
Hart Hill, Kent

[TQ 943 506]

Highlights

The quarry at Hart Hill represents one of the few remaining localities where solution pipes in the surface of the Chalk containing fossiliferous Lenham Beds can be observed.

Introduction

This locality consists of a disused Chalk quarry cut into the Chalk escarpment about 500 m N of the A20. The quarry was not mentioned by Reid in his review of Lenham Beds localities in 1890, but the pit was recorded by the Ordnance Survey in 1906. The old face on the northern side of the quarry is approximately 20 m high and is densely overgrown but small sections of exposed Chalk are now visible. Several solution pipes are visible extending downwards from the upper surface of the Chalk.

The exposed solution pipes clearly show the relationship between the Chalk and the overlying residual deposits (Clay-with-flints) with disturbed and contorted Lenham Beds sands occupying the central portion of the pipes.

Description

The solution pipes visible in section at this location are up to 2 m deep and up to 3 m wide formed in the surface of the Middle Chalk. It should however be noted that the visible pipe may not be an accurate indication of its total extent because it represents the intersection of a downward-tapering cylinder with the vertical or sloping quarry face. The infills of the pipes show a conspicuous 'concentric' zonation (Figure 9.7) due to the downward 'sagging' of the overlying deposits during the slow formation of the pipe by solution of the Chalk. The pipes are lined with dark-grey silty clay overlain by gravelly sands with abundant flint pebbles. These residual deposits may be equivalent to the Clay-with-flints deposits, which are widespread on the surface of the Chalk and formed during Tertiary subaerial exposure (Catt and Hodgson, 1976).

The central core of the infill consists of ferruginous sand and sandstone from which fossils have been obtained in the past and which represent the Lenham Beds deposits *sensu stricto*.

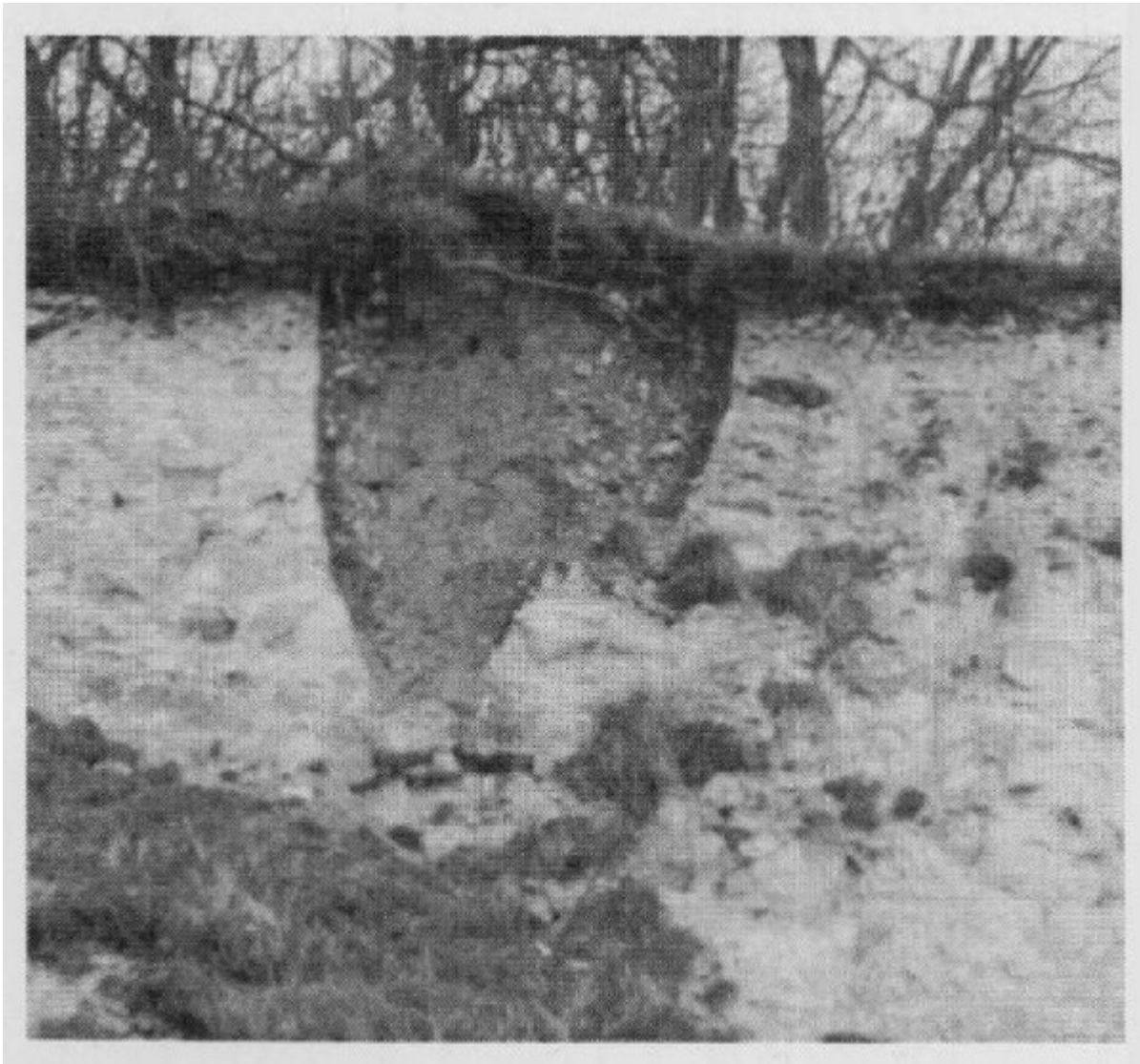
Interpretation and evaluation

Fossiliferous Lenham Beds appear to be restricted to the type area between Harrietsham and Charing where the cessation of Chalk quarrying means that exposures of Lenham Beds are becoming increasingly degraded. The type locality at Lenham, 5 km to the northwest is now much degraded such that the quarries at Pivington and Hart Hill are among the last remaining sites where fossiliferous Lenham Beds can be examined.

Conclusions

Hart Hill Quarry is an important site in that it is one of the few remaining sites that exposes solution pipes containing fossiliferous Lenham Beds sediment. The concentric zonation that results from the slow downward sagging of layered deposits into a solution pipe are seen particularly well at this locality. The presence of a fauna allows determination of the sedimentary environment and suggests the possible age of a Neogene marine transgression in north Kent. The age and elevation of the deposits are important in the reconstruction of the timing and extent of uplift of the Weald–Artois axis and consequently have implications to the determination of the time of breaching of the uplifted barrier to form the Dover Straits.

References



(Figure 9.7) Solution pipe at Hart Hill showing 'concentric' zonation of infill. (Photograph: P. Balson, taken in 1981.)