

LOCAL GEOLOGICAL SITES

CHELMSFORD DISTRICT



ChG13 Channels Till Cliff, Little Waltham

Site location: East side of Lower Wimbush Road in the Channels development

Grid Reference: TL 7216 1102

Status: Publicly accessible

Summary of the geological interest:

A section through the Anglian till (boulder clay) in the edge of the old quarry has been preserved. It is all that remains of a cliff of till that was the edge of the former Mid Essex Gravel Pit. This cliff forms the only accessible and visible exposure of glacial till in the whole of Essex. An access footpath and a signboard have been created at the site. There is also a large puddingstone at the site.



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

Scientific interest and site importance:

Till is the deposit left by the glacier that covered Mid Essex 450,000 years ago, during the coldest part of the Ice Age. It forms the deposit on which much of the fertile soil of the area is formed. The exposed rock was laid down by the Anglian Ice Sheet 450,000 years ago at the greatest extent of an ice sheet during the present Ice Age. The section is of educational and scientific interest containing rocks transported by the ice from the north.

The ice sheet was up to 2 kilometres thick in places, and covered most of Britain. Its extent is known because it has left behind evidence of its existence in the form of a rock called boulder clay, or till. The ice sheet extended as far south as Hornchurch and Hanningfield. The till contains rocks transported long distances by the ice, glacial erratics. By matching rock types with known outcrops in other parts of Britain geologists can establish the direction of ice movement across the country from its origins in Scotland or Scandinavia. Many erratics show scratches that were received when the rocks passed over each other at the base of the ice sheet.

In Essex the till contains a lot of chalk picked up as the ice passed over the chalk hills of Cambridgeshire, Suffolk and north-west Essex. Typical fossils found include belemnites from the Oxford Clay and the bivalve *Gryphaea* (also known as the Devils toenail) from the Lower Lias of Lincolnshire and Yorkshire.

The puddingstone is one of several that were found at the bottom of the Kesgrave Sands and Gravels during quarrying operations.



Photo R Mercer 2023