
Chapter 3 London Basin: eastern localities

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Introduction

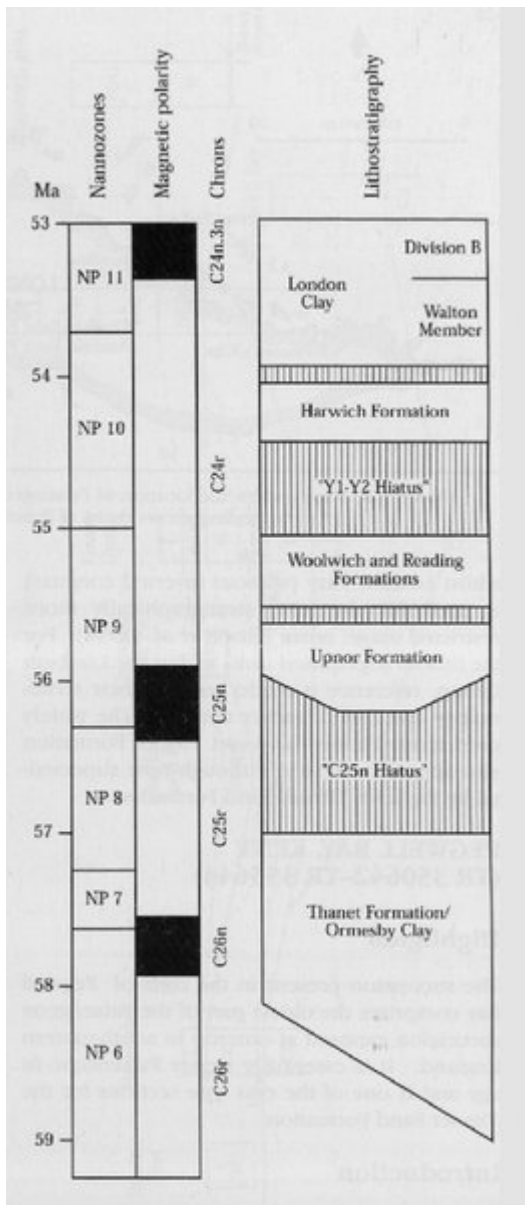
To the east of London, the outcrop of Palaeogene strata is bounded to the south by the North Downs and to the north by the extension of the Chiltern Hills towards East Anglia. Throughout much of the area, it occurs below a cover of Quaternary deposits, although in the north-east it is overlain unconformably by Neogene strata. Although once considered to represent a more or less continuous depositional sequence, these Palaeogene strata are now known to contain major breaks in the succession (Figure 3.1).

Numerous publications reflect an interest in the Palaeogene geology of this area extending over a period of more than two hundred years. More recent research in part reflects the extensive investigation of the thick Palaeogene succession in the North Sea area and the opportunity to clarify the origin and age of the onshore succession that this has provided.

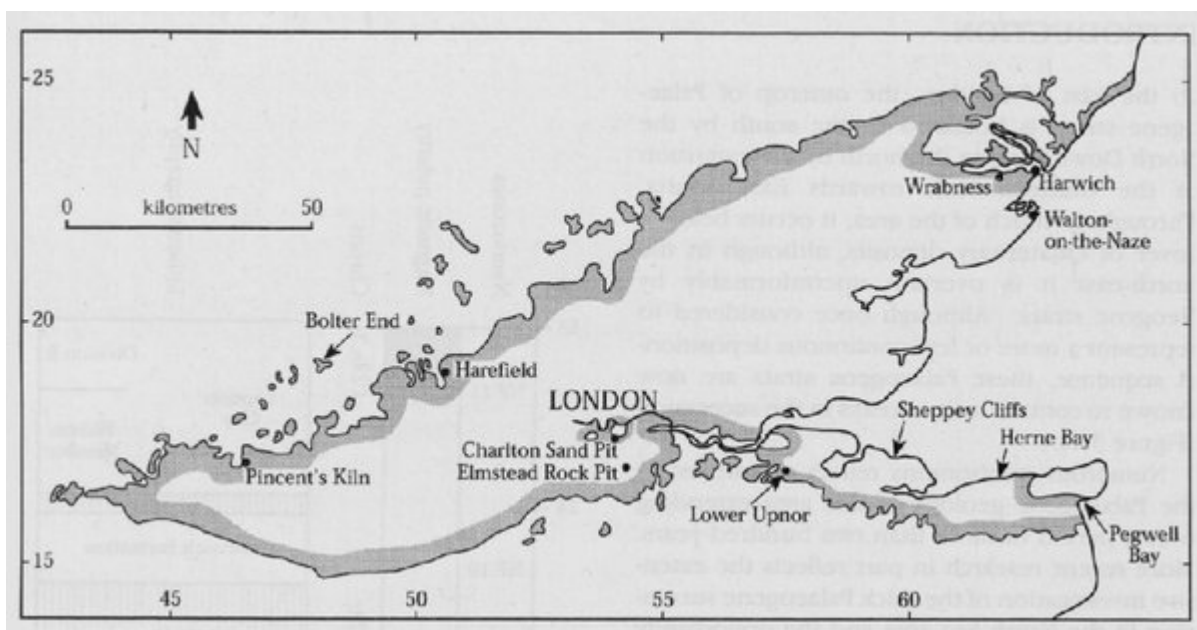
At one time, numerous clay and sand pits provided a large number of exposures in the Palaeogene deposits of this area. Nowadays, these are relatively few, of which three were selected for the GCR: Lower Upnor Sand Pit, Charlton Sand Pit and Elmstead Rock Pit (Figure 3.2). Of the three coastal Palaeogene GCR sites in Kent, those of Pegwell Bay and Herne Bay are particularly important for strata older than the London Clay. That of Sheppey Cliffs is especially famous as the source of much of the 'London Clay Flora', whilst well to the north of the Thames, the stratigraphically restricted but significant sites of Wrabness, Harwich and Walton-on-the-Naze provide testimony of early Palaeogene vulcanism and links with the extensive Palaeogene succession to the east, present beneath the North Sea (Figure 3.2). Correlation across the London Basin showing the relationship between the component units of the Thanet Sand Formation, Lambeth Group and Thames Group is shown in (Figure 3.3).

Recent revision of the stratigraphical nomenclature has clarified relationships between the various units of the Palaeogene in the London Basin and East Anglia (Ellison *et al.*, 1994) but has in some cases changed the meaning of certain stratigraphical terms. To avoid confusion in this geographical area with regard to the meaning of London Clay, 'London Clay' (with inverted commas) is used for the former broader usage (i.e. including the former Harwich Member) whilst London Clay (without inverted commas) is used for the new, stratigraphically more restricted usage, *sensu* Ellison *et al.* (1994). For the lithostratigraphical units within the Lambeth Group, reference is made both to their terminology and that of earlier authors. The widely used terms Thanet Sand and Thanet Formation also appear in the text although now superseded by the term Thanet Sand Formation.

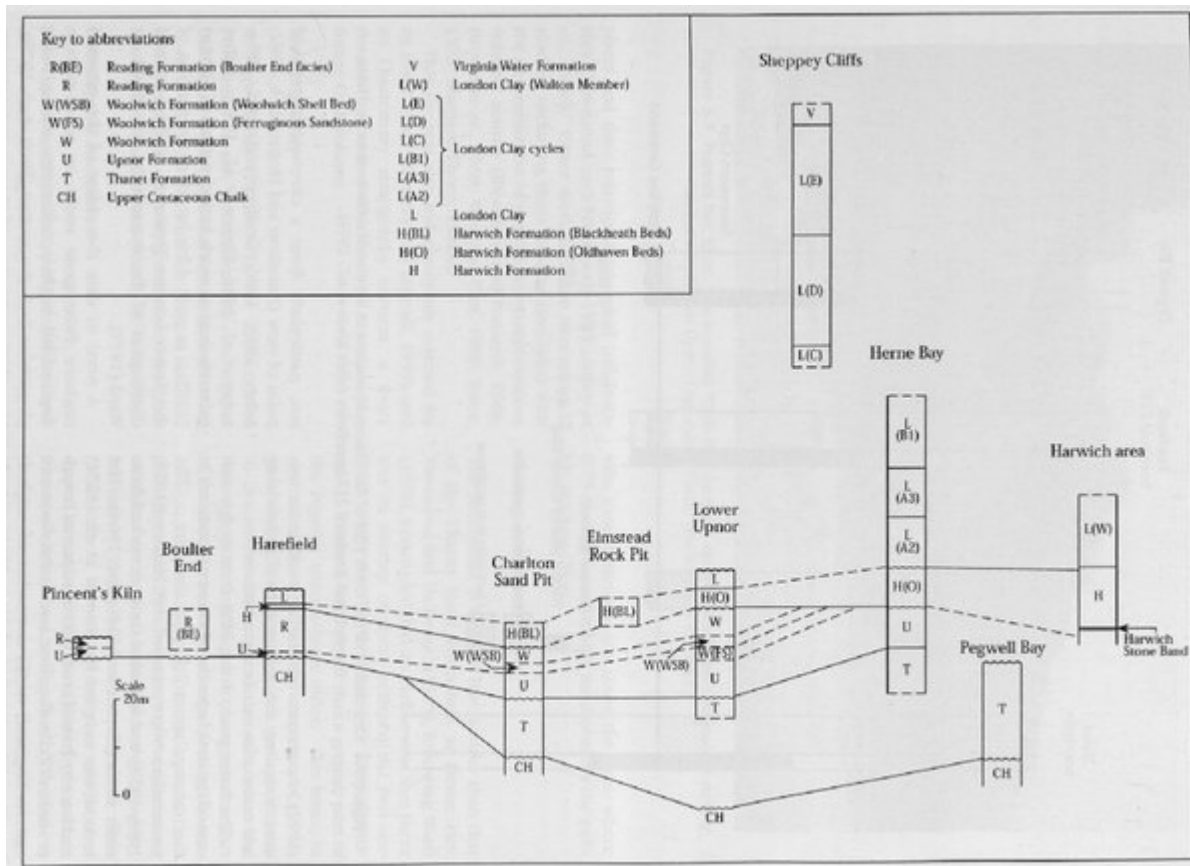
[References](#)



(Figure 3.1) Nannozones and the lithostratigraphical and magnetostratigraphical succession in the eastern part of the London Basin, together with the major hiatuses (after Ali and Jolley, 1996, fig.12). Normal polarity: black; reverse polarity: white.



(Figure 3.2) Map to show the location of Palaeogene stratigraphy GCR sites in the London Basin area (shading shows limit of Paleogene together with outliers).



(Figure 3.3) Lithostratigraphical correlation of Palaeogene sites in the London Basin.