

Hinxton Genome Campus Technical Hub



Post-Excavation Assessment



February 2012

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on behalf of Wellcome/EMBL-EBI

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Hinxton Genome Campus Technical Hub

Post-Excavation Assessment and Updated Project Design

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Summary

This archaeological investigation undertaken by Oxford Archaeology East (OA East) on behalf of the Wellcome Trust south of Hinxton in Cambridgeshire has afforded an opportunity to enhance current understanding of this landscape, which lies just to the north of the Roman town of Great Chesterford and adjacent to the ancient course of the Icknield Way.

The site is located less than 200m from the River Cam in a rich archaeological landscape spanning the Mesolithic to post-medieval periods. An extensive programme of building works has driven archaeological investigations here for the last two decades, with the 1ha excavation undertaken in July/August 2011 being one in a long sequence of excavations conducted by OA East (formerly Cambridgeshire County Council's Archaeological Field Unit, CAM ARC).

The latest phase of investigations has revealed evidence of Neolithic flint working as well as a small cluster of shallow Bronze Age pits. In previous excavation phases, prehistoric features have included a 'ritual shaft' of Late Neolithic date containing Beaker pottery; a contracted (or 'crouched') Bronze Age burial, and scatters of Late Mesolithic/Early Neolithic worked flints. These discoveries indicate that the area may have been used to manufacture hunting equipment such as projectile points, demonstrating repeated and perhaps seasonal use of the landscape for hunting and retooling.

Previous investigations have also revealed extensive farming of Iron Age and Romano-British date including graves, enclosures, pits and building foundations. The new excavations have found boundary ditches and enclosures continuing from adjacent excavation areas with the addition of a fence-lined trackway, possibly used to control the movement of animals from the out-lying fields towards enclosures. The pottery from previous excavations already forms a regionally significant group of 'Belgic' material and indicates that the settlement was of unusual status.

A single burial was found in the 2011 work, seemingly placed within a ditch of possible Iron Age or Roman date. By the late Roman period occupation appears to have been located elsewhere, but still close by – it may lie beneath parts of the parkland to the north-west.

In the 5th century, Anglo-Saxon farmers are known to have been constructing their characteristic 'halls' and sunken-featured buildings (SFBs) in the corners of the former Iron Age and Roman fields. The 2011 excavations found two SFBs, one of which was particularly well-preserved SFB: it contained loom weights and other finds indicating textile working.

Features hinting at medieval settlement were recorded in the southern part of the excavation area. Of particular note is evidence for Late Saxon or early medieval jet-working which came from a pit fill. Other features included two small 13th-century ovens. In addition, a number of medieval ditches were located in the southern corner of the site, containing significant quantities of pottery. A glazed tile from one of the ditches is likely to have originated from a high status building, probably with an ecclesiastical association.

1 INTRODUCTION

1.1 Project Background

- 1.1.1 Oxford Archaeology East were commissioned by Turner Townsend on behalf of The Wellcome Trust to undertake archaeological excavations at the Hinxton Genome Campus, South Cambridgeshire (centred at TL 5442 6092; Fig. 1). The excavation followed an evaluation carried out as part of the 2002 excavations (Kenney 2007).
- 1.1.2 This assessment has been conducted in accordance with the principles identified in English Heritage's guidance documents *Management of Research Projects in the Historic Environment*, specifically *The MoRPHE Project Manager's Guide* (2006) and *PPN3 Archaeological Excavation* (2008).

1.2 Geology and Topography

- 1.2.1 The Technical Hub site lies at around 40m OD on land that slopes towards the River Cam to the west. The site is positioned just above the interface between Middle Chalk 'bedrock' and post-glacial 2nd Terrace River gravels that overlie it to the west. The Genome Campus excavation lay on the east side of the River Cam, on ground that slopes from the A1301 in the east, down to the river, from 40m OD to about 30m OD.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

- 2.1.1 This landscape has been subject to many phases of archaeological assessment and record over the last 17 years as part of planning requirements for development. The most relevant phase of work is the 2002-3 excavations in the area immediately to the north (Genome Campus, Phase 1, Fig. 2). The results of excavation carried out here are summarised in the Post-Excavation Assessment report (Kenney 2007), which details the findings of a 3ha excavation on the east side of the river, and other recording works to the west. The remains investigated here were multi-period, spanning the Mesolithic to post-medieval, but with Iron Age, Romano-British and Early Saxon occupation being the most extensive.

The following archaeological background is drawn from Kenney 2007.

2.2 Early Prehistoric

- 2.2.1 Until recent years, the only evidence of prehistoric activity along the Cam near Hinxton Riverside was a few stray finds around Ickleton village. These include a Neolithic arrowhead found to the north of the village, a Neolithic hand-axe 500m to the south of the village, and a flint 'working site' 1km to the south. This paucity of finds belies the importance of the River Cam gravel terraces to prehistoric activity in the region.
- 2.2.2 Recent large-scale excavations at Hinxton Quarry and Hinxton Hall, as well as an archaeological evaluation at Duxford Mill, have provided evidence of intensive prehistoric activity along the Cam valley within the vicinity of the subject site. The evaluation at Duxford Mill revealed a Late Mesolithic/Early Neolithic group of worked flint within peat deposits on the edge of a palaeochannel (Schlee and Robinson 1995). High-density scatters of later Neolithic worked flint were found during excavations at Hinxton Quarry. A Bronze Age barrow, ploughed out in recent centuries, became a focus for later Bronze Age tool production. This barrow must have been preserved as

an upstanding monument during the Roman period as a ditch of the Romano-British field system terminates at the barrow ditch (Evans 1993). The previous work at Hinxton Hall is summarised below in Section 2.29-2.38 below.

2.3 The Icknield Way

- 2.3.1 The development area is bounded to the south by a road that is generally considered to be part of the Icknield Way. This was one of the oldest roads in Britain, dating from the prehistoric period and consisted of a series of parallel tracks forming a routeway that provided an important link between the northern East Anglian coast and the Thames Valley (Margary 1963, 200). The part of the route in Hinxton probably represents a 'Romanised' length of one such Icknield Way track, and ultimately became the medieval route between Stumps Cross and Ickleton. The point where the Icknield Way crosses the River Cam lies roughly within the development area. It would have been an important strategic crossing place from the prehistoric period through to the post-medieval period.

2.4 Iron Age

- 2.4.1 Evidence of Iron Age activity has only recently come to light in the vicinity of the study area. A Late Iron Age cremation cemetery has been revealed at Hinxton Quarry (M. Alexander, pers. comm.). A metal detector rally held in 1995 at Abbey Farm, Ickleton, revealed five Iron Age finds in fields to the north of the village. These included two coins, a brooch, and two fragments of horse harness fittings. The character of these finds may indicate settlement (Robinson 1995).
- 2.4.2 Limited excavations within the Roman town of Great Chesterford, to the south of the subject site, have indicated that the town had Iron Age origins. Settlement remains of Late Iron Age date, including a house gully and associated features and finds, were found during investigations in 1948 and 1980 (Burnham and Wachter 1990, 138).

2.5 Roman

- 2.5.1 The subject site lies within a landscape that was extensively exploited during the Roman period. The Roman town and fort at Great Chesterford would have been a major influence on the surrounding area. The fort was founded in the 1st century AD, at a strategic position controlling both the Cam valley and the Icknield Way (Going 1989, 2).
- 2.5.2 The civilian settlement adjacent to the fort gradually expanded northwards, and by the early to mid 4th century AD was surrounded by defensive walls. The occupation of the town is suggested to have continued throughout the 4th century, and survival into the 5th century has been postulated. A Roman cemetery on the north side of the town was reused as an Anglo-Saxon cemetery from the mid/late 5th century to the early 7th century (Burnham and Wachter 1990, 142).
- 2.5.3 A grand Roman villa located to the south of Ickleton was partly excavated in the 19th century. It was an elaborate building of winged corridor type, with baths at the rear and a basilica building nearby (CHER 04153).
- 2.5.4 The development area lies within the hinterland of Great Chesterford, and as such would have been extensively exploited by agriculture to provide for the town. Evidence of Romano-British field systems has been investigated at both Hinxton Quarry and at the New Lake site at Hinxton Hall (Leith 1995a and 1995b). Numerous cropmarks of enclosures in the area may also indicate Romano-British field systems and farmsteads.

Cropmarks of two rectilinear enclosures are located within the development area itself, and their morphology suggests a Roman date (see Aerial Photographic Evidence below).

- 2.5.5 Numerous stray finds of Roman date have been made in the village of Ickleton, including a Roman coin (CHER 04117) and 19 finds in the fields to the north of the village during the 1995 metal detector rally. These were mostly coins, but also included three brooches. This concentration of finds corresponds to the location of a cropmark of a rectilinear enclosure, and may indicate a settlement.

2.6 Anglo-Saxon

- 2.6.1 The Early Saxon cemetery to the north of Great Chesterford has been mentioned above. The full extent of the cemetery is not known, but 161 inhumation graves, 33 cremations, two horse graves and two dog burials were excavated in advance of gravel extraction in 1952. It is likely that much of the cemetery had already been destroyed by gravel digging before the rescue excavations took place (Evison 1994).
- 2.6.2 Stray finds of Anglo-Saxon date were found during the metal detector rally in Ickleton in 1995. This included two Early Saxon brooches, a Middle Saxon pinhead, and two Late Saxon strap-ends.
- 2.6.3 Excavations in the Hinxton Hall park in 1993–4 revealed a previously unknown Anglo-Saxon settlement (Spoerry and Leith, forthcoming) which spanned the 6th to 12th centuries (see Section 3.11.1). The remains probably suggest a small hamlet or farmstead. By the late 12th to 13th century, the settlement at Hinxton Hall had been abandoned and settlement may have shifted to the site of the present village. This coincides with a general trend of the formalisation of villages around parish churches in the Late Saxon to medieval period.

2.7 Medieval

- 2.7.1 The first documentary reference to the village of Ickleton occurs in the 10th century. However, the name is of earlier, Anglo-Saxon origin and probably means Icel's farm (Reaney 1943, 95). By the time of the Domesday survey, it was a large village, with 30 villagers, 10 smallholders and two mills (Robinson 1994, 5).
- 2.7.2 The small Benedictine nunnery of St Mary Magdalene was founded c.1163 on the western edge of the village (CHER 04229). The present Abbey Farm occupies its site, and two of the farm buildings contain medieval fabric. Earthwork remains of fishponds and enclosures are still visible (Robinson 1994).
- 2.7.3 The village of Hinxton was well established by the time of the Domesday survey. Its name also had Anglo-Saxon origins, meaning Hengest's farm (Reaney 1943, 94). The church existed by 1092, and the present building, built largely in the 14th century, incorporates earlier parts dated to the late 12th century (Reynolds and Leith 1993). There is no evidence for any buildings of medieval date within the development area.

2.8 Post-Medieval and Modern

- 2.8.1 The parishes of Ickleton and Hinxton were subject of Enclosure Awards in 1810 and 1833 respectively. Parts of the development area had already been enclosed before this time. The main railway line from London to Cambridge, which forms the western boundary of the development area, was opened in 1845. A branch line from Great Chesterford to Newmarket was opened in 1848, but the section from Great Chesterford to Six Mile Bottom was closed only three years later (Elrington 1978, 221). The

embankment for this short-lived railway line is visible as an earthwork running across the south-east corner of the Genome Campus site.

- 2.8.2 The north-east corner of the site was used from 1994 as a builders' compound during the construction works. This has now been dismantled and the area has been ploughed.

2.9 Cartographic Evidence

- 2.9.1 The earliest map available for the vicinity of the study area is the 1799 Ordnance Survey draft first edition 1" map (sheet 146). This map shows Hinxton High Street continuing south from the village, through the development area, and continuing south to Great Chesterford. The line of this road is marked as a field boundary on the 1833 Enclosure Map of Hinxton. The road was investigated within the grounds of Hinxton Hall during the archaeological evaluation, although no dating evidence was retrieved. It is possible that the road is of Roman origin, as many of the roads radiating out of Great Chesterford date to the Roman period. The Late Saxon settlement investigated within the Hinxton Hall park was aligned neatly on a coaxial pattern, parallel to the line of this road.
- 2.9.2 The 1799 map shows the western part of the Genome Campus site as enclosed fields. A relict track is shown extending in a straight line from the road at the south end of the development area where it curves towards the present river crossing. This may indicate that another crossing was located slightly further to the south. Part of this relict track runs through the Ickleton excavation area.
- 2.9.3 The early 19th-century Enclosure Maps for Ickleton and Hinxton show the land divided into small fields within the development area. Those in the western part of the Genome Campus site are indicated as already enclosed at the time of the Award. Part of the Ickleton site is labelled as Meadows. This may indicate that this area was liable to floods and was therefore unsuitable for arable farming.

2.10 Aerial Photographic Evidence

- 2.10.1 An assessment of aerial photographic evidence by Air Photo Services was undertaken as part of the 2007 assessment (Kenney 2007) and is briefly summarised below.
- Hinxton Genome Campus (HINGC02)
- 2.10.2 The higher ground in the eastern part of this area shows only natural periglacial deposits on the chalky drift. The cropmarks of archaeological deposits are located in the western half, closer to the river.
- 2.10.3 Two rectangular enclosures surrounded by ditches are of particular interest. The larger, northern enclosure is associated with a linear ditch, running roughly east to west across the field. Within the smaller enclosure to the south is a group of small rectangular cuts. These may be graves, or they could indicate small hand-cut quarries.
- 2.10.4 Cropmarks of two tracks running north to south across the field correspond to roads indicated on historic maps (see Cartographic Evidence). Their appearance suggests that they may have originally been headlands of medieval fields.
- 2.10.5 Several ditches are located to the south of the enclosures. One of these runs parallel to the river and may indicate a boundary or water controlling structure.
- 2.10.6 Areas of dark soil within the alluvium in the north-western part of the area may have an archaeological origin.

Ickleton Genome Campus (ICK GC 02/03)

- 2.10.7 Much of the northern field is covered with alluvium, which would mask any archaeological features. An 'island' of higher ground in the centre of the field shows cropmarks of former field boundaries. An area of higher ground in the southern field shows cropmarks of ditches, suggesting a possible enclosure with internal features cut by the railway.

2.11 Previous Archaeological Work

Excavations at Hinxtton Hall and environs 1993–1995 (Fig. 2, Nos 1-3)

- 2.11.1 The evaluations and excavations of the mid 1990s revealed Neolithic and Early Bronze Age activity within the Hall grounds, which included farming and quarrying, interpreted from the presence of field boundaries and pits. Scatters of Late Mesolithic/Early Neolithic worked flints suggest that the site may have been used to manufacture hunting equipment such as projectile points. A repeated use of the landscape for hunting and retooling is suggested (Reynolds in Spoerry and Leith forthcoming). In addition a Late Neolithic 'shaft' 1.80m deep was cut into the chalk, the upper fills of which contained sherds of decorated Beaker pottery which may have been deliberately placed (Last in Spoerry and Leith forthcoming).
- 2.11.2 Late Neolithic/Early Bronze Age flooding is indicated by the presence of water-borne silts covering many of the Early Neolithic features (Spoerry 1995). Cut features of Late Neolithic/Early Bronze Age date were found clustered around two or more in-filled ponds or hollows. Evidence of tree clearance during the later Neolithic was also found.
- 2.11.3 No Iron Age remains were encountered at the Hinxtton Hall site or during excavations associated with the construction of the New Lakes (Leith 1995).
- 2.11.4 Roman remains proved to be sparse during excavations at Hinxtton Hall although the occasional traces of activities representing quarrying and possibly rubbish disposal were found. No evidence of field systems was encountered even though the site lies only 2km from the Roman town of Great Chesterford (Spoerry 1995). To the west, however, complex Romano-British remains of 3rd to 4th century date were found during archaeological excavations at the New Lakes site (Fig. 2). Two enclosures associated with field systems were identified and in addition the ground plan of a timber building, probably of Early- Middle Saxon date, was recorded. The Roman artefacts associated with this site indicated an agricultural- rather than settlement-related use (Leith 1995).
- 2.11.5 The earthfast-post timber building mentioned above lies close to Early-Middle Saxon sunken-featured buildings (*grubenhäuser*) excavated in 1994. A group of at least four *grubenhäuser* and a number of postbuilt 'halls' indicate that a small, dispersed settlement existed on the site at this date. Domestic refuse disposal in pits appears to have occurred close by (Spoerry 1995).
- 2.11.6 The Late Saxon occupation of the site evidently took place between the 9th and early 12th centuries. During this period the occupation area was enclosed, although the ditch system appears to have been complex, forming part of a series of rectilinear closes or fields adjacent to the settlement. Successive generations of beam slot and post-built buildings are represented in the enclosure and indicate at least one phase of settlement reorganisation and re-alignment. Ovens, wells and rubbish pits have been identified.
- 2.11.7 Outside the main Late Saxon enclosure at least one large building of sill beam construction with corner posts has been identified and interpreted as a barn. The

relative absence of rubbish pits and artefactual material compared to the main enclosure is thought to indicate an area of agricultural processing, as opposed to occupation (Spoerry 1995).

- 2.11.8 The final phase of settlement activity at Hinxton Hall occurred in the late 11th to early 12th centuries, by which time the enclosure was completely in-filled and an oven placed within the ditch. The demise of this settlement probably coincided with a move towards formalisation of the village around the parish church during the post-conquest period (Spoerry 1995).
- 2.11.9 The presence of rectilinear enclosures, platforms and hollow ways adjacent to the river and on the western side of the Genome Campus combined with historical references to the family of Bard have been used to indicate that, in the 17th century and possibly earlier, houses lay adjacent to the river (Leith and Spoerry 1995).
- 2.11.10 From the 18th century the area known as Hinxton Hall expanded with at least one phase of formal landscaping, which included the creation of an ornamental pond next to the house and the diversion of part of the Ickleton Road. In the mid 19th century Hinxton High Street was diverted around the park (Leith and Spoerry 1995).

Other excavations in the surrounding area

- 2.11.11 Excavations by the Cambridge Archaeological Unit indicate that Roman field systems continue along the river gravel terraces of the Cam and that an extensive agricultural network developed adjacent to Great Chesterford. This work also identified the presence of a 1st century BC cremation cemetery (Alexander and Hill 1996).

Evaluations on the Genome Campus site 1998 and 2002

- 2.11.12 Evaluation trenching was carried out in January and February 1998 on the site of the proposed Wellcome Trust Genome Campus Extension (HIN RIV 98). Field evaluation confirmed the survival of archaeological features, many of which had previously been identified from cropmarks and geophysical survey data. The evaluation showed that these remains largely date from the Late Iron Age through to the Late Saxon periods.
- 2.11.13 The earliest surviving remains consisted of a general background scatter of Neolithic, Bronze Age and Iron Age lithics which lay within the topsoil or later features. The earliest identified cut features were of Late Iron Age date, representing a small farmstead comprising post-built structures, pits, boundaries, midden deposits infilling ditches, and enclosures. Early Romano-British activity continued the Iron Age land use pattern, although at a later date in this period pitting and quarrying for the extraction of sands and gravels occurred along the riverside. Land to the east appears to have continued as a area of agricultural activity. During the Late Saxon period, and possibly earlier, a discrete zone of pitting occurred along the riverside within the smaller of the Iron Age enclosures. Track-ways from the Saxon settlement at Hinxton Hall linked the two activity areas.
- 2.11.14 During 2002 further evaluation occurred within areas where the development had been adjusted following the Environmental Assessment (HIN RS 02). Evaluation trenching occurred on the eastern side of the development area where buildings would impact on previously un-evaluated areas and also on the western side of the Cam (in Ickleton parish) where earlier evaluations had identified a series of palaeochannels.

- 2.11.15 The 2002 evaluation to the west of the Cam showed a sequence of riverside sedimentation which includes palaeochannels and areas of degraded peat which conformed to the spatial sequence shown on the aerial photographs. The best preserved sequence lay immediately adjacent to the Cam and shows that other than by overbank flooding, the river had, during prehistoric and historic times, been largely restricted to its current course.
- 2.11.16 Only one of the evaluation trenches contained any archaeological remains consisting of evidence for hurdles and related woodworking (see Section 5.3.4). The date of this activity is interesting since it suggests an association with the Saxon settlement at Hinxton (excavated in 1994) as well as indicating that a major phase of alluviation occurred in this part of the Cam Valley more recently than was previously anticipated.

Excavations at the Genome Campus site 2002-3 (Fig. 2, Nos 4 and 6)

- 2.11.17 Excavation was undertaken in Hinxton (TL 4998/4430) and Ickleton (TL 4976/4414), between October 2002 and July 2003.
- 2.11.18 The work took place in advance of the construction of an extension to the Genome Campus, and its associated services. This was designated as Phase 1 of the scheme, with Phase 2 being a further expansion at a future date. The creation of the wetlands area on the Ickleton side of the river was considered to be part of the Phase 1 landscaping. On the Hinxton side, approximately 3ha was stripped and excavated in five contiguous areas. Across the River Cam in Ickleton parish, the wetlands area (also known as Hinxton Riverside) was monitored and excavated as several discrete areas that were not assigned individual names.
- 2.11.19 Five periods of occupation have been identified at the Genome Campus site, spanning the prehistoric period to the 19th century. Prehistoric activity indicates that this was a 'preferred' location and includes a contracted (or 'crouched') Bronze Age burial and scattered pits, as well as deposition of lithics within a series of natural channels and ponds; these remains supplement a 'ritual shaft' that had previously been found at the Hinxton Hall site.
- 2.11.20 The most intensive activity occurred during the Iron Age and Roman periods when a range of features indicative of rural settlement was present including track-ways, field boundaries, pit clusters and post holes. While no dwellings have so far been identified from these periods there were continued signs of ritual activity in the form of a large square Iron Age enclosure that may have served a ceremonial function and a possible Romano-British shrine. A small group of burials dating to the Late Iron Age or Early Roman period may relate to a single cemetery.
- 2.11.21 The site has produced several significant finds assemblages that are of sufficient size to enable comparative research with others both locally and regionally, in particular the Iron Age pottery and lithics. The pottery forms a regionally significant group of 'Belgic' pottery and indicates that the settlement was of unusual status.

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Wadeson and Chris Faine are thanked for coordinating the finds and displays for the open days and to all specialists, the illustrator and editor. The project was managed by Paul Spoerry and monitored by Kasia Gdaniec of Cambridgeshire County Council.

4 PROJECT SCOPE

This assessment deals solely with the 2011 excavations. All previous sites will be re-examined and brought together with this most recent phase of works during the forthcoming publication stage.

5 INTERFACES, COMMUNICATIONS AND PROJECT REVIEW

- 5.1 All investigations at the Wellcome Trust site over the last 18 years have been undertaken by OA East and all relevant archives are therefore held within the office at Bar Hill or deposited within the county stores. The analytical and publication stages can therefore be carried out without any need for information from external organisations or other archaeological units.
- 5.2 This Post-Excavation Assessment will be distributed to the client (Wellcome Trust via their representative Turner Townsend) and to Cambridgeshire County Councils Historic Environment Team (Kasia Gdaniec) for approval.
- 5.3 Following approval of this Post-Excavation Assessment and Updated Project Design, a meeting will be convened between relevant parties, following which a timetable for post-excavation analysis and publication will be finalised (see Section 12).
- 5.4 A Publication Synopsis outlining the proposals for the publication of two volumes has already been approved by the East Anglian Archaeology series (see Section 11).
- 5.5 Other meetings will be arranged at relevant points during the post-excavation analysis.

6 ORIGINAL RESEARCH AIMS AND OBJECTIVES

6.1 Regional Research Objectives

- 6.1.1 The regional research agenda has cited chronology as a gap in knowledge for the region during the Iron Age and has recommended that several techniques should be applied in order to establish a chronology (Bryant in Brown and Glazebrook 2000, 14). These include scientific dating techniques, establishing regional pottery sequences and investigation of datable pottery assemblages.

Relevant research objectives are:

- to produce stratified pottery assemblages of Iron Age material to assist in the development of local type series;
- to contribute to the development of a reliable local chronological framework for the Iron Age.

- 6.1.2 The Hinxton site demonstrates a long-lived Early to Late Iron Age/Early Roman pottery assemblage with the potential for study alongside other South Cambridgeshire, North Hertfordshire and North Essex assemblages, enabling assessment of existing chronologies and local variations in an area which lies on the edge of the Belgic core with East Midland style pottery. There is also the issue of the adoption of the Aylesford/Swarling and Roman culture in South Cambridgeshire (Bryant in Brown and Glazebrook 2000, 16).

The regional research objectives are:

- to examine the decline of the Late Iron Age agricultural system seen at various sites in South Cambridgeshire and its relationship to increasing agricultural specialisation, intensification of production *etc*;
- to contribute towards an understanding of the development of the agrarian economy in the Iron Age;
- to examine the impact of the development of towns on the surrounding countryside;
- to investigate the Late Saxon and medieval agrarian economy, through field systems and animal and plant remains.

- 6.1.3 Despite the expectation prior to excavation (and their presence at Hinxton Hall), no Middle Saxon features have yet been identified at the Genome Campus site. Recognising this currently invisible element in the local settlement sequence has importance in relation to national and regional research aims regarding post-Roman rural settlement evolution.

Local and Site Specific Research Objectives

- 6.1.4 At the local level no published general framework exists, although the evaluation brief from the Cambridgeshire County Council Historic Environment Team (Thomas 2002) laid the basis for a site-specific research design. Utilising this document, additional points regarding local research priorities were outlined in the excavation Project Design (Kemp and Spoerry 2002) and key foci for further study are suggested below.

Local and site specific research objectives are:

- to study local settlement patterns and their evolution through the Early Iron Age to the Late Iron Age/Early Roman periods;
- to investigate the economy and local settlement inter-relationships of Late Iron Age settlement;
- to consider the importance of the riverine system to the Late Iron Age/Early Roman communication and economy of this site;
- to examine the local landscape relationships at all periods (including relationships to route-ways such as the Icknield Way);
- to explore farmstead development and settlement patterning in the Iron Age and its apparent lack of continuity with Early Iron Age activity in the development area;

- to examine the site's Romano-British economy and its relationship to the Roman town of Great Chesterford;
- to examine the development of the Anglo-Saxon settlement and associated landscape, including evidence for craft and economy;
- to examine servicing of the Hinxton Hall settlement during the Anglo-Saxon period;
- to study landscape division and utilisation adjacent to the Anglo-Saxon settlement.

7 SUMMARY OF RESULTS

7.1 Site Phasing

7.1.1 This assessment uses a provisional phasing derived from the pottery spot-dating which will be amended during the analytical stage. Additional dating from lithics and other finds as will be further analysed to add to the understanding of each period. Figures 3-6 provide a plans of each period.

7.1.2 Features dated by pottery recovered have been assigned to a period when possible.

7.1.3 The provisional site periods are as follows:

Period 1: Earlier Prehistoric (pre c.3000 BC)

Period 2: Later Neolithic to Early Bronze Age (c. 3000-2000 BC)

Period 3: Later Iron Age to Transitional Romano-British (4th-1st century BC)

Period 4: Early to Middle Saxon (AD 450-700)

Period 5: Late Saxon to Early Medieval (AD 1050-1200)

7.2 Period 1: Earlier Prehistoric (pre c.3000 BC)

7.2.1 This period (Fig. 3) is characterised by two relatively large pits (5384 and 5135) and two natural features: a tree bole (4917) and a natural silted-up hollow (5418). The latter measured approximately 15m by 5m and lay at the northern limit of the excavation area. The two natural features appear to have been utilised for flint production. Further analysis of the flint assemblage will add to the understanding of this period and will also provide more accurate dating (see Appendix B3).

Feature types (number)		Main finds groups			
		Pottery (sherds)	Worked Flint (quantity)	Animal (kg)	Bone
Pits	2	1	14	0	
Tree bole	1	3	7	0	
Hollow silts	1	0	45	0	
Totals	4	4	66	0	

Table 1: Quantification of finds by feature type, Period 1

7.3 Period 2: Later Neolithic-early Bronze Age (c. 3000 – 2000 BC)

- 7.3.1 The only activity from this period appears to have been a small cluster of pits in the middle of the site which appear to be relatively isolated (Fig. 4). The pits (4834, 4838 and 4851) each contained pottery and flint, but very little animal bone. They contained between one and two fills and had straight sides and flat bases (Plate 1). Assessment of the flint assemblage from these pits, along with that from other features undated by pottery, has identified the potential for more accurate dating; key lithic assemblages from these various features are discussed in Appendix B3.

Feature types (number)		Main finds groups			
		Pottery (sherds)	Worked Flint (quantity)	Animal (kg)	Bone
Pits	3	57	75	0.01	
Totals	3	57	75	0.01	

Table 2: Quantification of finds by feature type, Period 2

7.4 Period 3: Later Iron Age-Transitional Romano-British (4th-1st century BC)

- 7.4.1 The later Iron Age to transitional phase at the site was largely represented by boundary ditches and trackways (Fig. 5), which were also recorded during the excavations to the immediate north and west in 2002-3 (Kenney 2007). The main northwest-southeast orientated ditch (5543) ran into the excavation area to the north and also beyond the southern edge where it was also noted in an additional trench/service run as part of the 2002 investigations. In both this area and those previously investigated, the ditch was re-cut in the early medieval period. Alongside this ditch were several smaller, narrow ditches (including 4576, 4844 and 5437) which may represent trackways.
- 7.4.2 At the northern end of the site, two parallel east-west orientated ditches were investigated (4720 and 4718). These also continued from the 2002 area to the immediate west where they were more reliably dated through pottery to the Iron Age. Further analysis is required to determine their relationship with other parallel features in this area.
- 7.4.3 Other ditches in the western part of the site (4540 and 4542) may indicate the position of enclosures, linked at their northern ends to ditches 4720 and 4718.
- 7.4.4 Two moderately large pits lay close to the western edge of the excavation area which may represent quarry pits (4510 and 5507). Another isolated pit (4908) containing large amounts of pottery lay close to the Period 2 pits in the middle of the site.
- 7.4.5 Most of the Romano-British pottery recovered came from within features with later Iron Age pottery or was considered to be intrusive. There does not appear to be a distinctive Romano-British period in this part of the site.
- 7.4.6 A single isolated burial (sk. 5518; Plate 2) appeared to have been dug into the top of a shallow ditch (5519). This burial may have been contemporary with those recorded in the 2002 investigations, which were Iron Age or Early Roman in date. No discernable grave cut was observed although the skeleton did appear to have been carefully placed within the ditch in a NNW-SSE position with the head being at the NNW end. The skeleton was extended in the supine position with its hands together at the right side of

the pelvis. No grave goods were recovered with which to date the burial, meaning that radiocarbon dating is required.

- 7.4.7 Further analysis is likely to attribute other features to this phase, including the parallel rows of post holes at the northern end of the site. These may have been related to livestock management, perhaps to funnel animals into the surrounding enclosures.

Feature types (number)		Main finds groups			
		Pottery (sherds)	Worked Flint (quantity)	Animal (kg)	Bone
Ditches	10	71	21	0.95	
Pits	3	91	56	0.55	
Burials	1	0	0	0	
Totals	14	162	77	1.5	

Table 3: Quantification of finds by feature type, Period 3

7.5 Period 4: Early-Middle Saxon (AD 450-700)

- 7.5.1 Evidence dating to this period was relatively scattered (Fig. 6). The only definite earlier Saxon features were two sunken-featured buildings (SFB; 4578 and 4630), two small pits (4901 and 5051) and one large pit (5098) which has been tentatively dated to this period. Although this widespread distribution might appear arbitrary, these buildings, together with those isolated buildings investigated in 2002-3, may have formed parts of a single community.
- 7.5.2 One of the SFBs (4630; Plate 3) located in the central part of the site contained significant quantities of pottery and a range of items associated with textile manufacture/working. These include several unfired and two fired loom weights, two bone spindle whorls (SF 298 and 307; Plate 4), a bone needle or pin (SF 253), a fragment of probable pin beater (SF 311) and another of probable sword beater (SF 304). Small fragments of copper alloy wire (SF 254) and a decorative nail (SF 291) were also found.
- 7.5.3 The second building (4578) lay towards the northern edge of the site, relatively close to the 2002 excavation area. It was cut into the upper ditch fills on the western side of the Iron Age boundary ditch which was later re-cut in the early medieval period. This building contained relatively limited finds, comprising a few sherds of pottery. An associated posthole (4580) contained a red glass cylinder bead (SF 271) of probable Early Saxon date and a fragment of single-sided composite comb (SF 272).
- 7.5.4 Both buildings produced articulating calcanei and astragali of either cattle or *Equus sp* (horse/donkey), which may suggest a relatively rapid deposition of bone within these features. Other bones came from dog, domestic fowl and domestic or greylag goose in addition to the principal stock animals.
- 7.5.5 Environmental samples taken from SFB 4578 contained no preserved plant remains, although the numerous samples from SFB 4630 contained charred cereals, dominated by barley (Appendix C.3).

- 7.5.6 No other undated ditches or postholes could be identified at assessment which were clearly associated with the buildings, although further analysis is expected to identify such features.
- 7.5.7 Two relatively isolated pits (4878 and 4630) were located at the southern end of the site and a relatively large pit was recorded which contained a single sherd of both Early-Middle Saxon and Roman pottery.

Feature types (number)		Main finds groups			
		Pottery (sherds)	Worked Flint (quantity)	Animal (kg)	Bone
SFBs	2	71	25	5.71	
Pits	2	3	1	0.04	
Post holes	1	1	0	-	
Totals	5	75	26	5.75	

Table 4: Quantification of finds by feature type, Period 4

7.6 Period 5: Late Saxon – Early Medieval (AD 1050-1200)

- 7.6.1 This period saw the re-cutting of the large north-northwest-south-southeast ditch system (4632) as previously recorded in the 2002-3 excavations to the immediate north as well as the continuation of the associated east-northeast to west-southwest ditches in the south-western corner of the site which appeared to terminate just before the main boundary ditch (5216 *etc*, Fig. 7). These ditches contained significant quantities of pottery, as well as a fragment of a decorated ceramic floor tile (SF 301, Plate 6). One of the ditches (5285) appeared to be a continuation of the re-cut boundary which turned at a right angle at the southern limit of the site.
- 7.6.2 Two isolated ovens (5187 and 5308) were also investigated; both lay close to the major boundary ditch. Only one oven contained dating evidence in the form of an almost complete cooking jar of 13th-century date (Plate 5), which was sealed beneath the collapsed clay dome. Part of a coin or embossed disk came from oven 5187. The ovens were so similar in form, construction and dimension, that they are considered to have been contemporary. Environmental samples from the fills of both features contained charred cereals in low densities, some of which have tentatively been identified as bread wheat (Appendix C3).
- 7.6.3 An L-shaped ditch located towards the southern end of the site, which contained relatively large quantities of pottery, may represent the location of a small building. Various adjacent ditches may indicate the presence of minor enclosures (5175 *etc*). Several undated post holes and pits located nearby will be examined in the analytical stage to determine whether they were associated.
- 7.6.4 A number of pits in the south-western part of the site contained notable finds assemblages, including several fragments of jet from pit 4623 which are considered to be discarded working debris (Appendix B.7).

Feature types (number)		Main finds groups		
		Pottery (sherds)	Worked Flint (quantity)	Animal Bone (kg)
Pits	8	37	4	0.11
Post holes	3	4	5	0.07
Ditches	12	355	4	0.45
Ovens	2	61	-	-
Totals	25	457	13	0.63

Table 5: Quantification of finds by feature type, Period 5

8 FACTUAL DATA AND ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

8.1 Stratigraphic and Structural Data

The Excavation Record

8.1.1 The site records are quantified in the following table:

Type	Quantity
Context numbers	1046
Plan registers	3
Section registers	6
Sample registers	15
Plans	79
Sections	236
Black and white films	10 approx.
Digital photographs	516 approx.

Table 6: Quantification of records

Finds and Environmental Quantification

8.1.2 All finds have been washed, quantified and bagged or boxed. The site assemblage is quantified in the following table:

Material	Weight (kg)	Quantity (no.)
Animal bone	12.467	1588
Ceramic building material	-	1
Copper alloy	-	8
Fired clay	0.105	-

Glass	-	2
HSR	-	1
Ironwork	-	25
Jet	-	14
Pottery	12.038	1035
Shell	0.006	-
Worked bone	-	9
Worked flint	-	349
Worked stone	-	9

Table 7: Finds quantification

- 8.1.3 Environmental samples were collected from a representative cross-section of feature types and locations. These samples were taken to analyse the preservation of micro- and macro-botanical remains. They are summarised by feature type in Table 8.

Sample type	Pits	Ditches	Postholes	SFBs	Ovens	Burials	Layers	Total
Flotation	28	10	11	14	7	3	3	0

Table 8: Quantification of samples by feature type

Range and Variety

- 8.1.4 The range of features types on the site included ditches, pits, waterholes, postholes, gullies, an inhumation burial and tree throws. The ditches were mainly boundary or enclosure ditches of varying sizes.

Condition

- 8.1.5 Preservation of features was good across the excavation area. It became apparent that some landscaping of the area had taken place during the construction works which followed the 2002-3 excavations. As a result, there was very little topsoil/subsoil coverage (less than 0.15m) over the archaeological remains on the north-eastern side of the site which appeared to have been stripped to natural geology. Modern machinery/track marks and wheel ruts were noted at the level of archaeological remains. Much of the removed material, including that created when the underground car park was added to the immediate north-east, appears to have been added to build up the ground-level at the western side of the site where coverage was in excess of 1m.
- 8.1.6 This episode of landscaping appeared to have had little impacted on the survival of archaeological remains.

8.2 Artefact Summaries

Prehistoric Pottery (Appendix B.1)

Summary

- 8.2.1 A total of 372 sherds of prehistoric pottery (weighing 5,885g) were collected from 30 excavated features and a surface spread. The earliest pottery within the assemblage is tempered with coarse flint and may be earlier Neolithic, although similar fabrics were also used in the later Bronze Age or earlier Iron Age and the undecorated body sherds are not closely datable. A small assemblage of later Neolithic early Bronze Age pottery was collected including twenty sherds of Grooved Ware and a single sherd of Beaker.
- 8.2.2 The remainder of the assemblage is later Iron Age, dating to the 3rd to 1st centuries BC, and Iron Age/Romano British transitional period of the 1st century BC to the 1st century AD. The pottery is fragmentary and no complete vessels were recovered.
- 8.2.3 The earlier prehistoric pottery is poorly preserved whilst the later Iron Age and transitional sherds are larger and mostly in moderate to good condition.

Statement of Potential

- 8.2.4 *Early Prehistoric pottery:* The earlier prehistoric pottery is of interest as it may be related to earlier Neolithic flint working found at the site and to early episodes of tree clearance (Evans *et al* 1999). A full consideration of the earlier Neolithic sherds should be included in the analysis; this will include a discussion of contemporary assemblages from the region and a full description of the fabric. No sherds require illustration.
- 8.2.5 *Later Neolithic early Bronze Age :* The Grooved Ware assemblage is of great interest as this type of pottery remains poorly understood in non-monumental contexts in the region (Garwood 1999 154). Full analysis of the Grooved Ware assemblage will include integration of site data and phasing and a discussion of regional parallels and dating. The sherds are in poor condition but perhaps two could be selected for illustration.
- 8.2.6 *Later Iron Age :* The Iron Age assemblage adds to a growing number of contemporary sites in the region. Detailed analysis will include an examination of the pit fills, postholes and ditches and include integration of site data and phasing. The assemblage will be discussed in comparison with other contemporary material from the area and a maximum of five sherds will be chosen for illustration.
- 8.2.7 *Transitional Iron Age to Romano-British :* This assemblage falls within a period which is poorly characterised within the region where adoption of new pottery forms was both 'selective and variable' (Haselgrove *et al* 2001, 30). Detailed analysis is required including a complete description of fabrics and forms and full integration of site data and phasing. The assemblage should ideally be discussed in comparison with other contemporary material from the area and in relation to the Romano-British assemblage from the site in consultation with the Roman pottery specialist. A maximum of 10 sherds will be chosen for illustration.

Post-Roman Pottery (Appendix B.2)

Summary

- 8.2.8 Archaeological excavation produced a pottery assemblage of all periods of 1035 sherds, weighing 12.038kg. A small number of sherds were recovered from samples which have been included in this assessment alongside hand-excavated finds.

Statement of Potential

- 8.2.9 Recent work on provenance of local fabric types now offers significant opportunity to understand better ceramic commodity production and distribution in Anglo-Saxon to medieval Cambridgeshire (Spoerry forthcoming). Such work can be best achieved on well-excavated modern assemblages such as this. Investigation is necessary through both traditional identification and quantification, and through specialist analysis (Thin Section and Inductively Coupled Plasma Spectrometry (ICPS)).

Lithics (Appendix B.3)

Summary

- 8.2.10 A total of 439 struck flints, numerous pieces of natural unworked flint and 294 pieces (3891g) of burnt unworked flint was recovered from the excavations. These excavations followed on from earlier work which had also produced a sizeable assemblage of struck flint (Bishop 2007). The newly discovered flint assemblage includes a small number of diagnostic artefacts, but these, along with the morphological and technological attributes suggest a concentration of Neolithic artefacts with some residual Mesolithic flints amidst a very low-level background scatter of later prehistoric material. The Neolithic assemblage appears to have been heavily concentrated in a small number of features, mostly as the fill of pits.

Statement of Potential

- 8.2.11 The flint assemblage from the 2011 excavations represents a small but important collection of material. Taken with the earlier phase of work the assemblage totals 1432 flints which is of considerable importance. The material has clear potential to enhance and refine site phasing. Given that many of the pieces originate from contemporary features and that these have been sampled where appropriate, their assemblages can be seen as meriting further metric analysis.
- 8.2.12 The assemblage differs from the earlier material in that it appears to be more period specific with a large focus in the Early Neolithic period. It also differs in that the full reduction sequence appears to be represented here, including decortical flakes, preparation and trimming flakes, regular inner removals, simple tools, formal tools and rejuvenation flakes. The one key sub-group in the earlier assemblages contains a very similar assemblage to the pit-based assemblages with high incidence of elongated scrapers and microdenticulates/serrated flakes and this would indicate that the area of domestic focus was larger than previously thought. Several of the assemblages recovered from these discrete pits constitute a statistically valid population for detailed metric analysis for comparison with similar pit-based assemblages from the Neolithic

period known from eastern England (Bishop and Proctor, 2011, Garrow *et al* 2005, Garrow 2006, Pollard 1998).

Ironwork (Appendix B.4)

Summary

- 8.2.13 A total of 25 fragments of ironwork, probably representing 15 objects, were submitted for assessment. Most came from stratified contexts, with a single fragmented bone-handled knife and a possible rove being recovered unstratified. All objects are in poor condition and have not been x-radiographed. The plain and utilitarian ironwork from the site cannot be dated with any precision. Where it could be determined, however, the objects appear to range from Romano-British to recent in date.

Statement of Potential

- 8.2.14 Unless the proposed x-radiography reveals more detail, it is unlikely that the ironwork has any potential to contribute further to the dating, interpretation and understanding of specific activities on the site. Archival catalogue entries should be completed, and a brief note report prepared for inclusion into the proposed publication.

Copper Alloy Objects (Appendix B.5)

Summary

- 8.2.15 Eight fragments of fine metalwork, representing probably six objects (including fine wire and a decorative nail), were submitted for assessment. Most were from stratified contexts, with two of the six objects coming from the fills of SFBs. Of note amongst the remaining items is a coin or embossed disk recovered from one of the medieval ovens (5187).
- 8.2.16 Condition varies, but is generally good. Few of the objects are chronologically diagnostic, and they can only be dated from other sources, although those from SFB 4360 are presumably contemporary with the structure.

Statement of Potential

- 8.2.17 Given its limited quantity and character, it is unlikely that the fine metalwork has any significant potential to contribute further to the dating, interpretation and understanding of specific activities on the site. Archival catalogue entries should be completed, and a brief note for inclusion into the proposed publication.

Worked Bone (Appendix B.6)

Summary

- 8.2.18 Nine fragments of worked bone, probably representing nine objects, were submitted for assessment. All came from stratified contexts, with only one (fill 4660, SFB 4630) producing more than one object. All are in good condition. The assemblage comprises a narrow range of objects, mainly associated with textile production, and dating from the early medieval period. The principal interest in the group lies in the items associated with textile production (two spindle whorls, a needle/pin, probable pin

beaters and a probable sword beater), all of which from contexts spot-dated by pottery to the period AD 400/450 – AD 700.

Statement of Potential

- 8.2.19 The worked bone finds have potential to contribute to the interpretation and understanding of specific activities on the site, having been found on conjunction with other items, for example loom weights, associated with textile production. They are not diagnostic in terms of dating, but if considered in conjunction with other broadly contemporary finds from the site, could contribute to a refinement of the dating. Archival catalogue entries should be completed, and a brief illustrated report prepared for inclusion into the proposed publication.

Worked Stone and Jet (Appendix B.7)

Summary

- 8.2.20 An assemblage of 9 fragments of worked stone (including fragments of rotary millstones/querns and a whetstone), were submitted for assessment, along with a bag of small lava fragments which were not quantified. All are from stratified contexts and are in good condition. In addition, a single context (fill 4622, pit 4623) produced 14 fragments of jet or oil shale. Where it could be determined, the objects appear to be of Late Saxon/early medieval or medieval date.

Statement of Potential

- 8.2.21 The worked stone finds have limited potential to contribute further to the interpretation and understanding of specific activities on the site, but the identification of stone types used for the querns and the whetstone will contribute to an understanding of trade contacts.
- 8.2.22 The group of jet-working debris has more significance, given its relative rarity value, and contributes to an understanding of Late Saxon to early medieval activity on the site. Such activity was probably widespread during the medieval period (Campbell 2001), and similar evidence has been found at centres such as medieval York (Ottaway and Rogers 2002). Archival catalogue entries should be completed for the Hinxton assemblage, and an illustrated report prepared for inclusion into the proposed publication. Three samples should be submitted for geological identification.

Glass and Ceramic Tile (Appendix B.8)

Summary

- 8.2.23 Two fragments of glass and one of ceramic building material were submitted for assessment. All are in good condition. Where it could be determined, the objects are of Anglo-Saxon/early medieval and medieval date.
- 8.2.24 The glass items consist of a cylinder bead (SF 271) of probable Early Saxon date recovered from a posthole (4580) associated with SFB 4578 and an undiagnostic fragment of vessel glass from a ditch fill (ditch 5266).
- 8.2.25 A decorated floor tile of probable 13th- to 14th-century date (Plate 6) came from a medieval ditch fill (ditch 5076). It shows an animal, probably a rabbit, and is of a type often associated with ecclesiastical buildings.

Statement of Potential

- 8.2.26 The glass bead adds to the general information about the character of activities conducted within the SFBs at the site. It is unlikely that its dating can be further refined.
- 8.2.27 The fragment of ceramic floor tile can contribute towards dating the context from which it derives, and the surviving design on the tile will to a limited extent allow some exploration of a possible source.
- 8.2.28 Archival catalogue entries for both the bead and the floor tile should be completed, and a brief illustrated report prepared for inclusion into the proposed publication.

8.3 Environmental Summaries

Human Skeletal Remains (Appendix C.1)

Summary

- 8.3.1 A single skeleton (5518) was found within ditch 5519. No discernible grave cut was observed although the skeleton did appear to have been carefully placed within the ditch in a NNW-SSE position with the head being at the NNW end (Plate 2). The skeleton was extended in the supine position with its hands together at the right side of the pelvis.
- 8.3.2 No finds relating to the burial were found, although it may date to the Iron Age or Roman period on the basis of its position within the ditch and in comparison to other burials found during previous excavations at the site. A later, Anglo-Saxon, date is also possible.

Statement of Potential

- 8.3.3 Overall skeleton 5518 is in good condition and is relatively complete. This means that there is potential to obtain information regarding the individual's sex, age at death, and physical attributes (stature and build) and undertake a relatively detailed appraisal of their bones for health and disease.
- 8.3.4 It is recommended that full osteological analysis is undertaken in accordance with the guidelines set out by BABAO/IFA (Brickley and McKinley 2004). This will include a detailed inventory of the remains, estimation of sex and age that takes into consideration a standard range of indicators, metrical and non-metrical recording and the calculation of stature and skeletal indices. Pathological lesions (dental and skeletal) will be recorded macroscopically and will be described and interpreted with reference to standard texts (for example Aufderheide and Rodriguez-Martin 1998).
- 8.3.5 It is also recommended that the bones are sent for radiocarbon dating in order to determine a date for the burial.
- 8.3.6 The findings of the analysis will be discussed in terms of their reliability and significance. This will be by reference to their funerary context, the broader site context and comparative assemblages (for example, Roberts and Cox 2003) as appropriate.

Faunal Remains (Appendix C.2)

Summary

- 8.3.7 In total, 1588 animal bone or teeth fragments were recorded by this assessment. This constitutes all of the hand-collected material. No bones from soil samples were available at time of writing. The bone has been attributed to six broad phases, including unphased material. Phasing has been obtained from pottery spot dates only. Further stratigraphic analysis may attribute further unphased animal bone to a period.

Statement of Potential

- 8.3.8 The total number of identifiable fragments is too small to provide a reliable representation of the proportion of stock animals husbanded at the site. The number of recorded data concerned with the mortality of the principal stock animals, in the form of records of tooth wear and epiphyseal fusion states, biometric records, used to assess the size, differentiate between breeds and in some cases assess the male:female ratio of the stock, and butchery records have been provided. In each instance the numbers are too low to prove useful in analysis, although there maybe some potential to compare the size of stock animals to other sites in the region using standard measurements as described in Davis (1996).
- 8.3.9 Associated or articulated bone groups (ABG's), that may be interpreted as acts of deliberate deposition or as different to background deposition of bone as defined by Hill (1995), are few. The two Anglo-Saxon SFBs produced articulating calcanei and astragali (of cattle from SFB 4578, and of *Equus sp* from SFB 4630), which may suggest a more rapid deposition of bone within these features. They contained 21 and 55 NISP identifiable to a species level respectively, including dog, domestic fowl and domestic or greylag goose in addition to the principal stock animals. Also potentially of interest are an articulating medieval sheep or goat radius and ulna from deposit 5485 of feature 5460, and a dog skull and femur from the currently unphased pit 4549.
- 8.3.10 It is recommended that the assemblage be fully recorded and integrated into the stratigraphic record of the site. A short report should be compiled for publication, presenting a methodology; quantification; discussion of the bones from the domestic and wild animals identified; discussion of the bone from SFB's 4578 and 4630 and any further bone deposits which prove to be of interest during the analysis; and a discussion of the spatial distribution of the animal bone and metrical data if this proves to be appropriate.
- 8.3.11 Any reporting should take account of the faunal remains recovered from previous excavations at campus, assessed in Baxter (2007). This comprised a slightly larger quantity of predominantly Iron Age and Romano-British animal bone, with limited quantities of Anglo-Saxon bone. If practicable, the bone from the two phases of work should be reported upon collectively.

Environmental Remains (Appendix C.3)

Summary

- 8.3.12 A total of seventy-seven samples were taken during the recent excavations. These include bulk samples (average size of 20L) taken in order to assess the quality of preservation of plant remains and their archaeobotanical potential. Features sampled include pits, post-holes, ditches and ovens dating from the prehistoric through to the early medieval period in addition to the SFBs and associated features. A single burial was also sampled. Several of the features had not been securely dated at the time of writing this report.
- 8.3.13 Previous excavations at this site have shown that there is the potential for the recovery of charred and mineralised plant remains (Fryer & Murphy, 1993, Fryer 2004) including all four of the main cereal groups, weed seeds and tree/shrub macrofossils.

Statement of Potential

- 8.3.14 As noted in previous investigations of plant remains at this site there is limited potential for archaeobotanical study. Full analysis was carried out on the plant remains from the 1993 excavations at Hinxton Hall which was considered to be the main area of activity. Plant remains from later excavations at the Genome Campus were insufficient in quantity to justify further analysis and similar results have been obtained from this current phase of excavation. The quantity of plant remains recovered is relatively low although further processing of remaining soil may produce quantifiable assemblages.
- 8.3.15 Based on this initial appraisal, those samples deemed to have archaeobotanical potential are recommended to have the full volume of soil processed (the remaining buckets) and the flots will then be subjected to a more detailed assessment in which cereals and weed seeds will be identified. It is recommended that all of the bulk samples from the Anglo-Saxon and selected samples from the early medieval period are fully processed with full analysis of those samples that produce a quantifiable assemblage (>100 specimens). Additional samples may be selected once full phasing has been completed.

9 UPDATED RESEARCH AIMS AND OBJECTIVES

9.1 Overview

- 9.1.1 The existing research aims and objectives for the project (outlined in Section 6) are revisited below in relation to the findings of the excavation. The research objectives are noted in *italics* below, and are followed by a brief discussion as to how the results of the 2011 Hinxton excavations can add to the debate on the specific research themes identified.

- 9.1.2 Additional research aims and objectives for the project relate particularly to the earlier prehistoric period of site use, research objectives for which were not clearly defined previously.

9.2 Regional Research Objectives

- 9.2.1 *To produce stratified pottery assemblages of Iron Age material to assist in the development of local type series and to contribute to the development of a reliable local chronological framework for the Iron Age*

The project has successfully produced additional assemblages of Iron Age pottery, which can be combined with the material from previous work and contemporary assemblages in the region to enhance understanding of ceramic chronology.

- 9.2.2 *To examine the decline of the Late Iron Age agricultural system seen at various sites in South Cambridgeshire and its relationship to increasing agricultural specialisation, intensification of production etc*

Extensive evidence for fields and other enclosures was found during the recent work, many of which date to the later Iron Age to transitional period. These ditch systems require further examination in relation to previously excavated features to which they clearly relate. The combined evidence may then provide the potential to examine this research issue.

- 9.2.3 *To contribute towards an understanding of the development of the agrarian economy in the Iron Age*

The extensive ditch systems and related features, notably including fence lines which may relate to stock management, offer the potential to contribute to this research theme, particularly when combined with the evidence from previous excavations. The assemblages of animal bone and plant macrofossils will also contribute to this analysis.

- 9.2.4 *To examine the impact of the development of towns on the surrounding countryside*

Comparisons and contrasts between the material from the entire Hinxtton site and its environs, particularly Great Chesterford, will allow examination of this issue.

- 9.2.5 *To investigate the Late Saxon and medieval agrarian economy, through field systems and animal and plant remains*

The recent excavations provide the potential to address this research objective, through a combined analysis of field systems, finds and environmental assemblages. In addition, the two medieval ovens, which may have functioned as corn driers or bread ovens, offer the potential to examine this issue.

- 9.2.6 *To identify Middle Saxon features at the Genome Campus site. Recognising this currently invisible element in the local settlement sequence has importance in relation to national and regional research aims regarding post-Roman rural settlement evolution*

The two SFBs and related features provide important new information about Early to Middle Saxon settlement in this part of the Hinxtton site, which can be compared and contrasted with the substantial evidence from Hinxtton Hall to the north (see below).

9.3 Local and Site Specific Research Objectives

- 9.3.1 *To study local settlement patterns and their evolution through the Early Iron Age to the Late Iron Age/Early Roman periods; to investigate the economy and local settlement inter-relationships of Late Iron Age settlement*

The remains newly discovered at Hinxton have the clear potential to address these issues, particularly when linked to the results from previous excavations. Examination of the extensive excavations conducted across the entire Hinxton landscape will permit a full consideration of the differing character of activities conducted here during the Late Iron Age and in the transition to the Romano-British period. It is clear that parts of the site were set aside for livestock or arable fields, while others found during previous excavations were used for 'ritual' activity, in the form of burials and a possible ceremonial enclosure. The absence of domestic settlement (in the form of roundhouses) is particularly notable.

In ceramic terms, the site produced a useful assemblage of transitional Iron Age to Early Roman pottery - a period which is currently poorly characterised within the region. This was a time of considerable variation in the patterns of adoption of new ceramic forms and examination of the ceramic assemblage in relation to earlier excavated assemblages from the site itself and those from surrounding sites will be of particular interest.

- 9.3.2 *To consider the importance of the riverine system to the Late Iron Age/Early Roman communication and economy of this site; to examine the local landscape relationships at all periods (including relationships to route-ways such as the Icknield Way)*

Various trackways and other routes (such as droveways) have been recorded across the entire site, including possible examples suggested by the positioning of ditches in the 2011 work. These will be collectively examined during analysis in relation to surrounding routes, including the Icknield Way, and in relation to the adjacent river crossing. The local river network may have facilitated trade and this possibility will be considered during analysis.

- 9.3.3 *To explore farmstead development and settlement patterning in the Iron Age and its apparent lack of continuity with Early Iron Age activity in the development area*

The recent excavations provided no clear evidence for Early Iron Age activity, with a gap in activity (in ceramic terms) being evident between the Early Bronze Age and the later Iron Age. The possible reasons for this, and similar results from the surrounding work, will be considered during analysis.

- 9.3.4 *To examine the site's Romano-British economy and its relationship to the Roman town of Great Chesterford;*

Despite its location in an area known to have seen considerable Romano-British activity, the new work provided no evidence for Romano-British settlement. The apparent absence of activity at this date in this part of the site will be considered further during analysis in relation to the earlier excavation results and in relation to the wider landscape. Remains of this date were also sparse at the Hinxton Hall sites, although rural settlement was clearly present at the Genome Campus site, including a possible shrine.

- 9.3.5 *To examine the development of the Anglo-Saxon settlement and associated landscape, including evidence for craft and economy*

The discovery of two further SFBs at the Genome Campus sites is an important addition to those found during previous work. Numerous similar buildings have been found on the site, with associated features such as post-built structures, pits, field systems and enclosures. Many of these features yielded evidence for craft and economy, to which the recent excavation contributes further evidence for textile manufacture/working. Taken as a whole and when combined with evidence from animal

bone and plant remains, the analytical stage has considerable potential to address issues relating to craft activities and the related economy.

9.3.6 *To examine servicing of the Hinxton Hall settlement during the Anglo-Saxon period*

The evidence from the newly discovered SFBs will combine with that previously found in the outlying parts of the site to permit a full examination of this issue during analysis.

9.3.7 *To study landscape division and utilisation adjacent to the Anglo-Saxon settlement*

The multitude of ditches and other features found during the recent work has the clear potential to address this issue, particularly when combined with the evidence from previous phases of work.

9.4 **New Research Objectives**

Processes of tree clearance

9.4.1 Both the earlier prehistoric pottery and the lithic assemblage have the potential to address this issue, particularly when combined with evidence for tree clearance in the form of tree throws.

9.4.2 *Exploring lithic technologies*

The lithic assemblage from the new work, although small, is an important assemblage with the potential to address a range of research issues in relation to aspects such as reduction strategies. The recovery of discrete pit assemblages is particularly fortunate, and will permit close examination in relation to similar assemblages from other sites. In addition, when combined with the results from previous excavations, the site assemblage forms a substantial group with clear potential for the examination of metrical and technical attributes.

Developing ceramic chronologies in the Neolithic to Bronze Age

9.4.3 The Grooved Ware assemblage is of particular significance since this type of pottery is currently poorly understood in non-monumental contexts in the region (Garwood 1999, 154). The assemblage from Hinxton came from discrete pit groups and is therefore particularly valuable in terms of dating.

9.4.4 *Saxo-Norman settlement and landscape evolution*

The 2011 excavations produced unexpected results in relation to the presence of ovens, structures and enclosures of Saxo-Norman date (11th-12th century) in the south-western part of the excavation area. Few significant remains of this date had been identified in the 2002 excavation, although the Saxon settlement excavated in the 1990s had its last major occupied phase at this time. The function and nature of the new remains needs to be investigated in the context of this larger settlement close by and to the north. Do these remains constitute evidence for contemporary activities supportive of the main site, or was it an additional domestic focus? These additional lines of enquiry represent in part the development of the themes already being investigated for the earlier part of the Saxon period (9.6 and 9.7 above), but extended and developed.

10 METHODS STATEMENTS FOR ANALYSIS

10.1 Stratigraphic Analysis

- 10.1.1 Context, finds and environmental data will be analysed using an MS Access database. The specialist information will be integrated to aid dating and complete more detailed phasing of the site.
- 10.1.2 Since the preliminary phasing presented in this assessment is based solely on pottery spot-dates, a significant proportion of the features have yet to be assigned to a phase. Integration and consideration of the specialist reports, in particular lithics, demonstrates the clear potential for sub-phasing of the earlier prehistoric phase (Period 1). Some of the diagnostic finds from other periods will also allow revisions to the outline phasing presented here.
- 10.1.3 Further analysis will also permit the phasing and grouping of currently undated features based on alignment, location and type. This will be supplemented by linkage with evidence recorded in the surrounding excavation areas. Many of the ditches, for example, clearly extended into adjacent sites.

Illustration

- 10.1.4 All site plans and selected sections have already been digitised using AutoCAD and a GIS system. Report and publication figures will be created in Adobe Illustrator. Finds recommended for illustration will be drawn by hand, or photographed as appropriate.

10.2 Background Research

- 10.2.1 Primary and published sources will be consulted using the Cambridgeshire Historic Environment Record, aerial photographs and comparable sites locally and nationally.

10.3 Artefactual Analysis

Prehistoric Pottery

- 10.3.1 Analysis of the prehistoric pottery will follow the current guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010).

Post-Roman Pottery

- 10.3.2 Analysis of the post-Roman pottery will be conducted in accordance with current national standards (MPRG 1998; 2001), with recording using OA East's in-house system which is based on that used at the Museum of London.

Lithics

- 10.3.3 Metrical and technological attribute analysis will be undertaken on flakes and a limited number of artefact types. Technological attributes to be recorded include; butt type (Inizan *et al.* 1993), extent of dorsal cortex, termination type, flake type (Harding 1990), hammer mode (Onhuma and Bergman 1982), and the presence of platform edge abrasion and dorsal blade scars. Metrical analysis will undertaken using standard methods for recording length, breadth and thickness (Saville 1980) and the data will be considered against current research (e.g. Pitts and Jacobi 1979; Ford 1987).

Ironwork, Copper Alloy, Worked Bone, Worked Stone and Other Finds

- 10.3.4 These categories of finds will be analysed using standard OA South procedures, which are based on current national guidelines.

10.4 **Ecofactual Analysis**

Human Skeletal Remains

- 10.4.1 Further work will be undertaken in accordance with the guidelines set out by BABAO/IFA (Brickley and McKinley 2004). This will include a detailed inventory of the remains, estimation of sex and age that takes into consideration a standard range of indicators, metrical and non-metrical recording and the calculation of stature and skeletal indices. Pathological lesions (dental and skeletal) will be recorded macroscopically and will be described and interpreted with reference to standard texts (e.g. Aufderheide and Rodriguez-Martin 1998).
- 10.4.2 Samples for radiocarbon dating will be sent to an appropriate laboratory (e.g. the Scottish Universities Environmental Research Centre).
- 10.4.3 The findings of the analysis will be discussed in terms of their reliability and significance. This will be by reference to their funerary context, the broader site context and comparative assemblages (e.g. Roberts and Cox 2003) as appropriate.

Faunal remains

- 10.4.4 The assemblage will be fully recorded using standard methodologies (see Appendix C.2). A short report will be compiled for publication, presenting a methodology; quantification; discussion of the bones from the domestic and wild animals identified; discussion of the bone from SFB's and any further bone deposits which prove to be of interest during the analysis; and a discussion of the spatial distribution of the animal bone and metrical data if this proves to be appropriate. The report will take account of the faunal remains recovered from previous excavations at campus, assessed in Baxter (2007).

Plant macrofossils and other remains

- 10.4.5 Those samples examined so far deemed to have archaeobotanical potential will have the full volume of soil processed (the remaining buckets) and the flots will then be subjected to a detailed analysis in which cereals and weed seeds will be identified in accordance with standard practices (see Appendix C.3).

11 **PUBLICATION AND ARCHIVING**

11.1 **Publication**

Outlet

- 11.1.1 It is proposed that the results of the project should be integrated into the the two volume report in East Anglian Archaeology (EAA), which has already been approved by the editorial committee under the working titles:
Part I: Hinxton, Cambridgeshire: Prehistoric to Romano-British by Alice Lyons
Part II: Hinxton, Cambridgeshire: Anglo-Saxon to Medieval by Paul Spoerry and Andy Simmonds
- 11.1.2 The results from the 2011 excavations will be separated chronologically into these two volumes, at the appropriate point during analysis.

Report Structure

11.1.3 Part I: Prehistoric to Romano-British

Front matter	(listings, acknowledgements, list of contributors <i>etc.</i>) (c. 10 pages)
Chapter 1	Introduction (c. 5 text pages, c. 5 figures, c. 3 plates)
Chapter 2	The Prehistoric Period (Period 1) (c. 15 text pages, c.25 figures, c. 10 plates)
Chapter 3	Romano-British Settlement (Period 2) (c. 10 text pages, c.15 figures, c. 5 plates)
Chapter 4	The Finds (c. 20 text pages, c. 30 tables, c.25 figures, c. 15 plates)
Chapter 5	The Zooarchaeological and Botanical Evidence (c. 15 text pages, c. 15 tables, c. 10 figures, c. 5 plates)
Chapter 6	Discussion and Conclusions (c. 10 text pages, c. 5 figures)
	Back Matter (bibliography, index, <i>etc.</i>) (c. 10 pages)

	Sub-total	No. pages
Total front matter	10	10
Total text pages	75	75
Total figures	85	50
Total plates	38	19
Total tables	45	15
Back material	10	10
Volume Total		179

Table 9: Part I volume summary

11.1.4 Part II: Anglo-Saxon to Medieval

Front matter	(listings, acknowledgements, list of contributors <i>etc.</i>) (c. 10 pages)
Chapter 1	Introduction (c. 5 text pages, c. 5 figures, c. 3 plates)
Chapter 2	Anglo-Saxon Settlement (c. 25 text pages, c. 20 figures, c. 10 plates)
Chapter 3	Saxo-Norman to Medieval Settlement

(c. 15 text pages, c. 10 figures, c. 5 plates)

- Chapter 4 The Finds
(c. 25 text pages, c. 25 tables, c.20 figures, c. 10 plates)
- Chapter 5 The Zooarchaeological and Botanical Evidence
(c. 15 text pages, c. 15 tables, c.10 figures, c. 5 plates)
- Chapter 6 Discussion and Conclusions
(c. 10 text pages, c. 5 figures)
- Back Matter (bibliography, index, etc.)
(c. 10 pages)

	Sub- total	No. pages
Total front matter	10	10
Total text pages	95	95
Total figures	70	45
Total plates	33	15
Total tables	40	13
Back material	10	10
Volume Total		188

Table 10: Part II volume summary

11.2 Storage and Curation

- 11.2.1 Excavated material and records will be deposited with, and curated by, Cambridgeshire County Council in appropriate county stores under the Site Code HIN GEC 11 and the county HER code ECB3716 . A digital archive will be deposited with OA Library/ADS. CCC requires transfer of ownership prior to deposition (see Section 11). During analysis and report preparation, OA East will hold all material and reserves the right to send material for specialist analysis.
- 11.2.2 The archive will be prepared in accordance with current OA East guidelines, which are based on national guidelines.

12 RESOURCES AND PROGRAMMING

12.1 Project Team Structure

Name	Initials	Project Role	Establishment
Paul Spoerry	PSS	Project Manager and Post-Roman pottery. Lead author Part II	OA East
Alice Lyons	AL	Project Officer and lead author, Part I	OA East
Andy Simmonds	AS	Co-author, Part II	OA South
Mike Donnelly	MD	Lithics	OA South
Sarah Percival	SP	Prehistoric pottery	Freelance
Andy Bates	AB	Faunal remains	OA North

Name	Initials	Project Role	Establishment
Rachel Fosberry	RF	Environmental supervisor	OA East
Gillian Greer	GG	Illustrator	OA East
Chris Howard-Davies	CHD	Metalwork and worked bone	OA North
Louise Loe / Zoe Ui Choileain	LL/ZC	Human skeletal remains	OA South/OA East

Table 11: Project Team

12.2 Stages, Products and Tasks

12.2.1 Stages, Products and Tasks relating to stratigraphic analysis are detailed in the following table.

Task No.	Task	Product No.*	Staff	No. Days
Project Management				
1	Project management		PSS/EP	3/3
2	Team meetings		AL/PSS/EP	4.5
3	Liaison with relevant staff and specialists, distribution of relevant information and materials		AL	4
Stage 1: Stratigraphic analysis				
4	Integrate ceramic/artefact dating with site matrix		AL	2
5	Update database and digital plans/sections to reflect any changes		AL	2
6	Finalise site phasing		AL	3
7	Add final phasing to database		AL	1
8	Compile group and phase text		AL	5
9	Compile overall stratigraphic text and site narrative to form the basis of the full/archive report		AL	5
10	Review, collate and standardise results of all final specialist reports and integrate with stratigraphic text and project results		AL	5
Illustration				
11	Digitise selected sections		GG	4
12	Prepare draft phase plans, sections and other report figures		GG	4
13	Select photographs for inclusion in the report		AL	1
Background research				
14	Relevant background research		AL	2
Artefact studies				
15	Prehistoric pottery		SP	4
16a	Post-Roman pottery (option 1)		PSS	3
16b	Post-Roman pottery (option 2)		PSS	12.5
17	Lithics		MD	4
18	Ironwork		CHD	0.5

Task No.	Task	Product No.*	Staff	No. Days
19	Copper alloy		CHD	0.5
20	Worked bone		CHD	1.5
21	Worked stone and jet		CHD	0.75
22	Glass and decorated tile		CHD	0.5
Environmental Remains				
23	Human skeletal remains		LL/ZUC	2
24	Animal bone		AB	14
25	Plant macrofossils		RF	8.5
Scientific analysis and conservation				
26	Thin section and ICPS of pottery			
27	X-radiography (ironwork)			
28	Jet/shale petrology			
29	Radiocarbon dating of HSR			
Completed stratigraphic analysis		1		
Stage 2: Report Writing				
30	Integrate documentary research		AL	1
31	Write historical and archaeological background text		AL	2
32	Edit phase and group text		AL	2
33	Compile list of illustrations/liase with illustrators		AL/GG	1
34	Write discussion and conclusions		AL	2
35	Prepare report figures		GG	3
36	Collate/edit captions, bibliography, appendices etc		AL	2
37	Produce draft report		AL	1
38	Internal edit		EP	3
39	Final edit		EP	2
40	Send to publisher for refereeing		EP	0.5
41	Post-refereeing revisions		EP/AL	4
42	Copy edit queries		EP/AL	1
43	Proof-reading		EP	1
Completed publication		2		
Stage 3: Archiving				
44	Compile paper archive		AL	2
45	Archive/delete digital photographs		AL	1
45	Compile/check material archive		AL	1
Completed archive		3		

Table 12: Task list for analysis and publication

Publication tasks identified for AL will be split as appropriate between AL and AS, but have been combined here for ease of reference.

(NB: these tasks relate to the results of the 2011 excavations alone, other than Task 16b which includes synthesis of the material from previous phases of excavation)

12.3 Programme

12.3.1 Following approval of this assessment, it is anticipated that the analytical phase for the initial volume (Part I) will commence in March 2012, with submission of a publication draft for refereeing in December 2012.

12.3.2 The second volume (Part II) is currently programmed to commence in summer/autumn 2012, with submission for refereeing in summer 2013.

APPENDIX A. CONTEXT SUMMARY WITH PROVISIONAL PHASING

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4500		cut	pit	
4501	4500	fill	pit	3
4502		cut	pit	
4503	4502	fill	pit	
4504		cut	pit / posthole	
4505	4504	fill	pit / posthole	
4506		layer	dump	
4507	0	layer	Topsoil	
4508		layer	Subsoil	
4509	4510	fill	pit	3
4510		cut	pit	
4511	4512	fill	pit	
4512		cut	pit	
4513	4513	layer	layer	
4514	4516	fill	pit	
4515	4516	fill	pit	
4516		cut	pit	
4517		cut	ditch	
4518	4517	fill	ditch	
4519	4517	fill	ditch	
4520	4517	fill	ditch	
4521	4517	fill	ditch	
4522	4523	fill	post hole / nat	
4523		cut	post hole	
4524	4525	fill	post hole	
4525		cut	post hole	
4526	4527	fill	post hole	
4527		cut	post hole	
4528	4529	fill	post hole	
4529		cut	post hole	
4530	4517	fill	ditch	
4531	4514	fill	ditch	
4532	4578	fill	SFB	4
4533	VOID	VOID	VOID	
4534		cut	post hole	5
4535	4535	fill	post hole	
4536	4534	fill	post hole	5
4537	4538	fill	pit	
4538		cut	pit	
4539	4540	fill	ditch	3
4540		cut	ditch	3
4541	4542	fill	ditch	3
4542		cut	ditch	3
4543	4544	fill	pit	
4544		cut	pit	
4545		cut	pit	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4546	4545	fill	ditch	
4547	4545	fill	ditch	
4548	4545	fill	ditch	
4549		cut	pit	
4550	4549	fill	pit	
4551	4549	fill	pit	
4552	4549	fill	pit	
4553		cut	wheel-rut?	
4554	4553	fill	wheel-rut?	
4555	4545	fill	ditch	
4556	4545	fill	ditch	
4557	4558	fill	ditch	
4558		cut	ditch	
4559	4560	fill	ditch	
4560		cut	ditch	
4561	4562	fill	ditch	3
4562		cut	ditch	3
4563	4564	fill	post hole	
4564		cut	post hole	
4565		cut	ditch	
4566	4565	fill	ditch	
4567	4568	fill	post hole	
4568		cut	post hole	
4569		cut	ditch	
4570	4569	fill	ditch	
4571		cut	post hole	
4572	4571	fill	post hole	
4573	4574	fill	ditch	3
4574		cut	ditch	3
4575	4576	fill	ditch	3
4576		cut	ditch	3
4577	4578	fill	SFB	4
4578		cut	SFB	4
4579	4580	fill	post hole	
4580		cut	post hole	
4581	4582	fill	post hole	
4582		cut	post hole	
4583	4584	fill	post hole	
4584		cut	post hole	
4585	4586	fill	stake hole	
4586		cut	stake hole	
4587	4588	fill	post hole	
4588		cut	post hole	
4589	4590	fill	post hole	
4590		cut	post hole	
4591	4592	fill	post hole	
4592		cut	post hole	
4593		cut	pit	
4594	4593	fill	pit	
4595	4593	fill	pit	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4596	4593	fill	pit	
4597		cut	wheel rut	
4598	4597	fill	wheel rut	
4599	4600	fill	post hole	
4600		cut	post hole?	
4601	4603	fill	post hole	
4602	4603	fill	post hole	
4603		cut	post hole	
4604	4604	fill	post hole	
4605		cut	post hole	
4606		cut	pit	3
4607	4606	fill	pit	3
4608	4606	fill	pit	3
4609		cut	ditch	
4610	4609	fill	ditch	
4611		cut	post hole	
4612	4611	fill	post hole	
4613	4611	fill	post hole	
4614	4611	fill	post hole	
4615	4616	fill	post hole?	
4616		cut	post hole?	
4617	4619	fill	post hole	
4618	4619	fill	post hole	
4619		cut	post hole	
4620	4576	fill	ditch	
4621	4623	fill	pit	5
4622	4623	fill	pit	5
4623		cut	pit	5
4624	4625	fill	post hole	
4625		cut	post hole	
4626		cut	pit	
4627	4626	fill	pit	
4628	4626	fill	pit	
4629	4626	fill	pit	
4630		cut	SFB	4
4631		cut	ditch	5
4632		cut	ditch	4
4633		cut	pit	5
4634	4633	fill	pit	5
4635	4633	fill	pit	5
4636	4633	fill	pit	5
4637	4633	fill	pit	5
4638		cut	ditch	
4639	4638	fill	ditch	
4640		cut	ditch	
4641	4640	fill	ditch	
4642	4631	fill	ditch	5
4643	4631	fill	ditch	5
4644	4632	fill	ditch	4
4645	4632	fill	ditch	4

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4646	4632	fill	ditch	4
4647	4648	fill	post hole	
4648		cut	post hole	
4649	4650	fill	pit	
4650		cut	pit	
4651	4652	fill	ditch	
4652		cut	ditch	
4653	4654	fill	post hole	
4654		cut	post hole	
4655	4656	fill	post hole	
4656		cut	post hole	
4657	4630	fill	SFB	4
4658	4630	fill	SFB	4
4659	4630	fill	SFB	4
4660	4630	fill	SFB	4
4661	4630	fill	SFB	4
4662		cut	post hole	
4663	4662	fill	post hole	
4664		cut	post hole	
4665	4664	fill	post hole	
4666	4667	fill	tree throw?	
4667		cut	tree throw?	
4668		cut	post hole	9
4669	4668	fill	post hole	5
4670	VOID	VOID	VOID	
4671	4672	fill	ditch	
4672		cut	ditch	
4673	4674	fill	ditch	
4674		cut	ditch	
4675	4676	fill	ditch	
4676		cut	ditch	
4677		cut	ditch	
4678	4677	fill	ditch	
4679	4630	fill	SFB	4
4680	4630	fill	SFB	4
4681	4683	fill	pit	
4682	4683	fill	pit	
4683		cut	pit	
4684	4685	fill	ditch	3
4685		cut	ditch	3
4686	4687	fill	ditch	
4687		cut	ditch	
4688	4689	fill	pit	
4689		cut	pit	
4690	4691	fill	ditch terminus	
4691		cut	ditch terminus	
4692	4693	fill	ditch	3
4693		cut	ditch	3
4694	4695	fill	post hole	
4695		cut	post hole	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4696	4697	fill	pit	3
4697		cut	pit	3
4698	4699	fill	tree bole	
4699		cut	tree bole	
4700	4687	fill	ditch	
4701	4702	fill	ditch / rut	
4702		cut	ditch / rut	
4703	4704	fill	ditch	3
4704		cut	ditch / rut	3
4705	4707	fill	pit	
4706	4707	fill	pit	
4707	4707	cut	pit	
4708		cut	pit	
4709	4708	fill	pit?	
4710		cut	post hole	
4711	4710	fill	post hole	
4712		cut	post hole	
4713	4712	fill	post hole	
4714	4715	fill	ditch	
4715		cut	ditch	
4716	4718	fill	ditch	
4717	4718	fill	ditch	
4718		cut	ditch	
4719	4720	fill	ditch	3
4720		cut	ditch	3
4721		cut	pit	
4722	4721	fill	pit	
4723	4725	fill	post hole	
4724	4725	fill	post hole	
4725		cut	post hole	
4726	4726	fill	post hole	
4727	4727	fill	post hole	
4728	4728	fill	post hole	
4729		cut	post hole	
4730	4730	fill	post hole	
4731		cut	post hole	
4732		cut	post hole	
4733	4732	fill	post hole	
4734		cut	post hole	
4735	4734	fill	post hole	
4736		cut	post hole	
4737	4736	fill	post hole	
4738		cut	post hole	
4739	4738	fill	post hole	
4740		cut	post hole	
4741	4740	fill	post hole	
4742		cut	post hole	
4743	4742	fill	post hole	
4744		cut	post hole	
4745	4745	fill	post hole	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4746		cut	post hole	
4747	4746	fill	post hole	
4748		cut	post hole	
4749	4748	fill	post hole	
4750		cut	post hole	
4751	4750	fill	post hole	
4752		cut	post hole	
4753	4752	fill	post hole	
4754		cut	post hole	
4755	4754	fill	post hole	
4756		cut	post hole	
4757	4757	fill	post hole	
4758		cut	post hole	
4759	4759	fill	post hole	
4760		cut	post hole	
4761	4760	fill	post hole	
4762		cut	post hole	
4763	4762	fill	post hole	
4764		cut	post hole	
4765	4765	fill	post hole	
4766		cut	post hole	
4767	4766	fill	post hole	
4768		cut	post hole	
4769	4768	fill	post hole	
4770		cut	post hole	
4771	4770	fill	post hole	
4772		cut	post hole	
4773	4772	fill	post hole	
4774		cut	post hole	
4775	4774	fill	post hole	
4776		cut	post hole	
4777	4776	fill	post hole	
4778		cut	post hole	
4779	4778	fill	post hole	
4780		cut	post hole	
4781	4780	fill	post hole	
4782		cut	post hole	
4783	4782	fill	post hole	
4784		cut	post hole	
4785	4784	fill	post hole	
4786		cut	post hole	
4787	4786	fill	post hole	
4788		cut	post hole	
4789	4788	fill	post hole	
4790		cut	post hole	
4791	4790	fill	post hole	
4792		cut	post hole	
4793	4792	fill	post hole	
4794		cut	post hole	
4795	4794	fill	post hole	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4796		cut	post hole	
4797	4796	fill	post hole	
4798		cut	post hole	
4799	4798	fill	post hole	
4800		cut	post hole	
4801	4800	fill	post hole	
4802		cut	post hole	
4803	4802	fill	post hole	
4804		cut	post hole	
4805	4804	fill	post hole	
4806		cut	post hole	
4807	4806	fill	post hole	
4808		cut	post hole	
4809	4808	fill	post hole	
4810		cut	post hole	
4811	4810	fill	post hole	
4812		cut	post hole	
4813	4812	fill	post hole	
4814		cut	post hole	
4815	4814	fill	post hole	
4816		cut	post hole	
4817	4816	fill	post hole	
4818		cut	post hole	
4819	4818	fill	post hole	
4820		cut	post hole	
4821	4820	fill	post hole	
4822		cut	post hole	
4823	4822	fill	post hole	
4824		cut	post hole	
4825	4824	fill	post hole	
4826		cut	post hole	
4827	4826	fill	post hole	
4828		cut	post hole	
4829	4828	fill	post hole	
4830		cut	post hole	
4831	4830	fill	post hole	
4832	4834	fill	pit	2
4833	4834	fill	pit	2
4834		cut	pit	2
4835	4836	fill	pit	5
4836		cut	pit	5
4837	4838	fill	pit	2
4838		cut	pit	2
4839		cut	pit	
4840	4839	fill	pit	
4841	4839	fill	pit	
4842		cut	ditch	
4843	4842	fill	ditch	
4844		cut	ditch	
4845	4844	fill	ditch	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4846		cut	ditch	3
4847		cut	ditch	3
4848		cut	ditch	3
4849	4851	fill	pit	2
4850	4851	fill	pit	2
4851		cut	pit	2
4852		cut	ditch	5
4853	4852	fill	ditch	5
4854	4846	fill	ditch	3
4855	4847	fill	ditch	
4856	4848	fill	ditch	3
4857	4848	fill	ditch	3
4858	4848	fill	ditch	3
4859		cut	ditch	
4860	4859	fill	ditch	5
4861	4859	fill	Ditch	5
4862	VOID	VOID	VOID	
4863	4864	fill	ditch	
4864		cut	ditch	
4865	4866	fill	ditch	
4866		cut	ditch	
4867	4869	fill	post hole	3
4868	4869	fill	post hole	3
4869		cut	post hole	3
4870		cut	ditch	
4871	4870	fill	ditch	
4872	4872	cut	ditch	5
4873	4872	fill	ditch	5
4874		cut	post hole	
4875	4874	fill	post hole	
4876		cut	post hole	
4877	4876	fill	post hole	
4878		cut	post hole	
4879	4878	fill	post hole	
4880		cut	post hole	
4881	4880	fill	post hole	
4882		cut	post hole	
4883	4882	fill	post hole	
4884		cut	post hole	3
4885	4884	fill	post hole	3
4886		cut	post hole	
4887	4886	fill	post hole	
4888		cut	post hole	
4889	4888	fill	post hole	
4890		cut	post hole	
4891	4890	fill	post hole	
4892	4893	fill	post hole	
4893		cut	post hole	
4894		cut	ditch	
4895	4894	fill	ditch	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4896		cut	ditch	5
4897	4896	fill	ditch	5
4898	4896	fill	ditch	5
4899	4896	fill	ditch	5
4900	4896	fill	ditch	5
4901		cut	pit	4
4902	4901	fill	pit	4
4903		cut	pit	
4904	4903	fill	pit	
4905	4908	fill	pit	3
4906	4908	fill	pit	3
4907	4908	fill	pit	3
4908		cut	pit	3
4909	4893	fill	post hole	
4910	4911	fill	ditch	
4911		cut	ditch	
4912	4913	fill	ditch	3
4913		cut	ditch	3
4914		cut	ditch	
4915	4914	fill	ditch	
4916	5037	fill	ditch	
4917		cut	tree bole	1
4918	4917	fill	tree bole	1
4919	4917	fill	tree bole	1
4920	4921	fill	stake hole	
4921		cut	stake hole	
4922	4923	fill	post hole	
4923		cut	post hole	
4924	4925	fill	post hole	
4925		cut	post hole	
4926	4927	fill	post hole	
4927		cut	post hole	
4928	4929	fill	ditch	
4929		cut	ditch	
4930	4931	fill	post pipe	
4931		cut	post-pipe	
4932	4933	fill	post hole	
4933		cut	post hole	
4934	4935	fill	post hole	
4935		cut	post hole	
4936	4937	fill	post hole	
4937		cut	post hole	
4938	4939	fill	pit	
4939		cut	pit	
4940	4941	fill	post hole / pipe	
4941		cut	post hole / pipe	
4942	4943	fill	post hole	
4943		cut	post hole	
4944		cut	ditch	
4945	4944	fill	ditch	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4946		cut	ditch	
4947	4946	fill	ditch	
4948	4949	fill	ditch	
4949		cut	ditch	
4950	4951	fill	ditch	3
4951		cut	ditch	3
4952	4953	fill	ditch	
4953		cut	ditch	
4954	4957	fill	ditch	3
4955	4957	fill	ditch	3
4956	4957	fill	ditch	3
4957		cut	ditch	3
4958	4917	fill	tree bole	
4959	4960	fill	pit	
4960		cut	pit	
4961	4962	fill	ditch	5
4962		cut	ditch	5
4963	4964	fill	ditch	5
4964		cut	ditch	5
4965	4966	fill	pit	
4966		cut	pit	
4967	4968	fill	pit	
4968		cut	pit	
4969	4969	fill	post hole	
4970		cut	post hole	
4971	4972	fill	ditch	
4972		cut	ditch	
4973	4974	fill	pit	
4974		cut	pit	
4975	4976	fill	ditch terminus	
4976		cut	ditch terminus	
4977	4978	fill	post hole	
4978		cut	post hole	
4979	4980	fill	post hole	
4980		cut	pit	
4981		cut	cremation	
4982	4981	fill	ditch	
4983		cut	ditch	3
4984	4983	fill	ditch	3
4985	4986	fill	post hole	
4986	4986	cut	post hole	
4987	4988	fill	ditch	
4988		cut	ditch	
4989	4962	fill	ditch	
4990	4960	fill	pit	
4991		cut	pit	
4992	4991	fill	pit	
4993	4991	fill	pit	
4994		cut	post hole	
4995	4994	fill	post hole	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
4996		cut	post hole	
4997	4996	fill	post hole	
4998		cut	post hole	
4999	4998	fill	post hole	
5000		cut	post hole	
5001	5000	fill	post hole	
5002		cut	post hole	
5003	5002	fill	post hole	
5004		cut	post hole	
5005	5004	fill	post hole	
5006		cut	post hole	
5007	5006	fill	post hole	
5008		cut	post hole	
5009	5008	fill	post hole	
5010		cut	post hole	
5011	5010	fill	post hole	
5012		cut	post hole?	
5013	5012	fill	post hole?	
5014		cut	post hole	
5015	5014	fill	post hole	
5016		cut	post hole	
5017	5016	fill	post hole	
5018		cut	post hole	
5019	5018	fill	post hole	
5020		cut	post hole	
5021	5020	fill	post hole	
5022		cut	post hole	
5023	5022	fill	post hole	
5024		cut	post hole	
5025	5024	fill	post hole	
5026		cut	post hole	
5027	5026	fill	post hole	
5028	5028	fill	pit	
5029	5030	fill	pit	
5030		cut	pit	
5031		cut	post hole	
5032	5031	fill	post hole	
5033		cut	post hole	
5034	5033	fill	post hole	
5035		cut	post hole	
5036	5035	fill	post hole	
5037		cut	gully terminus	
5038	5039	fill	post hole	
5039		cut	post hole	
5040	5041	fill	ditch	5
5041		cut	ditch	5
5042	5043	fill	gully	
5043		cut	gully	
5044	5045	fill	pit / gully	5
5045		cut	pit / gully	5

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5046	5047	fill	gully	
5047		cut	gully	
5048	5049	fill	post hole	5
5049		cut	post hole	5
5050	5051	fill	post hole	4
5051		cut	post hole	4
5052	5053	fill	gully	
5053		cut	gully	
5054	5055	fill	gully	
5055		cut	gully	
5056	4630	fill	SFB	4
5057	4630	fill	SFB	4
5058	4630	fill	SFB	4
5059	4630	fill	SFB	4
5060		cut	gully	
5061	5060	fill	gully	
5062		cut	gully	
5063	5062	fill	gully	
5064		cut	post hole	
5065	5064	fill	post hole	
5066		cut	ditch	
5067	5066	fill	ditch	
5068		cut	ditch	
5069	5068	fill	ditch	
5070		cut	ditch	5
5071	5070	fill	ditch	5
5072		cut	gully	
5073	5072	fill	gully	
5074	5076	fill	ditch	5
5075	5076	fill	ditch	5
5076		cut	ditch	5
5077	5078	fill	ditch	5
5078		cut	ditch	5
5079	5080	fill	ditch	5
5080		cut	ditch	5
5081	5082	fill	pit	
5082		cut	pit / post hole	
5083	5084	fill	ditch	
5084		cut	ditch	
5085	5086	fill	post hole	
5086		cut	post hole	
5087	5088	fill	post hole	
5088		cut	post hole	
5089	5090	fill	pit	
5090	5090	fill	pit	
5091	4630	fill	SFB	4
5092	5066	fill	ditch	
5093	5066	fill	ditch	
5094	5095	fill	pit	
5095		cut	pit	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5096		cut	pit	
5097	5096	fill	pit	
5098		cut	pit	4
5099	5100	fill	post hole	
5100		cut	post hole	
5101		cut	post hole	
5102		cut	post hole	
5103	5101	fill	post hole	
5104	5102	fill	post hole	
5105	5098	fill	pit?	4
5106	5098	fill	pit	4
5107	5098	fill	pit	4
5108	5098	fill	pit	4
5109	5110	fill	ditch	
5110		cut	ditch	
5111	5112	fill	ditch	5
5112		cut	ditch	5
5113	5114	fill	ditch	
5114		cut	ditch	
5115		cut	gully	
5116	5115	fill	gully	
5117		cut	post hole	
5118		cut	pit	
5119		cut	pit	
5120	5119	fill	pit	
5121	5119	fill	pit	
5122		cut	post hole	
5123	5122	fill	post hole	
5124	VOID	VOID	VOID	5
5125	5124	fill	ditch	5
5126		cut	ditch	
5127	5126	fill	ditch	
5128		cut	ditch	
5129	5130	fill	post hole	
5130		cut	post hole	
5131	5132	fill	post hole	5
5132		cut	post hole	5
5133		cut	pit	
5134	5133	fill	pit	
5135		cut	pit	1
5136		cut	post hole?	
5137	5136	fill	post hole	
5138		cut	post hole?	
5139	5138	fill	post hole?	
5140		cut	post hole?	
5141	5140	fill	post hole	
5142		cut	post hole	
5143	5142	fill	post hole	
5144		cut	post hole?	
5145	5144	fill	post hole	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5146	5146	fill	pit	
5147	5135	fill	pit	1
5148	5135	fill	pit	1
5149	5135	fill	pit	1
5150	5135	fill	pit	1
5151	5135	fill	pit	1
5152	5135	fill	pit	1
5153	5135	fill	pit	1
5154		cut	pit	5
5155	5154	fill	pit	5
5156		cut	post hole	
5157	5156	fill	post hole	
5160	5135	fill	pit	
5161	5135	fill	pit	
5162	5135	fill	pit	
5163	5135	fill	pit	
5164	5135	fill	pit	
5165	5135	fill	pit	
5166		cut	ditch	5
5167	5166	fill	ditch	5
5168	5166	fill	ditch	5
5169		cut	ditch	
5170	5169	fill	ditch	
5171		cut	ditch	5
5172	5171	fill	ditch	5
5173	5171	fill	ditch	5
5174		cut	ditch	
5175	5174	fill	ditch	
5176		cut	ditch	5
5177	5176	fill	ditch	5
5178	5176	fill	ditch	5
5179	5176	fill	ditch	5
5180	5176	fill	ditch	5
5181	5176	fill	ditch	5
5182	5176	fill	ditch	5
5183		cut	ditch	5
5184	5183	fill	ditch	5
5185	5183	fill	ditch	5
5186	5183	fill	ditch	5
5187		cut	hearth/oven	5
5188		cut	pit	5
5189	5188	fill	pit	5
5190		cut	pit	5
5191	5190	fill	pit	5
5192		cut	ditch	
5193	5192	fill	ditch	
5194		cut	pit	
5195	5194	fill	pit	
5196		cut	post hole	
5197	5196	fill	post hole	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5198	5183	fill	ditch	
5199	5200	fill	ditch	5
5200		cut	ditch	5
5201	5202	fill	pit	5
5202		cut	pit	5
5203	5204	fill	pit	
5204		cut	pit	
5205	5206	fill	ditch	5
5206		cut	ditch	5
5207	4630	fill	SFB	4
5208	5100	fill	post hole	
5209	5210	fill	ditch	
5210		cut	ditch	
5211	5212	fill	ditch	5
5212		cut	ditch	5
5213	5214	fill	ditch	5
5214		cut	ditch	5
5215	5216	fill	ditch	5
5216		cut	ditch	5
5217	5218	fill	ditch	5
5218		cut	ditch	5
5219	5220	fill	pit	
5220		cut	pit	
5221	5222	fill	ditch	5
5222		cut	ditch	5
5223	5224	fill	pit	
5224		cut	pit	
5225	5226	fill	post hole	
5226		cut	post hole	
5227	5228	fill	post hole	
5228		cut	post hole/pit	
5229	5230	fill	ditch	
5230		cut	ditch	
5231	5232	fill	ditch	
5232		cut	ditch	
5233	5234	fill	ditch	
5234		cut	ditch	
5235	5236	fill	post hole	
5236		cut	post hole	
5237	5238	fill	post hole	
5238		cut	post hole	
5239		cut	gully	
5240	5239	fill	gully	
5241		cut	ditch	
5242	5241	fill	ditch	
5243		cut	ditch	
5244	5243	fill	ditch	
5245		cut	ditch/gully	
5246	5245	fill	ditch/gully	
5247	4630	fill	SFB	4

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5248	4630	fill	SFB	4
5249	4630	fill	SFB	4
5250	5187	fill	oven	5
5251	5187	fill	oven	5
5252	5187	fill	oven rake out	5
5253		cut	post hole	
5254	5253	fill	post hole	
5255		cut	post hole	
5256	5255	fill	post hole	
5257		cut	post hole	
5258	5257	fill	post hole	
5259		cut	gully	
5260	5259	fill	gully	
5261		cut	gully	
5262	5261	fill	gully	
5263	5264	fill	pit	
5264		cut	pit	
5265		cut	ditch	
5266	5265	fill	ditch	
5267		cut	ditch	5
5268	5267	fill	ditch	5
5269	5270	fill	ditch	
5270		cut	ditch	
5271	5272	fill	ditch	
5272		cut	ditch	
5273	0	cut	post hole	
5274	5273	fill	post hole	
5275		cut	ditch	5
5276	5275	fill	ditch	5
5277	0	cut	ditch	
5278	5277	fill	ditch	
5279		cut	ditch	5
5280	5279	fill	ditch	5
5281	5275	fill	ditch	5
5282		cut	pit	
5283	5282	fill	pit	
5284	5285	fill	ditch	
5285		cut	ditch	
5286	5287	fill	ditch	
5287		cut	ditch	
5288	5289	fill	pit	
5289		cut	pit	
5290	5291	fill	pit	
5291		cut	pit	
5292	5293	fill	ditch	5
5293		cut	ditch	5
5294	5295	fill	ditch	
5295		cut	ditch	
5296		cut	pit	
5297	5296	fill	pit	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5298		cut	ditch	
5299	5298	fill	ditch	
5300		cut	ditch	
5301	5300	fill	ditch	
5302	5303	fill	pit	
5303		cut	pit	
5304		cut	pit	
5305	5304	fill	pit	
5306	5307	fill	ditch	
5307		cut	ditch	
5308		cut	oven	
5309		cut	ditch	
5310	5309	fill	ditch	
5311		cut	ditch	
5312	5311	fill	ditch	
5313		cut	ditch	5
5314	5313	fill	ditch	5
5315		cut	ditch	
5316	5315	fill	ditch	
5317		cut	pit	
5318	5317	fill	pit	
5319	5320	fill	ditch	5
5320		cut	ditch	5
5321	5322	fill	ditch	
5322		cut	ditch	
5323	5324	fill	ditch	5
5324		cut	ditch	5
5325		cut	posthole	
5326	5325	fill	posthole	
5327		cut	posthole	
5328	5327	cut	posthole	
5329	5308	oven	fill	
5330	5308	oven	fill	
5331	5308	oven	fill	
5332	5308	oven	fill	
5333	5308	oven	fill	
5334		pit	fill	
5335	5334	pit	fill	
5336	5334	pit	fill	
5337	5334	pit	fill	
5338	5334	pit	fill	
5339	4630	SFB	disuse	4
5340	4630	SFB	backfill	4
5341	5308	oven	lining	
5342	5308	oven	use	
5343		cut	post hole	
5344	5343	fill	post hole	
5345		cut	post hole	
5346	5345	fill	pit	
5347		cut	post hole?	

Context	Cut	Category	Feature Type	Phase
5348	5347	fill	post hole?	
5349		cut	post hole?	
5350	5349	fill	post hole?	
5351		cut	beam-slot?	
5352	5351	fill	beam-slot?	
5353	5354	fill	ditch	
5354		cut	ditch	
5355	5356	fill	ditch	
5356		cut	ditch	
5357		cut	ditch	
5358	5357	fill	ditch	
5359		cut	ditch	
5360	5359	fill	ditch	
5361	4630	fill	SFB	4
5362	5308	fill	oven	
5363	5364	fill	ditch	
5364		cut	ditch	
5365		cut	post hole	
5366	5365	fill	post hole	
5367		cut	post hole	
5368	5367	fill	post hole	
5369	VOID	VOID	VOID	
5370	VOID	VOID	VOID	
5371		cut	pit	
5372	5371	fill	pit	
5373		cut	post hole	
5374	5373	fill	post hole	
5375	5376	fill	ditch	
5376		cut	ditch	
5377	5378	fill	ditch	
5378		cut	ditch	
5379		cut	post hole?	
5380	5379	fill	post hole?	
5381	5384	fill	pit	1
5382	5384	fill	pit?	1
5383	5384	fill	pit	1
5384		cut	pit?	1
5385	5386	fill	ditch	
5386		cut	ditch	
5387	5388	fill	ditch	
5388		cut	ditch	
5389	5390	fill	ditch / gully	
5390		cut	ditch / gully	
5391		cut	post hole	
5392	5391	fill	post hole	
5393		cut	pit / posthole	
5394	5393	fill	pit / posthole	
5395	5396	fill	ditch	
5396		cut	ditch	
5397		cut	pit	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5398	5397	fill	pit	
5399		layer	layer	
5400		layer	layer	
5401		cut	post hole	
5402	5401	fill	post hole	
5403		cut	post hole	
5404	5403	fill	post hole	
5405		cut	post hole	
5406	5405	fill	post hole	
5407		cut	natural	
5408	5407	fill	natural	
5409		cut	natural	
5410	5409	fill	natural	
5411		cut	pit?	
5412	5411	fill	pit	
5413		cut	post hole	
5414	5413	fill	post hole	
5415	5415	cut	post hole	
5416	5415	fill	post hole	
5417		layer	layer	
5418		layer	layer	
5419		cut	ditch	
5420	5419	fill	ditch	
5421		cut	ditch	
5422	5421	fill	ditch	
5423		cut	ditch	5
5424	5423	fill	ditch	5
5425	5384	fill	pit	
5426	5384	fill	pit	
5427	4630	fill	SFB	4
5428	4630	fill	SFB	4
5429	4630	fill	SFB	4
5430	4630	fill	SFB	4
5431	4630	fill	SFB	4
5432	4630	fill	SFB	4
5433		cut	ditch	
5434	5433	fill	ditch	
5435		cut	ditch	
5436	5435	fill	ditch	
5437		cut	ditch	
5438	5437	fill	ditch	
5439		cut	post hole?	
5440	5439	fill	post hole?	
5441	5442	fill	ditch	3
5442		cut	ditch	3
5443	5444	fill	ditch	
5444		Cut	ditch	
5445		cut	pit	1
5446	5445	fill	pit	1
5447		cut	pit	

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5448	5447	fill	post hole	
5449		cut	post hole	
5450	5449	fill	post hole	
5451		cut	pit	
5452	5451	fill	post hole	
5453		cut	post hole	
5454	5453	fill	post hole	
5455	5457	fill	pit	
5456	5457	fill	post hole	
5457		cut	post hole	
5458		cut	ditch	
5459		cut	ditch	
5460		cut	ditch	5
5461		cut	gully	
5462		cut	gully	
5463		cut	ditch	
5464		cut	post hole	
5465	5464	fill	post hole	
5466		cut	post hole	
5467	5466	fill	post hole	
5468	5469	fill	post hole	
5469		cut	post hole	
5470	5471	fill	post hole	
5471		cut	pit	
5472	5473	fill	post hole	
5473		cut	pit	
5474	5475	fill	post hole	
5475		cut	post hole	
5476	5476	fill	post hole	
5477		cut	post hole	
5478	5480	fill	post hole	
5479	5480	fill	post hole	
5480		cut	post hole	
5481	5482	fill	post hole	
5482	5482	fill	post hole	
5483	5458	fill	ditch	
5484	5459	fill	ditch	
5485	5460	fill	ditch	5
5486	5460	fill	ditch	5
5487	5461	fill	gully	
5488	5462	fill	gully	
5489	5463	fill	ditch	
5490		cut	pit	
5491	5490	fill	pit	
5492		cut	ditch	
5493	5492	fill	ditch	
5494	5495	fill	ditch	3
5495		cut	ditch	3
5496	5499	fill	ditch	3
5497	5499	fill	ditch	3

<i>Context</i>	<i>Cut</i>	<i>Category</i>	<i>Feature Type</i>	<i>Phase</i>
5498	5499	fill	ditch	3
5499		cut	ditch	3
5500	5503	fill	ditch	3
5501	5503	fill	ditch	3
5502	5503	fill	ditch	3
5503		cut	ditch	3
5504	5507	fill	pit	3
5505	5507	fill	pit	3
5506	5507	fill	pit	3
5507		cut	pit	3
5508		cut	ditch	
5509	5508	fill	ditch	
5510		cut	ditch	
5511	5510	fill	ditch	
5512		cut	ditch	
5513	5512	fill	ditch	
5514		cut	post hole	
5515	5514	fill	post hole	
5516		cut	ditch	1
5517	5516	fill	ditch	1
5518	5519	HSR	skeleton	
5519		cut	ditch	
5520	5519	fill	ditch	
5521		cut	post hole	
5522		cut	post hole	
5523	5524	fill	post hole	
5524		cut	post hole	
5525		cut	pit	
5526	5525	fill	pit	
5527	5528	fill	ditch	
5528		cut	ditch	
5529	5530	fill	post hole	
5530	5530	fill	post hole	
5531	5532	fill	post hole	
5532		cut	natural	
5533		cut	pit	
5534	5533	fill	pit	
5535		cut	pit	
5536		cut	pit	
5537	5538	fill	ditch	5
5538		cut	ditch	5
5539		cut	ditch	5
5540	5539	fill	ditch	5
5541		cut	pit	3
5542	5541	fill	pit	3
5543		cut	ditch	
5544	5098	fill	pit	4
5545	5066	fill	ditch	
5546	4630	fill	SFB	4

APPENDIX B. FINDS REPORTS

B.1 Prehistoric pottery

By Sarah Percival

Introduction

- B.1.1 A total of 372 sherds weighing 5,885g were collected from 30 excavated features and a surface spread. The earliest pottery within the assemblage is tempered with coarse flint and may be earlier Neolithic, although similar fabrics were also used in the later Bronze Age or earlier Iron and the undecorated body sherds are not closely datable. A small assemblage of later Neolithic/early Bronze Age pottery was collected including twenty sherds of Grooved Ware and a single sherd of Beaker. The remainder of the assemblage is later Iron Age, dating to the 3rd to 1st centuries BC, and Iron Age/Romano British transitional of 1st century BC to 1st century AD date. The pottery is fragmentary and no complete vessels were recovered. The earlier prehistoric pottery is poorly preserved whilst the later Iron Age and transitional sherds are larger and mostly in moderate to good condition.

Pot date	Date	No. sherds	Weight (g)
Prehistoric	Uncertain earlier prehistoric	11	45
Later Neolithic early Bronze Age	c.3000 - 2000BC	72	172
Later Iron Age	C4th – C1st BC	193	3875
Transitional	C1st BC – AD C1	96	1793
Total		372	5885

Table B1: Quantity and weight of pottery by period

Methodology

- B.1.2 The assemblage was analysed in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Fabric codes were prefixed by a letter code representing the main inclusion identified (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gram. Decoration and abrasion were also noted. The pottery and archive are curated by OAE.

Earlier Prehistoric

- B.1.3 Eleven small abraded body sherds in coarse, flint-tempered fabric were collected from five features. Three sherds weighing 7g came from the fill of tree-throw 4917. The context of deposition, within the tree-throw, suggests an earlier Neolithic date for the sherds as several pottery deposits of this date have been found in similar features at nearby Hinxton North Field (Evans *et al* 1999). The flint-tempered fabric would be compatible with the

plain bowl pottery found by Evans and would complement the Neolithic flint-working also noted on the present site (Appendix B.3).

- B.1.4 Plain, flint-tempered sherds were also found in three pits (5135, 5384 and 5445) and from the fill of ditch 5516, but these can only be tentatively dated to the earlier Neolithic.
- B.1.5 **Further Work** : The earlier prehistoric pottery is of interest as it may be related to earlier Neolithic flint working found at the site and to early episodes of tree clearance (Evans *et al* 1999). A full consideration of the earlier Neolithic sherds should be included in the analysis; this will include a discussion of contemporary assemblages from the region and a full description of the fabric. No sherds require illustration.

Later Neolithic early Bronze Age

- B.1.6 A single sherd of Beaker pottery was found in the fill of pit 4516. The sherd is made of grog-, shell- and quartz-sand tempered fabric and is decorated with sharply incised lines running down the body of the vessel. A small number of Grooved Ware sherds were recovered from pits 5369, 4838 and 4851 and from a layer (4508). The sherds are in poor condition and are made of coarse grog and shell-tempered fabric with numerous voids representing leached out shell inclusions. The Grooved Ware is decorated with shallow incised channels perhaps suggesting that it may be of the Clacton substyle (Longworth 1971, 237). Clacton style Grooved Ware has been found nearby at Linton Village College (Percival 2005) and Over, Site 3 (Garrow 2006, 102). A series of radiocarbon dates from Grooved Ware pits at Linton suggested that they were filled between 2700 – 2570 BC (R Clarke, pers. comm.).
- B.1.7 The remaining twenty later Neolithic early Bronze Age small sherds are small and plain weighing just 35g. These sherds are of similar fabric to the Grooved Ware suggesting that they are at least contemporary but the poor condition and lack of diagnostic traits prohibits exact identification.
- B.1.8 **Further Work** : The Grooved Ware assemblage is of great interest as this type of pottery remains poorly understood in non-monumental contexts in the region (Garwood 1999, 154). Full analysis of the Grooved Ware assemblage will include integration of site data and phasing and a discussion of regional parallels and dating. The sherds are in poor condition but perhaps two could be selected for illustration.

Later Iron Age

- B.1.9 The later Iron Age assemblage is characterised by handmade jars with flattened or everted rims and rounded shoulders in a range of sandy fabrics with shell, grog and flint inclusions. The assemblage contains rims from seven vessels including five medium-sized jars and a large, thick-walled storage jar. Decoration is scarce appearing on only two sherds, one having a shallow, incised band from the neck of a vessel and the second having an incised geometric design. The assemblage is perhaps broadly contemporary with the 'mid' Iron Age pottery noted in the 2002 and 2003 assemblage (Sealy 2007), although no fingertip-impressed or scored sherds noted by Sealy were found within the present assemblage. The absence of these distinctive forms perhaps suggests that the 2011 assemblage does not extend back into the middle Iron Age.
- B.1.10 Later Iron Age pottery was recovered from various pits (4500, 4510, 4606, 4697, 4908

and 5507(and posthole 4867. Pit 4908 produced a particularly large assemblage which contained almost all the rims and diagnostic sherds. Sherds were also found in the backfill of SFBs 4578 and 4630 and from a series of ditch fills. Within the locality of Hinxton, contemporary assemblages have been recovered from the Linton Village College (Percival 2005) and from Hinxton Road, Duxford (Percival 2011). Radiocarbon dates from Linton indicate Iron Age activity at the site c. 360 – 160BC (R Clarke pers. comm.) and a similar date is suggested here.

- B.1.11 **Further work:** The Iron Age assemblage adds to a growing number of contemporary sites in the region. Detailed analysis will include an examination of the pit fills, postholes and ditches and include integration of site data and phasing. The assemblage will be discussed in comparison with other contemporary material from the area and a maximum of 5 sherds will be chosen for illustration.

Transitional Iron Age to Romano-British

- B.1.12 A total of 96 sherds (weighing 1,793g) of transitional pottery representing a maximum of eighteen vessels were recovered from five features. The assemblage includes both handmade and wheel thrown vessels and is almost certainly contemporary with the 'Belgic Aylesford-Swarling' pottery recovered during previous excavations at the site being found in a similar range of forms and of grog-tempered, shelly and sandy fabrics. Vessel forms include at least four large storage jars, one with combed decoration; six medium-sized cordoned jars (Thompson 1982 type B1), a wide-mouth jar and two globular rilled jars (Thompson 1982 C7-1T).
- B.1.13 The transitional pottery was recovered in small quantities from pits 4697 and 5507 and ditches 4560 and 4693, whilst the majority came from a single dumped deposit within ditch 4685. A 1st century BC to 1st century AD date is suggested for this assemblage.
- B.1.14 **Further Work :** This assemblage falls within a period which is poorly characterised within the region where adoption of new pottery forms was both 'selective and variable' (Haselgrove *et al* 2001, 30). Detailed analysis is required including a complete description of fabrics and forms and full integration of site data and phasing. The assemblage should ideally be discussed in comparison with other contemporary material from the area and in relation to the Romano-British assemblage from the site in consultation with the Roman pottery specialist. A maximum of 10 sherds will be chosen for illustration.

B.2 Post-Roman pottery

By Paul Spoerry

Introduction

- B.2.1 This assessment examines the 57% of the site's pottery assemblage that is of post-Roman date (19% Saxon and 38% medieval; 594 sherds, 6.257kg). The Saxon fabrics include those types introduced before c.AD 1050. Those introduced from c.1050 onwards are classified as medieval. Unusually the latest fabric type is of early 13th century date and there is no post-medieval or modern pottery.
- B.2.2 This assemblage represents the second element in analysis of material from the Genome Campus extension. It is proposed to complete study of, and report on, both the 2002 and 2011 assemblages together. The 2002 assemblage has been assessed previously (Spoerry in Kenney 2007). It constitutes 299 post-Roman sherds.
- B.2.3 In all subsequent sections of this report reference to 'the assemblage' mean the post-Roman assemblage from HINGEC11 (594 sherds, 6.257kg).

Type	Total Count	Weight (kg)
Saxon pottery	196	2.306
Medieval pottery	398	3.951
Total	594	6.257

Table B2: Post-Roman pottery quantification by type

Methodology

- B.2.4 The Medieval Pottery Research Group (MPRG) *A guide to the classification of medieval ceramic forms* (MPRG 1998) and *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics* (MPRG 2001) act as a standard.
- B.2.5 Recording was carried out using OA East's in-house system based on that previously used at the Museum of London. Fabric classification has been carried out for all previously described medieval and post-medieval types. All sherds have been counted, classified and weighed on a context-by-context basis. The assemblage is recorded in the summary catalogue. The pottery and archive are curated by Oxford Archaeology East until formal deposition.

Nature and Quantification of Assemblage

- B.2.6 The condition of the overall assemblage is good and unabraded and the mean sherd weight is in line with the average for rural assemblages of this date at approximately 10.5g.
- B.2.7 The assemblage derives from a range of rural occupation and agricultural features. These are mostly truncated and stratigraphy is minimal.
- B.2.8 The date of post-Roman features ranges from 450-700 to 1150-1200.
- B.2.9 Thirteen post-Roman contexts contain residual prehistoric or Roman-British sherds. Sherd numbers are low and residuality is not significant in this assemblage. Six of

these contexts are of Early to Middle Saxon date where Roman-British material may have been curated (e.g. in SFB fills).

Fabrics

Early-Middle Saxon pottery

- B.2.10 Hand-made Early to Middle Saxon pottery is present in twenty-three fabrics, as shown on Table B3. Each of these fabrics is defined on the basis of its primary inclusion types. For the most part these fabrics can only be assigned a general date-range of c.AD 450-850, although vegetable-tempered fabrics are understood to have a cut-off date of around AD 700 in this region. No dateable information was available from vessel form or decoration and no other Middle Saxon fabrics were recovered, suggesting perhaps that the correct date-range for this phase of activity is likely to be later 5th to later 7th century. There is therefore no continuity with Late Saxon remains on the site.

Material	Fabric	Sherd Count	Sherd Weight
Spot	ASC	1	0.004
Spot	ASCM	1	0.011
Spot	ASCQ	1	0.026
Spot	ASGQ	1	0.023
Spot	ASM	6	0.090
Spot	ASMC	2	0.019
Spot	ASMIC	1	0.007
Spot	ASMQ	2	0.012
Spot	ASMQS	1	0.013
Spot	ASQ	12	0.121
Spot	ASQ1	4	0.039
Spot	ASQ2	6	0.050
Spot	ASQC	2	0.009
Spot	ASQF	3	0.034
Spot	ASQM	10	0.053
Spot	ASQS	3	0.036
Spot	ASQT	1	0.007
Spot	ASV	17	0.133
Spot	ASVFM	7	0.045
Spot	ASVG	2	0.006
Spot	ASVM	3	0.053
Spot	ASVMF	4	0.038
Spot	ASVQ	14	0.086
Total		104	0.92

Table B3: Early-Middle Saxon pottery by fabric

Late Saxon pottery

- B.2.11 Late Saxon pottery types are present exclusively alongside Saxo-Norman pottery dating to the period after AD1050, with which they overlap in their ranges of occurrence. There is therefore no evidence for any activity on the site between AD 700 and AD 1050.
- B.2.12 Late Saxon pottery types are shown on Table B4, but this must be viewed with Table B5 to provide a full indication of the pottery present from the period 1050-1200.

Material	Fabric	Sherd Count	Sherd Weight
Spot	DNEOT	59	0.829
Spot	NEOT	20	0.075
Spot	STAM	4	0.018
Spot	THET	9	0.469
Total		92	1.391

Table B4: Late Saxon pottery by fabric

(High) Medieval pottery

- B.2.13 Only nine sherds were recovered from fully medieval ware types. In the case of two of these, Hedingham fineware (HEDI; 2 sherds) and Northants-Peterborough Shelly ware (SHW; 2 sherds), these are types that can appear as early as the mid-12th century. The only later fabric present is therefore medieval Essex Micaceous Sandy ware (MEMS; 5 sherds), part of the group of fabrics called Medieval sandy greywares - Fabric 20 in Essex and which started to appear in the period after 1175 (Cotter 2000).

Forms

- B.2.14 The broad categories of vessel type represented are shown in Table B5. The Early-Middle Saxon and Late Saxon fabrics are conflated here, but nonetheless the table usefully shows that bowl forms are comparatively common, in this case all in St Neots-type ware and thus later in date. These represent the bowl assemblage that is otherwise contemporary with many of the Saxo-Norman fabrics, that tend instead to be found in jar forms. The latter are represented in the lower part of the table. Jugs are confined to Hedingham fineware and a grog-tempered Early medieval ware (SCAGS).

Material	Basic Form	Sherd Count	Sherd Weight
Spot		124	0.975
Spot	Bowl	30	0.498
Spot	Jar	42	0.833
Total		196	2.306

Mpot	Bowl	9	0.125
Mpot	Jar	100	0.900
Mpot	Jug	45	1.149
Total		154	2.17

Table B5: Post-Roman pottery forms

Provenance

- B.2.15 The hand-made Early-Middle Saxon pottery is typical of the region and is all likely to have been produced fairly locally, but to generic patterns of vessel and raw material selection. Where igneous rock is used as a tempering agent this seems to be derived from glacial erratics, either naturally-deposited as small fragments within chosen clays, or through selection of specific erratic boulders within similar strata. This culturally-derived selection has a regional distribution, even if the actual production sources are local (Vince forthcoming).
- B.2.16 The location of the industries that produced all of the late Saxon and later pottery is now fairly well-known as a result of the completion of study to produce a provenanced

county type series (Spoerry forthcoming). The break-down of locations is given in Table B6.

Provenance	Percentage
Beds-Northants	16.94
North Essex	23.64
Northants-Peterborough	0.34
Norfolk-Suffolk	8.87
South Cambs	49.87
S Lincs	0.34
	100.00

Table B6: Provenance(Post-Roman pottery)

Sampling Bias

- B.2.17 Excavation was carried out by hand and selection made through standard sampling strategies. There are not expected to be any inherent biases. Where bulk samples have been processed for environmental remains, there has also been some recovery of pottery. These are small quantities of abraded sherds and have not been quantified, and serious bias is not likely to result.

Statement of Research Potential

- B.2.18 Recent work on provenance of local fabric types now offers significant opportunity to understand better ceramic commodity production and distribution in Saxon to Medieval Cambridgeshire (Vince in Spoerry forthcoming). Such work can be best achieved on well-excavated modern assemblages such as this. Investigation is necessary through both traditional identification and quantification, and through specialist analysis (Thin Section and ICPS).

Further Work and Methods Statement

- B.2.19 Two options for completion of the post-Roman pottery analysis are suggested. The first is completion of study on this assemblage only. The second is the total work required to integrate this assemblage and that for HINHH93-5 and HINGC02.

Option 1: HINGEC11 only

- Complete quantification and traditional recording (2 days)
- Select samples for TS and ICPS, analyse and report (maximum 12 samples)
- Generate assemblage stats (1 day)
- Select examples for corpus and publication, illustrate as required (maximum 8 examples)

Option 2: HINGEC11 and synthesis of HINGC02 and HNH93-5

- HINGEC11; Complete quantification and traditional recording (2 days)
- HINGC02; Complete quantification and traditional recording (2 days)

-
- HINGEC11; Select samples for TS and ICPS, analyse and report (maximum 12 samples)
 - HINGC02; Select samples for TS and ICPS, analyse and report (maximum 6 samples)
 - HINHH93-5; Update and revise database (2 days)
 - All sites; Generate assemblage stats for all post-Roman pottery (2 days)
 - All sites; Select examples for corpus and publication, illustrate as required those outstanding (maximum 60 examples)
 - Produce specialist report integrating analyses (3 days).
 - Produce specialist report integrating analyses (1.5 days).

B.3 Lithics

By Michael Donnelly

Introduction

- B.3.1 A total of 439 struck flints, numerous pieces of natural unworked flint and 294 pieces (weighing 3891g) of burnt unworked flint was recovered from the excavations. These excavations followed on from earlier work which had also produced a sizeable assemblage of struck flint (Bishop 2007). The flint assemblage includes a small number of diagnostic artefacts but these, along with the morphological and technological attributes, suggest a concentration of Neolithic artefacts with some residual Mesolithic flints amidst a very low-level background scatter of later prehistoric material. The Neolithic assemblage appeared to be heavily concentrated in a small number of features, mostly as the fill of pits. The flint assemblage from the site is shown in Table B7 below:

CATEGORY TYPE	Total
Flake	243
Blade	29
Bladelet	13
Blade-like	29
Irregular waste	34
Chip	4
Sieved Chips 10-4mm	16
Sieved Chips 4-2mm	9
Rejuvenation flake core face/edge	2
Rejuvenation flake other	1
Crested blade	2
Opposed platform blade core	1
Single platform flake core	2
Multi platform flake core	3
Core on a flake	1
Scraper end	7
Scraper side	3
Scraper end & side	2
Scraper disc	1
Scraper other	1
Ground implement flake	4
Microolith	1
Axe	1
Burin	1
Denticulate	3
Knife other	2
Microdenticulate/serrated flake	10
Notch	2
Piercer	1
Other retouch	2
Retouched bladelet	1
Retouched flake	8
Total	439

Burnt unworked flint No./g	294/2891g
No. burnt (exc. chips) (%)	26 (6.3%)
No. broken (exc. chips) (%)	86 (20.8%)
No. retouched (exc. chips) (%)	46 (11.1%)

Table B7: The flint assemblage from 2011 excavations

Methodology

- B.3.2 The artefacts were catalogued according to OA South's standard system of broad artefact/debitage type (Bradley 1999), general condition noted and dating was attempted where possible. Unworked burnt flint was quantified by weight and number. The assemblage was catalogued directly onto an Open Office spreadsheet.

Provenance

- B.3.3 Flintwork was recovered from 91 contexts, but the majority of the assemblage originated from a limited number of fills/layers and this was further highlighted by some pits with multiple fills which generated considerable assemblages. Fill 5305 from pit 5304 yielded the largest assemblage of 98 pieces (22.3%) and another two pits (4908 & 4834) accounted for 55 and 43 pieces respectively. Together, these three features accounted for nearly half the assemblage (44.6%). Pit 4851 contained 28 pieces, pit 4683 had 23 pieces, and pits 5135, 5133 and 4606 had 14, 13 and 12 flints respectively. It is highly likely that these represent assemblages contemporary with the features that contained them, possibly interred after a period of middening.
- B.3.4 In contrast single flints were recovered from 47 contexts (51.7% of contexts), two were found in 10 contexts and between three and five from 18 contexts. In total very small assemblages accounted for 75 of the contexts with flint (82.5%) and highlight the likelihood that much of the assemblages was present as residual material.

Raw material and conditions

- B.3.5 The raw materials exploited here were a range of relatively good secondary sources largely confirming the views obtained from the assessment of the earlier assemblages (Bishop 207, 57). Cortex was present on over half the assemblage (242/439, 55.1%) but often in very small amounts along the distal and lateral margins of flakes and blades. This would be in keeping with the working of fairly small cores which have lessor amounts of inner material. The cortex present is in a range of forms with weathered chalky surfaces, thinner rough surfaces, rolled surfaces and a considerable number that display an old heavily recorticated outer surface suggestive of reuse of material or the use of thermally shattered nodules. There was a single example of probable bullhead bed material although the cortex was not quite green enough but the orange band was present. Suitable material would have been available locally. In general the material is of good knapping quality, failed removals are rare but some of the cores display hinge and step terminations that have led to their abandonment, and there are a number of pieces that have been struck from naturally fractured surfaces/flaws. Moreover, several pieces appear to have split at flaws within the material. The quality of the material appears to be higher in the larger, contemporary assemblages, but this is only a perception obtained through limited assessment rather than quantitative study.
- B.3.6 Many of the pieces have light, very light or no patina present (85.4%) but there are a considerable number with medium and heavy recortication (14.6%) - these appear to cluster in the pits containing the larger assemblages, in particular pits 5304 and 4683. This was highlighted previously with the earlier phase of work and would appear to hold true for the new material. In the case of pits 5304 and 4683, the condition, degree of cortication and distinctive inclusions would appear to suggest the working of a limited set of cores or the bringing to site of preprepared blanks.
- B.3.7 Most of the assemblage is in either fresh condition or displays light levels of edge damage suggestive of trampling and/or middening (91.8%). Only thirty pieces were

categorised as displaying moderate edge damage (6.8%) and five were heavy/rolled. (1.1%). Eighty-six pieces are broken (20.8%) which would further support the view that material may have been exposed in middens prior to incorporation in pits while the level of burnt material is quite low and includes lightly burnt material alongside some very heavily burnt material although still clearly worked. The relatively thin nature of many of the pieces recovered, in particular the blades and blade-like removals may have increased the levels of broken material as they are particularly susceptible to breakage.

Storage and curation

- B.3.8 The struck flints are bagged individually and boxed in size 3 storage boxes; this is adequate for long-term storage and curation. The burnt unworked flint is bagged by context. It is not recommended that the burnt unworked flint is retained for long-term storage. The natural flint fragments were retained for assessment, but can now be discarded.

The assemblage

- B.3.9 A total of 439 struck flints were recovered from 97 contexts. The bulk of the assemblage is either fresh or shows evidence of slight damage (Table B8). The freshest assemblage appears to be that from the three largest contemporary assemblages from pits 5304, 4908 and 4834. The slightly smaller pit assemblages are still very fresh but there is a slight increase in edge damage. The material from layer 5418 has far higher levels of damage as ditch 4957 and treethrow 4917, however, these assemblages are quite small and not necessarily statistically valid. These figures support the view that the material has suffered from some form of post-knapping movement, though this has portably been through human agency as waste material finds its way into pits. The figures would imply that the largest and freshest assemblages may have moved the least and could be suitable for a refitting exercise. Indeed, pit 5304 did contain three fairly distinct artefact groups from surface appearance and also contained four refitting flakes alongside two more that certainly came from the same core.

Condition	N	Fresh	%	Light	%	Moderate	%	Heavy	%
Pit 5304	98	67	68.37%	28	28.57%	3	3.06%	0	
Pit 4908	55	30	54.54%	23	41.82%	2	3.64%	0	
Pit 4834	43	27	62.79%	15	34.88%	1	2.33%	0	
Pit 4851	28	12	42.86%	15	53.57%	1	3.57%	0	
Pit 4681	23	11	47.83%	10	43.48%	2	8.69%	0	
Pit 5135	14	6	42.86%	7	50.00%	1	7.14%	0	
Pit 5133	13	7	53.85%	6	46.15%	0		0	
Pit 4606	12	4	33.33%	7	58.34%	0		1	8.33%
Layer 5418	7	1	14.28%	3	42.86%	3	42.86%	0	
Ditch 4957	7	3	42.86%	3	42.86%	0		1	14.28%
Treethrow 4917	7	2	28.57%	5	71.43%	0		0	
Total	439	219	49.87%	184	41.91%	30	6.83%	5	1.14%

Table B8: Key contexts by condition (lithics)

- B.3.10 The flint assemblage contains very few cores with only seven identified (1.6%). In contrast, the earlier phase of work yielded twice as high a percentage of cores as well as numerous core shatter. Their many of the cores were blade based but here, only one example is focused on the production of blades and bladelets. The remaining six appear to have been used for flake production, however, they are all quite small and average only 52g and it is possible given the complexity of some that they may have initially been used for blade and bladelet production but been reworked for flakes. Three of the cores have multiple platforms, two have single platforms and there is a core on a flake. Another piece, a large side and end scraper appears to have been fashioned on a split levallois style Late Neolithic-Early Bronze Age core. The multi-platformed cores contain two or three platforms at right angles to each other and probably date from the Neolithic period. The opposed platform blade and bladelet core could belong to either the Late Mesolithic or Early Neolithic periods. In general the complex platforms display a cubic form and these more likely to be of Early Neolithic date than Late Mesolithic or Late Neolithic (Butler 2005).
- B.3.11 The assemblage is dominated by flakes which account for 55.35% of the total assemblage and 77.39% of the removals recovered. All stages of core reduction are present from genuine decortical flakes, through core preparation flakes on to trimming flakes (distal, side and miscellaneous) and finally inner flake. Trimming flakes are especially common here given the relatively small size of the cores here. As mentioned earlier, there are numerous small heavily curved flakes with acute faceted platforms which probably relate to axe working. Biface/arrowhead blanks and rough-outs are absent as were the finished forms.
- B.3.12 While flakes dominate the assemblage, the percentage of blades, bladelets and blade-like flakes is quite high (blade index of 22.6%). Certainly it is greater than what would have been expected from the cores that have been recovered. The figure for blades indicates either a mixed assemblage or one in which blade production is prominent but not dominant. Several features have far higher blade to flake ratios and will be discussed below. This would appear to argue against a Mesolithic date, for much of the assemblage, more so since the majority of the assemblage originates from pits containing prehistoric pottery.
- B.3.13 Many of the flakes recovered are thin, regular forms typical of Neolithic assemblages. However very few display signs of platform edge abrasion and platform faceting is quite common. Many of these are probable axe working/thinning flakes and a single broken unfinished axe was recovered from layer 5399 supporting the working of axes here and elsewhere at the Hinxton site (Bishop 2007, 58). A few flakes from probable polished implements were also recovered, further supporting the view that much of the assemblage is of Neolithic-Early Bronze Age date.
- B.3.14 Very few flakes appear to typify the classic later prehistoric examples. Some of these pieces with their broad and squat forms, hard-hammer bulbs and large plain platforms were recovered but these may simply relate to the earlier stages of core reduction here. Most of the tool forms and the cores that have been recovered would not belong in a Middle-Late bronze Age assemblage.
- B.3.15 Platform edge abrasion is much more common on blade forms from the site than the flake population. Many of these blades are classic prismatic examples and there are a number of very narrow bladelets more common in Mesolithic rather than Neolithic assemblages. Two crested removals were also recovered along with three core rejuvenation flakes. Core tablets are absent. Evidence of curation/rejuvenation probably relates to Mesolithic or earlier Neolithic reduction strategies.

- B.3.16 A small number of diagnostic tools was recovered from Hinxton along with less chronologically selective tools. These consist of a broad range of items including one probable burin, an axe fragment, notches, a microlith and a piercer, but the most common forms here are scrapers (14), microdenticulates/serrated flakes (10) and simple retouched flakes (8). The axe is unfinished but is most likely a preform of Neolithic date rather than a Mesolithic example while the burin is a dihedral example on an inner flake using a natural surface for the focus of the spall removals. The single microlith is a scalene triangular form (Jacobi 7b. 1978) and was recovered from samples taken from pit 5304. While it is possible that this feature could date to that period, the microlith is more heavily patinated and worn than the bulk of the assemblage from 5304 and is probably residual.
- B.3.17 Many of the tools could belong equally to the Mesolithic or Early Neolithic. This includes the burin, notches and microdenticulates, however the scrapers are mostly very well executed examples on large elongated flakes and include forms such as the disc scrapers which date to the Neolithic period. Given the size of the flakes and the presence of end of blade scrapers and a pair of combination end scraper/microdenticulates, an Early Neolithic date seems most likely. One scraper on a re-used levallois style core fragment is probably of Late Neolithic-Early Bronze Age date. Nearly all of the microdenticulates display very regular and well-executed teeth but could belong to either the Mesolithic or Early Neolithic periods but are uncommon in later Neolithic assemblages. One displays clear evidence of gloss but many of the others are either recorticated or have been burnt and no signs of polish have survived. The knives are both simple naturally backed examples and are broadly undiagnostic.
- B.3.18 Less formal tools include eight retouched flakes and a retouched bladelet. Such tools are commonly found in Mesolithic and Neolithic assemblages. Overall, the broad range of tools, the choice of tool blanks and the diagnostic elements of this tool assemblage could all be readily accommodated in an Early Neolithic assemblage, albeit with some residual late Mesolithic activity and the possibility of later Neolithic knapping.
- B.3.19 The retouched pieces account for 11.1% of the assemblage (not including counting chips) which is a high proportion and may indicate that the much of the initial working of flint took place away from site and that tool use/repair and knapping from pre-pared cores occurred here. It is possible, given that many of the finds are residual in later features, that formal tools which are very distinct could be over-represented in the assemblage. The previous phase of work yielded retouched forms (not counting chips or flake shatter) at 5.9%, still a high proportion but only half as much as here. The four largest assemblages offer a very different picture of retouch/tool usage (Table B9). Pit 5304 is very close to the average with 12.24% and contains some clearly residual material such as the microlith alongside a good assemblage of Neolithic scrapers, microdenticulates and retouched flakes. Pit 4851 also was close to the average (10.71%) with a burin, retouched flake and a microdenticulate. Pit 4908 contained only a single end scraper-microdenticulate combination tool (1.82%) In stark contrast, pit 4834 contained a remarkable 15 retouched forms (34.88%) and must represent some form of special deposit, very closely associated with domestic activity. This pit contained six scrapers (three end, one side, one disc, one other), three ground implement flakes, three microdenticulates, a denticulate and a retouched flake. It is likely that the large percentage of the assemblage which originates from contemporary pits is the main cause of the high number of retouched forms here.
- B.3.20 Pit 5304 also has a far higher blade to flake than the assemblage as a whole (33.77%), while the remaining three pits have lower blade instances than the norm (pit 4908, 20%;

pit 4834, 14.29%, pit 4851, 12.5%). Pits 4908 and 4851 contained significant numbers of cores and core waste and may indicate that separate phases of the flint reduction strategy have become incorporated into specific loci. A more detailed examination of the distribution of material as regards the location of pits would be necessary to further advance this theory for the site, hopefully incorporating the earlier assemblages.

CATEGORY TYPE	Contexts			
	5304	4908	4834	4851
Flake	51	40	24	14
Blade	11	1	2	
Bladelet	5	1	1	
Blade-like	7	7	1	2
Irregular waste		2	1	2
Chip		1		1
Sieved Chips 10-4mm	7			3
Sieved Chips 4-2mm	5			
Rejuvenation flake		1		1
Single platform core		1		1
Core on a flake				1
Scraper end	1		3	
Scraper side			1	
Scraper end & side	1			
Scraper disc			1	
Scraper other			1	
Microolith	1			
Ground implement flake	1		3	
Burin				1
Denticulate			1	
Fabricator	1			
Microdenticulate/serrated flake	3		3	1
Other retouch	1	1		
Retouched blade	1			
Retouched flake	2		1	1
Totals	98	55	43	28

Table B9: The flint assemblage from by key features

Potential

- B.3.21 The flint assemblage recovered from the 2011 excavation represents a small but important collection of material. Taken with the earlier phase of work, the assemblage totals 1432 flints which is of considerable importance. Given that many of the pieces originate from contemporary features and that these have been sampled where appropriate, their assemblages can be seen as meriting further metric analysis.
- B.3.22 The assemblage differs from the earlier material in that it appears to be more period specific with a large focus in the Early Neolithic period. It also differs in that the full reduction sequence appears to be represented here, including decortical flakes, preparation and trimming flakes, regular inner removals, simple tools, formal tools and rejuvenation flakes. The one key sub-group in the earlier assemblages contained a very similar assemblage to the pit-based assemblages discussed above, with high incidence

of elongated scrapers and microdenticulates/serrated flakes, and this would indicate that the area of domestic focus was larger than previously thought. Several of the assemblages recovered from these discrete pits would constitute a statistically valid population for detailed metric analysis for comparison with similar pit-based assemblages from the Neolithic period known from eastern England (Bishop and Proctor, 2011, Garrow *et al* 2005, Garrow 2006, Pollard 1998).

- B.3.23 Bishop noted that there were some refitting groups from his examination of the assemblage from the earlier phase of work (2007, 58) and pit 5304 also yielded a small refit sequence with high potential for further examples. The remaining large pit assemblages from both phases of work would also merit inclusion in a refitting programme.

Recommendations

- B.3.24 The assemblage from this phase of work should be subject to a detailed metrical and technological analysis on the c.400 flints. A short report as part of the final excavation report would be submitted and would include, tables flint illustrations and detailed comparison of this assemblage with contemporary material from Cambridgeshire and south-eastern England in general. The text will provide a detailed characterisation of the flint. If the material recovered from the earlier phase of work was also included in this detailed analysis, the timescales quoted below would require amendment. The burnt unworked flint and the natural pieces have been adequately quantified and should be discarded.

Task	Time (days)
Metrical and technological analysis	2
Report writing and editing	2
Total	4

Table B10: Timetable for potential further work (lithics)

Method Statement

- B.3.25 The lithic assemblage has been quantified and characterised typologically. During the assessment, additional information on condition (rolled, abraded, fresh and degree of cortication), and state of the artefact (burnt, broken, or visibly utilised) was also recorded. Retouched pieces were classified according to standard morphological descriptions (e.g. Bamford 1985, 72-77; Healy 1988, 48-9; Bradley 1999).
- B.3.26 Metrical and technological attribute analysis will be undertaken on flakes and a limited number of artefact types. Technological attributes recorded include; butt type (Inizan *et al.* 1993), extent of dorsal cortex, termination type, flake type (Harding 1990), hammer mode (Onhuma and Bergman 1982), and the presence of platform edge abrasion and dorsal blade scars. Metrical analysis will undertaken using standard methods for recording length, breadth and thickness (Saville 1980) and the data will be considered against current research (e.g. Pitts and Jacobi 1979; Ford 1987).

B.4 Ironwork Assessment

By Chris Howard-Davis

Introduction

- B.4.1 A total of 25 fragments of ironwork, probably representing 15 objects, were submitted for assessment. Most were from stratified contexts, with a single bone-handled knife, in eight fragments, and a possible rove, recovered unstratified. All were in poor condition. No x-radiographs were available.

Methodology

- B.4.2 Every fragment was examined, assigned a preliminary identification and, where possible, date range. An outline database was created, using Microsoft Access 2000 format, and the data recorded (context, small finds number, material, category, type, quantity, condition, completeness, maximum dimensions, outline identification, brief description, and broad date) serve as the basis for the comments below. The state of preservation (condition) was assessed on a broad four point system (namely poor, fair, good, excellent).

Date range and distribution

- B.4.3 As is often the case, the plain and utilitarian ironwork from the site cannot be dated with any precision. Where it could be determined, however, the objects appear to range from Romano-British to recent in date.

Evaluation

- B.4.4 A single horseshoe fragment and a detached horseshoe nail came from ditch 5076 (fill 5074) and are likely to be of later medieval or early post-medieval date (Clark 1995 Type 4, present in London from the 13th century). A second isolated possible horseshoe nail came from ditch fill 5175.
- B.4.5 A small hook or clenched nail came from ditch 4911 (fill 4910), and there were single nails from potentially early medieval fill 5058 in SFB 4630, post-Conquest ditch 5080 (fill 5079), and undated context 5487. A large triangular fragment from ditch 5232 (fill 5231) is probably modern, as is a fragment of perforated strip, and both are probably of agricultural origin. Other fragments from Romano-British ditch 5309 (fill 5310), early medieval fill 4660 in SFB 4630, and possibly 12th-century ditch 4896 (fill 4897) and 5485 remain unidentified at this point.
- B.4.6 A fragmentary bone-handled knife was found unstratified (SF 315). Most of what survives is the scale-tanged haft and solid bolster, with the blade missing from just above the bolster. It is possibly of late 16th- or 17th-century date (*cf* Egan 2005, fig 79)

Conservation

- B.4.7 X-radiography is recommended to confirm identifications. The finds are well packed and in general require no further conservation.

Potential

- B.4.8 Unless the suggested x-radiography reveals more detail, it is unlikely that the ironwork has any potential to contribute further to the dating, interpretation and understanding of specific activities on the site.

Proposed further work

- B.4.9 Archival catalogue entries should be completed, and a brief note report prepared for inclusion into any proposed publication.

Task	Time	Staff
X-radiography		TBC
Complete archive catalogue entries	2 hours	CHD
Research local and regional comparanda and write brief report for inclusion in publication. Select items for illustration and liaise with illustrator	1 hour	CHD

Table B11: Timetable for potential further work (ironwork)

B.5 Copper-Alloy Assessment

By Chris Howard-Davis

Introduction

- B.5.1 Eight fragments of fine metalwork, representing probably six objects, were submitted for assessment. Most were from stratified contexts, with two of the six objects coming from the fills of SFB 4360, and two from ditch 4517. Condition varied, but was generally good.

Methodology

- B.5.2 Every fragment was examined, assigned a preliminary identification and, where possible, date range. An outline database was created, using Microsoft Access 2000 format, and the data recorded (context, small finds number, material, category, type, quantity, condition, completeness, maximum dimensions, outline identification, brief description, and broad date) serve as the basis for the comments below. The state of preservation (condition) was assessed on a broad four point system (namely poor, fair, good, excellent).

Date range and distribution

- B.5.3 Few of the objects were chronologically diagnostic, and they can only be dated from other sources, although those from SFB 4360 are presumably contemporary with the structure.

Evaluation

- B.5.4 Three fragments of poorly-preserved, thin wire (SF 254) came from fill 4660 of SFB 4360. Although fragmentary these are possibly from a wire dress fastener, and would not be out of place in an early post-medieval context. A single decorative nail, with a large flat round head (SF 291) comes from 5249, also a fill of SFB 4360.
- B.5.5 Part of a coin or other embossed disc, with a large circular perforation, came from the fill (5250) of oven/hearth 5187, and a small fragment of strip with punched decoration, perhaps from a bangle (SF313), was from the fill (5099) of posthole 5100.

- B.5.6 The two objects from ditch 4527 are a hollow-cast button of late medieval to early post-medieval date (SF 275) and substantial bar-like fitting perhaps intended to act as a spacer (SF 2273). The latter has yet to be identified or dated with confidence.

Conservation

- B.5.7 The finds are well packed and in general require no further conservation.

Potential

- B.5.8 Depending on the final identification and dating of SF 2273, it is unlikely that the fine metalwork has any real potential to contribute further to the dating, interpretation and understanding of specific activities on the site.

Proposed further work

- B.5.9 Archival catalogue entries should be completed, and a brief note report prepared for inclusion into any proposed publication.

Task	Time	Staff
Complete archive catalogue entries	1 hour	CHD
Research local and regional comparanda and write brief report for inclusion in publication. Select items for illustration and liaise with illustrator	0.25 day	CHD
Complete archive catalogue entries	1 hour	CHD

Table B12: Timetable for potential further work (copper alloy objects)

B.6 Worked Bone

By Chris Howard-Davis

Introduction

- B.6.1 Nine fragments of worked bone, probably representing 9 objects, were submitted for assessment. All were from stratified contexts, with only one (fill 4660 of SFB 4630) producing more than one object. All were in good condition.

Methodology

- B.6.2 Every fragment was examined, assigned a preliminary identification and, where possible, date range. An outline database was created, using Microsoft Access 2000 format, and the data recorded (context, small finds number, material, category, type, quantity, condition, completeness, maximum dimensions, outline identification, brief description, and broad date) serve as the basis for the comments below. The state of preservation (condition) was assessed on a broad four point system (namely poor, fair, good, excellent).

Date range and distribution

- B.6.3 The assemblage comprised a narrow range of objects, mainly associated with textile production, and dating from the early medieval period.

Evaluation

- B.6.4 The principal interest in the group lies in the items associated with textile production, all are from contexts spot-dated by pottery to the period AD 400/450 – AD 700.
- B.6.5 Most obvious are the two, almost identical, discoidal spindle whorls from SFB 4630 (fill 5339, SF 298) and oven 5308 (fill 5431, SF 307) (Plate 4). Both were probably made from the pelves of large mammals (A. Bates pers. comm.). Similar examples have come from Anglo-Saxon graves, for instance at Butler's Field, Lechlade (Boyle *et al* 1998, see particularly grave 81/1) where they were dated to the 6th century. Walton Rogers (1997, 1731) has suggested a broad chronological progression from plano-convex to discoidal types, and notes that Late Saxon and later whorls have a larger central perforation than earlier examples. Both of the Hinxtan examples have large-diameter perforations which fall within her suggested range for this period of 9 – 11 mm.
- B.6.6 Although only the point remains, SF 303 (from 5438, ditch 5435), is probably from a pin beater, used for beating up the weft when using an upright loom (MacGregor 1985, 188). It is not possible to determine whether or not it was a double or single-ended example, but at the date suggested, a double-ended beater would seem more likely. It must, however, be noted that SF 311 from the fill (4660) of SFB 4630, resembles, but is not identical to, flat pin-beaters described by Walton Rogers (1997, 1755) who dates their introduction to the late 9th-early 10th century, and they remained in use into the 14th century.
- B.6.7 A fragment of large animal rib from fill 5429 of SFB 4630 (SF 304) is probably part of a sword beater, used to beat up the weft threads (Leahy 2003, 188). Small uneven nicks and areas of high polish were noted along both edges, and seemed to be the result of use. These objects are known from the Bronze Age onwards, and the type probably had a very long life, rib-bones presumably being easy to procure and requiring little modification before use. Bone sword beaters are known from the Anglo-Saxon period (*ibid*).
- B.6.8 The lower part of a fine bone point (SF 253) from fill 4660 (also from SFB 4630) could be from a needle, or any other sort of pin.
- B.6.9 Although in poor condition, a small fragment (SF 272) from the fill (4579) of post hole 4580, appears to be from the back of a single-sided composite comb, and although the surfaces are eroded, cuts are visible, marking the positions of individual teeth, and the former positions of two iron rivets are marked by corrosion products. Although insufficient remains of the comb to determine its original form, it would not be out of place in an Anglo-Saxon context.
- B.6.10 Two objects from contexts 5429 (SF 305) and 5430 (SF 306) have been identified as unmodified 'floating' ribs (pers comm A Bates).

Conservation

- B.6.11 The finds are well packed and in general require no further conservation.

Potential

- B.6.12 The worked bone finds have potential to contribute to the interpretation and understanding of specific activities on the site, having been found on conjunction with other items, for example loom weights, associated with textile production. They are not diagnostic in terms of dating, but it considered in conjunction with other broadly contemporary finds from the site, could contribute to a refinement of the dating.

Proposed further work

- B.6.13 Archival catalogue entries should be completed, and a brief illustrated report prepared for inclusion into any proposed publication.

Task	Time	Staff
Complete archive catalogue entries	0.25 day	CHD
Research local and regional comparanda and write brief report for inclusion in publication	1 day	CHD
Select items for illustration and liaise with illustrator	0.25 day	CHD

Table B13: Timetable for potential further work (worked bone)

B.7 Worked Stone and Jet

By Chris Howard-Davis

Introduction

- B.7.1 Nine fragments of worked stone were submitted for assessment, along with a bag of small lava fragments which were not quantified. All were from stratified contexts. In addition a single context (4622, pit 4623) produced 14 fragments of jet or oil-shale. All were in good condition.

Methodology

- B.7.2 Every fragment was examined, assigned a preliminary identification and, where possible, date range. An outline database was created, using Microsoft Access 2000 format, and the data recorded (context, small finds number, material, category, type, quantity, condition, completeness, maximum dimensions, outline identification, brief description, and broad date) serve as the basis for the comments below. The state of preservation (condition) was assessed on a broad four point system (namely poor, fair, good, excellent).

Date range and distribution

- B.7.3 Where it could be determined, the objects appear to be of early medieval or medieval date.

Evaluation

- B.7.4 There was evidence of three rotary millstones. Lava from potentially 12th-century context 5485 (SF 309) is probably from a millstone of some kind. Lava was used widely in the early medieval (from the 7th century) and medieval periods (Crummy 1988, 38), but the small fragments represent only a tiny fragment of a single stone. Both the other millstones were of small diameter, suggesting that they were from small rotary hand querns. Both were probably upper stones, and were thin, with a slightly bevelled edge. One, from fill 4910, ditch 4911 (SF 278), was in a coarse gritstone, whilst the other, from fill 5249 in SFB 4630 (SF 287) was in a distinctive purplish stone with large inclusions, possibly including fossil shell.

- B.7.5 A single whetstone was found in pit 4939, fill 4938, the distinctive stone (Schist?) was widely used in the early medieval and later periods (Moore and Oakley 1979).
- B.7.6 Pit 4623 (fill 4622) has been assigned a spot date of c 1050-1200 on the basis of pottery from the deposit. It produced 14 fragments of jet or oil-shale, clearly deriving from stone-working. Flat faces and squared edges, poor quality fragments, and a single fossil, make it clear that the fragments were the discarded by-products of jet-working. One of the larger fragments has a single inscribed ring-and-dot motif, perhaps suggesting its casual use as a practice piece. Jet-working was probably relatively widespread during the medieval period (Campbell 2001), and evidence has been found, for instance, in medieval York (Ottaway and Rogers 2002).

Conservation

- B.7.7 The finds are well packed and in general require no further conservation.

Potential

- B.7.8 The millstone/quern and whetstone have little potential to contribute further to the interpretation and understanding of specific activities on the site, but the identification of stone types used for the querns and the whetstone will contribute to an understanding of trade contacts.
- B.7.9 The group of jet-working debris has greater potential, since it contributes to an understanding of activity on the site in the Late Saxon to early medieval period.

Proposed further work

- B.7.10 Archival catalogue entries should be completed, and a brief illustrated report prepared for inclusion into any proposed publication. Three samples should be submitted for geological identification.

Task	Time	Staff
Complete archive catalogue entries	0.25 day	CHD
Research local and regional comparanda and write brief report for inclusion in publication. Select items for illustration and liaise with illustrator	0.5 day	CHD
Submit three samples of jet for geological analysis	TBC	TBC

Table B14: Timetable for potential further work (worked stone and jet)

B.8 Glass and ceramic

By Chris Howard-Davis

Introduction

- B.8.1 Two fragments of glass and one of ceramic building material were submitted for assessment. All were in good condition.

Methodology

- B.8.2 Every fragment was examined, assigned a preliminary identification and, where possible, date range. An outline database was created, using Microsoft Access 2000 format, and the data recorded (context, small finds number, material, category, type, quantity, condition, completeness, maximum dimensions, outline identification, brief

description, and broad date) serve as the basis for the comments below. The state of preservation (condition) was assessed on a broad four point system (namely poor, fair, good, excellent).

Date range and distribution

- B.8.3 Where it could be determined, the objects appear to be of early medieval or medieval date.

Evaluation

- B.8.4 A single red cylinder bead (SF 271) came from fill 4579 of a posthole (4580) associated with SFB 4578. The bead, being plain, is not precisely dateable, but is probably Early Saxon (c 555-650) (Brugmann 2004, 70) but could be later.
- B.8.5 A very small fragment of colourless but bubbly vessel glass came from ditch 5265 (fill 5266). It is too small for there to be any indication of the vessel form, and thus the fragment cannot be dated.
- B.8.6 A single fragmentary decorated (two-colour) floor tile, decorated with an animal motif (rabbit?) came from ditch 5076 (fill 5074), spot-dated c 1125-1200. Tiles decorated in this manner are known from the 13th century on (Eames 1992, 37), and its presence is most likely to reflect the proximity of high-status, probably ecclesiastical, structure. A possible parallel can be seen amongst the Museum of London collection (P611) where it is dated to the 13th-14th century.

Conservation

- B.8.7 The finds are well packed and require no further conservation.

Potential

- B.8.8 The glass can add little or nothing more to the understanding of the site, and it is unlikely that the dating of the bead will be further refined. The one fragment of ceramic floor tile can contribute towards dating the context from which it derives, and the surviving design on the tile will to a limited extent allow some exploration of a possible source.

Proposed further work

- B.8.9 Archival catalogue entries should be completed, and a brief illustrated report prepared for inclusion into any proposed publication.

Task	Time	Staff
Complete archive catalogue entries	1 hour	CHD
Research local and regional comparanda and write brief report for inclusion in publication. Select items for illustration and liaise with illustrator	2.5 hours	CHD

Table B15: Timetable for potential further work (glass and ceramic tile)

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Human Skeletal Remains

By Zoë Uí Choileáin

Introduction

C.1.1 This report presents the results of an assessment of a single skeleton (5518) recovered from ditch 5519 (Plate 2). No discernible grave cut was observed although the skeleton did appear to have been carefully placed within the ditch in a NNW-SSE position with the head being at the NNW end. The skeleton was extended in the supine position with its hands together at the right side of the pelvis. No grave goods or associated finds were recovered with which to date the burial, which may date to the Iron Age/Romano-British period or later on the basis of its stratigraphic position and the date of previous burials from the site.

C.1.2 The aims of the assessment were as follows:

- To evaluate the potential of the material for recording anthropological information such as age, sex and stature.
- To explore the potential of the remains to provide palaeopathological information.
- To give recommendations for further analysis

Methodology

C.1.3 The remains were assessed in accordance with national guidelines set out by Mays *et al.* (2005) and with reference to standard protocols for examining human skeletal remains from archaeological sites (Brickley and McKinley, 2004; Buikstra and Ubelaker, 1994; Cox and Mays, 2000). Completeness and condition were explored and provisional observations relating to sex and age estimation were made

C.1.4 The potential to make more precise estimates of age and sex during future, detailed examination, was explored by assessing the availability of diagnostic features, primarily in the pelvis, skull and mandible for sex estimation, and pelvis and dentition for adult age estimation.

C.1.5 The skeleton was also assessed for its potential to yield information on the physical attributes of the individual, in particular, their stature, build, but also information on non-metric traits.

C.1.6 Any dental conditions, pathology or bony abnormalities were noted in passing. Particular attention was given to the presence of any unusual conditions that might require detailed specialist examination and/or the application of analytical techniques, such as radiography and histology.

Results

C.1.7 The results are summarised in the table below:

Skeleton number	burial type/position	Orientation*	Age	Sex	Pathologies
5518	extended, supine	NNW-SSE	Adult	male	osteoarthritis, dental caries

Table C1: Inhumation results

*Position of the skull referred to first

- C.1.8 The skeleton was approximately 50%-75% complete. Skull, torso, upper and lower extremities had all survived to varying degrees, including 11 teeth. The condition of the skeleton was assessed as grade 2 after McKinley (2004, 16) This means that some surface erosion could be observed on the bone. In addition, only a limited number of the bones had survived intact with the skull, pelvis and thorax being particularly fragmented.
- C.1.9 Due to the highly fragmentary nature of the skull there is no potential for recording cranial measurements. However it will be possible to record a good proportion of the post-cranial measurements that are recorded in standard full analyses of archaeological human remains (for example, see Brickley and McKinley 2004). This includes measurements that will allow stature and build (for example platymeric and platycnemic indices) to be explored. It will also be possible to observe a large number of the landmarks that are traditionally scored for non-metric traits (for example, see Brickley and McKinley 2004).
- C.1.10 Although fragmented, several traits in the skull and pelvis had survived and will allow the sex of the individual to be estimated. Provisionally, they indicate that the individual was male, but more detailed examination is required.
- C.1.11 The epiphyses on all bones had fused indicating that skeleton 5518 was an adult. The good preservation of the pelvis means that it will be possible to estimate a more precise age by employing observations of the auricular surface (Buckberry and Chamberlain 2002; Lovejoy *et al* 1989) and the pubic symphysis (Suchey and Brooks 1991), in addition to observations of dental attrition (Brothwell 1981; Miles 1963) The auricular surface and pubic symphyses are the most useful traits for ageing the skeleton (Buikstra and Ubelaker 1994).
- C.1.12 Little pathology was observed during the rapid assessment. Osteophytes (new bone formation on and around joints) were noted on the margins of the vertebral bodies, primarily in the lumbar vertebrae, and on the metacarpals and remaining metatarsals. The 1st metacarpal on each hand was flattened at the distal end but the cause is not clear. In addition examples of dental caries, calculus and ante-mortem tooth loss were observed in the surviving dentition.

Statement of potential and recommendation for further work

- C.1.13 Overall skeleton 5518 was in good condition and was relatively complete. This means that there is potential to obtain information regarding their sex, age at death, and physical attributes (stature and build) and undertake a relatively detailed appraisal of their bones for health and disease.
- C.1.14 It is recommended that full osteological analysis is undertaken in accordance with the guidelines set out by BABAO/IFA (Brickley and McKinley 2004). This will include a detailed inventory of the remains, estimation of sex and age that takes into consideration a standard range of indicators, metrical and non-metrical recording and the calculation of stature and skeletal indices. Pathological lesions (dental and skeletal) will be recorded macroscopically and will be described and interpreted with reference to standard texts (for example Aufderheide and Rodriguez-Martin 1998).
- C.1.15 It is also recommended that the bones are sent for radiocarbon dating in order to determine a date for the burial.
- C.1.16 The findings of the analysis will be discussed in terms of their reliability and significance. This will be by reference to their funerary context, the broader site context and comparative assemblages (for example Roberts and Cox 2003) as appropriate.

C.2 Faunal Remains

By Andy Bates

Introduction

- C.2.1 In total, 1588 animal bone or teeth fragments were recorded by this assessment. This constitutes all of the hand-collected material. No bones from soil samples were available at time of writing. The bone has been attributed to six broad phases, including unphased material. Phasing has been obtained from pottery spot dates only. Further stratigraphic analysis may attribute further unphased animal bone to a period.

Methodology

- C.2.2 The material was identified using the reference collection held by the author. All parts of the skeleton were identified where possible, including long bone shafts, skull fragments, all teeth and fairly complete vertebrae. Reference was also made to Halstead and Collins (1995), Schmid (1972), and Cohen and Serjeantson (1996) for the identification of mammal and bird bone. Sheep/goat distinctions were made using reference material and published work by Boessneck (1969), Kratochvil (1969) and Prummel and Frisch (1986). Similarly Red and Fallow Deer distinctions were made following Lister (1996).
- C.2.3 The methodology employed in the assessment included recording the number of fragments per species and the number of countable bones (Parts of Skeleton Always Counted (POSAC)), following Davis (1992) as modified in Albarella and Davis (1994). In addition to these data, the weight, the number of fragments within each preservation category, the number of specimens displaying tooth wear, fusion and metrical traits, and the number of specimens with butchery marks were also recorded. The preservation categories (very poor, poor, moderate, good and very good) provide a useful indicator to the general condition of the assemblage, based on the level of fragmentation and erosion of the bone.

Quantification and condition

- C.2.4 In total, the 1588 fragments of bone or teeth represented 1585 individual specimens, counting articulating or adjoining bones as one specimen, and weighed 12.4kg. Of these, 325 (20.5%) were identified to a species level or low order group. The catalogue provided presents a complete species list and the number of individual specimens (NISP) of each species and presents the total number of countable bones of the principal domestic stock animals, with the countable bones of all other species recorded in 'other'.
- C.2.5 Domestic stock animals comprise the bulk of the assemblage, although bones from phased deposits also included dog, deer, domestic fowl (including the smaller bantam), goose and crane as well as a small number of small mammal and amphibian bones. Of the sheep and goat bones, where the two species could be distinguished the bones were identified as of sheep. Goats may well also have been husbanded, but most likely in small numbers in line with the national norm (Maltby 1981, 159-161).
- C.2.6 Overall the animal bone is well preserved being in a robust condition, with often less than 50% of its surface eroded. A greater proportion of the prehistoric bones as well as the smaller number of Romano British bones are in a poor or very poor condition.

Potential for further work

- C.2.7 The total number of identifiable fragments is too small to provide a reliable representation of the proportion of stock animals husbanded at the site. The number of recorded data concerned with the mortality of the principal stock animals, in the form of records of tooth wear and epiphyseal fusion states, biometric records, used to assess the size, differentiate between breeds and in some cases assess the male:female ratio of the stock, and butchery records are given in tables provided. In each instance the numbers are too low to prove useful in analysis, although there maybe some potential to compare the size of stock animals to other sites in the region using standard measurements as described in Davis (1996).
- C.2.8 Associated or articulated bone groups (ABG's), that may be interpreted as acts of deliberate deposition or as different to background deposition of bone as defined by Hill (1995), are few. Two Anglo-Saxon SFBs produced articulating calcanei and astragali (of cattle from SFB 4578, and of *Equus* sp from SFB 4630), which may suggest a more rapid deposition of bone within these features. They contained 21 and 55 NISP identifiable to a species level respectively, including dog, domestic fowl and domestic or greylag goose in addition to the principal stock animals. Also potentially of interest are an articulating medieval sheep or goat radius and ulna from fill 5485 of Late Saxon/early medieval ditch 5460, and a dog skull and femur from a currently unphased pit (4549).

Reccomendations

- C.2.9 It is recommended that the assemblage be fully recorded and integrated into the stratigraphic record of the site. A short report should be compiled for publication, presenting a methodology; quantification; discussion of the bones from the domestic and wild animals identified; discussion of the bone from SFB's 4578 and 4630 and any further bone deposits which prove to be of interest during the analysis; and a discussion of the spatial distribution of the animal bone and metrical data if this proves to be appropriate.
- C.2.10 Any reporting should take account of the faunal remains recovered from previous excavations at campus, assessed in Baxter (2007). This comprised a slightly larger quantity of predominantly Iron Age and Romano-British animal bone, with limited quantities of Anglo-Saxon bone. If practicable, the bone from the two phases of work should be reported upon collectively.

Task	Time
Recording (including a visit to the reference collection in Liverpool)	4 days
Report	5 days
Total	9 days

Table C2: Timetable for potential further work (faunal remains)

Species	Prehistoric	Romano-British	Anglo-Saxon	Anglo-Saxon/Medieval	Medieval	Unphased	Total
Mammals bones							
Equus sp	8		5			4	17
Cattle	17	4	33	4	4	47	109
Sheep/Goat	26	3	36	4	12	20	101
Sheep					1	3	4
Pig	7	3	20	4	1	19	54
Deer	1			1			2
Dog	2		1			6	9
Cat						1	1
Rabbit			1			1	2
Red Deer						1	1
Cattle/Red Deer	5		5		1	7	18
Sheep/Goat/Roe Deer			7	1		4	12
Water vole	8						8
<i>Rattus sp</i>		1					1
Cat Sized Mammal			1				1
Medium Mammal	44	2	192	10	14	83	345
Large Mammal	104	6	170	7	23	118	428
Unidentified Mammal	37	10	164	13	17	124	365
Bird bones							
Bantam			2	3			5
Domestic Fowl			5		1	4	10
Domestic/Greylag Goose	1		5			4	10
Crane	1						1
Domestic Fowl/Pheasant			1				1
Galliform			3			3	6
Passerine		1				1	2
Unidentified Bird			38	2		10	50
Other bones							
Fish				4			4
Frog/Toad			5		13		18
Total NISP	261	30	694	53	87	460	1585
NISP identified to species of low order group	63	10	108	16	19	110	326

Table C3: NISP by species and period

Species	Prehistoric	Romano-British	Anglo-Saxon	Anglo-Saxon/Medieval	Medieval	Unphased	Total
Equus sp	3		2			4	9
Cattle	7	3	17	3	2	26	58
Sheep/Goat	5	0	14	3	8	9	39

Species	Prehistoric	Romano-British	Anglo-Saxon	Anglo-Saxon/Medieval	Medieval	Unphased	Total
Sheep					1	3	4
Pig	3	1	7	3	1	9	24
Other	12	2	32	6	11	25	88
Total	30	6	72	15	23	76	222

Table C4: NISP of countable (POSAC) animal bones by period

Period	Very Poor	Poor	Moderate	Good	Very Good	N
Prehistoric	0.4	23.8	59.4	16.3	0.0	239
Romano-British	8.7	60.9	13.0	17.4	0.0	23
Anglo-Saxon	0.0	0.0	33.7	64.4	1.9	686
Anglo-Saxon/Medieval	0.0	2.0	64.7	33.3	0.0	51
Medieval	0.0	15.0	43.8	41.3	0.0	80
Unphased	5.9	15.8	29.3	46.6	2.5	444

Table C5: Condition of the bone presented as percentages (excluding loose teeth)

Period	Ageable Mandibles			Bones with Epiphysial Fusion			Measurable Bones and Teeth			Bones with Butchery Marks		
	Cattle	Sheep/Goat	Pig	Cattle	Sheep/Goat	Pig	Cattle	Sheep/Goat	Pig	Cattle	Sheep/Goat	Pig
Prehistoric		1	1	4	2		9	2	1	1		
Romano-British			1	1			1	2	1			
Anglo-Saxon	3	5		8	8	6	8	6	4	1		
Anglo-Saxon/Medieval				4	2	3	1		1		1	
Medieval		2			2			6				
Unphased	2	2	1	16	9	4	12	5	4	3	1	

Table C6: Quantity of specimens from which tooth wear, epiphysial fusion, biometric and butchery data maybe obtained for the principal domestic stock animals

C.3 Environmental Samples

By Rachel Fosberry

Introduction

C.3.1 A total of seventy-seven samples were taken from the recent excavations. These include bulk samples (average size of 20L) taken in order to assess the quality of preservation of plant remains and their archaeobotanical potential. Features sampled include pits, post-holes, ditches and ovens dating from the prehistoric through to the

early medieval period in addition to Anglo-Saxon buildings and associated features. A single burial was also sampled. Several of the features had not been securely dated at the time of writing this report.

- C.3.2 Previous excavations at this site have shown that there is the potential for the recovery of charred and mineralised plant remains (Fryer & Murphy, 1993, Fryer 2004) including all four of the main cereal groups, weed seeds and tree/shrub macrofossils.

Methodology

- C.3.3 Initially 10 litres of each sample was processed by water flotation (using a modified Siraff three-tank system) for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. The flot was collected in a 0.3mm nylon mesh and the residue was washed through a 0.5mm sieve. Both flot and residue were allowed to air dry. The flot of each sample was examined under a binocular microscope at x16 magnification and was scored for cereals, chaff, weed seeds, charcoal, small bones *etc.* Identification of plant remains is with reference to the *Digital Seed Atlas of the Netherlands* (Cappers 2006) and the author's own reference collection. It should be noted that processing only 10L of a sample gives a good general idea of potential and distribution of plant remains but there is the danger that, if a deposit is of large volume, 10L will not be representative. In this case the uniformity of a 10L sample size provided both positive and negative evidence that can be properly assessed for the entire site.
- C.3.4 During the assessment process certain deposits/features that are of particular interest that may not have been highlighted for their archaeobotanical potential will be considered for further processing. This is an ongoing process and remaining buckets of sample will be retained for this purpose.
- C.3.5 Dried sample residues were sieved and each fraction sorted for the recovery of artefacts, prior to being reintegrated with the hand-excavated finds (but not necessarily quantified).

Quantification

- C.3.6 For the purpose of this initial assessment, items such as seeds, cereal grains and small animal bones have been scanned and recorded qualitatively according to the following categories:
- # = 1-10, ## = 11-50, ### = 51+, #### = 100+ specimens
- C.3.7 Items that cannot be easily quantified such as charcoal, magnetic residues and fragmented bone have been scored for abundance:
- + = rare, ++ = moderate, +++ = abundant

Results

- C.3.8 Charred cereal grains occur in the majority of the samples from the later features but are noticeably scarce in the prehistoric features. Barley (*Hordeum* sp.) and wheat (*Triticum* sp.) predominate and rye (*Secale cereale*) and oat (*Avena* sp.) grains occur rarely. Chaff elements were only noted in some of the samples from the medieval features. Other food plants include single fragments of pea (*Pisum sativum*), bean (*Vicia faba*) and possibly flax (*Linum usitatissimum*).
- C.3.9 Charred weed seeds occur in small densities, often as single specimens and include segetal seeds usually associated with cultivated soils including brome (*Bromus* sp.),

cornflower (*Centaurea* sp.), fat hen (*Chenopodium album*), *Galium* sp. (cleavers), corn gromwell (*Lithospermum arvense*), knotgrass (*Polygonum aviculare*) and dock (*Rumex* sp.). Ruderal seeds more associated with disturbed soils and middens include annual nettle (*Urtica urens*) and henbane (*Hyoscyamus niger*). Several charred seeds of henbane were found in Sample 433, fill 4938 of an undated pit (4939).

- C.3.10 Hazel (*Corylus avellana*) nutshell fragments were recorded from two samples and other tree/shrub macrofossils included a sloe/cherry (*Prunus* sp.) fruit stone, pips of apple/pear (*Malus/Pyrus* sp.) and elderberry (*Sambucus nigra*) seeds.
- C.3.11 Two SFBs were sampled. The two samples from SFB 4578 were devoid of preserved plant remains. Seventeen samples were taken from SFB 4630. Charred cereal grains occur in the majority of the samples, predominantly in low densities (less than 10 grains) except in Sample 435, fill 5058 and Sample 446, fill 5249 which both contain slightly greater numbers of grains. Barley predominates along with wheat and occasional grains of oat and rye. No chaff elements were noted in this initial assessment. A fragment of charred bean is the only other evidence of possible food plants. The weed seed assemblage consists of probable crop weeds that may have contaminated the cleaned grain. Rye grass and brome seeds are of a similar morphology to cereal grains and are likely to have been a tolerated crop contaminant. The stinking mayweed seeds were also likely to have been harvested with the crop as a seed head that was picked out of the cleaned grain and discarded onto the hearth.

Sample No.		400	402	407	408	409	410	418	419	430	435	440	441	442	443	446	461	468	470	472
Context No.		453 2	457 7	465 7	465 8	465 9	4660	4679	4680	4892	5058	5059	5091	5099	5107	5249	5339	4909	4892	5099
Cut No.		457 8	457 8	463 0	463 0	463 0	4630	4630	4630	4893	4630	4630	4630	5100	5098	4630	4630	4893	4893	5100
Feature Type		SFB	SFB	SFB	SFB	SFB	SFB	SFB	SFB	post hole	SFB	SFB	SFB	post hole	ditch	SFB	SFB	post hole	post hole	post hole
Sample Size (L)		20	20	20	20	20	10	20	10	20	20	20	10	10	20	20	20	10	10	10
Group		457 8	457 8	463 0	463 0	463 0	4630	4630	4630	4630	4630	4630	4630	4630	4630	4630	4630	4630	4630	4630
Cereals																				
<i>Avena</i> sp. (grains)	Oat							#												
<i>Hordeum</i> sp. (grains)	Barley			#	#		#				##	#	#	#		##		#	#	
<i>Secale cereale</i> L. (grains)	Rye																			#
<i>Triticum</i> sp. (grains)	Wheat							#			#						#	#	#	
Cereal indet. (grains)									#	#							#			
Other food plants																				
Large Fabaceae indet.	Beans					#														
Dry																				

land herbs																				
<i>Anthemis cotula</i>	Stinking mayweed									#						##				
<i>Chenopodium sp.</i>	Goosefoot							#								#				#
<i>Gallium aparine</i>	Cleaver																#			
<i>Lolium sp.</i>	Rye grass				#															
<i>Poaceae sp.</i>	Grass									#										
<i>Rumex sp.</i>	Dock															#		#		
Other plant macrofossils																				
Charcoal <2mm		+++	+	+	+	+++	+	++	++	++	++	++	++	+	+	+++	+++	+++	++	++
Charcoal >2mm		++	+++	+	+	++	+	++	++	++	++	+	++	+		+++	++	+++	++	++
Charcoal >10mm			++		+		+							+			+	+++	+	+
Charred root/stem																+				
Indet. seeds										#m										
Volume of flot (litres)		15	10	2	2	25	1	2	15	10	20	10	5	5	1	40	30	50	10	1

Table C7: Bulk samples from SFBs

- C.3.12 Mineralised plant macrofossils were recovered from samples 412, fill 4635 and 413, fill 4634 from pit 4633 and include fruit pips of apple/pear/cherry and goosefoot and also contains mineralised arthropod remains such as segments of millipede exoskeleton and fly puparia.
- C.3.13 The two early medieval ovens were sampled (5308 and 5187) and both were found to contain charred cereal grains although densities were low in 5187. Samples 454 (fill 5333) and 455 (fill 5331) from oven 5308 contain a substantial number of cereal grains that have been tentatively identified as bread wheat.
- C.3.14 Sample 439, fill 5079 of early medieval ditch 5080 also contains a charred plant assemblage in which bread wheat predominates.

Discussion

- C.3.15 The plant assemblage consists of charred cereal grains, weed seeds with occasional mineralised fruit macrofossils. The charred assemblage is mostly derived from scattered heath material and originates from the accidental burning of food waste. The most productive samples are from the SFBs and the medieval ovens. The charred plant material recovered from the SFB is most likely to have derived from secondary deposits although it is possible that charred material may have fallen through floor boards into the void below and become incorporated in the deposit. The occasional mineralised elements were recovered from a pit located close to this feature and was most likely used to bury food and possibly latrine waste.

- C.3.16 Barley predominates in the Saxon samples and, in the Saxon period, was most likely used for human consumption in the form of bread, soup and stews. Barley grains were also used for animal fodder and the brewing of beer although no germinated grains were recovered to suggest brewing activities.
- C.3.17 Wheat grains include both the rounded grains of free-threshing wheat and the elongated forms that possibly represent the hulled prehistoric wheats. Wheat grains are difficult to identify on the basis of morphology alone; rachis fragments of bread wheat (*T.aestivum compactum*) were noted and further identification may be possible during analysis. Rye did not become an important crop until the Saxon and medieval period (Van der Veen, 1992) and its low occurrence in this assemblage suggests that it was never an important crop on this site. Oats also occur rarely.
- C.3.18 The segetal weed seed assemblage is consistent with what one would generally expect to find growing amongst cereal crops. Stinking mayweed is a crop weed that grows on heavy clay soils and is unlikely to tolerate the sandy, gravel soils of this site. This suggests that some crops were grown elsewhere and imported into the site. Cleavers are associated with an autumn sown crop.
- C.3.19 Charred seeds of henbane were recovered from an undated pit that also contained wheat grains. Henbane is a ruderal plant that colonises waste ground and rubbish heaps and is most commonly encountered in waterlogged deposits. It is extremely toxic but was sometimes used for flavouring beer. It is unclear why charred seeds of this plant have been incorporated in a deposit that contains cereal waste but it may indicate that the deposit derived from a mixed assemblage of hearth/domestic waste.

Statement of potential

- C.3.20 As noted in previous investigations of plant remains at this site there is limited potential for archaeobotanical study. Full analysis was carried out on the plant remains from the 1993 excavations at Hinxton Hall which was considered to be the main area of activity. Plant remains from later excavations at the Genome Campus were insufficient in quantity to justify further analysis and similar results have been obtained from this current phase of excavation. The quantity of plant remains recovered is relatively low although further processing of remaining soil may produce quantifiable assemblages.

Further work and method statements

- C.3.21 Based on this initial appraisal, those samples deemed to have archaeobotanical potential are recommended to have the full volume of soil processed (the remaining buckets) and the flots will then be subjected to a more detailed assessment in which cereals and weed seeds will be identified. It is recommended that all of the bulk samples from the Saxon and selected samples from the early medieval period are fully processed with full analysis of those samples that produce a quantifiable assemblage (>100 specimens). Additional samples may be selected once full phasing has been completed.
- C.3.22 Estimate of further work required:
- Flotation of approx 19 x 10L and 1 x 30L samples = 2 days
 - Assessment of additional samples = 1.5 days
 - Analysis of 5-10 samples, tabulation and report = 3-5 days

Sample No.	407	408	409	411	412	413	418	433	435	439	440	443	446	453	454	455	461	462	463	469
Context No.	4657	4658	4659	4622	4635	4634	4679	4938	5058	5079	5059	5107	5249	5332	5333	5331	5339	5250	5251	5455
Cut No.	4630	4630	4630	4623	4633	4633	4630	4939	4630	5080	4630	5098	4630	5308	5308	5308	4630	5187	5187	5457
Feature Type	SFB	SFB	SFB	pit	pit	pit	SFB	pit	SFB	ditch	SFB	ditch	SFB	oven	oven	oven	SFB	oven	oven	post hole
Sample Size (L)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	40	20	20	20	20	20
Date	450-850	450-700	450-700	1050-1200	450-850	450-850	450-850		450-700	1050-1200	450-850	450-850	450-850	1125-1200	1125-1200	1125-1200	450-850	1125-120	1125-1200	

Table C8 :samples selected for further processing

APPENDIX D. PRODUCT DESCRIPTION

Product number: 1

Product title: Completed stratigraphic analysis

Purpose of the Product: Full, targeted analysis as identified at assessment

Composition: Data and reports relating to stratigraphic and specialist analyses

Derived from: Open source documents and related digital data.

Format and Presentation: Draft texts for integration into publication and site archive

Allocated to: AL

Quality criteria and method: Regular monitoring and team meetings

Person responsible for quality assurance: EP

Person responsible for approval: PSS

Planned completion date: TBC

Product number: 2

Product title: Completed publication

Purpose of the Product: Full publication of the results of analysis

Composition: Monograph publication

Derived from: Open source documents and related digital data.

Format and Presentation: Monograph publication

Allocated to: AL

Quality criteria and method: Regular monitoring and team meetings

Person responsible for quality assurance: EP

Person responsible for approval: PSS

Planned completion date: TBC

Product number: 3

Product title: Completed archive

Purpose of the Product: Deposition of completed project archive

Composition: Data and reports relating to stratigraphic and specialist analyses; draft texts and illustrations, materials excavated from the site.

Derived from: Open source documents and related digital data.

Format and Presentation: Archive ready materials, in accordance with relevant standards

Allocated to: AL

Quality criteria and method: Regular monitoring and team meetings

Person responsible for quality assurance: EP

Person responsible for approval: PSS

Planned completion date: TBC

APPENDIX E. RISK LOG

Risk Number: 1

Description: Specialists unable to deliver analysis report due to over running work programmes/ ill health/other problems

Probability: Medium

Impact: Variable

Countermeasures: OA has access to a large pool of specialist knowledge (internal and external) which can be used if necessary.

Estimated time/cost: Variable

Owner:

Date entry last updated:

Risk Number: 2

Description: non-delivery of full report due to field work pressures/ management pressure on Co-authors

Probability: Medium

Impact: Medium - High

Countermeasures: Liaise with OA Management team

Estimated time/cost: Variable

Owner:

Date entry last updated:

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APPENDIX G. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	oxfordar3-117682		
Project Name	2011 Excavations at Hinxton Genome Campus, Hinxton, Cambridgeshire		
Project Dates (fieldwork)	Start	08-07-2011	Finish 30-08-2011
Previous Work (by OA East)	Yes	Future Work Unknown	

Project Reference Codes

Site Code	HINGEC11	Planning App. No.	S2013/10
HER No.	ECB3716	Related HER/OASIS No.	

Type of Project/Techniques Used

Prompt	Direction from Local Planning Authority - PPS 5
--------	---

Please select all techniques used:

<input type="checkbox"/> Field Observation (periodic visits)	<input type="checkbox"/> Part Excavation	<input type="checkbox"/> Salvage Record
<input type="checkbox"/> Full Excavation (100%)	<input type="checkbox"/> Part Survey	<input type="checkbox"/> Systematic Field Walking
<input type="checkbox"/> Full Survey	<input type="checkbox"/> Recorded Observation	<input type="checkbox"/> Systematic Metal Detector Survey
<input type="checkbox"/> Geophysical Survey	<input type="checkbox"/> Remote Operated Vehicle Survey	<input type="checkbox"/> Test Pit Survey
<input checked="" type="checkbox"/> Open-Area Excavation	<input type="checkbox"/> Salvage Excavation	<input type="checkbox"/> Watching Brief

Monument Types/Significant Finds & Their Periods

List feature types using the [NMR Monument Type Thesaurus](#) and significant finds using the [MDA Object type Thesaurus](#) together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
buildings	Early Medieval 410 to 1066	pot, fired clay, obj	Early Medieval 410 to 1066
pits	Bronze Age -2.5k to -700	pot, lithics	Bronze Age -2.5k to -700
settlement	Medieval 1066 to 1540	pottery, bone	Medieval 1066 to 1540

Project Location

County	Cambridgeshire	Site Address (including postcode if possible)	
District	South Cambridgeshire	Wellcome Trust Genome Campus Hinxton Cambridge CB10 1BN	
Parish	Hinxton		
HER	Cambridgeshire		
Study Area	10677sq m	National Grid Reference	TL49984430

Project Originators

Organisation	OA EAST
Project Brief Originator	Kasia Gdaniec
Project Design Originator	Paul Spoerry
Project Manager	Paul Spoerry
Supervisor	Taleyna Fletcher

Project Archives

Physical Archive	Digital Archive	Paper Archive
Cambs County Stores	OA East Offices	Cambs County Stores
HINGEC11	HINGEC11	HINGEC11

Archive Contents/Media

	Physical Contents	Digital Contents	Paper Contents
Animal Bones	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ceramics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Environmental	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Glass	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Human Bones	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Industrial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stratigraphic		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Survey		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Textiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worked Bone	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worked Stone/Lithic	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Digital Media	Paper Media
<input checked="" type="checkbox"/> Database	<input type="checkbox"/> Aerial Photos
<input checked="" type="checkbox"/> GIS	<input checked="" type="checkbox"/> Context Sheet
<input type="checkbox"/> Geophysics	<input checked="" type="checkbox"/> Correspondence
<input checked="" type="checkbox"/> Images	<input type="checkbox"/> Diary
<input checked="" type="checkbox"/> Illustrations	<input checked="" type="checkbox"/> Drawing
<input type="checkbox"/> Moving Image	<input type="checkbox"/> Manuscript
<input type="checkbox"/> Spreadsheets	<input type="checkbox"/> Map
<input checked="" type="checkbox"/> Survey	<input type="checkbox"/> Matrices
<input checked="" type="checkbox"/> Text	<input type="checkbox"/> Microfilm
<input type="checkbox"/> Virtual Reality	<input type="checkbox"/> Misc.
	<input checked="" type="checkbox"/> Research/Notes
	<input checked="" type="checkbox"/> Photos
	<input checked="" type="checkbox"/> Plans
	<input checked="" type="checkbox"/> Report
	<input checked="" type="checkbox"/> Sections
	<input type="checkbox"/> Survey

Notes:



Figure 1: Site location

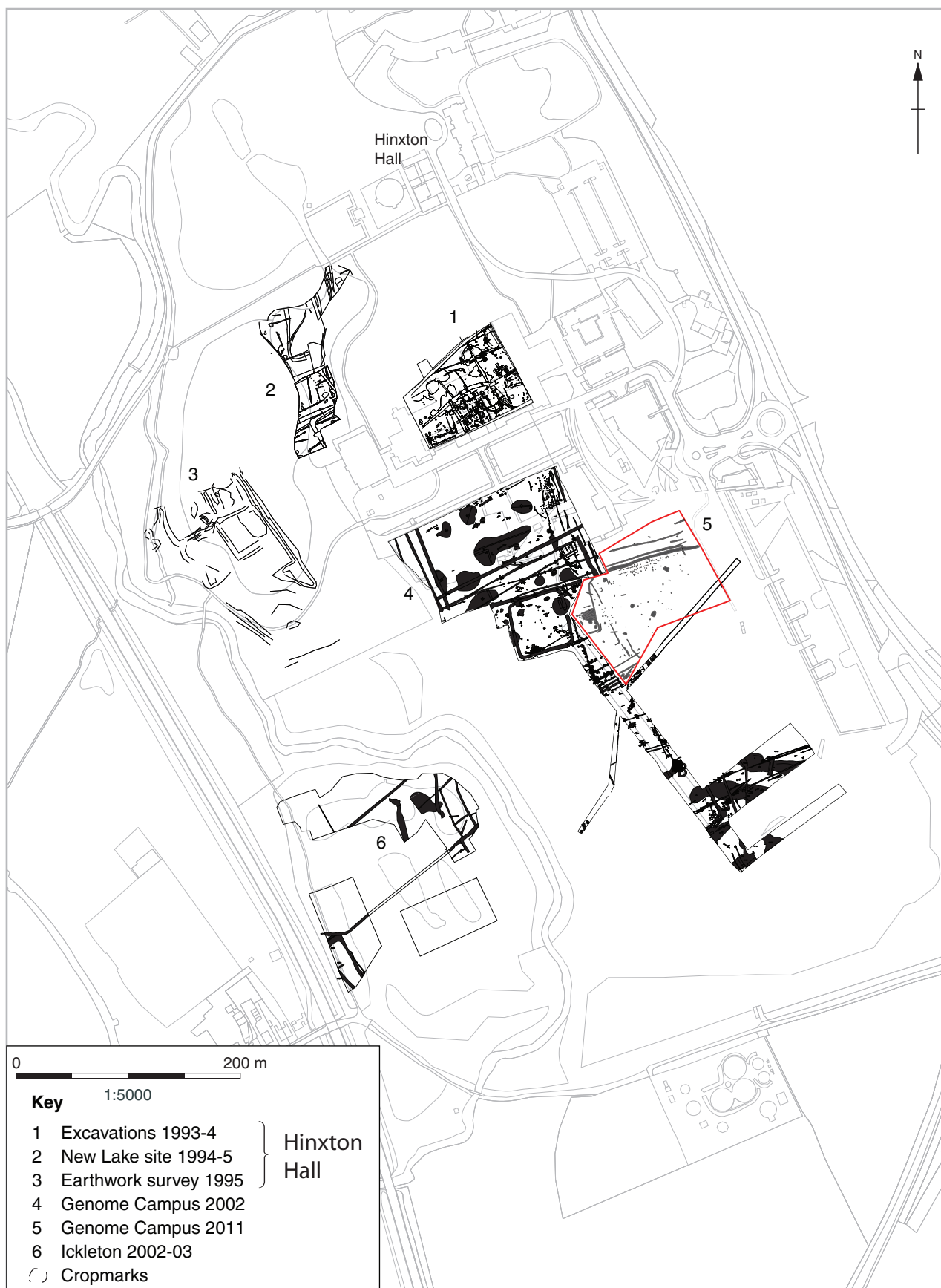


Figure 2: Map showing detail of all previous archaeological investigations at Hinxton Genome Campus Ordnance Survey. © Crown Copyright 2012. All rights reserved. Reference number 0100031673.

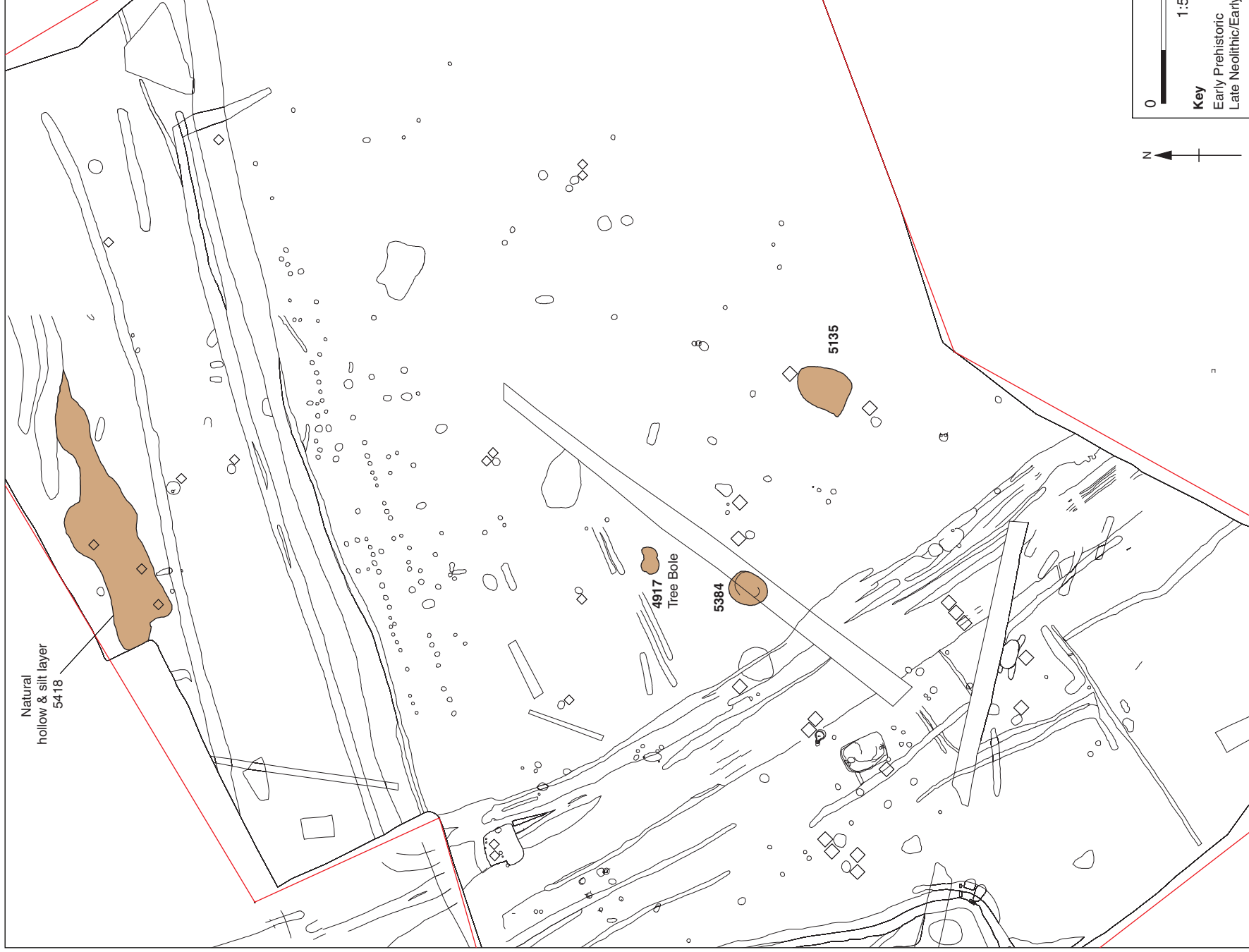


Figure 3: Period 1 - Early Prehistoric

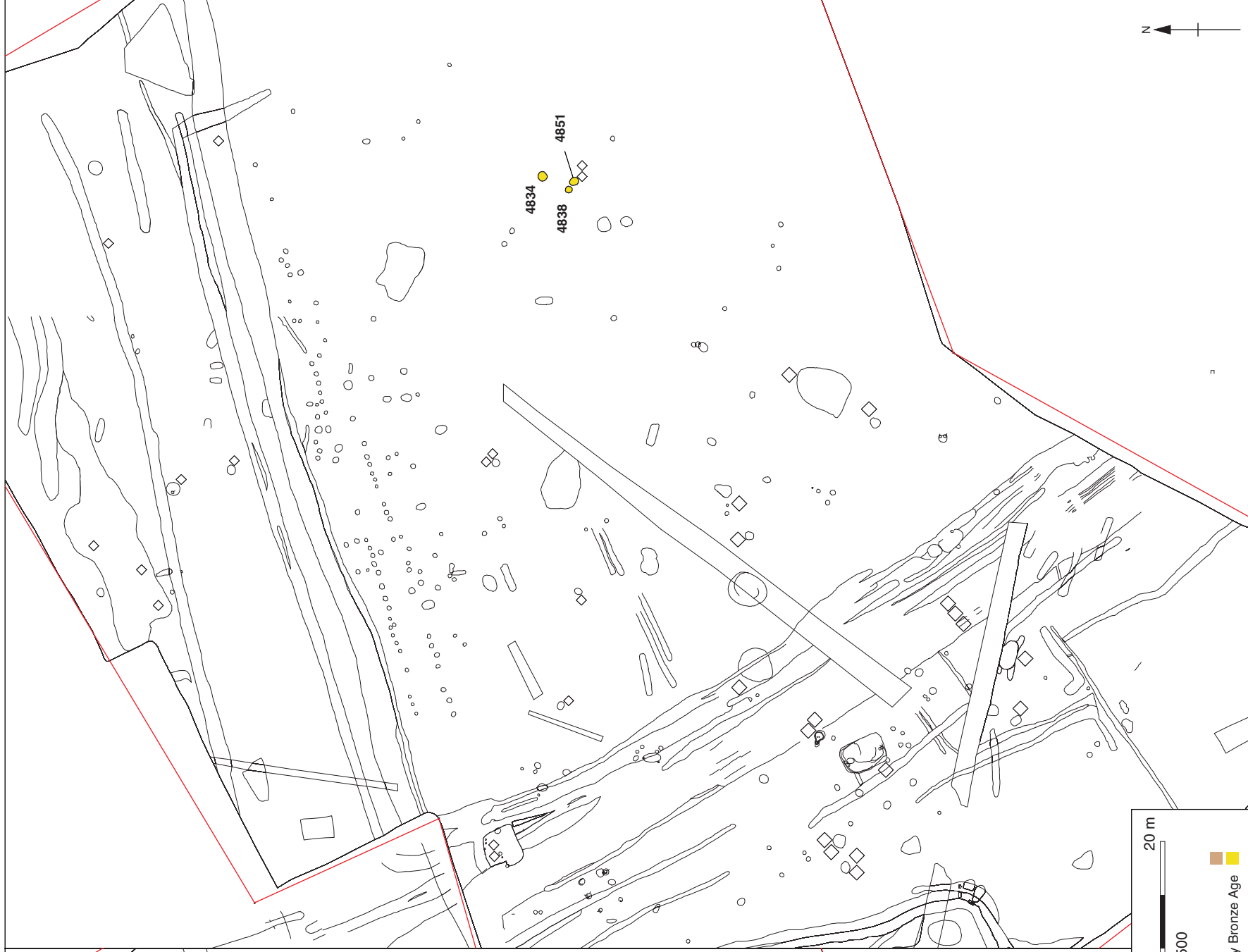


Figure 4: Period 2 - Late Neolithic/Early Bronze Age



Figure 5: Period 3 - Later Iron Age/Transitional

Figure 6: Period 4 - Early-Middle Saxon AD 450-850



Figure 7: Period 5 - Late Saxon - Early Medieval



Plate 1: Later Neolithic / Early Bronze Age pit



Plate 2: Skeleton 5518



Plate 3: SFB 4630



Plate 4: Bone spindle whorls from SFB 4630



Plate 5: Pot within oven 5187



Plate 6: Fragment of medieval floor tile



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