

LOCAL GEOLOGICAL SITES

THURROCK DISTRICT



ThG6 Davy Down Sarsen Stone

Site location: Davy Down Sarsen Stone, Davy Down Riverside Park, South Ockendon.

Grid reference: TQ 592 800

Status: Publicly accessible when the park is open.

Summary of the geological interest:

Outside the pumping station in Davy Down Riverside Park is a remarkable sarsen stone - probably the finest example in Essex. The sarsen is 1.6 metres square and has fine mammillated surfaces. It formerly stood outside Marley's works on the south side of Stifford Road, South Ockendon and is understood to have been found in the gravel pit south of the works.

Sarsens are extremely hard boulders of sandstone that are native to Thurrock and their formation has been the subject of recent scientific debate. Research has compared the conditions under which sarsens and puddingstones may have been formed with the present day climate in the Kalahari Desert and parts of Australia.

The sarsen stones of Thurrock are some of the best-preserved examples in the UK.



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.

The origin and formation of sarsen stones

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.

This is a very fine example of a sarsen stone, one of very few that are publicly accessible.

Other information

Davy Down Riverside Park forms part of the Mar Dyke Valley, a valley with steep, wooded sides and a grazed floor that can be seen from the M25 motorway. The valley runs along the northern side of the Purfleet Anticline, an east-west trending ridge of chalk between Purfleet and Grays. Also of interest at Davy Down is the pumping station, built in 1928 with a 50 metre deep borehole down into the Chalk. It is still used today for pumping water for use in the local area.



The Davy Down Sarsen Stone. Photo: G.Lucy.