# Evaluation of biological remains from excavations on land behind and adjacent to 52 Keldgate, Beverley, East Riding of Yorkshire (site code: KGB2001)

by

Deborah Jaques, Allan Hall, Harry Kenward and John Carrott

### **Summary**

Seven sediment samples, one box of hand-collected shell, and six boxes of hand-collected bone from deposits revealed by excavations behind and adjacent to 52 Keldgate, Beverley, East Riding of Yorkshire, were submitted for an evaluation of their bioarchaeological potential.

Some of the deposits yielded useful assemblages of plant and invertebrate remains with good potential for exploring further the human activity and land-use in this area.

The current hand-collected shell assemblage is too small to be of interpretative value beyond indicating the importation of edible shellfish to the site. Preservation of the remains was quite good, however, and the possibility of recovering a larger, and more interpretatively valuable, assemblage should be considered in the event of further excavations in this area.

Deposits from this site have produced a moderate-sized assemblage of bone, which is of interest because of its combination of good preservation, largely post-medieval date and the presence of numerous measurable bones. A detailed record should be made of the bone recovered from all well-dated deposits, particularly concentrating on biometrical analyses of the caprovid metapodials. Special attention should be paid to noting and recording incidences of pathological conditions of sheep/goat metatarsals.

**KEYWORDS**: 52 KELDGATE; BEVERLEY; EAST RIDING OF YORKSHIRE; EVALUATION; PRE-OCCUPATION; 13<sup>TH</sup> TO 18<sup>TH</sup> CENTURY; MEDIEVAL; POST-MEDIEVAL; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; SHELL; OYSTER; VERTEBRATE REMAINS; CRAFT ACTIVITIES; DYEING; TEXTILE FINISHING; SKINNING; TANNING

Authors' address: Prepared for:

Palaeoecology Research Services Environmental Archaeology Unit Department of Biology P. O. Box 373 University of York York YO10 5YW Humber Field Archaeology
The Old School
Northumberland Avenue
Hull HU2 0LN

Telephone: (01904) 433846/434475/434487

Fax: (01904) 433850 29 June 2001

# Evaluation of biological remains from excavations on land behind and adjacent to 52 Keldgate, Beverley, East Riding of Yorkshire (site code: KGB2001)

### Introduction

An archaeological evaluation excavation was carried out by Humber Field Archaeology on land behind and adjacent to the former Council depot at 52 Keldgate, Beverley, East Riding of Yorkshire (NGR TA 0352 3915), between 16 April and 4 May 2001.

Seven sediment samples ('GBA'/'BS' sensu Dobney et al. 1992), a box of hand-collected shell (approximately 8 litres), and six boxes (each of approximately 16 litres) of hand-collected bone, were recovered from the deposits. Preliminary evidence gave a date range from 13<sup>th</sup>-14<sup>th</sup> century to 18<sup>th</sup> century and later for the occupation deposits. The earliest deposits were thought to pre-date occupation of the site.

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

#### Methods

Sediment samples

The sediment samples were inspected in the laboratory. All of the samples were selected for investigation and their lithologies were 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 flots, washovers and residues were examined for plant remains. The flots and washovers were also examined for invertebrate remains, and the residues were examined for other biological and artefactual remains.

Preservation of insect remains was estimated using the scales of Kenward and Large (1998). In summary, preservation is recorded

as chemical erosion (E) and fragmentation (F), in each case on a scale from 0.5 (superb) to 5.5 (extremely decayed or fragmented).

Table 1 gives a list of the examined samples and notes on their treatment.

#### Hand-collected shell

One box of hand-collected shell (representing material from 28 contexts) was submitted Brief notes were made on the preservational condition of the 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; damage from other marine biota (polychaet worms and dog whelks); encrustation by barnacles. Preservation was recorded on two four-point scales for erosion and fragmentation (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. Subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Additionally, for the larger assemblages, notes were made concerning fragment size, dog gnawing, burning, butchery and fresh breaks.

Where possible, fragments were identified to species or species group, using the reference collection at the Environmental Archaeology Unit, University of York. 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) 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.

**Context 1006** [organic fill of sondage] Sample 2 (1 kg sieved to 300 microns with paraffin flotation)

A moist, mid to dark brown to very dark brown, brittle (also layered, fibrous and compressed) working crumbly, mixture of amorphous organic sediment, fine and coarse herbaceous detritus, and silt. Occasional patches of yellowish-orange-brown silty sand and light grey-brown clay silt were also noted.

There was a large residue of about 500 cm<sup>3</sup> consisting of rather fine organic detritus (much of it decayed and unidentifiable moss, though with a little *Drepanocladus* and some *Cratoneuron filicinum* (Hedw.) Spruce) and a little sand. Amongst the organic fraction were some small (to 5 mm in maximum dimension) clasts of peaty sediment, perhaps all from natural or semi-natural peat (most likely a peaty river silt or fen/marsh deposit). There were modest numbers of sedge (*Carex*) nutlets and a few terrestrial taxa of no particular interpretative value; the overall concentration of identifiable remains was rather low.

The flot consisted of plant debris, seeds, and numerous invertebrate remains, especially beetles. Preservation of the invertebrates was fairly good, though variable (E 1.5-3.5, mode 2.5, distinct; F 1.5-3.0, mode 2.5, distinct). The fauna was rather limited (i.e. of fairly low diversity), and consisted predominantly of aquatics and species confined to, or able to exploit, swampy conditions. There was, however, no evidence of a rich and mixed aquatic fauna such as might be found in a well-established pond or slow stream. The true aquatics were rapid invaders tolerant of a range of water qualities, for example *Hydrobius fuscipes* (Linnaeus) and *Helophorus* spp. Caddis fly cases

were fairly common (others were also noted in the residue). Water quality was probably fairly good. Overall, the impression was of swamp with intermittent open water, perhaps only between the stems of emergent vegetation—a habitat particularly indicated by some remains of the tiny pondskater Microvelia sp. Moss, or clean plant litter (indicated by Chaetarthria seminulum (Herbst) and Coelostoma orbiculare (Fabricius)), probably grew among stems of Juncus (indicated by several Conomelus anceps (Germar)). There was little evidence of dry-land habitats, exceptions being the eurytopic dung beetles Aphodius ater (Degeer), A. ?prodromus (Brahm), and a third species from the genus. There may have been grazing livestock nearby. Other than these, no synanthropes (species favoured by artificial habitats) were noted, so there was no evidence of dwellings immediately adjacent, or of waste disposal.

A larger subsample of this material might give a larger range of invertebrate taxa and better information concerning conditions and land-use nearby.

In view of the evidence from the invertebrates, it seems possible that the peat indicated by the plant remains was *in situ* rather than representing importation (which is usually the case when peat is found at occupation sites).

**Context 2032** [17<sup>th</sup> century cistern fill] Sample 1/BS (8.9 kg sieved to 300 microns with washover)

Moist, light to mid grey, soft and slightly sticky (working soft and more sticky), silty clay (to clay silt) with stones (2 to 20 mm) present (mostly chalk with some flint).

The modest-sized residue of about two litres comprised angular chalk (to 80 mm) and sand with some mortar (to 15 mm) and brick/tile (to 70 mm) and animal bone; the small washover consisted of a few cm<sup>3</sup> of snails and a little coal (to 10 mm). There was a single sherd of pottery (to 25 mm).

Snails from the washover included many Cochlicopa lubrica (Müller) and Trichia hispida (Linnaeus) together with smaller numbers of Vallonia costata (Müller), Discus rotundatus (Müller) and ?Aegopinella sp., and a single Succinea ?oblonga Draparnaud. Additionally, a cockle valve (and three fragments of valve) and two fragments of Cepaea/Arianta sp. were recovered from the residue. The assemblage suggest a rather open, somewhat damp, sparsely vegetated environment.

Over 100 bone fragments (138.8 g) were recovered from this sample, of which only 30 could be identified

to species or species group. Preservation was rather variable, with many fragments appearing battered. Most fragments were <50 mm in any dimension. Dog gnawing was evident and a small number of fragments exhibited possible damage consistent with acid etching. This suggests that some bone may originate from faeces, probably dog coprolites. A number of caprovid phalanges were noted, along with some metapodial fragments. Additionally, cow, chicken, fish and amphibian bones were identified. The unidentified fraction included numerous small fragments of large mammal cranium and cattle horncore.

**Context 2064** [17<sup>th</sup> century re-cut ditch backfill] Sample 3/T (2 kg sieved to 300 microns with washover)

Moist, slightly purplish grey-brown, crumbly to brittle (working soft), slightly sandy clay silt. Stones (2 to 60 mm), brick/tile, mortar, and charcoal were present in the sample.

The moderate-sized to large residue of about 400 cm<sup>3</sup> was of mortar, brick/tile, cinder and sand, the coarsest material only reaching 20 mm in maximum dimension with a little bone—a single haddock (*Melanogrammus aeglefinus* (L.)) vertebra and traces of other ?fish bone; the small washover of about 75 cm<sup>3</sup> was of charcoal and cinders, with a few snails and some modern roots.

This deposit clearly included waste from occupation.

**Context 2082** [pre-occupation turf line] Sample 5/T (1 kg sieved to 300 microns with paraffin flotation)

Moist, light to mid grey-brown to light brown (lumps darker internally), crumbly, slightly clay sandy silt with some stones (2 to 6 mm) present.

There was a tiny residue of a few cm<sup>3</sup> of clean quartz sand and some organic debris. Most of the latter consisted of very decayed earthworm egg capsules with a few achenes of water-crowfoot (*Ranunculus* Subgenus *Batrachium*) and a little charcoal (to 5 mm). The material perhaps rather gave the appearance of a soil developed on an waterlain deposit, rather than a soil inwashed into a water-course (terrestrial plants were lacking).

Invertebrates were rare in the very small flot, and preservation was so poor as to suggest that they were the very decayed remnant of what was originally a rich assemblage (E 4.0-5.5, mode 5.0, strong; F 2.0-5.5, mode 5.0, strong). This would accord with the postulated development of a soil. Identification was

almost impossible for most of the fragments, but this was probably semi-natural fauna, perhaps with a small synanthropic component. Further work on these invertebrates cannot be justified since there is no reasonable hope of identifying more than a few remains.

**Context 2084** [13<sup>th</sup>-14<sup>th</sup> century fill of pre-occupation depression]

Sample 6 (1 kg sieved to 300 microns with washover)

Moist, mid purplish grey-brown (mottled lighter and more grey), brittle to crumbly (working soft), slightly sandy slightly clay silt. Stones (2 to 60 mm, including chalk and flint) and charcoal were present in the sample.

The small to moderate-sized residue of sand and grit also contained some chalk gravel (to 10 mm); the small washover of about 30 cm<sup>3</sup> consisted of charcoal (to 20 mm) and undisaggregated sediment (exhibiting some iron concretion), with seeds of a few weed taxa, though mainly elderberry (*Sambucus nigra* L.). There were no more than traces of invertebrate remains other than an earthworm egg capsule and a resting body (statoblast) of the bryozoan *Lophopus crystallinus* (Pallas).

**Context 2087** [pre-occupation lower fill of watercourse (west)]

Sample 7/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, light to mid grey-brown to light to mid, rather orange, grey-brown, brittle (working soft), slightly sandy clay silt with patches (to 15 mm) of light brown clay silt.

The small residue of about 75 cm<sup>3</sup> consisted of grit, sand and organic detritus, the latter mainly as fine fragments, and including charred saw-sedge (Cladium mariscus (L.) Pohl) leaf fragments and straw/reed culm (stem) as well as uncharred plant remains and some charred and uncharred peat fragments (to 5 mm). Amongst the identifiable fossils were fruits of fullers' teasel (Dipsacus sativus (L.) Honckeny), weld (Reseda luteola L.) and perhaps a single root fragment of madder (Rubia tinctorum L.), together suggesting that textile working was practised in the vicinity (or that waste from such activity was discarded into the watercourse). The flot contained many seeds of weld and some stinging nettle (*Urtica dioica* L.) and elder seeds and weeds of various kinds made up the bulk of the rest of the assemblage. Overall, preservation was good and the concentration of remains high.

The flot was rich in invertebrate remains. Preservation was variable and often poor (E 2.0-4.5, mode 3.5, weak; F 2.0-5.0, mode 4.0, weak), although most fossils remained identifiable. The fauna included traces of synanthropic beetles and a fragment of puparium which appeared to be of the sheep ked Melophagus ovinus (Linnaeus), presumably from wool-cleaning in view of the records of dyeplants. Species from semi-natural environments were better represented, and there were a few aquatics (including some ostracods). There was nothing to suggest intensive occupation in the immediate vicinity, and certainly no evidence for large-scale dumping of waste from occupation; presumably the textile processing waste was all that was being disposed of here. Providing dating is reasonably close, further work on the invertebrates would be desirable in order to provide data for synthesis.

**Context 2088** [pre-occupation lower fill of watercourse (east)]

Sample 8/T (2 kg sieved to 300 microns with paraffin flotation)

Moist, varicoloured (mid grey-brown to mid brown to light brown to light to mid grey), brittle (working soft), clay silt with some white flecks.

The very small residue of about 130 cm<sup>3</sup> was of grit, chalk gravel (to 45 mm) and plant detritus, the last containing moderate amounts of well preserved madder root (retaining its characteristic pinkish coloration) and weld seeds as well as some very decayed wood (to 15 mm). Identifiable plant remains (mostly uncharred, but with a small component of charred material, including traces of saw-sedge leaf, as in Sample 7 and three cereal grains) were again quite abundant and well preserved, despite the small size of the residue. Both charred and uncharred teasel fruits were present, albeit in very low numbers.

A single unidentified vertebra fragment was also noted.

The small flot contained some plant debris and seeds, including more weld seeds, and numerous invertebrates. Preservation of the latter was quite good (E1.5-2.5, mode 2.0, weak; F 1.5-3.0, mode 2.0, weak). There was evidence for aquatic deposition (or waste water) from abundant water flea resting eggs (Daphnia ephippia) and a modest range of water beetles and bugs. There were also some waterside species. Synanthropes were quite well represented, including Lathridius minutus group, Ptinus sp. and Mycetaea hirta (Marsham). There were fragments of a single flea, probably Pulex irrritans Linnaeus of humans. Of interest in view of the evidence from plants for textile working were an adult sheep ked (Melophagus ovinus) and several lice, apparently

*Damalinia* sp., among which *D. ovis* (Schrank) is notable for its occurrence with *M. ovinus* in deposits regarded as incorporating debris from wool cleaning.

It is desirable to investigate this material more fully in order to amplify the information about likely sources of the waste, and to recover more diagnostic remains of the lice and fleas.

#### Hand-collected shell

Small quantities of mostly well-preserved shell were recovered from 28 contexts. All of the material was assessed and the taxa identified as closely as possible. Table 2 gives summary information for the shell by context.

Most of the recovered shell was of edible shellfish from deposits of 14<sup>th</sup>-15<sup>th</sup> century date. Oyster was, by far, the most commonly represented taxon with some cockle, mussel and whelk.

Oyster shell was well-preserved (all but two of the valves could be identified as either left or right). Also, approximately 30% of the valves for which 'side' could be determined were measurable (though measurements were not taken as part of this assessment). Evidence of the oysters having been opened using a knife or similar implement (as shown by 'V'- or 'W'-shaped notches on the shell margins) was noted on 46% of the valves. There was very little evidence of damage to the valves (e.g. polychaet worm burrows, dog whelk holes) or encrustation (e.g. by barnacles) by other marine biota but a little fresh breakage was noted. A few of the valves showed signs of having grown in a cramped environment—in one case (Context 2052) two pairs of valves from different individuals had become fused.

The other marine invertebrates represented were, with the exception of a single limpet from Context 2078, edible species commonly occurring off the east coast of Britain.

The recovered land snail remains were all of *Helix aspersa* (the 'garden snail') or *Cepaea/Arianta* sp.; highly eurytopic taxa of no value in interpreting ecological conditions on the site, beyond indicating the availability of at least modest amounts of calcium carbonate.

#### Hand-collected vertebrate remains

Vertebrate material was recovered from both trenches and amounted to six boxes (each box of approximately 16 litres). Table 3 shows the amount of material recovered by general period, and the number of fragments by species. In total, 300 fragments were measurable and there were eleven mandibles with teeth *in situ*.

Preservation of the material from both trenches was mostly good, only a few fragments being battered in appearance. Colour, however, was far more variable, both within and between contexts. Variation of colour within deposits was most noticeable on material from Contexts 2015, 2016, 2027, 2033 and 2064. None of the assemblages were particularly fragmented, with only a small amount of fresh breakage noted. Evidence of butchery was quite limited. Almost all of the cattle horncores showed evidence of removal from the skull. Although some were chopped at the very base of the core, more typically they had been removed along with a varying portion of the adjacent frontal and parietal bones. Some of the large number of caprovid metapodials appeared to have had their distal articulations deliberately removed. Complete metapodials were recorded but, in general, the distal ends of these elements appeared to be underrepresented.

#### Trench 1

Only four contexts from this trench produced bone, totalling 22 fragments (1461 g). These deposits were probably of medieval date, but no phasing information was supplied for material from this trench. Cattle, caprovids and pig remains were all represented, with many fragments of cattle horncores or caprovid metapodials. Too few fragments were present for any detailed interpretation to be made.

#### Trench 2

In total 934 fragments (24559 g) were recovered from 36 deposits ranging in date from 13<sup>th</sup>-14<sup>th</sup> century through to the early modern period (18<sup>th</sup> century and later). Contexts 2006 and 2032, both deposits of 17<sup>th</sup> century date, produced the bulk of the assemblage. Typically cattle and caprovid remains were prevalent throughout the periods represented (Table 3), but caprovid bones were the dominant component in the 17<sup>th</sup> century deposits. Accumulations of metapodials made up this last assemblage, none of them definitely identified as goat. Concentrations of metapodials are usually interpreted as tanners' waste, the skins having been delivered to the tannery with the lower limbs still attached. The earlier deposits also produced sheep/goat metapodials, but, overall, a wider range of

elements was present and it seems most likely that these deposits included general butchery and domestic refuse. A number of the metatarsals exhibited a pathological condition for which the aetiology is unknown. Characteristic swelling, of varying severity, was apparent on the proximal anterior aspect of the shafts. These usually appeared as vertical ridges of remodelled bone positioned parallel with, and medial to, the line of the median extensor tendon. This condition has been noted elsewhere on metatarsals from different types of sites and a range of time periods (Carrott *et al.* 1993; Dobney *et al.* 1994; i996).

Another characteristic of the material from the 17<sup>th</sup> century deposits (mainly Contexts 2006 and 2032) was the presence of numbers of cattle horncores. Most had been deliberately chopped from the main part of the skull. These remains again suggest waste associated with craft activities.

Other species present included pig and minor domesticates such as horse, dog and cat. A single cat humerus from Context 2071 (13<sup>th</sup>-14<sup>th</sup> century) had a series of knifemarks down the shaft, probably indicating skinning. Fallow deer (*Dama dama* (L.)) antler was recovered from Context 2049 (14<sup>th</sup>-15<sup>th</sup> century), whilst a tibia shaft fragment from Context 2015 (17<sup>th</sup> century) was tentatively identified as fallow deer. Bird remains were quite scarce but goose, duck and chicken were all represented. Context 2006 also produced a human ulna fragment from an immature individual. This bone indicates that some reworking or redeposition of deposits may have occurred.

# Discussion and statement of potential

Plant remains were well preserved in the two samples from the medieval watercourse and have good potential for exploring further the use of plant materials and human activity in this area, adding to the information from other sites in this south-central part of Beverley (elsewhere in Keldgate, as well as in Well Lane, Lord Roberts Road, and Eastgate). There certainly seems to be evidence for textile working (dyeing, finishing) from some of the remains, though they may have been transported some distance from their original site of use. Charred saw-sedge and reed/straw is again present, as at other sites examined in recent years from this area of the town, perhaps indicating destruction of thatched roofs, though perhaps equally likely to indicate material used as fuel.

Some of the deposits yielded useful assemblages of invertebrate remains. Further study of Contexts 1006 and 2088 is desirable providing the archaeological and dating information is reasonably clear. Further analysis of Context 2087 would also be useful. These analyses would clarify interpretation (e.g. regarding wool-cleaning and the disposal of waste from occupation) and provide useful data for future synthesis.

The current hand-collected shell assemblage is too small to be of interpretative value beyond indicating the importation of edible shellfish to the site.

Deposits from this site have produced a moderate-sized assemblage of bone, which is of interest because of its good preservation and its largely post-medieval date and the presence of numerous measurable bones. The vertebrate remains appear to include butchery and domestic refuse in the earlier periods and large quantities of waste representing the refuse from a number of industrial/craft activities in the later period. Similar concentrations of caprovid metapodials were recovered from post-medieval and early modern deposits from a site nearby at Hall Garth, Beverley (Dobney et al. 1994). The current material, particularly the postmedieval assemblage, would provide a useful dataset and comporanda for archaeological interpretation. The investigation assemblages of this and later periods has been, until recently, largely neglected, leaving a gap in our knowledge at an important period of agricultural intensification. Changes in height and body confirmation and hence the evidence of early stock improvement may be identified through the use of biometrical data from these vertebrate remains. It is also clear that the deposits show great potential for the recovery of vertebrate remains and that a large assemblage would be expected from further interventions in this area.

#### **Recommendations**

Any development at this site through which destruction of the more organic deposits is likely to be brought about should be accompanied by excavation and careful sampling, with properly planned postexcavation assessment and analysis of the plant and invertebrate remains from selected deposits. If excavation is not required because development does not threaten the archaeological resource, analysis of larger subsamples of at least the two samples from the water-course studied in this evaluation for plant and invertebrate macrofossils is recommended: further study of the invertebrates from Contexts 1006 and 2088, and ideally of 2087 is recommended, providing the archaeological and dating information is adequate.

No further work is required on the current shell assemblage. Preservation of the remains was quite good, however, and the possibility of recovering a larger, and more interpretatively valuable, assemblage should be considered in the event of further excavations in this area.

A detailed record should be made of the bone recovered from all well-dated deposits, particularly concentrating on biometrical analyses of the caprovid metapodials. Special attention should be paid to noting and recording incidences of pathological conditions of sheep/goat metatarsals.

## **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.

Kenward, H. and Large, F. (1998). Recording the preservational condition of archaeological insect fossils. *Environmental Archaeology* **2**, 49-60.

# Acknowledgements

The authors are grateful to Trevor Brigham and Sophie Tibbles of Humber Field Archaeology for providing the material and the archaeological information, and to English Heritage for allowing AH and HK to contribute to this report.

#### References

Carrott, J., Dobney, K., Hall, A., Jaques, D., Kenward, H., Large, F. and Milles, A. (1993). An evaluation of biological remains from excavations on land to the rear of Gowthorpe, Finkle Street and Micklegate in Selby town centre (site code SELBY 1993). Prepared for MAP Archaeological Consultancy Ltd.

Dobney, K., Fitter, R., Hall, A., Irving, B., Jaques, D., Johnstone, C., Kenward, H., Milles, A. and Shaw, T. (1994). Technical report: Biological remains from the medieval moat at Hall Garth, Beverley, North Humberside. *Reports from the Environmental Archaeology Unit, York* **94/60**, 46 pp. + 11 pp. appendices.

Dobney, K., Hall, A. R., Kenward, H. K. and Milles, A. (1992). A working classification of sample types for environmental archaeology. *Circaea, the Journal of the Association for Environmental Archaeology* **9** (for 1991), 24-6.

Dobney, K., Jaques, D. and Irving, B. (1996). Of butchers and breeds. Report on vertebrate remains from various sites in the City of Lincoln. *Lincoln Archaeological Studies* **5**, vi + 215 pp.

Kenward, H. K., Hall, A. R. and Jones, A. K. G. (1980). A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits. *Science and Archaeology* **22**, 3-15.

Kenward, H. K., Engleman, C., Robertson, A. and Large, F. (1986). Rapid scanning of urban archaeological deposits for insect remains. *Circaea* 3, 163–172.

Table 1. 52 Keldgate, Beverley: list of examined sediment samples with notes on their treatment.

Context	Sample	Notes
1006	2	1 kg sieved to 300 microns with paraffin flotation
2032	1	8.9 kg sieved to 300 microns with washover
2064	3	2 kg sieved to 300 microns with washover
2082	5	1 kg sieved to 300 microns with paraffin flotation
2084	6	1 kg sieved to 300 microns with washover
2087	7	2 kg sieved to 300 microns with paraffin flotation
2088	8	2 kg sieved to 300 microns with paraffin flotation

Reports from EAU, York, 2001/35

Evaluation: 52 Keldgate, Beverley

Table 2. 52 Keldgate Beverley: hand-collected shell by context. **Key**: e=erosion; f=fragmentation; left=number of left oyster valves; right=number of right oyster valves; ind.=indeterminate; mni=minimum number of individuals; Helix=Helix aspersa Müller; C/A=Cepaea/Arianta sp.; Wt=weight.

				Oyster	(Ostrea e	edulis L.	)	Cockle (Ceras edule (L.))	Mussel (Mytilus edulis L.)		Whelk (Buccinum undatum (L.))	Limpet (Patella vulgata L.)	Helix	C/A	Wt (g)	
Context	period	e	f	left	right	ind.	frags	valves/ frags	mni	valves/ frags	mni	mni	mni	mni	mni	
1002	-	2	2	0	1	0	0	0	0	0	0	0	0	0	0	6.1
1003	-	1	2	2	7	0	0	0	0	5	2	0	0	0	0	78.4
1004	-	-	-	0	0	0	0	0	0	0	0	0	0	4	1	15.0
2006	17 <sup>th</sup> C	3	3	4	6	0	5	2	2	1	1	0	0	38	0	290.8
2013	14 <sup>th</sup> -15 <sup>th</sup> C	2	1	3	2	0	0	0	0	4	4	0	0	0	0	58.4
2015	17 <sup>th</sup> C	-	-	0	0	0	0	0	0	0	0	1	0	0	0	45.0
2016	17 <sup>th</sup> C	2	1	0	1	0	0	0	0	0	0	0	0	0	0	13.2
2021	14 <sup>th</sup> -15 <sup>th</sup> C	1	1	1	0	0	0	0	0	1	1	1	0	0	0	37.7
2027	17 <sup>th</sup> C	2	2	2	1	0	0	2	1	0	0	0	0	11	2	80.6
2032	17 <sup>th</sup> C	-	-	0	0	0	0	0	0	0	0	0	0	3	0	6.9
2033	18 <sup>th</sup> C+	1	1	1	0	0	0	0	0	0	0	0	0	1	0	27.0
2038	17 <sup>th</sup> C	3	2	1	0	0	0	0	0	0	0	0	0	0	0	15.6
2046	14 <sup>th</sup> -15 <sup>th</sup> C	1	2	1	1	0	0	1	1	0	0	0	0	1	0	10.5
2049	14 <sup>th</sup> -15 <sup>th</sup> C	2	2	8	4	0	0	2	2	4	2	0	0	0	0	103.3
2052	14 <sup>th</sup> -15 <sup>th</sup> C	2	2	16	16	1	1	1	1	3	1	1	0	0	0	330.4
2057	14 <sup>th</sup> -15 <sup>th</sup> C	1	1	1	2	0	0	2	1	0	0	0	0	0	0	21.0
2058	14 <sup>th</sup> -15 <sup>th</sup> C	3	2	3	2	0	0	0	0	4	2	0	0	0	0	117.9
2059	14 <sup>th</sup> -15 <sup>th</sup> C	1	1	6	1	0	0	1	1	0	0	0	0	0	0	84.5
2060	14 <sup>th</sup> -15 <sup>th</sup> C	2	1	1	1	0	2	5	3	0	0	0	0	0	0	22.4
2062	14 <sup>th</sup> -15 <sup>th</sup> C	2	1	0	3	0	0	0	0	0	0	0	0	0	0	17.8
2064	17 <sup>th</sup> C	1	1	3	1	0	0	0	0	1	1	0	0	0	0	67.2
2066	14 <sup>th</sup> -15 <sup>th</sup> C	1	1	3	2	0	0	0	0	1	1	0	0	0	0	44.0
2067	14 <sup>th</sup> -15 <sup>th</sup> C	-	-	0	0	0	1	0	0	0	0	0	0	0	0	2.4
2068	14 <sup>th</sup> -15 <sup>th</sup> C	1	1	1	0	0	0	0	0	0	0	0	0	0	0	12.6
2070	13 <sup>th</sup> -14 <sup>th</sup> C	2	2	1	2	0	0	0	0	0	0	0	0	0	0	18.5
2071	13 <sup>th</sup> -14 <sup>th</sup> C	1	2	1	1	0	1	0	0	0	0	0	0	0	0	26.4
2077	14 <sup>th</sup> -15 <sup>th</sup> C	1	1	1	2	1	0	0	0	2	1	0	0	0	0	33.6
2078	-	-	-	0	0	0	0	0	0	0	0	0	1	0	0	3.8
Totals				60	56	2	10	16	12	26	16	3	1	58	3	1591

Table 3. 52 Keldgate, Beverley: hand-collected vertebrate remains. **Key**: Nd = undated material from Trench 1.

Species		Nd	13 <sup>th</sup> -14 <sup>th</sup> C	14 <sup>th</sup> -15 <sup>th</sup> C	17 <sup>th</sup> C	18 <sup>th</sup> C+	Total
Felis f. domestic	cat	-	1	1	2	-	4
Canis f. domestic	dog	-	-	-	5	-	5
Equus f. domestic	horse	-	1	2	7	1	11
Sus f. domestic	pig	1	3	8	10	1	23
Dama dama (L.)	fallow deer	-	-	1	-	-	1
cf. Dama dama (L.)	?fallow deer	-	-	-	1	-	1
Bos f. domestic	cattle	9	13	29	49	5	105
Caprovid	sheep/goat	4	8	21	391	26	450
Anser sp.	goose	-	-	-	-	1	1
Anas sp.	duck	-	-	-	1	-	1
Gallus f. domestic	chicken	-	1	1	2	1	5
<u>Bird</u>	bird	-	-	1	2	-	3
Homo sapiens	human	-	-	-	1	-	1
Unidentified		8	48	124	144	21	345
Total		22	75	188	615	56	956