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**Assessment of biological remains from
excavations on land north of Keldgate Close,
Beverley, East Riding of Yorkshire
(site code: KCB2003)**

PRS **2003/48**

Assessment of biological remains from excavations on land north of Keldgate Close, Beverley, East Riding of Yorkshire (site code: KCB2003)

by

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Summary

Six sediment samples, two boxes of hand-collected bone, and a very small quantity of hand-collected shell, recovered from deposits encountered during excavations at Keldgate Close, Beverley, East Riding of Yorkshire, were submitted to PRS for an assessment of their bioarchaeological potential. Most of the deposits were of early post-medieval date.

Assemblages of charred plant remains of the kind seen in two of the samples (from Contexts 2003 and 2007) are rather rare in urban archaeological deposits in the region, especially in the early post-medieval period, and have certainly only rarely been encountered in Beverley at any period. However, the material probably does not warrant any further detailed examination other than to try to establish the identity of the leguminous seeds in these two contexts. Invertebrate remains from the samples were limited to traces of mostly unidentified snail shell.

The hand-collected shell assemblage was too small to be of any real interpretative value.

The small assemblage of well-preserved bone recovered from the deposits at Keldgate Close hinted at a range of craft and commercial activities perhaps including tanning, horn working, skinning, and butchery. The current assemblage is too small to warrant further examination unless recorded in conjunction with vertebrate remains from other sites in the vicinity.

KEYWORDS: LAND NORTH OF KELDGATE CLOSE; BEVERLEY; EAST RIDING OF YORKSHIRE; ASSESSMENT; LATE MEDIEVAL/EARLY POST-MEDIEVAL (LATE 15TH-16TH OR 17TH CENTURY); EARLY MODERN (18TH CENTURY ONWARDS); PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; SHELL; VERTEBRATE REMAINS; ?TANNING; ?HORNWORKING; ?SKINNING

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Introduction

An archaeological excavation was carried out by Humber Field Archaeology in a former allotment field, to the north of Keldgate Close, Beverley, East Riding of Yorkshire (NGR TA 0331 3913), during late March and early April 2003.

Two 5 m by 5 m evaluation trenches were excavated in advance of a proposed residential development.

Six sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), together with two boxes of hand-collected bone and a very small quantity of hand-collected shell, were submitted to PRS for an assessment of their bioarchaeological potential. Most of the samples were taken from pit features. The initial examination of the stratigraphic sequences and pottery recovered during excavation indicated two phases of activity: Phase 1 – late 15th-16th century or early 17th century, and Phase 2 – 18th century onwards.

Methods

Sediment samples

The sediment samples were inspected and six were selected for assessment. The lithologies of the selected samples were recorded using a standard *pro forma*. Subsamples were taken for processing, following the procedures of Kenward *et al.* (1980; 1986), for the recovery of plant and invertebrate macrofossils.

The washovers resulting from processing were examined for plant and invertebrate macrofossils. The residues were examined for larger plant macrofossils and other biological and artefactual remains.

Hand-collected shell

Brief notes were made on the preservational condition of the hand-collected shell and the remains identified to species where possible. For oyster (*Ostrea edulis* L.) shell additional notes were made regarding: numbers of left and right valves; evidence of having being opened using a knife or similar implement; measurability of the valves (though measurements were not taken as part of this assessment); damage from other marine biota (polychaet worms and dog whelks); encrustation by barnacles. Preservation was recorded subjectively on two four-point scales for erosion and fragmentation as: 0 – none; 1 – slight; 2 – moderate; 3 – severe.

Hand-collected vertebrate remains

For the hand-collected vertebrate remains that were recorded, data were entered directly into a series of tables using a purpose-built input system and *Paradox* software. Records were made concerning the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Other information, such as fragment size, dog gnawing, burning, butchery and fresh breaks, was noted, where applicable.

Fragments were identified to species or species group using the PRS modern comparative reference collection. The bones which could not be identified to species were described as the 'unidentified' fraction (as shown in Table 2). 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) and totally unidentifiable.

Results

Sediment samples

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 numbers.

Context 1032 [16th century pit fill]

Sample 8/T (1 kg sieved to 300 microns with washover; approximately 4 litres of unprocessed sediment remain)

Moist, mid grey, crumbly (working soft and sticky), sandy clay silt, with small lumps of light to mid brown clay and patches of light grey sand. Mortar/plaster (rotted), ?pot and coal (to 50 mm) were present.

This subsample yielded a very large residue and washover, totalling about 360 cm³. The residue of about 260 cm³ was sand, gravel and cinder (to 30 mm); the washover was of modern roots, cinder, and charcoal. Also present were modest amounts of charred plant material: oat (*Avena*) chaff and rare oat grains, bracken (*Pteridium aquilinum* (L.) Kuhn) pinnule (frond) fragments and a dock (*Rumex*) nutlet. There were also small amounts of shell (approximately 1 g; mostly of mussel (*Mytilus edulis* L.) valve fragments) and bone.

Most of the 53 bone fragments recovered from this sample were burnt and, as a consequence, were quite brittle. Some fragments were completely calcined, whilst other appeared to have been only slightly scorched. Few fragments could be identified, although most probably represented the remains of medium-sized mammals. Fish remains included a burnt vertebra and a quadrate fragment, both of which were probably flatfish.

Context 2003 [?16th or 17th century pit fill]

Sample 6/T (1 kg sieved to 300 microns with washover; no sediment remains)

Waterlogged, very dark brown to black, unconsolidated, very humic silt, with modern rootlets.

There was a small residue of about 40 cm³ of sand and gravel, including many small grey calcareous tubular concretions to 5 mm (some were observed adhering to gravel clasts, so presumably formed within the sediment); these may be root moulds, their calcareous nature and pale grey colour a function of formation in

an ash-rich deposit. There was also some ?daub material (to 5 mm). The small washover of about 90 cm³ was mostly charred grain and 'root moulds' with some modern roots. The grain was mainly bread/club wheat (*Triticum 'aestivo-compactum'*), mostly rather poorly preserved, the grains puffy and/or broken. There were also traces of oats, barley (*Hordeum*) and a single tentatively identified rachis fragment of rye (*Secale cereale* L.). A little 'silicified' cereal chaff was observed amongst the whitish ash concretions and grey 'root moulds'; such material seems to be present where large concentrations of cereal chaff has been burnt. Some small legume seeds were present, including subspherical specimens likely to be small *Vicia*, but others more or less oblong, with the shape of field bean (*V. faba* L.) but very small. Other remains included a few specimens of charred cornfield weed seeds, two tiny fragments of unidentified shell, and a little bone.

The vertebrate remains from this sample included several unidentified fish fragments. Overall, the bones were reasonably well preserved, but somewhat battered in appearance; most were less than 20 mm in any dimension.

Context 2005 [late 15th-16th or 17th century pit fill/layer]

Sample 2/T (3 kg sieved to 300 microns with washover; approximately 5 litres of unprocessed sediment remain)

Moist, mid grey-brown, crumbly and slightly sticky (working soft and slightly plastic when wet), slightly sandy clay silt. Stones (to over 60 mm, including limestone), ?charcoal and modern rootlets were present.

The residue was tiny (dry weight 30 g) and mostly of flint fragments and silted charcoal (to 9 mm), with a little brick/tile. There was a small washover of about 10 cm³ of modern roots and charcoal (to 10 mm), with a few charred bread/club wheat and oat grains, one ?pea (*Pisum sativum* L.) cotyledon, a single field bean seed, and a few uncharred weed seeds, all rather poorly preserved.

A little shell (<1 g) was recovered from both the residue and the washover. Most of the fragments were unidentified but at least one *Succinea putris* (L.) and one ?*Succinea oblonga* Draparnaud, both species of waterside vegetation, were represented.

Thirty-eight small fragments (most were less than 10 mm) of bone were recovered from this sample. Preservation was rather variable, and a few fragments were burnt. Only two herring (*Clupea harengus* L.) vertebrae and one fish fin ray fragment could be identified.

Context 2007 [16th or 17th century pit or gully fill]
Sample 5/T (3 kg sieved to 300 microns with washover; approximately 5 litres of unprocessed sediment remain)

Waterlogged, mid to dark grey, sticky, slightly sandy clay silt. Stones (2 to 20 mm), charred grain and modern roots and rootlets were present.

There was a tiny residue (dry weight 20 g) of flint, silted charcoal (to 10 mm), brick/tile and mortar. The washover of about 100 cm³ consisted largely of charred cereal grain with a little charcoal (to 20 mm). Though many specimens were rather puffed, distorted, and porous, most could be identified as bread/club wheat. There were traces of other cereals, too: oats (including spikelets complete enough to be identified as cultivated oats, *Avena sativa* L.) and barley. Legumes were present in the form of field bean and pea (with modest numbers of the latter). Again there were traces of silicified chaff and some charred cornfield weed seeds. There were a few fragments of unidentified shell.

This sample also produced a total of 70 fragments of reasonably well preserved bone. Approximately, 10 to 20% of the remains were burnt, with most fragments being less than 20 mm in any dimension. The bulk of the assemblage could not be identified to species or species group but most probably represented the remains of large and medium-sized mammals. Sixteen fish bones were present of which ten were fragments of finrays and spines, whilst a number of vertebrae were identified as herring (*Clupea harengus* L.) and ?pike (*Esox lucius* L.). A single eel (*Anguilla anguilla* (L.)) premaxilla was also identified, together with several fragments of amphibian, small mammal and bird.

Context 2010 [late 15th-16th or 17th century pit fill]
Sample 3/T (3 kg sieved to 300 microns with washover; approximately 5 litres of unprocessed sediment remain)

Moist, mid grey-brown, crumbly and slightly sticky to unconsolidated (working soft), clay silt. Stones (2 to 20 mm), brick/tile, ?coal and modern roots and rootlets were present.

There was a tiny residue (dry weight 35 g) of brick/tile, flint, silted charcoal (to 10 mm) and a little shell (<1 g; including fragments of mussel shell and three unidentified land snails). The very small washover was of about 10 cm³ of modern roots and a little charcoal (to 5 mm); also present were a few very decayed uncharred weed seeds of no particular interpretative significance.

Forty-nine small fragments (all <20 mm) of bone were recovered from this sample. The assemblage included several unidentified fish bone fragments, together with

a medium-sized mammal vertebra fragment. Three of the fragments were burnt.

Sample 4/T (3 kg sieved to 300 microns with washover; approximately 6 litres of unprocessed sediment remain)

Moist, mid grey-brown, crumbly to unconsolidated (working soft), slightly sandy clay silt. Stones (2 to 20 mm, including flint), land snails and modern roots and rootlets were present.

The tiny residue (dry weight 18 g) was of flint, brick/tile, silted charcoal (to 6 mm) and a trace of shell (<1 g; including one *Trichia ?hispidata* (L.)). There was a very small washover of about 10 cm³ of modern roots and a little charcoal (to 10 mm); no identifiable ancient plant remains were observed.

Bones from this sample amounted to 54 fragments (3 g), some of which were coated in a greenish concretion. All the fragments were very small (>15 mm). Identified remains included haddock (*Melanogrammus aeglefinus* (L.)), herring (*Clupea harengus* L.) and eel (*Anguilla anguilla* (L.)) vertebrae.

Hand-collected shell

Hand-collected shell was recovered from only two contexts (Context 1005 and Context 1033 – both fills of the same pit from Phase 1, late 15th-16th/early 17th century). The hand-collected shell remains are summarised in Table 1.

The remains from Context 1033 were of four land snails, all of which appeared to be the garden snail *Helix aspersa* Müller and of no interpretative value. The shell from Context 1005 also included *H. aspersa* (two individuals) but was mostly of the remains of edible marine shellfish. These included mussel (*Mytilus edulis*) and cockle (*Cerastoderma edule* (L.)) but were predominantly of well preserved oyster valves. Five of the oyster valves showed damage consistent with having been opened with a knife or similar implement. There were two instances of pairs of a left oyster valve and one of indeterminate side being fused, and several other valves were misshapen. The only evidence of damage or encrustation by other marine biota was the remains of one or two barnacles on the external surfaces of two of the oyster valves.

Hand-collected vertebrate remains

The hand-collected vertebrate remains were recovered from just five deposits, three (Contexts 1005, 1026 and

1033) within Trench 1 and 2 (Contexts 2002 and 2008) from Trench 2. With the exception of Context 2002 (Phase 2 – 18th century onwards), all the deposits from which bone was recovered were assigned to Phase 1 (late 15th-16th/early 17th century date). The whole assemblage amounted to 98 fragments, of which 45 were identified to species (Table 2). Most fragments (79) were recovered from pit fill 1005.

Preservation of the vertebrate remains was mostly quite good, although material from Context 1005 had a rather battered appearance and the colour of the fragments from this deposit was rather variable. Burnt bones were also noted. Evidence of butchery was extensive throughout, particularly on the cattle bones. Several horncores (cattle and sheep) were amongst the remains from Pit 1014; all showed evidence of removal from the skull, presumably for the recovery of the horn sheaths. Although the sheep horncore was chopped at the very base of the core, the cattle ones had been removed together with portions of the adjacent frontal and parietal bones. One of the cattle cranium fragments exhibited a small perforation in the nuchal region of the occipital portion of the skull. The aetiology of this condition is unknown but has been discussed at length by Brothwell *et al.* (1996). Although it could not be clearly established, they suggest the cause could be either congenital or the result of the pressure applied by a yoke.

The species present were mainly restricted to the major domestic mammals; cattle and caprovids, not surprisingly, forming the bulk of the assemblage. Cattle remains recovered from Context 2002 (Phase 2) were very well preserved and probably represent a single individual. Four fragments, an astragalus, a calcaneum, a metatarsal and a tarsal, are all definitely from the right leg of one cow. Remains of horse included half of a skull recovered from Context 1033. Knife marks, possibly indicative of skinning were observed on the frontal portion of the fragment, with several close to the zygomatic arch. Whether or not the skull had been deliberately split longitudinally could not be conclusively determined because of fresh breakage damage.

Most of the skeletal elements for cattle and caprovids suggest that the remains are largely composed of primary butchery refuse. The few horncores recovered hint at waste associated with some sort of craft activity such as hornworking or tanning.

Discussion and statement of potential

Those deposits yielding quantities of charred plant material evidently mainly contained ash

with debris from the burning of cereals (though the reason for this is not clear and the results do not shed any light on the use of the pits except as repositories for ash and apparently rather little else). In particular, the plant remains do not give any evidence for industrial activity such as textile-working or tanning, unless the ash—albeit very impure—was itself used in, for example, scouring or tanning.

Assemblages of charred plant remains of the kind seen in the samples from Contexts 2003 and 2007 are rather rare in urban archaeological deposits in the region, especially in the early post-medieval period, and have certainly only rarely been encountered in Beverley at any period. However, the material probably does not warrant any further detailed examination other than to try to establish the identity of the leguminous seeds in these two contexts.

Invertebrate remains from the samples were limited to traces of mostly unidentified snail shell.

The hand-collected shell assemblage was too small to be of any great interpretative value. However, the remains of shellfish from Context 1005 are almost certainly human food waste, and the good preservation shown in this deposit suggests that further excavation might produce a rather larger and more valuable assemblage. As a side note, the fusing and deformation noted for some of the oyster valves might indicate that they originated from an over-crowded population.

Deposits from Keldgate Close produced a small and quite well preserved vertebrate assemblage. A mix of refuse is indicated, with the presence of some waste which is indicative of craft activities such as tanning and hornworking. Possible skinning marks on the horse skull from Context 1033 support this interpretation. Such refuse is not surprising given the site's proximity to other areas from which much larger assemblages of possible industrial waste were recovered, e.g. Keldgate

(Jaques *et al.* 2001) and Hall Garth (Dobney *et al.* 1994). Both the hand-collected and the sieved assemblages show that the deposits have some potential for the recovery of vertebrate remains, including fish bone.

Recommendations

Some further examination to identify the legume seeds from Contexts 2003 and 2007 is recommended. Ideally, a further subsample of each (of 3-5 kg) would be processed to obtain a large group of legume seeds for closer scrutiny – no unprocessed sediment remains from Context 2003, however.

No further work is recommended for the shell.

In this instance, the current vertebrate assemblage is rather too small for further analysis, although recorded in conjunction with material from other small sites in the vicinity (Jaques *et al.* 2001; Carrott *et al.* 1995), it may provide some useful biometrical and age-at-death data and comparanda for archaeological interpretation.

Retention and disposal

All samples of deposits from this excavation, and fossils extracted from them, together with all of the hand-collected material, 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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Table 1. Summary information for the hand-collected shell from excavations at Keldgate Close, Beverley, by context. **Key:** 'CN' = Context number; 'Ph' = Phase; 'left' = number of left (or lower) valves; 'right' = number of right (or upper) valves; 'in' = number of valves of indeterminate side; 'meas' = estimated number of valves intact enough to be measured; 'e' = average erosion score for valves; 'f' = average fragmentation score for valves; 'kn' = number of valves showing damage characteristic of the oyster having been opened using a knife or similar implement; 'worm' = number of valves showing damage by polychaet worms; 'barn' = number of valves with barnacles; 'dog' = number of valves showing damage from dog whelk boring; 'fr' = number of valves showing fresh breakage; 'co' = minimum number of cockle valves; 'muss' = minimum number of mussel valves; 'Hel' = minimum number of *Helix aspersa*; 'wt' = total weight of shell in grammes.

CN	Ph	Oyster valves											co	muss	Hel	wt
		left	right	in	meas	e	f	kn	worm	barn	dog	fr				
1005	1	9	1	3	5	1	1	5	0	2	0	2	3	3	2	248
1033	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4	7

Table 2. Hand-collected vertebrate remains from excavations at Keldgate Close, Beverley.

Species		Phase 1	Phase 2	Total
<i>Equus</i> f. domestic	horse	3	-	3
<i>Sus</i> f. domestic	pig	3	-	3
<i>Bos</i> f. domestic	cattle	12	9	21
Caprovid	sheep/goat	17	-	17
Amphibian	frog/toad	1	-	1
Unidentified		53	-	53
Total		86	9	98