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**Evaluation of biological remains from excavations east of High Catton,  
East Riding of Yorkshire (site code: TSEP 222)**

by

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**Summary**

*A series of sediment samples, a very small quantity of hand-collected shell, and five boxes of hand-collected bone from deposits revealed by excavations east of High Catton, were submitted for an evaluation of their bioarchaeological potential.*

*The sediment samples all yielded moderate or large numbers of well preserved plant and invertebrate macrofossils whose potential for landscape and land-use reconstruction is high.*

*The very few hand-collected shell remains were of no interpretative value.*

*A moderate sized assemblage of vertebrate remains, amounting to five boxes of hand-collected bone, was recovered from ditch, pit and gully fills. Cattle remains predominated and included a complete skeleton, which may represent a ritual deposit. The usefulness of the vertebrate assemblage in providing large datasets is limited by the extremely fragmented nature of the bones. However, the scarcity of remains from rural settlements of this date warrants the production of a basic archive (including biometrical data).*

**KEYWORDS:** HIGH CATTON; EAST RIDING OF YORKSHIRE; EVALUATION; ROMANO-BRITISH (4<sup>TH</sup> CENTURY); PLANT REMAINS; INVERTEBRATE REMAINS; OYSTER; VERTEBRATE REMAINS

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## Evaluation of biological remains from excavations east of High Catton, East Riding of Yorkshire (site code: TSEP 222)

### Introduction

An archaeological evaluation excavation was carried out by Humber Field Archaeology at a site east of High Catton (NGR: XX), between 15 May and 2 June 2000, as part of a series of interventions along the line of the British Petroleum Teeside to Humber pipeline.

A series of sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), a very small quantity of hand-collected shell, and five boxes (each of approximately 20 litres) of hand-collected bone, were recovered from the deposits. Preliminary dating evidence (from recovered pottery and coins) gave a Romano-British (4<sup>th</sup> century) date for the deposits (with some overlying medieval ridge and furrow within Plot 61.2 at the northernmost end of the trench). It is thought likely that the occupation of this site was contemporaneous with that at TSEP 218 (north-east of High Catton).

All of the material was submitted to the EAU for an evaluation of its bioarchaeological potential.

### Methods

#### *Sediment samples*

The sediment samples were inspected in the laboratory. Three of the samples were selected for investigation and their lithologies were recorded, using a standard *pro forma*, prior to processing, following the procedures of Kenward *et al.* (1980; 1986), for recovery of plant and invertebrate macrofossils. The flots, washovers and residues were examined for plant remains.

The flots and washovers were also examined for invertebrate remains,

and the residues were examined for other biological and artefactual remains. Preservation of insect remains was estimated using the scales of Kenward and Large (1998).

Table 1 gives a list of the examined samples and notes on their treatment.

#### *Hand-collected shell*

Brief notes were made on the preservational condition of the shell and the remains identified to species where possible.

#### *Hand-collected vertebrate remains*

Data for the vertebrate remains were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For each context (or sample) subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Additionally, where more than ten fragments were present, semi-quantitative information was recorded concerning fragment size, dog gnawing, burning, butchery and fresh breakage.

Where possible, fragments were identified to species or species group, using the reference collection at the EAU. Fragments not identifiable to species ('B' bones *sensu* Dobney *et al.* forthcoming) were grouped into categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal 1 (assumed to be caprovid, pig or small cervid), small mammal (rats, mice, voles etc), unidentified fish,

unidentified bird, and completely unidentifiable.

## Results

### *Sediment samples*

The results are presented in context number order. Archaeological information, provided by the excavator, is given in square brackets.

**Context 2073** [Primary fill of ditch 2047 of Romano-British (4<sup>th</sup> century) date]

Sample 22/T (3kg sieved to 300 microns with washover and subsequent paraffin flotation of the <1 mm fraction of the washover)

Moist, mid grey-brown (locally lighter and darker), soft to crumbly (working slightly plastic), slightly humic, sandy clay silt with some flint gravel.

There was a small to moderate-sized residue of about 300 cm<sup>3</sup> of sand and gravel, with a washover of about 100 cm<sup>3</sup> of woody detritus. Seeds and fruits from the latter indicated a hedgebank or scrub with weedy vegetation in the vicinity and the few remains of possible foodplants—celery (*Apium graveolens* L.), apple (*Malus sylvestris* Miller), raspberry (*Rubus idaeus* L.) and elder (*Sambucus nigra* L.)—if not part of the local flora, may point to some waste from human occupation.

The rather abundant insect remains were fairly well preserved (sometimes superbly), though often fragmented (E 1.0-3.5, mode 2.5, weak; F 1.5-4.0, mode 2.5, weak). Cladoceran ephippia (water flea resting eggs) were numerous (there were at least three kinds), and various aquatic beetles were present. Most of the assemblage was of terrestrial origin, however, with indicators of a generally open landscape, probably grazing land since five species of *Aphodius* and some other beetles able to exploit dung were noted. Indications of natural or structural dead wood came from *Anobium ?punctatum* (Degeer).

The remains from an additional 5 kg subsample should be added to those already recovered, and although time-consuming to identify will provide useful detail concerning surrounding vegetation and land-use.

**Context 2074** [Primary fill of ditch 2061 of Romano-British (4<sup>th</sup> century) date]

Sample 21/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, crumbly, patchily dark brown humic sand with patches of humified plant detritus, to light brown sand.

The moderate-sized residue of about 650 cm<sup>3</sup> consisted of undisaggregated humic silt and woody and herbaceous detritus (with many seeds floating), and some sand and grit and small gravel (the total mineral content was about 150 cm<sup>3</sup>). The coarser plant debris included some large (to 50 mm), uncharred heather (*Calluna vulgaris* (L.) Hull) root/basal twig fragments and much of the herbaceous material comprised large (to 10 mm) shoots of the moss *Leucobryum glaucum* (Hedw.) Ångstr. If these remains reached the deposit from the same source, they surely indicate material from heathland or bog, where the moss forms characteristic domed cushions. Given the nature of the sediment and the depositional context, it seems unlikely that they grew close by, so an origin in turves seems a very likely explanation. Most of the other more abundant remains were fruits and seeds, mostly quite well preserved, though often somewhat silt-coated, representing vegetation of tall-herb communities found today on riverbanks, roadsides and hedgebanks, and dominated by various umbellifers, notably hemlock (*Conium maculatum* L., the bulk of the floating 'seeds'), rough chervil (*Chaerophyllum temulentum* L.) and hogweed (*Heracleum sphondylium* L.), with stinging nettles (*Urtica dioica* L.) and a modest variety of taxa typical of a wide variety of lowland grassland habitats, scrub, waterside and standing water, with just a few plants indicating disturbance.

Insect remains were abundant, and sometimes well preserved (E 2.0-4.5, mode 2.5, weak; F 1.5-4.0, mode 2.5, weak). *Daphnia* ephippia were extremely common, and there were quite large numbers of water beetles. Terrestrial insects were still well-represented, however, with indications of an open landscape. A larger subsample (say 5 kg) would be required to provide a clearer picture of the surroundings; the insects from this should be added to the assessed material.

**Context 2159** [Primary fill of ditch 2156 of Romano-British (4<sup>th</sup> century) date]

Sample 30/T (3 kg sieved to 300 microns with washover and subsequent paraffin flotation of the <1 mm fraction of the washover)

Moist, mid to dark grey-brown, crumbly (working plastic), slightly sandy clay silt with small patches of light brown sand. Fragments of wood (to 50 mm) were present in the sample.

This subsample yielded a very small residue of about 100 cm<sup>3</sup> of sand, iron pan and gravel (to 5 mm). The moderate-sized washover of about 300 cm<sup>3</sup> was of woody debris with many seeds floating and about another 50 cm<sup>3</sup> of sand. The abundant and mostly rather well preserved seeds and fruits of alder (*Alnus glutinosa* (L.) Gaertner), hemlock, water-crowfoot (*Ranunculus* Subgenus *Batrachium*) with smaller amounts of various other fragments of alder (female cones and cone-scale), and propagules of sedges (*Carex*), henbane (*Hyoscyamus niger* L.), marsh yellow-cress (*Rorippa palustris* (L.) Besser), docks (*Rumex*) and stinging nettle (*Urtica dioica* L.) point to an area with alder trees overhanging a ditch. A modest variety of weeds probably indicates some disturbance but other indicators of human activity were lacking in the plant material.

Insect remains were numerous, and there were some mites and water fleas. Preservation of the insects was variable, though most remains were identifiable (E 2.0-4.5, mode 3.0, weak; F 2.0-4.5, mode 3.0, weak). There was a modest aquatic component, but terrestrial species predominated. Among these, there was a range of plant feeders and ground beetles suggesting a fairly open landscape, such as poor grazing. This interpretation was supported by the abundant dung beetles; there were at least four *Aphodius* species (including many *A. prodromus* (Brahm) and several *A. contaminatus* (Herbst)). *Grynobius planus* (Fabricius) indicated dead wood, though this may have been either in timber or still attached to a tree. There were hints of the litter which accumulates round human dwellings, but all of the species involved can also exploit natural litter.

The insect remains should be identified in full, with the addition of material from a further 5 kg subsample. This will be time-consuming, but will provide good information about the surroundings.

### *Hand-collected shell*

Three contexts each yielded a very small amount of hand-collected shell. Contexts 2008 and 2152 each gave remains of *Cepaea* sp. land snails. Those from Context 2008 consisted of many fragments probably all from one individual (much of the fragmentation presumably occurring during or post-excavation). Context 2152 gave two somewhat bleached but otherwise fairly well preserved individuals.

Two oyster (*Ostrea edulis* L.) valves were recovered from Context 2009 (one left valve, which had separated into two fragments, and one right valve). Both valves were poorly preserved—neither being measurable or showing clear evidence of having been opened by humans.

### *Hand-collected vertebrate remains*

A total of five boxes of hand-collected bone, representing 36 contexts, was recovered from this site. Much of the material came from ditch, gully and pit fills, with pottery finds suggesting a 4<sup>th</sup> century date for the occupation of the site. The vertebrate assemblage amounted to 892 fragments, of which 450 represent a single cattle skeleton (from Context 2084).

Heavy fragmentation of the vertebrate remains was prevalent and characteristic of much of the assemblage. High scores for fresh breakage (>50% of fragments damaged) were given to material from three deposits (Contexts 2021, 2064 and 2091), and 20-50% of bones from seven other contexts (2046, 2048, 2056, 2060, 2080, 2154 and 2159) also showed recent damage. Preservation of the bones, however, was rather varied and it was clear that some bones, while appearing quite robust, were in fact somewhat fragile and brittle. A number of deposits produced very poorly preserved bones where the whole surface of the fragments had been badly eroded. Some evidence of dog gnawing and butchery was noted. Knife marks were observed on the shaft of a horse humerus, possibly the result of hide removal.

A typical range of common domestic species was represented, the remains of cattle and large mammal fragments (assumed to be mainly cattle) providing the bulk of the bones from the Romano-British features.

A cow skeleton was recovered from pit fill 2080, which the excavators suggested may have been a ritual interment. Although there was no clear evidence from the bones for the ritual disposal of the animal, no butchery marks were noted. The horncores were separate from the skull, but this appeared to be the result of damage during excavation rather than their deliberate removal in antiquity. Despite the highly fragmented condition of the bones, they were quite well preserved, which may suggest that this individual was fairly quickly (and specifically?) incorporated into the deposit.

A group of cattle vertebrae, probably from a single beast, were recovered from Context 2045. Caprovid fragments were more prevalent in the material recovered from Context 2009 (subsoil sealing Romano-British features) and some of the fragments (including ribs and vertebrae) may be from the same individual. Pig and horse bones were less well represented, with a few dog remains (Contexts 2075 and 2150) also being identified. Context 2102 (a post-hole fill) yielded a small and very immature bone tentatively identified as a femur of a human baby.

From the whole assemblage, 27 of the fragments (nine from the cow skeleton) were measurable and only five were mandibles with teeth *in situ*.

Table 2 presents a summary of fragment counts by taxon for the hand-collected vertebrate remains.

## Discussion and statement of potential

The abundant and mostly very well preserved plant and insect remains together represent important material for reconstruction of landscapes and land-use from a type of site and for a period which have received insufficient attention in the past.

The hand-collected shell remains are of no interpretative value.

The vertebrate assemblage recovered from deposits at this site was variably preserved and somewhat fragmented. Recent damage to the bones (i.e. during excavation) was partly to blame for this, but it was also evident that the rather brittle nature of the bones contributed to the fragmentary condition of the material. Unfortunately, this has substantially reduced the number of elements that could be identified and that could provide useful biometrical information. However, bone assemblages from rural sites, particularly of this date, are rare and our understanding of these sites is limited. Data from this assemblage, combined with that from similar sites in the region could be used to provide information about the activities being undertaken at these settlements.

## Recommendations

In each case where insects were abundant, a large subsample should be added to the material already processed and the remains identified in detail. Attention should be paid to the possibility that climatic indicators are

present among the taxa which could not be identified within the constraints of evaluation. Plant remains were rather thoroughly recorded, especially from Context 2074. It is recommended that any additional material processed for insects is scanned to check the abundances of the taxa present and to look for additional rare taxa which may be indicative of human activity.

It is recommended that a basic archive, including biometrical data, should be produced of all well-dated vertebrate material.

## Retention and disposal

All of the current material should be retained for the present.

## Archive

All material is currently stored in the Environmental Archaeology Unit, University of York, along with paper and electronic records pertaining to the work described here.

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Table 1. List of examined sediment samples from excavations east of High Catton, with notes on their treatment.

Context	Sample	Notes
2073	22	3 kg sieved to 300 microns with washover and subsequent paraffin flotation of < 1 mm fraction of the washover
2074	21	2 kg sieved to 300 microns with paraffin flotation
2159	30	3 kg sieved to 300 microns with washover and subsequent paraffin flotation of < 1 mm fraction of the washover

Table 2. Hand-collected vertebrate remains from deposits at a site east of High Catton. **Key:** No. frags = total number of fragments; No. meas = number of measurable fragments; No. mand = number of mandibles with teeth in situ. Numbers in parentheses relate to the cattle skeleton from Context 2080. \* - Totals including the cattle skeleton.

Species		No. frags	No. meas	No. mand
<i>Canis</i> f. domestic	dog	2	1	-
<i>Equus</i> f. domestic	horse	11	6	-
<i>Sus</i> f. domestic	pig	6	-	1
<i>Bos</i> f. domestic	cow	29 (450)	8 (9)	2
Caprovid	sheep/goat	23	3	2
<i>Homo sapiens</i>	human	1	-	-
<i>Sub-total</i>		72 (522*)	18 (27*)	5
Unidentified		370	-	-
<i>Sub-total</i>		370	-	-
<b>Total</b>		<b>442</b> <b>(892*)</b>	<b>18</b> <b>(27*)</b>	<b>5</b>