

LOCAL GEOLOGICAL SITES

THURROCK DISTRICT



ThG4 Brickbarn Wood

Site location: Brickbarn Wood is adjacent to the A13 south of South Ockendon

Grid reference: TQ 586 799 to TQ 589 799

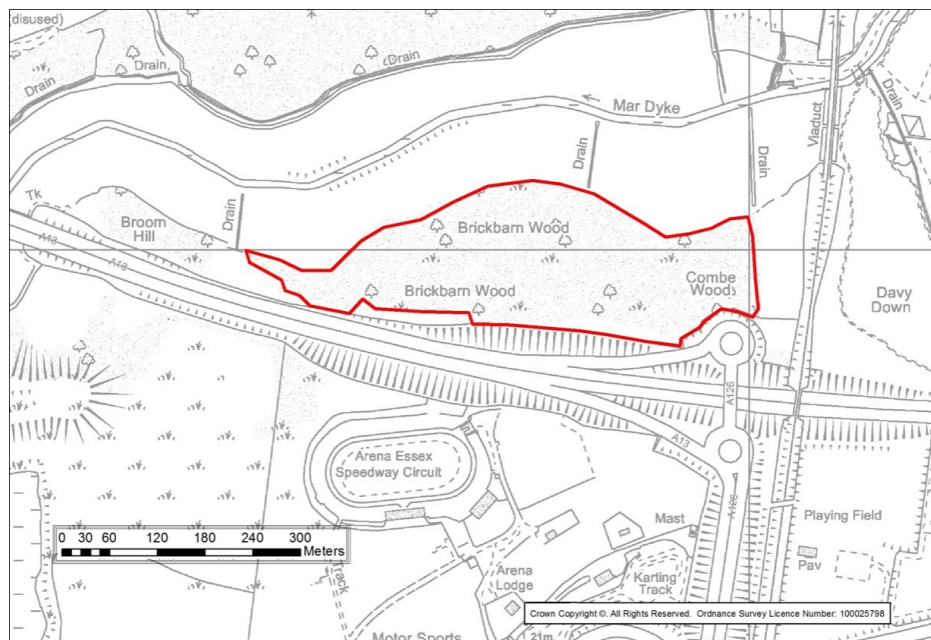
Status: Privately owned

Summary of the geological interest:

One of the finest collections of sarsen stones in the country is situated in private woodland known as Brickbarn Wood and Combe Wood on the south side of the Mar Dyke Valley adjacent to the cutting of the A13 trunk road. It is estimated that between 30 and 40 stones are present, most of them partially buried in the spoil from old gravel pits. Many stones are over two metres long.

Sarsens are an extremely hard sandstone formed around 55 million years ago when the climate of Britain was hot and a layer of sand beneath the surface of the ground became cemented with quartz. The formation of silcretes (which includes sarsens) has been the subject of recent scientific debate comparing the climate in which they were formed with the present day climate in Africa's Kalahari Desert.

Most of the stones have fine 'mammillated' surfaces made up of rounded bumps known as growth structures, which shows how they slowly 'grew' in the sandy deposits in which they were formed. Sarsens are tough and very resistant to erosion, which is why they have survived, but the number of stones here is extraordinary.



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.

Further information and site importance

The origin of sarsens appears to be the sands of the Woolwich and Reading Beds, which occurs above the Thanet Sand. At some stage these sands must have been exposed at the surface when the climate of Essex was extremely hot (probably during the Palaeocene Period some 55 million years ago) and during that time water with dissolved silica was drawn to the surface. The sand therefore became cemented by silica (in the form of quartz) to form a tough layer of sandstone called *silcrete*. Subsequently, when these beds were subjected to erosion and broken up, large blocks of these hard rocks remained.

Compared to sarsens elsewhere in Essex the sarsens of Thurrock have not been abraded and retain their remarkable 'mammilated' surfaces which are 'growth structures' formed as the quartz slowly crystallised between the sand grains. The preservation of these surfaces is due to the fact that, although the stones were picked up and transported by the Thames during the Ice Age, they have not travelled far. They came to rest in the Thames gravels which here lies on top of the Thanet Sand.

Sarsen stones are found elsewhere in Thurrock but such a large number of fine examples in a such a small area is remarkable.

Other information

Brickbarn Wood and Combe Wood is close to Davy Down Riverside Park where there is another sarsen stone outside the pumping station.



One of the large sarsen stones in Brickbarn Wood.