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**Evaluation of biological remains from
samples recovered during further
excavations at 69-73 Morton Lane,
Beverley, East Riding of Yorkshire (site
code: MLB03)**

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Evaluation of biological remains from samples recovered during further excavations at 69-73 Morton Lane, Beverley, East Riding of Yorkshire (site code: MLB03)

by

Allan Hall, Deborah Jaques, Harry Kenward, John Carrott and Kathryn Johnson

Summary

Five sediment samples recovered from further excavations at 69-73 Morton Lane, Beverley, East Riding of Yorkshire, were submitted for an evaluation of their bioarchaeological potential. Provisional dating of the encountered deposits was as medieval to modern.

*Two of the samples (from fills of Pit 91) yielded quite large quantities of waterlogged wood fragments, including wood chips, and some unburnt peat. Some of the fruits and seeds—which were generally well preserved—seem likely to have arrived in the peat, whilst others represented weeds growing in the vicinity, or arrived with hay and straw. The remains of weld and fuller's teasel are consistent with evidence for textile-working in this and many other parts of the town at this period. The insect assemblages had no special character beyond containing ecologically mixed faunas, with too low a concentration of remains to be of any great interpretative value. The small number of quite well preserved *Trichuris* eggs seen in Context 117 indicated that this pit fill contained some, but was not primarily of, faecal material. Small quantities of bone were recovered from three of the samples. The identifiable remains were mostly those of fish, with mammal bones largely restricted to small (unidentified) fragments. Overall, the suite of biological remains was not unusual for medieval deposits in Beverley.*

No further work on the biological remains recovered is recommended unless there is a strong argument on the basis of particular archaeological problems to be solved. Both this and the previous evaluations at this site have shown that the deposits clearly do have potential for the preservation of organic remains. There may be more significant material in the vicinity and any development should not allow its destruction without sampling and assessment.

KEYWORDS: 69-73 MORTON LANE; BEVERLEY; EAST RIDING OF YORKSHIRE; EVALUATION; MEDIEVAL; PLANT REMAINS; CHARRED PLANT REMAINS; CHARRED GRAIN; PEAT; INVERTEBRATE REMAINS; *TRICHURIS*; VERTEBRATE REMAINS

Contact address for authors:

Prepared for:

Palaeoecology Research Services
Unit 8
Dabble Duck Industrial Estate
Shildon
County Durham DL4 2RA

Pre-Construct Archaeology Ltd
(Northern Office)
Suite 4, Unit N19a
Tursdale Business Park
Tursdale
County Durham DH6 5PG

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Evaluation of biological remains from samples recovered during further excavations at 69-73 Morton Lane, Beverley, East Riding of Yorkshire (site code: MLB03)

Introduction

Further archaeological excavation was carried out by Pre-Construct Archaeology Ltd (Northern Office) at 69-73 Morton Lane, Beverley, East Riding of Yorkshire (NGR TA 034 397), between the 24th and the 28th of November 2003.

The current material is from Phase 3 of the evaluation. A single trench was investigated sited in the footprint of 71 Morton Lane. Evidence of medieval and post-medieval activity was revealed, represented by an average of one metre of stratified archaeological deposits.

The medieval remains represented activity at the site from the late 12th to the early 14th century. A variety of feature types were recorded, including a substantial ditch that produced pottery of mid 12th to mid 13th century date, a build-up of occupation deposits (one of which produced pottery of 13th to early 14th century date), and a substantial developed soil seen throughout the trench which may represent a hiatus of activity during the 14th century. Later post-medieval and modern garden soils comprised the uppermost part of the stratigraphic sequence in the trench.

Five bulk sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), from medieval layers and pit fills, were submitted to PRS for an evaluation of their bioarchaeological potential.

Methods

The sediment samples were inspected and their lithologies were recorded, using a standard *pro forma*, prior to processing. In

each case, a subsample was disaggregated in water and sieved to 300 microns then subjected to paraffin flotation broadly using the techniques of Kenward *et al.* (1980; 1986). Flots were stored in alcohol.

Plant remains (and the general nature of the residues, flots and washovers) were recorded briefly by 'scanning', identifiable plant taxa and other components being listed directly to a PC using *Paradox* software. Notes on the quantity and quality of preservation were made for each fraction.

Insects in the flots were recorded using 'assessment recording' *sensu* Kenward (1992), creating a list of the taxa observed during rapid inspection of the flot, with a semi-quantitative estimate of abundance, and a subjective record of the main ecological groups. A record of the preservational condition of the remains was made using scales given by Kenward and Large (1998). This scheme provides scales for chemical erosion and fragmentation (0.5-5.5, the higher figure representing the greatest degree of damage), and colour change (0-4), in each case giving a range and a value for the position and strength of the mode (Kenward and Large 1998, tables 2, 3 and 5-7).

Where possible, bone fragments in the residues were identified to species or species group, using the reference collection at Palaeoecology Research Services Limited, County Durham. Fragments not identifiable to species were described as the 'unidentified' fraction. Within this fraction fragments were grouped into a number of categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid), unidentified fish, and totally unidentifiable.

Two samples were examined for the eggs of intestinal parasitic nematodes using the 'squash' technique of Dainton (1992). Assessment slides were scanned at 150x magnification with 600x used where necessary. Although primarily for the detection of parasite eggs, the 'squash' technique routinely reveals other microfossil remains, and, where present, these have been noted.

Results

The results are presented in context number order. Archaeological information, provided by the excavator, is given in square brackets. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample number.

Context 92 [medieval (late 12th century) – fill in very large ?pit 91]

Sample 6/T (3 kg sieved to 300 microns with paraffin flotation; approximately 15 litres of unprocessed sediment remain)

Moist, light to mid grey-brown (mottled lighter and darker on a mm-scale), brittle to crumbly (working soft), slightly sandy clay silt, with some patches of reddish-brown clay (to 15 mm) and some black (internally orange/reddish-brown) organic lumps (perhaps faecal). Small stones (2 to 6 mm) were common and pieces of wood were present in the sample.

This subsample yielded a large residue of about 1000 cm³ of woody debris, sand, gravel (including flint and chalk) and concreted material which may have formed from the presence of lime or mortar. Wood fragments (which were up to 50 mm in maximum dimension) made up all but about 375 cm³ of the volume; the wood included worked chips (to 30 mm) and a little bark and they were mostly well preserved. Some charcoal fragments (to 15 mm) had iron oxide encrustation. There were also modest amounts of fragments of charred and uncharred peat (both to 10 mm). A modest-sized range of fruits and seeds was noted, most of them either likely to have arrived in the peat (e.g. sedges, *Carex* spp.; marsh pennywort, *Hydrocotyle vulgaris* L.; and bog-bean, *Menyanthes trifoliata* L.) or to have been weeds growing in the vicinity of the site. The only remains present in more than trace amounts (dilution by the mineral and coarser woody detritus is very likely)

were sedge nutlets, hazel (*Corylus avellana* L.) nutshell and weld/dyer's rocket (*Reseda luteola* L.) seeds. The last has been recorded in this area of Beverley in very high concentrations which indicate its use as a dyeplant, but it is rather more likely here simply to be growing as a weed (it is favoured by the base-rich substrates indicated by the presence of chalk gravel).

Further weld seeds were noted in the flot, which was of moderate size, and also contained fairly small numbers of insect remains and very few other invertebrates. Preservation was about average, though some of the recorded taxa were present only as small fragments of sclerites (E 2.0-3.0, mode 2.0 weak; F 2.5-4.5, mode 3.0 weak). Although many of the species present were typical of occupation sites (including a human flea, *Pulex irritans* Linnaeus), the overall character of this small group was unclear. Habitats represented ranged from dryish litter to foul matter, with an appreciable component from living plants. However, bearing in mind the quite large subsample processed, it seems unlikely that much useful information could be obtained by further work on this material, the concentration of remains being too low.

Given the results of the investigations of the plant macrofossil remains, it seemed most likely that the organic lumps noted prior to processing were of decayed peat rather than faecal material. However, a microfossil 'squash' was examined to check for the presence of intestinal parasitic nematode eggs. The 'squash' was mostly of organic detritus, with a little inorganic material. Amongst the many fragments of plant tissue there were also a few fungal spores, fragments of ?phytolith and very poorly preserved diatoms. No parasite eggs were seen.

Context 103 [medieval (late 12th-early 13th century – occupation layer associated with walls 102)]

Sample 5/T (3 kg sieved to 300 microns with washover; approximately 14 litres of unprocessed sediment remain)

Moist, mid grey-brown, crumbly to unconsolidated (working plastic), slightly silty clay. Stones (2 to 20 mm), charcoal and fragments of animal bone were present.

There was a very small washover of about 20 cm³ mainly charcoal (to 10 mm) with a little cinder, coal, charred peat (to 5 mm). A few very poorly preserved charred cereal grains, amongst which oats (*Avena*), barley (*Hordeum*), rye (*Secale cereale* L.) and bread/club wheat (*Triticum 'aestivo-compactum'*) were all identified, were present. There was also at least one fragment of charred rachis (ear-stalk) tentatively attributed to rye. A few fragments of unburnt unidentified fish bone and scale and some snails were

also noted. The latter were also largely unidentified but including the burrowing species *Cecilioides acicula* (Müller), probably intrusive and of recent origin.

There was a moderate-sized residue (dry weight 0.75 kg) mostly of sand and stones (to 70 mm). Also noted were two fragments of pot (~1 g, to 20 mm), some burnt clay/daub (9 g, to 35 mm), charcoal (~1 g, to 15 mm), two land snails (one being *Trichia hispida* (L.)), and a little animal bone. The latter totalled approximately 87 fragments (18 g) of moderately well preserved bone. Of these, 36 were fish bone (1 g). The majority of the fish remains were rib, spine and finray fragments, which could not be identified; however, fourteen fragments (mainly vertebrae) were identified as herring (*Clupea harengus* L.). An additional larger vertebra fragment had been chopped and is likely to represent a member of the cod family (Gadidae). The mammal bone was of poorer preservation than the fish and some fragments were rather battered in appearance. Several of the fragments also showed damage to the surface of the bone possibly indicative of acid etching. These fragments may have derived from faecal material (dog or human). Most of the mammal fragments represented medium-sized mammals, with a single phalanx identified as cat.

Context 104 [medieval – ?hearth]

Sample 8/T (3.5 kg sieved to 300 microns with washover; no unprocessed sediment remains)

Moist, mid grey-brown, crumbly to unconsolidated (working soft), clay silt. Stones (2 to 20 mm), fragments of brick/tile and mammal bone were present, and charcoal was common.

The rather large washover of about 200 cm³ comprised angular charcoal to 20 mm, all of the fragments apparently being oak (*Quercus*). There were traces of charred barley grains and a single bread/club wheat grain. Some charred peat fragments (to 5 mm) indicated a further kind of burnt material and fragments identified as undispersed ash (to 2 mm) made up a moderate proportion of the washover. There were also traces of fish scale and snails (the latter again including *Cecilioides acicula*). The material is entirely consistent with an accumulation of ash and incompletely burnt charcoal originating in a hearth.

The moderate-sized residue (dry weight 0.90 kg) was mostly stones (to 40 mm) and sand, with some charcoal (10g, to 20 mm) and a little brick/tile (71 g, to 80 mm), pot (2 fragments, ~1 g, to 15 mm) and metal (3 iron nails, 20 g and 1 piece of ?lead, 12 g). This sample also gave 25 fragments of bone, most of which (16) were fish. Several of these were herring vertebrae, with a few unidentified fragments representing larger fish.

Mammal remains included a large mammal humerus fragment.

Context 111 [medieval – uppermost fill of substantial pit 113]

Sample 4/T (3 kg sieved to 300 microns with washover; approximately 15 litres of unprocessed sediment remain)

Moist, light to mid grey-brown, crumbly to slightly sticky (working plastic), slightly silty clay. Small stones (2 to 6 mm), flecks of ?charcoal, fragments of rotted ?mortar and modern rootlets were present.

The very small washover of a few cm³ of charcoal (to 10 mm), with a trace coal, also contained some very decayed woody roots (perhaps of recent) and some small fragments (to 5 mm) which may have been very decayed peat. There were a few charred and uncharred remains of little interpretative value, the former including barley and bread/club wheat grains, the latter wild seeds and a single fruit of celery (*Apium graveolens* L.). Other material from domestic occupation included a little unidentified fish bone and scale, and bird eggshell.

The moderate-sized residue (dry weight 0.65 kg) was of sand and stones (to 70 mm), with a little charcoal (<1 g, to 14 mm) and fourteen very small (all <15 mm in maximum dimension) fragments of bone (1 g). Most of the latter were unidentifiable, but two fish bones were identified as eel (*Anguilla anguilla* (L.)) and flatfish (Pleuronectidae).

Context 117 [medieval – ?primary fill in very large ?pit 91]

Sample 7/T (3 kg sieved to 300 microns with paraffin flotation and washover; approximately 15 litres of unprocessed sediment remain)

Moist, light yellow-brown to mid grey-brown (with organic-rich patches of dark grey-brown and black), brittle to crumbly (working soft and sticky), very humic, slightly sandy clay silt (locally more clay in the lighter coloured areas). Stones (2 to 20 mm) and wood/twigs were present.

There was a rather large residue of about 680 cm³ of organic detritus and mineral material, producing a washover of about 400 cm³ of woody debris—wood (to 25, including chips to 10 mm), bark, hazel nutshell, and twigs, as well as some unburnt peat and charcoal (to 10 mm). Preservation was generally good, the wood firm and usually pale in colour. There was also some herbaceous detritus, with quite a large assemblage of fruits and seeds likely to have arrived with both straw and with hay—perhaps this was material originating for

example in stable manure. The only remains present in more than trace amounts (as for the sample from Context 92 there was probably dilution) were corncockle (*Agrostemma githago* L.) seed fragments, sedge nutlets (perhaps from the peat), buttercup (*Ranunculus* Section *Ranunculus*) achenes and, again, weld seeds. A single fruit of fuller's teasel, *Dipsacus sativus* (L.) Honckeney is perhaps a pointer to textile-working in the vicinity, though like weld, this plant might also be part of the weed flora even if originally introduced for a specific purpose. Another similarity to the sample from Context 92 is that some of the remains are likely to have arrived with the peat: the sedge nutlets and bog-bean seeds, but also leaf fragments and fruits of bog myrtle/sweet gale (*Myrica gale* L.) and saw-sedge (*Cladium mariscus* (L.) Pohl).

The flot was fairly small, with modest numbers of insect remains whose chemical preservation was often rather good, though frequently represented as small fragments (E 1.5-2.5, mode 2.0 weak; F 1.5-4.0, mode 2.5 weak). It appeared possible that some of the fragmentation had occurred recently, perhaps during excavation or processing. The recovered insect assemblage was broadly one of occupation deposits, though of mixed ecological character. 'Outdoor' forms were rather abundant (ground beetles, plant-feeders and dung beetles). As this was a subsample of 3 kg, it would require a further 5 kg subsample in order to recover a clearly interpretable assemblage, and analysis of this might only show the fauna to be of many origins.

The microfossil 'squash' was approximately equal parts organic detritus and inorganic material, with some pollen grains/spores and plant 'hairs' present. Four quite well preserved *Trichuris* eggs were seen, indicating a faecal component to the deposit.

Discussion and statement of potential

Two of the samples (from fills, Contexts 92 and 117, of the same feature, Pit 91) yielded quite large quantities of waterlogged wood fragments, including wood chips, and some unburnt peat of the kind forming in fens (and probably, therefore, of local origin). Some of the fruits and seeds—which were generally well preserved—seem likely to have arrived in the peat, whilst others represented weeds growing in the vicinity, or arrived with hay and straw (especially in the sample from Context 117). None of the plant remains was unusual for a medieval deposit in Beverley, the remains of weld and fuller's teasel being

consistent with evidence for textile-working in this and many other parts of the town at this period (though capable of being interpreted here as no more than escapes from cultivation, given the low concentrations).

The insect assemblages had no special character beyond containing ecologically mixed faunas, with too low a concentration of remains to be of any great interpretative value.

Four quite well preserved *Trichuris* eggs were seen in the 'squash' subsample from Context 117 (Sample 7). These indicated that this pit fill contained some, but was not primarily of, faecal material. Comparison of these eggs (via a few spot measurements of the remains) with data for modern trichurids (Ash and Orihel 1984; Kassai 1998) indicated that they were probably of either *Trichuris trichiura* (Linnaeus) or *T. suis* (Schrank), the whipworms of humans and pigs respectively, or perhaps of both. When, as here, measurable trichurid eggs are present, a statistical approach to their identification, or the determination of the presence of more than one population, may be attempted, but this is beyond the constraints of an evaluation.

Small quantities of bone were recovered from three of the samples. The identifiable remains were mostly those of fish with mammal bones largely restricted to small (unidentified) fragments. The species representation was not unusual for medieval urban sites and, indeed, similar assemblages have been identified during the previous evaluation ((Jaques *et al.* 2003) and from other sites in Beverley (e.g. Scott 1991; 1992).

Recommendations

No further work on the biological remains recovered is recommended unless there is a strong argument on the basis of particular archaeological problems to be solved.

As noted in the previous evaluation report (Jaques *et al.* 2003), the deposits at this site

clearly do have potential for the preservation of organic remains. There may be more significant material in the vicinity and any development should not allow its destruction without sampling and assessment.

Retention and disposal

All of the remaining sediment, together with the remains extracted from the processed subsamples, should be retained for the present.

Archive

All material is currently stored by Palaeoecology Research Services (Unit 8, Dabble Duck Industrial Estate, Shildon, County Durham), along with paper and electronic records pertaining to the work described here.

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