

**An evaluation of biological remains from excavations at Kingswood, Hull
(site code: KWH96)**

by

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Summary

Sediment samples, a wood fragment and hand-collected animal bone and molluscs were submitted for an evaluation of their bioarchaeological potential. Although the small size of the excavated bone assemblage precludes any further detailed recording and interpretation, it is clear that most of the material is fairly well preserved, and from deposits which appear to fit within a well defined chronological framework. Consequently, it is probable that further excavation would recover a larger collection of tightly dated and well preserved material. Large well recovered assemblages associated with monastic orders are rare from England.

The hand-collected shell is of no real interpretative value.

Two of the sediment samples (16 and 17) yielded small but useful assemblages of plant and invertebrate remains. Further examination of the remains from these samples (including processing additional material) may be useful to investigate the aquatic regime, especially the tidal nature of the River Hull, at the time.

The wood fragments were identified as willow (Salix) and oak (Quercus).

Keywords: KINGSWOOD; HULL; EVALUATION; ROMAN; MEDIEVAL; SEDIMENT SAMPLES; VERTEBRATE REMAINS; MOLLUSC REMAINS; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; MICROFOSSILS; WOOD

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Introduction

During October 1996 Humber Archaeology Partnership undertook excavations at Kingswood, Hull. Ten trenches were excavated, two (Trenches 1 and 2) of which produced extensive evidence of medieval occupation. Features uncovered during the excavation of Trench 1 indicated the presence of an important site known to be part of the estate of Meaux Abbey. None of the numerous finds suggest a date later than the 16th century (Phase 4) and the earliest pottery recovered dates to the 12th or 13th century (Phase 2). Trench 4 contained deposits possibly related to the medieval activity located in Trenches 1 and 2. Earlier material, of possible Romano-British date, was recovered from two shallow features in Trench 6.

Twenty-four sediment samples, one 'spot' sample, a wood fragment, a small amount of hand-collected shell, and a small assemblage of hand-collected animal bone (amounting to 3 boxes 39 x 31 x 16 cm), were recovered from deposits representing four of the trenches. Sediment descriptions for samples not examined further are presented in the Appendix.

This report considers the bioarchaeological potential of the material submitted to the EAU for evaluation.

Methods

All twenty-four samples ('GBAs' *sensu* Dobney *et al.* 1992) were inspected in the laboratory and a description of their lithology was recorded using a standard *pro forma*. Seven (from five contexts) were chosen for further investigation on the basis of information supplied by the excavator and the inspection undertaken in the laboratory. Subsamples of 2 kg were taken from four of the samples (8, 9, 16 and 17), and 1kg from a fifth (Sample 19) for extraction of macrofossil remains,

following procedures of Kenward *et al.* (1980; 1986).

Samples 3 and 18, and excess material from Sample 19, were bulk-sieved by hand to 300 µm. The residues from all processed samples were sorted for finds.

All of the shell was examined and identified where possible; notes were made on the quantities and preservation of the remains.

All the animal bone (with the exception of that from deposits described as topsoil or cleaning layers) was examined; records were made of preservation, quantities and identifications where appropriate.

Material from Contexts 14, 18 and 19 (deposits described as ploughsoil) was scanned and brief notes were made.

Four of the samples were examined for microfossils using the 'squash' technique of Dainton (1992), which was originally developed for detection of nematode gut parasite eggs but is of value for a wide range of small remains.

Results

The results of the investigations are presented in context number order, with information provided by the excavator in square brackets. Specific questions raised by the excavator are presented in italics.

The sediment samples

Context 28 [Fill of shallow ditch containing Romano-British pottery]

What is the nature of the sediment i.e. is it waterlain? Is organic matter present? Is there any evidence for modern contamination?

Sample 8

Just moist, blue grey to red brown, indurated, (working crumbly, then sticky and almost plastic), clay. Modern rootlets were noted in the sample.

There was a very small residue, mostly red-brown concreted clay soil clasts, some with red varnish (presumably iron oxides) and some with traces of mineral-replaced wood: these may, in fact, be remains of woody roots 'mineralised' in root channels. There were also some concretions <2 mm in maximum dimension, apparently of the kind seen in Sample 9 (q.v.). The washover was minute, mostly rootlets, with a trace of charcoal <5 mm. and fragments of earthworm egg capsules and *Heterodera* cysts, together with a single fragment of beetle larval head capsule. No microfossils were observed in the 'squash'.

The deposit appears to have been natural or deliberate backfill contaminated by later, intrusive organisms.

Context 29**Sample 30 - Wood**

This sample consisted of numerous fragments of wood up to 100 mm in maximum dimension. There was single thin flake (of willow, *Salix*) with sharply defined edges but it was not certainly worked. One other piece which was much better preserved than the rest, being firm and pale brown in colour, was also willow. The remainder of the fragments were very soft and spongy, dark in colour and rather strongly decayed; a representative sample of them proved to be oak (*Quercus*).

Context 34**Sample 1 - SPOT sample**

This sample comprised about 200g of loose, crumbly, mid grey-brown clay silt with occasional patches of more or less brown material up to 10 mm across which

appeared to be very decayed wood and perhaps also bark, but which was not identifiable. There was one flaky fragment of ?bark with some copper corrosion evident.

Context 36 [Phase 2. Ash dumped into ditch]

Sample 19

Lumps of mid to dark grey-brown mottled (5 mm scale), crumbly (working plastic), clay silt in a matrix of orange to yellowish brown crumbly ash. Coal and mammal bone were present in the sample. Modern rootlets and germinated seedlings were also noted. Samples 3 and 18, also from this context, were similar but more thoroughly trowelled.

The residue was small, consisting mostly of ferruginous calcareous concretions to 20 mm, with some coal and a little sand. There were also some lumps of undisaggregated grey silt/clay sediment with orange-brown veins, and perhaps very decayed, even mineral-replaced, plant detritus; on treatment with dilute hydrochloric acid, these yielded amorphous brown debris, perhaps just mineral-replaced organic material.

The washover of about 30 cm³ was mostly brown concretions to 2 mm, but with some fine plant detritus, including rootlets, and with charcoal to 10 mm; there were also several modern uncharred ?wheat glume fragments and one rachis fragment from a free-threshing wheat (comprising four segments) and no more than a trace of very poorly preserved insect fragments.

The residue from sieving of excess material was mostly sand, gravel and ash with some coal (to 50 mm), small stones (6 to 20 mm), traces of charcoal and a few small fragments of burnt bone present.

Sample 3 (BS)

The washover was mostly charcoal and fine rootlets with two fragments of modern ?wheat husk and a single *Cecilioides*

acicula (Müller) present. The latter is a burrowing land snail and almost certainly intrusive to the deposit.

The residue was mostly burnt daub (to 40 mm), gravel, sand and ash with charcoal (to 15 mm), a trace of coal, a few fragments of burnt bone (including a ?cow incisor) and a single unburnt fish vertebra (probably herring).

Sample 18 (BS)

The residue was mostly gravel and 'ashy' concretions (to 50 mm) with some small to large stones (6 to 60+ mm), coal (to 30 mm), charcoal (to 5 mm), small lumps of daub (to 10 mm) and a very few fragments of burnt and unburnt bone (including an indeterminate fish fragment).

Context 58 [Possible RB ground surface in hollow sealed below ?flood deposit]

What is the nature of the deposit? Is there any evidence for modern contamination?

Sample 9

Moist mid grey with orange/brown mottling (to 1mm), stiff (working plastic, sticky to 'soapy' when wet), clay. Modern rootlets were present in the sample.

The tiny residue was of granular, dark purplish-brown debris to 3 mm with one tiny sherd of pottery to 15 mm; the granules had a more or less mamillate surface, were somewhat calcareous, and on disaggregation with dilute hydrochloric acid produced a brown solution of brown-stained silt/fine sand clasts with some ?amorphous organic material. There was also a trace of tiny charcoal fragments and gravel/grit clasts to 4 mm. The minute washover was mostly rootlets, further tiny concreted clasts, more fine charcoal and a small number of invertebrate fragments. The latter were mostly robust fragments of weevils—suggesting that the fossils were very decayed so that only the most durable fragments remained. No microfossils were seen in the 'squash'.

The deposit may be a buried soil, although this interpretation is necessarily tentative because of the small numbers of recovered remains. Processing a very large subsample (>20 kg) may yield an interpretable invertebrate assemblage.

Context 72 [Possibly alluvium overlying silt 75]

Is there any evidence to support the theory that this deposit represent the fill of a fishpond/channel?

Sample 16

Moist dark blue-grey, oxidising to light to mid grey-brown, plastic, silty clay. Fragmented fresh water molluscs were present in the sample.

The residue was tiny—a few cm³ of undisaggregated sediment with six very eroded snails (*Hydrobia ulvae* (Pennant)). The washover of about 50 cm³ was mostly herbaceous detritus with one squared (presumably worked) fragment of well preserved *Alnus* wood to 50 x 10 x mm. With it were rare leaves of *Sphagnum*, fruits of sea arrow-grass (*Triglochin maritima*), seeds of ?mud-rush (*Juncus* cf. *gerardi*) and fruits with characteristic hooked hairs, which are probably glasswort, *Salicornia*. The washover also contained a small assemblage of somewhat decayed but identifiable invertebrate remains. No microfossils were seen in the 'squash'.

There is little doubt that the identifiable plant remains originated in a salt-marsh environment, whether locally through the influence of brackish water from the tidal River Hull or through inwash with such water. The invertebrate remains support this interpretation, being indicative of shallow standing water, possibly a reed bed—*H. ulvae* is found on green seaweeds in estuaries or on the surface of mud-flats and is very tolerant of brackish water. This deposit therefore appears most likely to represent the fills of a channel—presumably a saline creek.

Context 75 [Earliest deposit encountered in Trench 4, with stakes driven into it]

Does the sample represent lower silt in a pond/channel, or is it natural alluvium?

Sample 17

Moist, dark blue-grey, internally oxidising to light to mid brown, soft to crumbly (working plastic), sandy (very fine sand) clay silt. Wood fragments were present in the sample.

The very small residue (<50 cm³) consisted mainly of undisaggregated sediment to 5 mm: there was a little herbaceous detritus, and some mollusc shell fragments, including two *Hydrobia ulvae* and fragments of a single small freshwater bivalve, and a few small (<5 mm) well-preserved pinkish wood fragments (probably willow, *Salix*). Also noted were a few very small and poorly preserved moss shoot fragments and a seed or fruit with characteristic hooked hairs which was probably glasswort (*Salicornia*). The washover of about 30 cm³ was mostly fine plant detritus; ostracods were rather frequent. The very low concentration of invertebrate remains formed a minute assemblage similar in character to that from Sample 16. No microfossils were seen in the 'squash'. The comment concerning salt-marsh above is relevant here, too, and the remains point to a similar conclusion.

Mollusc remains

The small hand-collected mollusc assemblage (representing remains from 19 contexts and a single unstratified fragment recovered from field-walking) consisted mostly of fragments of rotted oyster (*Ostrea edulis* L.) shell with occasional land snails and fragments of other marine molluscs—mussel (*Mytilus edulis* L.), cockle (*Cardium* sp.) and whelk (*Buccinum undatum* L.).

Only Context 64 yielded an assemblage of any size—thirty-seven well-preserved *Cepaea* sp. (either *C. nemoralis* (L.) or *C.*

hortensis (Müller) or, perhaps, both). It may be possible, though difficult, to identify these to species (reliable separation of these species usually requires dissection of the soft parts) but, as both are catholic, there is little to gain by the attempt.

Vertebrate remains

Preservation of the material varied, but, on the whole, the vertebrate remains were fairly well preserved and fawn or brown in colour. Material from three contexts (20, 21 and 50) was very fragmented; 20-50% of the fragments were less than 5cm in greatest dimension. It was also noted that some of the bones from these contexts were rounded and battered in appearance. Context 34 contained fragments which were rather brittle and fragile, perhaps the result of being dumped onto hot ash.

Few of the bones showed evidence of fresh breakage, dog gnawing or butchery.

Most of the material was recovered from the medieval deposits (Phases 2 and 3) in Trench 1 (see Table 1). This amounted to 207 (4035g) identified and 574 (3309g) unidentified fragments. The deposits from Phase 4 (Trench 1) produced only 45 fragments of which 19 were identified to species. Only five fragments were recovered from the Romano-British deposits in Trench 6.

The bulk of the remains were identified as cattle and caprovid, followed in abundance by pig and horse. Phase 2 and 3 deposits produced 19 measurable fragments, 6 mandibles with teeth and 25 isolated teeth.

Although a range of elements was recovered, maxillae, isolated teeth, metapodials and phalanges of both cattle and caprovid were the most numerous and are indicative of primary butchery waste.

Other mammal species present included domestic cat and dog, and two hare (*Lepus* sp.) bones. The remains of chicken and duck were also present in small numbers. A tibiotarsus and a femur were identified

as plover (*Pluvialis* spp.).

A similar range of species and skeletal elements (isolated teeth, metapodials and phalanges) was noted from Contexts 14, 18 and 19 (plough soil deposits). This material is likely, therefore, to represent reworked material from earlier deposits.

Statement of potential

Further examination of the plant remains from Samples 16 and 17 (including processing additional material) may be useful to investigate the aquatic regime, especially the tidal nature of Hull, at the time. Processing much larger subsamples (10 to >20 kg) of sediment from Samples 9, 16 and 17 might yield interpretable assemblages of invertebrate remains but, in view of the more definitive evidence from the plant remains, this is unlikely to allow much further environmental reconstruction except, possibly, for Sample 9.

The hand-collected mollusc assemblage is of no interpretative value other than to indicate the probable exploitation of shellfish as food.

Although the small size of the excavated bone assemblage precludes any further detailed recording and interpretation, it is clear that most of the material is fairly well preserved, and from deposits which appear to fit within a well defined chronological framework. Consequently, it is probable that further excavation would recover a larger collection of tightly dated and well preserved material.

Large well recovered assemblages associated with monastic orders are rare from England. Although numerous excavations in monastic/religious estates have been undertaken (for example Mount Grace Priory, Whitby Abbey, Norton Priory), little bioarchaeological work has been published. In contrast, systematic sampling and sieving (in conjunction with evidence from copious documentary sources) at the Enne Abbey site in Belgium is providing important insights

into economic activities, living conditions and environment. In view of the historical importance of these monastic orders, specifically with regard to the large scale and diverse economic and trading activities with which they were involved, it is surprising how little bioarchaeological evidence regarding them exists.

The systematic recovery of large bioarchaeological assemblages from Kingswood would, therefore, provide a unique opportunity to redress the balance and perhaps set a baseline for future work. Questions regarding the nature of the occupation and economic activities undertaken in this part of the estate could be addressed. The suggestion that the large and obviously important building, uncovered during the evaluation exercise, may have been a guest house could be tested by consideration of the socio-economic information provided by analysis of species diversity and skeletal element distribution at the site.

As yet only two fish bones have been identified from the site (both were from large marine fish, one being a large gadid). This is not surprising given the small scale and limited extent of excavation. The recovery of marine fish from the site (albeit in very small quantities) nonetheless attests to links with the important east coast fisheries. Should further excavation take place, the well documented presence of fish ponds in this area may also be reflected in the remains of freshwater fish which could be recovered from more extensive midden deposits. The existence of detailed documentary evidence will provide an additional source of important information with which the bioarchaeological data can be compared.

Recommendations

It is strongly recommended that further excavation be undertaken, in advance of redevelopment, in order that an important regional and possibly nationally significant vertebrate assemblage be recovered.

Retention and disposal

All of the material should be retained for the moment.

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. Hand-collected vertebrate remains from Kingswood, Hull: Phase 2 and 3.

Taxon		Total no. of fragments	No. measurable	No. of mandibles	No. of isolated teeth
<i>Lepus</i> sp.	hare	2	-	-	-
Canid	dog/fox	1	-	-	-
<i>Canis</i> f. domestic	dog	5	-	-	-
<i>Felis</i> f. domestic	cat	1	-	-	-
<i>Equus</i> f. domestic	horse	13	-	-	-
<i>Sus</i> f. domestic	pig	18	1	-	3
<i>Bos</i> f. domestic	cattle	89	11	1	6
Caprovid	sheep/goat	72	4	5	16
<i>Anas</i> sp.	duck	1	-	-	-
<i>Gallus</i> f. domestic	chicken	2	1	-	-
<i>Pluvialis</i> spp.	plover	2	2	-	-
Gadidae		1	-	-	-
<i>Sub-total</i>		<i>207</i>	<i>19</i>	<i>6</i>	<i>25</i>
Indeterminate bird		1	-	-	-
Indeterminate fish		1	-	-	-
Unidentified		572	-	-	-
<i>Sub-total</i>		<i>574</i>	<i>-</i>	<i>-</i>	<i>-</i>
Total		781	19	6	25

Appendix

The following samples were described but no further investigations were carried out.

Context 21 [secondary fill of ditch]
Sample 12

Just moist mid grey-brown, crumbly, stiff and somewhat indurated (working plastic), slightly stony clay. Very small stones were common in the sample and brick/tile, cinder/burnt organic material and charcoal were recorded as present.

Context 31 [fill of recut of ditch]
Sample 13

Dry, brittle to crumbly (working sticky and plastic when wet), mid grey-brown clay. Localised areas were noted with darker and lighter mottling. Medium-sized stones (20-60mm), traces of brick/tile and small mammal bone were present in the sample. Has the appearance of plough soil.

Context 32 [Primary fill of boundary ditch]
Sample 14

Just moist, indurated to crumbly (working sticky and plastic when wet), mid grey-brown clay, with mid grey-orangish brown mottling (to 1mm).

Context 34 [Secondary fill of ditch]
Sample 4

Just moist, mid-dark grey-brown with orange-brown mottling, crumbly (working sticky and plastic when wet), clay. Very small (2-6mm) and small (6-20mm) stones, and charcoal were present in the sample. Modern roots were also noted.

Context 50 [Fill of possible beam slot]
Sample 2

Just moist, mid grey-brown, indurated to brittle (working sticky and plastic when wet), clay. Traces of brick/tile, cinder/burnt organic material and fragments of marine molluscs were present in the sample. Modern rootlets were common.

Context 51 [Fill of large medieval drainage/boundary ditch]
Sample 6

Just moist, light to mid grey-brown, with an orange cast and orange streaking, indurated (working crumbly to plastic and sticky when wet), clay. Modern rootlets were noted in the sample.

Context 56 [Fill of shallow ditch]
Sample 10

Moist, mid to dark blue-grey, with red-brown mottling (1mm-scale), stiff and indurated (working plastic and sticky when wet), clay. Modern rootlets were noted in the sample.

Context 64 [Fill of medieval boundary ditch]
Sample 7

Moist, mid greyish brown, indurated to crumbly (plastic and sticky when wet), clay. Modern rootlets were noted in the sample.

Context 64 [Fill of medieval boundary ditch]
Sample 11

Similar to Sample 7, but more brown in colour.

Context 67 [Primary fill of ditch]
Sample 5

Moist, light to dark grey to grey-brown, crumbly (working plastic), slightly clay silt. Small (6-20mm) stones and coal were recorded as present in the sample. Modern rootlets were also noted.