

LOCAL GEOLOGICAL SITES

ROCHFORD DISTRICT



RoG5 Star Lane Pits, Great Wakering

Site location: Star Lane former brick pits, off Alexandra Road, Great Wakering.

Grid Reference: TQ 939 872

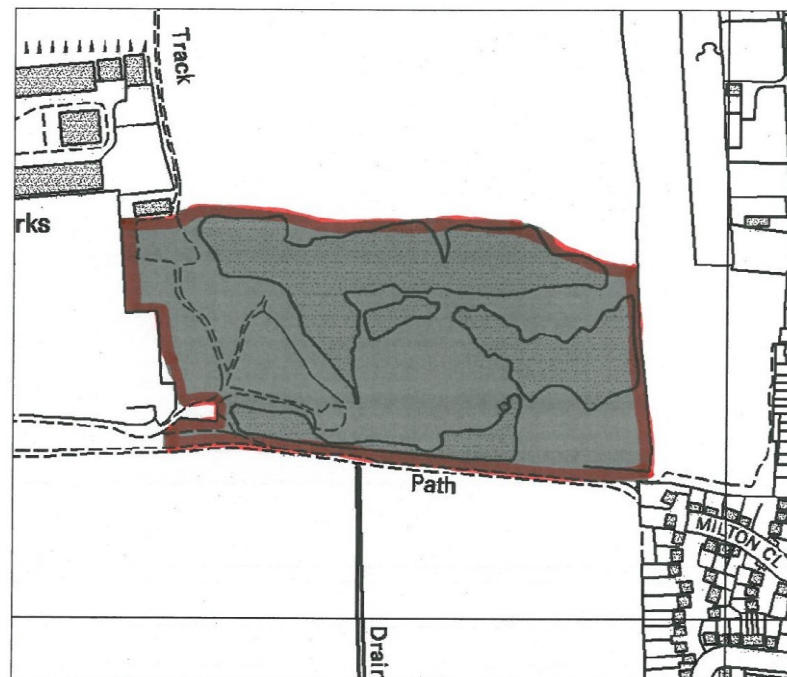
Status: Privately owned, no public access.

Summary of the geological interest:

Loess is a very fine silt which originated as wind-blown dust carried great distances from cold, dry land close to an ice sheet to settle and be compacted to form a sedimentary rock. In Britain loess is only found here in south-east Essex and in Kent.

Loess was once extensively excavated for brick making at several sites in this area and the last surviving brickworks was at Star Lane, Great Wakering, which closed in 2005. At Star Lane the most recently quarried areas have been restored by infilling and returning the fields to agriculture, but the early flooded pits still survive to the east of the former works. Here there are two low cliffs of orange loess.

These exposures provide evidence of an exceptionally cold period of the ice Age - thought to be the most recent glacial stage around 20,000 years ago - when there was very little vegetation and, at its maximum, the ice sheet extended as far south as Norfolk.



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Site Assessment. Local Geological Sites (LoGS) in Essex are assessed using criteria based on DEFRA guidance. An assessment form is used which asks key questions under four value categories: scientific, educational, historical and aesthetic. This site has been assessed and qualifies under these criteria.

Scientific interest and site importance

Loess is a light-coloured fine-grained accumulation of clay and silt particles that have been carried great distances by the wind from the cold, dry environments at the edge of the ice sheet. In glaciated areas abundant fine-grained material was available from exposures of glacial moraine, or till, and there was little vegetation to prevent the wind picking up this material (Sumbler 1996). Loess is common on the Continent but in Britain only in east Kent and here in South-east Essex are substantial thicknesses of this material preserved (Bridgland 1995). It was probably deposited during the most recent glaciation of Britain (at least 20,000 years ago) although it is very difficult to date and some may be older. Loess is also called brickearth, but this is an unhelpful term as it has been applied to any fine-grained sediment that has been used for making bricks.

The loess in this area, and particularly at Star Lane, is of scientific interest because it is 'primary loess', a wind-blown (aeolian) deposit that has not been reworked. Its porous character, its ability to stand in vertical faces for long periods (as exemplified by the remaining exposures at Star Lane) and columnar jointing are all typical of a primary *in situ* deposit.

Other information

The site consists of flooded pits adjacent to a former brickworks, now demolished. On the eastern edge of the lakes are two low cliffs of orange loess, which form a small, but very fine, exposure. The pits are now a private fishing lake with no public access, although a footpath leading from Alexandra Road along the southern edge of the lakes allows the site to be viewed through fencing.

References

- BRIDGLAND, D.R. 1995. Star Lane, Great Wakering (TQ 939872). In: Bridgland, D.R., Allen, P. and Haggart, B.A. (Editors). 1995. *The Quaternary of the Lower Reaches of the Thames – Field Guide*. Quaternary Research Association. Pages 233-239.
- SUMBLER, M.G. (1996) *British regional geology: London and the Thames valley*. British Geological Survey. Fourth edition. HMSO. Page 123.



*Exposure of orange-coloured loess adjacent to the lake on the site of Star Lane Brickworks, Great Wakering.
Photo © G. Lucy*