

LOCAL GEOLOGICAL SITES

EPPING FOREST DISTRICT



EpG13 Wintry Wood Brick Pit

Site location: Next to Brickfield Business Centre, in the Lower Forest, north of Epping.

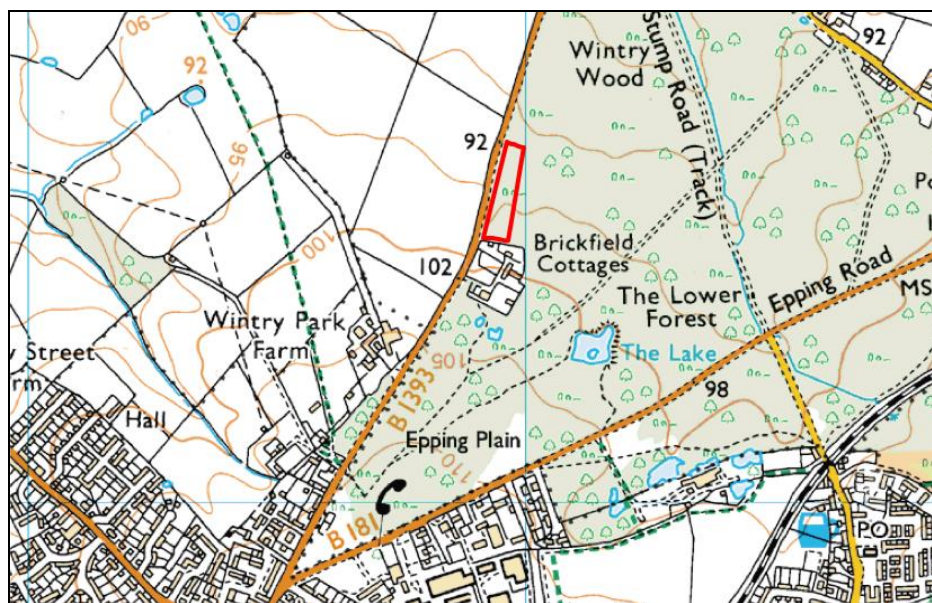
Grid Reference: TL 469 035

Status: Accessible at all reasonable times.

Summary of the geological interest:

About 450,000 years ago, during the coldest part of the Ice Age, Essex was situated at the southern edge of the Anglian Ice Sheet. The ice sheet covered most of Britain. Its extent is fairly well known because it has left behind evidence of its existence in the form of a rock called boulder clay, or till (often referred to as Anglian till). The ice sheet extended as far south as Chigwell and Hornchurch and so north of this line can be found deposits of boulder clay except where it has been removed by erosion.

Wintry Wood Brick Pit is a former brickworks pit in the Lower Forest, which worked boulder clay. It has been disused since 1895 and is very overgrown but boulder clay can still be seen in one or two places in the sides of the pit. It is one of the few publicly accessible places where you can see direct evidence for the former existence of glaciers in Essex.



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.

Access

The site is on public access land and is part of Epping Forest. There is a layby almost opposite the pit. Public parking is also available off The Woodyard south of the B181 Epping Road (TL 472 030).

Scientific interest and site importance

As the ice moved it ground up and carried along pieces of the rocks over which it passed, just as glaciers and ice sheets do today, and when the ice melted an unsorted clayey residue called boulder clay, or till, was left behind. Most boulder clay was probably laid down or 'lodged' at the base of the moving ice sheet as the immense pressure caused the ice to melt; it is therefore sometimes referred to as 'lodgement till'. Boulder clay contains rocks transported long distances by the ice and known as glacial erratics. By matching rock types with known outcrops in other parts of Britain geologists are able to establish the direction of ice movement across the country from its origins in Scotland or northern England. Many erratics show scratches that were received when the rocks passed over each other at the base of the ice sheet.

The composition of boulder clay varies according to the rocks over which the ice passed. In Essex the boulder clay usually contains a lot of chalk (picked up as the ice passed over the chalk hills of Cambridgeshire, Suffolk and north-west Essex) and clay (from the Wash and Fenland). The exposure in Wintry Wood Brick Pit shows typical Essex 'chalky boulder clay', which consists of chalk fragments and flints in a matrix of grey clay. However, the clay in the upper part is usually weathered to a brown colour. The clay content of the boulder clay is mostly derived from the Jurassic clays of Cambridgeshire and the East Midlands and it often contains Jurassic fossils, also brought south by the ice. Typical fossils include belemnites from the Oxford Clay and the bivalve *Gryphaea* (also known as the 'Devil's toenail') from the Lower Lias. The chalk fragments are usually well-rounded and often have flat surfaces with striations caused when they were lodged at the base of the ice sheet and the ice, containing other rocks, passed over them.

The pit was part of Wintry Park Brick and Tile Works, which was in existence by 1838 but had closed by 1895 (Ryan 1999). Whitaker (1889) briefly refers to this pit when describing exposures of boulder clay in London area, stating: "By the kiln on the north of Epping Plain there was a good section". Boulder clay in this area is usually decalcified and free of chalk in the uppermost 0.5 to 1.3 metres (Millward et al. 1987) and that seems also to have been the case here.

Based on a borehole at Thornwood, to the north, the boulder clay here is probably 5 to 6 metres thick and overlies the much older Claygate Beds of Eocene age. Various erratic pebbles and cobbles can be found around the sides of the pit. Some are from the boulder clay but others may have been washed down from the older Stanmore Gravel (formerly called Pebble Gravel), which overlies the Claygate Beds about 150 metres to the south.

Wintry Wood Brick Pit is currently one of the few publicly accessible places in Essex where Anglian till can be seen and examined. It exposes typical Essex chalky boulder clay, which is direct evidence of the existence of the Anglian Ice Sheet. It is therefore of considerable educational value.

References

MILLWARD, D, ELLISON, R.A., LAKE R.D. AND MOORLOCK, B.S.P. 1987. Geology of the country around Epping. Memoir of the British Geological Survey, sheet 240 (England and Wales). British Geological Survey. HMSO. Pages 34-42.

RYAN, P. 1999. Brick in Essex: The clayworking craftsmen and gazetteer of sites. Privately published. Page 96.

WHITAKER, W. 1889. The Geology of London and of part of the Thames Valley. Volume 1: Descriptive geology. Memoirs of the Geological Survey. HMSO. Page 325.



Wintry Wood north end. Pit floor at shallow depth (TL 46963 03707).
Photo: P. Allen June 2025



Wintry Wood, south end. Pit floor at depth of c.3m (TL 46955 03607)
Photo: P. Allen June 2025



Till exposure (at TL 46944 03546). *Photo: P. Allen June 2025*