

SGI 1 Whalebone Lane ice wedge polygons

London Borough of Barking and Dagenham, TQ 487 893

Whale bone Lane ice wedge polygons, Havering-Atte-Bower, Romford

Grid reference: TQ 487 893

Fields north of the A127, close to the Whalebone Lane traffic lights, reveal a remarkable pattern of cropmarks during hot, dry summers. These fields are situated on the Taplow/Mucking terrace of the Thames and beneath the soil here is gravel and brickearth laid down by the river when it passed this way about 200,000 years ago. Much later, about 50,000 years ago, during the coldest part of the Devensian or last glacial stage, the ground was frozen to a considerable depth (permafrost) and the shrinkage of the ground surface created a network of deep cracks which filled with ice during the winter. During each brief summer the ice melted causing sand and gravel to collapse into the cracks and during the following winter the cracks would reform, water would again turn to ice and therefore enlarge the cracks. This is a phenomenon common in the High Arctic today. During the glacial periods the process continued for thousands of years.

Today, the 'fossil' ice wedges consist of more unconsolidated sediment than the surrounding compacted gravel, allowing crops to put down deeper roots. The cracks therefore reveal their presence as crop marks, often creating a colourful network of huge polygons that can only be seen from the air.

Text from GeoEssex/Essex Field Club with thanks



Ice wedge polygons revealed in crop marks in fields near Whalebone Lane, Chadwell Heath. The photograph was taken during the hot summer of 1976.

Source: Cambridge University Collection. Copyright reserved.
