

LOCAL GEOLOGICAL SITES

CHELMSFORD DISTRICT



ChG12 Stock Road Gravel Pits, Stock

Site location: Stock Road Gravel Pits (disused), Stock Road, near Stock.

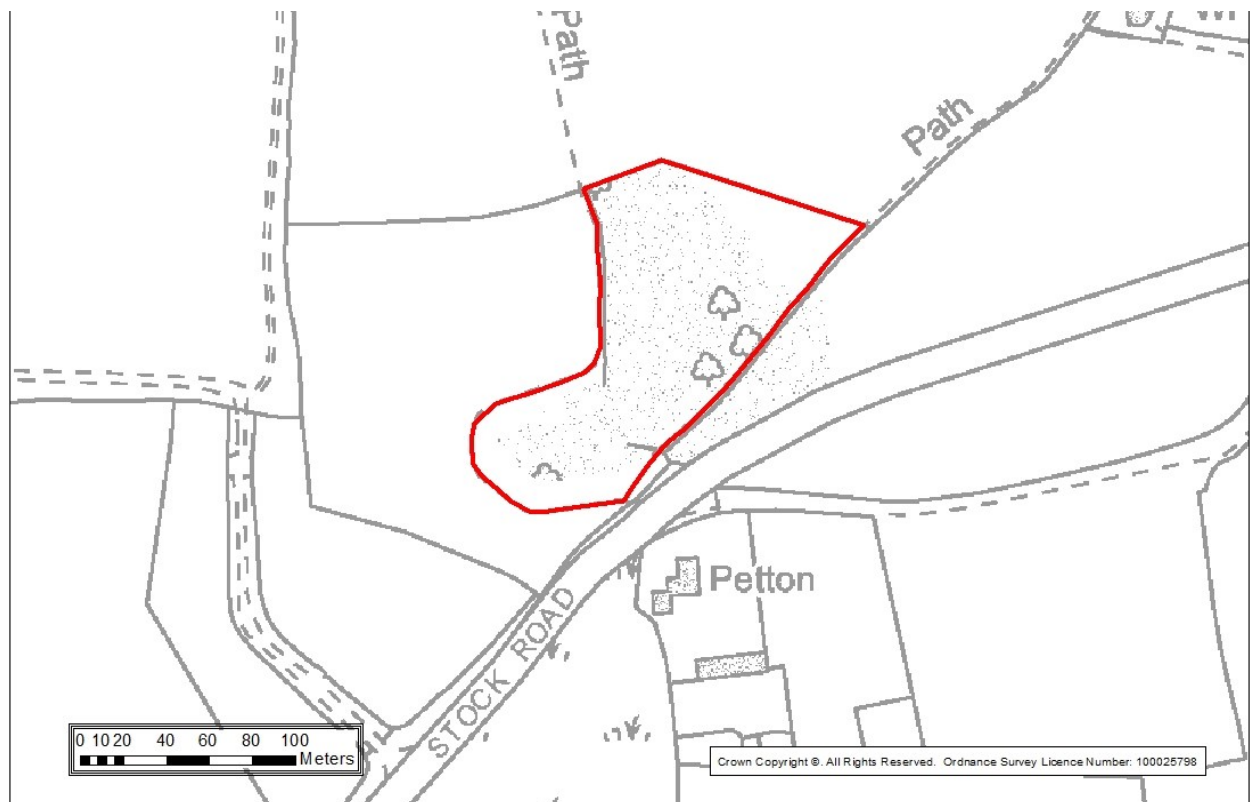
Grid Reference: TQ 6965 9962

Status: Privately owned.

Summary of the geological interest:

Hidden in woodland just west of the Stock Road, north of the village of Stock, are disused gravel pits. These pits are one of the very few places where the 'Bagshot Pebble Bed' was formerly exposed. The pits are now overgrown but with the permission of the landowner it would be relatively easy to re-expose the gravel for study.

The Bagshot Pebble Bed is a layer of well-rounded flint pebbles that occurs on top of the Bagshot Sand. It has been interpreted by some geologists as being formed on the floor of a shallow, subtropical sea some 50 million years ago immediately after deposition of the Bagshot Sand; perhaps representing a beach as the coastline migrated across Essex. Others consider it to be younger, perhaps a marine deposit laid down at the very beginning of the Ice Age.



Site Assessment. Local Geological Sites (LoGS) in Essex are assessed using criteria based on DEFRA guidance. This site has been assessed and qualifies under these criteria. An assessment form is used which asks key questions under four value categories: scientific, educational, historical and aesthetic.

Scientific interest and site importance

In the 1980s Bristow (1985) mapped the exposures at Stock as Bagshot Pebble Bed of Eocene age, but Ellison (2004) has reinterpreted them as Stanmore Gravel (formerly called 'pebble gravel') which is seen elsewhere in the district and probably early Pleistocene in age. The origin of Stanmore Gravel is itself controversial and Ellison considers that it may be marine. The pits at Stock are therefore important to resolve this issue. The Stock exposures originally showed evidence of stratification (Dines & Edmunds 1925).

The site is of historical interest and has potential for research.

The British Geological Survey holds several archive photographs of these pits taken in 1923.

Other information

The pits are on private land and prior permission is required for access.

References

- Bristow, C.R. 1985. **Geology of the country around Chelmsford**. Geological Survey Memoir. British Geological Survey. HMSO. Pages 26-27.
- Dines, H.G. and Edmunds, F.H. 1925. **The Geology of the Country around Romford**. *Memoirs of the Geol. Survey*. Explanation of sheet 257. Pages 25.
- Greensmith, J.T., Blezard, R.G., Bristow C.R., Markham R., and Tucker E.V. 1973. **Geologists' Association Guide No. 12. The Estuarine Region of Suffolk and Essex**. Geologists' Association. Pages 32-33.
- Ellison, R.A. 2004. **Geology of London**. Special Memoir for 1:50,000 Geological sheets 256 (North London), 257 (Romford), 270 (South London) & 271 (Dartford). British Geological Survey. Page 52.



Disturbed Bagshot Pebble Bed revealed in the gravel pit near Stock. The photograph was taken in 1923.
Photo: British Geological Survey (P202467)