

Reports from the Environmental Archaeology Unit, York 95/54, 9 pp.

**Evaluation of biological remains from excavations at 37 North Bar Within,
Beverley, Humberside (site code: NBW95)**

by

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Summary

Twenty-seven samples of sediment and two boxes of hand-collected bone of 'pre-12/13C' to '17C-modern' date from deposits excavated at 37 North Bar Within, Beverley, Humberside were submitted for an evaluation of their potential for bioarchaeological analysis.

Further examination of charcoal recovered from the deposits may yield a little additional information if there are relevant archaeological questions to be addressed. Other biological remains were very few in number and of no interpretative value.

The vertebrate assemblage is, as it stands, of little interpretative value, mainly because of its small size. However, most of the material showed good preservation and was from deposits that were tightly dated. On the basis of this evaluation it is highly likely that a moderately large, well preserved and well dated medieval and post-medieval assemblage would be recovered should further excavation be undertaken.

Keywords: 37 NORTH BAR WITHIN; BEVERLEY; HUMBERSIDE; BIOLOGICAL ANALYSES; CHARRED PLANT REMAINS; VERTEBRATE REMAINS; SHELLFISH; ARTEFACTS

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12 October 1995

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Introduction and methods

Sediment samples

Twenty-seven samples of sediment and two boxes of hand-collected bone (30 x 30 x 37 cm) from excavations by Humberside Archaeology Unit at 37 North Bar Within, Beverley, North Yorkshire, were submitted for an evaluation of their potential for bioarchaeological analysis. The material has been dated to six phases ranging from 'pre-12C/13C' to '17C-modern'.

The samples were inspected in the laboratory and a description of the lithologies of the twelve selected for processing was recorded using a standard *pro forma*. Subsamples of 1 kg were taken from seven of the samples ('general biological analysis' samples - GBAs *sensu* Dobney *et al.* 1992) for extraction of macrofossil remains following procedures of Kenward *et al.* (1980; 1986). Excess sediment from two of these seven, together with material from three other samples, was sieved to 500 µm primarily to recover small bones, shell and artefacts. The excess sediment from Sample 12 was combined with Samples 13 and 24 (from the same context, 288) and processed as a bulk sample (28 kg), again to recover bone, shell and artefacts.

Invertebrate remains were examined from the washovers and plant macrofossils from both the washovers and the residues resulting from processing.

The samples were not deemed suitable for examination for the eggs of parasitic nematodes.

Bone

The vertebrate remains from all 59 bone-bearing contexts were initially scanned. Of these, bones from twenty-six selected contexts (those containing ten or more fragments) were recorded in more detail, whilst brief notes were made on material from a further twenty-two.

Results

Sediment samples

The results of the examinations are presented in phase then context number order with archaeological information provided by the excavator in brackets.

Bone recovered from the sediment samples is discussed together with the hand-collected material.

Artefacts recovered from the sediment samples were removed to be returned to the excavator.

Phase 1 (Pre-12C/13C)

Inspection of the samples from this phase revealed them to be of negligible bioarchaeological potential.

Phase 2 (Late 12-13C)

Context 328 [Fill of pit 327]
Sample 15

Moist, mid brown, crumbly (working plastic), silty clay with very small to medium-sized stones (2 to 60 mm), charcoal, fragments of large mammal bone and modern rootlets present.

The moderately large washover was mostly charcoal (to 15 mm), some sand and rootlets, a little plant debris, many *Chara* sp. (stonewort) oogonia and a few bone fragments (including one fish vertebra).

The residue was mostly stones and sand with some brick/tile, pottery, charcoal, fragments of root, small mammal and fish bone and small fragments of shellfish.

The residue from sieving of excess material (8 kg) was mostly stones and charcoal with some brick/tile and small mammal and fish bones.

Context 352 [Fill of pit 351]
Sample 28

Just moist, mid to dark brown (with dark grey patches - charcoal staining), unconsolidated (working slightly plastic), slightly sandy clay silt with very small to medium-sized stones (2 to 60 mm, including some flint), charcoal, pale ash, large mammal bone and modern rootlets present.

The moderately large washover was mostly charcoal (to 10 mm) with some cinder and sand and a little plant detritus (including a *Sambucus nigra* L. (elder) seed and two other, charred, seeds) and a few fragments of fish bone.

The residue was mostly stones and sand with some small mammal and fish bone (some of each of which were burnt).

Phase 3 (13-14C)

Context 288 [Fill of pit 296]
Sample 12

Moist, mid brown (but darkened throughout by charcoal staining), soft (working slightly sticky),

slightly sandy clay silt. Medium-sized stones (20 to 60 mm, mostly rotted sandstone to 30 mm) were present, cinder, large and small mammal bone and marine mollusc fragments were common and charcoal was abundant in the sample.

The very large washover was mostly charcoal and cinder (both to 10 mm) with a single fragment of fly puparium and a few elder seeds (*S. nigra*).

The residue was mostly cinder, coal and sand with some stones, brick/tile, charred plant, small mammal bone (some burnt) and fish bone.

The residue from bulk sieving (of excess sediment from this sample, together with Samples 14 and 24) was mostly sand, brick/tile, slag, coal, cinder and large mammal bone with stones, charcoal, bird and fish bone, shellfish (small fragments of oyster, mussel and cockle shell), a dog coprolite and a few metal artefacts (including a small metal object and some corroded nails).

Phase 4 (14-15C)

Context 74 [Fill of rubbish pit 73]
Sample 4

Moist, mid to dark, grey-brown, crumbly to unconsolidated (working slightly sticky), silty sand/clay. Very small to medium-sized stones (2 to 60 mm), brick/tile and large and small mammal bone fragments were present and charcoal was common in the sample.

The large washover was mostly charcoal with some cinder and sand, a few fragments of elder seed (*S. nigra*) and a single fish vertebra.

The residue was mostly sand with stones, brick/tile, slag, coal, cinder, mortar/plaster and a few fish bones present in small amounts.

Context 122 [Levelling dump]
Sample 5

Moist, mid brown, crumbly/brittle (working plastic), silty clay. Fragments of mortar/plaster and charcoal were common and brick/tile was present in the sample.

The large washover was mostly charcoal (to 10

mm) with some cinder and sand, a few fragments of elder seed (*S. nigra*) and a single stinging nettle seed (*Urtica dioica* L.).

The residue was mostly sand and gravel with coal and cinder and a little slag, mortar/plaster, charcoal and fragments of large mammal bone (including one sheep/goat tooth).

Context 222 [Fill of post hole 220]
Sample 7

Moist, mid to dark brown, crumbly to soft (working soft and slightly sticky), slightly sandy clay silt. Very small to medium-sized stones (2 to 60 mm, mostly rotted sandstone and chalk), fragments of brick/tile and charcoal were present in the sample.

The large washover was mostly charcoal and cinder (both to 17 mm) with some sand, a few bone fragments and a single stinging nettle seed (*U. dioica*).

The residue was mostly sand with some stones, brick/tile, pottery, coal, cinder, mortar/plaster and small mammal bone present.

Phase 5 (16-17C)

Context 10 [Robber pit backfill. Pit 11]
Sample 6

Moist, dark brown to mid brown, crumbly, slightly clay sandy silt. Very small to medium-sized stones (2 to 60 mm), very rotted mortar/plaster and pieces of charcoal, brick/tile and small fragments of mammal bone were present in the sample. Very fine charcoal was abundant.

The residue (from 9.5 kg) was mostly stones, coal and cinder with some sand and smaller amounts of brick/tile, pottery, slag, mortar/plaster, metal, ?fabric, one fragment of charred ?hazelnut, large and small mammal bone fragments, fish bone and scale and a dog coprolite.

Context 12 [Fill of pit 13]
Sample 8

Moist, mid to dark grey-brown, crumbly to unconsolidated (working soft), slightly clay silt

with patches of mid brown clay. Very small and small stones (2 to 20 mm, mostly rotted chalk), slag, brick/tile, coal (to 20 mm), large mammal bone and modern rootlets were present and charcoal was common in the sample.

The large washover was mostly charcoal (to 10 mm) with some cinder, a little sand, a few elder seeds (*S. nigra*) and a few rootlets.

The residue was mostly cinder with stones, sand, brick/tile, coal, mortar/plaster, metal, small mammal and bird bone, shellfish (cockle) and ?egg shell present.

The residue from sieving of excess material was mostly cinder, stones and sand with coal, mortar/plaster, charcoal, very rotted shellfish (?oyster), mammal bone (some burnt), fish bone and modern rootlets.

Context 49 [Fill of pit 48]
Sample 1

Moist, mid to dark brown-grey with pale brown patches, crumbly (working sticky), slightly clay silt. Small and medium-sized stones (6 to 60 mm), mortar/plaster, brick/tile, cinder, large mammal bone and rotted oyster shell were present and charcoal was common in the sample.

The residue (from 8 kg) was mostly cinder with stones, coal, charcoal and small mammal bone (some burnt) and a little sand, brick/tile, glass, metal, fish and large mammal bone (fragments) and oyster shell.

Context 263 [Fill of robbing pit 31]
Sample 22

Moist, light brown to mid brown, crumbly (working soft), silty clay with very small and small stones (2 to 20 mm, mostly chalk) common, and brick/tile, coal, cinder, bird and fish bone and marine mollusc present.

The residue (from 11 kg) was mostly sand and stones with coal and cinder and a little mortar/plaster, brick/tile, pottery, metal, charcoal, oyster shell, large and small mammal bone and fish bone. The associated washover was mostly cinder with some charcoal.

Bone

Summary details of the hand-collected bone are given in Table 1. Bone recovered from sediment samples is detailed in Table 2.

On the whole, the vertebrate remains were reasonably well preserved, and mostly brown or fawn in colour. A few fragments (from Context 288 and 184) showed green staining obviously resulting from their proximity to bronze or copper objects, whilst several of the bones from three assemblages (Context 46, 51 and 260) had a 'greasy' appearance, suggesting that they might be intrusive. Few of the bones showed evidence of dog gnawing, suggesting that the material was not exposed on the surface for a prolonged period but rather was quickly incorporated into the deposits. A single goose carpometacarpus exhibited the characteristic damage caused by cat gnawing, whilst rodent gnawing was noted on a cattle phalanx (both fragments from Context 332).

A total of 307 identified and 530 unidentified fragments were recorded. Most of these remains were identified as caprine (sheep or goat), followed by horse, dog, cattle, cat and pig (Table 1). The numbers of fragments for horse, dog and cat are, perhaps, misleading as most of the fragments recorded for each of these species represent burials of partially articulated individuals (Table 1).

Several elements of an incomplete horse skeleton showed evidence of pathology consistent with an aged individual. These were mainly manifested as boney exostoses around the periphery of the proximal metatarsal articulation, on the occipital region of the cranium and on the dorsal surface of the atlas. In addition, joint surfaces of the proximal metatarsal and the adjoining tarsal bone showed discrete pitting consistent with the condition osteochondritis dessicans. Finally, a well-healed fracture was noted on two rib fragments. These conditions, in conjunction with the advanced toothwear pattern, suggest an aged animal possibly used for traction.

A single distal cattle metacarpal fragment, from the scanned material, exhibited splayed medial and lateral condyles.

A small amount of butchery was noted, including a sheep skull (from Context 288) which had been chopped longitudinally, possibly for brain removal. The blade of a sheep scapula appeared to have been punctured, possibly indicating the damage caused by suspending the shoulder joint from a butcher's hook. Similar perforations have previously been recorded on sheep scapulae from civil war deposits in the City of Lincoln (Dobney *et al.* in press). Chop marks were noted on one of the horse radii, but none of the cat or dog bones showed any signs of skinning or butchery.

A total of 69 measurable fragments were present in the recorded fraction, most of these being from the three partial skeletons. Seventeen mandibles with teeth were also recorded, most representing caprines.

The remains of birds were few but included domestic fowl, an unidentified wader and two duck bones, one fragment being tentatively identified as teal (cf. *Anas crecca* L.). The remains of geese were also present in very small numbers and appeared to be of a size equivalent to that of greylag. They may therefore represent either wild or domestic individuals.

In addition to those bird species recorded from the hand-collected assemblage, three passerine bones (an ulna and two carpometacarpus) were noted from the sieved residues (Sample 6, Context 10 and Sample 22, Context 263). The humerus of a medium-sized wader were recorded from Samples 12, 13 and 24 (Context 288). Three chicken skulls, two of which had been chopped at the back of the cranium, were also recovered.

Context 260, a pit fill, yielded four amphibian bones, identified as frog (*Rana temporaria* L.), whilst one fragment, again probably frog, was noted from the residue from Sample 22 (Context 263). A single small mammal pelvis and a hare (*Lepus* sp.) mandible fragment were recovered from the same sample.

The hand-collected fish assemblage was composed mainly of unidentified fragments, with the exception of a single gadid hyomandibular. The bulk-sieved samples produced five small assemblages, which included the remains of large and small Gadidae, flatfish (Pleuronectidae) eel (*Anguilla anguilla* (L.)) and ?clupeid vertebrae.

Discussion and statement of potential

The few ancient plant and insect remains present are of little, and no, interpretative value, respectively. Further examination of charcoal recovered from the deposits may yield a little additional information if there are relevant archaeological questions to be addressed.

The sediment samples from these deposits thus offer no potential for further bioarchaeological analysis other than through examination of the charcoal.

The vertebrate assemblage is, as it stands, of little interpretative value, mainly because of its small size. However, most of the material showed good preservation and was from deposits that were tightly dated. On the basis of this evaluation it is highly likely that a moderately large, well preserved and well dated medieval and post-medieval assemblage would be recovered should further excavation be undertaken. From the limited number of small BS samples, it is clear that moderately high concentrations of fish bones are present. The implementation of a systematic recovery programme would ensure that a potentially important fish assemblage would be recovered.

Additional material from this site would provide important comparanda with other assemblages from Beverley, including Lurk Lane (Scott, 1991) and Eastgate (Scott, 1992), as well as other important medieval and post-medieval assemblages from York, Hull and Lincoln.

The marine shell recovered was mostly extremely rotted and of no interpretative value.

Recommendations

No further work on the material reported here is recommended. If deposits with organic preservation by anoxic waterlogging or higher concentrations of charred plant material are exposed during development, however, every effort should be made to sample and investigate them.

Should further development be undertaken at this site an appropriate sampling and recovery strategy should be employed (particularly in view of the possibility of recovering a larger fish bone assemblage) and a post-excavation program be provided for.

Retention and disposal

There is no justification for retaining the remaining sediment, but the bone assemblage should be kept.

Archive

All extracted fossils from the test subsamples, and the residues and washovers, are currently stored in the Environmental Archaeology Unit, University of York, along with paper and electronic records pertaining to the work described here.

Acknowledgements

The authors are grateful to Humberside Archaeology Unit for providing the material and archaeological information and to English Heritage for allowing Keith Dobney to work on this material.

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Table 1. Recorded vertebrate remains from 37 North Bar Within: Phases 2 to 5.

Figures in parentheses are for incomplete skeletons representing single individuals.

Taxon		No. fragments	No. measurable	No. mandibles
<i>Canis f. domestic</i>	dog	51 (46)	12	-
<i>Felis f. domestic</i>	cat	32	10	-
<i>Equus f. domestic</i>	horse	56 (54)	11	2
<i>Sus f. domestic</i>	pig	21	1	3
<i>Bos f. domestic</i>	cattle	45	3	4
Caprinae	sheep/goat	77	22	8
<i>Anser spp.</i>	goose	4	3	-
<i>Anas spp.</i>	duck	1	1	-
cf. <i>Anas crecca</i> L.	?teal	1	-	-
<i>Gallus f. domestic</i>	chicken	8	5	-
Unidentified wader		1	-	-
Fish		6	-	-
cf. <i>Rana temporaria</i> L.	?common frog	4	-	-
Sub-total		307	68	17
Indeterminate bird		2	-	-
Unidentified		528	-	-
Sub-total		530	-	-
Total		837	68	17

Table 2. Bone from recorded sediment samples

Key: 1 = <10 fragments, 2 = 10 to 50 fragments. Numbers and letters in parentheses: For large mammals (LM), (1) = <10 measurable bones. For medium mammals (MM) and small mammals (SM), birds, fish and amphibian (Amp), (L) = low diversity (i.e. 1 species present), (M) = moderate (2-4 species). Wt= weight of the sample processed in kg.

Period/phase	Context	Sample	LM	MM	SM	Bird	Fish	Amp	Wt
2	328	15/BS	1(1)	-	-	1(L)	2(M)	-	8
3	288	12/13/24/ BS	2(1)	-	-	1(M)	2(M)	-	28
5	10	6/BS	1	1(L)	1(L)	1(M)	2(M)	-	9.5
5	12	8/BS	1	-	-	1(L)	1(M)	-	6
5	49	1/BS	1	-	-	1(M)	2(M)	-	8
5	263	22/BS	1	-	-	1(M)	1(M)	1	11