

TWO *COELODONTA ANTIQUITATIS* SKULLS FOUND *IN SITU*: A PRELIMINARY REPORT ON RIVER NENE FIRST TERRACE DEPOSITS, PETERBOROUGH

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Abstract

Mammalian fossil bones have been found *in situ* at the base of deposits underlying the River Nene First Terrace. The site has yielded *Mammuthus primigenius*, *Equus ferus*, *Rangifer tarandus*, *Bos*, *Bison* and several other species of large mammals, most notable of which is *Coelodonta antiquitatis*. The last named species is represented by two skulls and a mandible.

Introduction

Davey (1991) has reviewed studies of Pleistocene deposits in the Peterborough area. He records the widespread occurrence of mammalian remains recovered in the past from several river terraces in the area. Thus far, however, few fossils have been excavated *in situ*.

This brief account serves to provide preliminary information, through a description of mammalian fossil finds *in situ*, on deposits underlying the River Nene First Terrace (Booth, 1982; Horton, 1989; Davey, 1991) at Tanholt Farm, east of Peterborough (TF 235 015). Such a preliminary account is deemed necessary because of the importance of finding the remains of two *Coelodonta antiquitatis* (woolly rhinoceros) skulls *in situ*, and because Tanholt Farm was included as an optional extra on day 4 of the QRA 1991 Annual Field Meeting and little information on the site has been recorded (Horton, 1989; Davey, 1991; Scourse, 1991).

A combined mineral extraction and landfill operation is located at the site (Figure 1), where in January 1991 a mammoth tusk was found *in situ* on the floor of a previously excavated cell. It was associated with organic-rich, laminated clay-silt-fine-sand and was lying in contact with the underlying Oxford Clay (Jurassic). This led to further finds of mammalian fossils in March–April 1991 as the cell floor was being stripped by bulldozer in preparation for landfill operations.

The research at Tanholt Farm forms part of a much wider research project to determine the sedimentology, lithostratigraphy, biostratigraphy and chronostratigraphy of Pleistocene deposits in the Peterborough area.

Brief description of fossils

The most notable *in situ* large mammal remains from Tanholt now in the Peterborough Museum collection are two *Coelodonta* skulls, one of which (M.496) was excavated during the QRA field visit; it is rather abraded and is

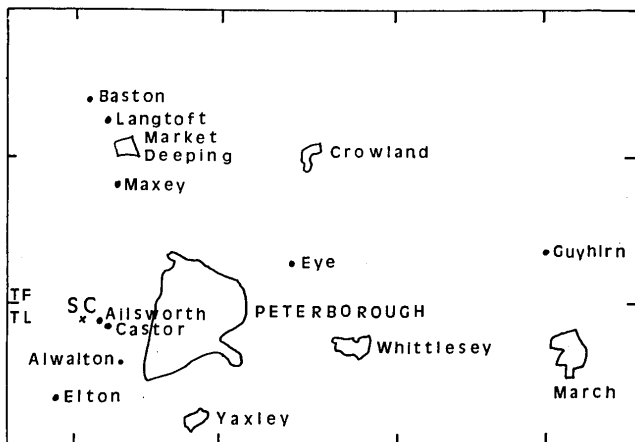


Figure 1 Location of the Tanholt (T) site near Peterborough, eastern England where recent *in situ* finds of mammalian fossil bones have been made. The tick marks on the border of the figure are 10 km apart. (Based on Ordnance Survey 1:250 000.)

missing part of the right side and has no teeth. The other skull (M.487) is better preserved but lacks the right cheek and the tip of the snout; it has two molars in place and may belong to the same individual as a fine mandible (M.488) found close by. The only other rhino skull known from the Peterborough area is a complex example (M.301) from Farcet (a village a few kilometres south of the River Nene), found in 1923 and now on display at the Museum.

Other notable *in situ* remains are a mandible (M.521) and femur (M.491) of *Equus*, several partial femora and other bones of *Coelodonta*, fragments of reindeer antler and several mammoth tusks, including the large specimen excavated in January 1991 and referred to above. There is an apparent paucity of material definitely assignable to *Bison*, a genus thought to characterise faunas of the earlier part of the Devensian (Stuart, 1982).

Associated sediments

At this location, approximately 4–5 m of gravel and sand overlay pockets, between 0.5 m and 1.0 m deep, of sediments incised into Oxford Clay. Four distinct units (Figure 2) were observed to make up these pockets of sediment:

- (1) massive, clast-supported, cobble-pebble gravel, with angular calcareous clasts dominant;
- (2) horizontally to subhorizontally bedded, sand dominated, matrix- to clast-supported pebble/cobble gravel;
- (3) clay dominated, matrix-supported pebble/cobble gravel;
- (4) organic-rich, laminated clay-silt-fine-sand.

Unfortunately it was not possible to map the lateral extent and relationship of each type of deposit or to record vertical graphic logs. However, the following observations were made: unit 4 overlay units 1–3 and all units were observed in contact with the underlying Oxford Clay; units 1 and 2 were incised deeper into the Oxford Clay and were of more limited lateral extent; the clay matrix of unit 3 was very stiff and appeared to be predominantly reworked Oxford Clay; most fossils, including one *Coelodonta* skull (M.490) and mandible (M.488), were found in association with unit 3 (M.487 being found in unit 2).

Observations indicated the following sequence of events: incision and deposition of unit 1; incision and deposition of unit 2; deposition of unit 4. Where unit 3 fits in this sequence is problematic. It was not observed to overlie units 1 or 2 and therefore it could have been deposited prior to unit 1, penecontemporaneously with unit 1, between units 1 and 2 or penecontemporaneously with unit 2.

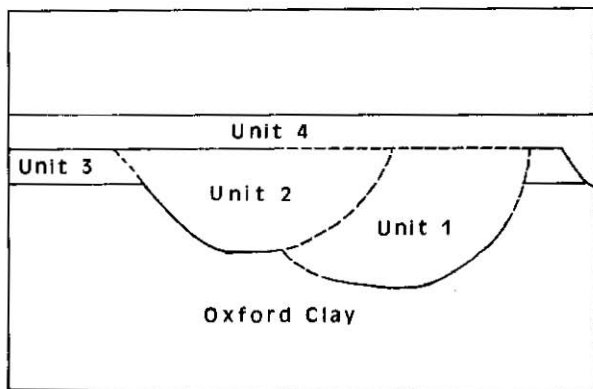


Figure 2 Schematic representation of units 1–4. The dashed lines indicate contacts not observed.

Conclusions

In March and April 1991, *in situ* mammalian fossils were recovered from the base of deposits underlying a River Nene First Terrace hitherto variously referred to as being deposited between the Upton Warren Interstadial and the Devensian ice maximum (^{18}O stages 2-3) (Castleden, 1980), during the Devensian (^{18}O stages 2-5) (Horton, 1989) and the late Saalian to late Devensian (^{18}O stages 2-6) (Bridgland et al., 1991). The mammalian assemblage is characteristic of a cold stage fauna and is comparable with that associated with middle to late Devensian assemblages found elsewhere (Stuart, 1982).

Acknowledgements

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