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**Assessment of biological remains from 9 Little Stonegate, York
(site code YORYM1997.102)**

by

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Summary

Thirty-three 'environmental' samples and a small assemblage of vertebrate remains from excavations of mainly 13th to 17th century deposits at Little Stonegate, York have been assessed for their bioarchaeological potential.

Plant and invertebrate remains were scarce in all of the processed samples and provide little useful information. No further work is recommended. Eggs of intestinal parasites were identified from a single sample (Sample 39, Context 6172) but were rather poorly preserved. Another sample from the same context (although slightly different in appearance) may yield additional microfossils enabling more detailed analysis and providing useful information regarding the interpretation of the archaeological feature.

Deposits from Little Stonegate yielded a small assemblage of bone, most of which was probably derived from household/kitchen waste. Moderate quantities of fish remains were identified from the samples; recovery of further bone from selected GBA and BS samples is recommended, to elucidate aspects of diet and activity in this area of York.

KEYWORDS: LITTLE STONEGATE; YORK; ASSESSMENT; ROMAN; MEDIEVAL; POST-MEDIEVAL; PLANT REMAINS; VERTEBRATE REMAINS; FISH REMAINS; *TRICHURIS* EGGS

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Introduction

Excavations were undertaken at 9 Little Stonegate, York during April and June 1998 by York Archaeological Trust, prior to redevelopment of the site. A total of 33 'environmental' samples ('GBAs', 'BSs' and 'SPOTs' *sensu* Dobney *et al.* 1992), a single wood sample, and four boxes of hand-collected animal bone were recovered from deposits of mainly 13th to 17th century date. This material was submitted to the EAU for assessment of its bioarchaeological potential.

Methods

Sediment samples

All the sediment samples were inspected in the laboratory and a description of their lithology was recorded using a standard *pro forma*. On the basis of this inspection and information supplied by the excavator, nine of them were chosen for further work and processed using various methods (as described in Table 1), following procedures of Kenward *et al.* (1980; 1986).

Plant macrofossils were examined from the residues and washovers resulting from processing.

One sample (39, Context 6172) was examined for the eggs of parasitic nematodes using the 'squash' technique of Dainton (1992).

Table 1 shows a list of samples and notes on their treatment.

Vertebrate remains

Vertebrate remains were recovered from a total of 130 deposits (four boxes of approximately 20 litres each). Material from 89 contexts which had pottery spot dates were recorded in detail, whilst those with no dating were briefly scanned and numbers of fragments recorded.

For most of the recorded material, subjective records were made of preservation, angularity (i.e. the nature of the broken surfaces), and colour, whilst quantities and identifications were noted where appropriate. Additionally, semi-quantitative information was recorded for the material from each context concerning fragment size, dog gnawing, burning, butchery and fresh breaks. Other fragments (classified as 'unidentified' in Table 2) were, where possible, grouped into categories: large mammal (assumed to be horse, cow or large cervid), medium-sized mammal (assumed to be sheep, pig or small cervid), and bird. As well as counts of fragments, total weights were recorded for all identifiable and unidentifiable categories.

Results

The results of the investigations are presented in sample number order. Archaeological information (provided by the excavator) is given in square brackets.

Sediment samples

Context 5008 [?pit fill]
Sample 11

Just moist, light to mid brown (externally darker brown to black), brittle to crumbly (working soft), slightly

sandy clay silt, with ash as a minor component. Small (6-20 mm) stones, fragments of mortar/plaster and brick/tile (including a sherd of glazed tile/pot), charcoal, coal and burnt shellfish were present.

No further analysis was undertaken on this sample.

Sample 12

Description as above

The large residue was mainly composed of sand, gravel and fragments of brick/tile (to 150 mm). Stones (to 60mm), cinders and coal were all common, with small amounts of charcoal, slag and pottery present. Two metal pins and four corroded nails were also noted.

Food waste was represented by a sizeable assemblage of mammal and fish remains, along with a small number of oyster and mussel shell fragments.

The fish bones (116 fragments) included the remains of herring (*Clupea harengus* L.), eel (*Anguilla anguilla* (L.)), haddock (*Melanogrammus aeglefinus* (L.)), flatfish (pleuronectid), ?cyprinid, and gadid fragments. Many of the gadid vertebrae had been chopped, suggesting that the fish had been sliced in half or cut into fillets. Additionally, a dermal denticle was identified as thornback ray (*Raja clavata* L.) and a large, chopped vertebra was recorded as conger eel (*Conger conger* (L.)). A single fish vertebra had a 'squashed' appearance, characteristic damage consistent with passage through the gut. The usual domestic mammals (cattle, caprovid and pig) were all recorded, most remains being very fragmented. Cat, hare (*Lepus* sp.) and small mammal bones were also noted. Bird remains included goose, chicken, and ?fieldfare.

This sample represents a mixed deposit containing domestic and industrial waste.

Context 5028 [burnt residues - ?15/16th C]
Sample 13

Moist, mid grey-brown to light to mid orange-brown, crumbly to slightly sticky, slightly clay silt, with a large component of ash. Rotten mortar, brick/tile, charcoal and ?burnt shell were present.

The very small washover consisted of >1% of the original sample and consisted mainly of sand, amorphous carbonised material, charcoal (to 5 mm) and tiny fragments of coal and brick/tile.

The small residue was of sand, gravel and brick/tile.

Context 5032
Sample 14

Just moist, dark grey-brown, crumbly to unconsolidated silt, with an ash component. Very small (2-6 mm) stones, rotted mortar, coal and cinder were present. Additionally, a fragment of glass and a corroded metal pin were noted.

The small washover recovered from this sample was chiefly composed of amorphous carbonised material, with fragments of coal, wood (to 25 mm) and stones (to 3 mm).

The large residue consisted almost entirely of cinder. Additionally, there were small quantities of coal, slag, charcoal and wood, with fragments of grey ash and brick/tile. Burnt mammal bone and pieces of cockle (*Cerastoderma* sp.) shell were also noted.

Context 5084 [possible build-up/occupation]
Sample 15

Moist, mid grey-brown, crumbly, slightly clay, sandy silt, with very small (2-6 mm) stones and fragments of brick/tile.

No further analysis was undertaken on this sample.

Context 5097 [dump - 16th C]
Sample 16

Just moist, mid to dark grey-brown, crumbly (working soft), slightly clay silt. Fragments of mortar, brick/tile and pot, coal, cinder and charcoal were present. Mammal and fish bone, and shellfish were also noted.

The sample produced a small washover consisting mainly of charcoal; the remainder of the processed sample included wood fragments, rootlets, amorphous carbonised material, fish scales and a few seeds. These were identified as thistle (*Cirsium/Carduus*), sedge (*Carex* sp(p).) and spike-rush (*Eleocharis* sp(p).).

The moderate-sized residue was composed of sand, gravel, small (6-20 mm) stones, cinders and fragments of brick/tile (to 80 mm). Charcoal was common, whilst pottery, slag, coal and mortar were present. Small fragments of eggshell and shellfish were noted. The bone recovered from this sample included 139 fish fragments, of which about two-thirds were unidentifiable spine and skull fragments. Those

identified represented herring, eel, ?Cyprinidae and Gadidae. Most of the larger vertebrae had been split or chopped. Twenty unidentified bird and mammal fragments were also recorded.

Context 5111

Sample 17

Just moist, heterogeneous mix of mid grey-brown sandy silt, red lumps of burnt compacted sediment (mainly clay), and lumps of black compacted charcoal. Mortar/plaster, brick/tile, fragments of cinder and charcoal were present.

No further analysis was undertaken on this sample.

Context 5140 [unidentified iron rich deposit]

Sample 18

Mid grey-brown to orange, concretions of iron-rich burnt sediment and slag.

No further analysis was undertaken on this sample.

Context 5145 [high content of burnt material - possible build-up/occupation within building]

Sample 19

Moist, mid grey-brown to orange to black, crumbly (working soft), clay silt. Charcoal was recorded as common.

No further analysis was undertaken on this sample.

Context 5148 [carbonised deposit found by hearth]

Sample 20

Moist, very dark grey to black, crumbly, rubs black, very slightly clay silt, with very fine charcoal throughout. Fragments of coal and very rotted wood were present.

No further analysis was undertaken on this sample.

Context 6200 [upper fill of pit 6228 - ?small burnt dump - ?metal working waste/ash]

Sample 30

Just moist, mid brown to dark grey-brown, crumbly to unconsolidated, slightly sandy, clay silt, with ash and with lumps of light to mid grey-brown clay. Very small (2-6 mm) stones, cinder, mammal and fish bone and fragments of burnt shell were present.

No further analysis was undertaken on this sample.

Context 6201 [backfill of pit 6203]

Sample 31

Moist, mid grey-brown, crumbly to unconsolidated, clay silt, with small patches of reddish-orange clay. Fragments of salg, very rotted mortar, brick/tile and charcoal were present. Fish bone and oyster (*Ostrea edulis* L.) shell were also noted.

No further analysis was undertaken on this sample.

Context 6034 [Occupation deposit within building 2]

Sample 32

Just moist, mid to dark grey to light to mid brown (with shades in between), brittle to crumbly and layered in places (working just soft), slightly sandy, clay silt, with lumps of black ash. Coal, mammal, bird and fish bones were present.

The small washover produced charcoal (to 12 mm), charred bark, small fragments of coal, amorphous carbonised material, bone and fish scales.

The residue (187 g) was mainly composed of sand and gravel, with some small fragments of cinder and charcoal. Sherds of pottery, brick/tile and mortar/plaster were recorded, along with mammal, bird and fish bone.

Mammal and bird remains amounted to 45 fragments, most of which were unidentified. Over 60 fragments (1.7 g) of fish were recovered and included mainly the remains of herring, with a few haddock bones. Three of the vertebrae were crushed, suggesting that they had been eaten.

Context 6208 [Occupation deposit within building 2]

Sample 33

Just moist, light grey-brown to mid to dark grey-brown, crumbly and layered in places (working soft), slightly sandy, clay silt, with ?mortar, coal, mammal and fish bone present.

The sample produced a small washover, mainly consisting of amorphous carbonised material, quartz grains, small fragments of coal and charcoal and ash residue. A single nettle (*Urtica dioica* L.) seed, burnt bone, and fish fragments, including scales, were also noted.

Much of the residue was composed of sand, with small fragments of brick/tile, coal, cinders and charcoal. Moderate quantities of fish (over 120 fragments) were

recovered, the bulk of which were unidentified spines and ribs. Those fragments which could be identified included herring (*Clupea harengus* L.) and haddock (*Melanogrammus aeglefinus* (L.)). Mammal remains (33) were mostly recorded as sheep-sized rib, shaft and vertebra fragments.

Context 6021 [Occupation deposit within building 2]
Sample 34

Just moist, varying in colour from light brown to very dark grey-brown (slightly orange in places), crumbly to unconsolidated (working soft), slightly sandy, clay silt, with very small and small (2-20 mm) stones, traces of coal and mammal, bird and fish bone.

No further analysis was undertaken on this sample.

Context 6163 [Occupation deposit within building 2]
Sample 36

The wood sample was examined and identified as hazel (*Corylus avellana* L.).

Context 6161 [Backfill of pit 6166]
Sample 37

Just moist, varying in colour from light brown to mid to dark grey-brown, with shades in between, brittle to crumbly (working soft and slightly plastic), slightly silty clay. Rotted mortar, brick/tile, lumps of ash and charcoal, mammal and bird bone and fragments of shell were present.

No further analysis was undertaken on this sample.

Context 6223 [Occupation deposit within building 2]
Sample 38

Dry, light grey, crumbly clay silt, very light grey clay, dark grey, slightly ashy clay silt, mid grey clay with brown patches and red/brown clay silt, with some layering in places. Coal and cinder were present.

No further analysis was undertaken on this sample.

Context 6172 [Pit lining of pit 6177]
Sample 39

Moist, light to mid grey, crumbly (working soft and slightly plastic and sticky), slightly silty clay, with mammal and fish bone.

The small residue was mainly sand and what appeared to be crushed faecal concretions. Fragments of

brick/tile, small pieces of cinder and charcoal and the remains of woodlice (Isopoda) were also present.

The bones recovered from this sample were quite fragmented and some appeared to be acid-etched. Many small fish vertebrae were recorded, some of which showed characteristic damage caused by passage through the gut. Fish included the remains of herring, eel, pike (*Esox lucius* L.), gadid and cyprinid. A number of small bird fragments were noted, one representing a wader, the remainder possibly passerines.

The microfossil 'squash' was mostly inorganic, with much organic detritus. Eight eggs of the intestinal parasite *Trichuris* sp. were present however, all were poorly preserved (pale and incomplete) and not measurable. This indicates the presence of some faecal material but the parasite host was not determinable.

Biological evidence from this sample suggests a faecal origin for the contents of this pit.

Context 6172 [Pit lining of pit 6177]
Sample 40

Moist, light to mid grey, crumbly to unconsolidated (working soft), slightly sandy silty clay, with medium-sized (20-60 mm) stones, mortar, brick/tile (to 80 mm) and charcoal.

No further analysis was undertaken on this sample.

Context 6059 [Floor deposits? south of building 2]
Sample 41

Just moist, varying in colour from light brown to black, with shades of grey and grey-brown in between, brittle and layered in places, ashy clay silt. Lumps of compacted black ash were noted. Rotted mortar, brick/tile, charcoal, mammal and fish bone were noted.

No further analysis was undertaken on this sample.

Context 6196 [Occupation deposit within building 2]
Sample 42

Just moist, mid grey-brown, crumbly (working soft), slightly sandy clay silt, with ash and lumps of mid brown clay. Bird and fish bone were present.

No further analysis was undertaken on this sample.

Context 6198 [Occupation deposit within building 2]
Sample 43

Just moist, dark grey, crumbly to unconsolidated (working soft), slightly sandy, clay silt, with lumps of light grey to light grey-brown clay. Very small (2-6 mm) stones, brick/tile and fragments of mammal, bird and fish bone were present.

No further analysis was undertaken on this sample.

Context 6065 [backfill of pit 6232]
Sample 44

Just moist, light to mid grey-brown, crumbly to brittle (working soft), clay silt. Fragments of rotted mortar were abundant, whilst brick/tile (to 120 mm) was common. Charcoal and rotted shell were present.

No further analysis was undertaken on this sample.

Context 6244 [clay floor and occupation material - building 1]
Sample 46

Just moist, stiff and plastic, yellow clay, crumbly, mid grey clay silt and stiff and plastic, light brown clay, overall layered, but more jumbled in places. Brick/tile (to 130 mm) was common, whilst fragments of coal were present.

No further analysis was undertaken on this sample.

Context 6044/?6041 [clay floor from building 1]
Sample 47

Dry, mid to dark grey-brown to orangy brown, unconsolidated, slightly clay, slightly silty ash, with lumps of concreted black ash and orange burnt clay, both slightly layered. fragments of coal were present.

No further analysis was undertaken on this sample.

Context 6267 [backfill of 6042 - levelling/make-up]
Sample 48

Just moist, mid to dark grey-brown (with lighter and darker mottles to 1 mm), crumbly to unconsolidated, slightly sandy, clay silt with a significant black ash component. Cinder was present.

Context 6037 [deposit overlying hearth 6033]
Sample 49

Just moist, dark grey-brown to light grey brown, black and orange, crumbly and layered in places, soft, clay silt. Charcoal, ?brick/tile (broken and rotted) and bird bone were noted.

No further analysis was undertaken on this sample.

Context 6291 [Occupation deposits within building 1]
Sample 51

Moist, mid grey-brown (with mottles to 1 mm, lighter and darker), crumbly to unconsolidated (working soft and slightly sticky), slightly sandy, clay silt. Small (6-20 mm) stones, coal, bird and fish bone were present.

The small washover mainly consisted of ash residue, burnt sediment (orange), quartz grains, coal (to 2 mm), charcoal (to 2 mm) and a charred twig fragment.

The residue contained mostly sand and coal fragments, with traces of brick/tile, cinders and charcoal, shellfish and some mammal and fish bones.

The small number of bone fragments included the remains of herring, eel and Gadidae. Mammal bones were fragmented and, for the most part, unidentifiable; amongst them, a few burnt fragments were noted.

Context 6300 [Occupation deposits within building 2]
Sample 52

Just moist, shades of grey, crumbly (working soft and slightly sticky), slightly sandy, clay silt, with very light grey clay silt. Mortar, ?pot, charcoal and mammal bone were present.

There was a moderate-sized residue of sand and gravel, with some coal fragments and traces of brick/tile, pottery, cinders and mortar/plaster. Additionally, charcoal and nutshell (some charred) were also noted. Of the recovered mammal remains (approximately 145 fragments) 10-20% were burnt. A few of the fragments were very rounded in appearance. Moderate numbers (over 150 fragments) of fish bones were recorded and included the remains of herring, eel, thornback ray and gadid. Some of the larger vertebrae had been chopped.

Hand-collected vertebrate remains

A small assemblage of hand-collected vertebrate material was recovered from this site. The recorded

assemblage amounted to 1264 fragments (Table 1), of which 419 were identified to species. Seventy measurable fragments were noted, most from 15th and 16th century deposits (Table 3). A further 178 fragments were noted from the scanned material (from 41 contexts); ten of these were measurable.

For most contexts (including the scanned material), preservation of the fragments was recorded as fair or good. However, material from a small number of the deposits was quite variable, with some fragments being described as 'battered' in appearance. Fragments from three contexts (5008, 5010 and 5168), in particular, were not only rather rounded and battered, but also showed considerable difference in colour to the rest of the bones within each context. A single human bone was recovered from Context 6169. It seems quite likely that all these deposits contained reworked or redeposited material.

Colour, overall, was mainly fawn or brown, with material from 25 deposits showing varying degrees of green staining. Traces of metallic concretions were also noted adhering to the surface of several 'green' bones from Context 6224. A small number of deposits (Contexts 5025, 5064, 6024, 6079, 6164, 6188, 6193 and 6206) contained high proportions of fragments of less than 50 mm in maximum length.

Evidence of dog gnawing and burning was largely absent. Butchery was noted throughout the assemblages and included the longitudinal chopping of cattle and sheep vertebrae and sacra (indicating the splitting of carcasses into sides). Some 13th century deposits also produced small numbers of split metapodial shaft fragments, perhaps indicating the exploitation of these elements for marrow. Heavy and extensive butchery was noted on pelves, femora and scapulae from Context 6224 (16th century).

The range of identified species is shown in Table 2, from which it can be seen that cattle and caprovid remains were most common throughout all periods. Juvenile and immature cattle fragments were more numerous in 15th and 16th century deposits, a phenomenon already noted from the assemblage recovered during the evaluation excavation at this site (Carrott *et al.* 1997) and from other post-medieval assemblages such as St Paul-in-the-Bail, Lincoln (Dobney *et al.* 1996).

Numbers of fragments were rather limited, but the range of cattle and caprovid elements present suggest the assemblages represent domestic/kitchen waste, with traces of primary butchery refuse. Almost no

mandibles, teeth or cranial fragments were recovered. Other species present included pig, chicken and goose, with small numbers of horse, cat, hare and rabbit remains – the last of these only recorded from two contexts, 5064 (16th century) and 6169 (undated).

Two fragments of red deer (*Cervus elaphus* L.) antler were identified from Context 6300. Both fragments had the base of the beam tine, the burr, and part of the pedicle bone remaining. One showed the lower tines to have been sawn from the beam, with the resulting scars smoothed and worn. The pedicle bone (below the burr) was burnt and either chopped or shattered through exposure to heat. The second beam fragment had again either been chopped or had shattered and the worn appearance of the base of the burr suggests that it had been used, perhaps for some craft activity. Both fragments appeared rounded and eroded, certainly the result of their use. A third antler fragment from Context 6035 proved to join onto the burr fragment from Context 6300.

Of interest are the two fragments (ulna and radius) identified as pheasant (*Phasianus colchicus* L.) recovered from a 13th century deposit (Context 6300). The difficulties of distinguishing the remains of domestic chicken from pheasant mean that definitive records of the latter from archaeological sites are rare. Since the introduction of the pheasant to Britain is usually supposed to have occurred at the Norman Conquest, the presence of pheasant in a 13th century deposit from York is worthy of note.

Single fragments of ?partridge (cf. *Perdix perdix* (L.)) and ?woodcock (cf. *Scolopax rusticola* L.) were identified from Contexts 5064 and 6168.

Fish remains, although fairly numerous (85 fragments, including the scanned material), were mostly unidentifiable spine or rib fragments. Those which could be identified included Gadidae (cod family), haddock, herring and flatfish (Pleuronectidae). Additionally, quite large quantities of fish were recovered from the samples (see above).

Discussion and statement of potential

Sediment samples

Plant remains were scarce and almost no invertebrate remains were recovered from

the samples, providing no information of interpretative value. It was apparent that the samples from Trench 5 reflected the industrial nature of the site, with much ash and cinder being present in the residues. Evidence from the deposits from Trench 6 suggests these to contain a larger proportion of domestic/occupation waste.

Eggs of intestinal parasites were identified from a single sample (Sample 39, Context 6172) but were rather poorly preserved. Additional material from the same context exists and further work on this sample may produce more useful information leading to a greater understanding of the nature and formation of this deposit.

Vertebrate remains

Deposits from Little Stonegate yielded a small assemblage of vertebrate remains, most of which was probably derived from household/kitchen waste. Whilst the pottery provided a reasonably tight dating framework, the vertebrate assemblage is really rather too small to provide much useful zooarchaeological information. Numbers of measurable fragments are small and the collection of age-at-death information would be hampered by the almost complete absence of mandibles and teeth.

A moderate to large fish assemblage was recovered from the samples. This included local riverine species, together with marine fish which would have been imported from the coast. Well-dated assemblages of fish have previously been recovered from York but there are few published accounts of this material. Detailed analysis of the assemblage from Little Stonegate would provide information on the exploitation of riverine and marine resources (particularly for the

late medieval and post-medieval periods) in this part of York.

Recommendations

Plant and invertebrate remains are in such low concentrations (or virtually absent in the case of invertebrates) that no further work is warranted on this material. However, any remaining sediment samples should be sieved to recover bone (particularly fish) and artefacts. Sample 40 (Context 6172) should be analysed for microfossils.

Although the bone assemblage is small, it is recommended that a basic archive, including biometrical data, should be produced of all of the well-dated vertebrate material. In combination with data from other small assemblages in the vicinity (Carrott *et al.* 1997; 1998a; 1998b), the vertebrate remains may elucidate aspects of diet and activity in this area of York. Additionally, biometrical and age-at-death studies of the small post-medieval assemblages from these sites may add useful information with which to address the question of livestock improvement which occurred around the time of the Agricultural Revolution.

Retention and disposal

It is recommended that all the sediment samples and vertebrate remains are kept 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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References

Carrott, J., Hughes, P., Jaques, D., Kenward, H., Large, F. and Worthy, D. (1997). An evaluation of biological remains from excavations at British Gas, Davygate, York (site code: 1997.102). *Reports from the Environmental Archaeology Unit, York* 97/51, 12 pp.

Carrott, J., Hall, A., Hughes, P., Jaques, D., Kenward, H. and Worthy, D. (1998a). An assessment of biological remains from excavations at the former Davygate Centre, York (sitecode: 97.125). *Reports from the Environmental Archaeology Unit, York* 98/9, 18 pp.

Carrott, J., Hughes, P., Jaques, D., Johnstone, C., Kenward, H. and Worthy, D. (1998b). Assessment of biological remains from BHS store, Feasegate, York (sitecode: YORYM1998.2). *Reports from the Environmental Archaeology Unit, York* 98/16, 16 pp.

Dainton, M. (1992). A quick, semi-quantitative method for recording nematode gut parasite eggs from archaeological deposits. *Circaea* 9, 58-63.

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., Engleman, C., Robertson, A., and Large, F. (1986). Rapid scanning of urban archaeological deposits for insect remains. *Circaea* 3 (for 1985), 163-72.

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

Table 1. Samples from 9 Little Stonegate, York.

| Context no. | Sample no. | Processed? | Notes |
|-------------|------------|------------|---|
| 5008 | 11 | N | described only |
| 5008 | 12 | Y | 32 kg sieved to 500 µm |
| 5028 | 13 | Y | 2 kg sieved to 300 µm; washover |
| 5032 | 14 | Y | 7 kg sieved to 500 µm; washover |
| 5084 | 15 | N | described only |
| 5097 | 16 | Y | 8 kg sieved to 500 µm; washover |
| 5111 | 17 | N | described only |
| 5140 | 18 | N | described only |
| 5145 | 19 | N | described only |
| 5148 | 20 | N | described only |
| 6021 | 34 | N | described only |
| 6034 | 32 | Y | 0.9 kg (whole sample) sieved to 300 µm; washover |
| 6037 | 49 | N | described only |
| 6044/?6041 | 47 | N | described only |
| 6059 | 41 | N | described only |
| 6065 | 44 | N | described only |
| 6080 | 45 | N | mortar sample - not described or examined |
| 6161 | 37 | N | described only |
| 6163 | 35 | N | Spot sample - not at EAU |
| 6163 | 36 | N | Wood sample |
| 6172 | 39 | Y | 0.8 kg (whole sample) sieved to 300 µm; parasite 'squash' |
| 6172 | 40 | N | described only |
| 6196 | 42 | N | described only |
| 6198 | 43 | N | described only |
| 6200 | 30 | N | described only |
| 6201 | 31 | N | described only |
| 6208 | 33 | Y | 0.7 kg (whole sample) sieved to 300 µm; washover |
| 6223 | 38 | N | described only |
| 6244 | 46 | N | described only |
| 6267 | 48 | N | described only |
| 6280 | 50 | N | not described or examined |
| 6291 | 51 | Y | 1.1 kg (whole sample) sieved to 300 µm; washover |
| 6300 | 52 | Y | 10 kg (whole sample) sieved to 500 µm |

Table 2. Vertebrate remains for periods defined by pottery spot dates from 9 Little Stonegate, York. Key: ND = not dated

| Taxa | Roman | 10thC | 11/12thC | 13thC | 14thC | 14/15thC | 15thC | 15/16thC | 16thC | 16/17thC | ND | Total |
|-----------------------------------|----------|----------|-----------|-----------|------------|-----------|------------|------------|------------|-----------|------------|-------------|
| <i>Lepus</i> sp. | - | - | - | - | - | - | - | 1 | - | - | - | 1 |
| <i>Oryctolagus cuniculus</i> (L.) | - | - | - | - | - | - | - | - | 6 | - | 3 | 9 |
| <i>Felis</i> f. domestic | - | - | - | - | 1 | - | 1 | - | - | - | - | 2 |
| <i>Equus</i> f. domestic | - | - | - | 1 | - | 2 | 1 | - | - | - | - | 4 |
| <i>Sus</i> f. domestic | - | - | - | 5 | 3 | - | 12 | 1 | 8 | 1 | 2 | 32 |
| Cervid | - | - | - | 1 | - | - | - | - | - | - | - | 1 |
| <i>Cervus elaphus</i> L. | - | - | - | 2 | - | - | - | 1 | 1 | - | - | 4 |
| <i>Bos</i> f. domestic | 1 | - | 3 | 8 | 17 | 7 | 37 | 11 | 50 | - | 7 | 141 |
| Caprovid | - | - | - | 9 | 11 | 2 | 26 | 5 | 40 | 2 | 16 | 111 |
| <i>Anser</i> sp. | - | - | - | 4 | 3 | 1 | 7 | 3 | 14 | - | 2 | 34 |
| <i>Anas</i> sp. | - | - | - | 1 | 1 | - | - | - | - | - | 1 | 3 |
| cf. <i>Perdix perdix</i> (L.) | - | - | - | - | - | - | - | - | 1 | - | - | 1 |
| <i>Gallus</i> f. domestic | 1 | - | - | 3 | 4 | 1 | 5 | 1 | 17 | - | 2 | 34 |
| <i>Phasianus colchicus</i> L. | - | - | - | 2 | - | - | - | - | - | - | - | 2 |
| cf. <i>Scolopax rusticola</i> L. | - | - | - | - | - | - | - | - | 1 | - | - | 1 |
| Bird | 1 | - | - | - | - | - | 3 | 9 | 1 | - | 1 | 15 |
| Fish | - | 1 | 1 | 2 | 23 | 2 | 5 | 10 | 12 | 2 | 27 | 85 |
| <i>Homo sapiens</i> | - | - | - | - | - | - | - | - | - | - | 1 | 1 |
| Unidentifiable | 1 | 3 | 13 | 58 | 97 | 45 | 176 | 62 | 364 | 26 | 116 | 961 |
| Total | 4 | 4 | 17 | 96 | 160 | 60 | 273 | 104 | 515 | 31 | 178 | 1442 |

Table 3. Number of measurable fragments for periods defined by pottery spot dates from 9 Little Stonegate, York. Key: ND = not dated

| Taxa | 13thC | 14thC | 14/15thC | 15thC | 15/16thC | 16thC | 16/17thC | ND | Total |
|-----------------------------------|----------|----------|----------|-----------|----------|-----------|----------|-----------|-----------|
| <i>Oryctolagus cuniculus</i> (L.) | - | - | - | - | - | 5 | - | 1 | 6 |
| rabbit | - | - | - | - | - | - | - | - | - |
| horse | - | - | 1 | - | - | - | - | - | - |
| <i>Equus f. domestic</i> | - | 2 | - | 4 | - | 10 | - | 2 | 18 |
| cow | - | 2 | - | 4 | - | 10 | - | 2 | 18 |
| <i>Bos f. domestic</i> | - | 2 | - | 4 | - | 10 | - | 2 | 18 |
| sheep/goat | 1 | 1 | 1 | 10 | - | 9 | 1 | 3 | 26 |
| Caprovid | 1 | 1 | 1 | 10 | - | 9 | 1 | 3 | 26 |
| <i>Anser sp.</i> | - | - | - | - | 1 | 5 | - | 1 | 7 |
| goose | - | - | - | - | 1 | 5 | - | 1 | 7 |
| <i>Anas sp.</i> | 1 | 1 | - | - | - | - | - | 1 | 3 |
| duck | 1 | 1 | - | - | - | - | - | 1 | 3 |
| <i>Gallus f. domestic</i> | 1 | 1 | 1 | 5 | 1 | 6 | - | 2 | 17 |
| fowl | 1 | 1 | 1 | 5 | 1 | 6 | - | 2 | 17 |
| <i>Phasianus colchicus</i> L. | 2 | - | - | - | - | - | - | - | 2 |
| pheasant | 2 | - | - | - | - | - | - | - | 2 |
| Total | 5 | 5 | 3 | 19 | 2 | 35 | 1 | 10 | 76 |