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**An evaluation of biological remains from excavations at Hull Citadel Moat
(Shafts 10 and 11), Hull (site code: SBH97)**

by

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Summary

A small group of sediment samples, a small hand-collected bone assemblage, and a single wood fragment, from excavations at Hull Citadel Moat (Shafts 10 and 11), Hull, were submitted for evaluation.

The prospects for recovery of plant and invertebrate remains with interpretative value beyond a description of conditions in the moat from these deposits seem quite poor, unless more richly organic levels are encountered during construction work.

There was very little animal bone recovered from either shaft, and no dating for the material was available, making an evaluation of the bioarchaeological potential extremely difficult. The state of preservation is sufficiently good that a useful assemblage might be recovered should further excavation be undertaken and dating be established.

Keywords: HULL CITADEL MOAT; HULL; EVALUATION; SEDIMENT SAMPLES; VERTEBRATE REMAINS; PLANT REMAINS; CHARRED PLANT REMAINS; WOOD; INVERTEBRATE REMAINS; INSECTS

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An evaluation of biological remains from excavations at Hull Citadel Moat (Shafts 10 and 11), Hull (site code: SBH97)

Introduction

During April 1997, Northern Archaeological Associates undertook excavations at Hull Citadel Moat, Hull. Four (provisional) Phases were identified for Shaft 10: Phase 1 - Moat construction and initial fills; Phase 2 - Construction of brick built tank; Phase 3 - Infilling of brick built tank; and Phase 4 - Modern service trenches. No phasing was available for Shaft 11.

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

Methods

All of the sediment 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*. If there was more than one sediment sample from a context they were combined. Two of these combined samples were selected from each shaft (those from Shaft 10 were both from Phase 1). Subsamples of 2 kg were taken from these samples and 3 kg from a third for extraction of macrofossil remains, following procedures of Kenward *et al.* (1980; 1986).

Additional material from the three 'GBA' samples and all of the material from Context 1129 was bulk sieved to 500 µm (BSXS and BS respectively) to recover small bone, shell and artefacts—the latter were removed from the residues to be returned to the excavator.

A single wood fragment from Shaft 11, Context 1161, was submitted for identification.

None of the samples were deemed suitable for examination for microfossils.

All the hand collected bone was examined; subjective records were made of the preservation, angularity (i.e. nature of the broken surfaces) and colour. Quantities and identifications were noted where appropriate. All fragments not identified to species or species group were recorded as 'unidentified', these included skull, vertebra, rib and shaft fragments and other elements where species identification was unclear.

Results

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

The sediment samples

Context 1026, Sample 1+2+3/T (2 kg)

[Clay-silt infill of moat]

Moist, very dark grey to black (to mid greyish brown where oxidised), stiff (working plastic), slightly sandy clay silt (locally more sandy and more clay). Medium-sized and large stones (20 to 60+ mm) and brick/tile were present in the sample.

There was a small flot, mostly fine herbaceous plant detritus. The very small residue produced a washover amounting to about half its volume: it consisted mainly of unidentified plant debris, the rest being sand and gravel. The few seeds and other identifiable plant remains—which were a mixture of aquatics (e.g. pondweeds, *Potamogeton* and *Zannichellia*), woody plants (alder, oak) and weeds (*Atriplex*, *Matricaria*)—showed rather variable preservation. Some were in excellent condition, some rather abraded. This is consistent with material having different origins as suggested by the habitat implications of the taxa. There were few if any overtly 'useful' plants—merely linseed (*Linum usitatissimum* L.) and tentatively identified raspberry (*Rubus idaeus* L.). There was some suggestion of a marine influence in the presence of a fragment of a colonial hydroid (similar to *Obelia*)

and some of the identified plant remains were not inconsistent with this, though it is perhaps hardly surprising given the proximity of the site to the estuary of the Humber!

Modest numbers of fairly well preserved insect and mite remains were present in the flot. Like the plants, these suggested a variety of habitats. There were a few aquatic insects (including several *Ochthebius minimus* (Fabricius)), and some water flea resting eggs, indicating aquatic deposition with reasonable certainty. The remaining components were weakly represented and may have reflected surrounding conditions or been background fauna. The biota thus offer some evidence of conditions at the point of deposition, but little else on the basis of this sample.

Samples 1+2+3/BSXS (35 kg)

The residue was mostly chalk and sand, with some brick/tile, mortar/plaster and cinder and a little coal, slag, charcoal, wood and twigs, unidentified fish bone, oyster shell, glass and pot.

Context 1028, Sample 5+6+7/T (2 kg)

[Clay-silt lower infill of moat]

Moist, mid grey brown (to slightly orange brown where oxidized), stiff to plastic, slightly sandy slightly silty clay (locally more sandy and more silty). Tiny fragments of brick/tile and wood were present in the sample.

There was a minute flot consisting mostly of scraps of unidentifiable plant detritus. There were several mites, a single *Daphnia* resting egg (ephippium) and a few beetles. It is likely that a very large subsample (10 to 20 kg) would produce an interpretable assemblage, but that, as for context 1026, little would be revealed beyond conditions in the moat.

The minute residue was of sand with a few fragments of conifer (?pine) wood.

Samples 5+6+7/BSXS (33 kg)

There was no washover for this subsample.

The residue was composed of brick/tile, slag, coal, cinder, twigs, unidentified fish bone and fragments of shell.

Context 1129, Sample 112901/BS (20 kg)

Just moist, mid to dark grey brown, crumbly (working plastic and slightly sticky when wet), sandy silty clay with lumps of gleyed clay in places (which appear to be natural alluvium or till). Brick/tile was abundant, crushed chalk was common and pot and root traces were present in the sample. Overall, the sample had the appearance of dumped material.

There was no washover for this subsample.

The small residue was mostly chalk (and some other stones), brick/tile, gravel and sand with a little coal and cinder, a few unidentified bone fragments, pot and a single fragment of ?glass.

Context 1137, Sample 113701/T (3 kg)

Just moist, mid to dark grey brown (locally more grey and more brown), brittle and crumbly (working plastic and sticky when wet), silty clay sand. Very small and small stones (2 to 20 mm) were abundant, mortar, coal and charcoal were common, and brick/tile, pot and modern roots were present.

The very small washover comprised a few cm³ of 'char' (probably bituminous material exuding from burning coal), charcoal and fine very decayed wood fragments (including conifer), and a few very decayed raspberry seeds. The moderately large residue was mainly of cinders, sand and mortar, with a little coal, chalk gravel, flint, and brick/tile.

Sample 113701/BSXS (15 kg)

There was no washover for this subsample.

The large residue was mostly stone, gravel and sand with some cinder and a few fragments of unidentified bone (including fish bone), pot and glass.

Context 1161 (Timber ID)

[wood from post-hole]

This was identified as pine (*Pinus* sp.).

Hand-collected vertebrate remains

Shaft 10

A very small animal bone assemblage was recovered from three contexts in this shaft. There was a total of three identifiable (weighing 180 g) and ten unidentifiable (132 g) fragments. Preservation of the fragments was fair, and the angularity was spiky. The colour was variable ranging from fawn to ginger. One fragment was burnt and one had a very greasy appearance.

The identified fragments were all cattle (*Bos f. domestic*) bones, including a mandible, a metacarpal (measurable) and an ulna. The ulna may have been worked as the distal end of the shaft appeared to have been polished. The unidentifiable material consisted mostly of large mammal shaft and rib fragments.

Shaft 11

Another very small animal bone assemblage was recovered from eight contexts from this shaft. There was a total of fourteen identifiable (weighing 359 g) and 35 unidentifiable (426 g) fragments. Preservation of the fragments was fair, and the angularity was variable, most edges appearing spiky but some being more battered. The colour was variable, ranging from fawn to brown. Butchery and fresh breakage were noted on up to about a fifth of the fragments.

The identified fragments were from cattle (*Bos f. domestic*), sheep/goat (*caprovid*), pig (*Sus f. domestic*) and rabbit (*Oryctolagus cuniculus* (L.)). There were two measurable bones and one mandible. The unidentified fraction consisted mostly of large and medium mammal shaft, vertebra and rib fragments.

Statement of potential and recommendations

Although some of the contexts included small quantities of identifiable material preserved by anoxic waterlogging, the prospects of obtaining useful information, beyond conditions in the moat, from plant and invertebrate remains from these deposits seems quite small, unless more richly organic levels are encountered during construction works.

There was very little animal bone from either shaft, and no dating for the material was available, making an evaluation of the bioarchaeological potential extremely difficult. The state of preservation was sufficiently good that should a larger assemblage be recovered during further excavation it might be of some value.

Retention and disposal

The bone assemblage should be retained for the moment. Any remaining sediment samples may be discarded unless it is to be sieved for artefact recovery.

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. Summary of hand-collected animal bone from Hull Citadel Moat.

Taxon		No. Fragments		No. Measurable		No. Mandibles		Weight (g)	
		10	11	10	11	10	11	10	11
<i>Bos f. domestic</i>	Cattle	3	7	1			1	180	302.4
<i>Sus f. domestic</i>	Pig		2		1				33
Caprovid	Sheep/goat		4		1				23
<i>Oryctolagus cuniculus</i> (L.)	Rabbit		1						0.6
Subtotal		3	14	1	2		1	180	359
Unidentified		10	35					132	426
Total		13	49	1	2		1	312	785