the Thames tidal head, establishing the characteristics of ancient landsurfaces associated with artefact scatters and reconstructing the landscape processes that led to major disturbance to a prehistoric platform.

In 2005 MoLAS's geoarchaeological service provided clients with direct benefits in several areas:

**Reducing the archaeological risk** has been possible by clarifying areas of archaeological potential at an early stage in a number of projects. This has been achieved by constructing 'deposit models', based on previous geotechnical data, during desk-based assessment. Preliminary reconstructions of the past landscape obtained from the models have provided additional information to that recorded in the Sites and Monuments Record and so refined the areas of archaeological interest and identified areas to target for subsequent evaluation.

**Cost-effective evaluation** has been achieved through the use of augering programmes on sites where a very high water table meant that conventional trenches would have required expensive shoring, pumping and water disposal. Augering has been used at other sites to successfully collect detailed information on the profile and extent of large, buried features where the impact of development would be limited and without the need for extensive invasive work.

**Combined and flexible programmes** of geotechnical and geoarchaeological work have taken place at several sites, with augering work done at the same time as contractors' borehole investigations and engineers' test pit surveys of existing foundations. Geoarchaeological monitoring of geotechnical boreholes has also reduced the number of archaeological evaluation trenches and helped target their locations.

**In-house skills** mean that MoLAS has the experience required to provide advice and interpretation, sometimes in partnership with external specialists, on soil and sediment sequences and ecological assemblages from a wide range of Quaternary environments.