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**Evaluation of biological remains from excavations at Magistrates' Court,
Beverley, East Yorkshire (site code: BMC2000)**

by

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Summary

Eight sediment samples from deposits revealed by excavations at Magistrates' Court, Beverley, East Yorkshire, were submitted for an evaluation of their bioarchaeological potential. Some were found to have moderate concentrations of generally well preserved plant and sometimes also invertebrate macrofossils which would offer an opportunity to make interpretatively useful comments about the nature and formation of the deposits concerned and contribute towards an understanding of environment and human activity in this area of Beverley in the early medieval period.

KEYWORDS: MAGISTRATES' COURT; BEVERLEY; EAST YORKSHIRE; EVALUATION; PRE-12TH CENTURY TO EARLY 13TH CENTURY; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; VERTEBRATE REMAINS; ?TEXTILE WORKING

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Introduction

An archaeological evaluation excavation was carried out by Humber Field Archaeology at Magistrates' Court, Beverley, East Yorkshire.

Eight sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), were recovered from the deposits. Preliminary investigations suggested a date range for the deposits from pre-12th century to early 13th century.

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

Methods

The sediment samples were all inspected in the laboratory and their lithologies were recorded using a standard *pro forma*. Five of the samples were selected for investigation, following the procedures of Kenward *et al.* (1980; 1986), for recovery of plant and invertebrate macrofossils. The flots and residues were examined for plant remains. The flots were also examined for invertebrate remains, and the residues were examined for other biological and artefactual remains.

Preservational condition of the invertebrate remains was recorded using the scheme of Kenward and Large (1998). In summary, preservation is recorded as chemical erosion (E) and fragmentation (F), in each case on a scale from 0.5 (superb) to 5.5 (extremely decayed or fragmented).

Table 1 shows a list of the submitted samples and notes on their treatment.

Results

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

Context 1005 [Ash sealing a mill stone re-used as a hearth. Phase 3c: early 13th century]
Sample 2 (Description only)

Moist, light reddish brown to mid to dark grey-brown, crumbly, ?ash or burnt soil. Modern moss and privet were noted as contaminants.

No further investigation of this sample was undertaken.

Context 1037 [Loose black ash on floor 1081. Phase 3c: early 13th century]
Sample 1/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, mid to dark grey (locally black), crumbly (working more or less plastic), clay silt with stones (20 to 60 mm), ?burnt soil, patches of charcoal and modern moss.

This subsample yielded a moderate-sized to large residue of about 400 cm³ of sand and gravel (to 25 mm) with traces of bone, brick/tile, ?daub and ?iron corrosion material. There was a washover of about 100 cm³, which contained a rather large proportion of brittle charred saw-sedge (*Cladium mariscus* (L.) Pohl) leaf fragments, perhaps forming the bulk of the <2 mm fraction; there were also some fragments of the flower stem of *Cladium*, though no fruits of this plant. The only other identifiable plant remains were a single sedge (*Carex*) nutlet. The very small flot contained more charred *Cladium* leaf fragments. There were a very few snails (all unidentified fragments), but there were no insect remains.

The seven fragments of bone (weighing 0.3 g) recovered from this sample included four fish vertebrae identified as the remains of herring (*Clupea harengus* L.) and ?gadid.

There seems little doubt that this deposit formed through the burning of saw-sedge and wood, perhaps

through the destruction of a roof (though the deliberate use of such material for fuel cannot be ruled out).

Context 1053 [A 25 cm layer of silt at the interface of dumps 1058 and 1071. Phase 3a: late 12th century] Sample 4 (Description only)

Moist, varicoloured (light to mid brown to dark grey-brown to dark grey), crumbly and brittle (working more or less plastic and sticky), slightly sandy silty clay (to clay silt). Stones (2 to 20 mm, mostly chalk) were present in the sample.

No further investigation of this sample was undertaken.

Context 1057 [Ground raising dump of clay and sandy gravel. Phase 3b: later 12th century] Sample 3 (Description only)

Moist, mid to dark grey-brown (locally somewhat darker or light reddish-brown), crumbly (working slightly plastic), sandy clay silt with some gingery patches of ?decayed organic material. Stones (2 to 60 mm, including flint), fleck of ?mortar, and charcoal were present in the sample.

No further investigation of this sample was undertaken.

Context 1063 [Top fill of pit 1073. Phase 3b: later 12th century] Sample 5/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, very dark brown, crumbly (to somewhat layered), very humic, slightly sandy silt with patches of light reddish grey-brown ?ash and coarse herbaceous detritus.

The large residue of about 500 cm³ was about half by volume sand and gravel (to 50 mm), bone (to 110 mm, including fish to 30 mm), the rest consisting of rather granular organic debris. The latter proved to be mainly charcoal (to 15 mm) and charred herbaceous material (including *Cladium* leaf and grass/cereal stem fragments), with moderate amounts of very humified peat (to 10 mm) and a little very decayed wood (to 20 mm). There were also a few (mostly) rather poorly preserved charred cereal grains, including oats (*Avena*), barley (*Hordeum*) and bread/club wheat (*Triticum 'aestivo-compactum'*), the last of these being confirmed by the presence of several rachis (ear stalk) fragments identifiable as those of hexaploid free-threshing wheat. The other

plants likely to have been useful in this assemblage were dyer's greenweed, *Genista tinctoria* L., of which a few small uncharred stem fragments were noted, and pea, *Pisum sativum* L., of which a single small charred seed was found. Otherwise, there was a very low concentration of identifiable uncharred plant remains, mainly taxa likely to have grown as weeds or in wetland habitats (some perhaps arriving in the peat, for example), especially toad rush, *Juncus bufonius* L. The small flot added a few more specimens of the same taxa.

Invertebrates preserved by anoxic waterlogging were present in small numbers in the flot. They were not in very good condition (E 3.0-4.0, mode 3.5 weak; F 3.0-4.5, mode 3.5, weak, following Kenward and Large 1998). The insects offered indications of artificial habitats, but, other than a single sheep ked, *Melophagus ovinus* (Linnaeus) puparium, perhaps from wool cleaning, were not characteristic of any particular materials.

The small assemblage of bone recovered from this sample amounted to 58 fragments (15.7g). Most of the material was small (<20 mm) and unidentified, and although the bones were rather fragile, they were generally well preserved. Fish remains formed over half of the assemblage, but only a single herring (*Clupea harengus* L.) vertebra could be identified.

Overall, the pit fill gave limited evidence for human activities, perhaps at some distance, including wool cleaning and dyeing, and for the presence of material which may have originated in thatch.

Context 1066 [A 20 cm layer across the natural gravel. Phase 1: pre-12th century] Sample 7/T (2.45 kg sieved to 300 microns with paraffin flotation)

Moist, mid grey-brown (locally lighter and darker), brittle and crumbly (working friable), ?humic, silty sand.

During disaggregation it was observed that this deposit consisted of lumps of sandy silty amorphous organic sediment (up to about 40 mm) within an easily-dispersed sandy silty matrix. There was initially a very large residue of about 1000 cm³ of sediment which was made rather smaller after an initial check using more vigorous rubbing of the clasts to disaggregate them. It is likely that very little material larger than 1 mm would have been left had the sediment been rubbed very vigorously. There was, however, with the clean quartz sand and undisaggregated sediment, some flint gravel to 30 mm), and some well preserved insects and seeds. The latter included moderate numbers of spike-rush

(*Eleocharis palustris* (L.) Roemer & Schultes) nutlets and sweet-grass (*Glyceria*) fruits, with rush (probably mostly *Juncus acutiflorus* Ehrh. ex Hoffm./*J. articulatus* L.) and water-crowfoot (*Ranunculus* Subgenus *Batrachium*) achenes, and traces of the moss *Cratoneuron filicinum* (Hedw.) Spruce, these all indicative of a natural deposit forming in a marsh or spring-fed mire. There may well have been some inwash of soil, however, as evidenced by the few remains of terrestrial plants and also by the earthworm egg capsules. Further analysis might elucidate how much of this kind of material came from occupation areas.

The evidence from the invertebrate remains accorded with that from plants. There were moderate numbers of remains, whose preservational condition varied from average to poor (E 3.0-5.0, mode 3.5, distinct; F 2.0-4.0, mode 3.0, weak). Water beetles (in the broad sense) were well represented, by *Ochthebius* sp., three *Helophorus* spp, a hydrophiline, *Plateumaris ?affinis* (Kunze), *Chaetarthria seminulum* (Herbst), *Coelostoma orbiculare* (Fabricius), and a haliplid. All could have lived in marsh rather than open water, and several are characteristic of such situations. Other species found in swamps and water margins included *Elaphrus cupreus* Duftschmid, *Dryops* sp., a saldid bug, *Kateretes* sp., the froghopper *Conomelus anceps* (Germar), and *Notaris acridulus* (Linnaeus). All of the remaining taxa may have exploited similar habitats, though an *Aphodius* dung beetle may have come from further afield. The only hint of human influence came from a single individual of *Lathridius minutus* group, very typical of artificial accumulations of litter but also known in natural habitats. These insects would reward further study of a larger subsample by providing a more detailed picture of local environment, though identification would in some cases be limited by preservational condition.

Clearly this deposit formed under essentially natural conditions (there was not even any evidence for grazing nearby), in a closely-vegetated swamp with a few pools and more open places.

Context 1068 [Fill of well 1067 – infill by erosion rather than as a deliberate act. Phase 3b: later 12th century]
Sample 8/T (2 kg sieved to 300 microns with paraffin flotation)

Moist to wet, light to mid greyish brown, soft and crumbly (working plastic and sticky), slightly sandy silty clay. Stones (2 to 20 mm), a trace of charcoal and modern contaminant moss and algae were present in the sample.

There was a moderate-sized residue of about 150 cm³ of sand and gravel (to 25 mm), with a small washover of a few cm³ of charcoal (to 10 mm); in both fractions were some charred and uncharred seeds of dyer's rocket or weld (*Reseda luteola* L.), a species likely to have grown in the area as a weed, though also known as a former dyeplant (and sometimes abundant in medieval deposits from Beverley). There was also a single charred *Cladium* fruit, one charred cereal grain, and traces of uncharred hemlock (*Conium maculatum* L.) fruits. There were only traces of highly decayed invertebrate cuticle in the flot.

The remains offer little evidence for the nature of the pit fill.

Context 1072 [Fill of steep sided pit 1073. Phase 3b: later 12th century]
Sample 6/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, varicoloured (mid greyish-brown, locally somewhat reddish, to light grey-brown to mid to dark grey-brown), brittle and crumbly (working slightly plastic and somewhat thixotropic), silty clay sand. Stones (2 to 6 mm, mostly flint) and a trace of ?very rotted organic material were present in the sample.

This subsample yielded a large residue of about 400 cm³, of which about 50 cm³ was a washover of organic debris, the rest clean quartz sand and some gravel (to 40 mm, including chalk and flint). The organic material consisted mainly of very decayed wood fragments, with rather large numbers of seeds, some invertebrates, and a little charcoal. Most of the plant taxa indicated aquatic deposition, the more abundant being fool's watercress (*Apium nodiflorum* (L.) Lag.), *Glyceria*, toad rush, water-cress (*Nasturtium officinale* R. Br. in Aiton), and water-crowfoot. There were a few terrestrial taxa, some woody (hazelnut, *Corylus avellana* L. and a sloe/hawthorn, *Prunus spinosa* L./*Crataegus* sp., thorn), others probably weeds; there was also a single teasel (*Dipsacus sativus* (L.) Honckeny/D. *fullonum* L.) fruit.

The flot yielded small numbers of invertebrate remains, whose condition was rather poor (E 3.0-4.5, mode 3.5, weak; F 2.0-4.0, mode 3.5, weak). Most were associated with aquatic or waterside habitats, for example a caddis case, *Agabus bipustulatus* (Linnaeus), *Colymbetes fuscus* (Linnaeus), *Coelostoma orbiculare*, *Helophorus* sp., *Hydrobius fuscipes* (Linnaeus), *Ochthebius* sp., *Limnebius* sp., *Dryops* sp., a donaciine, *Notaris acridulus*, and a bagoine weevil. Some of these species suggest open water rather than swamp. Species strongly associated with human occupation were lacking; although there

was a single woodworm, *Anobium punctatum* (Degeer), this may have originated from far away or more locally in natural dead wood or fencing. A substantially larger subsample would provide amplification of the environmental interpretation, albeit somewhat limited by the poor condition of many fossils.

On the basis of the plant and invertebrate remains, it appears more likely that the cut this deposit filled was a stream or ditch than in a pit, unless sediment had been reworked wholesale from an stream bed elsewhere as backfill for a pit.

Discussion and statement of potential

Some of the samples gave biological remains with considerable potential for reconstructing local environmental conditions, and in the case of Context 1072 the nature of Cut 1073 is called into question.

Archaeobotanically, there was some interesting material here, adding to records from medieval Beverley for dyeplants—especially at Eastgate (McKenna 1992) and Dyer Lane (A. R. Hall, unpublished)—and for charred vegetative remains of saw-sedge—at sites in Lord Robert's Road and Well Lane (Carrott *et al.* 1999a, b), both very close to the present site.

Little is known about areas of Beverley before occupation spread across them. The evidence from this investigation adds to the impression that the town's nucleus was surrounded by extensive swamps and in places open water.

Recommendations

It would be appropriate to make a proper record of the plant and insect remains from at least three of these samples (Samples 5, 6 and 7) and perhaps to examine material not

included in this assessment. For the insect remains additional material should be processed (subsamples of, say, 5 kg) to provide larger assemblages of remains for study.

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 at Magistrates' Court, Beverley, with notes on their treatment.

Context	Sample	Notes
1005	2	Description only
1037	1	2 kg sieved to 300 microns with paraffin flotation
1053	4	Description only
1057	3	Description only
1063	5	2 kg sieved to 300 microns with paraffin flotation
1066	7	All (2.45 kg) of sample sieved to 300 microns with paraffin flotation
1068	8	2 kg sieved to 300 microns with paraffin flotation
1072	6	2 kg sieved to 300 microns with paraffin flotation