

Reports from the Environmental Archaeology Unit, York 95/39, 23 pp.

**Assessment of biological remains from excavations
at Hall Farm, Baston, Lincolnshire (site code: BHF93)**

by

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Summary

Plant, invertebrate, mollusc and bone remains from a series of deposits of mostly 9th - mid 14th century date from Hall Farm, Baston, Lincolnshire have been examined, to assess their bioarchaeological potential.

Small amounts of plant macrofossils, mostly weed taxa, were recovered from some of the samples. These offer some potential for further clarification of the nature of the features in which the deposits formed and, therefore, of aspects of human activity on site. The charred plant remains suggest that cereals were utilised and perhaps processed on-site. The insect assemblage had considerable potential for context interpretation, development of a general picture of site ecology and addressing wider issues. The hand-collected mollusc assemblage was very small and of only limited interpretative value. The molluscs recovered from bulk sieving of sediment samples, however, have potential to contribute to a definition of ecological conditions on the site, especially in combination with the plant and insect remains.

The vertebrate assemblage is of limited interpretative potential because of its small size and generally broad dating framework. However, the wide range of species, including deer, rabbit and polecat, and the high proportions of pig, horse and dog suggest that this was an establishment of high status during the 12th - 14th centuries.

It is recommended that further work is carried out on the macrofossil assemblage with particular emphasis on (a) the nature of certain of the features (primarily the pits, well fills and pond fill detailed in Table1) and (b) investigation of ecological conditions at the site.

Keywords: HALL FARM, BASTON; LINCOLNSHIRE; EARLY MEDIEVAL; MEDIEVAL; PLANT REMAINS; INSECTS; MOLLUSCS; BONES

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18th August 1995

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Introduction

Excavations were carried out by Archaeological Project Services at Hall Farm, Baston, during 1993. The biological material collected came mostly from the many ditches, pits and postholes revealed during excavation. The sampled deposits could be dated to five phases, although most were of Phase 3 (9th - 12th centuries) and Phase 4 (mid 12th - mid 14th centuries).

A total of 87 'environmental' samples was available. There were 15 General Biological Analysis samples and 48 Bulk Sieve samples (GBAs and BSs *sensu* Dobney *et al.* 1992), as well as a number of spot samples. These last included 15 charred grain and 8 charcoal samples, and a small quantity of hand-collected molluscs. A modest-sized assemblage of hand-collected animal bone and a small plastic box of human remains were also submitted for assessment of their bioarchaeological potential.

The assessment was designed to make a general survey of the bioarchaeological remains. The samples were submitted with the expectation that analysis of the biological remains might assist in the clarification of the interpretation of specific features, as well as providing more general information. In particular, it was hoped that examination of waterlogged material from some of the pits (Contexts 60, 82, 239, 316, 338 and 356), two well fills (Contexts 972 and 1041) and a pond fill (Context 216) would provide information about both their function and the nature of the local environment.

Methods

Sediment and spot samples

All of the GBA samples were inspected in the laboratory and a description of their lithology recorded using a standard *pro forma*. Subsamples of 1 kg were taken from eleven GBAs for extraction of macrofossil remains, following procedures of Kenward *et al.* (1980; 1986).

The flots and residues resulting from processing were examined for plant and invertebrate macrofossils.

On the whole, the BS samples were fairly small, most weighing (before processing) between seven and eighteen kilogrammes with the exception of sample 127 (Context 2222) which weighed 44 kilos (Table 2).

Each BS sample was sieved to 500 μm (with a 500 μm washover) and the residue recorded and sorted for small bones, molluscs and artefacts, the last being returned to the excavator.

Of a total of eight charcoal samples, three were selected for further processing. Subsamples of 0.5 kg from those chosen were sieved to 500 μm and the resulting residues were examined.

Eight of the fifteen charred grain samples warranted further examination. Subsamples of 0.5 kg were taken from each of these and sieved to 500 μm . Notes were made on the composition of the residues.

Hand-collected molluscs

There was very little hand-collected shell from the site. Twenty-three small bags of well-preserved but rather fragmented shell from a range of contexts were examined; most were from Phase 4 contexts (Table 4).

Bone

A total of nine boxes (30 x 30 x 19.5 cm) of hand-collected animal bone was recovered from this site, all of which was initially scanned. Of the 113 assemblages selected for further examination, fifteen were recorded in some detail, whilst notes were made on material from the remainder. Brief notes were made on the very small quantities of bone recovered from the BS residues.

The single box of human bone recovered was also scanned.

Results

GBA samples

Most of the 'test' subsamples examined yielded at least small amounts of plant and invertebrate material and in a few cases the organic content was high and preservation excellent. Notes on the evidence observed are given in Table 1.

BS samples

Plant remains were sparse in the residues. Nearly every sample yielded a little charcoal (mostly no more than 20 mm, and often only up to 10 mm, in maximum dimension) but in only a few cases were there any 'seeds'. The only sample to yield more than a few grammes of charcoal was

2222 (primary fill of 'boat' feature) from which a washover yielded about 150-200 cm³ of charcoal up to 25 mm (the few specimens examined being oak, *Quercus*).

Small numbers of charred cereal grains were observed in several samples, all from fills of Phase 4 features: 13 (from Context 90), 27 (194), 28 (208), 39 (318), 54 (423), and 64 (182). These were mostly very blistered and 'puffy' wheat, *Triticum* sp., with very rare barley, *Hordeum* sp. In no case were there more than 20 grains from samples of 10-15 kg.

The only other plant remains recorded from BS samples were three mineralised grape (*Vitis vinifera* L.) pips from Sample 27 (Context 194, a Phase 4 pit fill); this sample also yielded three unidentified mineralised structures which may also have been from plants used for food.

Molluscs were recorded in most of the BS samples, and were moderately to rather abundant in some. The observations are summarised in Table 2.

Bone was recovered from thirty-three of the forty-eight BS samples, but the number of fragments was very limited. This may be a reflection of the small sample size, although concentration of bone overall was not great.

Large mammal fragments were present in twenty-seven of the residues, whilst amphibian remains, probably frog (*Rana* sp.) were identified from twelve. Bird bones included those of pigeon (Columbidae) (Sample 27, Context 194) ?thrush (Turdidae) and unidentified passerine (Sample 39, Context 318), along with a small number of chicken and duck fragments. Sixteen fish bones (mostly unidentified spines and ribs) and a few small mammal fragments were also recorded.

Table 1. Results of assessment of GBA samples from Hall Farm, Baston. Key: CN - context number, P - priority for assemblage from test subsample (p - for plant remains; i - for insects; m - for molluscs), SN - sample number. In last three columns, P - priority; +3 - process larger subsample (in this case 3 kg; additional processing time is 3 hours unless stated); S - sorting time; R - recording time; LP - priority for larger subsample (if different); LS and LR - times for sorting and recording recommended larger subsample; W - time to process additional subsample. Time to record the macrofossils does **not** include time for incidental tasks, data entry, analysis and writing.

Phase	CN	SN	Notes	Pp	Pi	Pm
3	182 (pit fill)	64	Less than 5% of the residue consisted of organic material, the remainder being sand and gravel. Apart from a few charred ?wheat (<i>Triticum</i>) grains there were only traces of weeds of waste places and cultivated ground and a little charcoal. Some aquatic invertebrates were noted in the flot; a very large subsample might give a useful assemblage but this is perhaps not worthwhile.	P2	P2	P0
				R0.5	R0.5	
4	316 (pit fill)	37	The residue consisted of about 30% very decayed wood fragments and fine organic detritus, the remainder being sand and gravel. The identifiable plant taxa were consistent with a water-margin habitat, perhaps drying mud at the edge of a pond, suggesting this pit lay open for at least a few years during its infilling and perhaps operated as a water-hole or pond. In contrast to this, there was a small group of decomposer insect taxa; a larger subsample would be needed for interpretation.	P2	P2 LP1	P0
				R0.5	+4 LR3	
		38	[not examined in detail; appears to be very similar to 37 from same context] The flot gave a fairly small group of aquatics and decomposer invertebrates; more material would be needed to give an interpretable assemblage.		P2 LP1	P0
					R2 +4 LR4	
	356/7 (pit fill)	43	The residue consisted almost wholly of organic matter and appeared to be a monocotyledon peat, perhaps a reed or sedge peat. Two reedswamp taxa, saw-sedge (<i>Cladium mariscus</i> (L.)) and hemp-agrimony (<i>Eupatorium cannabinum</i> L.) confirm the evidence of the gross composition. The flot was rather large; insect assemblage mixed, including some aquatics. Deposit perhaps colonised by foul-matter species.	P1-2	P1	P0
				R1.5	S2 R2 +3 W5 LS4 LR5	

Phase	CN	SN	Notes	Pp	Pi	Pm
	338 (pit fill)	60	The residue was about 50% organic matter, mainly wood (including a lath fragment to 120 mm and some finer wood fragments); the remainder was sand and gravel. Identifiable plant remains included rush seeds, probably toad-rush (<i>Juncus bufonius</i> L.), and moderate numbers of the goosefoot, <i>Chenopodium</i> Section <i>Pseudoblitum</i> , a weed of disturbed places with a high nutrient status, as well as drying mud at the edges of ponds (cf. Sample 37, Context 316). There were also a few (<10) charred <i>Triticum</i> grains. A small group of invertebrates probably from mud and water was present; there were barely any decomposers or synanthropes.	P2-3 R1	P1 R4 +4 W5 LR10	P0
	60 (pit fill)	61	About 25% of the residue consisted of twig and small wood fragments, the rest being sand and gravel. There were small numbers of seeds of a variety of weeds of waste ground and arable cultivation, together with traces of charred <i>Triticum</i> , ?oat (<i>Avena</i>) and ?pea (<i>Pisum</i>). There was a small mixed group of insect remains in the flot; a larger subsample would give an interpretable group. Only a single mollusc was noted.	P2 R0.5	P2 LP1 R2 +4 LR5	P3
	82 (pit fill)	62	Less than 5% of the residue consisted of organic matter, mostly very decayed wood fragments. There were a few seeds or fruits of weeds of no interpretative significance other than as indicators of disturbance and human occupation. The remainder of the residue was sand and gravel. The flot gave a primarily 'outdoor' group of insect remains suggesting a water-filled hole.	P3 R0.5	P2 LP1 R5 +3-4 LR15	P0
	239 (pit fill)	63	The tiny washover contained a few very poorly preserved charred <i>Triticum</i> and <i>Hordeum</i> grains, two snails and a small number of insect remains; the residue was sand and gravel.	P3 R0.5	P3 R0.5	P3

Phase	CN	SN	Notes	Pp	Pi	Pm
	972 (?well fill)	90	Organic detritus made up 5-10% of the residue but most of the plant material showed evidence of oxidation, with a 'rusty' film on the fragments. The assemblage of identifiable plant remains from the flot and residue was rather characteristic, with common mallow (<i>Malva sylvestris</i> L.), greater celandine (<i>Chelidonium majus</i> L.), goosefoot (<i>Chenopodium murale</i> L.) and cow parsley (<i>Anthriscus sylvestris</i> (L.)) all recorded. This group is perhaps most typical of neglected places close to habitation where disturbance is not too strong, permitting the establishment of biennial and perennial weeds. The rest of the residue was sand and gravel. There was a very diverse group of 'outdoor' insects (including some probably associated with weeds), presumably reflecting local ecology; no strong synanthropes were noted. Only a single snail was observed.	P1-2 R1.5	P1 R8 +3 LR20	P3
	1041 (?well fill)	91	About 50% of the residue was organic matter, including fragments of ?wattle rods; most of the remainder of this fraction was wood debris, including small twigs, and the other part of the residue was sand and gravel. Some of the same plant taxa recorded from Sample 90 were here, too (perhaps not surprising in a second sample from the fills of the same well). Hazel (<i>Corylus avellana</i> L.) nutshell was also present. The flot contained a variety of 'outdoor' insects in an astonishingly good state of preservation and in large numbers; the remains suggested a water-filled hole. It is recommended that the existing group is recorded and a larger subsample investigated to obtain records of additional taxa; for the latter, 5 hours to check, 20 to identify new species.	P2-3 R1	P>1 R>40 LR25	P0
5	216 (pond fill)	58	About 5-10% of the residue consisted of reddish (?somewhat oxidised) organic matter, mainly what appeared to be fine rootlets; the small assemblage of identifiable plant macrofossils included some rush (<i>Juncus</i>) seeds and a silverweed (<i>Potentilla anserina</i> L.) achene. The flot contained small numbers of aquatic and waterside insects; there was not much prospect of interpretation beyond this. Some molluscs were noted.	P2 R0.5	P2 R0.5	P3

The charcoal and grain samples

Notes on the material observed are presented in Table 3.

Hand-collected molluscs

The most common species represented were oyster (*Ostrea edulis* L.) and mussel (*Mytilus edulis* L.), but one whelk (*Buccinum* sp.) and a fragment of cockle (*Cerastoderma* sp.) were also noted. The land snails *Helix aspersa* (Müller) and *Cepaea* sp. were also identified from three contexts.

Cepaea sp., *Pomatias elegans* (Müller) and *Valvata cristata* Müller were also identified from Context 330. *Cepaea* is a fairly catholic species, whilst *Pomatias elegans* is a calciphile which is generally restricted in Britain today to shaded and moist habitats where the humidity is quite high, and where there is broken ground and loose soil into which it can burrow (Evans 1972). However, *V. cristata* is a freshwater species living in slowly flowing and still water, and it tends to be restricted to the eastern Midlands (Ellis 1926), so it seems that in this deposit either the freshwater or the land snail species are not *in situ*.

Bone

Preservation of material from most contexts was fair to good. The appearance of broken surfaces was mostly recorded as 'spikey', although some contexts contained bones that were variable in appearance.

The bones exhibited a variety of colours from fawn to ginger, but most were fawn and in most cases the colour was homogeneous throughout the material from single contexts. Dog gnawing was

observed on material from all phases but was limited in extent, affecting only a few bones (i.e. 0-10% from each context). Few bones showed evidence of butchery.

The results of the examination of the hand-collected bone are presented in Tables 5 and 6. A summary of the animal bone from the BS residues can be found in Table 2.

Phase 3

Bones from Phase 3 (Table 5) comprised a total of only 89 fragments (a mere 52 being identifiable) and, as such, are of little interpretative value.

The presence of rabbit remains in this assemblage is of potential interest because of their possible early date (i.e. 9th-12th centuries). However, several of the fragments showed a somewhat 'greasy' appearance, suggesting they may be of more recent origin.

The fragments of roe deer (*Capreolus capreolus* (L.)) represent the remains of a single immature individual. Most of the left side of the post-cranial skeleton (including major meat-bearing elements) was represented, although the mandible and the scapula were both from the right side. None of these bones showed any evidence of butchery or dog gnawing, perhaps suggesting the remains to have been disposed of in haste.

Phase 4

Deposits from Phase 4 yielded a total of 1285 fragments of animal bone. Of these 713 were identified to family or species, 76 proved measurable and 41 mandible fragments with teeth were recorded (Table 6).

A rather wide range of species was present considering the moderate size of the

assemblage; it included eight species of bird and twelve of mammal. Remains of pig (37% of the total identified fraction), horse (16%) and cattle (15%) were most commonly represented, with dog (10%) and caprovid fragments (10%) also quite numerous. Goat was also identified, being represented by two horncores (Contexts 1382 and 832) and a cranial fragment (Context 412).

Cervid fragments, represented in the assemblage by the three common species (i.e. red deer (*Cervus elaphus* L.), fallow deer (*Dama dama* (L.)) and roe deer, were few in number. The identified fragments were from non meat-bearing elements, suggesting that the remains were probably carcase preparation waste as opposed to table or kitchen refuse.

Rabbit was again recorded, (a total of only three fragments) and included the mandible of a very young individual. In addition, the skull and mandible of a ?polecat (cf. *Mustela putorius* L.) was also identified (from Context 1037) and may represent an individual used for hunting rabbits.

The fragmented skull, and maxilla of a single immature cat was recovered from Context 149. This is of note because of the extensive evidence of knife marks identified over a large proportion of the cranial vault, almost certainly the result of skinning.

Thirty-six bird bones were present in the hand-collected material. In addition to chicken, goose and duck, a small number of wild birds were also identified including the remains of lapwing (*Vanellus vanellus* (L.)), pigeon (Columbidae) ? jackdaw (cf. *Corvus monedula* L.) and sparrowhawk (*Accipiter nisus* L.). Although the goose and duck remains probably represent domestic individuals, some could have been wild caught.

A small number of human cranial fragments were recovered from Context 2327 as well as from unstratified deposits, details of which can be found in Table 7.

Discussion and statement of potential

Sediment samples

Although most of the plant macrofossil assemblages were small and consisted mainly of weed taxa, there is perhaps some potential for exploring further the nature of the features in which the deposits formed with a view to elucidating aspects of human activity—or the absence of it. There is clear potential from the insect remains for site reconstruction and determination of human activity, including utilisation of plant materials. However, in most cases, larger subsamples than the 1 kg used for assessment would need to be processed in order to recover insect assemblages of useful size. Much of the insect evidence is related to site ecology: the nature of the cut features in which preservation occurred, and conditions on the surfaces around them. A few of the fills gave indications of the nature of material thrown into them—although, in general, decaying matter seems to have been present only locally and in limited amounts.

The records of charred grain suggest that cereals were at least utilised and perhaps processed on the site; that grain was stored and used in quantity might be considered more than probable at such a settlement. In view of this (and assuming the grain not to be residual), the apparent lack of grain pest insects is notable, since they appear to have become very common when they occurred in the past and are well-known from contemporaneous sites in England. It may be that grain pests, all of which are strongly associated with humans in Britain and effectively unknown in nature, were

prevented from colonising by a combination of isolation and a low volume of trade between the site and other centres, at least at the stages represented by the deposits. In this context, documentation of other synanthropic (human-favoured) insects from the samples will be important, suggesting that at least a rapid scan of the P2 material is desirable.

The molluscs from the bulk-sieved samples included some large or quite large groups with clear potential to contribute to a definition of ecological condition at and around the point of deposition, designated P1. However, the P2 assemblages, although offering only limited evidence concerning individual contexts, would collectively add to the broader understanding of the site and should be recorded if possible. Most of the snails were terrestrial species, with *Trichia* sp. (probably all or most *T. hispida* (Linnaeus)) much the most abundant. There were also appreciable numbers of *Pupilla* sp. (probably *muscorum* (Linnaeus)), *Cochlicopa lubrica* (Müller), and *Vallonia* spp.. The aquatics were mostly Planorbidae; there were also some damp ground/marginal species, particularly *Succinea* sp.. Many of the samples had small to large numbers of the burrowing snail *Cecilioides acicula* (Müller), whose condition suggested that they were of recent origin.

Hand-collected molluscs

There is no justification for further analysis of this material, except perhaps that from Context 330 if further information about it can be obtained.

Animal bone

Some basic conclusions can be drawn from this small assemblage, particularly those bones from Phase 4.

The wide range of species, high proportion of pig (Astill and Grant 1988), horse and dog, as well as the presence of deer, rabbit and polecat, lend credence to the view that this was an establishment of high status during the 12th-14th centuries. Most published high status medieval assemblages are from castles (e.g. Albarella and Davis 1994, Davis 1987, Eryvnc 1992, Jaques and Dobney 1995), with few being from rural manorial farmsteads.

The assemblage from Hall Farm, Baston is, therefore, of some regional and even perhaps national significance. However, although extensively sampled, the site did not show the wide range of wild bird species so characteristic of those assemblages mentioned above. Similarly there is a conspicuous lack of fish remains from a site so close to The Wash, which may perhaps suggest little trade with the coast (there were, however, some marine molluscs).

This small vertebrate assemblage is, however, of limited potential because of its size and generally broad dating framework. Its importance lies in its apparent origin in a community which had a high status.

Recommendations

Sediment samples

Selected GBA samples should be examined further for their content of plant and invertebrate remains. Some of the mollusc and insect groups should certainly be recorded and it would be appropriate to investigate plant remains from the same samples to provide a wider range of evidence.

For the insects and molluscs the P1 assemblages should be recorded fully; in view of their potential to enhance the general view of conditions at the site and provide

data concerning the presence of synanthropic species, the P2 assemblages should be at least rapidly scanned and there is a case for fuller recording of the P2 molluscs. Plant assemblages from these samples should be scanned also to provide supporting evidence.

Most of the charred plant remains warrant little further examination, though the one sample to yield some chaff needs to be investigated by means of a larger, more carefully processed, subsample with full identification of the remains.

If there are good archaeological reasons for identification of selected charcoal samples, this could be also undertaken but would require processing of further material.

It is important that the work on plant, insect and mollusc remains is co-ordinated and the results integrated in order to maximise the value of the analyses.

Bone

Further work on the animal bones should be of a very limited nature, since little additional information can usefully be gleaned. However, since there are moderate numbers of measurable dog bones and pig mandibles with teeth, it would be worthwhile compiling a more detailed record of biometry and tooth wear for archival purposes.

The human remains are of limited interpretative value and, as such, no further work is recommended.

The resources required to carry out the recommended programme are noted in Table 8.

Retention and disposal

All material should be retained for the present.

Archive

All extracted fossils from the test subsamples, the residues, washovers and the animal and human bone are currently stored in the Environmental Archaeology Unit, University of York, along with paper and electronic records pertaining to the work described here.

Acknowledgements

The authors are grateful to Gary Taylor (Archaeological Project Services) for providing the samples and archaeological information and to English Heritage for allowing KD, AH, AM and HK to work on this material.

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Table 2. Results of assessment of BS samples from Hall Farm, Baston. Key: AMP - amphibian, CN - context number, LM - large mammal Pb - priority for assemblage from sample for bone, Pm - priority for assemblage from sample for molluscs, Pp - priority for assemblage from sample for plant remains, SM - small mammal, SN - sample number

Phase	CN	SN	Plants	Molluscs	Bone	Pp	Pm	Pb	Wt (kg)
3	182 (pit fill)	64	~8 charred <i>Triticum</i> and <i>Hordeum</i> grains.	Very small group of snail fragments, only one identifiable.	4 LM.	P3	P3	P0	13
3	465 (ditch fill)	71	Trace of charcoal to 15 mm.	Small assemblage of landsnails, mostly <i>Trichia</i> sp. but also a few other species.	3 LM, 1 SM, 1 FISH.	P3	P2	P0	13
3	600 (ditch fill)	75	Barren.	Very few snails.	None recorded.	P0	P3	P0	14
3	2222 (fill of 'boat' feature)	127	~150-200 cm ³ of charcoal, including <i>Quercus</i> , to 25 mm; abundant rhizoids and occasional gametophytes of mosses and liverworts/fern prothalli.	Modest-sized group, mostly <i>Trichia</i> sp. and <i>Cochlicopa lubrica</i> (Müller).	3 LM, 1 AMP, 1 BIRD.	P2	P1	P0	44
3	2224 (pit fill)	152	Trace of charcoal to 10 mm.	Modest-sized group, mostly <i>Trichia</i> and <i>Vallonia</i> spp.	None recorded.	P3	P1	P0	15
4	3 (ditch fill)	1	1 fragment charcoal to 20 mm.	Some snails, mostly <i>Trichia</i> sp., but also some aquatic and marginal species.	None recorded.	P3	P1	P0	14
4	64 (ditch fill)	10	Barren.	Substantial assemblage, aquatic and terrestrial species (many small planorbids).	4 LM, 1 AMP.	P0	P1	P0	15
4	90 (fill of linear feature)	13	~20 charred <i>Triticum</i> and <i>Hordeum</i> grains; trace of charcoal to 15 mm.	Some snails, mostly <i>Trichia</i> and <i>Pupilla</i> spp.	None recorded.	P2	P2	P0	14

Phase	CN	SN	Plants	Molluscs	Bone	Pp	Pm	Pb	Wt (kg)
4	141 (post hole fill)	20	Barren.	Some snails, mostly <i>Trichia</i> sp.	None recorded.	P0	P2	P0	7
4	128 (pit fill)	21	Barren.	Small fragmentary assemblage; many fragments of a medium-sized snail, perhaps <i>Cepaea</i> sp.	None recorded.	P0	P3	P0	13
4	165 (pit fill)	23	Barren.	Some snails; all <i>Trichia</i> sp.	31 LM, 1 AMP.	P0	P3	P0	12
4	167 (pit fill)	24	Trace of charcoal to 15 mm.	Small group, mostly <i>Trichia</i> sp., some <i>Vallonia</i> .	5 LM, 1 SM.	P0	P2	P0	10
4	168 (pit fill)	25	Barren.	Very small group; mostly <i>Trichia</i> sp.; also a single bivalve.	4 LM.	P0	P3	P0	12
4	194 (pit fill)	27	3 mineralised <i>Vitis</i> seeds ~5 charred <i>Triticum</i> grains; ?some other mineralised food plant remains.	Modest-sized assemblage, mostly <i>Cecilioides acicula</i> (Müller) and <i>Trichia</i> sp.	4 LM, 1 SM, 1 AMP, 7 FISH, 8 BIRD.	P3	P2	P0	15
4	206 (post hole fill)	28	~15 charred <i>Triticum</i> grains	Very small group of landsnails.	2 LM, 2 AMP.	P2	P3	P0	11
4	220 (pit fill)	29	Trace charcoal to 15 mm.	Modest-sized assemblage of terrestrial and aquatic snails, mostly <i>Trichia</i> sp., a few <i>Cecilioides</i> , planorbids and <i>Pomatias elegans</i> (Müller).	1 BIRD.	P3	P1	P0	14
4	139 (pit fill)	30	1 fragment charcoal to 5 mm.	Small group, mostly poorly preserved.	14 LM, 2 SM, 4 AMP.	P0	P2	P0	14.5

Phase	CN	SN	Plants	Molluscs	Bone	Pp	Pm	Pb	Wt (kg)
4	254 (post hole fill)	31	Trace of charcoal to 15 mm.	Many snails; <i>Trichia</i> , <i>Cochlicopa</i> , <i>Pupilla</i> and <i>Vallonia</i> spp. and <i>Ceciloides acicula</i> all abundant; juveniles present.	2 LM.	P3	P1	P0	7.5
4	286 (pit fill)	33	Barren.	Small group, mostly fragmentary.	1 SM.	P0	P3	P0	12
4	288 (pit fill)	34	1 fragment charcoal to 20 mm.	Many snails, mostly incomplete shells; principally <i>Trichia</i> sp. and small planorbids but still of interpretative value.	1 SM, 1 BIRD.	P3	P1	P0	18
4	292 (pit fill)	35	Barren	Small group, mostly fragmentary <i>Trichia</i> sp.	1 LM, 1 AMP.	P0	P3	P0	16
4	318 (pit fill)	39	~6 charred <i>Triticum/Hordeum</i> grains; 1 charred ?legume cotyledon; trace of charcoal to 10 mm.	Small group, mostly <i>Cochlicopa</i> and <i>Vallonia</i> spp.	4 BIRD.	P3	P3	P0	14.5
4	340 (ditch fill)	41	Trace of charcoal to 15 mm.	None recorded.	2 AMP, 2 BIRD.	P3	P0	P0	12
4	10 (ditch fill)	42	Trace of charcoal to 10 mm. Modern rootlets in flot.	Abundant snails, mostly <i>Trichia</i> sp. and <i>Ceciloides acicula</i> .	24 LM, 1 SM.	P3	P1	P0	11
4	355 (pit fill)	44	Barren.	Quite large group, mostly <i>Cochlicopa</i> sp., some <i>Trichia</i> sp. and a few other taxa.	2 LM, 3 SM, 5 AMP.	P0	P1	P0	10
4	368 (pit fill)	45	Trace of charcoal to 10 mm.	Six <i>Trichia</i> sp. only.	20 LM.	P3	P3	P0	11

Phase	CN	SN	Plants	Molluscs	Bone	Pp	Pm	Pb	Wt (kg)
4	404 (ditch fill)	47	Barren.	Small group, mostly <i>Trichia</i> sp.; a single planorbid and two <i>Ena obscura</i> (Müller).	1 LM, 2 BIRD.	P0	P2	P0	15
4	369 (fill of sunken featured structure)	48	Trace of charcoal to 15 mm.	Some snails, mostly fragmentary.	6 LM, 12 AMP, 3 BIRD.	P3	P3	P0	12
4	373 (fill of sunken featured structure)	49	A few mineralised wood fragments to 30 mm.	A few, mostly fragmentary.	24 LM, 7 AMP, 6 FISH, 5 BIRD.	P3	P3	P0	13
4	412 (ditch fill)	50	Barren.	Small group, mostly damaged shells; principally <i>Trichia</i> sp. and <i>Cecitoides acicula</i> .	4 LM, 2 BIRD.	P0	P2	P0	17
4	415 (layer)	51	Barren.	Small group, mostly damaged <i>Trichia</i> sp.	5 LM.	P0	P3	P0	14
4	414 (ditch fill)	52	Barren.	None recorded.	None recorded.	P0	P0	P0	11
4	423 (pit fill)	54	1 charred <i>Triticum</i> .	Small group, mostly damaged <i>Trichia</i> sp.	5 LM, 2 FISH.	P3	P3	P0	14
4	428 (pit fill)	55	Barren.	Two planorbids	3 LM.	P0	P3	P0	13
4	443 (pit fill)	56	Barren.	Small assemblage of landsnails, mostly <i>Trichia</i> sp.	4 LM.	P0	P3	P0	12

Phase	CN	SN	Plants	Molluscs	Bone	Pp	Pm	Pb	Wt (kg)
4	445 (pit fill)	57	Barren.	Small assemblage of landsnails, mostly <i>Trichia</i> sp.; a single planorbis	4 LM.	P0	P3	P0	11
4	637 (pit fill)	68	Trace of charcoal to 25 mm.	Quite large group, mostly <i>Trichia</i> sp. and <i>Cecilioides acicula</i> .	None recorded.	P3	P1	P0	14
4	426 (ditch fill)	72	Trace of charcoal to 5 mm.	Small assemblage, mostly <i>Trichia</i> sp.	None recorded.	P0	P3	P0	12
4	425 (ditch fill)	73	Barren.	A few, mostly <i>Trichia</i> sp.	5 LM.	P0	P3	P0	12
4	492 (gully fill)	74	Barren.	None recorded.	None recorded.	P0	P0	P0	9
4	429 (deposit)	76	Barren.	A few snails, mostly incomplete <i>Trichia</i> sp.	None recorded.	P0	P3	P0	11.5
4	455 (ditch fill)	77	Barren.	Modest-sized group, mostly <i>Trichia</i> sp. and <i>Cecilioides acicula</i> ; some planorbids.	61 LM, 2 AMP.	P0	P2	P0	11
4	563 (gully fill)	78	Barren.	Modest-sized group, mostly <i>Trichia</i> sp.	None recorded.	P0	P2	P0	13
4	472 (pit fill)	79	Barren.	Many landsnails and some aquatics.	None recorded.	P0	P1	P0	9
4	547 (ditch fill)	80	Barren.	Small group, mostly <i>Trichia</i> sp.	None recorded.	P0	P2	P0	11

Phase	CN	SN	Plants	Molluscs	Bone	Pp	Pm	Pb	Wt (kg)
4	456 (ditch fill)	81	Barren.	Small assemblage, mostly <i>Cecilioides acicula</i> .	9 LM, 1 SM, 2 AMP, 1 FISH.	P0	P3	P0	13
4	1098 (pit fill)	94	Trace of charcoal to 10 mm; modern rootlets and earthworm egg capsules.	Group of modest size; many fragments; numerous <i>Cecilioides acicula</i> and <i>Trichia ?hispidia</i> .	3 LM, 1 SM.	P3	P2	P0	15
5	216 (pond fill)	58	Barren.	Abundant land, marginal and freshwater snails including numerous planorbids, several <i>Trichia</i> sp. and some <i>Pupilla</i> , <i>Cochlicopa</i> , and <i>Succinea</i> spp.	None recorded.	P0	P1	P0	12

Table 3. Charcoal (C) and charred grain (G) samples from Hall Farm, Baston: notes on observations made.

Phase	Context	Sample	Notes
3	2221 ('boat' feature)	14302 (C)	The residue was about 25% charcoal to 20 mm; this was flaky and appeared to be oak (<i>Quercus</i>) and was branch or trunk wood. [Sample 14301 from the same context was essentially similar.]
4	266 (fill of oven/hearth)	32 (C)	There was a small amount of charcoal to 20 mm, two fragments being identified as ash (<i>Fraxinus</i>) branch/trunk wood.
4	1277 (pit fill)	128 (G)	The light fraction made up about 5% of the volume of the residue and included quite a large number of modern rootlet fragments, together with a few poorly preserved charred wheat grains and charred weed seeds.
	2202 (pit fill)	109 (G)	About 5-10% of the residue was charred material with some lumps of ash (containing plant silica) to 15 mm. There were appreciable numbers (10-50) of charred grains, mainly wheat, but they were puffed and blistered and many were broken; there were also a few charred weed seeds and many small fragments of what appeared to be charred straw.
	2209 (pit fill)	115 (G)	The light fraction made up about 5-10% of the residue and there were moderate numbers (10-50) of charred cereal (wheat) grains, some quite well preserved, others very poorly preserved; there was also some ash containing plant silica. Again, there was a little charred straw and some charred weed seeds.
	2210 (pit fill)	117 (G)	About 25% of the residue consisted of charred grain with some small fragments of charred straw (or other herbaceous charcoal) and a trace of wood charcoal; there were also a few charred weed seeds. The grains were mainly poorly preserved wheat.
	2211 (pit fill)	112 (G)	Less than 5% of the volume of the residue was charred material, most of it charred wheat grains, mostly rather poorly preserved; there were a few charred weed seeds, too.
	2212 (pit fill)	113 (G)	The light fraction made up about 20% of the residue and included moderate numbers of very poorly preserved cereals grains, including wheat; there were also moderate numbers of charred straw fragments, a few rachis fragments (showing very variable preservation) and some ash (containing plant silica).
	2219 (pit fill)	119 (G)	Only a few poorly preserved wheat grains were noted.
	2270 (pit fill)	124 (G)	About 5% of the residue consisted of light material, including a few poorly preserved charred cereal grains (wheat and ?barley, <i>Hordeum</i>).

Table 4. Hand-collected shell from Hall Farm, Baston. Key: y - fragment(s).

Phase	Area	Context type	Context	Oyster	Cockle	Mussel	Other	Total no.
4	D	Ditchfill	10	y				1
4	D	Ditchfill	150	y		y		3
4	D	Posthole fill	251			y		7
4	D	Cut	291				<i>Cepaea</i> sp.	1
4	D	Ditchfill	333					2
4	C	Ditchfill	412	2				2
4	C	Fill	456	1				1
4	C	Ditchfill	485			y	<i>Helix aspersa</i>	2
4	C	Deposit	502	1				1
4	C	Demolition	518	5				5
4	B	Pit fill	706				<i>Helix aspersa</i>	1
3	B	Pit fill	817			y		1
4	A	Pit fill?	1035	1				1
4	A	Pit fill	1047			y		3
4	A	Fill	1049			y		3
4	A	Quarry fill	1377	y		y		7
4	A	Pit fill	1382			y		1
4	A	Hearth fill	1387	y				1
4	A	Fill	1413	y				13
4	A	Pit fill	1414				whelk	1
4	A	Pit fill	1433	y	y			5
3	A	Fill	2226			y		1
4	D	Silty fill	330				<i>Cepaea</i> sp. (6), <i>Pomatias elegans</i> (7), <i>Valvata cristata</i> (1)	14

Table 5. Hand-collected animal bone from Hall Farm, Baston: Phase 3. Key: No. frags - Total number of recorded fragments, No. meas - Total number of measurable fragments recorded, No. mand - Total number of mandibles with teeth recorded.

Species		No. frags	No. meas	No. mand
cf. <i>Rana</i> sp.	?frog	1	-	-
<i>Oryctolagus cuniculus</i> (L.)	rabbit	6	-	-
<i>Canis</i> f. domestic	dog	2	-	-
<i>Equus</i> f. domestic	horse	3	-	-
<i>Sus</i> f. domestic	pig	12	1	-
<i>Capreolus capreolus</i> (L.)	roe deer	17	6	1
<i>Bos</i> f. domestic	cattle	8	2	1
Caprinae	sheep/goat	3	-	1
<i>Sub-total</i>		52	9	3
Unidentified		37	-	-
<i>Sub-total</i>		37	-	-
Total		89	9	3

Table 6. Hand-collected animal bone from Hall Farm, Baston: Phase 3. Key: No. frags - Total number of recorded fragments, No. meas - Total number of measurable fragments recorded, No. mand - Total number of mandibles with teeth recorded.

Species		No. frags	No. meas	No. mand
<i>Anser</i> sp.	goose	21	4	-
<i>Anas</i> sp.	duck	3	1	-
<i>Accipiter nisus</i> L.	sparrowhawk	1	-	-
<i>Gallus</i> f. domestic	chicken	3	1	-
Charadriidae	wader	1	-	-
<i>Vanellus vanellus</i> (L.)	lapwing	2	2	-
Columbidae	pigeon	2	-	-
Corvidae	rook/crow	3	-	-
<i>Oryctolagus cuniculus</i> (L.)	rabbit	3	-	-
<i>Lepus</i> sp.	hare	2	-	-
Canidae	canid	1	-	-
<i>Canis</i> f. domestic	dog	70	21	4
cf. <i>Mustela putorius</i> L.	?polecat	2	-	1
<i>Felis</i> f. domestic	cat	21	-	-
<i>Equus</i> f. domestic	horse	115	6	5
<i>Sus</i> f. domestic	pig	265	11	17
Cervidae	deer	1	-	-
<i>Cervus elaphus</i> L.	red deer	15	1	2
<i>Dama dama</i> (L.)	fallow deer	3	3	-
<i>Capreolus capreolus</i> (L.)	roe deer	1	-	1
<i>Bos</i> f. domestic	cattle	107	9	6
<i>Capra</i> f. domestic	goat	3	-	-
Caprinae	sheep/goat	68	17	5
<i>Sub-total</i>		713	76	41
Unidentified		572	-	-
<i>Sub-total</i>		572	-	-
Total		1285	76	41

Table 7. Hand-collected human bone from Hall Farm, Baston. Key: CN - context number

CN	Notes
2327	<p>Triangular fragment of frontal bone showing very low grade cribra orbitalia in left orbit. Also fragments of nasal region and zygomata plus entire palate (including left 1st and 2nd molars and right 1st molar). Right 3rd molar lost autemortem or congenitally absent. There are an additional two fragments of sphenoid and 16 small unidentified skull fragments.</p> <p>Pronounced supra-orbital ridges suggest the individual to be a male and tooth wear suggests an age of 25-35 years (after Brothwell 1981).</p>
Unstratified	<p>A complete frontal bone showing unfused coronal suture.</p> <p>Pronounced supra-orbital ridges again indicate a male.</p>

Table 8. Resources for main phase environmental analysis based on processing and recording all P1 and P2 rated material. All times include an allowance for associated incidental tasks. Key: Tech = Technician, RA = Research Assistant, RF = Research Fellow.

Task/Resources	Time/Personnel	Cost
Ordering information and creating/modifying databases (if not already carried out by Unit undertaking this phase of work).	15 hours RA	
Processing additional material from selected GBA samples.	50 hours Tech	
Processing additional material for charred grain.	22 hours Tech	
Processing additional material for charcoal.	15 hours Tech	
Record plant remains (uncharred) from GBA samples.	10.5 hours RF	
Record charred grain.	12 hours RF	
Record charcoal.	12 hours RF	
Record insect remains from GBA samples.	209 hours RA 59 hours RF	
Record molluscs from BS residues and flots.	45 hours RA 12 hours RF	
Create animal bone archive.	4 hours RA 4 hours RF	
Data analysis times: Plant Insect Mollusc	6 hours RF 8 hours RF 8 hours RA 8 hours RF	
Write report: Plant Insect Mollusc	6 hours RF 25 hours RA 8 hours RF 18 hours RA 8 hours RF	
Totals in 'standard' days to nearest quarter day (standard day = 7.4 hours).	11.75 days Tech 43.75 days RA 6.25 days RF (plant) 10.25 days RF (insect) 3.75 days RF (mollusc) 0.5 days RF (bone)	
Other resources:		
Consumables	-	