Reports from the Environmental Archaeology Unit, York **98/22**, 34pp.

Flixborough, N. Lincolnshire:
Proposal for a re-assessment of biological remains and for an assessment of artefactual material from samples from the Anglo-Saxon settlement

prepared by Keith Dobney*, Allan Hall*, and Christopher Loveluck**,
with the assistance of John Carrott* and Harry Kenward*

Summary

A proposal is presented for the assessment of biological remains and of artefactual material from samples of unprocessed sediment and sieved material from the Middle-Late Saxon occupation deposits at Flixborough, N. Lincolnshire.

Keywords: ASSESSMENT; SEDIMENT SAMPLES; ANGLO-SAXON; FLIXBOROUGH; N. LINCOLNSHIRE; PLANT REMAINS; INVERTEBRATES; MOLLUSCS; VERTEBRATE REMAINS

Authors' addresses:

* Environmental Archaeology Unit
University of York
York YO10 5DD

** Humber Archaeology Partnership
The Old School
Northumberland Avenue
Kingston-upon-Hull HU2 0LN

Prepared for:

Central Archaeological Service
English Heritage
Fort Cumberland
Fort Cumberland Road
Eastney
PORTSMOUTH PO4 9LG

23 June 1998

Flixborough, N. Lincolnshire:
Proposal for a re-assessment of biological remains and for an assessment of artefactual material from samples from the Anglo-Saxon settlement

1. Introduction and background

'Anglo-Saxon remains at Flixborough were first discovered as a result of an archaeological evaluation, in advance of sand quarrying, in 1988. ... evaluation work in 1989, undertaken by the Humberside Archaeology Unit, resulted in the discovery of substantial, well-preserved Anglo-Saxon settlement remains. As a consequence of these finds, English Heritage funded excavation of a sample of the probable Anglo-Saxon settlement area between 1989-1991. The aims of the excavation phase of the project were to characterise, date, record and provisionally identify the potential of the remains for further analysis.

'The settlement evidence dated primarily from the period between the seventh and tenth centuries AD. However, there are additional indications that this area acted as a focus for settlement from the Romano-British to High Medieval periods. The remains of at least thirty Anglo-Saxon buildings were uncovered, many of which had been rebuilt on the site of their immediate predecessors. A range of architectural styles was exhibited. 'Sunken feature' buildings, however, were absent. Several of the buildings were sealed below and subsequently cut into a series of dump deposits. These layers contained exceptional artefact and animal bone assemblages. The animal bone recovered constitutes the largest collection of vertebrate remains from a Middle to Late Saxon rural settlement. Three aspects of the artefact remains are of significance. First, the range and preservation of craftworking tools is unique for a rural settlement of this period. Carpentry, ironworking, leatherworking, non-ferrous metalworking and textile manufacturing tools are represented, while additional indications of fine metalworking, iron smelting and smithing, and possibly glassworking, have also been identified from industrial debris. Secondly, the site yielded large stratified groups of local, regionally-produced, and imported ceramics; and thirdly, the non-ferrous metalwork assemblage constitutes the only stratified collection from a Middle Saxon rural site in the environs of the Humber estuary...

'The detailed assessment of the potential of the archaeological evidence for analysis demonstrated that, as a whole, the Flixborough remains offer an unprecedented opportunity for the investigation of certain aspects of Middle-Late Saxon rural settlement studies. These include the agricultural economy, with particular emphasis on animal husbandry; craftworking, and industrial activities; Middle-Late Saxon building and architectural techniques; the extent of the settlement's integration within regional, inter-regional and long-distance exchange networks; and approaches towards defining the status and character of Middle-Late Saxon rural settlements.'

(reproduced, with minor amendments, from Loveluck, 1996).

2. Previous work on biological remains at Flixborough

A brief assessment of biological remains from a small proportion of the samples was undertaken by staff of the Environmental Archaeology Unit (EAU), University of York, in 1991-3 (Dobney *et al.* 1993; 1994a). It involved examination of plant and invertebrate macrofossils and bone from subsamples from a total of 57 samples (from 34 contexts) of unprocessed sediment ('test' subsamples of 1 kg from either GBA samples or unprocessed BS/GBA 'vouchers'), and from 94 of the samples (from 25 contexts) which had been bulk-sieved on site. For the 'test' subsamples, both the 'washover' and residue were examined. For

the BS samples, the residues alone were inspected, except in nine cases, where 'washovers' were also examined.

The assessment (Dobney *et al.* 1994a) established that in the GBA and BS samples:

- 'Macroscopic remains of plants were limited to charcoal (regularly present in small amounts, occasionally in large, easily identified fragments), a few charred 'seeds' (including seed pods of sea plantain and rushes and a few charred cereals and pulses), some characteristic charred herbaceous stem fragments, and a few uncharred seeds, some of them very fresh-looking (and probably modern).' (Charred herbaceous plant material was recorded, for example, from 12 of the 34 contexts examined via a GBA subsample.)

- 'Although not routinely assessed from the GBA samples examined so far ... plant silica bodies ('phytoliths') were present in at least some of the white concreted 'ash' seen in many samples.'

- 'Insect remains were extremely sparse and mostly clearly intrusive, some modern.'

- 'Snails were regularly encountered in small numbers in these deposits and were occasionally quite numerous. Preservation was sufficiently good for them to be useful in interpretation. Although there were regular occurrences of the burrowing snail *Cecilioides acicula*, this does not impose a limitation on the potential of the assemblages since other snails are unlikely to have intruded to any extent.' (Snails other than *C. acicula* were recorded from 13 of the 34 contexts examined via a GBA subsample.)

- 'Marine molluscs were usually rather sparse in the BS residues and most of the hand-collected assemblages were also too small to warrant detailed investigation.'

- The BS samples usually yielded some bone. An assessment of the vertebrate material from the BS samples referred to above together was undertaken by Dobney *et al.* (1994b), who indicated that the most productive feature types for the smaller bone fragments were dumps and soakaway fills (six selected bone-rich samples from three contexts in these categories being examined in more detail at that stage). Overall, it was found that fish bone—*the recovery and study of which largely depends on material obtained via bulk-sieving*—was present in 22% of the BS residues examined, whilst in the bone-rich samples fish remains were 'common' in two of the six and abundant in one.

At the time this assessment was carried out, only very preliminary phasing was available and information concerning feature types had not been adequately established. The samples examined in this assessment (see Tables 2 and 3a-b) do not, therefore, properly reflect the diversity of material available in terms either of range of context types or site chronology. In particular, on the advice of the site director, emphasis was placed on examining samples from some of the large dump deposits now known to date from Phases 3b, 4, 5a, 5b/6 and 6, soakaway fills of Phase 2, and soakaway fills assigned to the broad dating category Phase 2-5a (see Table 1 for a list of current phases and their dating). Whilst these were important features of the site and well sampled, and thus deserving of attention, few samples from features such as pits and post-holes were assessed for their content of biological remains and only *three* of the many sampled deposits subsequently defined as being associated with structures were examined (Tables 2 and 3a-b).

Moreover, it is considered that the amount of material examined in the assessment was also too small to provide an adequate 'sample of the samples' for a site where sampling was admirably thorough, where most of the deposits are from a fairly narrow time horizon, and for which the archaeological evidence is of national importance—the assessment involved examination of only 8.5% of the GBA samples and 8.7% of the BS, but in terms of *contexts*, only 5.6% and 3.4%, respectively, were assessed.

Another shortcoming of the initial assessment is that silicified plant remains were not routinely examined—the ash present in many contexts offers an opportunity to study both phytoliths and silicified plant macrofossils (e.g. cereal chaff).

Lastly, it is likely that some artefactual material resides in both the processed and unprocessed samples, even though the more obvious fragments of pottery and metalwork were recovered from the

BSs during sieving. Perhaps more importantly, materials such as fragments of crucible and small fragments of 'artefact-related' debris such as hammer-scale were not recognized or not sought during the initial examination of the samples, and the assessment of these samples for biological remains should be seen as affording an opportunity to quantify their presence and distribution through the deposits as a necessary pre-requisite for submitting a proposal for further study of them. In addition to the BS residues, a total of about 5800 kg of completely unprocessed material is available from which *further* material might be obtained.

It is in the light of these remarks, and at the request of English Heritage, that this proposal to undertake a further, more thorough assessment of the samples from Flixborough for their bioarchaeological potential and content of artefactual material has been prepared.

3. Material to be assessed and objectives of this project

The following biological remains are known (see bullet points in Section 2) or thought likely to be present in the deposits from Flixborough:

- Plant remains: charred macrofossil remains, including cereal grains, herbaceous detritus, charcoal; silicified plant remains, including phytoliths; in addition, there may be diatoms in some deposits.

- Invertebrates: molluscs (marine, brackish and freshwater); insects and ostracods (very rarely).

- Vertebrates: bones of fish, birds and mammals (including worked material); eggshell.

In addition, artefactual material will be present in the processed and unprocessed samples, principally pottery, other fired clay (daub, crucible fragments), and metalworking debris, including slag and hammer-scale.

The materials and their potential within the project will be considered separately.

(a) *Sediments*

An opportunity will be taken to examine the nature of some of the sediments (via GBA samples) at this site by means of a simple water-disaggregation and sedimentation procedure (see below) in which the presence of the finer fractions of mineral material (and also, incidentally, of fine charcoal), can be established to provide an indication of contexts in which smaller biological remains such as phytoliths and diatoms may be concentrated (these analyses will be complementary to those directly aimed at detecting these microfossils). Conventional sediment analysis, as such, will *not* be carried out.

(b) *Plant remains*

The charred macrofossil remains of plants from these deposits have the potential to explore two main aspects of the history of the site: environment and economy. From the original assessment it is evident that these remains are sparse but that they include small numbers of cereals and pulses (presumably largely representing material originally intended as food), wood charcoal, and some possible salt-marsh plants (which may indicate traffic between the site, the tidal floodplain of the Trent, and the Humber estuary or, more likely, perhaps, the use of materials from such a habitat, e.g. dung from animals grazed on the salt-marsh, or imported turves). The charred herbaceous debris (mostly slender stem internodes) may well be part of this material but are not currently identified.

A category of material not previously examined closely but likely to be present, in particular, in those deposits containing ash, are the siliceous plant remains: 'silicified' macrofossils (essentially remains of cereal chaff, as discussed by Robinson and Straker 1990) and phytoliths. Whilst the latter may be useful mainly as an indication of the presence of grasses and other phytolith-bearing plants (e.g, for the recognition of turves or old ground surfaces), the former may give additional

information concerning the use of cereals or their by-products.

A further group of siliceous remains are diatoms, whose presence in the finest fractions of the GBA samples should be assessed. They have potential to provide information about imported materials such as salt-marsh sediments, as well as local conditions such as the presence of standing water at certain periods on parts of the site.

In sum, the assessment of this material is important in order to ascertain properly the range and quantities of taxa present, the quality of their preservation, and their spatial distribution, with a view to determining the work necessary (if any) in a subsequent phase of analysis to address questions concerning aspects of the food economy of the site (including the source for the foodstuffs and the way in which they may have been grown and processed), the use of plant materials (e.g. wood, straw, dung, turves), and thus the exploitation of the local (and more distant?) environment, as well as some aspects of conditions at the site.

(c) *Invertebrate remains*

(i) *Molluscs*

Land snails from the BS and GBA samples may offer the main opportunity to explore environmental conditions at the site and it is necessary to establish whether interpretatively useful assemblages are present.

Marine molluscs—almost all of which appear to be oysters—need to be re-examined briefly from a greater number of BS samples than previously investigated to establish the degree of edge-wear (i.e. measurability) and to check for any epibionts with potential to indicate collecting areas.

(ii) *Other invertebrates*

The primary aim of assessment for other invertebrates is to check for the presence or absence of mineralised insects (in BS and GBA samples) in quantities which may provide information about accumulations of decaying matter at the site. (This appears to offer only a remote possibility, though the evidence for such material from Saxon Southampton (Kenward and Girling 1986) demonstrates that mineralised invertebrates may, rarely, be present in more substantial numbers.)

A secondary objective will be to check for the presence of ostracods (in GBA samples), which may provide evidence of the importation of estuarine material or of the presence of standing water at the site. This, too, represents a remote possibility but is considered worthwhile in view of the sparseness of biological remains other than bone.

(d) *Vertebrate remains*

It is clear from the previous limited assessment exercise and from work currently in progress on the vast hand-collected vertebrate assemblage from the site that the remains of both birds and fish are present in significant quantities. These remains are of substantial value for the investigation of various different facets of the economy of such a settlement, especially animal husbandry and the exploitation of wild animal resources. It is apparent from the evidence collected to date that the inhabitants of Anglo-Saxon Flixborough exploited several environmental zones in the provisioning of the settlement. The numerous bones of crane (so far identified as common crane and/or an extinct European species), together with those of various ducks, wild geese and wading birds, indicate wildfowling on the Trent floodplain, directly below the settlement.

The presence (in both the hand-collected assemblage and in the BS samples seen so far) of moderate quantities of bones of freshwater, anadromous, and marine fish, together with an unusual number of cetacean remains (not yet identified to species), also reflects access to foodstuffs from the Trent, the Humber estuary, and possibly the open sea. Analysis of the vertebrate remains from the BS samples will ensure that representative information will be collected

regarding the utilisation of a range of terrestrial, riverine and even marine resources.

Quantitative and detailed recording of taphonomic information from the BS samples (which will complement similar data recorded from the hand-collected material during Phase 2 of this project) will also provide additional important archaeological information regarding aspects of site formation processes.

(e) *Artefactual materials*

Examination of the BS residues offers an opportunity to check for the presence of artefactual material additional to that recovered by hand during excavation. In particular, small fragments of hammer-scale, which are impossible to recognise during trowelling, but which are important in understanding the location and scale of smithing activity, will be sought during examination of all the residues.

4. Material available for assessment

During excavation at Flixborough, an intensive programme of sampling for biological remains and on-site sieving of 'bulk' samples was undertaken. A total of 1762 samples from 1274 contexts is currently listed in the database supplied by Humber Archaeology Partnership (HAP). Of these, 673 (representing 603 contexts) have been designated as 'GBA' samples (*sensu* Dobney *et al.* 1992), 1085 (from 734 contexts) as BS/GBA (explained below), and three as being of uncertain type (N.B. these samples are excluded from the figures presented here).

The GBA samples had a mean weight (when sampled) of 5.4 kg and so are rather small for samples of this type, though there are 44 cases where more than one GBA from a context is available. (In two cases as many as eight or nine 'duplicates' are listed, though these may represent different parts of the extensive dumps from which these samples were taken and there may thus be good reason not to aggregate them; context heterogeneity is mentioned by Dobney *et al.* 1994a, p. 1: 'It was notable [in the initial assessment] that sediments of very similar appearance, even from within the same context (e.g. 5983), produced substantially different suites of inclusions once sieved.').

The samples designated BS/GBA were subjected to bulk-sieving to 1 mm during excavation, but a 2 kg 'voucher' sample of unsieved sediment was retained in each case which serves as further potential GBA material and accounts for the designation BS/GBA. The mean weight of the BS/GBA samples, when taken, was 15.8 kg.

5. Quantification of material available and rationale for selection for assessment

The 1759 samples (from 1273 contexts), taken as a whole, represent 275 phase/feature type combinations (using the latest available information from the project manager). A total of 401 GBAs and 676 BS/GBAs (61% of all the samples taken together, representing 741, or 58%, of the contexts) are currently designated as having a narrowly-defined phase (e.g '1', '6'), the remainder being phased more broadly, or with some degree of uncertainty (e.g. '1-4', '5a/6?'—though from a wider chronological perspective they are mostly still narrowly dated as 'mid-late Saxon'). To prioritise on the basis of 'tightness of dating' a score from 1 to 8 was assigned as follows (a list of phases and dates appears in Table 1).

1 context currently assigned to a single phase (e.g. 1, 6)
2 context currently tentatively assigned to a single phase (e.g. 2?, 4?)
3 context currently assigned to two contiguous phases (e.g. 1b/2)
4 context currently tentatively assigned to two contiguous phases (e.g. 2/3a?)
5 context currently assigned to >2 contiguous phases (e.g. 2-5a)
6 context currently tentatively assigned to >2 contiguous phases (e.g. 1a-6?)
7 context currently assigned to non-contiguous phases (2/3a/4)

8 context currently tentatively assigned to non-contiguous phases (e.g. 1b?/5a/6?)
9 context currently not assigned to any phase ('?')

Turning now to feature or context type, a priority can also be assigned here, on the basis of which deposits are (a) primary and/or (b) most likely to yield archaeologically useful results if material is preserved (as in Tables 2-3).

In selecting material for assessment, note has been taken of the amount of material available, so as to get a good 'spread' across the phase and feature types. Priority will be given to examining the residues and washovers from the BS/GBA samples, since these samples (i) are already processed; (ii) usually represent a much larger weight of raw sediment than the total amount of *unprocessed* sediment available, and so require a smaller input of effort and a greater likelihood of providing an adequate return in terms of content; and (iii) will be the source of fish bone, the quantity and quality of which could not otherwise be ascertained. With this in mind, only BS residues have been selected for assessment for the less tightly dated and less interpretatively important contexts. However, some GBA samples should also be examined to provide information about the smaller classes of material and in particular to permit assessment of the content of silicified plant macrofossils, phytoliths and diatoms (which will mostly have passed the 1 mm sieve used for the BS samples).

The basis for selecting the number of samples to assess was as follows:

1-5 contexts for a given phase, context type, and sample type:

	assess	1 sample
6-10 contexts ...	assess	2 samples
11-15 ...		3
16-20 ...		4
21-40 ...		5
>40 ...		6

6. Method for assessment

The following procedures will be used to assess the quantity and quality of preservation of any biological remains in the samples and to assess what artefactual material may be present.

(i) BS/GBA samples

(a) The dried residues will all be examined by AH and PH, who will make a semi-quantitative record of *all* components of the samples to enable subsequent selection for examination by other staff for invertebrate and vertebrate remains (Task 2A; N.B. most samples will contain only a few components); plant remains will be recorded at a level of identification sufficient to provide information for assessment purposes but with due regard to the limitations of time (and using a semi-quantitative scale of abundance).

(b) Residues containing any biological materials other than plant remains will be checked, as appropriate, by JC and HK (for molluscs and other invertebrates; Task 2B) and KD/DJ/CJ (for vertebrate remains, Task 2C); samples with artefactual material will be sorted by the Technician (Task 2D) and finds passed to CL for assessment by the conservator and finds specialists.

(c) All residues will be checked by the Technician with a strong bar magnet to recover hammer-scale or similar material (to be passed to DS) (Task 2D).

(ii) GBA samples

(a) Samples will be described in the laboratory, following routine procedures (Task 3A).

(b) Subsamples of the selected samples (probably 2-3 kg in each case) will be processed (by the Technician, Task 3B) by means of disaggregation in water, followed by the separation of light organic (probably mostly charred) material by means of decantation to

produce a 'washover'; both the washover and residue will be dried (separately) unless the technician observes uncharred remains during processing.

(c) Washovers and residues will be examined by AH and PH as for BS residues, ((i)(a) above) and material passed on to JC, KD and CL as appropriate (as in (i)(b)) (Tasks 3C, D, E);

(c) All residues will be checked with a strong bar magnet to recover hammer-scale or similar material (to be passed to DS) (Task 3F);

(d) A selection of samples will be examined further by means of two small subsamples. The first group (about 50), will be taken to represent a selection of tightly-dated priority 1 context types, and will be of about 50 g. These will be dispersed in water in a measuring cylinder and a brief record made of the rate at which sediment settles and the rough proportions of the sand and finer classes of mineral material, as well as the quantity and size of the charcoal fraction, if any. The second group of 50 subsamples (from the same contexts as the first group) will be used to provide a 'squash' (*sensu* Dainton 1992) from which the presence of diatoms, higher plant silica (phytoliths) and any other microfossils can be judged (Tasks 3G, H). Selection of these samples will be made during the initial inspection and description of the 134 GBA samples.

(iii) Artefactual material

Artefactual material will be passed initially to IP to assess the implications for conservation (Task 4). JY, LW, CL and DS will assess the implications of the pottery, non-pottery fired clay and other artefacts. respectively (Tasks 5-8).

7. **Tasks, costs and timing**

Tasks needed to undertake this assessment are presented in Table 5, and costs in Tables 6 and 7. Some routine support tasks are included in addition to the tasks outlined in Section 3, above, one of which is the repackaging of samples; costs have been included for the future storage of the samples in plastic tubs (now the customary storage unit for the EAU and HAP) (Tasks 10-11).

It is anticipated that the work would be completed and assessment reports submitted to EH by 9th October, *assuming a start date no later than 15th July 1998* (a schedule is given in Table 5).

8. **References**

Dainton, M. (1992). A quick, semi-quantitative method for recording nematode gut parasite eggs from archaeological deposits. *Circaea, the Journal of the Association for Environmental Archaeology* **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., Hall, A., Kenward, H. and Milles, A. (1993). Material assessment of sediment samples (GBA and BS) from Flixborough. 12 pp. plus appendix 31 pp. Unpub. rep. prep. for Humberside Archaeology Unit.

Dobney, K., Hall, A., Kenward, H. and Milles, A. (1994a). Integrated assessment of biological remains from excavations at Flixborough, S. Humberside. *Reports from the EAU, York* **94/9**, 15 pp.

Dobney, K., Milles, A., Jaques, D. and Irving, B. (1994b). Material assessment of the animal bone assemblage from Flixborough. *Reports from the Environmental Archaeology Unit, York* **94/6**, 7 pp.

Kenward, H. K. and Girling, M. (1986). Arthropod remains from archaeological sites in Southampton. *Ancient Monuments Laboratory Report* **46/86**.

Loveluck, C. (1996). *The Anglo-Saxon settlement and cemetery remains from Flixborough. Revised and summarised assessments and updated project design.* Kingston-upon-Hull: Humber Archaeology Partnership.

Robinson, M. A. and Straker, V. (1990). Silica skeletons of macroscopic plant remains from ash, pp. 3-13 in Renfrew, J. M. (ed.), *New light on early farming. Recent developments in palaeoethnobotany.* Edinburgh: University Press.

Table 1. Phases and dates for the archaeological sequence at Flixborough (correct at time of writing).

Phase	Date	Phase	Date
1	?C7	3a/4?	E-MC8/E-MC9?
1-6	?C7 to E/MC10	3a?	E-MC8?
1/2	?C7/LC7 to EC8	3b	MC8-EC9
1a	?EC7	3b-5a	MC8-EC9 to M-LC9
1a-3a	?EC7 to E-MC8	3b-5b	MC8-EC9 to LC9
1a-3a?	?EC7 to E-MC8?	3b-6	MC8-EC9 to E-MC10
1a-5b	?EC7 to LC9	3b/4	MC8-EC9/E-MC9
1a-6?	?EC7 to E-MC10?	3b/4?	MC8-EC9/E-MC9?
1a/1b	?EC7/?M-LC7	3b/6	MC8-EC9/E-MC10
1a/2	?EC7/E-MC8	3b?	MC8-EC9?
1a/2?	?EC7/E-MC8?	4	E-MC9
1a?/1b?	??EC7/??M-LC7	4-6	E-MC9 to E-MC10
1b	?M-LC7	4-6?	E-MC9 to E-MC10?
1b-3a	?M-LC7 to E-MC8	4/5a	E-MC9/M-LC9
1b/2	?M-LC7/LC7-EC8	4/5a?	E-MC9/M-LC9?
1b/2?	?M-LC7/LC7-EC8?	4/5b	E-MC9/LC9
1b/3a?	?M-LC7/E-MC8?	4/6?	E-MC9/E-MC10?
1b?/3a?	??M-LC7/E-MC8?	4?	E-MC9?
1b?/5a/6?	??M-LC7/M-LC9/?E-MC10	5a	M-LC9
2	LC7-EC8	5a-5b	M-LC9
2-4	LC7-EC8 to E-MC9	5a-6	M-LC9 to E-MC10
2-5a	LC7-EC8 to M-LC9	5a/5b	M-LC9
2-5b	LC7-EC8 to LC9	5a/5b?	M-LC9?
2/3a	LC7-EC8/E-MC8	5a/6	M-LC9/E-MC10
2/3a/4	LC7-EC8/E-MC8/E-MC9	5a/6?	M-LC9/E-MC10?
2/3a?	LC7-EC8/E-MC8?	5a?	M-LC9?
2/3b	LC7-EC8/MC8-EC9	5b	LC9
2/3b?	LC7-EC8/MC8-EC9?	5b/6	LC9/E-MC10
2?	LC7-EC8?	5b/6?	LC9/E-MC10?
3a	E-MC8	5b?	LC9?
3a-5a	E-MC8 to M-LC9	6	E-MC10
3a-5b	E-MC8 to LC9	6/7	E-MC10/C12-14
3a-6	E-MC8 to E-MC10	6?	E-MC10?
3a/3b	E-MC8/MC8-EC9	7	C12-14
3a/3b?	E-MC8/MC8-EC9?	7+	C12-14+
3a/4	E-MC8/E-MC9		

*Table 2. Numbers of BS/GBA and GBA samples (and contexts in square brackets, except where the numbers of samples and contexts are the same), for those context types represented by more than five contexts, ranked by priority of phase. All other context types are considered in Tables 3a and 3b. Where there are second or subsequent lines, nS indicates numbers of samples from contexts associated with structures; n(n) indicates numbers of samples examined in the initial assessment (with the weight of sample examined; * indicates 'test' subsamples), and an emboldened number indicates the suggested numbers of samples for assessment as part of the present proposal (annotated thus: BS—examine BS (in cases where only a 'test' subsample from the BS/GBA was examined during the initial assessment); nS—this number to be taken from samples from contexts associated with structures). Note that 'SLOT FILL' includes all contexts designated in this way, together with 'FOUNDATION TRENCH FILL', 'SLOT/FOUNDATION TRENCH FILL' and 'BEAM SLOT FILL'.*

Key to abbreviated Context Types: DTCH FILL—ditch fill; GLLY FILL—gully fill; SKWY FILL—soakaway fill; HRTH—hearth; OCCP DEP—occupation deposit; POST SCKT FILL—post socket fill; TRCH FILL—trench fill; DEMN—demolition deposit.

CONTEXT TYPE: PRIORITY			**1**							**2**						**3**
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
1	1	BS/GBA	-	-	-	-	-	2 **1**	-	-	1 **1**	-	-	-	-	-
		GBA	-	-	-	-	-	2 **1**	-	-	-	-	-	-	-	-
	1a	BS/GBA	-	-	-	-	-	2 **1**	-	-	13 13S **3S**	-	-	-	-	-
		GBA	-	-	-	-	1 **1**	2 **1**	-	-	8 7S **2S**	-	-	-	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
1	1b	BS/GBA	-	-	-	-	-	-	-	-	7 7S **2S**	-	-	1 1S **1S**	-	-
		GBA	-	-	-	-	-	-	-	-	20 20S **4S**	-	-	-	-	-
	2	BS/GBA	-	-	-	3[1] 1(1)*	4[3] **1S**	1 **1**	13[6] 3(37)+ 4(4)*	-	16 11S **1+3S**	2 1S **1S**	1 1S **1S**	4[3] 3S 1(13) **1S**	-	-
		GBA	-	-	2[1] **1**	-	1 **1**	-	6[4] **1**	-	9 9S **2S**	-	2 2S **1S**	2 1S **1S**	2 1(1)*	-
	3a	BS/GBA	-	-	-	-	1 **1**	4 **1**	-	1 1S **1S**	9 8S **1+1S**	1 1S **1S**	-	-	-	-
		GBA	-	-	-	-	-	9[8] **2**	-	-	10 10S **2S**	2 1S	1 1S	1 1S **1S**	-	-
	3b	BS/GBA	-	-	19[3] 10(122) +5(5)*	-	27[10] **2**	4 **1**	-	-	46[45] 44S **6**	-	2 2S **1**	17[14] 13S **3S**	1 **1**	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
1	3b	GBA	-	-	14[4] **1**	-	4 **1**	9 **2**	-	5[3] 5S **1S**	48 37S **1+5S**	3 2S **1S**	14 14S **3S**	4 **2S**	1 **1**	-
	4	BS/GBA	-	-	19[4] 13(188) 3(3)*	-	1 1(12)	3 **1**	-	1 **1**	28 24S **1+4S**	-	-	10[7] 9S **2S**	2[1] **1**	-
		GBA	-	-	7[6] **2**	-	1 **1**	16[14] **3**	-	-	14[12] 13S **3S**	3 3S **1S**	6 4S **1S**	2 2S **1S**	1 **1**	-
	5a	BS/GBA	-	3 **1**	40[13] 11(153) 9(9)*	1 **1**	4[1] **1**	5 **1**	-	-	14[11] 14S **3S**	-	-	-	-	1 **1**
		GBA	-	-	14[4] **1**	-	1 **1**	7 **2**	-	-	22 19S **1+4S**	-	-	1 1S **1S**	-	2 **1**
	5b	BS/GBA	-	-	2 **1**	-	8[3] 2(2)*	6 **2**	-	1 1S **1**	12[11] 11S 1(11) **3S**	-	-	5[3] 4S **1S**	1 **1**	-
		GBA	-	-	1 **1**	-	1 **1**	13 **3**	-	1 1S **1S**	10 9S **2S**	-	-	3 2S **1S**	-	1 **1**

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
1	6	BS/GBA	84[64] 1(8) 2(2)* **6**	-	13[6] 2(30) 6(6)*	2[1] 1(1)* **1 (BS)**	27[19] 2(28) 1(1)* **4**	8 1(1)* **2 (BS)**	-	-	7 6S **2S**	-	-	32[15] 28S **3S**	5[2] **1**	-
		GBA	2 **1**	-	-	-	2 **1**	5 **1**	-	-	8[7] 8S **2S**	4 4S **1S**	8 8S **2S**	12[7] 12S **2S**	-	-
	7	BS/GBA	-	16[8] **2**	-	-	-	4[3] **1**	-	-	-	-	-	-	-	1 **1**
		GBA	-	2 **1**	-	-	-	1 **1**	-	-	-	-	-	-	-	-
2	2?	BS/GBA	-	-	-	-	-	-	-	-	1 1S **1S**	-	-	-	-	-
		GBA	-	-	-	-	1	-	-	-	1 1S	-	-	-	-	-
	3a?	BS/GBA	-	-	-	-	1 **1**	-	-	-	-	-	-	-	-	-
	3b?	BS/GBA	-	-	-	-	-	2 **1**	-	-	2 2S **1S**	-	-	2[1] 2S **1S**	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
2	3b?	GBA	-	-	-	-	-	1	-	-	2 2S	-	-	-	-	-
	4?	BS/GBA	-	-	-	-	-	-	-	-	1 1S **1S**	-	-	-	-	-
	5a?	BS/GBA	-	-	3[1] **1**	-	-	2 **1**	-	-	-	-	-	-	-	-
		GBA	-	-	1	-	-	-	-	-	-	-	-	-	-	-
	5b?	BS/GBA	-	-	-	-	-	-	-	-	1 **1**	-	-	-	-	-
	6?	GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
3	1a/1b	GBA	-	-	-	-	-	2 **1**	-	-	2 1S **1S**	-	-	-	-	-
	1b/2	BS/GBA	-	-	-	-	-	-	-	-	1 **1**	-	-	-	-	-
	2/3a	BS/GBA	-	-	-	-	3[2] **1**	2 **1**	-	-	26 25S **5S**	-	-	1 1S **1S**	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
3	2/3a	GBA	-	-	-	-	8[7] 1S 1(1)* **2**	10[8] **2**	-	-	29 27S **5S**	1 1S **1S**	-	-	-	-
	3a/3b	BS/GBA	-	-	-	-	-	2 **1**	-	-	2 **1**	-	-	-	-	1 **1**
		GBA	-	-	-	-	-	4 **1**	-	-	-	-	-	-	-	1 **1**
	3b/4	BS/GBA	-	-	2 **1**	-	1 **1**	9 1(1)* **2 (BS)**	1 **1**	-	-	-	-	5[4] 2S **1S**	-	-
		GBA	-	-	2[1] **1**	-	1 **1**	11 **3**	-	-	5[4] **1**	1	1	-	-	-
	4/5a	BS/GBA	-	-	-	-	4[2] **1**	2 **1**	-	2 2S **1S**	8 6S **2S**	-	-	6[3] 7S **1S**	-	-
		GBA	-	-	1 **1**	-	-	8 **2**	-	-	8 7S **2S**	2 1S	2 1S **1S**	5[3] 5S **1S**	-	-
	5a/5b	BS/GBA	-	-	5 **1**	-	1 **1**	12 2(2)* **3**	-	-	3 **1**	-	-	2 **1**	1 **1**	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
3		GBA	-	-	2 **1**	-	-	9 **2**	-	-	3 **1**	1	-	-	-	-
	5b/6	BS/GBA	-	-	13[3] 2(24) 4(4)*	-	17[8] 4(48)	14[10] 1(23) **2**	-	-	6 6S **2S**	-	-	2[1] **1**	-	-
		GBA	-	-	1	-	4[2] **1**	6 **2**	-	-	10 6S **2S**	-	-	-	-	-
	6/7	BS/GBA	4[2] **1**	-	-	-	-	-	-	-	-	-	-	-	-	-
4	1a?/1b?	BS/GBA	-	-	-	-	-	-	-	-	1 1S **1S**	-	-	-	-	-
	1b/2?	BS/GBA	-	-	-	-	-	-	-	-	2 2S 1(1)*	-	-	-	-	-
		GBA	-	-	-	-	-	-	-	-	2 2S	-	-	-	-	-
	2/3a?	BS/GBA	-	-	-	-	-	2 **1**	-	-	2 1S **1S**	-	-	-	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
4	2/3a?	GBA	-	-	-	-	-	1	-	-	2 2S	-	-	-	-	-
	3a/3b?	BS/GBA	-	-	-	-	-	1 **1**	-	-	4 3S **1S**	-	-	1 1S **1S**	-	-
		GBA	-	-	-	-	-	5[4] 1S	-	-	8 8S	-	1 1S	5[3] 5S	-	-
	3b/4?	BS/GBA	-	-	-	-	-	-	-	-	1 1S **1S**	1 1S 1(21)	-	3[1] 3S **1S**	-	-
	4/5a?	GBA	-	-	-	-	-	2	-	-	-	-	-	-	-	-
	5a/5b?	BS/GBA	-	-	7[2] **1**	-	-	1 **1**	-	2[1] 1(1)*	-	-	-	-	-	-
		GBA	-	-	1	-	-	-	-	-	-	-	-	-	-	-
	5b/6?	BS/GBA	-	-	-	-	-	2 **1**	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
5	1a/2	BS/GBA	-	-	-	-	5[1] **1**	-	-	-	-	-	-	-	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
5	1/2	BS/GBA	-	-	-	-	1 **1**	-	2[1] **1**	-	-	-	-	-	-	-
		GBA	-	-	-	-	-	1	-	-	1	-	-	-	-	-
	1a-3a	GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
	1a-5b	GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
	1b-3a	BS/GBA	-	-	-	-	-	2 **1**	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
	1-6	BS/GBA	-	-	-	-	-	1 **1**	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	-	3	-	-	-	-	-	-	-	-
	2-4	BS/GBA	-	-	-	-	-	3 **1**	-	-	-	-	-	-	-	-
	2-5a	BS/GBA	-	56[31] 9(131)	-	-	-	6[5] **1**	-	-	-	-	-	-	-	-
		GBA	-	10[8] **2**	-	-	-	1	-	-	1	-	-	-	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
5	2-5b	BS/GBA	-	-	-	-	2 **1**	1 **1**	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	1	-	-	-	-	-	-	-	-	-
	2/3b	BS/GBA	-	-	-	-	1 **1**	3 **1**	-	-	1 1S **1S**	-	1 1S **1S**	-	1 **1**	-
		GBA	-	-	-	-	3[2]	2	-	-	1	-	-	-	-	-
	3a/4	GBA	-	-	-	-	-	2	-	-	-	-	-	-	-	-
	3a-5a	BS/GBA	-	-	-	2 **1**	-	-	-	-	-	-	-	-	-	-
		GBA	-	-	-	1	-	-	-	-	-	-	-	-	-	-
	3a-5b	GBA	-	-	-	-	-	-	-	-	-	-	1	-	-	-
	3a-6	BS/GBA	-	-	-	-	-	-	-	-	1 **1**	-	-	4 **1**	-	-
	3b-5a	BS/GBA	-	-	-	-	-	4 **1**	-	-	-	-	-	-	1 **1**	-
	3b-5a	GBA	-	-	-	-	-	4	-	-	-	-	1	-	-	-
	3b-5b	BS/GBA	-	-	-	-	-	-	-	-	1 **1**	-	-	-	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
5	3a-5b	GBA	-	-	-	-	-	5	-	-	-	-	-	-	-	-
	3b/6	GBA	-	-	-	-	-	-	-	-	-	-	1	-	-	-
	4/5b	BS/GBA	-	-	-	-	-	2 **1**	-	-	2[1] **1**	-	-	1 **1**	-	-
		GBA	-	-	-	-	-	5	-	-	-	1	-	-	-	-
	4-6	BS/GBA	-	-	-	-	-	1 **1**	-	-	3 **1**	-	-	-	-	-
		GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
	5a-6	BS/GBA	-	-	2[1] **1**	-	-	-	-	-	-	-	-	-	-	-
	5a/6	BS/GBA	1 **1**	-	9[3] **1**	-	1 **1**	7 **2**	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	1	2	-	-	-	-	-	-	-	-
6	1a/2?	BS/GBA	-	-	-	-	-	-	-	-	2[1] 2S **1S**	-	-	-	-	-
	1a-3a?	GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
	1a-6?	GBA	-	-	-	-	-	2	-	-	-	-	-	-	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
6	1b/3a?	GBA	-	-	-	-	-	-	-	-	1 1S	-	-	-	-	-
	1b?/3a?	GBA	-	-	-	-	-	-	-	-	1 1S	-	-	-	-	-
	2/3b?	BS/GBA	-	-	-	-	1 **1**	-	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	-	-	-	-	1 1S	-	-	-	-	-
	3a/4?	BS/GBA	-	-	-	-	3[1] 1(1)*	-	-	-	-	-	-	-	-	-
	3b-6	GBA	-	-	-	-	-	1	-	-	-	-	-	-	-	-
	4/6?	BS/GBA	-	-	-	-	2[1] **1**	-	-	-	-	-	-	-	-	-
	4-6?	BS/GBA	-	-	-	-	-	-	-	-	1 1S **1S**	-	-	-	-	-
		GBA	-	-	-	-	-	-	-	-	1 1S	-	-	-	-	-
	5a/6?	BS/GBA	-	-	-	-	-	1 **1**	-	-	9 9S **2S**	-	-	1 1B **1S**	-	-

CONTEXT TYPE: PRIORITY			1							2						3
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DARK SOIL**	**DTCH FILL**	**DUMP**	**GLLY FILL**	**OCCP DEP**	**PIT FILL**	**SKWY FILL**	**HRTH**	**POST HOLE FILL**	**POST PIPE FILL**	**POST SCKT FILL**	**SLOT FILL**	**TRCH FILL**	**DEMN**
No. contexts			**69**	**49**	**56**	**6**	**79**	**267**	**8**	**10**	**447**	**22**	**42**	**81**	**11**	**6**
No. samples		**BS/GBA**	**89**	**75**	**134**	**8**	**116**	**124**	**16**	**7**	**235**	**4**	**4**	**92**	**12**	**3**
		GBA	**2**	**12**	**46**	**1**	**32**	**159**	**6**	**6**	**235**	**18**	**38**	**36**	**4**	**4**
6	5a/6?	GBA	-	-	-	-	-	1	-	-	6 6S	-	-	1	-	-
7	2/3a/4	BS/GBA	-	-	-	-	1 **1**	-	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	2[1]	-	-	-	-	-	-	-	-	-
8	1b?/5a/6 ?	BS/GBA	-	-	-	-	-	-	-	-	1 1S **1**	-	-	-	-	-
		GBA	-	-	-	-	-	-	-	-	1 1S	-	-	-	-	-
9	?	BS/GBA	-	-	-	-	-	2	-	-	-	-	-	-	-	-
No. BS samples to assess			8	3	7	3	22	40	2	4	60	2	3	22	7	3
No. GBA samples to assess			1	3	9	0	11	30	1	2	40	4	8	9	2	3

Table 3a. Numbers of BS/GBA and GBA samples for those context types of priority 1 and 2 represented by five or fewer contexts. Annotations as for Table 2. The remaining context types are dealt with in Table 3b.

Key to abbreviated context types: NATL INTFC—natural interface; OD/DS—occupation deposit/dark soil; OVEN COLL—oven collapse.

CONTEXT TYPE: PRIORITY			**1**		**2**								
PRIORITY	**PHASE**	**SAMPLE TYPE**	**OD/DS**	**TURF LINE**	**GRAVE FILL**	**NATL INTFC**	**OVEN**	**OVEN BASE**	**OVEN COLL**	**OVEN FLOOR**	**OVEN WALL**	**SILL WALL**	**STAKE HOLE FILL**
No. contexts			**3**	**3**	**4**	**4**	**2**	**3**	**2**	**1**	**2**	**2**	**2**
No. samples		**BS/GBA**	**6**	**1**	**-**	**2**	**4**	**1**	**1**	**1**	**1**	**2**	**-**
		GBA	**-**	**2**	**6**	**2**	**-**	**3**	**1**	**3**	**2**	**-**	**2**
1	0	BS/GBA	-	-	-	1 **1**	-	-	-	-	-	-	-
		GBA	-	2 **1**	-	-	-	-	-	-	-	-	-
	1	BS/GBA	-	1 1(1)*	-	-	-	-	-	-	-	-	-
	2	GBA	-	-	-	-	-	-	-	-	-	-	-
	3a	GBA	-	-	3[1] **1**	-	-	-	-	-	-	-	-
	3b	GBA	-	-	1 **1**	-	-	-	-	-	-	-	1 1S **1S**
	5a	BS/GBA	-	-	-	-	3[1] 1(1)*	1 **1**	-	1 **1**	1 **1**	-	-

CONTEXT TYPE: PRIORITY			1		2								
PRIORITY	**PHASE**	**SAMPLE TYPE**	**OD/DS**	**TURF LINE**	**GRAVE FILL**	**NATL INTFC**	**OVEN**	**OVEN BASE**	**OVEN COLL**	**OVEN FLOOR**	**OVEN WALL**	**SILL WALL**	**STAKE HOLE FILL**
No. contexts			**3**	**3**	**4**	**4**	**2**	**3**	**2**	**1**	**2**	**2**	**2**
No. samples		**BS/GBA**	**6**	**1**	**-**	**2**	**4**	**1**	**1**	**1**	**1**	**2**	**-**
		GBA	**-**	**2**	**6**	**2**	**-**	**3**	**1**	**3**	**2**	**-**	**2**
1	5a	GBA	-	-	-	1 **1**	-	3[1] **1**	1 **1**	3[1] **1**	2[1] **1**	-	-
	5b	BS/GBA	-	-	-	-	1 **1**	-	-	-	-	-	-
	6	BS/GBA	3[2] 1(1)*	-	-	-	-	-	-	-	-	-	-
3	3a/3b	BS/GBA	-	-	-	-	-	-	-	-	-	2 2S **1S**	-
		GBA	-	-	2[1] **1**	-	-	-	-	-	-	-	-
	4/5a	BS/GBA	-	-	-	-	-	-	-	-	-	-	-
		GBA	-	-	-	-	-	-	-	-	-	-	-
	5a-5b	BS/GBA	3[1] **1**	-	-	-	-	-	-	-	-	-	-
	5a/5b	BS/GBA	-	-	-	-	-	-	1 **1**	-	-	-	-
4	3a/3b?	GBA	-	-	-	-	-	-	-	-	-	-	1 1S
5	1a/2	GBA	-	-	-	1	-	-	-	-	-	-	-

CONTEXT TYPE: PRIORITY			1		2								
PRIORITY	**PHASE**	**SAMPLE TYPE**	**OD/DS**	**TURF LINE**	**GRAVE FILL**	**NATL INTFC**	**OVEN**	**OVEN BASE**	**OVEN COLL**	**OVEN FLOOR**	**OVEN WALL**	**SILL WALL**	**STAKE HOLE FILL**
No. contexts			**3**	**3**	**4**	**4**	**2**	**3**	**2**	**1**	**2**	**2**	**2**
No. samples		**BS/GBA**	**6**	**1**	**-**	**2**	**4**	**1**	**1**	**1**	**1**	**2**	**-**
		GBA	**-**	**2**	**6**	**2**	**-**	**3**	**1**	**3**	**2**	**-**	**2**
5	1/2	BS/GBA	-	-	-	1 **1**	-	-	-	-	-	-	-
No. BS samples to assess			1	0	0	2	1	1	1	1	1	1	0
No. GBA samples to assess			0	1	3	1	0	1	1	1	1	0	1

Table 3b. Numbers of BS/GBA and GBA samples for those context types of priority 3 or 4 represented by five or fewer contexts (apart from the context type '?').

Key to abbreviated context types: DEPR FILL—depression fill; HDSTG—hardstanding; LEVD—levelling deposit; NWBD—natural wind blown deposit; PATH LEVD—path levelling deposit; SUBS FILL—subsidence fill; BURR FILL—burrow fill; NATL—natural; UPCST—upcast; ?—context currently not assigned a type.

CONTEXT TYPE: PRIORITY			**3**							**4**			
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DEPR FILL**	**HDSTG**	**LEVD**	**NWBD**	**PATH**	**PATH LEVD**	**SUBS FILL**	**BURR FILL**	**NATL**	**UPCST**	**?**
No. contexts			**5**	**1**	**3**	**1**	**5**	**2**	**4**	**4**	**3**	**1**	**62**
No. samples		**BS/GBA**	**5**	**1**	**3**	**1**	**4**	**2**	**5**	**-**	**3**	**-**	**118**
		GBA	**-**	**-**	**1**	**-**	**2**	**-**	**3**	**4**	**3**	**2**	**38**
1	0	BS/GBA	-	-	-	-	-	-	-	-	1	-	-
		GBA	-	-	-	-	-	-	-	-	3[1]	-	-
	1	BS/GBA	-	-	-	-	-	-	-	-	1	-	-
	1a	GBA	-	-	-	-	-	-	-	-	-	-	2[1]
	2	BS/GBA	-	-	-	-	-	-	-	-	-	-	1
		GBA	-	-	-	-	-	-	-	-	-	-	1 1(1)*
	3a	BS/GBA	1 **1**	-	-	-	-	-	-	-	-	-	1
		GBA	-	-	-	-	-	-	-	-	-	-	4[3]
	3b	BS/GBA	-	-	-	1 **1**	-	-	-	-	-	-	14[4] 1(1)*

CONTEXT TYPE: PRIORITY			3							4			
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DEPR FILL**	**HDSTG**	**LEVD**	**NWBD**	**PATH**	**PATH LEVD**	**SUBS FILL**	**BURR FILL**	**NATL**	**UPCST**	**?**
No. contexts			**5**	**1**	**3**	**1**	**5**	**2**	**4**	**4**	**3**	**1**	**62**
No. samples		**BS/GBA**	**5**	**1**	**3**	**1**	**4**	**2**	**5**	**-**	**3**	**-**	**118**
		GBA	**-**	**-**	**1**	**-**	**2**	**-**	**3**	**4**	**3**	**2**	**38**
1	3b	GBA	-	-	1 **1**	-	-	-	-	-	-	-	2
	5a	BS/GBA	-	-	-	-	1 **1**	2 **1**	-	-	-	-	5[4]
		GBA	-	-	-	-	-	-	-	-	-	2[1] **1**	5[4]
	5b	GBA	-	-	-	-	-	-	-	-	-	-	2
	6	BS/GBA	2 **1**	-	-	-	1 **1**	-	-	-	-	-	59[1] 3(3)*
		GBA	-	-	-	-	1	-	-	-	-	-	4[3]
	7	BS/GBA	-	-	2[1] **1**	-	-	-	2	-	-	-	2
		GBA	-	-	-	-	-	-	-	-	-	-	4[2]
3	1a/1b	BS/GBA	-	-	-	-	-	-	-	-	-	-	1
	1b/2	GBA	-	-	-	-	-	-	-	-	-	-	1
	2/3a	BS/GBA	-	-	-	-	-	-	-	-	-	-	2
3	2/3a	GBA	-	-	-	-	-	-	1	1	-	-	1

CONTEXT TYPE: PRIORITY			3							4			
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DEPR FILL**	**HDSTG**	**LEVD**	**NWBD**	**PATH**	**PATH LEVD**	**SUBS FILL**	**BURR FILL**	**NATL**	**UPCST**	**?**
No. contexts			**5**	**1**	**3**	**1**	**5**	**2**	**4**	**4**	**3**	**1**	**62**
No. samples		**BS/GBA**	**5**	**1**	**3**	**1**	**4**	**2**	**5**	**-**	**3**	**-**	**118**
		GBA	**-**	**-**	**1**	**-**	**2**	**-**	**3**	**4**	**3**	**2**	**38**
	3a/3b	BS/GBA	-	-	-	-	-	-	3[1] 1(1)*	-	-	-	8[3]
		GBA	-	-	-	-	-	-	2[1]	-	-	-	-
	3b/4	BS/GBA	-	-	-	-	-	-	-	-	-	-	2[1]
		GBA	-	-	-	-	-	-	-	-	-	-	2
	4/5a	BS/GBA	-	1 **1**	-	-	-	-	-	-	-	-	2
		GBA	-	-	-	-	-	-	-	-	-	-	2
	5a/5b	BS/GBA	-	-	-	-	-	-	-	-	-	-	2[1]
	5b/6	BS/GBA	-	-	-	-	-	-	-	-	-	-	8[7]
		GBA	-	-	-	-	-	-	-	-	-	-	2
4	3b/4?	GBA	-	-	-	-	-	-	-	-	-	-	1
	5a/5b?	BS/GBA	-	-	-	-	-	-	-	-	-	-	1
		GBA	-	-	-	-	-	-	-	-	-	-	1
5	1/2	BS/GBA	-	-	-	-	-	-	-	-	-	-	3
		GBA	-	-	-	-	-	-	-	-	-	-	2[1]
5	2-4	BS/GBA	-	-	-	-	-	-	-	-	1	-	-

CONTEXT TYPE: PRIORITY			3							4			
PRIORITY	**PHASE**	**SAMPLE TYPE**	**DEPR FILL**	**HDSTG**	**LEVD**	**NWBD**	**PATH**	**PATH LEVD**	**SUBS FILL**	**BURR FILL**	**NATL**	**UPCST**	**?**
No. contexts			**5**	**1**	**3**	**1**	**5**	**2**	**4**	**4**	**3**	**1**	**62**
No. samples		**BS/GBA**	**5**	**1**	**3**	**1**	**4**	**2**	**5**	**-**	**3**	**-**	**118**
		GBA	**-**	**-**	**1**	**-**	**2**	**-**	**3**	**4**	**3**	**2**	**38**
	2-5a	BS/GBA	-	-	-	-	-	-	-	-	-	-	1
	3a-6	BS/GBA	-	-	-	-	2[1] 2S	-	-	-	-	-	-
		GBA	-	-	-	-	1 1S	-	-	-	-	-	-
	3b-5a	BS/GBA	-	-	1	-	-	-	-	-	-	-	-
	5a/6	BS/GBA	-	-	-	-	-	-	-	-	-	-	1
	7+	GBA	-	-	-	-	-	-	-	3	-	-	-
6	5a/6?	GBA	-	-	-	-	-	-	-	-	-	-	2[1]
9	?	BS/GBA	2	-	-	-	-	-	-	-	-	-	5[1]
No. BS samples to assess			2	0	1	1	2	1	0	0	1	0	0
No. GBA samples to assess			0	0	1	0	0	0	0	0	0	0	0

Table 4. Summary of numbers of GBA and BS samples required for assessment by phase and feature type priority.

Phase priority	Context priority	No. contexts with GBAs	No. GBAs available	No. GBAs to assess	No. contexts with BSs	No. BSs available	No. BSs to assess
1	1	98	125	33	191	331	33
1	2	228	242	58	210	247	58
1	3	5	5	3	13	14	9
1	4	20	29	0	15	84	1
2	1	4	4	0	6	8	4
2	2	3	3	0	6	7	5
3	1	63	69	20	65	95	19
3	2	68	72	16	63	68	20
3	3	3	4	1	3	5	2
3	4	9	9	0	17	25	0
4	1	9	10	0	8	13	5
4	2	17	19	0	14	17	6
4	4	2	2	0	1	1	0
5	1	42	45	3	74	112	21
5	2	8	8	0	16	17	11
5	3	1	1	0	2	3	0
5	4	4	5	0	6	6	0
6	1	5	5	0	4	7	3
6	2	11	11	0	12	13	5
6	4	1	2	0	0	0	0
7	1	1	2	0	1	1	1
8	2	1	1	0	1	1	1
9	1	0	0	0	2	2	0
9	3	0	0	0	2	2	0
9	4	0	0	0	1	5	0
		603	673	134 (20%)	733	1084	204 (19%)

Table 5	**Task list and timetable for re-assessment of biological remains from Flixborough and for additional artefactual material**		24-Jun-98		Suggested schedule for undertaking tasks						
Task		**Staff**	**Total time (days)**		days in... Jul 98	Aug	Sep	Oct	Nov	Dec	Jan
1	*Selection and retrieval*										
A	Preparation of list of samples for retrieval from store	AH	0.5		0.5						
B	Retrieval of samples from HAP store and transfer to EAU	CL	4.0		4						
		LW	2.0		2						
		CJ	4.0		4						
		Techs	5.0		5						
2	*Examination of 204 BS samples*										
A	Inspection and brief recording of all components (particularly plant remains)	AH	3.0		2	1					
		PH	11.0		5	6					
B	Inspection and recording - invertebrate remains (mainly shell)	JC	4.0			2	2				
		HK	1.0			1					
C	Inspection and recording - vertebrate remains	KD	6.0			2	4				
		DJ	8.0			2	6				
		CJ	8.0			2	6				
D	Inspection and sorting -artefactual material, including hammer scale	Techs	18.5		9	9.5					
3	*Examination of 134 raw sediment samples (from GBA or BS/GBA samples)*										
A	Sediment description (noting deviations from norm, only)	AH	1.0			1					
		HK	0.5			0.5					
		JC	2.0			2					
B	Processing of subsamples	Techs	23.0		13	10					
C	Inspection and recording of washovers and residues for all components (particularly plant remains)	AH	1.0			1					
		PH	4.0			4					

D	Inspection and recording of washovers and residues - invertebrate remains	HK	0.5				0.5				
		JC	3.0				3				
E	Inspection and recording of washovers and residues - vertebrate remains	KD	1.0				1				
F	Inspection and sorting -artefactual material, including hammer scale	Techs	8.0				8				
G	Qualitative analysis of mineral sediment and charcoal content from 50 selected 'priority 1' GBA samples, using measuring cylinder method	AH	0.5			0.5					
		Techs	2.5			2.5					
H	Examination of microfossil remains via 50 'squash' subsamples	JC	3.0				3				
4	*Assessment of artefactual remains with regard to conservation and investigative analysis (includes report preparation)*	IP	1.0				1				
5	*Assessment of pottery recovered from samples in order to evaluate its potential for analysis and its integration into the overall Flixborough pottery work programme (includes report preparation)*	JY	1.0				1				
6	*Assessment of the potential of fired clay (non-pottery)remains and daub for analysis (includes report preparation)*	LW	1.0				1				
7	*Assessment of the implications of the artefact remains recovered from the samples for analysis and costing of the appropriate level of analysis and publication (includes report preparation)*	CL	1.0				1				
8	*Assessment of hammer scale and other metal residues (includes report preparation)*	DS	3.0							3	
	(does not affect costing or schedule of main phase)										
9	*Preparation of assessment report (and project design for further analysis of biological remains, if appropriate)*	AH	4.0				2	2			
	(N.B. it is assumed that the preparation of reports on artefactual material and the submission of any documentation regarding further work on this material is covered under tasks 4-8)	JC	2.0				1	1			
		KD	2.0				1	1			

		HK	1.0				1				
10	*Routine tasks*										
A	Sample movement and storage at EAU	Techs	1.0		0.5			0.5			
B	Maintenance of databases	AH	0.5		0.25			0.25			
C	Project management and supervision of staff	AH	1.0		0.25	0.25	0.25	0.25			
		HK	1.0		0.25	0.25	0.25	0.25			
		KD	1.0		0.25	0.25	0.25	0.25			
		JC	1.0		0.25	0.25	0.25	0.25			
11	*Repackaging and return of samples to HAP*	Techs	7.0						7		
	(if appropriate: figure is a maximum in the event that samples are to be repackaged in plastic tubs for easier transport and long-term storage)	CJ	2.0						2		
	Staff abbreviations are explained in the summary table										

Table 6. Consumables costs

Consumables	24-Jun-98
Item	*Cost (£)*
Glass specimen tubes	15.00
Microscope slides and cover slips	7.00
Computer consumables, depreciation and maintenance (token contribution)	50.00
Beatson jars	50.00
Stationery, including photocopying	20.00
Postage	10.00
Telephones/faxes	15.00
Polyethylene bags	5.00
Labels and markers	3.00
Miscellaneous, including repairs to equipment (token contribution)	50.00
Bar Magnet	3.00
Plastic tubs	189.75
Heavy duty rubber gauntlets (for handling samples from store with health risk)	25.00
Total	442.75
Hire of transit van for sample transport (3 days at £50/day)	150.00
Petrol (6 x 80 miles at 20 mpg)	67.00
Grand total	659.75

N.B. None of the above costs are met through the overheads of staff salaries required by the University of York - overheads are automatically absorbed by the University Finance Department on receipt of payments for projects

Table 7. Task list and costs for staff, and summary of costs for project.						
						24-Jun-98
Staff	**Days**	**Daily rate (£)**	**Travel etc. (£)**	**Cost (£)**		
HAP						**Humber Archaeology Partnership**
CL	5.0	108.00		540.00		Christopher Loveluck, Project Manager
LW	3.0	84.00		252.00		Lisa Wastling, Finds Researcher
CLAU						**City of Lincoln Archaeological Unit**
JY	1.0	142.00	36.00	178.00		Jane Young, Pottery Specialist
AML						**Ancient Monuments Laboratory**
AH	11.5	0.00		0.00		Allan Hall (Research Fellow: plant remains), EAU
HK	4.0	0.00		0.00		Harry Kenward (Research Fellow: insects, and Director, EAU)
KD	10.0	0.00		0.00		Keith Dobney (Research Fellow: bones), EAU
IP	1.0	0.00		0.00		Ian Panter, EH Conservator, York Archaeological Trust
DS	3.0	0.00		0.00		David Starley, Archaeometallurgist, AML
PRS						**Palaeoecology Research Services (EAU)**
Techs	65.0	64.63		4200.86		Technicians (tba)
PH	15.0	99.86		1497.84		Dr Paul Hughes (Research Assistant: plant remains)
JC	15.0	99.86		1497.84		John Carrott (Research Assistant: microfossils/molluscs)
DJ	8.0	99.86		798.85		Deborah Jaques (Research Assistant: bones)
CJ	14.0	64.63		904.80		Cluny Johnstone (Technician)
PRS Salary Total				7995.38		
*PRS Salary cost plus 25% overhead**				9994.23		
Non-PRS staff costs (includes 25% overhead)				970.00		
Consumables, including van hire/petrol				659.75		
Total project costs				**11623.98**		
(Costs exclusive of VAT)						

* N.B. The University of York overhead of 25% is not normally available in any direct form to PRS staff