

LOCAL GEOLOGICAL SITES

THURROCK DISTRICT



ThG3 Bluelands Quarry

Site location: Bluelands Quarry, Purfleet (north and east faces)

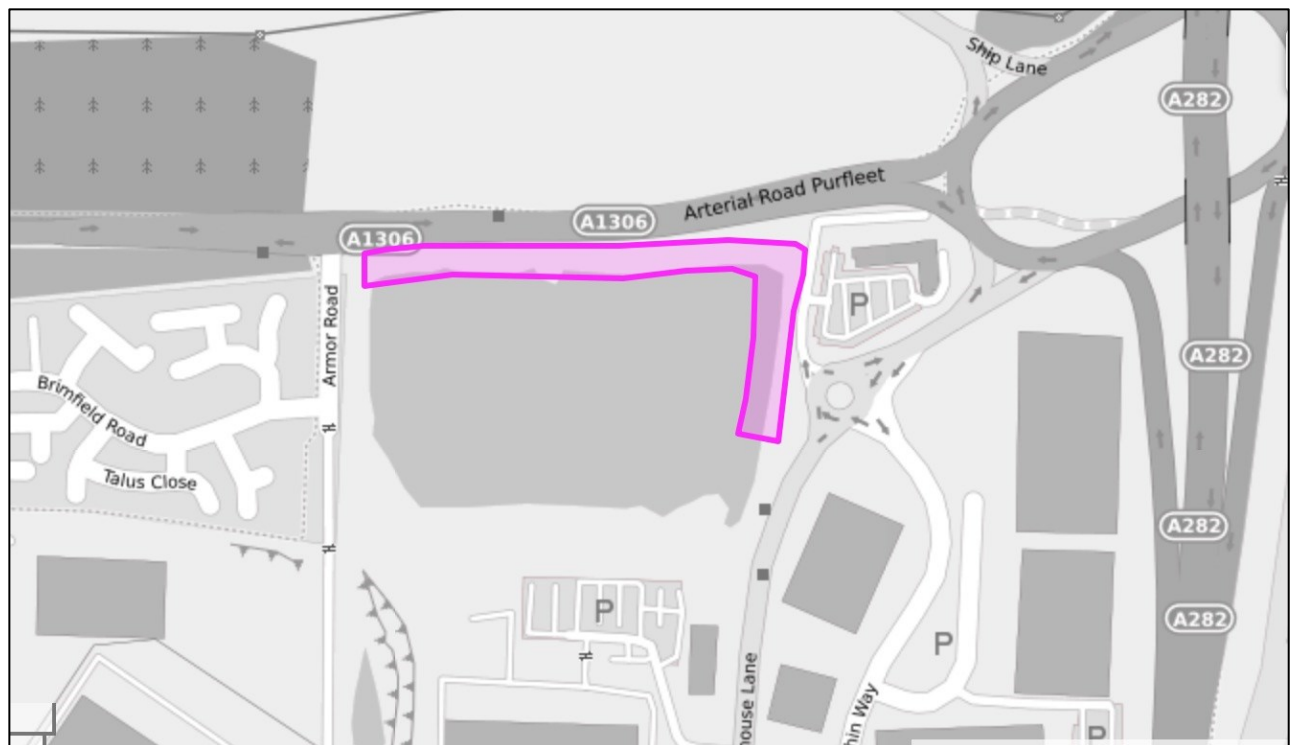
Grid reference: TQ 570786

Status: Private land

Summary of the geological interest:

The south and west faces of Bluelands Quarry are part of the Purfleet Chalk Pits SSSI. The north and east faces are not included in the SSSI but contain important Ice Age sediments and so are proposed as a Local Geological Site.

Bluelands Quarry is currently (2020) being infilled and the gravels, sands and clays overlying the Chalk are becoming accessible as the infilling proceeds. The sediments overlying the Chalk were laid down by a former course of the Thames about 300,000 years ago and are part of the Corbets Tey Formation. The central part of the sequence was deposited during an interglacial period informally known as the 'Purfleet' Interglacial, after these sites.



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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.*

Details of the sections

North face - this face has been inaccessible until the recent infilling, so no recording or research work on it has been possible. It is notable for showing mid-stream gravels of the Thames between 300 and 340,000 years ago, contrasting with the side of channel sequence in the South face. In the south face and in Greenlands Pit, 'Purfleet Interglacial' deposits are underlain by gravel (Little Thurrock Gravel) and overlain by a series of gravels (Bluelands, Botany and Upper Gravels). As the laminated clays of the interglacial deposits are present in the north face, there is an opportunity to correlate the gravels there with those of the south face.

East face - notable for its Devensian (last glacial) involutions and a section through a solution hollow. During the extreme of the Devensian cold stage freezing action (periglaciation) broke down the surface layers of Chalk. On thawing, the fractured chalk was saturated and could not bear the weight of overlying sand and gravel, which consequently sank into it forming rounded structures known as periglacial involutions. These structures were once very common around Thurrock, but with various developments, very few are now visible.



*Involutions in the east face of Bluelands Quarry.
Photo: Peter Allen.*