

**Land at Spicers,
Mill Lane, Sawston,
Cambridgeshire**

**Archaeological
Excavation
2008/2009**

**Assessment of
Potential and
Updated Project
Design**


Project No. 1886

May 2010

Land at Spicers, Mill Lane,
Sawston, Cambridgeshire

Assessment of Potential and Updated Project Design

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for
RPS Planning and Development

On behalf of
Spicers Limited

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Sawston, Cambridgeshire**

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Executive Summary

Birmingham Archaeology was commissioned by RPS Planning and Development, acting on behalf of Spicers Limited, to undertake an archaeological excavation in advance of the construction of a warehouse and ancillary offices at Spicers, Mill Lane, Sawston, Cambridgeshire (NGR TL 4712 4984; Planning Reference: S/0750/01/F). The development site is on a slight spur of land comprising gleyic brown calcareous earths with deep fine loams over chalk drift and chalk falling from about 19m AOD in the east to about 16.7m AOD in the west. The site is bounded to the west and north by woodland, to the east by a hedgerow and to the south by an arable field.

The excavation successfully characterised the archaeological features and deposits across the site. Seven phases of complex archaeological activity were identified ranging from the Mesolithic to the post-medieval periods. Despite the absence of specific features dating to the Mesolithic period, a number of high quality flint artefacts dated to this period were recovered, including a flint axe head. Evidence of archaeological activity during the Early to mid Neolithic period consisted of cut features and discrete spreads of material containing notable quantities of pottery and flint artefacts. A number of sub-circular hollows and a shallow ditch situated along the eastern side of the site produced finds suggesting occupation during the Late Neolithic/ Early Bronze Age. No archaeological remains were identified dating to the Iron Age, an intriguing result given the proximity of Borough Hill Iron Age hillfort.

Evidence of habitation in the Early Saxon period was provided by a number of Sunken Floored Buildings and isolated pits, the majority of which contained residual Romano-British finds. Continued use of the site is demonstrated as large ditched enclosures were excavated during the early medieval period. Evidence suggests that the site has been prone to frequent flooding, as demonstrated by a network of recut drainage ditches apparently dating to between the 12th and 14th centuries. Signs of activity during the post-medieval period were seen in further recut ditch sections; the most recent archaeological remains appeared to relate to a number of horse burials probably dating to the 19th century.

Several large features were identified across the site and are interpreted as palaeochannels. A comprehensive programme of environmental sampling and recording was undertaken producing well preserved peat deposits dating from the Neolithic and Bronze Age (at the lowest sequences).

The results from the excavation have produced extensive evidence which will greatly enhance the archaeological record for Cambridgeshire and significantly contribute to our understanding of the chronological development of the site and its immediate environment. The multi period nature of the archaeological features, deposits and artefacts ranging from the Mesolithic to Post-Medieval create a rare opportunity to investigate human activity, settlement and landscape utilisation of a considerable length of time and to advance the research framework model for archaeological work in Cambridgeshire. In addition, the presence of good environmental preservation of datable deposits within probable former channels of the River Cam creates an excellent opportunity to reconstruct the past natural landscape and allow the archaeological activity to be assessed in conjunction with environmental characteristics and landscape change.

Land at Spicers, Mill Lane, Sawston, Cambridgeshire

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1. INTRODUCTION

- 1.1.1. Birmingham Archaeology was commissioned by RPS Planning and Development on behalf of Spicers Limited to undertake an archaeological excavation ahead of a commercial development at Spicers, Mill Lane, Sawston, Cambridgeshire (hereinafter referred to as the site, Planning Ref Number S/0750/01/F; Figs. 1 and 2).
- 1.1.2. This report provides an assessment and updated project design of the excavation carried out between November 2008 and March 2009. The report includes an assessment of the archaeological findings of the site and of environmental and artefactual evidence recovered. An updated project design is given alongside a publication outline and details of further work necessary for completion. The structure of the report is based on guidelines provided by English Heritage (1991; 2006a).
- 1.1.3. This report does not represent the final analysis of the excavation results, but outlines the remaining and recommended work which is necessary to achieve the dissemination of the project as outlined below.
- 1.1.4. The southernmost part of the site and the adjacent site to the southeast had previously been surveyed using geophysical techniques (GSB Prospection 2000) in conjunction with aerial photographic assessment (John Samuels Archaeological Consultants 2000). Archaeological evaluation of this site and the adjacent land was also completed by John Samuels in 2001 and 2003.
- 1.1.5. The excavation conformed to a Project Design produced by RPS Planning and Development (Slatcher 2008), approved by the Local Planning Authority, South Cambridgeshire District Council, in accordance with guidelines laid down in Planning Policy Guidance Note 16 (DoE 1990) and conditions of Planning Ref Number S/0750/01/F. Site background and excavation methodologies are given in Appendices 1 and 2.

2. INITIAL AIMS OF INVESTIGATION

- 2.1.1. The principal aim of the excavation was to identify archaeological remains, and to preserve those remains by record.
- 2.1.2. More specific research aims were to:
- Examine evidence for Mesolithic and Neolithic activity along the former river and to investigate any possible buried land surfaces sealed by alluvial or colluvial material
 - Further understand the later prehistoric, Roman and later activities across the site, in particular the relationship between the site and Borough Hill, a 'lowland hillfort' situated immediately to the southeast of the development site.
 - Provide a detailed chronological assessment of archaeological activity across the site.

3. EXCAVATION SUMMARY ASSESSMENT

- 3.1.1. The excavation successfully characterised the archaeological features and deposits across the site. Seven phases of complex archaeological activity were identified ranging from the Mesolithic to the post-medieval periods. A full phased narrative of the excavation results is located in Appendix 3 accompanied by a full context list in Appendix 5. To summarize, the archaeological activity across the site can be divided into the following 7 phases:
- Phase 1 – Mesolithic
 - Phase 2 – Early to Mid Neolithic
 - Phase 3 – Late Neolithic/ Early Bronze Age
 - Phase 4 – Roman
 - Phase 5 – Saxon
 - Phase 6 – Medieval
 - Phase 7 – Post-medieval
- 3.1.2. Despite the absence of specific features dating to the Mesolithic period, a number of high quality flint artefacts dated to this period were recovered, including a flint axe head. Evidence of archaeological activity during the Early to mid Neolithic period consisted of cut features and discrete spreads of material containing notable quantities of pottery and flint artefacts. A number of sub-circular hollows and a shallow ditch situated along the eastern side of the site produced finds suggesting occupation during the Late Neolithic/ Early Bronze Age.
- 3.1.3. The absence of archaeological features and deposits dating to the Iron Age is intriguing given the proximity of Borough Hill Iron Age hillfort.
- 3.1.4. Evidence of habitation in the Early Saxon period was provided by a number of Sunken Floored Buildings (SFB) and isolated pits, the majority of which contained residual Romano-British finds. Continued use of the site is demonstrated as large ditched enclosures were excavated during the early medieval period.
- 3.1.5. Evidence suggests that the site has been subjected to frequent flooding, as demonstrated by a network of recut drainage ditches apparently dating to between the 12th and 14th centuries. Signs of activity during the post-medieval period were seen in further recut ditch sections; the most recent archaeological remains appeared to relate to a number of horse burials probably dating to the 19th century.
- 3.1.6. The features were, in general, well preserved, although the clarity of the interface between features cuts and the natural geology was moderate at best. The site was frequently inundated with standing water caused by a high water table and wet weather conditions. Several large features were identified across the site and are interpreted as palaeochannels. A comprehensive programme of environmental sampling and recording was undertaken and the results are discussed below (See Environmental Assessment).
- 3.1.7. The results from the excavation have produced extensive evidence which will greatly enhance the archaeological record for Cambridgeshire and significantly contribute to our understanding of the chronological development of the site and its immediate environment. The multi period nature of the archaeological features, deposits and artefacts ranging from the Mesolithic to Post-Medieval create a rare opportunity to investigate human activity, settlement and landscape utilisation of a considerable length of time and to advance the research framework model for archaeological work in Cambridgeshire.

4. THE ARTEFACTS: SUMMARY, POTENTIAL AND RECOMENDATIONS

4.1. Introduction

4.1.1. This section summarises the artefactual assemblage. The information below includes factual data only followed by a statement of potential. Full specialist reports, including full assessment and recommendations are presented in Appendix 4. The artefact assemblages include material ranging from the Mesolithic to Post-Medieval periods and together form a rare opportunity to investigate human activity, settlement and landscape utilisation of the site over a considerable length of time and to advance the research framework model for archaeological work in Cambridgeshire.

4.2. Flint by B. Bishop

4.2.1. A total of 1027 struck flints and just over 2.5kg of burnt flint fragments were recovered during the investigations (Appendix 4.1). The lithic assemblage indicates considerable activity at the site spanning a long period of time. It includes significant Later Mesolithic and Early Neolithic assemblages and there is the possibility that both earlier and later flintworking is also represented. Knapping waste and the high proportion of retouched implements indicate that both core reduction and tool use/discard were occurring. Most of the Later Mesolithic and Early Neolithic pieces were recovered as large assemblages from a series of buried soils/infilled hollows and features such as post-built structures and ditches. Numerous other prehistoric or undated features also contained struck flint and these potentially may be contemporary with the flintworking activities.

4.2.2. The site has produced a number of important lithic assemblages and should be reported on in full. This will give an opportunity to explore diverse themes relating to the nature, significance and scale of flint technology and its use, both at the site and within the wider landscape. Such themes include, but are not limited to:

- the chronology of flint use at the site, and continuities or disruptions in flintworking traditions across the periods identified, particularly the Mesolithic/Neolithic transition
- choices made in the selection, acquisition and use of raw materials
- strategies and approaches taken to lithic reduction
- the spatial and temporal organisation of lithic reduction and tool use, both at the site and within the wider cultural landscape
- the nature of the products and how these relate to the range of activities conducted at the site
- the nature of the deposition and discard of flint waste and useable products, and how these may relate to the wider concerns of the communities using them

4.3. Prehistoric Pottery by A. Woodwood

4.3.1. A total of 446 sherds of prehistoric pottery, weighing 1729g, were assessed. All the material is from a series of 32 sealed contexts and it includes small sherds (Appendix 4.2) recovered from the sieving of six residues. All the pottery, apart from two totally indeterminate sherds, is of Neolithic or Late Neolithic/Early Bronze Age date. Most belongs to the Bowl tradition of the Early to Middle Neolithic periods (c. 3900-2700 cal BC), but Late Neolithic Grooved Ware is also represented (c.3000-2000 cal BC).

4.3.2. This assemblage of earlier prehistoric pottery is both unusual and interesting and should be reported on in full. The group of rim sherds from a reasonably large number of Early to Middle Neolithic bowls is of particular note. The association of much of the material with layers, features and structures adds to the overall value

of the material. Finds of such pottery with structures is clearly of at least of regional importance. Overall the assemblage can be compared with those from other regional sites such as Fengate, Maxey, Etton, Hurst Fen and Broome Heath.

4.4. Roman Pottery by R. Perrin

4.4.1. A total of 58 sherds of Roman pottery, weighing 725g, were assessed (Appendix 4.3). All bar one sherd of Lower Nene Valley colour-coated ware (LNVCC) were reduced (grey and dark grey) or oxidised (reddish-yellow and cream) wares; there was no samian ware or amphora.

4.4.2. Though the presence of Roman pottery indicates some form of Roman activity in the vicinity, most of the sherds were residual within the fills of later features. It is noticeable that a significant proportion of the Roman pottery came from layers associated with Saxon sunken-floored buildings (Group 101), including two of the mortaria, a candlestick and the sherd of LNVCC. The assemblage is of local significance with limited potential and no further work is recommended.

4.5. Post Roman Pottery by Sue Anderson

4.5.1. A total of 855 sherds weighing 9110g were collected during the evaluation and excavation (Appendix 4.4). The post-Roman assemblage is dominated by Early Saxon and medieval material, although a few sherds of later periods were also collected. The assemblage is dominated by Early Saxon sherds (420 sherds; 49%) and medieval sherds (324 sherds; 37%). The pottery assemblage as a whole is in good condition with little abrasion, and all except two sherds were collected from stratified features. Although no intact vessels are present, there is enough information in the assemblage to add to existing information on the types of pottery vessels favoured for use in the communities using the site during the 5th-6th centuries and in the medieval period.

4.5.2. One of the Regional Research Aims for the Saxon period (Medlycott and Brown 2008) involves the study of rural artefact assemblages, to feed into settlement studies. This Early Saxon pottery assemblage is one of several large groups to have been recovered from rural settlement sites in recent years, a number of which have been studied by the author (Anderson). This makes potential for comparison very high, as there is less chance of inter-observer error in terms of fabric and form descriptions.

4.5.3. Groups of pottery were recovered from the SFBs, and analysis of these individual groups may provide evidence for patterns of use and disposal, potentially by individual households or within phases. This information should be considered together with pottery from surrounding features to provide a picture of rubbish disposal and pottery use within this part of the settlement.

4.5.4. The medieval assemblage was more scattered and was largely recovered from ditch fills and some pits. Like the Saxon period, however, rural assemblages of any size are relatively rare in the region, and the medieval pottery has potential to add to the growing corpus of this material from the area. It probably represents domestic waste which was redeposited in enclosure and field boundary ditches, and the relatively short date range suggests that it was probably related to a single phase of occupation or activity on or near the site. It has some potential to suggest trade links and movement of goods in this part of Cambridgeshire, as well as giving an indication of the pottery forms and types favoured by the settlement. This assemblage should be reported on further with recommendations listed in Appendix 4.4.

4.6. Ceramic Building Material by S. Anderson

- 4.6.1. A total of 103 fragments of CBM weighing 10,186g were collected from 25 contexts (Appendix 4.5). 76 fragments were identified as Roman tile. 6 fragments, representing two bricks, were in a fine estuarine silty clay fabric typical of 'early' bricks. This type of brick was produced between the 13th–15th centuries in the east of England. 14 fragments of post-medieval roof tile were recovered; the majority from ditch fill (1507). Most were in red-firing fabrics, but there were also three fragments of white-firing tiles.
- 4.6.2. Although this is a relatively small assemblage, it has the potential to provide information on the types of Roman tile in use in the area, as well as evidence for some of the structures which may have stood on or near the site. As much of the Roman tile appears to be related to Saxon activity, it also has some potential to provide information on the recycling of this material in that period. The tile can be compared with other Roman assemblages from both Roman and Saxon sites in East Anglia, a number of which have been excavated in recent years. Later CBM from this site forms a minor part of the assemblage. The range of fabrics and forms is typical of the area and the group is only of value as evidence for dating. This assemblage should be analysed further as outlined in Appendix 4.5).

4.7. Glass by C. Cropper

- 4.7.1. The glass assemblage is small, comprising 2 glass beads and 15 bottle fragments all matching and from the same item, i.e. a total of 3 glass objects in all (Appendix 4.6). The assemblage is interesting in its paucity. The beads appear to come from an Early Saxon context, the fill of a possible SFB (ctx.1381) along with a relatively significant amount of Early Saxon pottery. The single bottle is a fairly complete green wine-style quart bottle of a type ranging in date from c.1760-1820.
- 4.7.2. Little further work is envisaged, with a short final report to be produced at publication.

4.8. Stone Artefacts by R. Ixer

- 4.8.1. A total of 123 fragments of stone were recovered from the site (Appendix 4.7). 99 fragments were from Niedermendig lava querns and were recovered from four contexts (1439, 1533, 1534, and 1602). Other fragments include burnt stones and fossils. No further work is recommended on this assemblage.

4.9. Animal Bone by M. Holmes

- 4.9.1. A total of 1375 fragments of animal bone were recovered from the site (Appendix 4.8). The bones were in good condition, though fragmentary. A large proportion from the Early Anglo-Saxon period was burnt and a smaller number had been butchered. None from other phases exhibited such signs of processing. Gnawed bones were recovered from the early Anglo-Saxon and medieval phases. 1 fragment of bone from the very early prehistoric period, and only 5 from Iron Age contexts (identified in the evaluation) were identified to species. Rather more fragments were recovered from sunken floored buildings, pits and post holes dated to the early Saxon period, 460 bones were identified to the main domesticates (cattle, sheep/goat, pig, horse, dog, chicken and goose), as well as wild species (deer and pheasant). The medieval period was less well reflected in the assemblage: although cattle, sheep /goat, pig and horse were present in ditch, gully and pit features, they were only recovered in small quantities along with a number of rabbit bones, which may be residual. A total of 5 horse, one dog and a partial cattle skeleton were recovered from post medieval contexts.

4.9.2. The two main periods worthy of further investigation are those of early Saxon and post medieval date. Both are under-represented in the archaeological record. Very few Saxon sites have been excavated within Cambridgeshire and only one (to the authors knowledge), from late Saxon Fulbourn, has been published with an animal bone report (Holmes, 2008). Although small, this therefore is an extremely significant assemblage for the region and recommendations are listed in Appendix 4.8).

4.10. Iron and Copper Metal Artefacts by E. Macey Bracken and P. Walton Rogers

4.10.1. Four fragments of copper alloy and twenty seven iron objects were recovered from the site and predominantly dating to the Anglo-Saxon and medieval periods (Appendix 4.9). Copper alloy include a small buckle without its tongue, a fragment of copper alloy strip, a small copper loop, and a stud. Iron objects include nails, horseshoes, and several unidentifiable fragments. These have been x-rayed and conserved as necessary by the Wiltshire Conservation Service.

4.10.2. These objects should be fully catalogued and a selection should be illustrated during further analysis.

4.11. Coins by R. White

4.11.1. One Roman coin was recovered from the fill of pit 1088 (Appendix 4.10). The coin is a silver *siliqua* of Valentiian II, minted between 375-8. Without the mint mark it is not possible to say where it was minted. Coins were no longer imported to Britain after ca. AD 409 and thus the clipping (and imitation) of *siliquae* must have started at around this time and continued for some period after this date. Recent analysis of metal detected late Roman coins by Sam Moorhead of the British Museum demonstrates that these coins could have been circulating at late as the mid-5th century within a tri-metallic coinage (S. Moorhead, pers. comm. ARA villas conference July 2009). The implications of this for the Sawston find are that, rather than a *terminus post quem* of AD375 which this coin would normally have, the pit fill which contained this coin must date to sometime after the first decade of the 5th century. It should be noted too that stratified site finds of clipped *siliquae*, as compared to hoard finds and metal-detected finds, are rare. The occurrence of a clipped *siliquae* on a rural site of this type is most unusual and suggests occupation here well into the fifth century. No further recommendations are required.

4.12. Clay Pipe by E. Macey-Bracken

4.12.1 Three fragments of clay pipe were recovered from the site (Appendix 4.11). All of the fragments recovered were stems. One fragment was recovered from a 19th century drain fill (1126), one was from the fill of a small gully (1401), and the third was from the fill (1444) of a wide ditch that cut several earlier features. No stamps or marks are present and no further work is recommended on this assemblage.

4.13. Worked Bone by E. Macey-Bracken

4.13.1 Nine fragments of worked bone were recovered from the site (Appendix 4.12), all within features assigned to the Saxon phase (Phase 5). The most immediately identifiable items were three joining fragments of a bone comb (1073), spindle whorl (1088), a bone needle (1073) and two joining fragments of a possible pin or stylus (1088). A small flat piece of bone (1073) and a degraded piece of shaped bone complete the assemblage. All the items of worked bone were recovered from Phase 5 features (Saxon) and further detailed typological assessment may allow tighter chronological dating based on a stylistic criteria.

5. ENVIRONMENTAL ASSESSMENT

5.1. Results overview

- 5.1.1. Sixty two bulk samples for the assessment of charred plant macrofossils and other associated remains including molluscs, which were abundant in many of these samples, were taken. In addition, palaeoenvironmental assessments of waterlogged sediment focused on four trenches excavated through features identified as peat filled palaeochannels representing an abandoned course of the River Cam on the west side of the site. The full assessment report is included as Appendix 13).
- 5.1.2. Test Pit A was excavated through feature 1339 located at the southern boundary of the site. Test Pit B was cut through the organic deposits in a large palaeochannel (1584) in the northwestern part of the site, west of some of the excavated medieval features. Three bulk samples for coleoptera (beetle) and plant macrofossil assessments were submitted for assessment: 0.0-0.25m (top sample), 0.25-0.41m (middle sample) and 0.41-0.61m (bottom sample). Samples were also collected using monolith tins from which four sub-samples (0m, 0.24m, 0.40m and 0.64m) were taken for pollen assessment. Radiocarbon dating of this feature produced two dates: 3390 \pm 40 BP at 0.38m (1690-1500 cal. BC; Beta-260585) and 3570 \pm 40 BP (Beta-260586; 1920-1730/1720-1690 cal. BC) at 0.58-0.63m, suggesting that the lower part of the channel infilled relatively rapidly during the Bronze Age. It is unclear if the upper sample is contemporary with the medieval archaeology nearby.
- 5.1.3. Test Pit C was excavated through a further area of well humified peat deposits and organic remains (1585) and samples were taken and retained for further analysis. The environmental dating of these deposits were completed during the evaluation stage of this project with the lower primary deposits dating to the Early Mesolithic (9590 \pm 50 BP) and the upper sequence dating to the Middle Saxon (1290 \pm 40 BP). Monolith tins were collected during the excavation phase from which 10 sub-samples were taken for full environmental assessment. The beetle and plant macros from all the sub-samples were poorly preserved and in low densities. Most reliable pollen data was recovered from the middle sequence (sub-samples at 0.62m depth, 0.80m and 1.12m).
- 5.1.4. Test Pit D was excavated through an east-west 'channel' feature (1299-1302) in the southwestern part of the site and was adjacent to both Anglo-Saxon and later medieval features. Four bulk samples for coleoptera (beetle) and plant macrofossil assessments were recovered: 0.5-0.7m, 0.7-0.9m, 1.0-1.2m and 1.2-1.4m (bottom sample). Samples were also collected using monolith tins from which four sub-samples (0.24m, 0.40m, 0.62m and 0.96m) were taken for pollen assessment. Radiocarbon dating of this feature also produced two dates: 3400 \pm 40 BP (Beta-260583; 1750-1590/1590-1530 cal. BC at 0.38m and 4480 \pm 40 BP (Beta-260584; 3320-3220/3180-3160/3120-2920 cal. BC at 0.91m, suggesting that this feature infilled during the Neolithic-Bronze Age. The environmental evidence from samples, therefore, is at least partly contemporary with the earlier Bronze Age/Neolithic archaeology on site but not with the archaeology in close proximity to the feature, which is mainly Saxon and medieval.
- 5.1.5. Although charred plant remains and mollusc shells were present within all of the flot samples studied, there would appear to have been disturbance and macrofossil intrusivity, leading to doubts about the contemporaneity of some of the material. As discussed above, a high density of the mollusc shells, particularly those of the open country and catholic species, were exceptionally well preserved, displaying little or none of the abrasion and fragmentation noted within, for

- example, the shells of the shade loving and freshwater obligate species. Why this should have occurred is unclear, but it does appear to hinder the accurate interpretation of a number of the assemblages.
- 5.1.6. However, despite this problem, it would appear that the earliest occupants of the site were living in a largely open landscape, and although there is evidence for cereal utilisation, there does not appear to have been any intensive agricultural activity in the immediate area. The Saxon sunken-featured buildings were also possibly constructed within a predominantly open landscape. However, the small number of shade loving molluscs, which appear to have colonised the derelict features of structure [1223], may indicate the presence of adjacent areas of open woodland. It is also possible that the occupants of the site were exploiting nearby wetland habitats for the provision of flooring or roofing materials. Again, this may be related to the possible evidence for human activity/disturbance in the uppermost beetle samples from Test Pit B.
- 5.1.7. During the medieval and post-medieval periods the focus of activity on the site appears to have shifted slightly to the partition, drainage and utilisation of the wet grassland areas to the west, with the whole area being sub-divided by an extensive series of drainage ditches. These ditches drained into the palaeochannel features (below) and it is possible that this was responsible for the unusual insect fauna in Test Pit B. With the exception of a single assemblage of possible charred cereal processing waste (sample 176), there is nothing to indicate the presence of any nearby arable activity during these periods.
- 5.1.8. The three peatfilled features excavated and sampled in Test Pits B, C and D can probably be interpreted as palaeochannels that became cut off (perhaps as an ox-bow lake) from the main channel of the River Cam and subsequently infilled with sediment. Radiocarbon dating of the two sequences has indicated that peat accumulation commenced during the Bronze Age in Test Pit B and during the Neolithic in test Pit D. It would appear that sediment accumulation continued through the Bronze Age and perhaps until later in both locations. Previous evaluation of the deposits suggested that peat accumulation began during the Mesolithic.
- 5.1.9. The coleoptera samples produced mixed results. The four samples from Test Pit D were of varying quality in terms of preservation and diversity. Insect numbers were high in the upper two samples, but lower in the basal two samples. The picture is of an intermittently wet palaeochannel, gradually accumulating decaying vegetation and other foul matter including dung. The most significant find was the presence of the *Tilia* (lime) feeder *Ernoporicus ?caucasicus*, which is extremely rare in England today, and certainly points to the presence of this tree in the vicinity of the site. The plant macrofossil assessments have also indicated that preservation is less good in this sequence. No further analysis of Test Pit D material is therefore recommended. Likewise the coleopteran samples in Test Pit C were extremely poor in preservation and in density so no further work is recommended.
- 5.1.10. The three samples from Test Pit B were extremely rich and species-diverse and contained evidence for human activity on the site during the Bronze Age and later periods. These samples are certainly worthy of full analysis to provide information that will assist and enhance interpretation of the archaeological record. From this preliminary assessment a number of significant ecological 'signatures' have emerged: woodland on surrounding fertile soils with a mix of ash, elm and lime; wetland and wetland margin as well as woodland margin and scrub/rough grassland. A full analysis could identify many of the beetles to species level, which will help provide a more definitive picture of the site environment at the time of deposit formation and provide information regarding the timing and nature of

human activity at Sawston and in particular its relationship with the wetland areas.

- 5.1.11. Full analyses of all three samples from this sequence are therefore recommended. The three plant macrofossil samples from TPB were also well preserved and require full analyses to support the information provided by the insects. Further radiocarbon dating is also required to provide a robust chronological framework for analyses. In particular, dating of the upper deposit is required to assist interpretation and discussion of the possible 'synanthropic' elements of the fauna and to establish the relationship between this and the archaeological evidence for human impact on the wetland ecosystem. The pollen assessments indicate that pollen preservation is variable and hence further analyses are not recommended.
- 5.1.12. It is recommended that assessments (plant macrofossils, beetles) of the bulk samples from Test Pit C are carried out prior to further analyses. The results of the radiocarbon dating of deposits from this location during the evaluation phase indicates that the Test Pit C samples may record a more complete record of environmental change than Test Pit B.
- 5.1.13. The samples recovered from Test pit A produced poorly preserved coleoptera, pollen and plant macrofossils in extremely low quantities and no further analysis is required upon these samples.

6. INTEGRATED STATEMENT OF POTENTIAL

- 6.1.1. The results from the excavation have produced extensive evidence which will greatly enhance the archaeological record for Cambridgeshire and significantly contribute to our understanding of the chronological development of the site and its immediate environment. The multi period nature of the archaeological features, deposits and artefacts ranging from the Mesolithic to Post-Medieval create a rare opportunity to investigate human activity, settlement and landscape utilisation of a considerable length of time and to advance the research framework model for archaeological work in Cambridgeshire. In addition, the presence of good environmental preservation of datable deposits within probable former channels of the River Cam creates an excellent opportunity to reconstruct the past natural landscape and allow the archaeological activity to be assessed in conjunction with environmental characteristics and landscape change.
- 6.1.2. The main site phases are described below with reference to key research themes which can be applied to the excavation results. This information derives from specialist assessment of the finds assemblage and from research targets identified in the revised research agenda reports for Cambridgeshire (Medlycott and Brown 2008).

Mesolithic/ Neolithic

- 6.1.3. Despite the lack of structural and cut features dating to the Mesolithic, the palaeoenvironmental record supports evidence from the lithic assemblage that there was some level of activity on this site in this period. The flints recovered from the site include significant Later Mesolithic and Early Neolithic assemblages and it is possible that periods of earlier and later flintworking are represented. The lithic assemblages provides an opportunity to investigate the nature, significance and scale of flint technology and its use both at the site and within the wider landscape. Within the county, further work is required on the Mesolithic/ Neolithic transition through carbon dating and artefact analysis of material from settlements which span this era.
- 6.1.4. Dating of less conspicuous, non-monumental contexts, both late Mesolithic and Neolithic, could help to define the introduction of Neolithic practices and beliefs. Equally, ceramic studies would be enhanced by better cross-referencing between

typological methods of dating and scientific methods. The application of Bayesian modelling to radiocarbon dates measured on rigorously selected samples and the refining of chronologies may be possible on this site.

Neolithic/ Early Bronze Age

- 6.1.5. Most of the known Neolithic sites comprise 'monuments', usually of a funerary and/or ceremonial nature, where the form of the site (ditches, mounds, banks) is of a kind that leaves visible traces. However the substantial proportion of the archaeological record which is not readily identifiable from the aerial photographs – flintworking sites, agriculture, unenclosed settlement or pit groups – is under-represented in the NMR/HER dataset. Thus a bias is created. This site represents a rare opportunity to record and analyze a potential flintworking site in the context of its environmental setting.
- 6.1.6. The assemblage of earlier prehistoric pottery is unusual and interesting. The fact that much of the material is associated with layers, features and structures increases the overall regional importance of the site. The paucity of early Neolithic structures on a national level perhaps adds to the significance of the assemblage which could be compared with such regional sites as Fengate, Maxey, Etton, Hurst Fen and Broome Heath. Our understanding of the chronological development of pottery could be improved by the application of traditional methodologies of stratigraphic succession and typological comparison, supported by radiocarbon. It would be useful for a series of sample sherds to be examined petrographically in order that the fabric groupings defined may be tested, and compared with those from other sites within the region.
- 6.1.7. The need for targeted programmes of palaeoenvironmental analysis of sediment sequences in river valleys, lakes, and the inter-tidal zone, are required across the county, particularly adjacent to known archaeological sites, to determine the date and nature of changes associated with the adoption and development of farming, the beginnings of large-scale woodland clearance and the establishment of permanent field-systems. This site has tremendous potential to enhance our knowledge and to reconstruct past landscapes of the Neolithic/ Bronze Age transition.

Iron Age

- 6.1.8. The archaeological work took place immediately adjacent to Borough Hill, a large multivallate hillfort dating to the Iron Age (Scheduled Ancient Monument 24407; evaluated by JSAC 2003). However the archaeological findings from this excavation are surprising with regards to the lack of archaeological evidence dating to this period, although the site appears to be intensively used in periods pre and post dating the Iron Age. This lack of evidence has potential to shed new light on the function, settlement patterns, and the use of space within and around the defended hillfort settlement.

Roman

- 6.1.9. The key research theme concerning the Roman evidence recovered from the site is focused upon the Roman/ Saxon transition. It is currently debated as to whether the regional trend is for continued occupation, shifting settlements, or for deliberate destruction. The notable quantity of residual Roman pottery sherds which were recovered from the Saxon Sunken Floored Buildings may provide evidence to help answer the question. It is evident that there are regional differences, perhaps due to relative proximity to the coast or the presence of sub-Roman polities. Characterising the actual nature of settlement forms and patterns, material culture use etc for the 4th and 5th centuries AD in this region is of major national and international importance with regard to assessing the impact or otherwise of the 'Saxons'. Equally the differences between late Roman East Anglia and western England needs further study.

- 6.1.10. The tile and glass bead assemblages recovered from the site can be considered in relation to the Roman/Saxon transition, as the majority of the Roman tile appears to be related to Saxon activity. In common with the Roman pottery, the tile has some potential in providing information regarding the recycling of Roman material in the Saxon period. The tile can be compared with other assemblages from both Roman and Saxon sites excavated in East Anglia in recent years.

Saxon

- 6.1.11. There is still a problem in locating and identifying Anglo-Saxon sites both on a regional and national level. Sites dating to the Anglo-Saxon period are poorly represented in the NMP data due to the problem of recognising archaeological features of this date. In Norfolk, where significant numbers of possible SFB have been identified by the NMP, few have been dated or interpreted with any certainty. Further work needs to be done to clarify the morphology of settlements sites of the Early to Middle Anglo-Saxon period. This also needs to be considered at a broad landscape scale, particularly with reference to the impact that Saxon settlements and organisation of the landscape had on the medieval landscape.
- 6.1.12. The Saxon pottery and small find industries are still not fully understood. A regional research aim for the Saxon period discusses the study of rural artefact assemblages and the requirement to feed into settlement reference. The size of this Early Saxon pottery assemblage from this site in conjunction with the small finds is significant as it is one of several large groups to have been recovered from rural settlement sites in recent years and the potential for comparison and typology assessment is very high.
- 6.1.13. Groups of Early Saxon pottery sherds were retrieved from the Sunken Floored Buildings; analysis of the individual groups in association with pottery from surrounding features could provide evidence for patterns of pottery use and rubbish disposal, potentially by individual households or within phases of the settlement.
- 6.1.14. Palaeoenvironmental analysis of Saxon contexts play a crucial role in establishing how a landscape was used, the economy and status of a settlement, and changes both over time and in the agricultural economy and water management. Analysis of the palaeoenvironmental evidence from this site, both from in-filled palaeochannels and Saxon features and structures could allow significant insights into these themes.

Medieval

- 6.1.15. The significance of the medieval evidence recovered from the site is centred on the pottery as rural assemblages of any size are relatively rare in the region. The medieval pottery has the potential to add to the growing corpus of material from the area. The assemblage probably represents domestic waste redeposited in enclosure and field boundary ditches. The relatively short date range suggests a single phase of occupation or activity on or near to the site. There is some potential to suggest trade links and movement of goods in this part of Cambridgeshire and also to give an indication of which pottery types were favoured by the settlement.

7. REVISED RESEARCH OBJECTIVES

7.1.1. The results of the excavation clearly demonstrate the need for revising the project objectives. The statement of potential highlights several key research themes, based on the Research Agenda for Cambridgeshire, which should be targeted for further analysis and reporting. These research objectives are:

RO1. Palaeoenvironmental analysis of the palaeochannel samples to enable landscape reconstruction from the Neolithic to medieval (where possible).

RO2. Chronology of flint use at the site and continuities or disruptions in flintworking traditions during the Mesolithic/Neolithic transition.

RO3. Nature of the deposition and discard of flint waste and useable products, and how these may relate to the wider concerns of local communities.

RO4. Neolithic and Bronze Age settlement and ceramic analysis to include pottery succession and typologies.

RO5. Settlement and landuse within the immediate environs of Borough Hill during the Iron Age.

RO6. Roman/ Saxon transition.

RO7. Saxon and medieval rural occupation: buildings, industry and artefacts.

8. PUBLICATION SYNOPSIS

8.1.1. The results of the archaeological excavation and associated research and analysis are to be published as a monograph within an appropriate publication (such as a British Archaeological Reports series (B.A.R) or Internet Archaeology). If full analysis of the palaeoenvironmental evidence warrants further detailed publication, then a short article may be produced in a specialist journal. In the monograph, it is proposed that the following chapters will be published:

Utilising the flood plain – Mesolithic to Post-Medieval archaeological remains at Sawston, Cambridgeshire.

By Kevin Colls and Bob Burrows

1) The Site and the Excavations

Phasing and chronology

Character of the site

Excavation methodology

Survival and preservation

Site narrative and atlas

- 2) Palaeoenvironmental reconstruction of a floodplain environment**
Methodology and guidelines for study
Mesolithic and Neolithic
Bronze and Iron Age
Roman and Saxon
Medieval and Post-medieval

- 3) Flint working**
Mesolithic and Neolithic continuity?
Spatial analysis – working areas, waste, and deposition

- 4) Neolithic and Bronze Age settlement**
Buildings and structures – sedentary population?
Ceramic traditions – typologies, successions and contextualisation

- 5) Abandonment? Iron Age and Roman evidence**
Iron Age settlement at Borough Hill
Absence of Iron Age activity on site.
Regional and national comparisons
The residual Romans

- 6) The Saxons, reclaiming the floodplain**
Roman/ Saxon transition
Saxon settlement – buildings and use of space
Utilising the landscape
Lifestyles and industry – artefact typologies and dating
Regional and national comparisons

- 7) Medieval and Post-Medieval**
Medieval ditches
Trade

- 8) Conclusions – settling on a floodplain**
Utilizing the natural environment
Environmental impacts upon settlement patterns
New evidence of rural archaeology in Cambridgeshire

9. RECOMMENDATIONS FOR FURTHER WORK

9.1.1. To focus further analysis and reporting with a view to completing the research objectives and publication synopsis, a number of recommendations can be made for further work on the finds and environmental assemblages. These recommendations are outlined in the individual finds chapters in Appendix 4 and are summarized below and referenced back to the seven research objectives outlined in Chapter 7.

Flint

9.1.2. The assessment report has identified significant assemblages dating to the Mesolithic and Neolithic, which have the potential to further contribute to increased understanding of the nature of flint technology during these periods (**RO2** and **RO3**). In order to realise this potential, further work is recommended. This should concentrate on a full and detailed re-examination of the material and should include:

- recording in detail the typological, technological and metrical traits of the various significant assemblages, as well as the raw materials, condition and degrees of recortication.
- refitting exercises combined with detailed examination of the micro-debitage on selected suitable assemblages.
- low-power examination of selected debitage for micro-wear traces to assess the degree to which unretouched flakes and blades may have been used.
- an examination of the contextual and distribution patterns of the assemblages.
- a consideration of the assemblages' relationships with other deposited materials, such as bone, pottery etc.
- discussing how the material compares and contrasts to other lithic assemblages from the region and the implications that this may have for broader settlement strategies and patterns of landscape exploitation.

Prehistoric Pottery

9.1.3. It is recommended that the assemblage should be reported on in full. It would be useful for a series of sample sherds to be examined petrographically in order that the fabric groupings defined may be tested, and compared with those from other sites within the region. Key diagnostic sherds will need to be illustrated, and the assemblages will be discussed in relation to other relevant sites of Neolithic and Early Bronze Age date within the county and the region (**RO3**).

Post-Roman Pottery

9.1.4. The following further work is recommended on the Early Saxon and medieval assemblages.

- Up to thirteen vessels are worthy of illustration (four Saxon, nine medieval – **RO7**). These will require more detailed fabric and form description for the published catalogue.
- Dating of vessels will be refined where possible, based on forms and fabrics (**RO6** and **RO7**).
- Comparisons with other East Anglian sites will be required (**RO7**).
- A more detailed report on fabrics, forms and decoration will be prepared for publication (**RO6** and **RO7**).

CBM

- 9.1.5. The assemblage has been recorded in full and no further cataloguing is required. The CBM needs to be put into context with relation to site phasing, spatial distribution and comparison with other regional groups, and a publication report produced (**R06** and **R07**).

Glass beads

- 9.1.6. Further research into non-grave/burial contexts producing beads is recommended (**R07**) and both beads need illustrating and photographing.

Animal Bone

- 9.1.7. The following further work is recommended on the animal bone assemblage
- Compile a full catalogue of all bones from phased contexts and quantification of species from all periods to provide a basic record of the assemblage.
 - Further investigation of the Saxon material including: the diet, and possibly status, of the inhabitants; and mortality profiles to give an idea of the economy and animal husbandry of the site (**R07**).

Iron objects

- 9.1.8. The iron should be catalogued and scanned by a specialist to determine any form or function for the unidentifiable items (**R07**). It may also be possible to definitely identify the tool from context 1481.

Worked bone

- 9.1.9. All the items of worked bone were recovered from Phase 5 features (Early Saxon) and further detailed typological assessment may allow tighter chronological dating based on a stylistic criteria (**R06** and **R07**).

Palaeoenvironmental

- 9.1.10. The three samples from Test Pit B were extremely rich and species-diverse and contained evidence for human activity on the site during the Bronze Age and later periods. These samples are certainly worthy of full analysis to provide information that will assist and enhance interpretation of the archaeological record (**R01** to **R07**). From this preliminary assessment a number of significant ecological 'signatures' have emerged: woodland on surrounding fertile soils with a mix of ash, elm and lime; wetland and wetland margin as well as woodland margin and scrub/rough grassland. A full analysis could identify many of the beetles to species level, which will help provide a more definitive picture of the site environment at the time of deposit formation and provide information regarding the timing and nature of human activity at Sawston and in particular its relationship with the wetland areas.
- 9.1.11. Full analyses of all three samples from this sequence are therefore recommended. The three plant macrofossil samples from TPB were also well preserved and require full analyses to support the information provided by the insects. Further radiocarbon dating is also required to provide a robust chronological framework for analyses. In particular, dating of the upper deposit is required to assist interpretation and discussion of the possible 'syanthropic' elements of the fauna and to establish the relationship between this and the archaeological evidence for human impact on the wetland ecosystem.

10. RESOURCES AND PROGRAMMING

10.1.1. To complete the analysis and the proposed publication synopsis, the following tasks will be required. The overall management of the project will remain with the Project Manager (Kevin Colls) in conjunction with the Post-Excavation Manager (Amanda Forster) with advice from RPS Planning and Development (Dan Slatcher). The individual specialists are listed below with an overview of the required analysis.

Task List

Task	Internal	Staff	Days
1.01	Project management	Kevin Colls	2
1.02	Stratigraphic analysis and finalising site phasing	Bob Burrows	1
1.03	Updating database	Emma Collins	1
1.04	Preparation of drawing roughs	Bob Burrows	0.5
1.05	Preparation of illustrations	Nigel Dodds	3
1.06	Preparation of plates	Nigel Dodds	0.5
1.07	Preparation of final phasing	Bob Burrows/Kevin Colls	2
1.08	Integration of specialist reports	Kevin Colls	2
1.09	Documentary research	Bob Burrows	2
1.10	Preparation of discussion	Bob Burrows/Kevin Colls	3
	External		
2.01	Prehistoric pottery- full analysis and petrographical study, site comparison	Ann Woodwood	7.5
2.02	Saxon and medieval pottery – spatial and stratigraphic analysis, site comparison	Sue Anderson	6
2.03	Ceramic building material – spatial analysis and site distribution	Sue Anderson	1
2.04	Full animal bone analysis	Matilda Holmes	2
2.05	Flint – full analysis	Barry Bishop	10
2.06	Full small finds report including iron and worked bone	Geoff Egan Quita Mould	3
2.06	Full environmental analysis	BAE	20
2.09	Illustration of pot sherds	Nigel Dodds	7
2.10	Proof read first draft	Amanda Forster	1
2.11	Editing	Amanda Forster	2
2.12	Amendments	Kevin Colls	2
2.13	Preparation of final draft	Amanda Forster	1
	Publication		
3.01	Proof reading	Amanda Forster	2
3.02	Submission of text	Amanda Forster	0.5
	Archive		
4.01	Preparation and deposition of archive	Emma Collins	1

Table 1 – Task List

11. THE ARCHIVE

11.1.1. The paper and artefactual archive consists of the following:

Paper Archive		Finds Archive	
Context sheets	612	Prehistoric pot	446
Context indices	20	Roman pot	58
Drawings A3	19	Post-Roman pot	855
Drawings A2	1	CBM	103
Drawing indices	8	Flint (struck and burnt)	2398
Sample indices	14	Iron	27
Special finds indices	2	Copper Alloy	4
Colour slide films	13	Coins	1
Black and White films	8	Stone	123
		Clay pipe	3
		Glass	15
		Glass beads	2
		Worked bone	9
		Animal bone	1375

Table 2 – Archive quantification

12. ACKNOWLEDGEMENTS

12.1.1. The project was commissioned by RPS, on behalf of Spicers. Thanks are due to Dan Slatcher (RPS) Neil Bramall (Spicers) and Mike Cronin (Spicers) for their co-operation and assistance throughout the project. Thanks also go to Kasia Gdaniec, who monitored the project on behalf of Cambridgeshire County Council. Work on site was undertaken by Emma Collins, Anthony Aston, Eleanor Buttery, Mark Charles, Paul Collins, Emily Hamilton, Lis Bishop, Phil Mann and David Brown and supervised by Bob Burrows. Kevin Colls and Bob Burrows produced the written report which was illustrated by Nigel Dodds, and edited by Amanda Forster. The project was managed for Birmingham Archaeology by Kevin Colls.

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14. APPENDIX**Appendix 1: Site Information****Location and Geology**

- 14.1.1. The development site is located close to the River Cam about 1km west of Sawston village centred on NGR TL 4712 4984. The site is bounded to the west and north by woodland, to the east by a hedgerow and to the south by an arable field (Figs. 1 and 2).
- 14.1.2. The development site is on a slight spur of land comprising gleyic brown calcareous earths with deep fine loams over chalk drift and chalk falling from about 19m AOD in the east to about 16.7m AOD in the west.

Archaeological Background

- 14.1.3. Sawston, a large parish located seven miles south of Cambridge, was first recorded in documentary sources in 970 in the Chronicles of Ramsey Abbey as Salsingetune, derived from 'farm of Salse' or farm of Salse's people'. The 1086 Domesday Book records three substantial holdings that included three mills.
- 14.1.4. The parish was largely agricultural between the 11th and mid-19th centuries when the existing paper and leather industries expanded, adding an industrial dimension to the economy, with associated mills along the course of the Cam. By the late 19th century, Burrough or Borough Mill (Sawston Mill), a mile west of Sawston village, was well established on the north side of the river and had medieval origins. It probably derived its name from the Saxon 'burgh' or fortified place. Drainage around the mill was quite extensive. The Sawston Enclosure Award map of 1811 depicts a network of existing channels and three to be constructed.
- 14.1.5. The area to the south and south-east of the site has undergone a number of archaeological investigations. In 1980 a monument, Borough Hill was recognised that was later identified as a late Iron Age multivallate fort (John Samuels Archaeological Consultants 2003), with its outer boundary lying to the immediate southeast of the current excavation area (Fig. 2). The fort was designated a Scheduled Ancient Monument in 1995 (SM No. 24407). Between 1993 and 1997 a number of small archaeological investigations took place in the vicinity of the site including a geophysical survey, an evaluation, fieldwalking, and a watching brief (JSAC 2003). These investigations confirmed the presence of buried archaeological remains, but did not provide conclusive dating evidence or a wider understanding of the site.
- 14.1.6. In 2000 an assessment of aerial photographs of the site and area to the south from a period covering 50 years from 1949 was undertaken (Air Photo Services, 2000). The assessment further clarified the layout of Borough Hill by identifying the arc of a 'ringwork' south of the site formed by double ditches and banks that formed a defensive enclosure with the river Cam as its southern boundary. No internal features were identified (Air Photo Services 2000). Also in 2000, a geophysical survey was undertaken to the area of Borough Hill (south of the current site) which also detected a large curving enclosure consisting of two large ditches with a lesser more discontinuous ditch in between. The survey also recorded internal features such as ditches, smaller enclosures and pits. To the north-west and north of enclosed area the survey also detected rectangular

- enclosures, one of which was cut by the main defences, therefore preceding it. (GSB Prospection 2000).
- 14.1.7. The only archaeological investigation within the boundaries of the current site prior to this excavation was an evaluation in 2001 (John Samuels Archaeological Consultants 2007). At the eastern section of the site the evaluation located a series of north-south aligned ditches across the site that appeared to be part of a medieval and later pattern of drainage and field boundaries. The western part of the site was dominated by palaeochannels associated with the river Cam. Significant palaeoenvironmental remains were recovered which produced evidence ranging from the Mesolithic through to medieval and later (JSAC 2001).
- 14.1.8. In 2003 an archaeological evaluation was completed within the scheduled monument of Borough Hill to further characterise features identified through aerial photography and geophysical survey. A three phased sequence of three ditches and a bank were uncovered to form the multivallate hillfort and confirmed its Iron Age construction date. Evidence for domestic occupation, in the form of bone and pottery, was obtained from within the area enclosed by the fort's inner defensive ditch. The evaluation also investigated a rectangular ditched enclosure identified by geophysical survey. Dating evidence from a period ranging from the Neolithic through to the Bronze and Iron Ages was recovered from the ditches, most of which appeared residual. The enclosure was interpreted as being a small prehistoric settlement or farmstead (JSAC 2003).
- 14.1.9. Within the wider area surrounding Sawston a wealth of archaeological evidence has been unearthed in the last ten years representing all periods (Research Agenda for East Anglia unpub.). These have included Neolithic causewayed enclosures at Great Wilbraham and Haddenham, where a long barrow with a preserved wooden chamber was also discovered. At Eynesbury a multi phased and monumental landscape on the river Ouse has also been investigated. At Haverhill a Late Bronze Age rectilinear enclosure has been excavated and a Late Bronze Age founder's hoard unearthed.
- 14.1.10. The Iron Age period is represented by sites such as at Haddenham again, where settlement Activity from the Early to Middle Iron Age has been excavated at another site in the village and at Abbotstone where a Late Iron Age/ Roman rural settlement has been investigated. Unsurprisingly, given the number of important Roman roads in the area, evidence from the Roman period has dominated the archaeological record. Typical is the high status Roman settlement at Bottisham, part of villa estate, and the Iron Age/Roman landscape investigated at Cambourne.
- 14.1.11. The Saxon and medieval periods are represented at a number of sites, including Cottenham, where there has been an investigation of the Saxon and Medieval village and at Cherry Hinton where excavations have revealed cemeteries and evidence of settlement from both periods. Perhaps most typical is the multi-phased evidence gleaned from places such as Longstanton, where there has been continual residential development for well over ten years, producing settlement evidence from the prehistoric to the Roman through to the medieval and early modern periods.

Appendix 2: Excavation Methodology

- 14.1.12. The excavation covered an area of approximately 31,350 square meters (Fig. 2). The excavation area was surveyed-in using an Differential GPS system accurate to sub-centimetre and located on the Ordnance Survey National Grid.
- 14.1.13. With approval from the archaeological consultant and the county Council, one area, measuring approximately 2,300 square meters was not excavated towards the north of the site due to contaminated ground.
- 14.1.14. All topsoil and modern overburden was removed in strips using two 360° tracked mechanical excavator with a toothless ditching buckets, under direct archaeological supervision, down to the top of the uppermost archaeological horizon or the subsoil. Subsequent cleaning and excavation was by hand. All archaeological features were sampled to define their character, stratigraphic relationships and recover artefactual remains using the following strategy:
- 100% of structural remains and areas of significant and specific activity
 - 50% of pits under r 1.5m or postholes
 - 25% of pits over 1.5m including a complete section
 - 25% sample of linear/ curvi-linear features under 5m in length
 - 10% sample of linear/ curvi-linear features over 5m in length
- 14.1.15. Features were planned at a scale of 1:20 or 1:50 as appropriate, and sections drawn of all cut features and significant vertical stratigraphy at a scale of 1:10. A comprehensive written record was maintained using a continuous numbered context system on *pro-forma* cards. Written records and scale plans were supplemented by photographs using black and white monochrome, colour slide and digital photography.
- 14.1.16. Buried soils and sediment sequences were inspected and recorded on site by a member of Birmingham Archaeology Environmental (BAe) where appropriate. Examination of soil sediments conformed to guidelines set out in *Geoarchaeology: using earth sciences to understand the archaeological record* (English Heritage 2004).
- 14.1.17. Deposits were sampled for retrieval and assessment of the preservation conditions and potential for analysis of biological remains. The environmental sampling policy followed the guidelines contained in the Birmingham Archaeology Fieldwork Manual and *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2002). Sampling strategies for wooden structures conformed to guidelines set out in *Waterlogged wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood*. (Brunning 1996). The palaeochannel monolith and column samples were taken by BAe staff members Dr Ben Gearey and Emma Hopla.
- 14.1.18. Where suitable deposits existed they were sampled for dendrochronological dating evidence in line with *Dendrochronology: guidelines on producing and interpreting dendrochronological data* (English Heritage 2004a).
- 14.1.19. Where there was evidence for industrial activity, samples were taken to identify macroscopic industrial residues in accordance with *Archaeometallurgy* (English Heritage 2001) and *Science for Historic Industries* (English Heritage 2006).

- 14.1.20. Recovered finds were cleaned, marked and remedial conservation work undertaken as necessary. Treatment of all finds conformed to guidance contained within the Birmingham Archaeology Fieldwork Manual and *First Aid for Finds* (Watkinson and Neal 1998). All artefacts have been assessed and reported on by an appropriately qualified specialist.
- 14.1.21. The full site archive includes all artefactual remains recovered from the site. The site archive will be prepared according to guidelines set down by the Archaeological Archives Forum, *Archaeological Archives; a guide to best practice in creation, compilation, transfer and curation* (Brown 2007). The paper archive will be deposited with the appropriate repository subject to permission from the landowner.

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Appendix 3: Excavation Results

Results

- 14.1.22. Detailed summaries of the individual contexts are presented in Appendix 5 (on CD) and full details are available in the project archive. The phased illustrations to compliment the results are given as Figures 3 to 12.

Summary

- 14.1.23. Between November 2008 and March 2009 Birmingham Archaeology undertook an archaeological excavation in the grounds of the Spicers Estate on Borough Hill in Sawston, Cambridgeshire (Figs. 1 and 2). The excavation successfully exposed signs of archaeological evidence relating to multi phase periods of activity. Despite the absence of specific features dating to the Mesolithic period a number of flint artefacts dated to that time were recovered, including a Flint axe head. Evidence of archaeological activity during the Early to mid Neolithic period was provided by a possible ditch and a spread of material which contained notable quantities of pottery sherds and flint artefacts. A number of sub-circular hollows and a shallow ditch situated along the eastern side of the site produced finds suggesting occupation during the Late Neolithic/ Early Bronze Age. Evidence of habitation in the Early Saxon period was provided by a number of Sunken Floored Buildings and isolated pits. The impression of the continuity of the site was further enhanced as it became evident that during the early medieval period a number of large ditches had been cut to form an enclosure. The site had probably been subjected to repeated flooding as evidenced by a network of recut drainage ditches apparently dating to between the 12th and 14th centuries. Signs of activity during the post-medieval period were seen in further recut ditch sections; the most recent archaeological remains appeared to relate to a number of horse burials probably dating to the 19th century.
- 14.1.24. The ensuing report has divided the site into a number of phases based on stratigraphic relationships and the assessment reports of the finds assemblages. Several archaeological features and structures were identified and grouped together under one number, for example equivalent sections excavated through a ditch or a group of postholes related to the same structure. Descriptions of the groups have been integrated into the narrative and Fig. 13 illustrates each group.

Phase 1-Mesolithic (Fig. 3)

- 14.1.25. Although no features which specifically related to this period were uncovered a number of significant residual finds were retrieved including a tranchet axe (1041, Plates 19 and 20), two microliths and a micro burin (1459) (B.Bishop 2009). Radio carbon dating from the humic peat deposits at the base of palaeochannel 1585 (Plates 5 and 6) also suggests this material began to form during this phase (see Environmental Assessment).

Phase 2- Early-Mid Neolithic (Fig. 4)

- 14.1.26. The earliest evidence of archaeological activity relates to a number of concentrations of pottery sherds which have been spot dated to the Early-Mid Neolithic period. A distinctive, irregularly shaped arcing spread of material (1066, Plate 15) situated in the extreme south-western area of the site contained pottery and a large quantity of worked flints. It can be argued that the curving shape of

the spread and the presence of four postholes (1103, 1327, 1329 and 1338) may indicate the presence of a former temporary structure, perhaps a small workshop. The three latter postholes were sealed by spread 1066. The presence of two east-west aligned gullies (1113/1115 and 1338) situated immediately to the south of spread 1066 may suggest further evidence of contemporary activity. The shallow depth of subsoil afforded little protection to the archaeology in that area of the site hence other features may have been lost during ploughing.

- 14.1.27. Another possible example of human activity dating to this period was provided by an irregular curving feature which may have represented the remains of a shallow ditch (1254/1532/1547, Plate 13) running roughly northeast-southwest close to the eastern edge of the excavated area. A strip representing approximately 10m of the possible ditch had survived; it generally measured 3.00m in width and the edges sloped very gradually to a flattish base. The possible ditch was filled by a mid grey-brown sandy clay-silt which contained a number of pieces of burnt flint. The concentration of burnt flint might have been indicative of dumped waste material from hearths or more specialized activities such as cooking residues. (see Flint Assessment below). The feature measured between 0.23-0.38m in depth and interestingly significant quantities of pottery and worked flint were also recovered (1511, 1512, 1545, 1546 and 1583). It was noted during excavation that some of the pieces of pottery appeared to have worked flint directly beneath them. Initial analysis of the pottery assemblage has provided a spot date of the Neolithic period.
- 14.1.28. It is probable that peat accumulation continued in palaeochannel 1585 (Plates 5 and 6) and radiocarbon dating of the lower sequence from palaeochannel 1299/1302 suggests accumulation of peat deposits began in this phase and that this feature became cut off (perhaps as an ox-bow lake) from the main channel of the River Cam.

Phase 3-Late Neolithic/Early Bronze Age (Fig. 5)

- 14.1.29. Further evidence of possible archaeological activity was provided by a shallow linear feature (1187/1189, Plate 14) situated in the southeastern area of the site and following a northwest-southeast alignment. It appeared to be the remains of a ditch, although the slope of the edges was almost imperceptible perhaps indicating the impression created by a walkway. The light brown silty clay-sand infill (1186) contained a number of pottery sherds spot dated to the Late Neolithic period. A narrow undated ditch (1063/1076) ran parallel to the aforementioned feature and both appeared to continue in a southeasterly direction beyond the edge of the site.
- 14.1.30. The eastern side of the excavated area appeared to be characterized by shallow archaeological remains, as evidence of activity during this period had been reduced in depth by subsequent ploughing. To the north of ditch 1187/1189 three equidistant, east-west aligned shallow ditches were uncovered. The two shorter and less well defined features (1349/1351 and 1082/1065) had apparently been truncated by ploughing, although possible structural evidence was provided by a shallow posthole (1355) on the southern edge of ditch 1351. Interestingly pottery dated to the Late Neolithic and worked flint was retrieved from the fill of one of the ditch sections (1081) and the most northerly ditch (1078/1042/1008/1024) contained a large amount of worked flint including tools, notably a superbly worked Mesolithic axe head (1041). The aforementioned ditch also contained a small fragment of residual medieval pottery (1041). The ditch continued to the east beyond the excavated area and may represent a boundary line. The ditch may have demarcated the southern border of an area of settlement signified by a distinctive arc of postholes and small post pits (Group 100 - 1036, 1038, 1040,

1045, 1050, 1026, 1219, 1054, 1136, 1138, 1140, 1169, 1061, 1069 and 1052; Fig. 14). The sub-circular and circular features ranged between 0.30-0.65m in diameter and 0.09-0.30m in depth and appear to denote the northern and eastern edges of a possible roundhouse. A number of the features contained pieces of flint, notably possible post-pit (1045) which was filled with dark grey charcoal rich silty sand (1043), probably signifying the remains of a degraded post, positioned against the southern edge of the cut. A piece of metal was recovered from the light brown silty sand (1053) excavated from posthole 1054. A number of the postholes on the eastern edge of the structure (1219 (Fig. 14), 1136, 1138, 1169 and 1140) were sealed by a shallow orange brown layer of silty sand (1141) which contained a number of flint blades and flakes. No evidence of an internal structure or any signs of a hearth were revealed within the arc of postholes. The slight remains of a possible shallow curvi-linear gully (1056) were situated to the north-west of pit 1052 although it had been heavily truncated, apparently by ploughing.

- 14.1.31. A sub-circular layer/spread of mid grey-brown sandy clay-silt (1210/1268) measuring approximately 18 x 23m in diameter was located immediately to the north of the arc of pits and postholes. The layer possibly represented a buried soil or ploughed out barrow and was investigated with a series of test pits which produced worked flints and pottery. The finds were evenly distributed throughout layer 1210/1268 which measured between 0.23 - 0.34m in depth. The edges sloped very gradually and perhaps implied that the material had been preserved as it had accumulated in the remains of a hollow. A solitary irregularly shaped pit (1259) was exposed on removal of layer 1210/1268. It measured 1.15m x 0.85m and 0.48m in depth and was filled with dark grey-brown silty sand (1258) which contained a worked flint
- 14.1.32. Another comparable layer/spread of a possible buried soil (1459, Plate 16) was uncovered approximately 30m to the north-west of layer 1210/1268 (Plate 17). A number of worked flints and pottery sherds were recovered from layer 1459 during cleaning. Four test pits were cut through the mid grey-brown sandy clay-silt (1465-1468) which was sealed by a shallow layer of subsoil (1001) and directly overlay the natural reddish orange silty sand (1002). Despite the fact that the layer measured no more than 0.08-0.10m in depth, a significant amount of flint and pottery was retrieved.
- 14.1.33. It is probable that peat accumulation continued in palaeochannels 1585 and 1299/1302 and radiocarbon dating of the lower sequence from palaeochannel 1584 (Plate 4) suggests accumulation of peat deposits began in this phase.

Phase 4-Roman (Fig. 6)

- 14.1.34. The vast majority of the Roman finds recovered across the site were residual, notably those retrieved from the infills of the Early Saxon Sunken Floored Buildings. However a large ditch (1485, Plate 10) which ran on a northeast-southwest alignment beyond the western edge of the site and had been truncated by Phase 7 enclosure ditch (group 104) did produce Roman finds, notably a large piece of Mortaria combined with small fragments of possible Roman pottery and two small pieces of pottery dated to the 11th-12th century. In the absence of other datable finds and the differing alignment from the ditches dated to the medieval period, ditch 1485 can perhaps be given a provisional Roman date. A small number of Roman pottery sherds were also retrieved from a spread/layer of brown sandy silty clay (1390) which was excavated in the central-southern area of the site.

Phase 5-Saxon (Figs. 7 to 10)

- 14.1.35. A separate phase of archaeological activity relating to the Saxon period was highlighted by a number of very distinctive features situated in the south-eastern area of the site (group 101). Interestingly three of the structures (which were interpreted as Sunken Floored Buildings 1170, 1132 and 1074) were positioned on an east-west axis very close to the southern edge of a feature 1299/1302 (interpreted as a former river channel cut off from the main flow in Phase 2). The mid brown sandy clay-silt (1064), which formed the upper most layer in the sequence of alluvial deposits of 1299/1302, had been cut by the northern edge of the smallest of the buildings (1170; Fig. 8, Plate 2). It measured 3.00m in length and 2.60m wide; three postholes (1208, 1289 and 1291) were exposed, aligned east-west and positioned down the centre of the structure. The two latter postholes were square, the other was circular and each ranged between 0.20-0.50m in diameter. The posts had apparently rotted away, as only the bases of the cuts were visible, and a number of sherds of pottery were retrieved (1207, 1288 and 1290). The assemblage of Early Saxon pottery retrieved from the postholes included one intrusive sherd of medieval pottery apparently displaced by rodent activity. The grub hut had been filled with dark grey-brown silty clay sand (1067) measuring 0.35m in depth and containing frequent sherds of Early- Saxon pottery ,also animal bone and brick/ tile. A small amount of residual Roman pottery was also recovered and spot dated to the later period of Roman occupation.
- 14.1.36. A second, larger S.F.B (1132; Fig. 8, Plate 3) was located 3.50m to the east of 1170. The sub-rectangular structure (1132) measured 3.90m by 3.00m and 0.34m in depth and in common with the aforementioned feature had quite steeply sloping sides and a flat base. As in the case of structure 1170 the postholes associated with S.F.B 1132 had rotted away and were not visible during excavation until the bottoms of the cuts were identified below the level of sunken floor. The bases of five circular and sub-circular postholes were uncovered cut through the dark grey-brown silty clay sand (1088) which filled the feature. Three of the posthole cuts (1134, 1250 and 1293) were positioned towards the western end of the structure and two (1252 and 1383) were located at the eastern side. A small truncated pit (1304) had cut the eastern edge of the grub hut 1132 and had in turn been cut by posthole 1383 and small pit 1385. An interesting assemblage of finds was recovered from the structure. The infill (1088) of the S.F.B contained a large amount of pottery dating to the Early Saxon period. A number of residual Roman pottery sherds were also retrieved, notably a mortarium stub flange which provided a direct cross context join with one recovered from the infill of the adjacent S.F.B.1170. A number of small finds were also discovered, notably a bone spindle whorl and a silver coin.
- 14.1.37. The largest of the sunken floored buildings (1074; Fig. 9, Plate 1) was uncovered approximately 35m to the east of S.F.B 1132. It was sub-circular in shape and measured 5.10m in length, 3.50m in width and 0.27m in depth. It had been cut into the natural silty sand (1002). S.F.B.1074 was filled with mid grey-brown silty clay-sand (1073) which contained a significant amount of Early Saxon pottery in addition to a small amount of residual Late Neolithic and Roman pottery. In common with the Roman pottery retrieved from the aforementioned structure, the finds were spot dated to the period from the second to the fourth centuries. Two finds of particular interest were a bone needle and part of a bone comb. The bases of four posthole cuts (1101, 1110, 1119 and 1149) were uncovered in close proximity at the western end of the S.F.B. Three more postholes (1245, 1247 and 1270) were grouped at the eastern end and a single posthole (1243) towards the northern edge. The postholes were sub-circular and sub-rectangular in shape with 'U'-shaped profiles and ranged between 0.23-0.50m in diameter with between 0.20-0.35m of the bases of the cuts visible in section. The eastern side of the

- S.F.B (1074) had clipped the edge of an east-west aligned linear gully (1344). The gully was probably directly associated with the structure and may have served as drainage. It was filled with a dark grey-brown clay-silt (1343) which contained Early-Saxon pottery, animal bone and a residual sherd of Roman pottery dating to the first or second century.
- 14.1.38. A group of features (group 103) comprising of sub-circular and circular pits (1241, 1201, 1203, 1205, 1117 and 1238; Fig. 14) was identified in the immediate vicinity of the SFB 1074. The majority of the features were comparable in size and profile, ranging between 0.45-0.65m in diameter and 0.15-0.20m in depth with bowl shaped profiles. One of the pits of particular interest (1238) was situated to the north-east of structure 1074. It was much deeper than the aforementioned pits, measuring 0.75m in depth and 0.90 x 0.80m in diameter and had very steeply sloping sides with a distinctive stepped profile. The lower fill (1317), redeposited sandy clay, was sealed by dark-grey silty sand (1316) which was high in charcoal and ash content and included animal bone. The upper pit fill (1237) contained a significant amount of pottery spot dated to the Early Saxon period, also frequent pieces of animal bone. A shallow elongated northwest-southeast aligned feature (1205) situated between grub huts 1132 and 1074 might have been the base of a hearth. It was filled with light grey silty sand (1206) and contained a sherd of Early Saxon pottery.
- 14.1.39. A fourth sunken floored building (1223; Figs. 10 and 14) was located approximately 30m to the north of the others. It was comparable in shape and size with sub-circular S.F.B. 1074. Interestingly the position of the structure was also related to the large 'channel' which meandered from east -west across the southern area of the site. However it had been cut through the northern edge of the uppermost channel deposit 1064. The S.F.B. measured 4.00m x 3.60m and 0.30m in depth and contained a primary and secondary fill (numbered 1222 and 1221 respectively). It had been sealed by a thin layer of mid grey-brown silty clay-sand (1220). A substantial amount of Early Saxon pottery was recovered from the dark grey-brown upper fill (1221), also residual Roman and Late Neolithic pottery, tile and animal bone. Three fairly substantial circular postholes were exposed (1225, 1310 and 1357) aligned east-west and positioned roughly across the middle of the grub hut, measuring between 0.38-0.50m in diameter and 0.30-0.55m in depth. The dark grey sandy clay-silt (1224) which filled posthole 1225 contained Early Saxon pottery
- 14.1.40. A possible fifth S.F.B. (1018; Fig. 7) was located approximately 70m to the east of the aforementioned cut. It was sub-circular in shape measured 3.40m by 2.55m and 0.16m in depth. The feature had probably been truncated during ploughing; evidence suggesting a former structure was provided by a posthole (1020) which was located just inside the eastern edge of the cut. The finds retrieved from the mid grey-brown silty clay-sand infill of the structure (1019) indicated an Early Saxon date.
- 14.1.41. A sub-circular feature (1381) in association with two postholes (1377 and 1379) possibly represented a sixth sunken floored building and was evidently contemporary with the aforementioned series of structures. It was situated approximately 70m to the north of possible S.F.B. 1018 and was comparable in size and composition. It measured 2.90 by 2.80m in diameter and was comprised of mid grey-brown silty clay-sand infill (1380) which contained a number of Early Saxon pottery sherds. Interestingly the finds from this context included two glass beads. Feature 1381 provided an isolated example of archaeological evidence relating to the Early Saxon period further to the north, away from the main focus of activity in the south-eastern area of the site.
- 14.1.42. Evidence relating to the same period was provided by a number of dated and undated features (group 102) located towards the southwestern corner of the site.

A sub-circular pit (1307) which had been cut by a posthole (1309) and pit (1313) provided tantalizing signs of possible contemporary structures in this area. The remains of a possible drip gully (1153) and an associated cluster of undated postholes (1151, 1155, 1157, 1159, 1161, 1163, 1165, 1167, 1125, 1121 and 1123) situated on the same east-west alignment as many of the Early Saxon features and similarly close to the edge of palaeochannel 1064, may indicate contemporary activity.

- 14.1.43. Further archaeological evidence from the period was provided by a wide spread of silty sand (1184) which possibly represented the infill of a shallow ditch (1183) or the remains of a well worn trackway, aligned northeast-southwest which may have led to the three southernmost Sunken Floored Buildings (1074, 1132 and 1170). The latter explanation seemed to be more likely due to the very poorly defined edges and uneven base. A number of sub-circular features (1192, 1194 and 1196), which were perhaps the bases of three postholes, were exposed although extensive root disturbance made identification difficult.

Phase 6- Medieval (Fig. 11)

- 14.1.44. The archaeological remains which were uncovered across the western and northern areas of the site appeared to reflect a geographical shift from southeast to northwest. The majority of the evidence from the central part of the site seemed to relate to the medieval period. Excavation revealed the southern and eastern arms of a large enclosure which dominated the western side of the site. A number of sections were cut across the ditches which formed the enclosure (group 109). The initial sections dug through the southern arm of the enclosure showed that an original ditch, (group 109) had been recut along the same alignment in the post-medieval period (Phase 7, group 104).
- 14.1.45. The earliest ditch measured generally 4.50m in width, it had steep sides and a bowl-shaped profile and had survived to a depth of 1m (1445, Plates 7 and 8). One of the sections through the ditch exposed a distinctive primary deposit, a very dark grey organic sandy clay silt (1146). A section cut through the eastern arm of the ditch (1279) identified grey-brown sandy clay-silt (1280) measuring 0.70m in depth and containing pottery sherds spot dated to between the late 12th-14th centuries. However excavation proved difficult as the eastern arm of the enclosure ditch had been cut through a possible water course which ran east-west. At the intersection, the mid grey brown alluvial deposit (1064), which formed the uppermost horizon of the possible palaeochannel seen to the east, converged with the series of deposits infilling a palaeochannel (1299-1302), which ran from the western edge of the site. The uppermost alluvial layer (1299/1072) contained medieval pottery and had been cut by a series of sub-circular and circular pits (group 105) which provided evidence of occupation during the medieval period. The features followed an east-west alignment and were situated just inside the south-eastern corner of the enclosure. Group 105 produced a small assemblage of pottery sherds (1070, 1171 (Fig. 14) and 1257) spot dated to between the late 12th to 14th centuries. One of the features (1071) may have represented a post-pit. It had very steeply sloping sides and had been infilled with distinctive yellowish-brown silty sand (1070) which contained traces of possible organic material, perhaps signs of a post which had rotted *in-situ*.
- 14.1.46. Further sections were excavated across the eastern arm of the enclosure to the north of the aforementioned palaeochannel. The sections provided evidence of another large ditch (group 106) which was seen arcing to the north-west, having been truncated on its eastern edge by the north-south aligned group 104 enclosure ditch. The earlier ditch, group 106, (1489/1500; Fig. 14) measured a maximum of 5.10m in width and 0.60m in depth and had a bowl-shaped profile. The pottery sherds which were retrieved from the ditch were spot dated to

- between the late 12th and 13th centuries (1488, and 1499). As the ditch continued north-west it had cut the edge of a large steep sided circular pit (1497, 1500; Fig. 14) which contained a pottery assemblage dated to the same period. Both the ditch and pit had been truncated by a smaller, shallower ditch (1495/1603) which followed a northeast-southwest orientation and apparently served drainage purposes. The ditch was filled with a distinctive dark grey sandy clay-silt infill (1602); excavation of the butt-end uncovered animal bone, slag and a number of pottery sherds, which were dated to between the 11th - 14th centuries. A large sub-circular pit (1591) was exposed immediately to the south-east of ditch 1603. The pit had quite steep sides and a bowl shaped profile and contained pottery also ranging in date from the 11th - 14th centuries. The pit had been cut by a very shallow drainage gully (1587) which ran eastwards from the pit to the edge of the main ditch (group 106). Two circular pits (1514 and 1518) were also exposed approximately 5m to the west of the edge of the aforementioned ditch. The larger of the two features (1514) was probably a post pit, signs of the former post were provided by a shallow posthole (1516).
- 14.1.47. A section through the large ditch (group 106) showed that it had been truncated by the enclosure ditch (group 104) but continued to run eastward where it was shallower. Further excavation of the ditch (group 106) provided more ceramic evidence ranging from the 11th - 14th centuries (1440). As the ditch continued east a number of other east-west aligned ditches were uncovered immediately to the north and north-west. One of the earliest ditches (1439) contained a notable assemblage of pottery sherds (1438) dated to between the middle of the 12th and the mid 13th centuries. The features appeared to represent a succession of recut drainage ditches which fed into the vast palaeochannel (1584) which occupied the northwestern area of the site.
- 14.1.48. Immediately to the north of the large east-west aligned ditch (group 106) a number of smaller ditches were exposed. The features had created a network of recut ditches in an area which had obviously been subject to constant flooding. One of the drainage ditches (1502/1474) ran from the edge of the palaeochannel (1584) and had been recut (1493/1472). The earlier ditch (1474) continued eastward and ran parallel with a larger, curvilinear ditch (group 107) which also appeared to have conveyed excess water into the palaeochannel to the north. Group 107 represents sections through the re-cut curving ditch, revealing quite steeply sloping sides and a 'U'-shaped profile. The ditch contained frequent sherds of pottery (1565, 1570 and 1399) which were spot dated to between the late 12th and 14th centuries. A circular post-pit (1458) and a second circular unexcavated pit fill (1509) were situated immediately to the north of the east-west aligned ditch (group 107). As it continued to the east the ditch had been cut through a shallow north-south aligned ditch (1456) and a spread/layer of silty sandy clay (1519/1390) which may have indicated a buried soil. The ditch had also truncated another series of recut ditches (group 108) which followed a northwest-southeast orientation possibly respecting the edge of a large palaeochannel (1594-1597). Group 108 represents a number of sections through the re-cut ditch (1424) which provided further datable ceramic evidence relating to the period between the 12th - 14th centuries (1391, 1420 and 1422).
- 14.1.49. The parallel east-west aligned ditches (groups 106 and 107) covered a distance of approximately 40m. The relationship between the two groups of ditches had been obscured by later activity. The ditches were only partially visible as they had been heavily truncated by a number of later parallel gullies and ditches (1396, 1400, 1445) containing evidence relating to the late medieval and early post-medieval period (1397, 1401 and 1444). As the later ditches ran north-east, apparently draining into the area of the large palaeochannel (1594-1597), the eastern terminal (1491) of one of the earlier ditches (group 107) was exposed. It had a distinctive 'U'-shaped profile which was quite different from another east-west

aligned feature immediately to the south (1389) which represented a shallow plough furrow. A third east-west aligned feature (1371/1451) provided datable pottery (1450) which indicated another contemporary drainage ditch. It had been cut through a very shallow undated north-south aligned gully (1369) which measured approximately 15m in length. The linear gully/ditch may have been related to a comparable east-west aligned feature (1233/1016/1235) seen to the south, which measured approximately 30m and was perhaps part of a stock enclosure. The latter ditch/gully contained pottery dated to the late 12th -14th centuries. A large irregularly shaped pit (1028) which was situated immediately to the south of the gully had very gradually sloping uneven edges and may have been a watering hole.

- 14.1.50. The archaeological remains uncovered across the north-western area of the site provided further evidence of a medieval pattern of field boundaries and drainage ditches. A number of ditches were exposed which may have represented the edge of an enclosure. The ditches followed a northeast-southwest orientation and extended beyond the north-western edge of the excavated area. The largest ditch appeared to represent the original field boundary ditch (1554) and measured in excess of 4.20m wide and 0.50m deep; animal bone and medieval pottery were recovered (1552). It had been cut by a smaller ditch (1558) which had been truncated by the remains of a hedgeline (1556). The area to the east of the field boundary ditches was occupied by a large palaeochannel (1584). Interestingly a number of parallel ditches and gullies (1575, 1577 and 1606) which were also aligned northeast southwest suggested a series of leets running between the palaeochannel (1584) and a smaller palaeochannel / pond (1585). Despite repeated flooding a section was excavated across the ditches (1575 and 1577) and one of the gullies (1606).

Phase 7- Post-medieval (Fig. 12)

- 14.1.51. The ditches which formed the southern and eastern sides of the large medieval enclosure in the southwestern area of the site had apparently silted up and been re-cut during the post-medieval period (1129/1143/1098/1178 (Fig. 14, Plate 11) /1526/1504 and 1508, Plate 9). The re-cut ditch (group 104) had a 'U'-shaped profile and measured 2.40m wide and 0.80m in depth, it contained a substantial quantity of large snail shells (1096). Evidence of the later period of activity was provided by pottery and tile retrieved from a number of the sections (1126, 1142 and 1507). Due to severe waterlogging in the western area of the site it was not possible to identify the north-western edge of the enclosure which would have been cut through the large palaeochannel (1584).
- 14.1.52. A large post-medieval ditch (1892) was identified across the centre of the site cutting phase 6 ditches group 106, group 107, and 1371.
- 14.1.53. Further evidence of post-medieval activity was exposed in the north-western area of the site as a number of horse burials were excavated (1462, 1582 and 1600, Plate 18). The former had been cut through a layer (1569) which apparently represented the edge of a large palaeochannel (1584). Two of the cuts (1462 and 1600) were aligned north-south the other was aligned east-west. The initial evaluation of the site had highlighted the presence of the burials and provided a post-medieval date from analysis of the horse shoes. During machining through one of the possible palaeochannels, the remains of a fourth horse skeleton were partially exposed (1604) just below the topsoil and overlying a deep peaty deposit (1585). A small animal burial (1403) had been cut through one of the large re-cut east-west aligned ditches (1445) in the central area of the site.
- 14.1.54. The north-eastern area of the site was only partially excavated as it became evident that it had been used for extensive dumping of building rubble. The

evidence of activity in the extreme north-eastern corner of the site was provided by a network of drains and narrow drainage ditches; a number of which were excavated (1543 / 1539 (Plate 12) and 1580) cut directly into the natural sandy soil and containing finds (1578) dated to the post-medieval period.

- 14.1.55. In the extreme south-western corner of the excavated area a large subcircular cut (1342) represented a dump of modern building material (1341). A northwest-southeast aligned ditch (1087 / 1334) ran towards the southern arm of the medieval enclosure ditch (group 104). However the former, undated ditch terminated before reaching the enclosure and had been truncated by a shallow north-south aligned gully (1320). The gully continued north and cut the upper fill (1173) of the enclosure ditch (group 104).

Appendix 4 Specialist Reports

Appendix 4.1 - Flint by Barry Bishop

Introduction

The excavations at the above site resulted in the recovery of quantities of struck flint and burnt flint. This report quantifies the material, provides an overview of its characteristics and describes briefly some of the more noteworthy context groups. It comments on the assemblage's significance and recommends any further work needed for it to attain its full research potential. Further details of the material recorded by individual context are presented in Table 9. As the material was only cursorily examined and no statistically based technological, typological or metrical analyses attempted, a more detailed examination may alter or amend any of the interpretations offered here. All metrical descriptions follow Saville (1980).

Quantification

A total of 1027 struck flints and just over 2.5kg of burnt flint fragments were recovered during the investigations. Virtually all were recovered during the excavation phase, with only 35 struck pieces and no burnt flint found during the evaluation. Of those from the excavation, which have been provisionally phased by the excavator, 769 struck flints, or 74.9% of the overall assemblage, were recovered from prehistoric contexts and may be regarded as potentially contemporary, 56, or 5.5%, came from undated contexts and 167, or 16.3%, were from Roman or later contexts, these presumably being residually deposited. Of the material from the provisionally phased prehistoric contexts, 749 struck flint came from seven context groups, and these are described in more detail below.

	Decortication Flake	Rejuvenation Flake	Core	Conchoidal Chunk	Micro-debitage	Micro-burin	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Retouched	Context Total	Burnt Flint	Burnt Flint (wt:g)
All No.	95	13	24	22	260	1	68	219	198	54	40	33	1027	343	2663
All %	9.3	1.3	2.3	2.1	25.3	0.1	6.6	21.3	19.2	5.3	3.9	3.2	99.9		

Table 1: Quantification of Lithic Material from Borough Hill, Sawston

Burnt Flint

A total of 343 burnt flint fragments weighing 2,662g was recovered, distributed within 21 separate contexts. They mostly consist of small, variably burnt pebble fragments, typical of incidentally burnt natural flint clasts and indicative of the presence of small campfires. The only concentrations present were in ditch [1532] and, to a lesser extent, ditch [1187], these possibly representing the dumped waste from hearths or perhaps more specialised activities, such as cooking residues.

Struck Flint

Characterisation

The struck flint assemblage may be regarded as moderately large given the size of the areas investigated. It contains pieces representing all stages in the reduction sequence, from rejected 'tested' pieces, decortication flakes and micro-debitage, to used and worn-out tools (see Table 1). It is evident that flint raw materials were procured and converted to tools and those were being used and discarded at the site.

Overall Dating

Diagnostic implements and the general technological traits indicate that the assemblage was predominantly produced during the Later Mesolithic and the Early Neolithic periods. Characteristic Mesolithic pieces include a tranchet axe, two microliths and a micro-burin, the microliths and micro-burin having Later Mesolithic traits. Early Neolithic implements include three leaf-shaped arrowheads. There are many other implements that can be dated more broadly to the Mesolithic or Early Neolithic, including a number of edge-retouched or worn serrated blades, burins and long-end scrapers. Later Neolithic/Early Bronze Age material appears to be less well represented although the assemblage contains a possible plano-convex knife and a few keeled or discoidal cores that may be of this date. Also of interest is a small collection of blades that are heavily recorticated, often in a chipped state and noticeably larger than most recovered from across the site. These are mainly unretouched, the exception being a burin made on the retouched end of a large blade. These are evidently earlier than much of the material from the site and, although no diagnostic pieces are present, are reminiscent of pieces from Late Glacial and early Post-glacial industries and may be comparable to similar implements recovered during the excavations at Hinxtun, downstream in the Cam Valley (Bishop forthcoming).

Raw Materials

The raw materials principally consist of translucent black, brown or grey 'glassy' flint. Where retained, cortex varies from smooth rolled and battered to thick and rough, with the latter types being predominantly used. Many thermal faults and ancient heavily recorticated thermal scars were evident on the struck pieces, resulting in split flakes and the disintegration of many of the cores, although generally the flint was of good knapping quality. The nature of the raw materials indicates that they were obtained from derived deposits situated close to the parent Upper Chalk, which outcrops a few kilometres to the south of Sawston (Gibbard 1986). Some of the flint had an unabraded cortex suggesting it may have been obtained from sources close to the chalk and brought to the site. The majority of pieces, however, appeared to have experienced some alluvial transportation and these would have been available in the gravel terraces in the vicinity of the site.

Condition

The condition of the material varies according to its contextual origin. It is predominantly sharp or only slightly edge damaged, indicating that the assemblage overall had experienced only limited post-depositional disturbance, such as from trampling or redeposition into adjacent features. Recortication varies from being heavy to being absent.

Significant Contexts/Context Groups

Briefly described below are some of the features or context groups that have produced significant quantities of struck flint. Continued work on the detailed phasing of the site may lead to the identification of further significant groups.

Deposit [1066] and Related Contexts

This feature group produced 203 struck flints and 265g of burnt flint. The bulk of this came from later [1066] with much smaller quantities coming from the possibly associated postholes and gullies. A few different types of flint are present although nearly all consisted of a translucent black flint with a thick cortex. It is technologically homogenous and consists of a blade-based approach to reduction. It predominantly comprises knapping waste, including waste from all stages in the reduction sequence, and retouched implements are limited to five edge-retouched or worn serrated pieces. A micro-burin, usually regarded as waste products arising from microlith manufacture, is also present. The cores range from minimally worked 'testing' nodules to exhausted blade and flakes cores. The assemblage is mostly in a good, sharp condition although it does vary somewhat and a high proportion of pieces had been burnt. It is not certain whether it represents an *in-situ* knapping scatter or a redeposited dump of occupation debris, such as has been recorded for the fills of the pits at Kilverstone (Garrow *et al.* 2006). The burnt flint suggests the presence of hearths or dumped material arising from hearth use.

	Decortication Flake	Rejuvenation Flake	Core	Conchoidal Chunk	Micro-debitage	Micro-burin	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Edge retouched/serrat	Total	Burnt Flint	Burnt Flint (wt:g)
No.	17	5	8	7	42	1	23	41	35	12	7	5	203	42	265
%	8.4	2.5	3.9	3.4	20.7	0.5	11.3	20.2	17.2	5.9	3.4	2.5	100		

Table 2. Deposit [1066] and Related Contexts

Ditch 1187

Ditch [1187] produced an assemblage of 27 pieces which consists of technologically homogeneous blade-based knapping waste made from translucent grey flint in good condition and which contains potentially refittable pieces. No cores or retouched pieces are present.

	Decortication Flake	Conchoidal Chunk	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Total	Burnt Flint	Burnt Flint (wt:g)
No.	5	1	4	7	6	2	2	27	8	198
%	18.5	3.7	14.8	25.9	22.2	7.4	7.4	99.9		

Table 3. Lithics from ditch 1187

Group 100: Post-Built Structure

Group 100 produced 40 struck flints but no burnt flint. The assemblage contains reasonable quantities of blades, is comparable to the assemblages from the ditches found to the south (see above) and may incorporate part of the same spread of material. High quantities of micro-debitage were recovered from the samples taken but the only retouched pieces comprise a blade with a polished end, comparable to the wear seen on fabricators. The core consists of an irregular flake type.

	Decortication Flake	Rejuvenation Flake	Core	Micro-debitage	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Other Retouched	Total	Burnt Flint	Burnt Flint (wt:g)
No.	1	1	1	24	1	2	7	1	1	1	40	1	5
%	2.5	2.5	2.5	60.0	2.5	5.0	17.5	2.5	2.5	2.5	100		

Table 4. Lithics from Group 100

Spread [1210]

The assemblage from spread [1210] comprises 92 struck flints and 326g of burnt flint. Blades contributes significantly to the assemblage but the only retouched pieces consists of an edge-retouched flake and a ripple flaked knife that may represent an unfinished plano-convex knife, which, if so, may indicate a Later Neolithic or Early Bronze Age date for this group.

	Decortication Flake	Core	Conchoidal Chunk	Micro-debitage	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Knife	Edge retouched/serrate	Context Total	Burnt Flint	Burnt Flint (wt:g)
No.														
%														

No.	10	2	2	3	7	36	18	7	4	1	1	91	34	326
%	11.0	2.2	2.2	3.3	7.7	39.6	19.8	7.7	4.4	1.1	1.1	100		

Table 5. Lithics from spread 1210

Buried Soil [1459]

This layer produced the largest individual assemblage from the excavations. A total of 210 struck flints but no burnt flints were recovered. The assemblage is pre-dominantly blade-based but includes many different types of raw material, its condition suggesting it may represent a number of different episodes of activity. A possible micro-burin is present (from test-pit 26) as well as a finely made slender leaf-shaped arrowhead, suggesting both Mesolithic and Early Neolithic activity. Also present is a double-ended long-end scraper with a serrated lateral margin, as well as other edge-trimmed flakes. The core is centripetally worked with keeled striking platforms.

	Decortication Flake	Rejuvenation Flake	Core	Conchoidal Chunk	Micro-debitage	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Arrowhead	Scraper	Edge retouched/serrate	Context Total	Burnt Flint	Burnt Flint (wt:g)
No.	27	4	1	6	48	13	38	43	14	10	1	2	3	210	6	11
%	12.9	1.9	0.5	2.9	22.9	6.2	18.1	20.5	6.7	4.8	0.5	1.0	1.4	100		

Table 6. Lithics from spread buried soil 1459

Curvi-linear feature [1254/1532/1547]

This feature produced a significant assemblage of struck flint and the highest quantity of burnt flint from any individual feature at the site. The burnt flint was intensely and uniformly burnt, suggesting that it may have been deliberately heated, such as from a use in cooking, rather than from incidental burning from hearth-use. The struck flint is generally in a good condition although a high proportion had been burnt, and possible refits have been identified. The assemblage is dominated by knapping waste but also includes a high number of retouched pieces. These include an unfinished or partially worked leaf-shaped arrowhead, a blade with bifacial thinning that may represent a further unfinished slender leaf-shaped arrowhead, a serrated blade, a burin and a number of scrapers, including two long-end types. The assemblage appears to represent a dump of knapping and tool-using waste of Neolithic affinities.

	Decortication Flake	Rejuvenation Flake	Core	Conchoidal Chunk	Micro-debitage	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Arrowhead	Burin	Scraper	Edge retouched/serrate	Context Total	Burnt Flint	Burnt Flint (wt:g)
No.	12	2	6	1	11	6	38	30	7	6	2	1	3	4	129	197	1540
%	9.3	1.6	4.7	0.8	8.5	4.7	29.5	23.3	5.4	4.7	1.6	0.8	2.3	3.1	100		

Table 7. Lithics from curvi-linear feature 1254/1532/1547

Ditches/features [1349/1351], [1082/1065], [1078/1042/1008/1024]

The lithic material from this group of features is in a variable but frequently slightly chipped condition, suggesting that it may have been disturbed or redeposited. Many blades are present, including crested blades and micro-blades, suggesting a Mesolithic date for at least part of this assemblage. Retouched pieces support such dating and consist of a narrow obliquely-truncated microlith and a tranchet axe, both characteristic of Mesolithic industries.

The axe is finely made from translucent black flint and retained remnants of a weathered but rough yellow cortex around its butt and along part of one side. There are no traces of polishing and it has the characteristic transverse sharpening blow. It is in a very sharp condition and has no evidence for use or damage along its cutting edge.

	Decortication Flake	Core	Micro- debitage	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Axe	Microlith	Total
No.	2	3	5	6	11	12	6	2	1	1	49
%	4.1	6.1	10.2	12.2	22.4	24.5	12.2	4.1	2.0	2.0	100

Table 8. Lithics from ditches/features [1349/1351], [1082/1065], [1078/1042/1008/1024]

Significance Of The Struck Flint

The lithic assemblage indicates considerable activity at the site spanning a long period of time. It includes significant Later Mesolithic and Early Neolithic assemblages and there is the possibility that both earlier and later flintworking is also represented. Knapping waste and the high proportion of retouched implements indicate that both core reduction and tool use/discard were occurring. Most of the Later Mesolithic and Early Neolithic pieces were recovered as large assemblages from a series of buried soils/infilled hollows and features such as post-built structures and ditches. Numerous other prehistoric or undated features also contained struck flint and these potentially may be contemporary with the flintworking activities. The lithic assemblages from at least some of these may provide further significant evidence for activities at the site during the prehistoric period, but this awaits detailed work on the grouping and phasing of the site. Comparable assemblages have been recovered from similar topographic situations along this part of the Cam Valley, such as at Hinxtion (Bishop forthcoming) or at Linton and Abington in the adjacent Granta Valley (Beadsmoore 2004; Bishop 2009). The site has thus produced a number of important lithic assemblages that give an opportunity to explore diverse themes relating to the nature, significance and scale of flint technology and its use, both at the site and within the wider landscape. Such themes include, but are not limited to:

- the chronology of flint use at the site, and continuities or disruptions in flintworking traditions across the periods identified, particularly the Mesolithic/Neolithic transition
- choices made in the selection, acquisition and use of raw materials
- strategies and approaches taken to lithic reduction
- the spatial and temporal organisation of lithic reduction and tool use, both at the site and within the wider cultural landscape
- the nature of the products and how these relate to the range of activities conducted at the site
- the nature of the deposition and discard of flint waste and useable products, and how these may relate to the wider concerns of the communities using them

Recommendations

This report is based on a preliminary examination and quantification of the lithic material recovered from the site. It has identified significant assemblages dating to the Mesolithic and Neolithic, which have the potential to further contribute to increased understanding of the nature of flint technology during these periods, as outlined above. In order to realise this potential, further work is recommended. This should concentrate on a full and detailed re-examination of the material and should include:

- recording in detail the typological, technological and metrical traits of the various significant assemblages, as well as the raw materials, condition and degrees of recortication
- refitting exercises combined with detailed examination of the micro-debitage on selected suitable assemblages
- low-power examination of selected debitage for micro-wear traces to assess the degree to which unretouched flakes and blades may have been used
- an examination of the contextual and distribution patterns of the assemblages
- a consideration of the assemblages' relationships with other deposited materials, such as bone, pottery etc
- discussing how the material compares and contrasts to other lithic assemblages from the region and the implications that this may have for broader settlement strategies and patterns of landscape exploitation

Following completion of this work, it is recommended that the findings are fully written up and, alongside illustrations of the most relevant pieces, presented in any published account of the fieldwork.

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	ref	Decorification Flake	Rejuvenation Flake	Core	Conchoidal Chunk	Micro-debitage	Micro-burin	Flake Fragment	Flake	Blade	Blade Fragment	Blade-Like Flake	Axe	Arrowhead	Burin	Scraper	Knife	Edge retouched/serrate	Microlith	Other Retouched	Recortication	Condition	Date	Comments	Burnt Flint	Burnt Flint (wt:g)
709	<1>					2				1											None	Good	Mesolithic/Early Neolithic			
804	<2>					2																	Undated			
807	<3>								1	1													Mesolithic/Early Neolithic			
904	<4>					11																	Undated			
907	<6>					10			1														Undated			
910	<7>					2			1														Undated			
912	<8>					2																	Undated			
914	<9>					1																	Undated			
1001									1												None	Good	Mesolithic to early BA			
1001					1				3	3	1	1									None	Chipped	Mesolithic/Early Neolithic	Poor condition but generally blade-based		
1001										1											Yes	Good	Mesolithic/Early Neolithic			
1001										1											Yes	Good	Mesolithic/Early Neolithic	large (112mm L) crested blade		
1001										1											None	Slightly chipped	Mesolithic/Early Neolithic			
1001				1						1											None	Slightly chipped	Mesolithic/Early Neolithic	Blade core made on a flake. Blade maybe utilized		
1001										1											Yes	Slightly chipped	Mesolithic/Early Neolithic			

1064		2			1				3	3		2							1			varied	Slightly chipped	Mesolithic/Early Neolithic	Mixed RM, condit, recort			
1066				1						6												None	Good	Mesolithic/Early Neolithic	Core is small thermally split blade. Assemblage very homogeneous			
1066		3	1	1	2	8		1	9	2	2	1										varied	Good	Mesolithic/Early Neolithic	Homogeneous, blade-based, knapping waste. RF possibly serrated. A1 type core. FF burnt			
1066		14	4	6	5	16	1	19	31	25	8	6												Mesolithic/Early Neolithic	see text			
1066	<32>					8		2		1	2															All SF burnt	4	6
1066																										Variably burnt pebbles	3 7	251
1066	<32>					3		1		1																		
1067									1													Yes	Chipped	Mesolithic to early BA				
1067										1		1										varied	Slightly chipped	Mesolithic/Early Neolithic				
1067	<47>					10																					4	16
1073				1	1																	None	Slightly chipped	Mesolithic to early BA	Front type narrow flake			
1073		2				5		1	2	3												varied	Slightly chipped	Mesolithic to early BA				
1073																										1 flint, 1 sandstone	2	58
1077									1	3	1												Slightly chipped	Mesolithic/Early Neolithic	Blade-based but mixed			

1079					2		1	1		2										varied	Slightly chipped	Mesolithic/Early Neolithic				
1081												1										Mesolithic/Early Neolithic				
1088							1													Yes	Slightly chipped	Mesolithic to early BA				
1088	<39>	1		1	7																	Core is minimal/testing	2		7	
1099								1												None	Slightly chipped	Mesolithic to early BA				
1100																						All natural				
1102																						All natural				
1109	<35>						1																	1		2
1111										2										varied	Slightly chipped	Mesolithic/Early Neolithic				
1114																						All natural				
1118																						All natural				
1124																						All natural				
1133	<40>				1																					
1135					1																			1		5
1137																						All natural				
1139																						All natural				
1139																						All natural				
1141		1																		None	Slightly chipped	Mesolithic to early BA				
1141							1	1	2		1									1	None	Good	Mesolithic/Early Neolithic	Retouched is a blade with a worn and rounded distal end of fabricator		

1141																				Yes	Slightly chipped	Mesolithic/Early Neolithic			
1141																				Yes	Slightly chipped	Mesolithic/Early Neolithic			
1141			1																						
1148	<43>																			Yes	Good	late Mesolithic	Beautiful tiny scalene triangle		
1148	<43>					7																			
1166																								All natural	
1168																				None	Slightly chipped	Undated	Irregular flake core		
1179	<53>					11																			
1184																				None	Good	Mesolithic/Early Neolithic		2	24
1186			5			1														None	Good	Mesolithic to early BA	Homogeneous narrow flakes knapping waste, some refits?	8	198
1186																				None	Slightly chipped	Mesolithic/Early Neolithic			
1188																								All natural	
1199																								All natural	
1202																				None	Slightly chipped	Mesolithic/Early Neolithic		1	8
1204			1																	None	Good	Mesolithic to early BA			
1207	<56>																								

1210								3			1								varied	Slightly chipped	Mesolithic to early BA				
1210				1				2												varied	Slightly chipped	Mesolithic to early BA		8	13
1210						2		1	4	1	1									Yes	Chipped	Mesolithic/Early Neolithic		1	8
1210									1	2										None	Good	Mesolithic/Early Neolithic			
1210																				None	Slightly chipped	Mesolithic/Early Neolithic			
1210																				varied	Slightly chipped	Mesolithic/Early Neolithic	Blade based but not very homogeneous	4	74
1210																				varied	Slightly chipped	Mesolithic/Early Neolithic			
1210																				varied	Slightly chipped	Mesolithic/Early Neolithic			
1210																				varied	Slightly chipped	Mesolithic/Early Neolithic			
1210																				varied	Slightly chipped	Mesolithic/Early Neolithic			
1210																				None	Good	Neolithic to Bronze Age	Narrow but irregular flake with fine invasive ripple retouch of plano-convex knife but half of one side is unretouched pre-existing thermal scar - unusual. C type narrow flake core		
1210																				Unknwn	Burnt	Undated		1	9

1210								1											unkno wn	Burnt	Undated					
1210																						Nearly all heavily and uniformly burnt white	9	78		
1210																						Nearly all heavily and uniformly burnt white	1 1	144		
1218																				None	Good	Mesolithic to early BA				
1221																					varied	Good	Mesolithic/Early Neolithic			
1221		2			1			2	3	1													FF poss denticulated			
1236										1	1										None	Chipped	Mesolithic to early BA			
1237																					None	Good	Mesolithic/Early Neolithic		2	15
1237																							All natural			
1246	<73>																						All Natural			
1248	<74>	1																								
1257																							All heavily burnt	3	27	
1258										1	1															
1258																							All natural			
1261																				Yes	Slightly chipped	Mesolithic to early BA	A bit chipped but homogeneous and 2 possible refits			
1264																					None	Slightly chipped	Undated			
1266																							All natural			
1267																							All natural			
1268																					None	Slightly chipped	Mesolithic to early BA			

1268		2			1			3	1								1			varied	Slightly chipped	Mesolithic/Early Neolithic	Edge retouched flake		
1269																							All natural		
1269	<79>				9																				
1278	<82>																						All white and uniform	2 4	102
1284		1																		Yes	Burnt	Undated			
1286					1																		Thermally disintegrated core		
1288		1							1											Yes	Good	Undated			
1290	<101>				10																				
1306								1	1											varied	Slightly chipped	Undated			
1314									1											None	Slightly chipped	Mesolithic to early BA			
1316																								1	39
1335									2											None	Good	Mesolithic/Early Neolithic			
1343								1												None	Good	Mesolithic to early BA			
1343	<99>				7																			1	8
1345									1	2		1								varied	Good	Mesolithic/Early Neolithic			
1345	SF21								1											Yes	Good	Mesolithic/Early Neolithic			
1348				1					1	2										varied	Slightly chipped	Mesolithic/Early Neolithic	Core produced small narrow flakes on a cortical flake		

1424										1									Yes	Chipped	Mesolithic/Early Neolithic	very chipped and heavily recorticated
1429		1																	Yes	Good	Undated	
1430								2											None	Slightly chipped	Mesolithic to early BA	
1430					1																Mesolithic to early BA	
1444		2																	None	Slightly chipped	Undated	
1450																						All natural
1452																						All natural
1459	SF35																		Incipient	Good	Early Neolithic	Slender leaf-shaped. V good condit, poss broke during manufacture
1459	SF44	1																	None	Good	Mesolithic to early BA	
1459	SF47	1						1											varied	Good	Mesolithic to early BA	
1459	SF45	1																			Mesolithic to early BA	Blade shaped
1459	SF48							1	1										Incipient	Good	Mesolithic/Early Neolithic	
1459	SF42																		None	Good	Mesolithic/Early Neolithic	partially cortical
1459	SF46																		None	Good	Mesolithic/Early Neolithic	Largely cortical
1459	Surface	18	3		3	15		4	28	25	8	8							varied	Good	Mesolithic/Early Neolithic	lots burnt

1459	SF43																				1	None	Slightly chipped	Mesolithic/Early Neolithic	Double ended long-end scraper with a serrated lateral margin and cortical 'backing' on opposite margin			
1459																							None	Slightly chipped	Mesolithic/Early Neolithic			
1465		1							2	2	3	2											None	Slightly chipped	Mesolithic/Early Neolithic	Homogeneous, generally good condition		
1465	<135>																											
1466		1	1	1	2	4			5	2	2													Slightly chipped	Mesolithic to early BA	Rather mixed RMs, condit and techno but possibly a small proportion in situ. Core is a keeled centripetal type.	3	8
1466	<136>																											
1467	SF37	1																					Incipient	Good	Mesolithic to early BA			
1467		1																						Good	Mesolithic/Early Neolithic	Mixed RM, condit, recort		
1467	SF36																						Incipient	Slightly chipped		End scraper but most of working edge snapped off		
1467	<137>																											
1468	SF40																						Yes	Good	Mesolithic/Early Neolithic			
1468		1																					Yes	Slightly chipped	Mesolithic/Early Neolithic			

1510	SF38																				Yes	Good	Mesolithic/Early Neolithic	Utilized - microchipping an edge rounding along lateral margins				
1510		1			1	6				2			1									varied	Slightly chipped	Mesolithic/Early Neolithic	B poss M-B			
1511																						Yes	Slightly chipped	Neolithic to Bronze Age	Some blades but mainly flake based LNEBA. E type and centripetal cores. retouched is minimally retouched convex end scraper fragment on cortical flake			
1511																										Nearly all heavily and uniformly burnt white	1 9 6	1535
1512																						Yes	Good	Mesolithic to early BA	D type core.. Nice serrated blade and classic core tablet			
1512	SF39																					Yes	Good	Neolithic to early Bronze Age	Finely bifacially worked leaf shaped blade, possibly a partially worked/unfinished large LSA but also cf knife			
1519																						varied	Slightly chipped	Mesolithic/Early Neolithic				
1545																						Yes	Good	Mesolithic/Early Neolithic	homogeneous, some refits	1	5	
1546																						Yes	Good	Mesolithic/Early Neolithic	Homogeneous, generally good condition			
1548																										All natural		

1552																				Yes	Chipped	Mesolithic/Early Neolithic			
1552	>160>																						All heavily burnt	1	4
1570																							All natural		
1583		6		1				2	19	16	5	2		1	1	2				Yes	Good	Early Neolithic	Includes much knapping waste but also a lot of retouched including an unfinished/partially worked LSA, a burin, a sturdy LES and a very fine LES and three serrates. Also SF39, a finely bifacially worked leaf shaped blade, possibly a partially worked/unfinished large LSA but also cf knife. Single core is a Bangle type blade core. [1512] has a keeled narrow flake core a serrated blade and a few large narrow flakes, a bit like LNeo?		
1594									1											Yes	Good	Mesolithic to early BA			
1595																							All natural		
1596		1							1											varied	Chipped	Undated			
+									1	2		1								None	Chipped	Mesolithic to early BA	Cortical Blade		

Table 9. Full flint quantification

Appendix 4.2 - Prehistoric Pottery by Ann Woodward

Introduction and quantification

A total of 446 sherds of prehistoric pottery, weighing 1729g, were assessed. All the material is from a series of 32 sealed contexts and it includes small sherds recovered from the sieving of six residues. An overall quantification of the assemblage by period and tradition is shown in Table 1. All the pottery, apart from two totally indeterminate sherds, is of Neolithic or Late Neolithic/Early Bronze Age date. Most belongs to the Bowl tradition of the Early to Middle Neolithic periods, but Late Neolithic Grooved Ware is also represented. There are also some diagnostic sherds from Beaker vessels. The Bowl material includes 14 rim sherds and two from near a rounded base; the Beaker sherds include one decorated base angle and three decorated items, two of which join. There is also one piece of decorated Grooved Ware. The Neolithic fabrics mainly contain angular flint inclusions and sand, while the Late Neolithic and Late Neolithic/Early Bronze Age ones are characterised by varying mixtures of flint, grog and shell inclusions, along with sand.

Period	Tradition	No. sherds	Weight(g)	Average sherd weight(g)
Early-Mid Neolithic	Bowl	332	1543	4.6g
Late Neolithic	Grooved Ware	14	52	3.7g
Late Neolithic/Early Bronze Age	Beaker	16	32	2g
Probably Late Neolithic	indeterminate	53	47	0.9g
Neolithic	indeterminate	29	50	1.7g
indeterminate	indeterminate	2	5	2.5g
Totals		446	1729g	3.8g

Table 1. Prehistoric pottery: overall quantification

For the purposes of assessment the pottery was counted and weighed by context. Notes were made concerning all major diagnostic sherds and abbreviated summary descriptions of the various fabrics were also attempted, using a hand lens. Information relating to the quantification, sherd form, ceramic tradition and spot dating for the pottery from each context is provided (Table 2). As is usual with pottery from these early periods, the average sherd size is not large (Table 1). However some of the Neolithic pieces are fairly substantial and it should prove possible to reconstruct the uppermost profiles of several vessels.

Period dating

Bowl tradition (Early to Middle Neolithic)	c.3900 to c.2700 cal BC
Grooved Ware (Late Neolithic)	c.3000 to c.2000 cal BC
Beaker (Late Neolithic to Early Bronze Age)	c.2400 to c.1800 cal BC

Site distribution

A series of features and layers contained mainly Early to Neolithic Bowl pottery. These are the spread (1066) in the south-west sector and the curved ditch (1254/1542/1547) on the eastern side of the site. Pottery from the gullies 1187/1189 and 1082/1065 in the south-east sector is probably of Late Neolithic date. The material from the layers beneath the site of a possible round barrow (1210 and 1268) includes Neolithic Bowl pottery as well as possible Grooved Ware and Beaker sherds: this mixture would tend to confirm the idea that these layers were the remains of an old ground surface, which developed over time and was subsequently preserved by a monument. The spread of material just to the north of this (1459) also produced sherds of Early to Middle Neolithic Bowl, probable Late Neolithic wares and sherds of Beaker pottery.

Statement of potential

This assemblage of earlier prehistoric pottery is both unusual and interesting. The group of rim sherds from a reasonably large number of Early to Middle Neolithic bowls is of particular note. And the association of much of the material with layers, features and structures adds to the overall value of the material.

Recommendations

It is recommended that the assemblage should be reported on in full. All pottery will be recorded and analysed in line with the *Guidelines* of the Prehistoric Ceramics Research Group, using the standard systems currently employed at Birmingham Archaeology. It would be useful for a series of sample sherds to be examined petrographically in order that the fabric groupings defined may be tested, and compared with those from other sites within the region. Key diagnostic sherds will need to be illustrated, and the assemblages will be discussed in relation to other relevant sites of Neolithic and Early Bronze Age date within the county and the region. *Time estimate* 6.5 days

Context	total nosh	wt (g)	rim	base	decor	period	tradition		
1001	1	19				Neolithic	indet		
1041	2	1				Late Neo	?Grooved Ware		
1066	35	275	3			Early-Mid Neo	Bowl		
1066	3	<1				Early-Mid Neo	Bowl		
1073	10	7				prob Late Neo	indet		
1081	3	7				prob Late Neo	indet		
1186	7	3				prob Late Neo	indet		
1210	1	6				Early-Mid Neo	Bowl		
	1	3				Neolithic	indet		
	2	3				Neolithic	indet		
	10	10				Late Neo	?Grooved Ware		
	3	4				Neolithic	indet		
1221	2	41			1	Late Neo	Grooved Ware		DRAW
1268	5	10		1	1	LN/EBA	Beaker		DRAW
1356	3	2				LN/EBA	Beaker		
1359	1	4				indet	indet		
1459	30	25				prob Late Neo	indet		
1459	8	20			2 (join)	L Neo	Beaker		DRAW
1465	3	5				prob Late Neo	indet		
1466	1	3				Neolithic	indet		
1466	1	9				Early-Mid Neo	Bowl		
1467	19	50	1			Early-Mid Neo	Bowl		
1468	1	<1				Neolithic	indet		
1469	1	<1				Neolithic	indet		
1503	6	5				Neolithic	indet		
1510	14	2				Early-Mid Neo	Bowl		
1511	10	11				Neolithic	indet		DRAW
1513	1	1				indet	indet		
1545	9	160	7	2 near		Early-Mid Neo	Bowl		DRAW X5
1545	220	975				Early-Mid Neo	Bowl		
1583	30	66	3			Early-Mid Neo	Bowl		DRAW
1583	3	2				Neolithic	indet		
TOTALS	446	1729							TOTAL TO DRAW:

Table 2. Prehistoric pottery: Summary Table

Appendix 4.3 - Roman Pottery by Rob Perrin

Some 58 sherds of Roman pottery, weighing 725g, were recovered from the excavations (Table 1). All bar one sherd of Lower Nene Valley colour-coated ware (LNVCC) were reduced (grey and dark grey) or oxidised (reddish-yellow and cream) wares (Table 2); there was no samian ware or amphora. The LNVCC sherd, from a dish or bowl, was the only obvious regional import, though the reddish-yellow oxidised wares included a probable Colchester mortarium and the complete base of a possible candlestick which may have been produced in the kilns at Hadham. Two other mortarium sherds were made at either the Oxfordshire kilns or, more probably, at Harston, near Cambridge, which produced similar vessels (Pullinger and Young 1982). Another reddish-yellow oxidised ware sherd had a grey core and traces of a red-colour coat and was, again, a product of kilns either in Oxfordshire or Harston. The single cream oxidised ware sherd was part of a flagon base. Apart from the regional wares, the rest of the pottery is likely to have been produced locally. The 'War Ditches' kilns in Cambridge (Hughes 1902a and b; Lethbridge 1948) produced a range of oxidised wares and grey wares were made at various kilns such as Horningsea (Evans 1991), Teversham (Pullinger and White 1991) and Cherry Hinton (Evans 1990). In addition to the vessel forms already noted, the assemblage included various types of jars, bowls and dishes.

Though their presence indicates some form of Roman activity in the vicinity, none of the features and deposits from which they derived have been attributed to the Roman period and most of the pottery is therefore likely to be residual in later contexts. It is noticeable that a significant proportion of the Roman pottery came from layers associated with Saxon sunken-floored buildings (Group 101), including two of the mortaria, the candlestick and the sherd of LNVCC. It is just possible that this is another example of the 'collection' of certain types of Roman pottery fabrics in the Saxon period which has been noted elsewhere (eg Orton Hall Farm: Perrin 1996, 182, 189-90). Another explanation may be similar to that noted at Fordham in Cambridgeshire, where it was suggested that Roman tile found in the fill of a sunken-floored building had been contained in turf which had been used in its construction and had been sourced somewhere close to a Roman bath building (Evans, forthcoming).

The assemblage is of local significance and limited potential; no further work is recommended.

Context	Fabric	Form	Rim	Body	Base	Count	Wgt (g)	Join	Date	Group/date
1001	Cream	Flagon			1	1	44		C1-C2	
	Red/yell	Dish	1			1	10		C1-C2	
	Grey	Jar	1			1	12		C1-C2	
						3	66			
1017	Dk grey	Jar		1		1	2		C1-C2	
1065	Dk grey	Dish?			1	1	24		C1-C2	
1067	Grey	Jar/bowl	1			1	60		C3-C4	101 - AS
	Red/yell	Mortarium	1			1	50	1088	C4	
	Red/yell	Candlestick?			1	1	92		C4	
						3	202			
1073	Grey			4		4	26		C2-C3	101 - AS
	Grey	Jar	1			1	4		C2-C3	
	Red/yell			1		1	6		C2-C3	
	Red/yell cc			2		2	14		C3-C4	
						8	50			
1088	Grey			4		4	36		C2-C3	101 - AS
	Grey	Jar		2		2	76		C3-C4	
	LNVCC	Dish/bowl			1	1	30		C4	

	Red/yell	Mortarium	1			1	24	1067	C4	
						8	166			
1221	Grey			1		1	6		C2-C3	101 - AS
1248	Grey			1		1	1		C1-C2?	101 - AS
1264	Grey				1	1	12		C1-C2?	
1267	Grey			1		1	2		C2-C3	
1343	Grey	Jar		1		1	6		C1-C2	101 - AS
1390	Dk grey	Jar		1		1	16		C1-C2	104 - med
1444	Grey			1		1	14		C1-C2	
1481	Red/yell	Mortarium			1	1	66		C1-C2	
	Red/yell			25		25	26		C1-C2	
						26	92			
1503	Red/yell	Mortarium	1			1	66		C1-C2	104 - med
TOTALS			7	45	6	58	725			

Table 1. Roman pottery: overall quantification

FABRICS	Rim	Body	Base	Count	Wgt (g)
Grey	3	15	1	19	255
Dk grey		2	1	3	42
Red/yell	4	28	2	34	354
Cream			1	1	44
LNVCC			1	1	30
	7	45	6		725

Table 2. Roman pottery: Quantification by fabric types

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Appendix 4.4 - Post Roman Pottery by Sue Anderson

Introduction

A total of 855 sherds weighing 9110g was collected during the evaluation and excavation. Table 1 provides a summary of the quantification by pot period. The post-Roman assemblage is dominated by Early Saxon and medieval material, although a few sherds of later periods were also collected.

Pottery period	No	%No	Wt/g	%Wt	eve
Early Saxon	420	49.1	5319	58.4	2.15
Late Saxon	3	0.4	19	0.2	0.05
Early medieval	89	10.4	411	4.5	
Medieval	324	37.9	2888	31.7	2.58
Late medieval	2	0.2	15	0.2	
Post-medieval	7	0.8	258	2.8	
Modern	7	0.8	197	2.2	
Unidentified	3	0.4	3	0.0	
Total	855		9110		4.78

Table 1. Summary of pottery quantification.

Methodology

Quantification was carried out using sherd count, weight and estimated vessel equivalent (eve). The minimum number of vessels (MNV) within each context was also recorded, but cross-fitting was not attempted unless particularly distinctive vessels were observed in more than one context. A full quantification by fabric, context and feature is available in archive. All fabric codes were assigned from the author's post-Roman fabric series, which includes East Anglian and East Midlands fabrics, as well as imported wares. Early Saxon fabric groups have been characterised by major inclusions. Form terminology and dating for Early Saxon pottery follows Myres (1977) and Hamerow (1993). Form terminology for medieval and later pottery follows MPRG (1998). Recording uses a system of letters for fabric codes together with number codes for ease of sorting in database format, and the results were input directly onto an MS Access table.

Early and Middle Saxon Wares

Table 2 shows the quantification of handmade Saxon pottery by fabric group. Fifteen basic fabric groups were distinguished on the basis of major inclusions (ESHW was used for sherds too small to be assigned to the major categories). However, it should be noted that, as with all handmade pottery, fabrics were extremely variable even within single vessels and categorisation was often difficult. Background scatters of calcareous material, unburnt flint, grog, white mica and other less common inclusions, such as feldspar and ferrous pieces, were present in many of the fabrics. All Saxon wares were handmade, and colours varied throughout from black through grey, buff and brown to red, often within single vessels.

General fabric descriptions are listed below.

Organic tempered

ESO1: Heavily grass tempered with few other inclusions.

ESO2: Grass tempered but containing a much greater proportion of sand than ESO1.

ESOM: Abundant organic tempering in association with granitic inclusions.

Quartz tempered

ESCQ: Coarse quartz tempering; generally moderate or abundant large grains of sub-rounded quartz in a finer sandy matrix, often poorly sorted.

ESMS: Medium sand tempering with few other inclusions, sand grains generally well-sorted.

ESFS: Fine sand tempering with few other inclusions.

ESSM: Very fine sand and abundant white mica.

ESFQ: Fine abundant 'sparkly' quartz (greensand?).

Calcareous tempered

ESSS: Sparse to moderate fine shell and sand tempering, shell generally leached out.

ESSL: Sparse limestone inclusions in medium sandy matrix.

ESCL: Sparse to moderate coarse limestone fragments.

ESSC: Sparse, rounded chalk in a fine to medium sandy matrix, sometimes leached out.

Granitic tempered

ESCF: 'Charnwood Forest' type, containing granitic tempering (dark mica, feldspar).

ESCM: Mixed calcareous and granitic inclusions, calcareous fragments generally sparse.

Ferrous oxide

ESFE: Medium sandy with abundant rounded ferrous oxide fragments and sparse chalk.

Description	Fabric	Code	No	Wt (g)	eve	MNV
Early Saxon grass-tempered	ESO1	2.01	1	10		1
Early Saxon grass and sand-tempered	ESO2	2.02	3	45		3
Early Saxon grass and granitic	ESOM	2.11	4	44		3
Early Saxon coarse quartz	ESCQ	2.03	165	1410	0.51	27
Early Saxon medium sandy	ESMS	2.22	120	1623	0.63	60
Early Saxon fine sand	ESFS	2.04	32	433	0.12	25
Early Saxon fine sand and mica	ESSM	2.08	1	8		1
Early Saxon fine abundant quartz	ESFQ	2.24	9	75	0.07	3
Early Saxon sparse shelly	ESSS	2.07	2	21		1
Early Saxon sparse limestone	ESSL	2.14	4	198		3
Early Saxon coarse limestone	ESCL	2.13	1	16	0.05	1
Early Saxon sparse chalk	ESSC	2.141	32	764	0.07	17
Early Saxon granitic	ESCF	2.10	28	367	0.55	22
Early Saxon granitic and calcareous	ESCM	2.21	13	222	0.15	7
Early Saxon ferrous oxide	ESFE	2.20	1	82		1
Early Saxon handmade wares	ESHW	2.00	4	1		4
Total Early Saxon			420	5319	2.15	179

Table 2. Early Saxon pottery

Many sites in East Anglia and the East Midlands have produced similar fabric groups, although they occur in different proportions. There is scope for comparison with a number of recently excavated assemblages from Norfolk, Suffolk, Essex and Cambridgeshire, all studied by the author using the same generic fabric groupings. In general, fine, medium and coarse quartz-tempered pottery tend to be the most common fabric groups at sites in the region, although in the later Early Saxon period these appear to have been replaced to some extent by grass-tempered pottery. Organic-tempering is thought to be a late Early Saxon development in Essex (Hamerow 1993, 31) and Suffolk (K. Wade, pers. comm.).

At this site, quartz-tempered fabrics dominated, but there were also fairly high proportions of granitic and calcareous fabrics. All other fabric types produced less than ten sherds each. The estimated vessel equivalent of 2.15 is based on twenty-four measurable rims, but there were a further three rims which could not be measured. Measurements of handmade vessels are always approximate unless a large proportion of the rim is present. For this

reason, the minimum number of vessels (MNV), based on sherd families, was estimated for each context, producing a total MNV of 179 vessels.

Rim and base types were classified following Hamerow (1993, fig. 26). This produced a total of eight vessels with flaring rims, fourteen vessels with vertical ('upright') rims, and five with incurving rims. Eight vessels had flat-rounded bases, seven had rounded or saggy bases, and five were flat-angled. No vessels were complete in profile, but it was sometimes possible to suggest the vessel type on the basis of rim or base form, where enough of the body was present. It was also possible to get an idea of shape from some of the larger body sherds, and carinated vessels were especially identifiable from even small pieces. Eleven vessels were identified as bowls, one as a possible lamp, and fifteen as jars. Those for which more detailed shape descriptions could be applied are shown in Table 3.

Form	MNV
sub-biconical?	1
carinated	1
short rim, sloping/concave neck	2
shouldered	2
offset-shouldered globular	1
round-bellied (globular)	3
hemispherical bowl	2
incurving bowl	2
straight-sided bowl	1
lugged hanging bowl?	1
flaring-sided lamp/small bowl	1

Table 3. Identifiable forms/shapes of Saxon vessels

Some vessels had evidence for surface treatment. Table 4 shows the main types found. Although most may originally have been smoothed, sometimes this surface had worn away through use, and there were many sherds in this group for which it was clear that the surface had never been smoothed. Few decorative elements were identified other than those normally intended as rustication, and no stamps were present. Applied decoration in the form of small solid bosses (or possibly unpierced lugs) and cordons were present in a few cases, and there were some examples of diagonal incised lines or grooves. Whilst many pots showed signs of sooting and/or burnt food residues, there was no evidence that any of the vessels had been used for industrial processes.

Surface treatment	with decoration	MNV
Burnishing	None	10
	Notched cordon	1
Smoothing	None	18
	Incised lines	1
	Bossed	2
Grass wiping	None	2
Roughened	None	1
Schlickung	None	1
None	Finger-pinched rustication	6
	Finger-nail rustication	1
	Fine combed rustication	2
	Incised line rustication?	3

Table 4. Surface treatment and decoration

This assemblage shows elements which place it largely in the first half of the Early Saxon period (5th–6th centuries). Very little organic-tempered pottery is present and there are no 'baggy' vessels typical of the later part of the period; 5th-century characteristics such as *Schlickung* and carinated vessels are present, but no stamped decorative schemes more typical of the 6th century were found. Calcareous-tempered wares, and possibly also granite-tempering, are more characteristic of 6th-century groups, however, so there does appear to be some material of this date. The globular vessels and hemispherical bowls

might also belong to that century. Unfortunately very few of the forms could be defined in detail and this makes any close dating of the assemblage difficult.

Medieval pottery

Table 5 shows the quantities of 11th–14th-century pottery in this assemblage. A small quantity of Late Saxon St Neot’s-type ware was recovered from three contexts, two of them in association with later material. Two bowl rims were present, and the third sherd was a small body fragment. It is likely that these sherds were contemporary with the earliest medieval activity on the site, in the 11th century.

Description	Fabric	Code	No	Wt (g)	eve	MNV
St. Neot’s Ware	STNE	2.70	3	19	0.05	3
Early medieval ware	EMW	3.10	54	210		16
Early medieval ware gritty	EMWG	3.11	13	125		2
Early medieval ware shelly	EMWS	3.14	7	48		1
Early medieval sparse shelly ware	EMWSS	3.19	15	28		1
Medieval coarseware	MCW	3.20	163	1770	1.58	89
Medieval coarseware gritty	MCWG	3.21	10	182	0.27	5
Hedingham coarseware	HCW	3.43	29	394	0.33	17
Hedingham coarseware (fine variant)	HCWF	3.431	39	237	0.15	5
Medieval shelly wares	MSHW	3.50	1	2		1
Unprovenanced glazed	UPG	4.00	1	3		1
Hedingham Ware	HF1	4.23	81	300	0.25	8
Total Late Saxon and medieval			416	3318	2.70	149

Table 5. Late Saxon to medieval pottery (11th–14th c.)

The early medieval period (11th–12th c.) was represented by eighty-nine sherds, representing no more than twenty vessels, in medium and coarse sandy and shelly handmade fabrics typical of the area. The majority were oxidised with reduced cores, although a few finer black examples similar to those more typical of Norfolk were also present. Medieval coarsewares made up the bulk of this group. Many were in soft fabrics similar to pottery produced at Sible Hedingham, although only a few were positively identified as this ware. Forms and fabrics were generally similar to Essex wares, although one jar with a Suffolk-type square-beaded rim was also present. Based on dating for the Essex ware forms (Drury 1993), the majority of these wares were 12th–13th-century types, with none of the later, acutely everted, rims present in the assemblage. Vessels were generally jars or bowls, although one shallow dish or dripping dish was found, and an unusual form was a spouted pitcher in ditch fill (1565). The glazed wares were dominated by Hedingham Ware and the majority of these vessels were jugs.

Later pottery

Very little pottery could be dated later than the 14th century. Table 6 shows the quantities of these later wares. Seven fragments of a later medieval or post-medieval redware pipkin or chamber pot (sooting on the handle suggests the former function) were recovered from ditch fill (1397); this was probably a local product as the rim form was a development of medieval type C1 (Drury 1993). Two sherds of probable late medieval date were found in ditch fill (1401).

Description	Fabric	Code	No	Wt (g)	eve	MNV
Late Essex-type Wares	LMTE	5.60	2	15		1
Post-medieval redwares	PMRW	6.10	7	258		1
Refined white earthenwares	REFW	8.03	6	192		3
Yellow Ware	YELW	8.13	1	5		1
Total late medieval to modern			16	470	0	6

Table 6. Later pottery

Modern wares comprised a small fragment of yellow-glazed refined ware, and two base sherds of whiteware plates or saucers, one with blue transfer printing. A further four sherds in refined whiteware were collected from upper ditch fill (1578); these were part of a transfer-printed toilet bowl of the early cone-shaped form.

Unidentified

Three sherds from (1137) and (1148) were too small for identification. They were in fine sandy fabrics which could be Roman, Early Saxon or medieval in date.

Pottery by context type

Table 7 shows the distribution of pottery by provisional phase and group. Two of the unidentified sherds were from post-hole fill (1137), which forms part of the prehistoric G100. These sherds should be extracted for inclusion in the prehistoric pottery report.

Provisional phase	Group	ESax	LSax	EMed	Med	LMed	PMed	Mod	Un
Prehistoric	100								2
Saxon	101	218			1				1
	102	3							
	103	66							
	ungrouped	132							
Medieval	104	1			4			1	
	105				8				
	106			3	30				
	107			27	59				
	108			1	6				
	ungrouped		3	58	212	2	7		
Post-medieval+					2			6	
Unstratified					2				

Table 7. Pottery quantification (sherd count) by provisional phase and group.

The majority of Early Saxon pottery was recovered from three SFBs in G101, and a fairly large quantity was also collected from nearby pits in G103. Amongst the ungrouped features in this period, 94 sherds were collected from SFB [1223]. Two further possible SFBs [1018] and [1381] produced twelve sherds each. Only one sherd of this date was redeposited in a later feature. Further analysis of the distribution of the Saxon pottery will be required for the final report, in particular with regard to any layering identified within the SFBs, and pits and other features associated with Saxon structures.

In the medieval period, enclosure ditch G104 produced only a small quantity of medieval pottery and one, presumably intrusive, modern sherd. G105 pits inside the enclosure also produced only a small amount of pottery. A slightly larger group was recovered from the fills of ditch G106, but the largest grouped assemblage was from ditch G107 with a further small quantity from ditch G108. From the ungrouped features, the largest pottery assemblages were from ditch [1439] (64 sherds), and from ditch [1571] (36 sherds). Only four other features (ditch [803], pits [1497] and [1591], and ditch [1603]) contained more than fifteen sherds.

Three features of post-medieval date contained six contemporary and two residual sherds.

Statement of potential

The pottery assemblage as a whole is in good condition with little abrasion, and all except two sherds were collected from stratified features. Although no intact vessels are present, there is enough information in the assemblage to add to existing information on the types of

pottery vessels favoured for use in the communities using the site during the 5th-6th centuries and in the medieval period.

One of the Regional Research Aims for the Saxon period (Wade 2000) involves the study of rural artefact assemblages, to feed into settlement studies. This Early Saxon pottery assemblage is one of several large groups to have been recovered from rural settlement sites in recent years, a number of which have been studied by the current author. This makes potential for comparison very high, as there is less chance of inter-observer error in terms of fabric and form descriptions.

In the region as a whole, a number of medium to large Early Saxon pottery assemblages have recently been studied from Suffolk at Bromeswell, Handford Road in Ipswich, West Stow, Eye, Flixton cemetery and settlement, Eriswell cemeteries and settlement, Bloodmoor Hill at Carlton Colville (Anderson 2000a-b; 2005a-d; 2006; 2008; 2009; forthcoming a; Tipper forthcoming) and Lackford (study of fabrics only, Anderson, unpub.). Cambridgeshire sites include Gamlingay and Godmanchester (Anderson 1998; 2000b), and also relatively local is Witham, Essex (Anderson 2003). Sites in Norfolk include Tittleshall and Foulsham (Anderson forthcoming b). Although some of these sites have only reached assessment level, nevertheless basic catalogues of fabrics and forms are available for comparison, which will help to place the site in context with regard to regional pottery studies for the period.

Groups of pottery were recovered from the SFBs, and analysis of these individual groups may provide evidence for patterns of use and disposal, potentially by individual households or within phases. This information will be considered together with pottery from surrounding features to provide a picture of rubbish disposal and pottery use within this part of the settlement.

The medieval assemblage was more scattered and was largely recovered from ditch fills and some pits. Like the Saxon period, however, rural assemblages of any size are relatively rare in the region, and the medieval pottery has potential to add to the growing corpus of this material from the area. It probably represents domestic waste which was redeposited in enclosure and field boundary ditches, and the relatively short date range suggests that it was probably related to a single phase of occupation or activity on or near the site. It has some potential to suggest trade links and movement of goods in this part of Cambridgeshire, as well as giving an indication of the pottery forms and types favoured by the settlement.

Recommendations for Further Work

A full quantification by fabric, context and feature has already been completed, and a catalogue of this data will be prepared for the archive.

Early Saxon and medieval assemblages

The following tasks will be carried out during the analysis stage:

- All recording work for this assemblage has been carried out at the assessment stage.
- Further work is required on spatial and stratigraphic analysis once final phasing and more detailed site information are available.
- Up to thirteen vessels are worthy of illustration (four Saxon, nine medieval). These will require more detailed fabric and form description for the published catalogue.
- Dating of vessels will be refined where possible, based on forms and fabrics.
- Comparisons with other East Anglian sites will be required.
- A more detailed report on fabrics, forms and decoration will be prepared for publication.
- Time estimate, 5 days

Post-medieval material

Spot dates have been provided, and no further work is required on this small assemblage. A brief description will be included in the publication report.

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Appendix 4.5 - Ceramic Building Material by Sue Anderson

Introduction

One hundred and three fragments of CBM weighing 10,186g were collected from twenty-five contexts (Table 3). The CBM was quantified by context, fabric and type, using fragment count and weight in grams. Fabrics were identified on the basis of macroscopic appearance and main inclusions. The thicknesses of bricks were measured, but roof tile thicknesses were only measured when another dimension was available. Roman forms were identified with the aid of Brodribb (1987). The presence of burning, combing, finger marks and other surface treatments was recorded. Roman tile thicknesses were measured and for flanged tegulae, the form of flange was noted and its width and external height were measured. Data was input into an MS Access database, and a full catalogue is available in archive.

Summary description of the assemblage

Table 1 shows the quantification by fabric and form. Seventy-six fragments were identified as Roman tile. Of these, sixteen were from box flue tiles (BOX), eight were flanged *tegulae* (FLT), three were *imbrices* (IMB) and the remainder were of uncertain form (RBT). Thicknesses of the RBT fragments varied between 14–44mm and the group probably included further pieces of box flue and flanged tegula, as well as thicker pieces which would be fragments of wall and floor tiles. None of the very large, thick tiles used to span the *pilae* in hypocaust systems were present here. One tile in pit fill (1073), however, did have a coating of *opus signinum* on the underside; it was only 14mm thick which would be unusually thin for a floor tile in a bath house, so its purpose is uncertain.

Fabric group	code	RBT	BOX	FLT	IMB	EB	RT	LB
estuarine clay fabrics	est					6	1	
fine sandy, few other inclusions	fs	19	2				3	
medium sandy, few other inclusions	ms	14	1	5	2		1	
fs, with sparse rounded calcareous incl.	fsc	4		1				
fs, with soft red clay pellets	fscp	6	10	1	1			
ms, with soft red clay pellets	mscp	2						
fs, with sparse coarse flint	fsf							1
ms, with sparse coarse flint	msf	1		1			1	4
ms, with ferrous inclusions	msfe	1						
ms, with flint and ferrous inclusions	msffe		2				5	
fs, with grog	fsg						1	
fs, with common white mica	fsm	1	1					
ms, with voids (organic?)	msv	1						
white-firing fine sandy	wfs						2	
white-firing medium sandy	wms						1	1
Totals		49	16	8	3	6	15	6

Table 1. CBM by fabric and form.

Seventeen fragments showed signs of abrasion, but several of these were in soft, fine fabrics which tend to be more susceptible to erosion. Twenty-six fragments showed signs of burning, including several of the box flue fragments. Whilst this may be related to use in a hypocaust system, surface reduction may also occur during firing, or may be related to the use of Roman tile in either contemporary or Saxon hearths. One box flue tile in pit fill (1088) had a rubbed edge and worn surface, possibly suggesting re-use as a floor tile. The presence of white lime mortar on two fragments (pit fills 1088 and 1221) may also indicate re-use in a later period.

Six fragments, representing two bricks, were in a fine estuarine silty clay fabric typical of 'early' bricks (EB). This type of brick was produced between the 13th–15th centuries in the east of England. All fragments were from ditch fill (1507), and were found in association

with a small fragment of medieval estuarine clay roof tile (RT), as well as post-medieval fragments.

Fourteen fragments of post-medieval roof tile (RT) were recovered, the majority from ditch fill (1507). Most were in red-firing fabrics, but there were also three fragments of white-firing tiles. Fragments of post-medieval 'late' brick (LB) were also collected from ditch fill (1507) and from subsoil (1001). A fragment of a white-firing air brick (AB, included with LB in Table 1) was found in upper ditch fill (1578).

Distribution

Distribution of the CBM based on ceramic spotdating of the site is shown in Table 2. One Roman tile is from a feature provisionally dated as prehistoric (based on a large quantity of pottery), suggesting that this large, abraded fragment was probably intrusive. Very little Roman tile occurs in features of that period, and it seems that the majority has been redeposited in Saxon or later contexts. This is compatible with the evidence of re-use seen on some fragments. All medieval and post-medieval CBM occurs in contexts which are either post-medieval/modern or unstratified.

Spot date	RBT	BOX	FLT	IMB	EB	RT	LB
Neo/BA?	1						
Roman+	12	4					
ESax	32	7	7	2			
Med	3		1	1			
PMed		4			6	15	5
Modern	1	1					1

Table 2. Distribution of CBM forms by provisional context date (min no of tiles)

Statement of potential

Although this is a relatively small assemblage, it has the potential to provide information on the types of Roman tile in use in the area, as well as evidence for some of the structures which may have stood on or near the site. As much of the Roman tile appears to be related to Saxon activity, it also has some potential to provide information on the recycling of this material in that period. The tile can be compared with other Roman assemblages from both Roman and Saxon sites in East Anglia, a number of which have been excavated in recent years. Later CBM from this site forms a minor part of the assemblage. The range of fabrics and forms is typical of the area and the group is only of value as evidence for dating.

Further work

The assemblage has been recorded in full and no further cataloguing is required. The CBM needs to be put into context with relation to site phasing, spatial distribution and comparison with other regional groups, and a publication report produced.

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Table 3. Quantification of CBM

1088	ms	RBT	1	118	1		37				1	+					Rom
1088	ms	RBT	1	262	1		24				1					poss FLT	Rom
1088	fscp	BOX	1	331	1		17						1		grey underside	worn, rubbed edge, poss reused as FT?	Rom
1088	msffe	BOX	2	108	1		21						1				Rom
1088	ms	RBT	1	180	1		39					1					Rom
1088	fscp	BOX	1	122	1		19						1			hard, bright orange, 'combing' may be scoring, diagonal laticing'	Rom
1088	fsc	RBT	1	21	1							+					Rom
1088	ms	IMB	2	44	1		16					+					Rom
1088	ms	RBT	1	13	1												Rom
1126	msffe	RT	3	234	1											deep red	pmed
1133	fsm	BOX	1	40	1		20				1		1		op sig type	deep combing, 5+ teeth	Rom
1221	ms	FLT	3	152	1		23	30	44	2						cutaway at rear of flange	Rom
1221	ms	FLT	1	112	1		21	25	36	2	1					fully reduced	Rom
1221	fs	RBT	1	89	1		40				1					fully reduced	Rom
1221	ms	RBT	2	141	1		26				2						Rom
1221	ms	RBT	1	181	1		36									hard	Rom
1221	fs	RBT	1	199	1										white on edge		Rom
1222	fs	RBT?	1	6	1							+					Rom
1222	ms	RBT	1	662	1		39								thin grey	reduced	Rom
1302	fs	RBT	6	83	1		24				6					soft, underfired	Rom
1316	fsc	RBT	1	119	1												Rom
1316	msf	RBT	1	8	1											surface flake	Rom
1390	fscp	BOX	2	217	1		15							2		soft, 7 teeth, sim to 1001, diag combing	Rom
1390	fscp	BOX	1	131	1		22					+				v soft, fine, diag combing	Rom
1391	fscp	FLT	1	274	1		23	31	42	2	1	+				soft	Rom
1401	fscp	IMB	1	21	1		11					++					Rom
1412	fscp	RBT	1	457	1		37					+				soft, reduced core	Rom
1422	mscp	RBT	1	192	1		36					+				soft	Rom
1444	fscp	BOX	1	148	1		22					++		1		v soft, diag combing, 4 teeth	Rom
1444	mscp	RBT?	1	18	1							++				v soft	Rom

Appendix 4.6 - Glass by Cecily Cropper

The glass assemblage is small, comprising 2 glass beads and 15 bottle fragments all matching and from the same item, i.e. a total of 3 glass objects in all. The assemblage is interesting in its paucity.

Bottle Glass – Post-medieval (ctx.1096)

The single bottle is a fairly complete green wine-style quart bottle of a type ranging in date from c.1760-1820. The dimensions fit in with bottles throughout that period (Height c.260 mm, overall base D: 95 mm) but the finish places this example towards the latter part c.1790-1820 (Jones & Smith, 1985, Fig.10, 21).

Beads – Early Saxon (ctx.1380)

The beads appear to come from an Early Saxon context, the fill of a possible SFB (ctx.1381) along with a relatively significant amount of Early Saxon pottery.

Both are annular and of a royal blue colour, common within English Anglo-Saxon settlement areas (Guido, 1999, 48), but of a colour and type that is so ubiquitous that close dating is inhibited without associated finds. Anglo-Saxon beads tend to be discussed primarily as grave goods within datable burials (see in particular Brugmann (2004)). Guido does not even provide schedules for monochrome blue beads.

Statement of Potential and Recommendations

Little further work is envisaged, with a short final report. The only question over the assemblage is that of chemical analysis. At present, chemical analysis of the beads is not deemed to be a recommendation unless it fits in with a research aim that questions a Roman/early Saxon continuity in occupation. If this is the case, it would be interesting to find out whether the beads are comprised of recycled Roman glass or if new resources are used and if the results fit in with previously analysed early Saxon glasses, either from the UK, Ireland or the Continent. Further research into non-grave/burial contexts producing beads is recommended, though this may not be straightforward given that there are no schedules provided.

Illustrations: both beads and also a photograph if possible to attain a good representation of translucency and colour.

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Appendix 4.7 – Stone Assessment by Rob Ixer

A total of 123 fragments of stone were recovered from the site. The majority of the fragments recovered were from Niedermendig lava querns, although burnt stones, fossils and unworked stones were also recovered, as shown below:

Context	Quantity	Description
1035	1	Flint fossil echinoid. Too poorly-preserved to identify, but comes from the local Chalk.
1067	8	Burnt stone pieces – siltstone / fine-grained sandstone. Local Mesozoic material, slightly fossiliferous.
1073	3	Burnt stone pieces, unworked.
1073	4	Unworked, well-cemented micaceous sandstone samples
1088	2	Unworked, well-cemented micaceous sandstone rocks. Probably of local origin.
1116	1	Flint fossil echinoid. Too poorly-preserved to identify, but comes from the local chalk.
1179	1	Burnt pebble.
1316	3	Unworked burnt stones.
1439	8	Fragments of Niedermendig tephrite quern.
1507	1	Burnt local calcareous sandstone. This is different from the other sandstone material.
1533	15	Fragments of Niedermendig tephrite quern.
1534	46	Fragments of Niedermendig tephrite quern.
1602	30	Fragments of Niedermendig tephrite quern.
TOTAL: 123		

The Niedermendig tephrite quern fragments come from a number of querns, as shown by variations in the grain size and the degree of vesicularity of the lava. The majority of the indurated (well-cemented) sandstones could be of local or regional origin. Originally they were natural cobbles, but they have been heated and shattered, giving a characteristic rectilinear fracture pattern. The two poorly-preserved flint echinoid tests are Mesozoic in age and probably from the local Chalk. They are similar to *Conulus sp.*

No further work is recommended for this assemblage

Appendix 4.8 - Animal bone by Matilda Holmes

Introduction

Animal bone was recovered from all phases of activity. At this stage of analysis phasing is provisional, so bones from unphased contexts have been included in the assessment. The assemblage is made up of material from the excavation of 2008/ 9 and evaluation of 2001.

Methodology

The bones were catalogued by David Brown of Birmingham Archaeology based on the author's recording system. They were scanned and basic information recorded for bones that could be identified to species or anatomy to give an idea of the size of workable data likely to be retrieved from a full catalogue. Data recorded included species, anatomy, condition (based on a score of one to five, where one is excellent condition and five unrecognisable; after Lyman, 1994), and the presence of gnawing, burning, bone fusion, tooth wear, butchery, pathology and bone working was noted. A previous evaluation report was also made available (John Samuels Archaeological Consultants, 2001).

Summary of material

The bones were in good condition, though fragmentary. A large proportion from the Anglo-Saxon period and were burnt and a smaller number had been butchered. None from other phases exhibited such signs of processing. Gnawed bones were recovered from the early Anglo-Saxon and medieval phases. Sieved samples are available, so there is potential for the presence of small mammals, fish and birds to be recorded that may address the bias that occurs in hand collected assemblages (Payne, 1972).

Basic quantification

Species	Excavation					Evaluation		
	Neolithic / Bronze Age	Early Saxon	Medieval	Post Medieval	U/S	Iron Age	12th century	U/S
Cattle		203	22		15	4	2	49
Sheep / Goat	1	159	4		2	1	4	119
Pig		72	29		11			6
Horse		5	9	455*	37		4	8
Dog		2		118*				
Deer		14						
Rabbit			10	1	1			
Rodent							2	
Chicken		3			1			
Goose		1						
Pheasant		1						
Total Identified	1	460	74	574	67	5	12	182
* includes 1 dog and 3 horse skeletons								

Table 1. Animal Bone quantification

Table 1 shows the species represented in the assemblage. One fragment of bone from the very early prehistoric period, and only five from Iron Age contexts were identified to species. Rather more fragments were recovered from sunken featured buildings, pits and post holes dated to the early Saxon period, 460 bones were identified to the main domesticates (cattle,

sheep / goat, pig, horse, dog, chicken and goose), as well as wild species (deer and ?pheasant). The medieval period was less well reflected in the assemblage: although cattle, sheep /goat, pig and horse were present in ditch, gully and pit features, they were only recovered in small quantities along with a number of rabbit bones, which may be residual. A total of five horse, one dog and a partial cattle skeleton were recovered from post medieval contexts. Of these, two horse skeletons were recovered from the evaluation, but no details were presented in the report.

A comparatively small number of bones are suitable for investigating the mortality profile of the main domesticates; bone fusion and tooth wear data were noted in only 5% and 13% of the assemblage, respectively, and, due to the fragmentary nature of the assemblage, only 5% of bones have potential for the recording of metrical data.

Summary of potential

Due to the small sample size of both the prehistoric and medieval assemblages, there is little potential for detailed analysis of bones from these phases. The larger samples from the early Saxon and post medieval periods are representative enough to be worthy of further analysis (based on Hambleton, 1999). As well as an evaluation of the species exploited during the early Saxon period, the small amount of ageing data can be used to investigate the animal husbandry regime of the inhabitants, given that at this time the vast majority of the population existed on a subsistence level (Fowler, 2002). Measurements of bones can be used to compare the relative sizes of animals from Sawston with those from elsewhere in the region.

The nature of the post medieval material, however, lends itself to a different form of analysis. The burial of largely intact animals with little sign of butchery suggests that they were not eaten, rather it was a convenient form of disposal of working animals. As well as detailing the age and sex of animals, the greater potential that lies within these bones comes from their measurements, which may enable a picture of their morphology, and subsequently their possible use within the economy of the area (eg draught, traction, transport).

Significance of the assemblage

The two main periods worthy of further investigation are those of early Saxon and post medieval date. Both are under-represented in the archaeological record. Very few Saxon sites have been excavated within Cambridgeshire and only one (to my knowledge), from late Saxon Fulbourn, has been published with an animal bone report (Holmes, 2008). Although small, this therefore is an extremely significant assemblage for the region.

The availability of historical records for the post medieval period has led to little weight being given to the material culture, i.e. animal bones in site reports. This collection of complete skeletons can give an insight into the nature of animals used by the inhabitants of the area. It may lead to further understanding of the move from cattle- to horse-based traction, or the importance of horses for transport.

Suggested further work

- Compile a full catalogue of all bones from phased contexts
- Quantification of species from all periods to provide a basic record of the assemblage
- Further investigation of the Saxon material including: the diet, and possibly status, of the inhabitants; and mortality profiles to give an idea of the economy and animal husbandry of the site
- Further investigation of the post medieval assemblage into the type of horses buried, in an attempt to understand their use and place in society. Ideally this will incorporate the two horse burials (contexts 606 and 608) from the evaluation, which may still be in the evaluation archive, as they have not been included with the other material from the evaluation

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Appendix 4.9 – Iron and Copper by Erica Macey Bracken and Penelope Walton Rogers

Four fragments of copper alloy were recovered from the site. The objects were sent for x-ray and conservation at the Wiltshire Conservation Service, and examined macroscopically for the purposes of this assessment. The assemblage included part of a buckle (1067 - which has been reported on below by Penelope Walton Rogers of the Anglo-Saxon Laboratory), a fragment of copper alloy strip (1343), a very small loop (1356) and a stud (1488).

The strip was very thin, at approximately 0.25mm thick, and measured 35mm x 26mm at its widest point. Cleaning of the object revealed a blue-green patina on the surface of the fragment and there are traces of what may be an engraved border of a straight line. This item was very fragile, and numerous cracks in the surface were noted.

The loop of copper alloy (1356) was formed from a strip of flat metal. This loop did not make a complete circle, but left a small gap of less than 0.5mm between each end. The outer diameter of the loop was approximately 4mm and the loop was approximately 0.5mm thick.

The stud (1488) was formed from a convex head and a tapered, straight-sided pin. A number of scratches were noted on the surface, particularly on the head of the stud. These scratches were covered with a patina, suggesting that they are part of the history of the object, and may have been acquired during manufacture or use. The surface is also pocked, and the edges of the pin are uneven. The head of the pin was approximately 9mm in diameter, and the pin itself was 2mm wide. The whole pin was 10mm in length. The items should be analysed further to clarify typology and dating.

Buckle loop

Small find 22 from context 1067 is the loop from a small copper-alloy Anglo-Saxon buckle, without its tongue. It is oval-to-circular, but wider and thicker on one side. Buckles with a swollen tongue-rest are found in Marzinzik's Type I.11 (oval loops) and I.12 (round loops). They are usually made of iron, but they are mainly found in East Anglia and the East Midlands, (Marzinzik 2003, 189-90, 195), and this Cambridgeshire example is probably just a copper-alloy variant of the same. Small oval and round buckles, 20 mm or less across the loop, are most common from the mid 6th century onwards (Marzinzik 2003, 34).

A plied linen cord, approximately 2 mm thick, runs across the band in two places and there appears to be the imprint of a knot on one side. This can be interpreted as a suspension cord. A buckle loop without its tongue, in a cluster of rings of different sizes, in a baby-size grave at Dover Buckland II G377 (Walton Rogers 2007, 217) hints that such objects might be used to entertain children. Metal rings are also thought to have had a use in pagan healing practice (Meaney 1981, 12-13, 170-8). In either case, this will have been the secondary use of the buckle. No further work is recommended.

Catalogue entry

Cast copper-alloy buckle loop. Almost circular, with one side wider and thicker than the other. Cross-section of band is rounded rectangular. Loop 21 x 20 mm; band 4-5.5 mm wide x 3-4 mm thick. A multi-ply cord runs across the band in two places and the imprint of a tangle of threads on the outer face suggests a knot. The cord is S-plyed (2.0 mm thick) from Z-spun (0.8 mm) yarns. The fibre is flax or hemp (identified with a polarising transmitted-light microscope at x400 magnification).

Assessment of Iron

All of the iron assemblage was x-rayed by the Wiltshire Conservation Service, and was examined macroscopically for the purposes of this report.

Twenty-seven iron objects were recovered from the site, including iron nails, horseshoes, a possible tool and several scraps. The four nails recovered (1073, 1088, 1390, 1578) were all hand-made, and were mostly complete. The smallest nail (1073) was 51mm in length, whilst the largest was 140mm long.

Six complete horseshoes were recovered from the excavation at the site, with a further two complete shoes coming from the evaluation of the site. A further five fragments of shoe were also recovered. Five of the complete shoes were associated with the horse burials in contexts 1480 and 1581. The large size of these shoes, which measure between 140mm and 180mm from toe to heel, suggests that the horses buried in these contexts are relatively large horses, possibly farm horses which were buried at the end of their working lives. This supports the view of Holmes (see Animal Bone Assessment, this volume) that the burial of largely intact animals with little sign of butchery suggests that they were not eaten, rather it was a convenient form of disposal of working animals.

The sixth complete horseshoe (1507) was of a markedly different shape to the rest of the complete shoes. This shoe was much thicker, and had a keyhole shape in the centre, whereas the other shoes were all U-shaped in the same way as modern heavy horse shoes.

Other identifiable iron items recovered from the site included a probable tool (1481), possibly a chisel, with one wide spatulate end. This item was 136mm in length and 29mm wide at the spatulate end. A short section of iron tube, or possibly a collar to join two pipes, was also noted (1397). This item was 75mm in diameter and 52mm in length.

Other unidentifiable scraps of iron were recovered from contexts 1053, 1088, 1264, 1444, 1481, 1498, 1513 x 2. No function or purpose could be attached to these objects at this stage.

Potential for further work.

The iron should be catalogued and scanned by a specialist to determine any form or function for the unidentifiable items. It may also be possible to definitely identify the tool from context 1481. The differently-shaped shoe from context 1507 may also be datable as being slightly earlier than the other shoes.

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Appendix 4.10 - Coin Assessment by Roger White

Obv: DNVALENTINIANVSIVN[PFAVG] Bust diad. dr. r.

Rev: VICTORIAAVGGG [mint mark lost] Victoria, adv. I holding wreath in outstretched hand and palm branch

RIC9 43 *vel sim.* The legend has been clipped so that the diameter is now 15mm and the weight is 0.5g

One coin was recovered from the site. This is a silver *siliqua* of Valentiian II, minted between 375-8 AD. Without the mint mark it is not possible to say where it was minted. The coin conforms to Guest's CF2 assessment of clipping, although Guest's caveat in assessing this is noted (2005, 111). Guest's analysis of the large number of clipped *siliquae* in the Hoxne, Suffolk hoard (located 50km east of Sawston) enabled him to reach a number of conclusions about the phenomenon (*bid*, 113-5). First, the clipping was carried out carefully to preserve shape, the Emperor's image and some of the legend. This meant that the coin was still useable. Second, analysis of the many imitation *siliquae* in the Hoxne hoard showed clearly that they had an identical composition to regular *siliquae* and thus must have been made from the coin clippings. Importantly, the Hoxne hoard showed that these imitation *siliquae* were also clipped meaning that both the regular and irregular silver coinages were clipped at the same time. Coins were no longer imported to Britain after ca. AD 409 and thus the clipping (and imitation) of *siliquae* must have started at around this time and continued for some period after this date. Recent analysis of metal detected late Roman coins by Sam Moorhead of the British Museum demonstrates that these coins could have been circulating at late as the mid-5th century within a tri-metallic coinage (S. Moorhead, pers. comm. ARA villas conference July 2009).

The implications of this for the Sawston find are that, rather than a *terminus post quem* of AD375 which this coin would normally have, the pit fill which contained this coin must date to sometime after the first decade of the 5th century. It should be noted too that stratified site finds of clipped *siliquae*, as compared to hoard finds and metal-detected finds, are rare. The occurrence of a clipped *siliquae* on a rural site of this type is most unusual and suggests occupation here well into the fifth century.

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Appendix 4.11 – Clay Pipe by Erica Macey Bracken

Three fragments of clay pipe were recovered from the site. All of the fragments recovered were stems. One fragment was recovered from a 19th century drain fill (1126), one was from the fill of a small gully (1401), and the third was from the fill (1444) of a wide ditch that cut several earlier features. No marks or stamps were noted on any of the stems.

Recommendations for further work

No further work is recommended for this assemblage

Appendix 4.12 - Worked Bone by Erica Macey Bracken

Nine fragments of worked bone were recovered from the site, as can be seen in Table 1 below:

Context	Phase	Small Find Number	Description
1073	5	7	3 joining fragments of bone comb
	5	8	Bone needle
	5	9	Flat piece of bone with semicircular cutout
	5	-	Long piece of bone with shaped edge
1088	5	5	2 joining fragments of polished thin bone, possibly part of a needle or stylus
	5	10	Spindle whorl

Table 1. Worked bone quantification

The most immediately identifiable items were three joining fragments of a bone comb (1073) and a spindle whorl (1088). The three comb fragments, when joined, made up a section of comb 27mm wide. An iron rivet was attached to one of the fragments, and the fragment had split directly in line with this rivet. The spindle whorl (1088) was complete, and measured 38mm in diameter. A circular hole, 9mm in diameter, had been drilled through the middle of the spindle whorl.

A bone needle was also recovered (1073). The item was incomplete, and measured 63mm from the head to the broken point. The item had a triangular head, with a circular eye of 5mm diameter through the centre. The surface of the bone appeared to have been polished at some point, although most of the polished surface had been worn away, possibly due to wear and tear whilst the item was in use.

Two joining fragments of a possible pin or stylus were also recovered (1088). These fragments together measured 37mm from head to broken point. As with the needle, the surfaces of the item were polished, with the polish being much less worn than that seen on the needle.

A small flat piece of bone (1073), of 23mm length and 15mm width had a roughly semicircular shape cut out of it. The cut out was 6mm in diameter at its widest point.

A degraded piece of bone, 130mm in length, had been shaped on one side. This item may be working waste, or have broken during working and discarded.

Significance of the assemblage and suggested further Work

All the items of worked bone were recovered from Phase 5 features (Early Saxon) and further detailed typological assessment may allow tighter chronological dating based on a stylistic criteria.

Appendix 4.13 - Palaeoenvironmental Assessment by E. J. Hopla, V. Fryer, E. Reilly and B. R. Gearey

1. Introduction

Sixty two bulk samples for the assessment of charred plant macrofossils and other associated remains including molluscs, which were abundant in many of these samples, were taken from the excavations at Sawston. In addition, palaeoenvironmental assessments of waterlogged sediment focused on three trenches excavated through features identified as peat filled palaeochannels representing an abandoned course of the River Cam on the west side of the site.

Test Pit A was excavated through feature 1339 located at the southern boundary of the site. Test Pit B was cut through the organic deposits in a large palaeochannel (1584) in the northwestern part of the site, west of some of the excavated medieval features. Three bulk samples for coleoptera (beetle) and plant macrofossil assessments were submitted for assessment: 0.0-0.25m (top sample), 0.25-0.41m (middle sample) and 0.41-0.61m (bottom sample). Samples were also collected using monolith tins from which four sub-samples (0m, 0.24m, 0.40m and 0.64m) were taken for pollen assessment. Radiocarbon dating of this feature produced two dates: 3390±40 BP at 0.38m (1690-1500 cal. BC; Beta-260585) and 3570±40 BP (Beta-260586; 1920-1730/1720-1690 cal. BC) at 0.58-0.63m, suggesting that the lower part of the channel infilled relatively rapidly during the Bronze Age. It is unclear if the upper sample is contemporary with the medieval archaeology nearby.

Test Pit C was excavated through a further area of well humified peat deposits and organic remains (1585) and samples were taken and retained for further analysis. The environmental assessment of deposits from this feature has been completed at evaluation stage of this project.

Test Pit D was excavated through an east-west 'channel' feature (1299-1302) in the southwestern part of the site and was adjacent to both Anglo-Saxon and later medieval features. Four bulk samples for coleoptera (beetle) and plant macrofossil assessments were recovered: 0.5-0.7m, 0.7-0.9m, 1.0-1.2m and 1.2-1.4m (bottom sample). Samples were also collected using monolith tins from which four sub-samples (0.24m, 0.40m, 0.62m and 0.96m) were taken for pollen assessment.

Radiocarbon dating of this feature also produced two dates: 3400±40 BP (Beta-260583; 1750-1590/1590-1530 cal. BC at 0.38m and 4480±40 BP (Beta-260584; 3320-3220/3180-3160/3120-2920 cal. BC at 0.91m, suggesting that this feature infilled during the Neolithic-Bronze Age. The environmental evidence from samples, therefore, is at least partly contemporary with the earlier Bronze Age/Neolithic archaeology on site but not with the archaeology in close proximity to the feature, which is mainly Saxon and medieval.

2. Methods

Charred plant and mollusc remains

The samples were bulk floated and the flots were collected in a 300 micron mesh sieve; the flots were then dried and scanned under a binocular microscope at magnifications up to x 16. The plant macrofossils, mollusc and other remains recorded are listed in Tables 1 – 7. Nomenclature follows Stace (1997) for the plant macrofossils and Kerney and Cameron (1979) and Macan (1977) for the molluscs. With the exception of occasional de-watered seeds/fruits, all plant remains were preserved by charring. Modern contaminants including fibrous roots, seeds and arthropod remains were present throughout.

Coleoptera and Plant Macrofossils

Seven bulk samples were processed using methods described by Kenward *et al.* (1980). This involved paraffin flotation in order to extract any insect remains with plant remains then being extracted by means of a 'washover' to concentrate the lighter, organic fraction. Preliminary insect identifications were carried out using low-powered microscopy and a variety of published keys and BugsCEP (species with '?' before the genus or species name require confirmation) (Buckland and Buckland 2006). The assemblages were counted semi-quantitatively using the DAFOR system (see Table 8).

The components of the fraction were recorded whilst wet and the flots were examined for plant remains under a low-power binocular microscope at magnifications between x12 and x40. A four point semi quantitative scale was used, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database. For technical reasons the convention 'sp(p)' to denote that more than one species was or may have been present, is used throughout, even where only one specimen of the taxon was recorded (and thus only one species could have been present). For plant remains, 'cf.' is used to indicate a 'best guess' as to the identity of fossil specimens (Tables 9 and 10).

Pollen assessments

A total of 8 subsamples (Table 11) were prepared for pollen assessment using standard techniques including potassium hydroxide (KOH) digestion, hydrofluoric acid (HF) treatment and acetylation (Moore *et al.*, 1991). At least 125 total land pollen grains (TLP) excluding aquatics and spores were counted for each sample. However, pollen concentrations were very low in six of the samples (Dec 08: 0.24, 0.40 and 0.62m; TPB: 0.24 and 0.40m) and pollen was absent from samples from 1.20m and 1.36m depths, for which full counts were not possible. The results of the assessments are given in Table 11.

3. Results and Discussion

3.1 Charred plant macrofossils and molluscs

Plant macrofossils

Charred cereal grains/chaff and seeds of common segetal weeds were recorded, mostly at a low to moderate density, within forty seven of the samples. Preservation was moderately good, although some grains were puffed and distorted, probably as a result of combustion at very high temperatures. De-watered seeds, mostly of ruderal weeds and shrub species, were noted within seven of the medieval/Post-medieval ditch fills and a further three assemblages. Most were well preserved, although some were distorted as a result of the compaction of the deposits.

Oat (*Avena* sp.), barley (*Hordeum* sp.), wheat (*Triticum* sp.) and rye (*Secale cereale*) grains were recorded, with barley and wheat occurring most frequently. A single asymmetrical lateral grain of six-row barley (*H. vulgare*) was noted within the assemblage from sample 76 (Early Saxon post hole [1252]) and a germinated barley grain with attached sprout was present within sample 75 (Early Saxon post hole [1250]). Although chaff occurred very infrequently, bread wheat (*T. aestivum/compactum*) type rachis nodes were recorded within the two assemblages from samples 47 and 176 (Early Saxon pit [1170] and medieval ditch [1603] respectively) and a single spelt wheat glume base was recovered from sample 24 (prehistoric ditch [1082]). A further indeterminate wheat glume base was present within sample 43 (Saxon post hole [1149]), although this may have been residual within the context. A cotyledon fragment, possibly from a large pulse (Fabaceae), was noted in Early Saxon pit [1246] (sample 73).

Charred weed seeds were exceptionally rare occurring, mostly as single specimens, within only twelve of the assemblages studied. Most were of common segetal weeds including

stinking mayweed (*Anthemis cotula*), orache (*Atriplex* sp.), fat hen (*Chenopodium album*), small legumes (Fabaceae), grasses (Poaceae) and dock (*Rumex* sp.), although a single possible flax (*Linum usitatissimum*) seed was noted within sample 28 from medieval ditch [1098]. De-watered seeds of ruderal weeds including thistle (*Cirsium* sp.) and stinging nettle (*Urtica dioica*) were also recorded along with seeds/fruits of a small number of wetland/aquatic plants including water plantain (*Alisma plantago-aquatic*), sedge (*Carex* sp.), hemp agrimony (*Eupatorium cannabinum*) and water crowfoot (*Ranunculus* subg. *Batrachium*). De-watered elderberry (*Sambucus nigra*) 'pips' were relatively common within a number of the medieval ditch deposits and occasional fragments of charred hazel (*Corylus avellana*) nutshell were also recorded.

Charcoal/charred wood fragments were present throughout, although rarely at a very high density. Other plant macrofossils occurred infrequently, but did include pieces of charred and de-watered root/stem, buds and culm nodes. Stonewort (Characeae) oogonia were present within one pit fill and two ditch deposits.

Molluscs

Although specific sieving for molluscan remains was not undertaken, shells were present at a moderate to high density within all sixty two samples. However, a number of specimens, including the large number of *Helix* sp. shells hand collected from ditch fill [1096], retained excellent surface structuring and colouration and it is possible these represent intrusive material. It is probably significant that shells of the burrowing species *Cecilioides acicula* were abundant, probably indicating that most of the excavated deposits had suffered some degree of post-depositional disturbance. All four of Evans (1972) ecological groups of land molluscs were represented, with open country species being predominant in most instances. Shells of freshwater obligate species were also recorded, most particularly within the medieval ditch fills, and a single possible shell of the brackish water species *Phytia myosotis* was noted within sample 155 from medieval ditch [1500].

Other remains

Fragments of black porous and tarry material were present in many samples, and although some pieces were probable residues of the combustion of organic remains (including cereal grains) at very high temperatures, other pieces were brittle with a dense, even texture and closely resembled modern coke or coal derivatives. Minute coal fragments were also present within most assemblages. Fragments of bone and small mammal or amphibian bones were also recorded, although some of the latter appeared to be very fresh and were almost certainly intrusive within the contexts from which the samples were taken.

3.2 Discussion - charred plant remains and molluscs

For the purposes of this discussion, the samples have been grouped by date, feature type and, where possible, group number.

The prehistoric contexts (Table 1)

At the eastern side of the excavation, a possible area of prehistoric settlement was defined by a series of post-holes and small post-pits (Group 100). Of the seven samples taken from this group, three contain cereals, seeds and nutshell fragments. However, the density of material recovered is only consistent with small quantities of scattered or wind-blown detritus, much of which was probably accidentally incorporated within the feature fills along with the charcoal/charred wood. Shells of open country molluscs are common throughout, with specimens of *Pupilla muscorum* and *Vallonia costata* predominant, both of which are common in areas of short-turfed grassland.

The three contemporary ditch assemblages and the sample from layer [1066] (sample 32) are similarly composed, although in these instances charcoal is generally very scarce. The

mollusc assemblages appear to indicate that the ditches were dry with grassy sides and bases.

The Early Saxon pit fills (Table 2)

Four assemblages are from pit fills of Early Saxon date (Groups 101 and 103). All are small and relatively sparse, containing only occasional cereal grains and charcoal/charred wood fragments, and it would appear very unlikely that any are the result of the deliberate deposition of material within the pit fills. As with the prehistoric deposits, the mollusc assemblages are again indicative of predominantly dry, short-turfed grassland conditions. Fragments of black porous material are common within samples 103 (pit [1385]) and 104 (pit [1304]), but as both assemblages also contain moderate densities of coal, it is assumed that much of this material is intrusive within the pit fills.

The Early Saxon sunken-featured buildings (Table 3)

Five possible sub-rectangular sunken-featured buildings were recorded within the south eastern sector of the excavated area (Group 101). Samples were taken from the main pits and post-holes within buildings [1074], [1132], [1170] and [1223]. The assemblages from structures [1074] and [1170] are very sparse, and as materials commonly identified as components of domestic refuse are so rare, it could be tentatively suggested that these structures may have served as stores or workshops.

Although still quite scarce, cereals and weed seeds do occur within the structure [1132] features. Three of the four assemblages also contain bone fragments and it would, therefore, appear more likely that this structure served as a domestic dwelling, with the recovered material being derived from detritus which fell through the floor into the underlying pit and structural features. It is possibly of note that sample 39 contains charred sedge fruits and sample 76 contains shells of *Succinea* sp., a mollusc commonly found on marginal wetland plants. Both could be indicative of materials used within the building as litter or thatch.

With the exception of charcoal/charred wood fragments, plant remains are again scarce within the structure [1223] features. However, all four assemblages contain shells of woodland/shade loving molluscs, possibly indicating that the building had lain derelict for some considerable period.

The other Early Saxon features (Table 4)

Three assemblages are from other features of Early Saxon date. Although all are sparse, sample 3 (pit [1018]) does contain a moderate density of cereal grains and may be indicative of a small deposit of hearth waste or similar domestic refuse. The remaining assemblages contain an insufficient density of material for accurate interpretation.

The medieval features (Tables 5 and 6)

During the medieval period, the northern and western areas of the site appear to have been partitioned by the construction of enclosure and field drainage ditches, many of the latter apparently emptying towards the area of a large paleochannel. Sixteen assemblages are from features of probable medieval (eleventh to fourteenth century) date. Although plant macrofossils are generally extremely scarce, possibly suggesting that these features were well removed from any main centre of occupation or industrial/agricultural activity, sample 176 (ditch [1603]) may contain a small deposit of cereal processing waste, comprising a number of severely puffed and distorted grains, a moderate density of bread wheat type rachis nodes and a limited range of segetal weed seeds. The few de-watered seeds noted within the medieval assemblages are mostly of ruderal weeds and/or woody shrubs, possibly indicating that parts of the site were poorly maintained and at least partially overgrown.

Although the mollusc assemblages are still largely dominated by shells of open country species, a range of shade loving, marsh and freshwater obligate taxa are also now present, most notably within the ditch deposits, and it would appear most likely that many of the ditches were muddy and at least seasonally waterfilled.

Post-medieval ditch [1539] (Table 6)

The single assemblage from ditch [1539] closely parallels the material from the medieval ditch fills, containing a large number of mollusc shells indicative of a wet, partially shaded ditch situated within an open grassland landscape.

Undated contexts (Table 7)

Of the eight samples which are currently undated, three (samples 55 (pit [1200]), 82 (layer [1278] and 146 (layer [1510])) are broadly similar in composition to the Early Saxon assemblages and two (samples 147 (ditch [1506]) and 148 (ditch [1535])) have close parallels within the medieval ditch assemblages. However, using such criteria to date assemblages from a site, which has obviously suffered considerable subsequent disturbance, is not recommended.

3.3 Coleoptera

The lower two samples in Test Pit D (cut through the south-western palaeochannel) produced small poorly preserved assemblages of somewhat limited interpretative value. However, the upper two samples, produced larger assemblages though the preservation quality was still low. These assemblages contained large numbers of undiagnostic body parts of large Scarabaeidae (dung beetles/chafers) and Carabidae (ground beetles) as well as diagnostic elements that were difficult to identify because of the level of fragmentation. Nevertheless, the interpretative value of these assemblages was somewhat better.

The north-western palaeochannel (1584), through which Test Pit B was excavated, was much more productive. All three samples here produced extremely rich, species-diverse assemblages. Preservation was excellent, with all body segments well represented, allowing for preliminary identification of most fragments in the absence of a comparative collection and even full identification of some species (see Table 1). Preservation and density of insect remains was extremely poor from Test Pit C resulting in an assemblage of no interpretable value.

Test Pit D

Sample 1.0-1.2 and 1.2-1.4m

The poor preservation quality of the insects in the two lower samples of the southwestern palaeochannel (1299-1301) means that no clear picture emerges about the environment of the channel at this time. The lowermost sample (1.2-1.4m) contained a mixture of water beetles and ground herb feeders, although few species were represented by more than one or two individuals. The sample at 1.0-1.2m was dominated by species indicating damp, decaying vegetation and possibly stagnant water. It also contained a single example of *Ernoporicus ?caucasicus* (identification to be confirmed). This is an extremely rare wood-dependent beetle, which feeds exclusively on lime (Alexander 2002) and its presence suggests the presence of this tree in the vicinity of the sampling site.

Sample 0.7-0.9m

The sample above this at 0.7-0.9m, which is probably contemporary with archaeological activity on the site in the Neolithic and Bronze Ages, is richer in terms of remains but the sclerites are extremely fragmented and 'washed out'. The majority of species present indicate wet decaying vegetation, wetland plants and stagnant water (see Table 8). There is no hint from this or any of the other assemblages that there was flowing water in this channel at any time.

Sample 0.5-0.7m

The uppermost sample examined (0.5-0.7m) which also presumably accumulated during the late Neolithic and Bronze Age, is again dominated by decaying vegetation indicators, dung feeders and to a much lesser extent, stagnant water indicators. None of the assemblages clearly indicate that the channel was at any time filled with water. Rather the picture is perhaps more akin to a seasonally wet but otherwise muddy channel, filling gradually with

accumulated plant matter and dung. This might explain the poor condition of the insect sclerites.

Test Pit B

The northwestern channel (1584) is somewhat different to that of DEC08 described above. The rich, species-diverse nature of all three faunas suggests an ecologically diverse environment with perhaps a standing body of water most of the time, fringed with a wetland plant community and distinct 'dryland' elements accumulating from the surrounding environment.

Sample 0.41-0.61m

The lowest sample of the three, 0.41-0.61m, which is the smallest of the three assemblages, is dominated by wetland plant feeding beetles (see Chrysomelidae and Curculionidae in Table 8), as well as a diverse range of water beetles. There are also a significant number of decaying vegetation/dung/carrion species, which may be due to plant material/animal waste accumulating naturally but may also be as a result of deliberate dumping of animal/human-derived rubbish. Other elements of the fauna suggest a scrubby or woodland edge environment, including species that live in dead wood or under bark, while others are generally indicative of drier heath or grassland environments. For example, the beetle *?Hoplia philantus* (identification to be confirmed) is generally found on flowering shrubs and plants (its larvae at the roots of grasses) in river floodplains, heaths and sandy areas (Jessop 1986). It is also quite scarce these days in the UK, although can be locally common in eastern England. This diverse ecological picture may be due to local flooding or run-off from higher ground ending up in the channel.

Sample 0.25-0.41m

The middle samples, 0.25-0.41m, which is still contemporary with the Bronze Age activity on site, is even more interesting. It contains almost all of the same elements as above but also a significant group of wood-dependent species and a curious 'synanthropic' element (i.e. species partly or wholly dependent on humans for their survival/distribution). The former group includes bark beetles such as *?Hylesinus crenatus*, *?Lepersinus fraxinii*, dead wood feeders like *Dorcatoma* spp., the 'woodworm beetle' *Anobium punctatum*, and possible canopy feeders like *Phyllobius*, *Anthonomus* and *Curculio* spp.

In many circumstances, an assemblage like this would suggest a natural woodland setting or a log-jam of wood that had washed into the channel from somewhere else (Reilly 2008; Smith and Whitehouse 2005). It is notable, for example, that the only flowing water species found in any of the samples from Sawston occur at this level. However, this group of species may also indicate wood-working on site (i.e. cut timber, which still contained canopy elements, being 'dressed' on site and the discarded material perhaps ending up in the channel).

The 'synanthropic' element of the fauna is small but contains species that from later (especially medieval) periods that are very strongly associated with human habitation (Kenward and Allison 1994). These include species *Anobium punctatum*, *Mycetaea hirta*, *Ptinus* spp. and a few others. However, all of these species had natural origins and it cannot be stated with certainty whether they have been incorporated into this deposit as a result of natural accumulation or dumped occupation debris.

Sample 0-0.25m

The top sample, 0.0-0.25m, which may be contemporary with some of the later activity on site, is similar in general terms to the other two samples. The woodland element is slightly smaller but one example of *?Scolytus scolytus*, the elm bark beetle, was recorded. The woodland margin/dryland element is quite strong in this assemblage with species like *Sitona ?striatellus* (gorse) and *Hypera ?nigirostris* (clover) occurring in numbers (Bullock 1993). The 'synanthropic' element is also present with a similar range of species to the previous sample and in addition, *Typhaea stercorea*, *Lathridius* (group) spp. and a possible example of

?*Orzyaephilus suranamesis*. The latter is a worldwide pest of stored grain, rice and flour and was probably introduced into Britain during the Roman period (Girling 1989; Halstead 1993). It is rarely found in nature today and, if the identification is confirmed, is almost certainly present due to human activity nearby.

Interpretation: the peat forming environment

As discussed above, the insects in the south-western channel deposits suggest that it was only intermittently wet, perhaps seasonally, rather than a permanent body of standing water. The types of species present as well as the condition of the sclerites both imply this. The north-western channel, on the other hand, would appear to have been wet on a more permanent basis with a rich community of living wetland plants. The only indicators of flowing water are two examples of *Esolus ?parallelepipedus* and *?Elmis anaea* in the middle deposit (0.25-0.41m). These beetles live under stones in fast-flowing streams and may have ended up in the channel as a result of an extreme flooding event (Holland 1972). As noted above, this may also be the source of some of the wood-dependent elements in the fauna at this time.

Evidence for human activity

There are elements of the fauna in the northwestern channel that may have arrived in the deposits as a result of human activity elsewhere on site, as discussed above. Some of the wood-dependent species may be the result of wood-working. The presence of a large number and variety of animal dung species is possibly due to grazing domesticated animals. However, many of the 'synanthropic' species discussed above have their origins in nature and may have been occurring naturally in bird's nests and forest litter in the local environment. The timing of their subsequent synanthropy is much speculated upon (Kenward and Allison 1994). It is unclear if this is related to the first erection of semi-permanent dwellings or is more a factor of the longevity of human dwelling-places and the sophistication of their construction. A more detailed analysis of the assemblages may be able to assess the significance of the presence of these species within the assemblage as a whole.

3.4 Waterlogged plant remains

The samples yielded quite a large assemblage of plant remains and it is probable that the deposits were formed *in situ* rather than representing re-deposited or reworked material. The samples from both sequences were dominated by herbaceous detritus (Table 9), which was generally poorly preserved, although it was possible to identify buds, bud-scales, decaying moss stem fragments and leaves within this detritus. Some small (up to 2cm) wood fragments were also recorded in the samples, but these were too small and poorly preserved to be identified to species. Snails were present in the samples from Test Pit B in small numbers.

Test Pit D

Sample 0.50-0.70m

The sample disaggregated easily, to give a small washover. The sample consisted of fine organic debris, with a few small fragments of wood. Preservation of the organic material was relatively poor. The sample was dominated by poorly preserved insect fragments and herbaceous detritus. Those plant macrofossils recovered belonged to taxa with robust seed casings, such as *Sambucus* (elder) and *Potentilla* (tormentil) which will survive well in waterlogged deposits. The remains of *Carex* (sedges) and *Eleocharis palustris* (spike rush) more delicate specimens were badly preserved (Table 10).

Sample 0.70-0.90m

The sample disaggregated easily to give a reasonable sized washover. The sample consisted of fine organic debris and was dominated by herbaceous detritus and poorly preserved insect fragments. There were also a few small fragments of wood. Preservation of the organic material was very poor, although there were numerous whole, and fragmentary plant macrofossils, these were too very decayed and lacking in morphological characteristics for

reliable identification. Those seeds which could be identified are again taxa with robust seed casing such as *Potentilla*, *Rubus* (blackberry) and *Betula* (birch) (Table 10).

Sample 1.00-1.20m

The sample disaggregated easily to give a reasonable sized washover. The sample consisted of fine organic debris and was dominated by herbaceous detritus, with a large amount of poorly preserved insect fragments. Preservation of the organic material was very poor. Only several seeds of *Sambucus* were recorded, mostly fragments, which probably only survived due to their robust seed casings.

Sample 1.20-1.40m

The sample disaggregated easily to give a smallish washover. The sample consisted of fine organic debris. The washover consisted mainly of poorly preserved insect fragments, with some herbaceous detritus. The preservation of the organic material was poor, with only single seeds of *Potentilla* and cf. *Ranunculus* (buttercup) both of which were very badly preserved and lacking in most morphological characteristics, and were only identifiable from their general shape.

Test Pit B

Sample 0-0.25m

The sample disaggregated easily to give a reasonable sized washover. The sample consisted of fine organic debris, with small fragments of wood and molluscs (Table 9). The preservation of the organic material was very good. Moss fragments were well preserved and would be identifiable through full analyses. Numerous bud scales were present in the sample, the majority of which were very well preserved. More delicate remains such as *Urtica* (nettle) and *Scleranthus annuus* (annual knawel) were recorded suggesting good preservation within the sample (Table 10). A range of other seeds were also recovered, and all retained morphological characteristics that would permit full analyses.

Sample 0.20-0.41m

The sample disaggregated easily to produce a large washover. The sample consisted of fine organic debris, dominated by herbaceous detritus and insect fragments. Snails were present within the samples. The preservation of the organic material was very good. Moss fragments and bud scales were both recorded, and were very well preserved. Further identification of both may well be possible with the use of a higher powered microscope. The plant macrofossils were very well preserved, with very delicate taxa such as *Solanum* (nightshade) recorded. Numerous plant remains with distinguishing morphological characteristics were present that would be identifiable through full analyses.

Sample 0.41-0.61m

The sample disaggregated easily to produce a large washover. The sample consisted of fine organic debris, dominated by herbaceous detritus and insect fragments. Snails were present within the samples. The preservation of the organic material was very good with well preserved moss fragments and bud scales recorded, full identification of which would be possible through full analyses. Delicate taxa such as *Lemna* (duckweed) and *Urtica* were present indicating a good state of preservation overall.

Conclusion

Preservation of waterlogged macrofossil remains was relatively poor in the samples from Test Pits A and C. Test Pit B macrofossil samples were well preserved and informative. True aquatics were recorded in some of the samples (for example *Lycopus europaeus* (gypsywort), *Eleocharis palustris*, (spike rush), *Lemna* sp. (duckweed) and *Periscaria hydropiper* (water-pepper) indicating that the samples may have formed in or close by to open water. There were several terrestrial herbaceous taxa, including possible indicators of disturbed, open grounds (for example, *Ranunculus* and *Urtica*) towards the top of the sequence as well as a strong indication of scrub/woodland (for example, *Betula*, *Corylus* and *Sambucus*) close to

the sampling site. The picture of a disturbed woodland edge habitat, especially towards the top of the sequence, is in agreement with the insect assessments (see above), with both proxies suggesting the impact of human communities on the local environment.

3.5 Pollen Assessments

The results of the pollen assessments are given in Table 11. Pollen was poorly preserved and/or recorded in very low concentrations.

Test Pit D

The basal sample (0.96m) is dominated by *Pinus sylvestris* (Scots pine) (82%) with *Corylus avellana*-type (hazel/sweetgale) (10%) the next most abundant. The top sample (0.24m) is characterised by Cyperaceae (64%) and Poaceae (grasses) (21%).

Test Pit B Sequence 2

The basal sample (0.64m) is dominated by *Pinus sylvestris* (89%) with Cyperaceae (sedge) (5%) the next most abundant. The top sample (0m) contained Cyperaceae (71%), Poaceae (14%) and Lactuceae (dandelions) (9%).

Test Pit C

The most reliable data was obtained from the middle section of the sequence. The top and bottom produced low concentrations and poor preservation of pollen and an assessment count was not obtained for samples 0.00m, 0.16m, 0.96m, 1.28m and 1.43m depths. Samples 1.12m, 0.80m and 0.62m are dominated by *Pinus sylvestris* (scots pine) up to 99%. The two upper samples which produced reliable counts (0.32m and 0.48m) were dominated by *Corylus avellana*-type (most probably hazel) (between 30% and 59%) with *Pinus sylvestris*, *Betula* (birch) and *Tilia* (lime) the next most abundant.

It appears that the pollen data from Test Pits B, C and D indicate a transition from Scots pine dominated woodland during the initial stages of peat formation to open sedge and grassland by the end of peat accumulation.

4. Comparison with previous evaluation

Palaeochannel dates

Previous assessment of the deposits at Sawston (John Samuels 2001) included radiocarbon dating of top and base of the palaeochannel deposits. A radiocarbon date of 9690 ± 100 BP (Beta-157529, 9290-8770 cal. BC) was obtained from the base (2.25-2.35m) of the peat deposits in Trench 8. Two other dates are also available from the base of peat deposits (Trench 6, 2.3-2.4m, 9590 ± 50 BP (Beta-157532, 9160-8730 cal. BC)) and two inconsistent determinations from the top of the peat deposits (Trench 6, 1.-1.10m, 2130 ± 40 BP, Beta-157531, 350-300 and 220-50 cal. BC; 1290 ± 40 BP, (duplicate), AD 660-790 cal. BC). These data suggest that the palaeochannel started to infill during the Mesolithic. The difference in the radiocarbon dates can be attributed to the fact that the evaluation radiocarbon dates were from deeper deposits compared to Test Pit D (basal date 0.63m) and TP B (basal date 0.91m). The sequence of samples recovered from Test Pit C (equivalent to evaluation Trench 8) is therefore probably a longer and perhaps more complete record of Holocene environmental change at Sawston. The variation in dates for the top of the organic deposits perhaps indicates both the variable truncation of the sequences and also something of a lack of sediment homogeneity. This latter factor may be related to evidence in the insect samples for human disturbance to the deposits.

5. Conclusions and Recommendations

Although charred plant remains and mollusc shells were present within all of the flot samples studied, there would appear to have been disturbance and macrofossil intrusivity, leading to doubts about the contemporaneity of some of the material. As discussed above, a high density of the mollusc shells, particularly those of the open country and catholic species, were exceptionally well preserved, displaying little or none of the abrasion and fragmentation noted within, for example, the shells of the shade loving and freshwater obligate species. Why this should have occurred is unclear, but it does appear to hinder the accurate interpretation of a number of the assemblages.

However, despite this problem, it would appear that the earliest occupants of the site were living in a largely open landscape, and although there is evidence for cereal utilisation, there does not appear to have been any intensive agricultural activity in the immediate area. The Saxon sunken-featured buildings were also possibly constructed within a predominantly open landscape. However, the small number of shade loving molluscs, which appear to have colonised the derelict features of structure [1223], may indicate the presence of adjacent areas of open woodland. It is also possible that the occupants of the site were exploiting nearby wetland habitats for the provision of flooring or roofing materials. Again, this may be related to the possible evidence for human activity/disturbance in the uppermost beetle samples from Test Pit B.

During the medieval and post-medieval periods the focus of activity on the site appears to have shifted slightly to the partition, drainage and utilisation of the wet grassland areas to the west, with the whole area being sub-divided by an extensive series of drainage ditches. These ditches drained into the palaeochannel features (below) and it is possible that this was responsible for the unusual insect fauna in Test Pit B. With the exception of a single assemblage of possible charred cereal processing waste (sample 176), there is nothing to indicate the presence of any nearby arable activity during these periods.

The two peatfilled features excavated and sampled in Test Pits B, C and D can probably be interpreted as palaeochannels that became cut off (perhaps as an ox-bow lake) from the main channel of the River Cam and subsequently infilled with sediment. Radiocarbon dating of the two sequences has indicated that peat accumulation commenced during the Bronze Age in Test Pit B and during the Neolithic in test Pit D. It would appear that sediment accumulation continued through the Bronze Age and perhaps until later in both locations. Previous evaluation of the deposits suggested that peat accumulation began during the Mesolithic (as indicated in Test Pit C).

The seven coleoptera samples produced mixed results. The four samples from Test Pit D were of varying quality in terms of preservation and diversity. Insect numbers were high in the upper two samples, but lower in the basal two samples. The picture is of an intermittently wet palaeochannel, gradually accumulating decaying vegetation and other foul matter including dung. The most significant find was the presence of the *Tilia* (lime) feeder *Ernoporicus caucasicus*, which is extremely rare in England today, and certainly points to the presence of this tree in the vicinity of the site. The plant macrofossil assessments have also indicated that preservation is less good in this sequence. No further analysis of Test Pit D material is therefore recommended.

The samples recovered from Test pit A produced poorly preserved coleoptera, pollen and plant macrofossils in extremely low quantities and no further analysis is required upon these samples. Excavation of these deposits and subsequent sug sample analysis confirmed that this feature is not associated with peat accumulation associated with palaeochannels.

The three samples from Test Pit B were extremely rich and species-diverse and contained evidence for human activity on the site during the Bronze Age and later periods. These samples are certainly worthy of full analysis to provide information that will assist and enhance interpretation of the archaeological record. From this preliminary assessment a number of significant ecological 'signatures' have emerged: woodland on surrounding fertile soils with a mix of ash, elm and lime; wetland and wetland margin as well as woodland margin and scrub/rough grassland. A full analysis could identify many of the beetles to species level, which will help provide a more definitive picture of the site environment at the time of deposit formation and provide information regarding the timing and nature of human activity at Sawston and in particular its relationship with the wetland areas.

Full analyses of all three samples from this sequence are therefore recommended. The three plant macrofossil samples from TPB were also well preserved and require full analyses to support the information provided by the insects. Further radiocarbon dating is also required to provide a robust chronological framework for analyses. In particular, dating of the upper deposit is required to assist interpretation and discussion of the possible 'syanthropic' elements of the fauna and to establish the relationship between this and the archaeological evidence for human impact on the wetland ecosystem. The pollen assessments indicate that pollen preservation is variable and hence further analyses are not recommended.

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Table 1 – Charred plant macrofossils, mollusc shells and other remains from prehistoric contexts

Sample No.	4	6	7	14	40	48	49	8	24	30	32
Context No.	1025	1035	1037	1053	1135	1135	1137	1041	1081	1077	1066
Feature No.	1026	1036	1038	1054	1136	1136	1138	1042	1082	1078	
Feature type	Pit	ph	ph	ph	ph	ph	ph	Ditch	Ditch	Ditch	Layer
Group	100	100	100	100	100	100	100				
Cereals											
<i>Avena</i> sp. (grain)					xcf						
<i>Hordeum</i> sp. (grains)					x			xcf			
<i>Triticum</i> sp. (grains)					x			xcf	x		
<i>T. spelta</i> L. (glume base)									x		
Cereal indet. (grains)			xcf	xcffg	x			x		x	xfg
Herbs											
Fabaceae indet.								x			
<i>Medicago/Trifolium/Lotus</i> sp.				xcf							
Tree/shrub macrofossils											
<i>Corylus avellana</i> L.				xcf					xcf		
Other plant macrofossils											
Charcoal <2mm	xxx	xxxx	xxx	xx	xxx	x	x	x	x	x	x
Charcoal >2mm	x	xx	x	x	x	x		x	x	x	
Charcoal >5mm			x								
Charred root/stem		x	x	x							
Mollusc shells											
Woodland/shade loving species											
Zonitidae indet.								x			
Open country species											
<i>Helicella itala</i>		x	x	x	x	x	x	xx	x	x	
Helicidae indet.							x		x	x	
<i>Pupilla muscorum</i>	x	x	x	xx	x	x	x	x	x	x	x
<i>Vallonia</i> sp.	x	xx	x	xx		x	x	xx	x	xx	xx
<i>V. costata</i>				x		xx	x	x	x	x	x
<i>V. pulchella</i>	x	x		xcf	x	x		xcf	x	xcf	x
<i>Vertigo pygmaea</i>					x			x			x

Catholic species											
<i>Cepaea</i> sp.					x	x					
<i>Cochlicopa</i> sp.	x	x	x		x	x		x		x	x
<i>Trichia hispida</i> group	x	x	x		x					x	x
Other remains											
Black porous 'cokey' material	x			xx	xx	x	x	x			x
Black tarry material	x		x					xx	x		x
Siliceous globules		x									
Small coal frags.				xx		x	x	x	x		x
Small mammal/amphibian bones					x			xpmc			
Sample volume (litres)											
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 2 – Charred plant macrofossils, mollusc shells and other remains from Early Saxon pit fills

Sample No.	73	103	104	67
Context No.	1245	1384	1303	1237
Feature No.	1246	1385	1304	1238
Group No.	101	101	101	103
Cereals and other food plants				
Large Fabaceae indet.	xcf			
<i>Hordeum</i> sp. (grains)		xcf	x	
<i>Triticum</i> sp. (grains)		x	x	
Cereal indet. (grains)	xfg	x	x	x
Herbs				
Fabaceae indet.				xcf
Other plant macrofossils				
Charcoal <2mm	xx	xxx	xxxx	xxx
Charcoal >2mm	x	x		xx
Charcoal >5mm	x			x
Mollusc shells				
Woodland/shade loving species				
<i>Aegopinella</i> sp.		x		
Open country species				
<i>Helicella itala</i>		x	xx	x
Helicidae indet.	x			xx
<i>Pupilla muscorum</i>	x		x	
<i>Vallonia</i> sp.	x	xx	x	xx
<i>V.costata</i>			x	x
<i>V.excentrica</i>		xcf		
<i>V.pulchella</i>		xcf		x
Catholic species				
<i>Cochlicopa</i> sp.		x	xx	
<i>Trichia hispida</i> group	x	x	x	x
Freshwater obligate species				
<i>Valvata cristata</i>	x			
Other remains				
Black porous 'cokey' material		xx	xx	x
Black tarry material			x	x
Bone		x	x	x
Small coal frags.	x	xx	xx	
Small mammal/amphibian bones		x		x
Vitrified material		x		
Sample volume (litres)				
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%

Table 3 – Charred plant macrofossils, mollusc shells and other remains from Early Saxon sunken medieval buildings (group 101)

Sample No.	33	35	43	72	79	21	75	76	102	39	56	101	47	66	112	64	65
Context No.	1100	1109	1148	1243	1269	1073	1249	1251	1383	1132	1207	1291	1067	1224	1356	1221	1222
Feature No.	1101	1110	1149	1244	1270	1074	1250	1252	1383	1132	1208	1291	1170	1225	1357	1223	1222
Feature type	ph	ph	ph	ph	ph	Pit	ph	ph	ph	Pit	ph	ph	Pit	ph	ph	Pit	Pit
SFB No.	1074	1074	1074	1074	1074	1074	1132	1132	1132	1132	1170	1170	1170	1223	1223	1223	1223
Cereals																	
<i>Avena</i> sp. (grains)							x	x					x				
<i>Hordeum</i> sp. (grains)	x	xcf	xcf		xcf		xx	x		xcf	xcf		x				x
(sprouted grain)							x										
<i>Hordeum vulgare</i> L. (grain)								xcf									
<i>Triticum</i> sp. (grains)						x	xx	x	x	x	x	x	x		x		
(glume base)			x														
<i>T. aestivum/compactum</i> type (rachis node)													x				
Cereal indet. (grains)	x	x		xcffg	x	x	xx					x	x	x		x	x
Herbs																	
<i>Chenopodium album</i> L.									x								
Fabaceae indet.							x	x									
<i>Galium</i> sp.							x										
<i>Malva</i> sp.								xcf									
Poaceae indet.		x					x			x			x				
<i>Rumex</i> sp.													x				
Wetland plants																	
<i>Carex</i> sp.										x							
Other plant macrofossils																	
Charcoal <2mm	xxx	xxx	xx	x	xx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxx	xxx	xxxx
Charcoal >2mm	x				x	xx	x	xx	x	xx	xx	xx	xx	x	x	xx	xxx
Characeae indet.																	x
Indet.culm nodes							x					x					
Indet.seeds		x											x			x	
Mollusc shells																	
Woodland/shade loving species																	
<i>Carychium</i> sp.					x												x

<i>Discus rotundatus</i>																	x
<i>Oxychilus</i> sp.			xcf										xcf	xcf	xcf	xcf	
<i>Trichia striolata</i>														x			
Zonitidae indet.								x								x	x
Open country species																	
<i>Helicella itala</i>	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
Helicidae indet.	x	x						x			x				x	x	
<i>Pupilla muscorum</i>	x	x	x		x	x	x	x xb	x		x	x	x	x	x	x	x
<i>Vallonia</i> sp.	x	x	x	x	x	x	xx	x	x	x	x	x	x	xx	xx	xx	xx
<i>V.costata</i>	xcf	x			x	x	x	x			x	x	x	x	x	x	x
<i>V.excentrica</i>								xcf					xcf				
<i>V.pulchella</i>	xcf	xcf	x	xcf	x			x	x	xcf		xcf		x	x	x	x
<i>Vertigo pygmaea</i>								x							x	x	
Catholic species																	
<i>Cochlicopa</i> sp.		x	x	x				x	x	x	x	x		x	x		x
<i>Trichia hispida</i> group			x	x	x			x	x	x	x	x	x	x	x	x	x
Freshwater obligate species																	
<i>Succinea</i> sp.								x						xcf			
Other remains																	
Black porous 'cokey' material	x	x		x	xx	x	x	xx	x	x	x	x	x	xx	x	x	
Black tarry material				x	x	xx			x	x						x	
Bone	x							x		x	x		x				
Mortar/plaster								x									
Small coal frags.	x	x	x		x	x	x	xx	xx		x			x		x	x
Small mammal/amphibian bones						xpmc		x	x		x				x	x	x
Vitrified material		x						x					x	x			x
Sample volume (litres)																	
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 4 – Charred plant macrofossils, mollusc shells and other remains from other Early features

Sample No.	3	74	99
Context No.	1017	1247	1343
Feature No.	1018	1248	1344
Feature type	Pit	ph	Gully
Group No.		101	101
Cereals			
<i>Avena</i> sp. (grains)	xcf		
<i>Hordeum</i> sp. (grains)	xcf		
<i>Triticum</i> sp. (grains)	x		
Cereal indet. (grains)	xx		x
Herbs			
Fabaceae indet.	x		
<i>Rumex</i> sp.	x		
Tree/shrub macrofossils			
<i>Corylus avellana</i> L.	x		
Other plant macrofossils			
Charcoal <2mm	xxx	xxx	xxx
Charcoal >2mm	x	xx	xx
Mollusc shells			
Woodland/shade loving species			
<i>Vitrea</i> sp.	x		
Open country species			
<i>Helicella itala</i>	x	x	x
Helicidae indet.		x	x
<i>Pupilla muscorum</i>		x	x
<i>Vallonia</i> sp.	x	x	x
<i>V. costata</i>			x
<i>V. pulchella</i>	x		x
<i>Vertigo pygmaea</i>			x
Catholic species			
<i>Trichia hispida</i> group	x	x	x
Other remains			
Black porous 'cokey' material	x	x	x
Black tarry material	x	x	
Bone		x xb	xx
Small coal frags.	x	xxx	x
Small mammal/amphibian bones	xpmc	x	
Vitrified material			x
Sample volume (litres)			
Volume of flot (litres)	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%

Table 5 – Charred plant macrofossils, mollusc shells and other remains from medieval features

Sample No.	28	143	144	53	155	156	127	128	151	160	169	176	138	139	140
Context No.	1096	1503	1507	1171	1498	1499	1481	1483	1492	1552	1570	1602	1468	1469	1470
Feature No.	1098	1504	1508	1172	1500	1500	1485	1485	1493	1554	1571	1603			
Feature type	Ditch	Ditch	Ditch	Pit	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Layer	Layer	Layer
Group No.	104	104	104	105	106	106									
Cereals															
<i>Avena</i> sp. (grain)												xcf			
<i>Hordeum</i> sp.					xcf					x		xcf			x
(rachis nodes)	x											x			
<i>Secale cereale</i> L. (grain)												x			
<i>Triticum</i> sp. (grains)				x		x						xx			x
<i>T.aestivum/compactum</i> type (rachis nodes)												xx			
Cereal indet. (grains)				x			x					xx	x	xfg	x
(basal rachis node)												x			
Herbs															
<i>Anthemis cotula</i> L.												x			
<i>Atriplex</i> sp.							xw	xw				x			
<i>Chenopodium album</i> L.												x			
<i>Cirsium</i> sp.		xw			xw		xw								
<i>Conium maculatum</i> L.						xw									
<i>Galeopsis</i> sp.		xw						xw							
<i>Linum usitatissimum</i> L.	xcf														
<i>Rumex</i> sp.												x			
<i>Scandix pecten-veneris</i> L.												xcffg			
<i>Silene</i> sp.							xw								
<i>Solanum</i> sp.							xw								
<i>Urtica dioica</i> L.			xw				xw		xw						
<i>Vicia/Lathyrus</i> sp.												x			
Wetland/aquatic plants															
<i>Alisma plantago-aquatica</i> L.			xw												
<i>Carex</i> sp.			xw									xw			
<i>Eupatorium cannabinum</i>			xw												

L.																
<i>Ranunculus</i> subg. <i>Batrachium</i> (DC)A.Gray			xw													
Tree/shrub macrofossils																
<i>Corylus avellana</i> L.	xcf															
<i>Sambucus nigra</i> L.		xxxw	xxxw	xxxxw	xxxxw	xxxxw	xxw	xw	xw	xw			xw			
Other plant macrofossils																
Charcoal <2mm	xxxx	x	x	xx	xxx	xxx	xx	x	xw	x	xxxx	xxx	xx	x	x	
Charcoal >2mm	xxxx	x	x		x	x			xw		xxx	xxx	x			
Charcoal >5mm	x											x				
Charred root/stem	xx											xx				
Characeae indet.			xx													
De-watered root/stem		xxx	xx	xx	xx	xx	xxx	xxx	xx				x			
Indet.buds	x	x														
Indet.culm node													x			
Indet.seeds	x					x	x						x			

Sample No.	28	143	144	53	155	156	127	128	151	160	169	176	138	139	140
Context No.	1096	1503	1507	1171	1498	1499	1481	1483	1492	1552	1570	1602	1468	1469	1470
Mollusc shells															
Woodland/shade loving species															
<i>Acanthinula aculeata</i>		x													
<i>Aegopinella</i> sp.				x			x	x	x						
<i>Ashfordia granulata</i>		xcf					xcf	xcf							
<i>Carychium</i> sp.	x			xx	x	x					x xb	x xb			
<i>Clausilia</i> sp.		x		x		xcf	x	x	x						
<i>C. bidentata</i>		x													
<i>Discus rotundatus</i>		xx		x			xx	xx	xx		x				
<i>Ena</i> sp.	x							x	x						
<i>Oxychilus</i> sp.		x			x			xcf	xx						
<i>Macrogastra rolphii</i>								xcf							
<i>Punctum pygmaeum</i>	x		x				xx	x	x	x	x	x			
<i>Trichia striolata</i>		x			x			x	x	xcf	x				
<i>Vitrea</i> sp.	x	xxx		x			xx								
<i>V. crystallina</i>		xxx	x			x	xx	xxx	xx	x					

Zonitidae indet.	x	x	x			x	xx	x	xx	x	x				
Open country species															
<i>Helicella itala</i>	x		x	x	x		x				x		x	x	x
Helicidae indet.		x					x	x					x	x	x
<i>Pupilla muscorum</i>	x	xx			x	x	x	x	x	x	x	x	x	xb	x
<i>Vallonia</i> sp.	x	xxx	x	xx	x	xx	xx	xxx	xx	xxx	xx	xx			x
<i>V. costata</i>	x	xx	xx	xx	x	xx	x	xx	xx	x	x	x	x	x	x
<i>V. excentrica</i>													xcf		
<i>V. pulchella</i>		x			x						x	x		x	x
<i>Vertigo pygmaea</i>		x	x	x	x	xb		x	x	x	xb	x	x	xb	x
Catholic species															
<i>Cepaea</i> sp.		x	x	x	x		x	x	x		x				
<i>Cochlicopa</i> sp.	x	xx	xx	xx	xx		xxx	xx	xx	xx	xxx	x	x	x	x
<i>Helix</i> sp.			x				x								
<i>Nesovitrea hammonis</i>	xcf	x	x	x			x	xcf	x		x				
<i>Trichia hispida</i> group	x	xxxx	xxx	x	xx	xx	xxxx	xxxx	xxxx	xx	xxxx	x	xx	x	x
Marsh/freshwater species															
<i>Carychium cf. minimum</i>		xxxx	xxxx				xxxx	xxxx	xxxx	xxx					
<i>Lymnaea</i> sp.		x			x	x	x			x	x	xb			
<i>L. peregra</i>			xcf							xcf					
<i>L. truncatula</i>		x													
<i>Vertigo</i> sp.			x					x			x				
<i>V. angustior</i>		x						x		x					

Sample No.	28	143	144	53	155	156	127	128	151	160	169	176	138	139	140
Context No.	1096	1503	1507	1171	1498	1499	1481	1483	1492	1552	1570	1602	1468	1469	1470
Freshwater obligate species															
<i>Anisus leucostoma</i>			xx	x	x		x	x	x	xx	x	x			
<i>Bathymphalus contortus</i>		x	xx	x		x	x	x	x	xx					
<i>Bithynia</i> sp.	xcf		xxx	x	x		xx	xx	x	xx		x		x	
(operculi)			x							x					
<i>B. leachii</i>			x				x	x							
<i>B. tentaculata</i>		x	x				x								
<i>Gyraulus albus</i>			x	x	x		x			xcf	xcf				

<i>Hippeutis</i> sp.										x		x			
<i>H. complanata</i>			xx				x								
<i>Pisidium</i> sp.		x	x								x				
<i>Planorbarius corneus</i>			x						x						
<i>Planorbis</i> sp.			xx	x	x		x		x	x					
<i>P. carinatus</i>		x	x				x	x							
<i>P. planorbis</i>		x	xx		x	x	x	x	x	xx	xx	x			
<i>Succinea</i> sp.		x	xx	x				x	x		x				x
<i>Valvata cristata</i>		xx	xxx	x	x	x	xx	xx	x	xx	xb				
<i>V. piscinalis</i>		xcf					x								
Brackish water species															
<i>Phytia myosotis</i>					xcf										
Other remains															
Black porous 'cokey' material		x			xxx		xx	x		x	x	x	x	x	xx
Black tarry material				x			x					x	x	x	
Bone			x	x	x						x		x	x	
Ostracods			x								x				
Small coal frags.		x			xxx	x	x			x			x	x	xx
Small mammal/amphibian bones		x			x	x	x								
Vitrified material				x			x			x				x	
Waterlogged arthropod remains			x												
Sample volume (litres)															
Volume of flot (litres)	0.5	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	12.50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 6 – Charred plant macrofossils, mollusc shells and possible medieval and post medieval features

Sample No.	135	136	137	152
Context No.	1465	1466	1467	1538
Feature No.				1539
Feature type	Layer	Layer	Layer	Ditch
Date	?Med	?Med	?Med	P.Med
Cereals				
<i>Triticum</i> sp. (grains)			x	
Cereal indet. (grains)	x	x		
Tree/shrub macrofossils				
<i>Sambucus nigra</i> L.				xw
Other plant macrofossils				
Charcoal <2mm	xx	xx	xxx	x
Charcoal >2mm		x	x	
Indet.seeds		x		
Mollusc shells				
Woodland/shade loving species				
<i>Discus rotundatus</i>				xx
<i>Punctum pygmaeum</i>				xx
<i>Vitrea</i> sp.				xx
<i>V. crystallina</i>				xxx
Open country species				
<i>Helicella itala</i>	x		x	
<i>Pupilla muscorum</i>	x	x	x	xxx
<i>Vallonia</i> sp.		x	xx	xxxx
<i>V. costata</i>	x	x	x	xxx
<i>V. excentrica</i>			xcf	
<i>V. pulchella</i>	x	x		
<i>Vertigo pygmaea</i>	x			xxxx
Catholic species				
<i>Cepaea</i> sp.				x
<i>Cochlicopa</i> sp.			x	xxxx
<i>Nesovitrea hammonis</i>				xxx
<i>Trichia hispida</i> group	x	x		xxxx
Marsh/freshwater species				
<i>Carychium cf. minimum</i>				xxxx
<i>Lymnaea</i> sp.				xx
<i>L. truncatula</i>				xx
<i>Vertigo</i> sp.				xx
<i>V. angustior</i>				x
Freshwater obligate species				
<i>Anisus leucostoma</i>				xxx
<i>Pisidium</i> sp.				x
<i>Planorbis</i> sp.				x
<i>Succinea</i> sp.				x
<i>Valvata cristata</i>				x
Other remains				
Black porous 'cokey' material	x	x	xx	x
Small coal frags.	x		xx	

Vitrified material	x			
Sample volume (litres)				
Volume of flot (litres)	<0.1	<0.1	<0.1	0.1
% flot sorted	100%	100%	100%	100%

Table 7 – Charred plant macrofossils, mollusc shells and undated contexts

Sample No.	55	82	146	147	148	149	157	172
Context No.	1199	1278	1510	1505	1533	1511	1545	1583
Feature No.	1200			1506	1535	1532	1547	1254
Feature type	Pit	Layer	Layer	Ditch	Ditch	Ditch	Ditch	Ditch
Cereals								
<i>Hordeum</i> sp. (grains)	x							
<i>Triticum</i> sp. (grains)	x							
Cereal indet. (grains)	xx	x	xfg	xcffg				
Wetland plants								
<i>Eupatorium cannabinum</i> L.				xw				
Tree/shrub macrofossils								
<i>Sambucus nigra</i> L.				xw	xxw			
Other plant macrofossils								
Charcoal <2mm	xxxx	xx	xx	xx	xxw	xxx	xx	xx
Charcoal >2mm	xxxx	x	x			xxx	x	x
Charcoal >5mm						x		
Charred root/stem	x						x	
De-watered root/stem				xxx	xx			
Characeae indet.					x			
Mollusc shells								
Woodland/shade loving species								
<i>Aegopinella</i> sp.					x			
<i>Carychium</i> sp.		x		x	x		x	
<i>Discus rotundatus</i>		x			x			
<i>Punctum pygmaeum</i>					x			
<i>Vitrea crystallina</i>				x	x			
Zonitidae indet.		x					x	
Open country species								
<i>Helicella itala</i>	x						x	x
Helicidae indet.		x	x			x	x	
<i>Pupilla muscorum</i>	x	x	x	x	x	x	x	x
<i>Vallonia</i> sp.	x		x	x	x	xx	x	xx
<i>V. costata</i>	x	x	x	x	x			
<i>V. pulchella</i>	x		x	x		x	x	x
<i>Vertigo pygmaea</i>			x	x	x		x	x
Catholic species								
<i>Cepaea</i> sp.					xcf		xcf	
<i>Cochlicopa</i> sp.	x	x		x	x		x	x
<i>Nesovitrea hammonis</i>	x			x	x			
<i>Trichia hispida</i> group		x	x	x	xx	x	x	xx
Marsh/freshwater species								
<i>Lymnaea</i> sp.				x	x			
<i>L. truncatula</i>				x				
<i>V. angustior</i>							x	
Freshwater obligate species								
<i>Anisus leucostoma</i>		x	x	xx	x			

<i>Pisidium</i> sp.					X			
<i>Planorbis</i> sp.					X			
<i>P. carinatus</i>					X			
<i>Valvata cristata</i>	X						X	X
Other remains								
Black porous 'cokey' material		XX			X	X	X	X
Black tarry material		X	X	X			X	X
Bone	X				X			
Small coal frags.			X		X	X	X	XX
Small mammal/amphibian bone					X			
Vitrified material	X		X			X		X
Sample volume (litres)								
Volume of flot (litres)	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	50%	100%	100%	100%	100%	100%	100%	100%

Table 8 - Preliminary identification of insects, recorded semi-quantitatively using DAFOR system

(D = dominant, A = abundant, F = frequent, O = occasional, R = rare) (nomenclature after Bohme 2005)

Sample	TP B	TP B	TP B	TP D	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
Genus/Species							
Carabidae							
<i>Nebria</i> spp.	-	O	-	-	-	-	-
<i>Notiophilus</i> sp.	-	R	-	-	-	-	-
<i>Dyschirius</i> spp.	R	-	-	R	R	-	-
<i>Bembidion</i> spp.	O	R	-	O	-	-	-
? <i>Poecilus cupreus</i> (Linn.)	-	R	-	-	-	-	-
<i>Pterostichus ?strenuus</i> (Panz.)	R	-	-	-	R	O	-
<i>Pterostichus</i> spp.	-	R	O	-	-	-	O
<i>Agonum ?muelleri</i> (Hbst.)	-	-	R	-	-	-	-
<i>Panagaeus ?bipustulatus</i> (Fab.)	-	-	R	-	-	-	-
Carabidae (large) sp. indet.	-	-	-	-	O	R	-
Haliplidae							
<i>Halipus</i> sp.	R	-	-	R	-	-	-
Dysticidae							
<i>Hygrotus</i> sp.	-	-	-	R	-	-	-
<i>Hydroporus</i> spp.	-	O	-	-	-	-	-
<i>Agabus ?nebulosus</i> (Forst.)	R	-	-	-	-	-	-
<i>Agabus/Ilybius</i> sp.	-	O	O	-	O	-	-
Sample	TP B	TP B	TP B	TP D	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
? <i>Acilius</i> sp.	-	-	R	-	-	-	-
Hydraenidae							
<i>Hydraena</i> spp.	-	O	-	-	-	-	-
<i>Ochthebius</i> spp.	O	F	R	O	F	-	-
<i>Limnebius</i> sp.	-	O	F	-	-	-	-
Hydrophilidae							
<i>Heleophorus</i> spp.	O	O	O	-	-	-	-
<i>Coelostoma orbiculare</i> (F.)	-	-	-	R	-	-	-
<i>Cercyon marinus</i> Thoms.	-	R	-	-	-	-	-

<i>C. unipunctatus</i> (L.)	O	-	-	-	-	-	-
<i>Cercyon</i> spp.	O	O	F	F	F	-	O
<i>Megasternum obscurum</i> (Marsh.)	-	O	O	F	F	O	-
<i>Hydrobius fuscipes</i> (L.)	O	O	O	-	-	-	-
<i>Anacaena</i> sp.	O	O	-	-	-	-	O
<i>Laccobius</i> sp.	-	R	O	-	-	-	-
<i>Cymbiodyta marginella</i> (F.)	-	-	R	-	-	-	-
Histeridae							
<i>Gnathoncus</i> sp.	R	-	-	R	-	-	-
Silphidae							
? <i>Phosphuga atrata</i> (L.)	-	R	-	-	-	-	-
Sample	TP B	TP B	TP B	TP D	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
Catopidae							
? <i>Ptomaphagus</i> sp.	-	-	R	-	-	-	-
<i>Catops</i> sp.	-	-	R	-	-	-	-
Clambidae							
<i>Clambus</i> sp.	-	-	O	-	-	-	-
Ptilidae							
Ptilidae sp. indet.	-	-	O	-	-	-	-
Staphylinidae							
<i>Omalius</i> (type) spp.	O	F	-	R	-	-	-
<i>Acidota crenata</i> (F.)/ <i>creuntata</i> (Mann.)	-	O	O	-	-	-	-
<i>Lesteva</i> spp.	-	-	O	-	-	-	-
<i>Geodromicus</i> sp.	-	-	R	-	-	-	-
<i>Carpelimus</i> spp.	O	F	-	-	R	R	-
<i>Oxytelus sculptus</i> Grav.	O	O	-	-	-	-	-
<i>Anotylus/Oxytelus</i> spp.	F	O	F	-	R	-	-
<i>Platystethus</i> spp.	O	F	F	-	-	-	-
<i>Stenus</i> spp.	-	O	-	R	-	-	-
<i>Rugilus</i> sp.	-	-	-	-	-	R	-
<i>Lathrobium</i> spp.	O	-	-	-	R	O	-
<i>Gyrophynus/Xantholinus</i> spp.	-	R	F	-	-	-	-
<i>Philonthus/Quedius</i> spp.	O	R	-	-	-	-	-
Sample	TP B	TP B	TP B	TP D	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
<i>Gabrius</i> sp.	-	R	-	-	-	-	-
<i>Staphilinus</i> sp.	-	R	-	-	-	-	-

<i>Tachinus ?rufipennis</i> Gyll.	R	-	-	-	-	-	-
<i>Tachyporus/Tachinus</i> spp.	O	O	O	R	-	-	-
Aleocharinae sp. indet.	-	F	F	-	-	O	O
Pselaphidae							
? <i>Brachygluta</i> sp.	-	-	-	-	R	-	-
Cantharidae							
<i>Cantharis</i> sp.	-	R	-	-	-	-	-
<i>Rhagonycha</i> sp.	-	R	-	-	-	-	-
Elateridae							
<i>Adrastus pallens</i> (F.)	-	-	R	-	-	-	-
? <i>Ctenicera cuprea</i> (F.)	-	-	R	-	-	-	-
Elateridae (Athous?) sp. indet.	-	R	-	R	O	R	R
Scirtidae							
<i>Cyphon</i> spp.	-	O	O	-	-	O	O
Dryopidae							
<i>Dryops</i> spp.	-	-	R	R	R	-	-
? <i>Elmis aenea</i> (P. Muller)	-	R	-	-	-	-	-
<i>Esolus ?parallelepipedus</i> (P. Muller)	-	R	-	-	-	-	-
Sample	TP B	TP B	TP B	TP D	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
Byrrhidae							
<i>Cytilus sericeus</i> (Forst.)	R	R	R	-	-	-	-
Byturidae							
? <i>Byturus</i> sp.	-	R	-	-	-	-	-
Nitidulidae							
<i>Meligethes</i> spp.	O	O	O	-	-	-	-
? <i>Omosita</i> sp.	-	-	R	-	-	-	-
? <i>Pocadius ferrugineus</i> (F.)	R	-	-	-	-	-	-
Cucujidae							
? <i>Oryzaephilus surinamensis</i> (L.)	R	-	-	-	-	-	-
Lathridiidae							
<i>Lathridius</i> (group) spp.	O	-	O	-	-	-	-
? <i>Corticara</i> spp.	-	R	-	-	-	-	-
Mycetophagidae							
<i>Mycetophagus</i> spp.	-	R	-	-	-	-	-

<i>Typhaea stercorea</i> (L.)	O	-	-	-	-	-	-
Endomychidae							
<i>Mycetaea subterranea</i> (Marsham)	R	O	O	-	-	-	-
Sample	TP B	TP B	TP B	TP D	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
Anobiidae							
? <i>Anobium punctatum</i> (Deg.)	O	O	-	-	-	-	-
<i>Dorcatoma</i> spp.	O	R	-	-	-	-	-
Ptinidae							
<i>Ptinus</i> spp.	-	R	-	-	-	-	-
Salpingidae							
? <i>Salpingus</i> sp.	R	-	-	-	-	-	-
Anthicidae							
<i>Anthicus</i> spp.	-	R	-	-	-	-	-
Scarabaeidae							
<i>Onthophagus</i> sp.	R	-	-	-	-	-	-
<i>Aphodius</i> spp.	F	O	F	F	-	-	-
<i>Phyllopertha horticola</i> (L.)	-	O	-	-	O	-	-
? <i>Hoplia philantus</i> (Fues.)	-	-	R	-	-	-	-
Chrysomelidae							
<i>Donacia/Plateumaris</i> spp.	-	-	O	R	R	-	-
<i>Chrysolina</i> spp.	-	-	R	-	R	-	-
<i>Prasocuris phellandrii</i> (L.)	-	-	R	-	-	-	-
<i>Phratora</i> spp.	R	O	-	-	-	-	-
Sample	TP B	TP B	TP B	TP D	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
<i>Phyllotreta ?undulata</i> Kuts.	F	-	O	-	-	-	-
<i>Phyllotreta</i> spp.	F	F	F	-	-	-	-
<i>Chaetocnema</i> spp.	O	O	O	-	-	-	-
Bruchidae							
? <i>Bruchus</i> sp.	-	-	R	-	-	-	-
Curculionidae							
<i>Apion</i> spp.	O	F	F	-	R	-	-
<i>Otiorhynchus</i> spp.	-	-	O	-	-	-	R
? <i>Phyllobius viridicollis</i> (F.)	R	-	-	-	-	-	-
? <i>Phyllobius</i> spp.	O	O	-	-	-	-	-
<i>Sitona ?striatellus</i> Gyll.	O	-	-	-	-	-	-

<i>S. ?macularius</i> (Marsh.)	R	-	-	-	-	-	-
<i>Sitona</i> spp.	-	-	F	-	-	-	-
<i>Notaris scirpi</i> (F.)	-	-	-	-	R	-	-
<i>Anthonomus</i> spp.	-	R	-	-	-	-	-
<i>Curculio</i> spp.	R	O	-	-	-	-	-
<i>Hypera ?nigrostris</i> (F.)	O	R	O	-	-	-	-
<i>Limnobaris t-album</i> (L.)/ <i>dolorosa</i> (Goeze)	-	-	-	-	R	-	-
? <i>Phytobius leucogaster</i> (Marsh.)	-	-	O	-	-	-	-
? <i>Pelenomus</i> spp.	-	-	O	-	-	-	-
<i>Rhinoncus</i> spp.	R	-	R	-	-	-	-
<i>Ceutorhynchus</i> spp.	F	-	F	-	-	-	-
Sample	Sample	TP B	TP B	TP B	TP D	TP D	TP D
Depth	0.0-0.25m	0.25-0.41m	0.41-0.61m	0.5-0.7m	0.7-0.9m	1.0-1.2m	1.2-1.4m
Curculionidae sp. indet.	O	-	-	O	-	-	R
Scolytidae							
? <i>Scolytus scolytus</i> (F.)	R	-	-	-	-	-	-
? <i>Hylesinus crenatus</i> (F.)	-	R	-	-	-	-	-
? <i>Lepersinus fraxini</i> (Panz.)	-	R	-	-	-	-	-
<i>Ptelobius vittatus</i> (F.)	-	R	-	-	-	-	-
<i>Ernoporicus ?caucasicus</i> (Lind.)	-	-	-	-	-	R	-
Hymenoptera: Formicidae							
<i>Tetramorium caespitum</i> (L.)	R	R	-	-	-	-	-
Approximate MNI	<100	<100	80-100	50-80	50-80	20-30	>20

Table 9 - Vegetative components of macrofossil subsamples.

Quantitative score on a scale of 1 – 4: from '1' – one or a few (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix).

Component	Test Pit D 50 – 70 cm	Test Pit D 70 – 90 cm	Test Pit D 100 – 120 cm	Test Pit D 120 – 140 c	Test Pit B: 0 – 25 cm	Test Pit B: 25 – 41 cm	Test Pit B: 41 – 61 cm
Bud Scales	-	-	-	-	3	3	3
Herbaceous detritus	2	4	4	3	3	4	4
Insect fgts.	4	4	3	4	4	3	4
Moss fgts.	-	-	-	-	1	-	2
Plant Macrofossils	1	2	1	1	3	3	3
Snails	-	-	-	-	1	-	2
Wood fgts.	1	1	-	-	2	2	-

Table 10 - Complete list of taxa recorded in macrofossil samples.

Taxonomy and nomenclature follow Stace (2000). = presence within sample

Sample Number	TP D 50 -70 cm	TP D 70 – 90 cm	TP D 100 – 120 cm	TP D 120 – 140 cm	TP B 0 – 25 cm	TPB: 25 – 41 cm	TPB: 41 – 61 cm	
LATIN BINOMIAL								COMMON NAME
						<input type="checkbox"/>		
<i>Ranunculus</i> subg. RANUNCULUS				<input type="checkbox"/>	<input type="checkbox"/>			Buttercup
<i>Urtica dioica</i> L.					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Common nettle
<i>Urtica urens</i> L.					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Small nettle
<i>Betula</i> spp.		<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	Birch
<i>Corylus avellana</i> L.						<input type="checkbox"/>		Hazel
<i>Chenopodium</i> spp./ <i>Atriplex</i> spp.						<input type="checkbox"/>		Goosefoot/ orache
<i>Persicaria hydropiper</i> (L) Spach							<input type="checkbox"/>	Water-pepper
<i>Polygonum aviculare</i> L.							<input type="checkbox"/>	Knotgrass
cf. <i>Populus</i> spp. (bud scale)						<input type="checkbox"/>	<input type="checkbox"/>	Poplar
<i>Rubus</i> spp.		<input type="checkbox"/>			<input type="checkbox"/>			Bramble
<i>Potentilla</i> spp.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cinquefoils
<i>Solanum</i> spp.						<input type="checkbox"/>		Nightshades
<i>Lycopus europaeus</i> L.							<input type="checkbox"/>	Gypsywort
<i>Sambucus nigra</i> L.	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Elder
<i>Lemna</i> spp.							<input type="checkbox"/>	Duckweeds
<i>Eleocharis palustris</i> (L.) Roem. & Schult. / <i>uniglumis</i> (Link) Schult.	<input type="checkbox"/>					<input type="checkbox"/>		Common/ slender spike-rush
<i>Carex</i> spp. (three-sided)	<input type="checkbox"/>						<input type="checkbox"/>	Sedge
<i>Carex</i> spp. (two-sided)	<input type="checkbox"/>						<input type="checkbox"/>	Sedge
Unidentified bud					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
UNIDENTIFIED	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Table 11 - Results of the Sawston pollen assessments.

Monolith Tin and Sample	Concentration	Preservation	Main Pollen Species
TP D 0.24m	Medium (3)	Medium (3)	Cyperaceae (64%) Poaceae (21%) Pteropsida
TP D 0.40m	Low (1)	Low (1)	Single grains of Cyperaceae and <i>Alnus</i>
TP D 0.62m	Low (1)	Low (1)	5 grains of Pteropsida
TP D 0.96m	Medium-Good (3/4)	Medium (3)	<i>Pinus</i> (82%) <i>Corylus</i> (10%) Pteropsida
TPB Sequence 2 0.00m	Medium (3)	Medium (3)	Cyperaceae (71%) Poaceae (14%) Lactuceae (9%) Pteropsida
TPB Sequence 2 0.24m	Low (1)	Low (1)	Some grains of <i>Tilia</i> , <i>Corylus</i> , <i>Pinus</i> and Cyperaceae
TPB Sequence 2 0.40m	Low (1)	Low (1)	Some grains of <i>Alnus</i> , <i>Corylus</i> , <i>Pinus</i> and Cyperaceae
TPB Sequence 2 0.64m	Medium-Good (3/4)	Medium (3)	<i>Pinus</i> (89%) Cyperaceae (5%) Pteropsida
TPC 0.00m	Low	Poor	Raw Counts - Cyperaceae (12), <i>Corylus</i> <i>avellana</i> -type (2), Poaceae (2), Apiaceae (1)
TPC 0.16m	Low	Poor	Raw Counts – <i>Corylus avellana</i> -type (11), <i>Alnus</i> (8), Cyperaceae (1)
TPC 0.32m	Excellent	Medium-Good	Percentages- <i>Corylus</i> (59%), <i>Pinus</i> (12%), <i>Tilia</i> (12%), <i>Ulmus</i> (5%), <i>Quercus</i> (5%)
TPC 0.48m	Good	Good	Percentages- <i>Corylus</i> (30%), <i>Betula</i> (27%), <i>Pinus</i> (27%)
TPC 0.62m	Low-Medium	Poor	Percentages – <i>Pinus</i> (99%)
TPC 0.80m	Medium	Poor	Percentages – <i>Pinus</i> (94%)
TPC 0.96m	Low	Poor	Raw counts – <i>Pinus</i> (1), Pteropsida (2)
TPC 1.12m	Medium	Medium	Percentages – <i>Pinus</i> (95%)
TPC 1.28m	Low	Poor	Raw counts – Cyperaceae (2), Pteropsida (3)
TPC 1.43m	Low	Poor	Raw counts – <i>Pinus</i> (1), Cyperaceae (1)

Appendix 5 Context Database

On CD

Appendix 6 Breakdown of grouped contexts

Group 100		
Cut	Fill	Comments
1026	1025	
1036	1035	
1038	1037	
1040	1039	
1045	1043, 1044	
1050	1049	
1052	1051	
1054	1053	
1061	1060	
1069	1068	
1136	1135	
1138	1137	
1140	1139	
1169	1168	
1219	1218	

Group 101		
Cut	Fill	Comments
1074	1073	
1101	1100	Post-hole
1110	1109	Post-hole
1119	1118	Post-hole
1132	1088	
1134	1133	Post-hole
1149	1148	Post-hole
1170	1067	
1208	1207	Post-hole
1223	1222	
1225	1224	Post-hole
1243	1244	Post-hole
1245	1246	Post-hole
1247	1248	Post-hole
1250	1249	Post-hole
1252	1251	Post-hole
1270	1269	Post-hole
1289	1288	Post-hole
1291	1290	Post-hole
1293	1292	Post-hole
1304	1303	Pit
1310	1311	Post-hole
1344	1343	Gully
1357	1356	Post-hole

1383	1382	Post-hole
1385	1384	Pit

Group 102		
Cut	Fill	Comments
1121	1120	Post-hole
1123	1122	Post-hole
1125	1124	Post-hole
1151	1150	Post-hole
1153	1152	Drip gully
1155	1154	Post-hole
1157	1156	Post-hole
1159	1158	Stake-hole
1161	1160	Stake-hole
1163	1162	Stake-hole
1165	1164	Stake-hole
1167	1166	Stake-hole
1307	1305, 1306	Pit
1309	1308	Post-hole
1313	1312	Pit

Group 103		
Cut	Fill	
1117	1116	
1201	1202	
1203	1204	
1205	1206	
1238	1237, 1316, 1317	
1241	1242	

Group 104 (re-cut ditch), group 109 (original ditch)		
Cut	Fill	Comments
1098	1095, 1096, 1097	Re-cut ditch
1108	1104, 1105, 1106, 1107	Original ditch
1129	1126, 1127, 1128	Re-cut ditch
1131	1130	Original ditch
1143	1142	Re-cut ditch
1174	1173, 1319, 1318	Re-cut ditch
1178	1177	Re-cut ditch
1279	1280	Original ditch
1504	1503	Re-cut ditch
1508	1507	Re-cut ditch
1524	1525	Original ditch
1526	1527	Re-cut ditch

Group 105		
Cut	Fill	
1048	1046, 1047	
1059	1058, 1057	
1071	1070	

1084	1083	
1092	1091	
1172	1260, 1171	
1226	1228, 1227	
1256	1257	
1274	1273	

Group 106		
Cut	Fill	
1441	1440	
1449	1448	
1489	1488, 1523	
1500	1498, 1499	
1593	1592	

Group 107		
Cut	Fill	
1387	1386	
1398	1399	
1406	1405	
1410	1409	
1447	1446	
1491	1490	
1564	1563	
1566	1565	

Group 108			
Cut	Fill	Cut	Comments
1392	1391		Original ditch
1420	1419		Re-cut ditch
1422	1421		Original ditch
1428	1427		Re-cut ditch
1522	1521		Original ditch

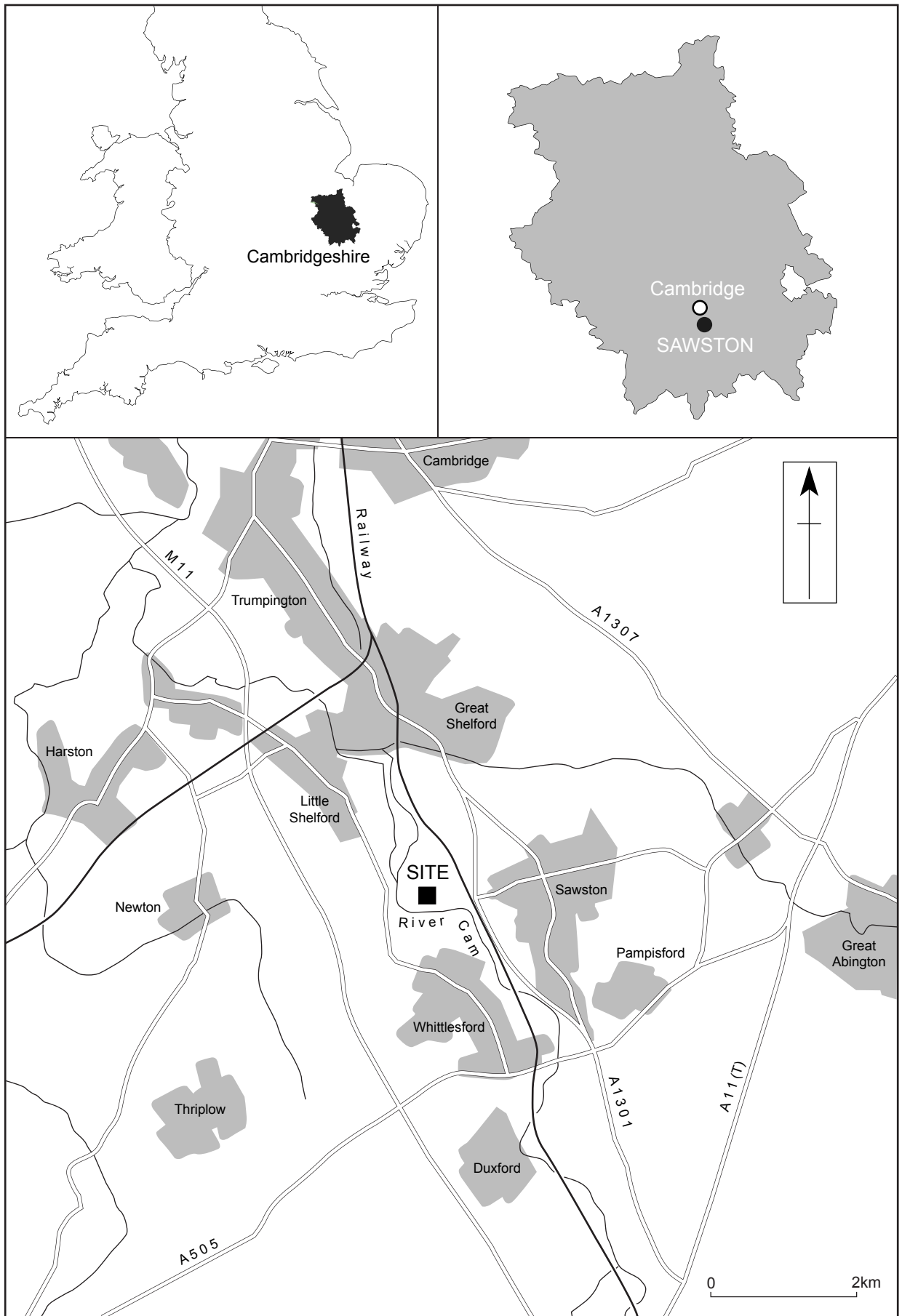


Fig.1

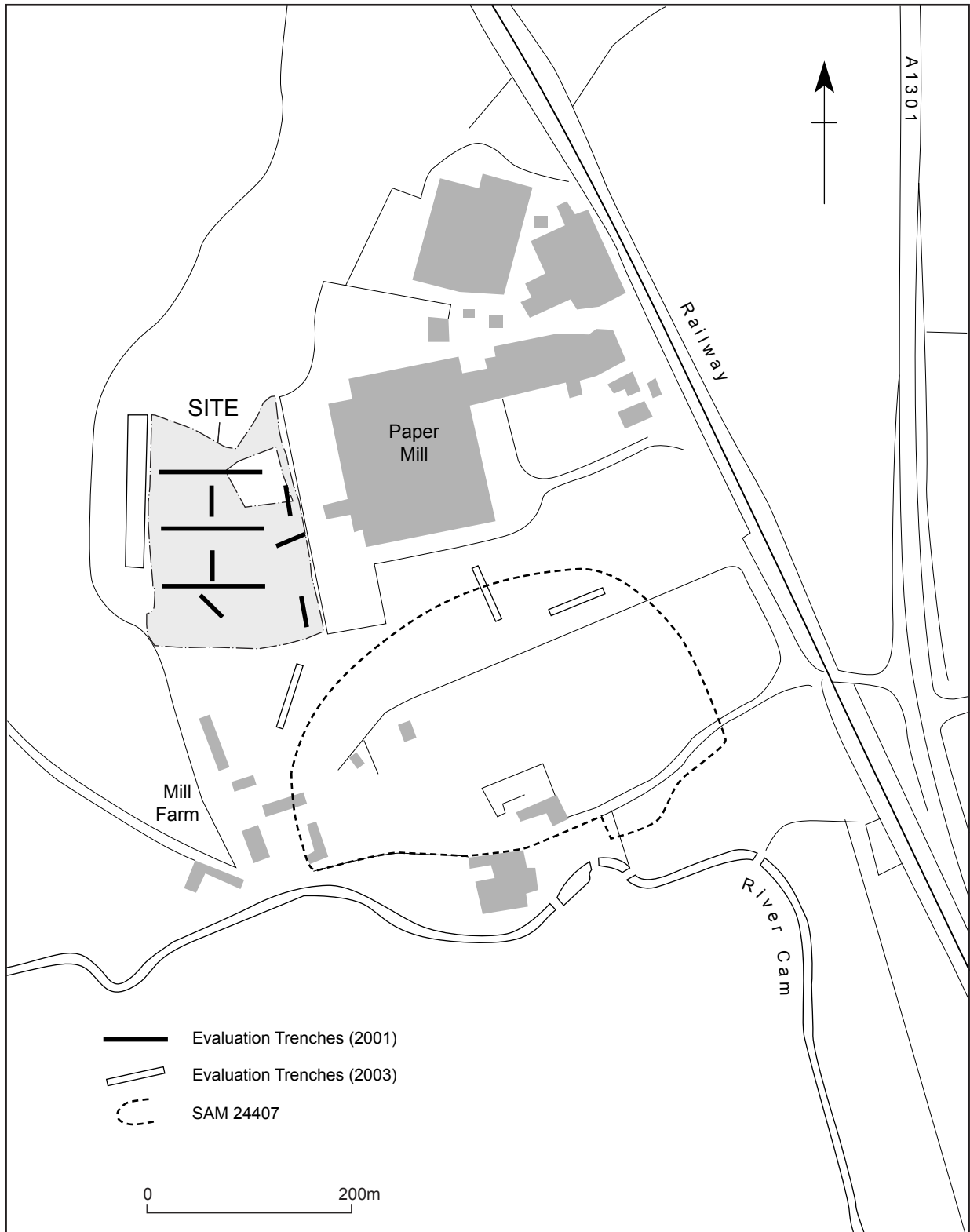


Fig.2

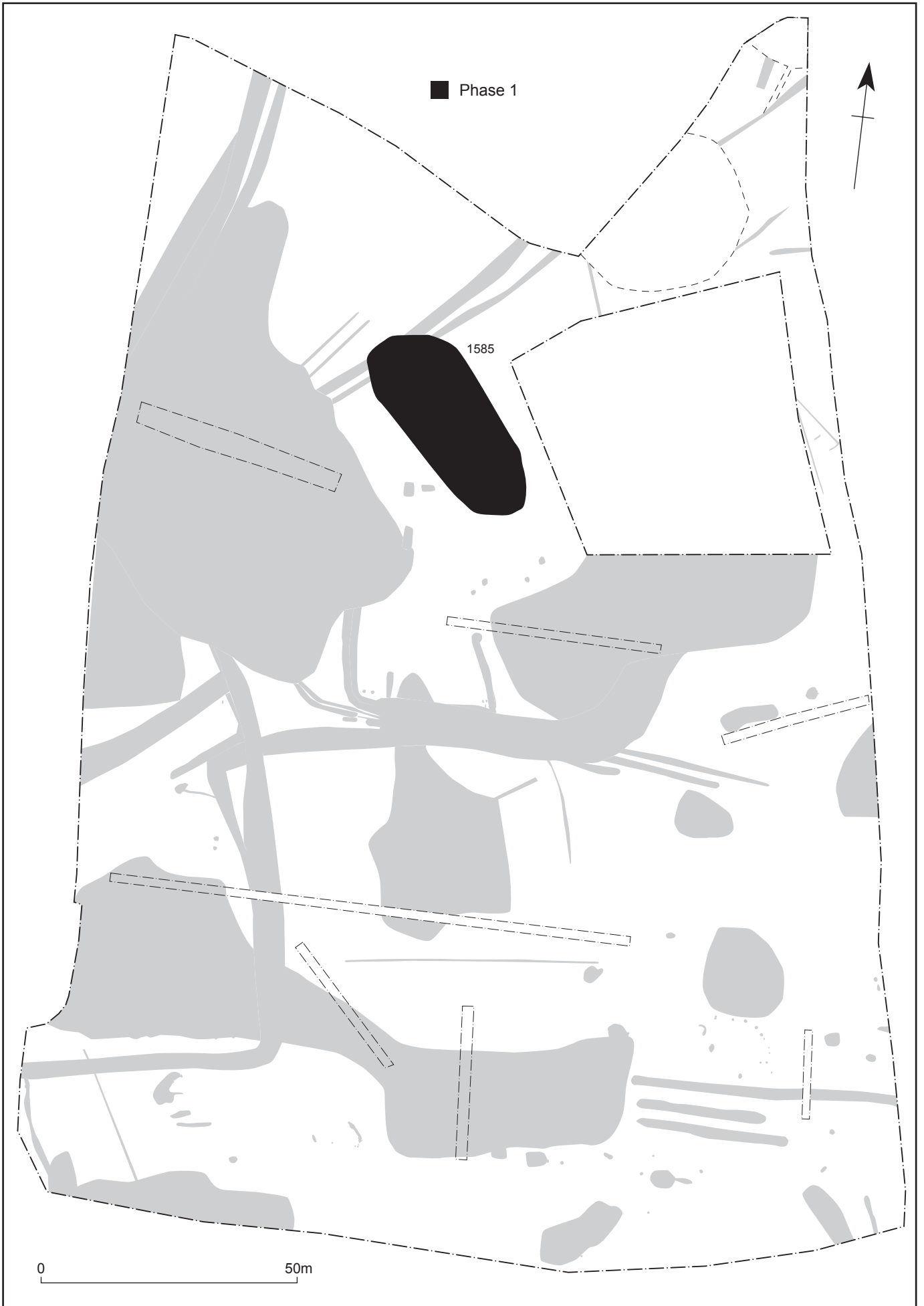


Fig.3



Fig.4



Fig.5

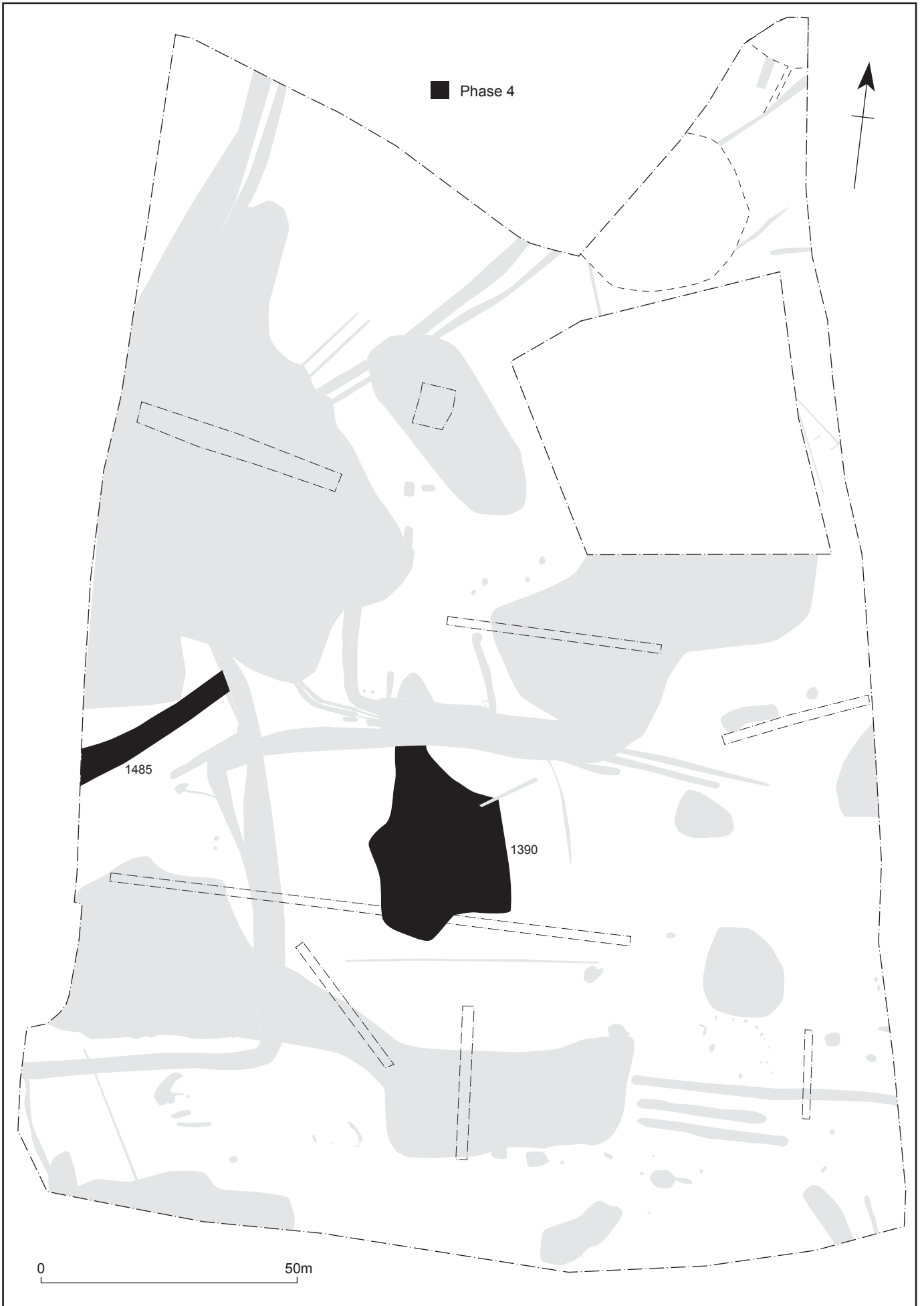


Fig.6

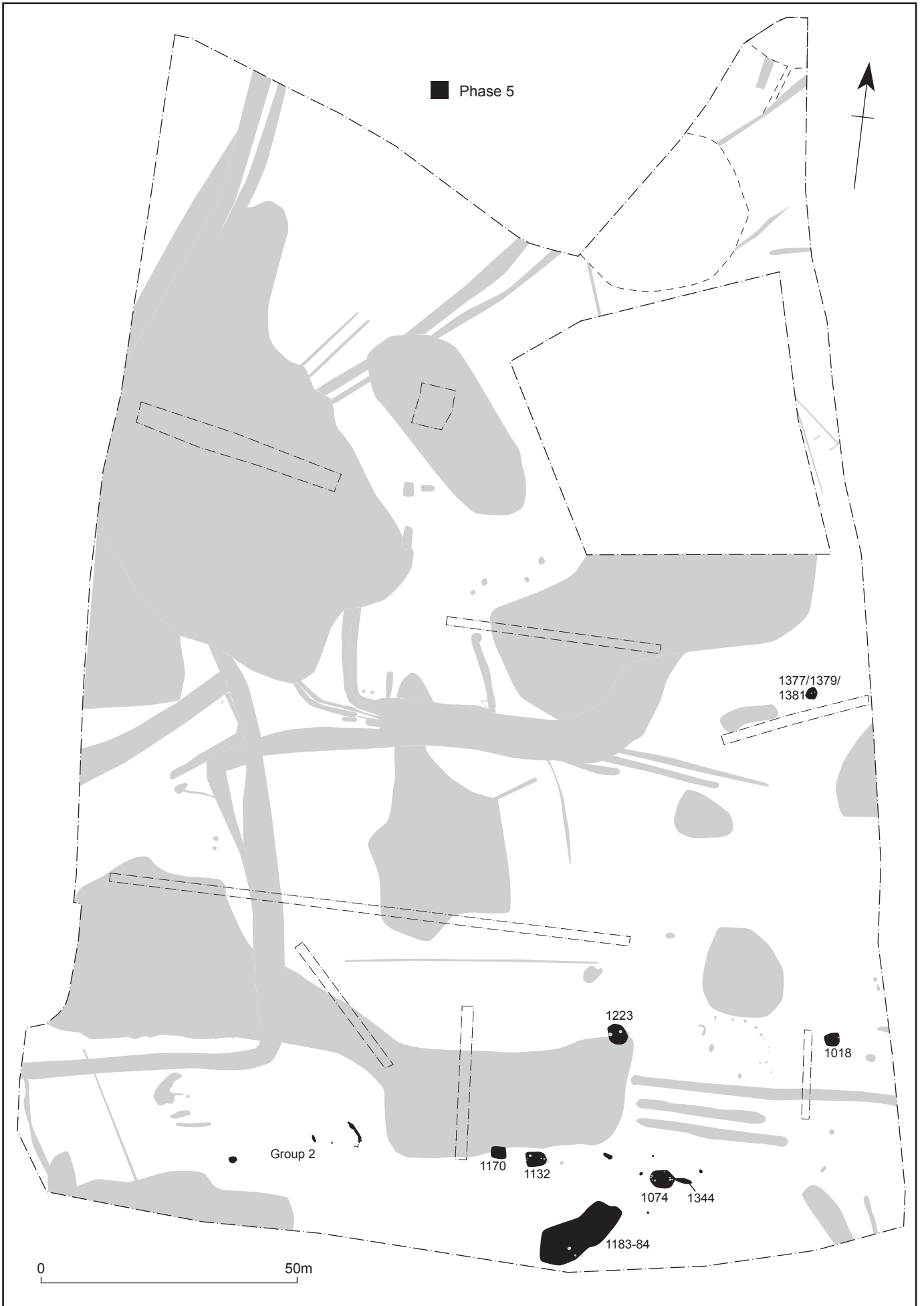


Fig.7

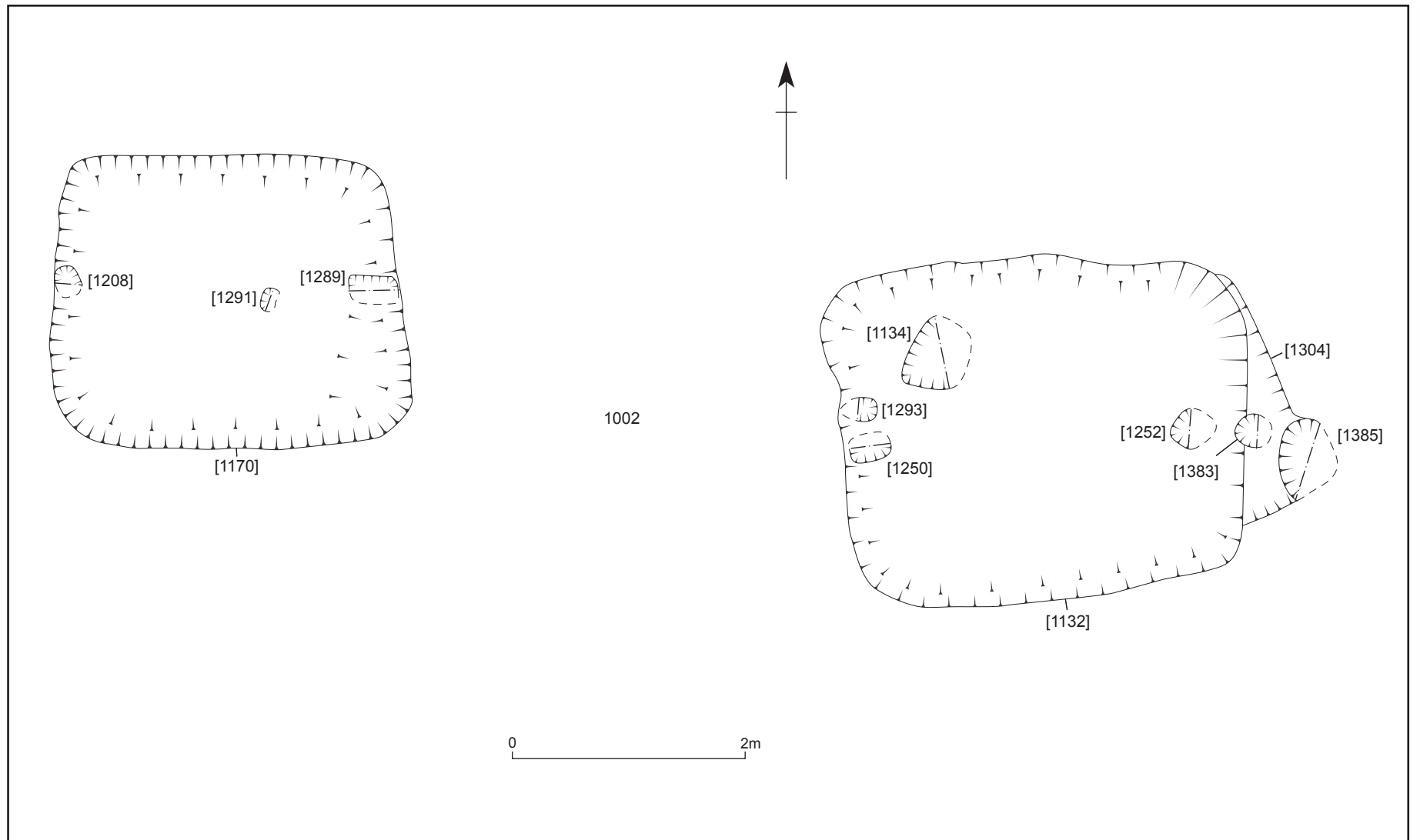


Fig.8

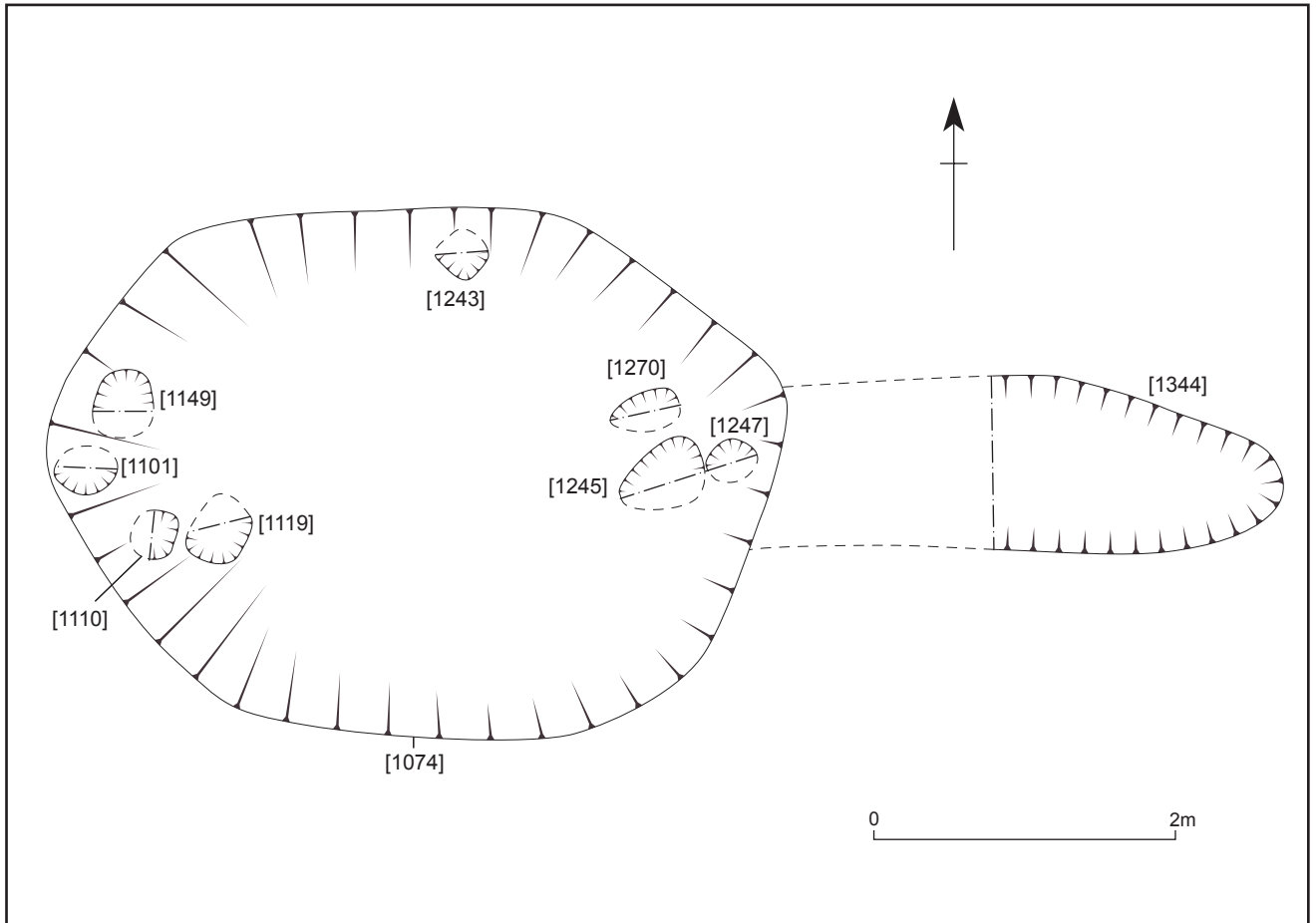


Fig.9

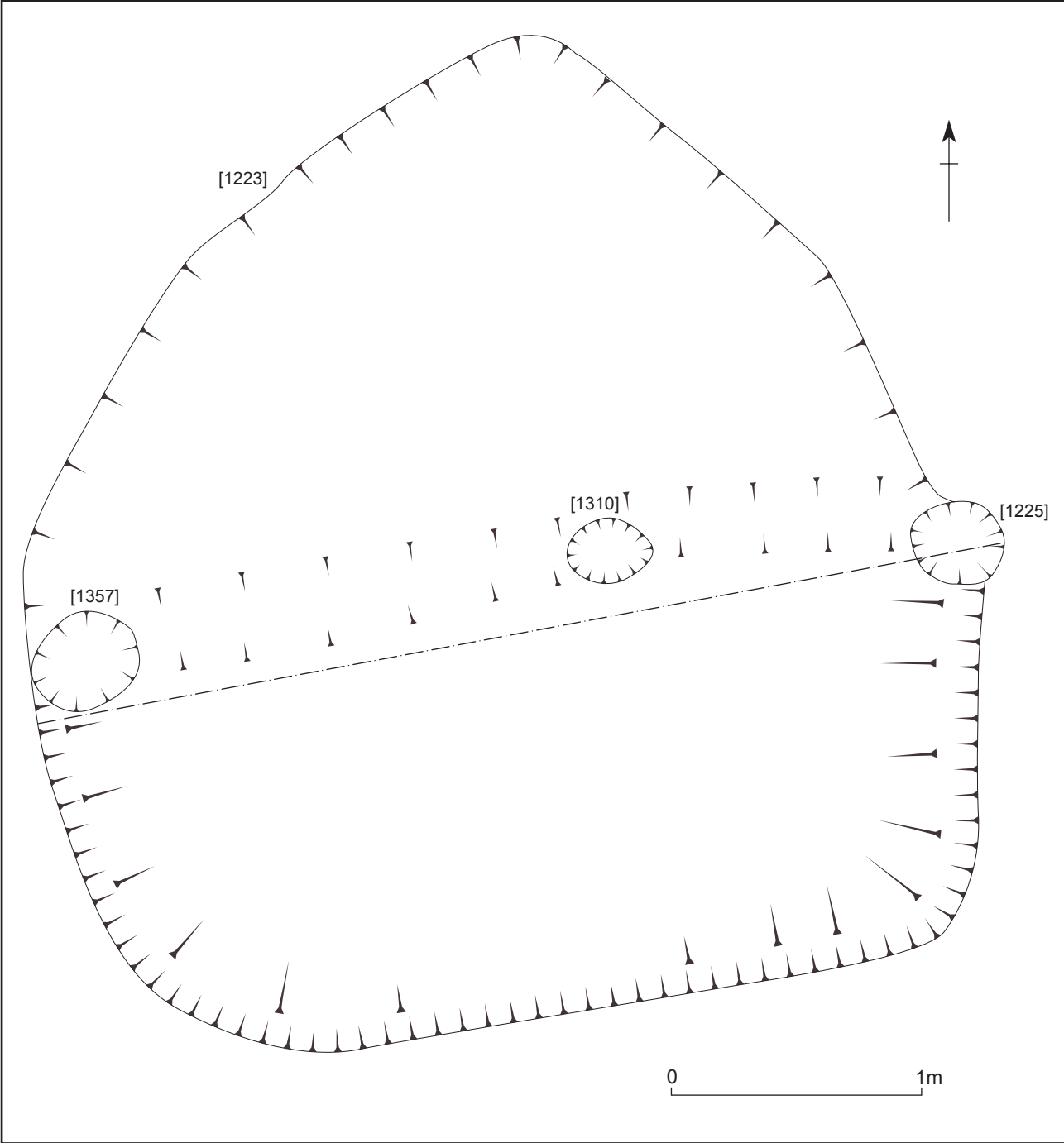


Fig.10



Fig.11

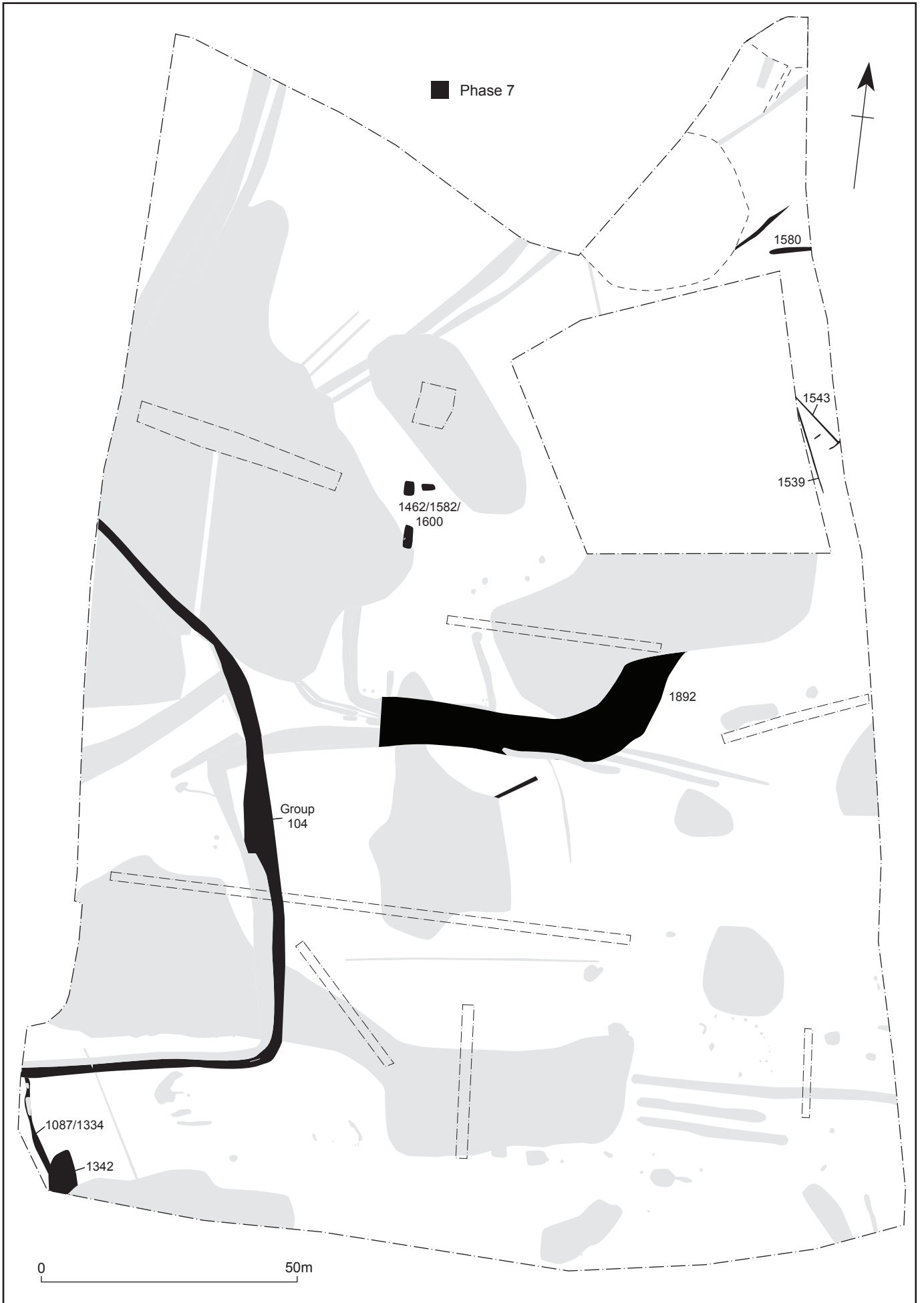


Fig.12

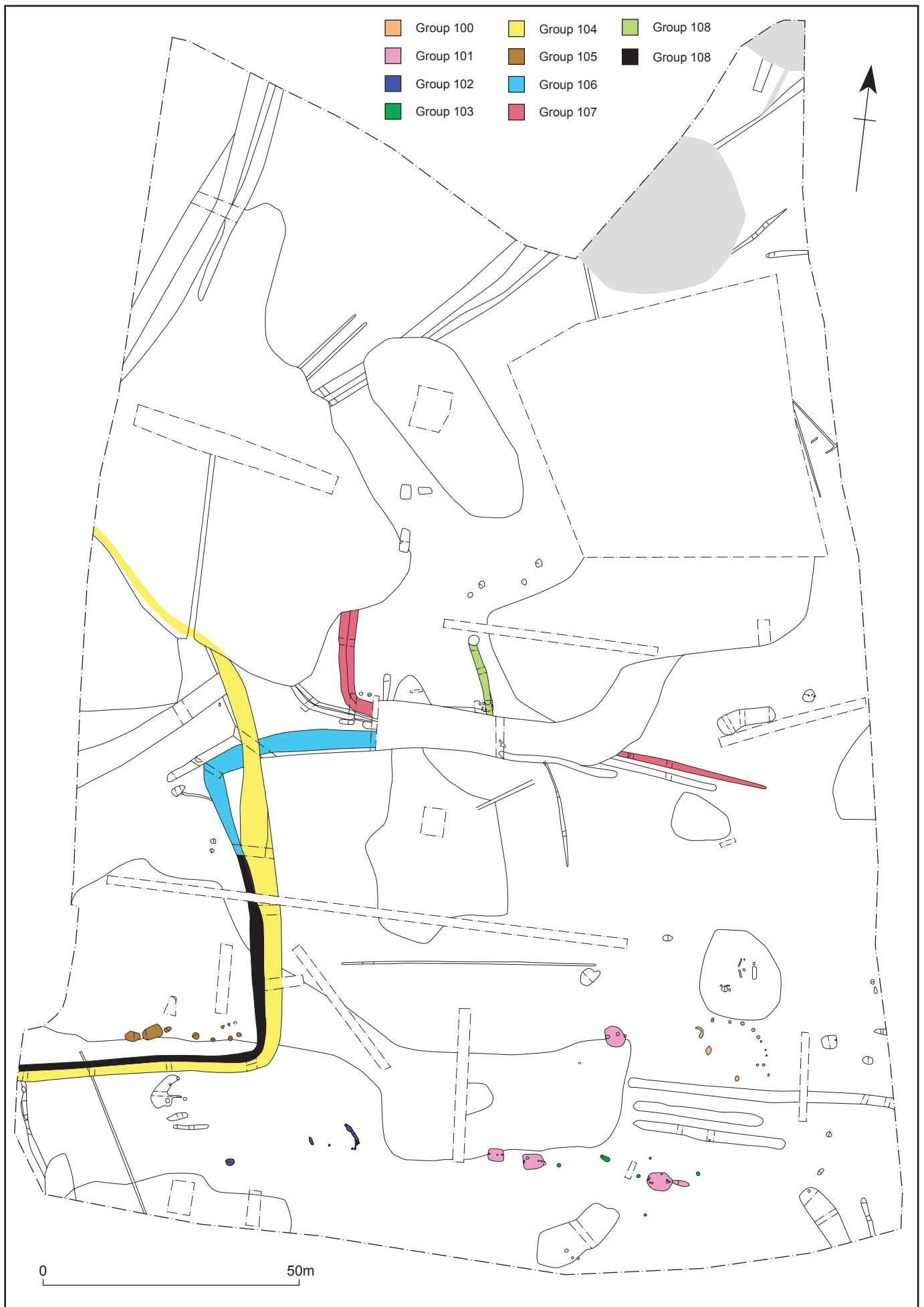


Fig.13

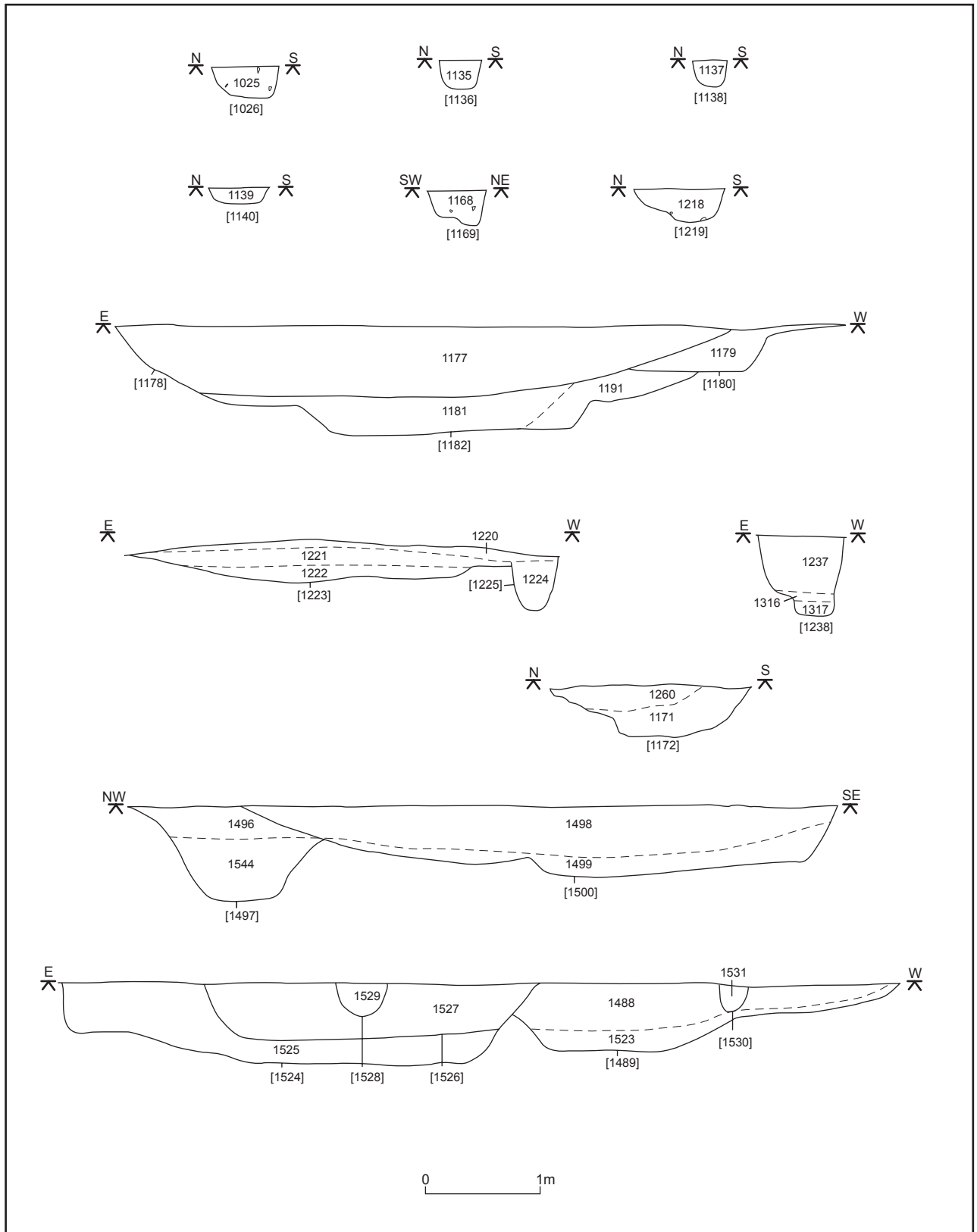


Fig.14

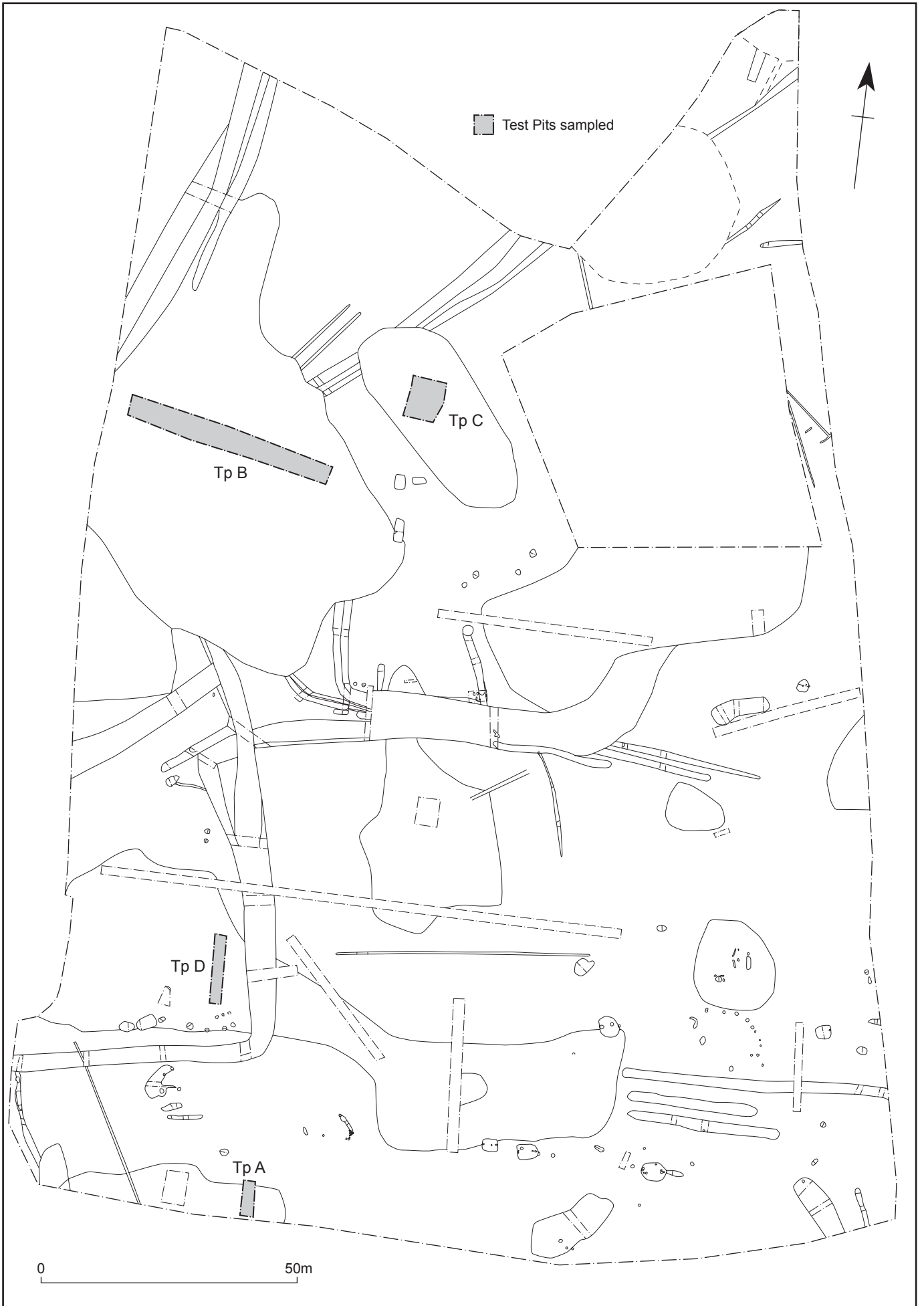


Fig.15



Plate 1 - S.F.B 1074 fac NW



Plate 2 - S.F.B 1170 fac N



Plate 3 - S.F.B 1132 fac W



Plate 4 - Palaeochannel 1584 fac NW



Plate 5 - Palaeochannel 1585 fac N



Plate 6 - Palaeochannel 1585 working shot BAe



Plate 7 - 1445,1449,1451 fac NE



Plate 8 - 1445,1449,1451 fac NE



Plate 9 - Ditch 1526 pre-ex fac N



Plate 10 - 1485 fac NE



Plate 11 - 1178,80,82 fac SW



Plate 12 - 1539 fac E



Plate 13 - 1547 fac W



Plate 14 - 1187 fac SE



Plate 15 - 1103,1066 fac W



Plate 16 - 1459 test pits, fac SE



Plate 17 - test pits through 1210 fac NE



Plate 18 - 1462 fac S



Plate 19 - Flint handaxe from 1041



Plate 20 - Flint handaxe from 1041