



*Reports from the  
Environmental Archaeology  
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**Evaluation of biological remains from excavations at  
Whitehall Shipyard, Spital Bridge, Whitby, North  
Yorkshire (site code: WHITM 2001.12)**

by

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Report **2001/46**

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**Summary**

*Three sediment samples and a very small quantity of hand-collected bone from deposits of 18<sup>th</sup> to early 19<sup>th</sup> century date, revealed by excavations at Whitehall Shipyard, Spital Bridge, Whitby, North Yorkshire, were submitted for an evaluation of their bioarchaeological potential.*

*Two of the three samples examined gave copious evidence, in the form of uncharred wood fragments, for what may have been woodworking debris. Other plant and invertebrate remains were rather sparse.*

*A small vertebrate assemblage was recovered from deposits dating from the post-medieval period. Most of the material was recovered from Trench 5 deposits. A small collection of caproid metapodials was recovered from Context 5006. These possibly represent a discrete dump of waste associated with tanning. The vertebrate assemblage is too small and too poorly dated for further analysis.*

*No further work is recommended on the current material.*

**KEYWORDS:** WHITEHALL SHIPYARD; SPITAL BRIDGE; WHITBY; NORTH YORKSHIRE; EVALUATION; 18<sup>TH</sup> TO EARLY 19<sup>TH</sup> CENTURY; PLANT REMAINS; WOOD 'CHIPS'; INVERTEBRATE REMAINS; VERTEBRATE REMAINS; ?WOODWORKING; ?TANNING

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## Evaluation of biological remains from excavations at Whitehall Shipyard, Spital Bridge, Whitby, North Yorkshire (site code: WHITM 2001.12)

### Introduction

An archaeological evaluation excavation was carried out by York Archaeological Trust at Whitehall Shipyard, Spital Bridge, Whitby, North Yorkshire (NGR NZ 8997 1025), in summer 2001.

Three sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) and a very small quantity of hand-collected bone were recovered from the deposits. Preliminary interpretation of the evidence gave dates from 18<sup>th</sup> to early 19<sup>th</sup> century for the deposits.

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

### Methods

#### *Sediment sample*

The sediment samples were inspected in the laboratory and their lithology recorded, using a standard *pro forma*, prior to processing, following the procedures of Kenward *et al.* (1980; 1986), for recovery of plant and invertebrate macrofossils. The washovers and residues were examined for plant remains. The washovers were also examined for invertebrate remains, and the residues were examined for other biological and artefactual remains.

#### *Hand-collected vertebrate remains*

Data for the vertebrate remains were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For each context (or sample) subjective records were made of the

state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Additionally, where more than ten fragments were present, semi-quantitative information was recorded concerning fragment size, dog gnawing, burning, butchery and fresh breakage.

Where possible, fragments were identified to species or species group, using the reference collection at the EAU. Fragments not identifiable to species were grouped into categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid) and completely unidentifiable.

### Results

#### *Sediment samples*

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

**Context 2018** [upper fill/backfill of timber-lined pit 2039, ?early 19<sup>th</sup> century]  
Sample 2/T (1 kg sieved to 300 microns with washover)

Just moist, dark brown to black, crumbly, ?ashy, silty sand (to sandy silt) with abundant flaky wood fragments.

The subsample yielded a large residue of about 500 cm<sup>3</sup>, of which about one third by volume comprised flaky to granular wood fragments (to 30 mm in maximum dimension), mostly somewhat decayed. Some were clearly chips from woodworking and the large fine fraction suggested that sawdust was also present. At least some of the material was oak (*Quercus*) and some carried a tar or tar-like deposit, consistent with the odour of the whole sediment when examined in the laboratory sample. The remaining material in the residue was sand with some cinders (to 15 mm) and a little gravel and coal (to 10 mm). The only invertebrate remains noted were some poorly preserved scraps of earthworm egg capsule.

**Context 4025** [fill of feature 4026, ?late 18<sup>th</sup> - early 19<sup>th</sup> century]

Sample 3 (2 kg sieved to 300 microns with washover)

Moist, somewhat varicoloured but mostly dark grey to black (oxidising to olive grey-brown), sandy silt with sand lenses. Stones (20 to 60+ mm, including rotted sandstone) and brick/tile were present and wood 'chips' were common in the sample.

The very large residue of about 1100 cm<sup>3</sup> included about 200 cm<sup>3</sup> of sand and gravel (to 40 mm) with traces of brick/tile (to 30 mm). The rest comprised rather flaky wood fragments, again probably mostly from wood-working—ranging in size from sawdust to chips and chunks up to 80 mm. The wood included oak and pine (*Pinus*). Amongst the wood were sparse remains of an unusual mixture of plant remains: traces of leafless twigs of heather (*Calluna vulgaris* (L.) Hull) and spines of gorse (*Ulex* sp.), modest numbers of fruits of alder (*Alnus glutinosa* (L.) Gaertner) and a single fruit fragment of the woodland plant, dog's mercury, *Mercurialis perennis* L. There were also modest numbers of fragments of thallus (frond) of seaweed of perhaps at least two types. Invertebrates recovered whilst checking the residue included the water beetle *Helophorus* sp. and the bright blue shield-bug *Zicrona caerulea* (Linnaeus).

**Context 5006** [possible 18<sup>th</sup> century backfill in building]

Sample 1/BS (7.2 kg)

Just moist, varicoloured (yellowish to orange-brown with patches of light blue-grey, buff, dark brown and black), stiff (working plastic), slightly sandy slightly silty clay. Stones (2 to 20 mm) and fragments of brick/tile were present in the sample.

There was a tiny washover of a few cm<sup>3</sup> of coal and 'char' (exudate from burning coal) with a few modern root fragments and modern and ancient (worn) seeds, though these plant remains were all very rare and of limited interpretative value. There were also a few scraps of fly puparium and traces of other insects including an unidentified spider beetle and the grain pest *Oryzaephilus* sp. The moderate-sized residue of about 850 cm<sup>3</sup> consisted mostly of sand and angular to subrounded gravel (to 50 mm), with traces of coal (to 25 mm) and brick/tile (to 45 mm).

### *Hand-collected vertebrate remains*

A very small assemblage of vertebrate remains was recovered from deposits within Trenches 4 and 5. Five

contexts (4000, 4007, 5000, 5005 and 5006) were represented, yielding a total of 110 fragments, of which 27 were from unstratified/and or clearance levels.

Most of the material (80 fragments) was recovered from ?18<sup>th</sup> century backfill deposits (Contexts 5005 and 5006) within a possible building that was revealed in Trench 5. The assemblage from Context 5005 was mainly composed of cattle cranium and horncore fragments, whilst material from Context 5006 appeared to represent a rather specialised deposit of caprovid metapodials and phalanges. Preservation was quite variable, with bones from 5006 and to a lesser extent 5005 being rather eroded. Some of the caprovid metapodials showed evidence of scorching and some had flaky, layered bone surfaces, also indicating heat damage.

Trench 4 vertebrate remains were limited to three sheep bones representing a single joint (distal humerus, proximal radius and ulna) from Context 4007.

## **Discussion and statement of potential**

Two of the three samples examined gave copious evidence in the form of uncharred wood fragments, including very small (<2 mm) material, for what may have been woodworking debris, though they probably do not warrant additional examination, given that other identifiable plant remains were sparse (although the sample from 4025 yielded some unusual remains they are difficult to interpret in the absence of a clear context). The same holds for the invertebrate remains.

Vertebrate remains from this site are rather limited in their potential by the small size of the assemblage and the rather uncertain dating of the deposits. Material from Trench 5 appears to be mainly dumped butchery waste and refuse possibly representing some specialist activity such as tanning. The caprovid metapodials could represent primary butchery waste but then it is likely that other remains, such as skull and mandible fragments, would also be present.

## Recommendations

Any further excavation at this site should be accompanied by a programme of sampling to recover and investigate plant and invertebrate remains further, provided that dating and context can be established more firmly.

No further work is recommended on the current vertebrate assemblage.

## 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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