Report 1417

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An Archaeological Excavation at Three Score Community Residential Development, Bowthorpe, Norwich

(Amended)

HER 40711 CST

Prepared for

Norwich City Council

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Frontispiece: looking to the north-east from the bridge over the River Yare on Tollgate Way. The excavation site is shown in background on the valley side.

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Location:	Three Score Community Residential Development, Bowthorpe
District:	Norwich
Grid Ref.:	TG 18262 08926
HER No.:	40711 CST
Client:	Norwich City Council
Dates of Fieldwork:	14 March–6 June 2005

Summary

The excavation by NAU Archaeology of an area of almost 2 hectares at Three Score Community Residential Development, Bowthorpe, Norwich, was undertaken in response to the development of the area for housing. The work was commissioned and funded by Norwich City Council and took place during the spring and early summer of 2005.

Apart from several Upper Palaeolithic flints found in later features the earliest evidence of prehistoric activity on this site was two clusters of Neolithic pits, a buried soil associated with a possible building and evidence of probable commencement of colluviation. There is pollen evidence to suggest some of these pits were excavated in a clearing in lime-dominated deciduous woodland. AMS radiocarbon results from two pits in Cluster 1 produced dates within the later Early Neolithic to Early Bronze Age. There was evidence that these pits were initiated in the earlier Neolithic, only to be revisited and new ones dug in the Early Bronze Age. The flintwork provides evidence of specific selection of material for burial.

One pair of Late Neolithic–Early Bronze Age pits contained significant amounts of Grooved Ware. Two AMS dates were obtained from one of the pits resulting in two peaks of likely dates – Cal BC 4790–4760 and Cal BC 2670–2480 – and a second date of Cal BC 2890–2620.

There was limited evidence for Bronze Age and Iron Age activity in the excavated area, although there were several undated prehistoric pits and probable post-holes, which may be of this date. A series of undated, but possibly Romano-British ditches including what appears to be part of a large enclosure ditch, were also recorded. The Early Saxon period is well represented in a limited area, with three sunken-featured buildings (SFBs) being recorded. Soil micromorphology has provided an interesting insight into the activities on the site during this period. Two AMS radiocarbon samples from a pit filled with fire-cracked flints and charcoal both gave dates in the Early Saxon period.

A probable medieval ploughsoil was identified sealing the SFBs, but no other features of this date were observed in the excavated area. Post-medieval features include a single ditch, which crossed the site from east to west, and a complex of intercutting quarries, all of which had been sealed below a modern ploughsoil.

The site occupies poor sandy soils and the impact of nearly 6000 years of activity on the soils and the restrictions this placed on the type of activities carried out on the site are discussed in the conclusions.

1.0 Introduction

Archaeological investigations at Three Score Community Residential Development, Bowthorpe, began with an archaeological evaluation during the late summer of 2004 (Green 2004). As a result of this evaluation a further archaeological brief was issued by David Gurney, then Principal Archaeologist at Norfolk Landscape Archaeology (NLA ref. 18/11/04/DG). This brief required the excavation of an area of 1.95 ha containing Anglo-Saxon remains and a buried prehistoric soil. The archaeological programme was undertaken to fulfil a planning condition set by Norwich City Planning Services and in accordance with a Project Design and Method Statement prepared by NAU Archaeology (Ref: WAB 1896). Fieldwork commenced on the 14 March 2005 and was completed on the 6 June 2005. The excavation, subsequent report and archive production have been funded by Norwich City Council.

The site archive is currently held by NAU Archaeology and on completion of the project will be deposited with Norfolk Museums and Archaeology Service, following the relevant policy on archiving standards.

2.0 Geology and Topography

Three Score Community Residential Development (NHER 40711 CST) is located to the south of the village of Bowthorpe, an area to the west of and now part of the city of Norwich. The proposed development was on the northern side of the River Yare on its relatively steep south-facing slopes (Figure 1). The River Yare lay within 150m of the southern limit of the site and the most northerly limit was 700m from the river. The site sloped gently from a height of 38m OD to the north-east, on Bunkers Hill, to 10m OD adjacent to the river to the south. There was a very slight terrace halfway down the slope.

The underlying geology was Upper Cretaceous chalk overlain by Quaternary glaciofluvial sand and gravel (British Geological Survey Sheet 161). There were also areas, particularly in the central and northern parts of the site, of well-sorted medium to fine, highly mobile, probably cold climate sand/coversands. Below the sand and gravels, and above the chalk, was a chalky till and/or a chalky solifluction deposit. Deposits of sands and gravel predominated at the surface and were likely to be present at some depth in parts of the site since there was evidence of post-medieval to modern sand and gravel extraction pits of varying depths and levels of backfilling across the site. Periglacial and probably later fluvial alteration of the surface of these deposits has created areas of now-buried gullies which have developed on this sloping valley side. Some of these gully-like features were encountered in the excavation and initially interpreted as ditches. The undisturbed soils that developed on these deposits are described as coarse and are fine loamy soils of the Burlingham 1 Association (Hodge *et al*. 1984).

There is a complicated and interesting history to the soil development across the site, which tells us much about the activities of past land-use. The modern topsoil was identified to a depth of 0.3m. This was a mid-grey-brown silty sand with variable amounts of flint gravel. The site had been ploughed at least in part in the 20th century, but had reverted to grassland at least 20 years ago.

A ‘subsoil’ was identified in isolated patches of variable depth (0.05m–0.50m) across the site. In places this ‘subsoil’ clearly sealed Iron Age and Saxon features

and is likely to be at least in part a medieval or post-medieval ploughsoil with a colluvial element. In the central and northern part of the excavation area a considerable depth of colluvium, in places almost 1m deep, was recorded which had accumulated above the underlying coversands. This colluvium is likely to have accumulated over an extended period and much of it predates the medieval ploughsoil and it is in part Neolithic.

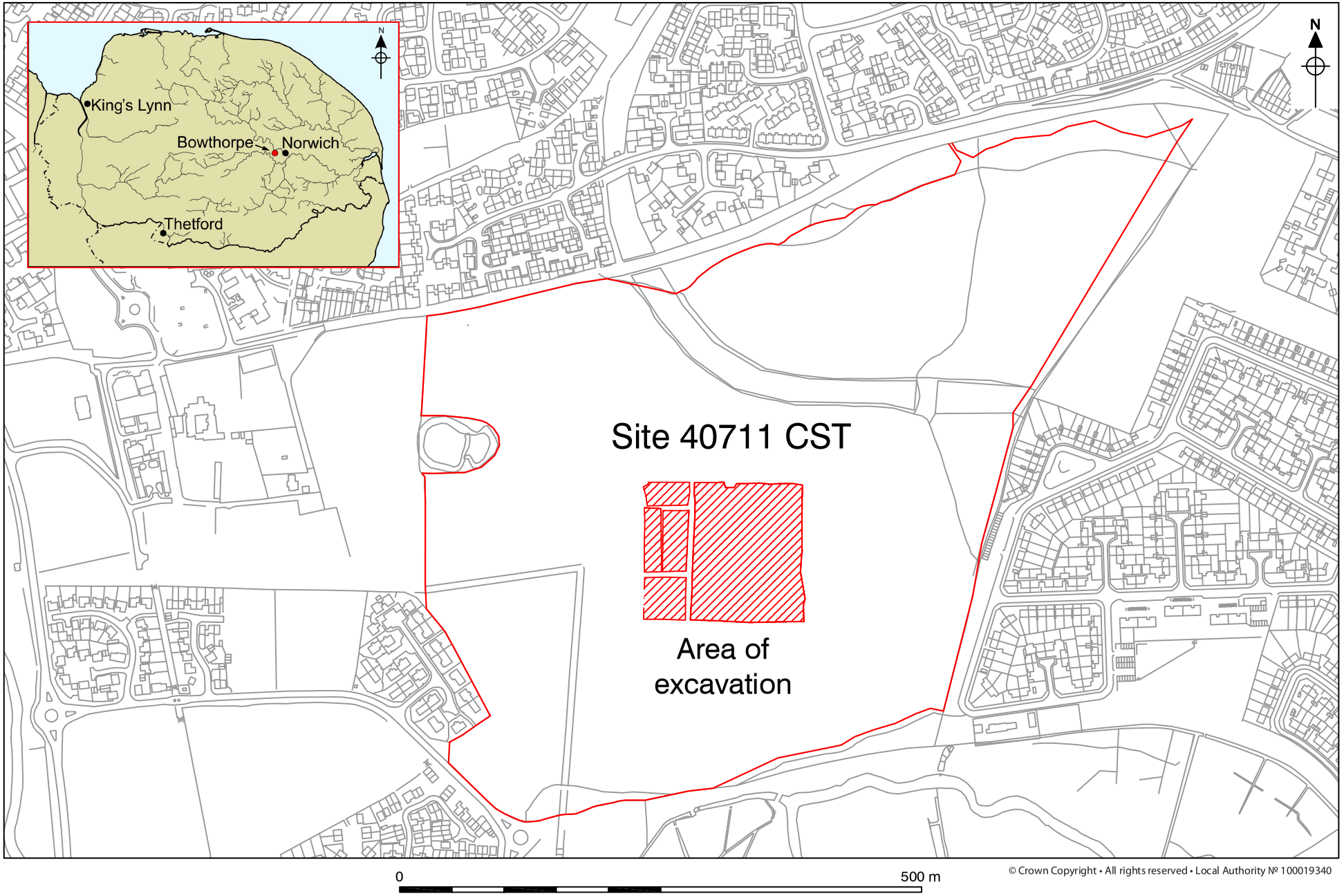


Figure 1. Site location. Scale 1:5000

3.0 Archaeological and Historical Background

The area of Bowthorpe has expanded considerably since the late 20th century following the construction of major housing schemes and related infrastructure. As a direct result, several developer-funded archaeological interventions have taken place during recent years. Key among these archaeological works have been the evaluation and excavation to the south-west of the site at Dodderman Way (Percival 1999; 2002) and evaluation and excavation to the immediate west at Bishy Barnabee Way (Trimble 2003; 2004). This archaeological undertaking reflects not just the expansion of Bowthorpe, but the importance of its historic environment.

3.1 Palaeolithic and Mesolithic

The earliest evidence for human activity in the area of Bowthorpe is provided by finds of flint artefacts. Flint artefacts found within the Yare Valley date from the Palaeolithic to the Iron Age, although most prehistoric material dates from the Late Mesolithic to the Early Bronze Age. No Bronze Age cut features were revealed, but some of the unstratified flint was Later Neolithic–Early Bronze Age in character.

Other prehistoric artefacts found prior to the present investigation include a Palaeolithic hand axe (NHER 9398) found adjacent to the river less than 1km to the west of the present site. During the evaluation carried out at this site in 2004 a Mesolithic/Upper Palaeolithic long blade was found in the ploughsoil (Green 2004).

There is a moderate amount of evidence of Mesolithic activity in this part of the Yare valley. Most of the finds are from the bottom of the valley in the Bowthorpe--Earlham Marshes. What was described as an extensive scatter of Mesolithic flint was found at NHER 9310, less than 300m to the south of the present excavation. This area has produced many flint artefacts over the years, including two barbed-and-tanged arrowheads, blades, bladelets, scrapers, borers and polished axe fragments.

To the east, close to the bottom of the valley, in the area of Bowthorpe Road an assemblage of Mesolithic flint was recovered in 1926. Within this assemblage were some polished implements which may be transitional Neolithic in date. A Later Mesolithic microlith was found in topsoil during excavations at NHER 9304 (Percival 2004). A Mesolithic site at Great Melton (Wymer and Robins 1995), though set back 1km from the Yare Valley and interpreted as a hunting camp also indicates the presence of Mesolithic peoples in the locality.

3.2 Neolithic and Bronze Age

The Yare valley was a highly significant area during the Neolithic and Bronze Age and was a focus for funerary and ceremonial activities, particularly during the Later Neolithic and Bronze Age. This activity was concentrated downstream close to the confluence of the River Yare and Tas some 7km away. Many of these monuments are visible as cropmarks and occur in clusters close to the Yare and Tas valleys. Cropmarks of over 20 ring-ditches which form part of the ‘Arminghall Group’ have been recorded close to the confluences of the Rivers Tas, Yare and Wensum. These are interpreted as levelled round barrows. Although relatively few of the cropmarks have been excavated other excavations have revealed a rich

ceremonial and ritualised prehistoric landscape together with evidence of domestic occupation. Such monuments include the Neolithic Arminghall Henge (NHER 6100), a wooden post-built henge (Clarke 1936) located at the confluence of the two rivers. An Early Neolithic radiocarbon date was obtained from this structure, although a sherd of rusticated Beaker pottery found within the inner ditch indicates a slightly later date (Ashwin 1996). This monument, and possibly associated unexcavated henge monuments at Markshall, had longevity in the landscape and appear to have acted as a focus for later barrows and ring-ditches into the Bronze Age and beyond (Lawson *et al.* 1986; Ashwin 1996). An exceptional opportunity to investigate many of these features and the landscape associated with them came with the construction of the Norwich Southern Bypass in 1989–90 when numerous ring-ditches and barrows were excavated (Ashwin and Bates 2000). A significant recent excavation at Harford Park and Ride (NHER 39268), on the interfluve between the Yare and Tas approximately 6km downstream from Bowthorpe, has produced important evidence of Early Neolithic, Late Neolithic–Early Bronze Age and Bronze Age activities (Trimble forthcoming).

There is less evidence for monument building in the upper part of the valley, but five barrows have been recorded at Eaton Heath (NHER 9549). Fewer barrows have been identified closer to Bowthorpe, but a single a Bronze Age barrow (NHER 1431) some 1km to the north-west of the present site, close to the top of the valley has returned calibrated radiocarbon dates between 1500–2000 BC (Lawson 1986, 20–49).

3.2.1 Neolithic

The Early Neolithic is well represented in this part of the Yare valley, especially on the lower slopes of the valley with evidence of two possible occupation sites. Excavations at Three Score Road *c.*600m to the west of the present excavation recorded Early Neolithic occupation with pits and a possible structural ring-gully (NHER 9304; Percival 2004). On the south side of the river, within 1km of the present site, excavations at the John Innes Research Centre revealed important evidence of Early Neolithic occupation, including a possible building, significant quantities of worked flint, a small quantity of Neolithic pottery and a buried soil (NHER 9336; Whitmore 2004).

Approximately 200m north-east of the present excavation and within the evaluation area on the lower slopes of Bunkers Hill, a Neolithic axe, blades and waste flakes have been found (NHER 9308). Other Neolithic finds have been recorded from lower down the valley sides, close to the present excavation, at NHER 9310 where a polished axehead, scrapers, blades and a flint fabricator have been found. A flint scatter of this date was found within a few hundred metres to the south of the site at NHER 12192. A flaked flint axehead was also recovered *c.*100m to the north-west at NHER 9308. A small collection of mainly residual Earlier Neolithic flint found within later features or in the ploughsoil was recorded from immediately west of this site at Bishy Barnabee Way indicating activity of this period across a wide area (NHER 39797; Trimble 2004).

3.2.2 Bronze Age

The Bronze Age is less well represented in this part of the valley with few Bronze Age finds or features, but several Late Neolithic/Earlier Bronze Age features have been recorded. A cluster of Late Neolithic–Early Bronze Age pits was excavated at

Three Score Road where the remains of 17 different beakers were found (NHER 9304; Percival 2004). A Bronze Age pit containing pot and flint was found immediately to the south of the present excavation area on the Earlham–Bowthorpe Marshes (Phillips 1999). Immediately to the east of the present site a Late Neolithic–Early Bronze Age flint dagger was recovered from the ploughsoil in the 1930s (NHER 9309).

During the evaluation of the present site no Bronze Age features or deposits were recorded and evidence for later Bronze Age activity beyond the limits of the present excavation is sparse. It appears that the Bronze Age activity exists higher up the valley sides, such as at barrow site NHER 11431 (Lawson *et al.* 1986).

3.3 Iron Age

Evidence for Iron Age activity in the area is limited. A small number of isolated finds and a single pit were recorded from excavations at Bishy Barnabee Way (Trimble 2004). During the evaluation of the present site two Iron Age ditches and two pits were identified, all just outside the area of the present excavation (Green 2004). However, each feature was only dated by a single sherd of Iron Age pottery and it is possible that these sherds were residual. The overall view of the middle to Late Iron Age in this immediate area is one of small-scale or transitory activity.

3.4 Romano-British

There have been moderately frequent finds of Roman coins, brooches and other metal artefacts around Bowthorpe, often recovered by metal-detectorists. Such finds include a 1st-century Dolphin brooch and Roman coin at NHER 15475 in the Bowthorpe–Earlham Marshes. To the south of the present excavation a Roman brooch was found at NHER 25166 and a Roman coins at NHER 24229. The limited evidence does not indicate a focus of settlement. Aerial photography has revealed what is interpreted as a Romano-British field system and a rectilinear enclosure system at Three Score Road (Percival 2004) and NHER 9304 is thought to be of comparable date. Excavations at Bishy Barnabee Way also recorded Romano-British ditched features (Trimble 2004; NHER 39797). The evaluation at the present site revealed a single Roman pit or post-hole, just outside the area of the excavation, together with a series of undated ditches which are probably also Romano-British (Green 2004). Fragments of Roman brick and tile, a Dolphin-type brooch (SF15) and a 4th-century coin were found within the ploughsoil.

3.5 Anglo-Saxon

Several Saxon sites have been excavated along the route of the Norwich Southern by-pass in the Yare valley. These sites include Harford Farm, where Bronze Age round barrows, Late Iron Age square barrows and an Anglo-Saxon cemetery were excavated (Ashwin and Bates 2000; Penn 2000).

Stray surface finds of Saxon Finds are relatively common in the Bowthorpe area. These include Early and Late Saxon brooches, a Late Saxon coin and other metal artefacts in the Bowthorpe–Earlham marshes to the south (NHER 9310). Other finds on these marshes include a Middle Saxon brooch (NHER 20666). On the higher ground an Early Saxon spoon and a Middle Saxon pin came from Bunkers Hill a few hundred metres to the north of the excavation (NHER 13848). A silver

scabbard mount and a Late Saxon silver belt hook were found at Clover Hill approximately 600m to the north at the top of the hill (NHER 15057).

The clearest evidence of Early Saxon settlement comes from the excavation of Early Saxon features at Bishy Barnabee Way, 500m to the west of the present site (NHER 39797). Three, possibly four, sunken-featured buildings (SFBs), as well as probable post-built structures were excavated at this site (Trimble 2004).

In the wider area a scatter of Middle Saxon finds, such as a bronze equal-arm brooch (NHER 18987), suggests a focus of Middle Saxon occupation in the area of Chapel Break, almost 1km from the present excavation (Beazley and Ayers 2001). There is a concentration of Late Saxon material in the same area.

3.6 Medieval and Post-medieval

A reference to Bowthorpe in Domesday Book suggests that the settlement dates from at least the Late Saxon period. The NHER seems to indicate the Saxon occupation to be to the north and west in Chapel Break, an area now part of an extensive housing development. The ruined church of St Michael is the only medieval building still standing and excavation indicated a late 11th-century foundation date (Beazley and Ayers 2001). It is possible that Bowthorpe Hall, a 17th-century building adjacent to the church, may occupy the site of an earlier manor. Given the indication that the Saxon settlement may have lain to the north-west it is likely the church and its manorial centre stood at the edge of the settlement (Beazley and Ayers 2001).

The present development area occupies land to the east of Bowthorpe Hall, which forms part of a deserted medieval village. Abandonment of villages was a phenomenon often associated with the 14th century. The Black Death of 1349 was devastating to rural economies, both directly and indirectly, and the village received Black Death Relief in 1352–4 (Beazley and Ayers 2001). It is possible that enclosure of the fields *c*.1520 may have lead to further depopulation and by the early 17th century the village was sparsely populated (Beazley and Ayers 2001). The hall and church remained with all trace of the surrounding village lost to farmland. To the south of this deserted village evidence for a hollow way linking Bowthorpe to Colney was excavated at Dodderman Way (Percival 1999).

There is no evidence that the village of Bowthorpe extended across the area under investigation since no cut features of this date were encountered during the evaluation (Green 2004). It is likely, however, that some areas of earlier ploughsoil are medieval. Few post-medieval features were identified during the evaluation (Green 2004), the exceptions being an east–west field boundary ditch and an infilled quarry to the west of the site.

3.7 Modern

The current development is the most recent of several in the area and represents the westwards expansion of Norwich. The site formerly served as agricultural land, most recently under pasture, but has been ploughed in the recent past. A sand and gravel extraction pit some 50m in diameter, now overgrown with trees, lies to the west, close to Bowthorpe Hall and is likely to be 20th century.

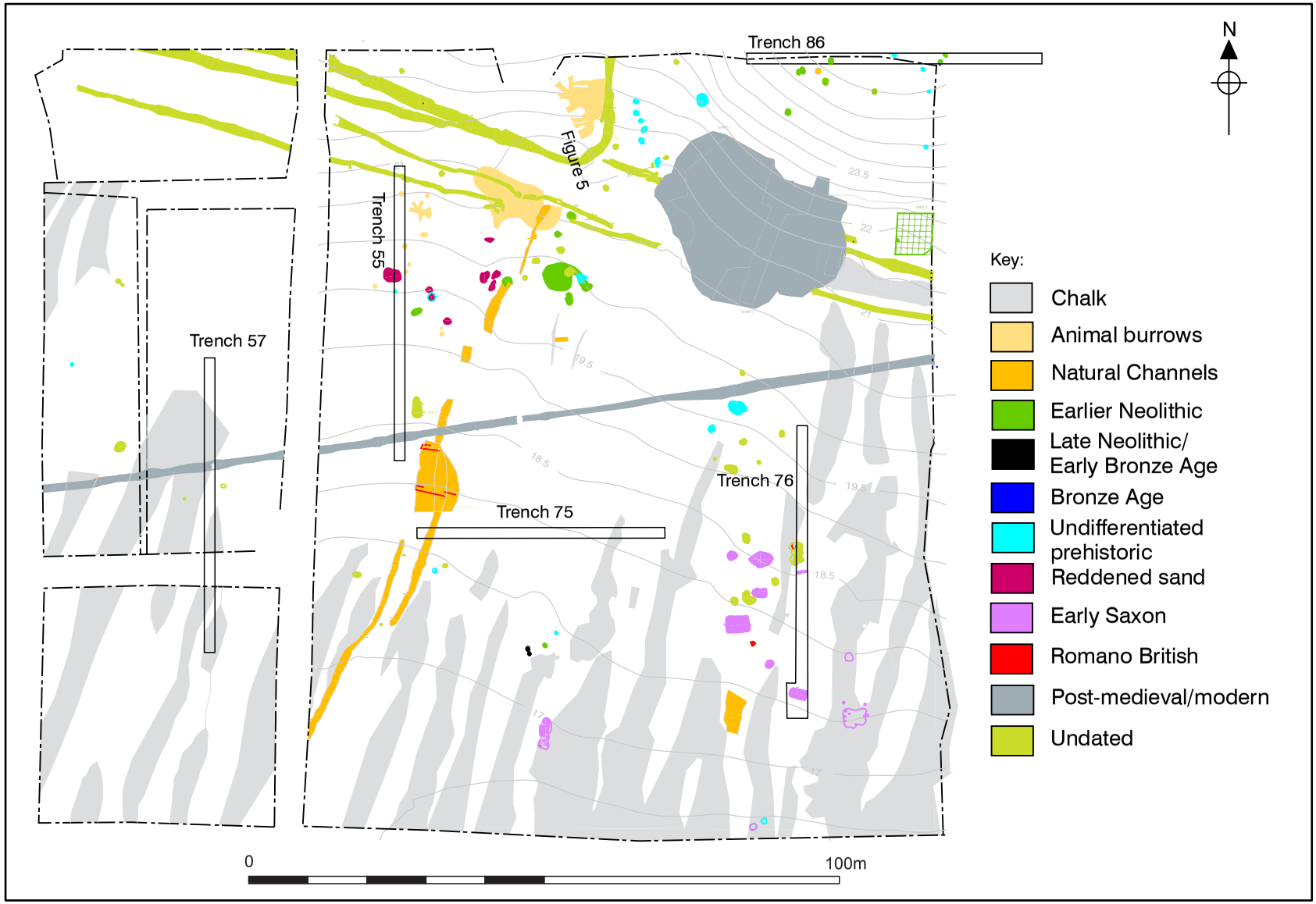


Figure 2. All features. Scale 1:1000

4.0 Methodology

4.1 Evaluation

A total of 106 50m trenches was excavated in advance of a proposed housing development on the 28 ha site at Three Score, Bowthorpe, in the late summer of 2004 (Figure 3; Green 2004). The objective of this evaluation was to determine as far as reasonably possible the presence or absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area. The position of the trenches was agreed in advance with Norfolk Landscape Archaeology.

The evaluation commenced on 14 March 2004. Trenches were stripped using a 13-tonne 360° mechanical excavator fitted with a toothless ditching bucket. Spoil, exposed surfaces and features were scanned with a metal-detector. All metal-detected and hand-collected finds, other than those which were obviously modern, were retained for inspection. All archaeological features and deposits were recorded using NAU Archaeology pro forma. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.

The data recovered during the evaluation have been integrated into the excavation results only where the evaluation trenches fell within the excavation area. Environmental samples were taken from a range of the features described above.

4.2 Excavation

The archaeological excavation of the site comprised three stages of fieldwork.

4.2.1 Background Research

A desk-based study of the local area was carried out to place the site within its local archaeological context. This research involved the consultation of relevant published and unpublished sources, including historical maps, journals and archaeological reports. A 1km-radius search of the Norfolk Historic Environment Record (NHER) and any associated files was undertaken. The Norfolk Air Photography Library was consulted to identify archaeological sites and features within the environs of the site.

4.2.2 Machine Stripping

The topsoil and, where necessary, the underlying colluvium was stripped from the excavation area using a 13-tonne 360° mechanical excavator fitted with a 1.8m-wide toothless ditching bucket, and two 5-tonne dumpers. Limited site access prevented the use of larger vehicles. Machine stripping was carried out under constant archaeological supervision and all exposed surfaces scanned with a metal-detector operated by an experienced user. Archaeological features observed cutting the underlying natural were marked using fluorescent yellow spray paint to facilitate future reference.

4.2.3 Manual Excavation

The machine-stripped surfaces were hand cleaned in areas where there was an identified concentration of archaeological features and all areas of buried soil were cleaned. All exposed archaeological features were sample excavated and their fills

scanned with a metal-detector. The SFBs and their associated post-holes were 100% excavated, as were some of the Early Saxon pits. All deposits within these features were sieved using a 5mm-mesh sieve. Sample areas of buried soil were fully excavated within a 1m grid system. The buried soil was then excavated in 0.1m spits and the deposits sieved using a 5mm-mesh sieve. The Early Neolithic features were also 100% excavated and their contents sieved.

Stripped areas were planned using a total station theodolite in conjunction with hand-drawn plans recorded at a scale of 1:20 or 1:50 as appropriate. Sections were drawn at 1:10 (1:20 for extensive soil profiles) and all deposits were recorded using NAU Archaeology context sheets. Colour and monochrome photographs were taken of all relevant features and deposits.

4.3 Site Conditions

The excavation was undertaken over a period of three months in generally fine, dry weather conditions. The two most important factors that affected the excavation were the variable depth of colluvium which had accumulated across the site, sometimes sealing archaeology at a depth of more than 1m, and the amount of rabbit burrowing. The former made machining the site difficult in places and led to large amounts of sediment needing to be removed to reveal archaeological remains.

Across the lower part of the site gullies had developed in the chalk (and soliflucted chalk) during earlier periods of cold climate and sand has accumulated in the troughs between these stripes of chalk. Consequently in some areas of the site it has been difficult to establish which stripes are naturally occurring and which are ditches.

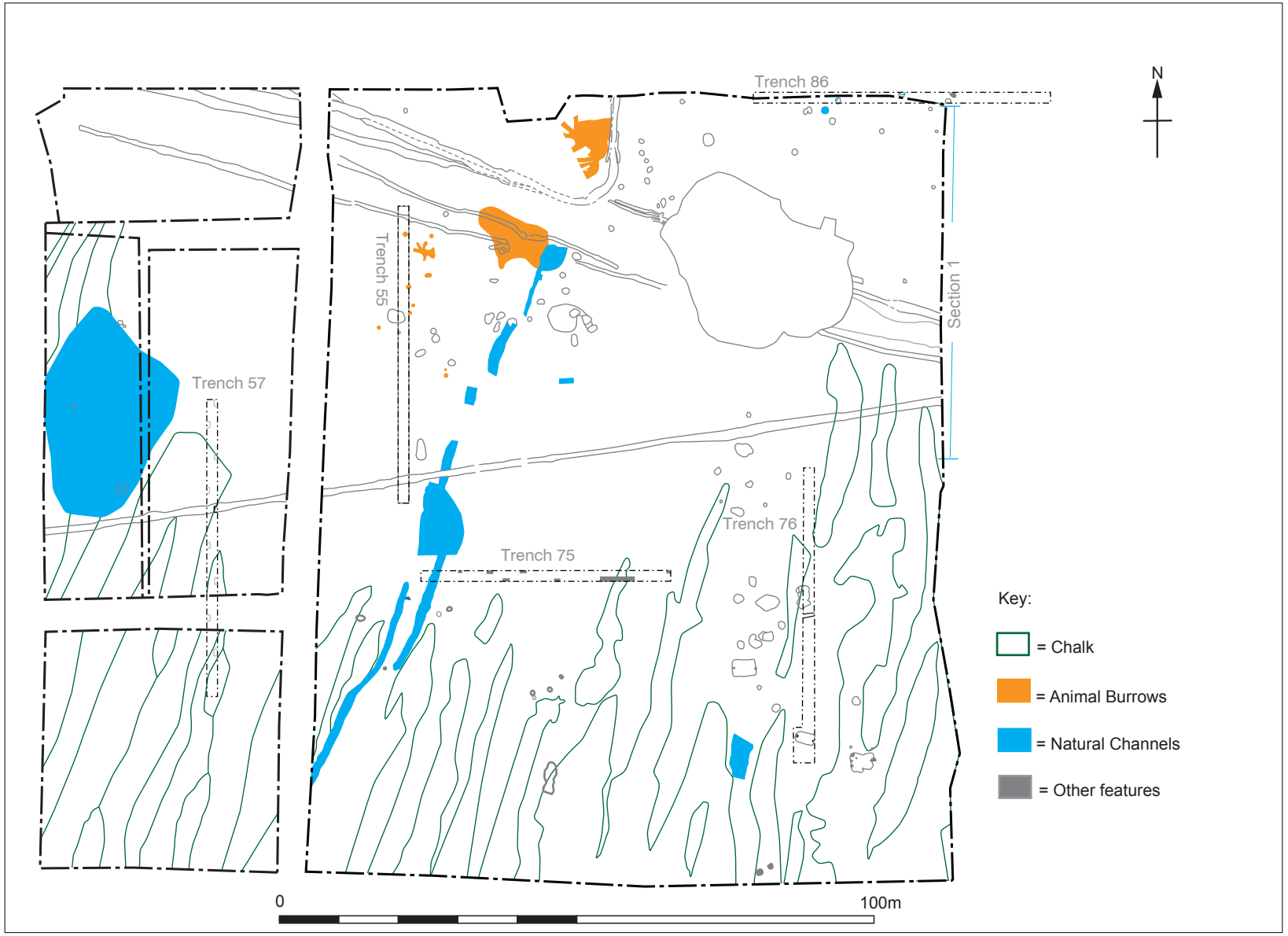


Figure 3. All natural features. Scale 1:1000

5.0 Results

5.1 Evaluation

Archaeological remains were found in approximately 25% of the evaluation trenches. Eighty-five features were identified, 13 of which were remains of tree root systems, tree throws and periglacial features. Many of the features were undated, being most frequent to the north and west of the site. Many of these features were likely to be prehistoric. Small areas of a probable prehistoric buried soil were identified in the central area together with a single Neolithic pit. Several probable prehistoric pits were excavated along with two Iron Age ditches and two pits. Two undated ditches were likely to be part of a previously identified Romano-British field system.

A fine Early Saxon two-post SFB was found in the southern central area. This contained a wide range of Early Saxon pottery together with fragments of loom weights, a brooch and large amounts of animal bone. A second, less certain SFB was also identified to the north of the site. No medieval features were observed, but a potentially medieval ploughsoil was observed in patches below the modern ploughsoil. Post-medieval and modern utilisation of the land included agriculture, and sand and gravel extraction from quarries of various sizes. Some of these quarries were large enough to be noted on present-day 1:25,000 Ordnance Survey maps.

The data recovered during the evaluation trenching have been integrated into the results of the excavation, but only where the evaluation trenches fall within the area of the excavation.

5.2 Excavation

The excavation revealed a sequence of archaeological features and deposits of Earlier Neolithic, Later Neolithic–Early Bronze Age, Bronze Age, Iron Age, undifferentiated-prehistoric, Romano-British, Early Saxon, medieval and post-medieval/modern date, as well as many undated features and deposits (Figure 2). The total numbers of features are quantified by their provisional date in Table 1 and a full list of all contexts excavated and their dates is included in Appendix 1a. A full list of all the finds by context is included in Appendix 2a.

The Earlier Neolithic period was represented by at least 12 pits with many of the undifferentiated prehistoric features likely to be the same age. These pits were found in several groups, the largest of which was Pit Group 1, a loose cluster of pits on the valley side. At least one distinct area of palaeosol/colluvium was also likely to be of this date.

The Late Neolithic–Early Bronze Age was represented by two pits, located in relative isolation in the south–central part of the site. A single Bronze Age pit was tentatively recognised to the south of the site. There were no Iron Age cut features, but some of the colluvium contains Iron Age material which had worked its way down slope.

Although Romano-British pottery was found in several features, only one small pit exclusively contained pottery of this date, although this single sherd may have

been residual. Although unproven, it is probable that some of the ditches observed to the north of the site were also Romano-British, as is much of the colluvium.

A cluster of Early Saxon features was identified in the southern part of the site. These include three SFBs with associated post-holes and pits.

No medieval features were identified, although some of the ploughsoil is medieval. Evidence of post-medieval–modern activity includes an east–west ditch, which bisects the site, and a series of intercutting quarry pits. A modern ploughsoil covered the entire site.

Feature Type and Date	Ditches	Pits	Post-holes	SFBs	Quarry	Burrows / Roots	Rubefied sand	Soil / Colluvium	Total
Natural features	2					11			13
Earlier Neolithic / Neolithic		16						Present	16
Late Neo / Early Bronze Age		2							2
Bronze Age		2							2
Iron Age								Present?	0
Undifferentiated-prehistoric		17						Present?	17
Romano-British		1						Present?	1
Early Saxon	1	6	12	3				Present?	22
Medieval								Present	0
Post-medieval / modern	1				3			Present	4
Undated	14	30	5				8	Present	57
Total	*18*	*74*	*17*	*3*	*3*	*11*	*8*		*134*

Table 1. Total number of features by type and provisional date (includes features encountered in the evaluation trenches within the excavation area)

5.3 The Stratigraphic Data

All archaeological and natural features recorded during the excavation and the evaluation trenches within the area of excavation are illustrated in Figure 2. The results are briefly described under period headings below, following a description of the soils and superficial geology.

There was a low level of worked flint in the soil across the entire site, although in some places there was a concentration of worked flint within colluvial layers in the vicinity of more intense prehistoric activity. Consequently, some of the soil used to backfill features may have contained relatively large amounts of residual flint yet may also contain a single sherd of later pottery. It is debatable whether the single sherd is intrusive or if the flint is residual, but in most cases the pottery has been used to date the feature rather than the flint. For example, the only feature described as Romano-British contained 1 small sherd of Romano-British pottery and a larger amount of worked flint (3 spalls, 1 flake, 1 blade-like flake, 1 crested blade and 2 fragments of burnt flint). Whereas one of the Early Saxon pits contained 17 sherds of Early Saxon pottery and 52 pieces of worked flint. This localised, higher background level of worked flint reflects a relatively high level of prehistoric activity and causes some confusion in dating.

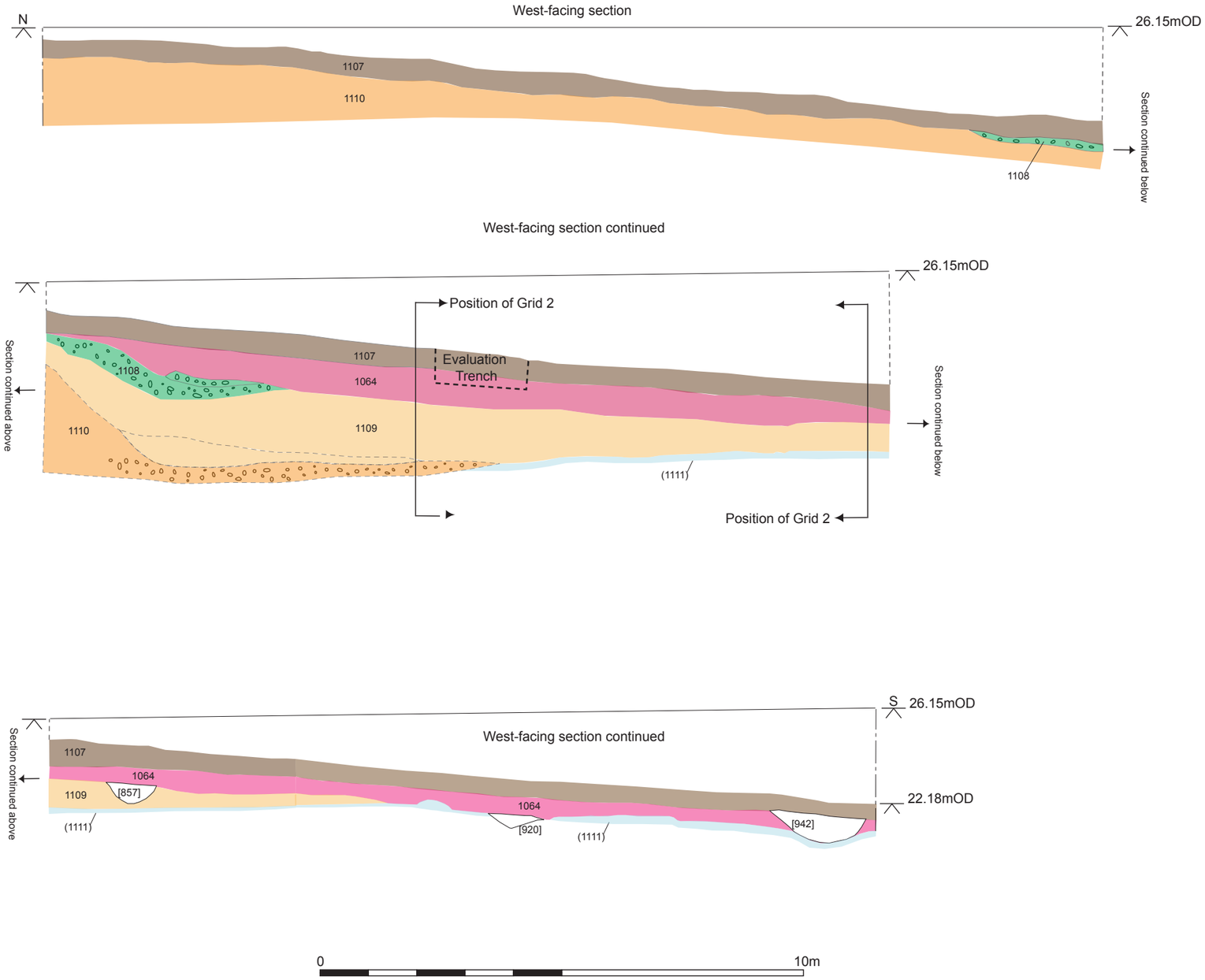


Figure 4. Section 1. Scale 1:100

5.4 Natural features and soil development

By Frances Green and Richard Macphail

The pre-surface topography of the site is illustrated in Figure 2, where the contours (taken from the top of the machined surface and below the colluvium) illustrate a distinct steep slope and knoll at the north-eastern corner of the site. The land dropping away from this point at 26m OD to the south and south west to about 10m OD at the lowest point of the site.

The excavated area lies on chalky till and glaciofluvial drift (1111). A 50m section recording the soils and underlying sediments on the eastern edge of the site is illustrated in Figure 4. Where observed on the top of the rise at the northern end of the site the chalky till is characterised by periglacial patterned ground with chalky, gravely and clayey features. Above the chalky till and soliflucted chalky head are coarse sands and flint gravels with patches of clay (1110) which are likely to have a glaciofluvial origin. There is a distinct step in the profile of the glaciofluvial sands which may mark the terrace edge of an earlier glacial valley, with a braided or multichannel river system occupying the whole of the valley floor.

Above the glaciofluvial sands and gravels in the area of the possible terrace edge is a thick accumulation of sands with a probable aeolian origin. These thick sands, in places up to 1m deep, appear to have duned up against the slope (Figure 4). They are composed of predominantly bright yellow fine sands with no inclusions and are possibly glacial or glacial maximum coversands. The coversands may correspond to either the Older Dryas (a cold period, 12,800–11,800 BP uncalibrated dates, prior to the Windermere Interstadial) or to the Glacial maximum (Younger Dryas or Loch Lomond Stadial). Coversands dating to the Younger Dryas (Loch Lomond 11,000–10,000 BP uncalibrated dates) are found across Europe and Britain and extensively in north Lincolnshire (Bateman *et al.* 1999). However, they may be significantly older and the overlying sands and gravels (1108) described below may be deposited in a subsequent warm period when sea levels were higher allowing for the deposition of river gravels at 26m OD some 16m above the level of the present floodplain.

Above the coversands in a limited area close to the possible edge of an earlier terrace was a further deposit of gravel and coarse sands (1108). The gravel was well rounded and well sorted with a fluvial origin. It is likely to have been deposited by a river or stream marginal to or feeding into the main river channels in the bottom of the valley. It is possible, given its height above the present-day valley, that these gravels were deposited in a previous warm period when sea levels were higher.

The soils on the site have developed into the surface of the coversands, glaciofluvial deposits and chalky tills and are described as the stagnogleyic argillic brown earths (Burlingham 1 soil association; Hodge *et al*. 1983). The local soils are best termed typical brown sands (Newport soil series) and vary in depth from *c*.30 cm (eroded/deflated once-ploughed) pasture soils to >1 m thick colluvial soils.

At the top of the slope (into which several Neolithic pits are cut) there is a very thin typical brown sand soil, directly overlying chalk till that creates a spur of high ground overlooking the River Yare (Figure 4).

There is evidence from the sandy fill of these Neolithic pits of a deeper original soil and a subsequent period of podzolisation. The upper part of the fill is grey and leached (Ea horizon), while the lower fill is dark and probably weakly enriched with humus and sesquioxides (Bhs horizon). This finding implies that the sandy soils were thicker here, and that the sandy fill became podzolised, although there is little other surviving evidence of podzolisation (i.e., Ea and Bhs horizons) across the site. It can be suggested that the soils first contemporary with Neolithic activity were brown sands, as found elsewhere in Norfolk and for example in West Heslerton, North Yorkshire on similar Pleistocene sands (Fisher and Macphail 1985; Powlesland *et al*. 1986; Wainwright 1972). Brown sandy soils were also the extant Neolithic soils at nearby Colney (Macphail and Crowther 2002). Thus, although the sandy pit fills of the Neolithic pits was probably Neolithic, it can be argued that their podzolisation came later, perhaps during the Bronze Age given that the most common date for podzolisation in lowland England is the Bronze Age (e.g. Dimbleby 1962; Macphail 1987, 344). This is also true for the Brecklands (Murphy 1984). The leached upper soils of podzols are also highly prone to erosion (Drewett 1989) by water and by deflation (Fisher and Macphail 1985; Radley and Simms 1967). This probable soil cover at Bowthorpe was likely eroded off/deflated during later prehistory, hence the sparse scatter of flint artefacts in the colluvial deposits.

The earliest *in situ* soil recognised on the site is probably Neolithic and was found as an isolated patch in the northern central area in Grid 1. Here a possible old ground surface (Feature 756) was observed below the colluvium. This patch of soil was the base of a relict typical brown sand soil that may ‘date’ from the Neolithic on the basis that some artefacts had been biologically worked down profile. This is described more fully in section 5.7.3. During the evaluation trenching a similar probable early palaeosol was recorded at the base and in section of one of the trenches (Trench 55) (Fig. 2). However, the thin and laterally discontinuous nature of such a deposit meant it was very difficult to observe when machining large areas covered with a great thickness of colluvium. Therefore only one area of palaeosol was fully recorded during the excavation.

Pleistocene sandy deposits comparable to the coversands (1110) have been shown to be vulnerable to deflation and aeolian movement, even in modern times (Radley and Simms 1967). Such movement of these light sandy soils has led to the development of in places great depths of colluvium (1064) in Figure 4. In the northern part of the site over 1m of colluvium was observed. Towards the southern boundary of the site the soils are thin and the colluvial deposits are in laces absent suggesting they may have been deflated and blown up hill, perhaps infilling hollows in the hillside that are now masked by great thickness of colluvium. Colluvium deposits include (1064)=(792)=(793)=(868)=(953)=(885)=(1088)=(1101) Finds 856 and Grid 2 Master No. 1093. The colluvium was similar across the entire site being a mid-brownish-orange-grey slightly silty fine sand, which when dry was very firm. It contained occasional gravel and in some places was obviously rooted. At least 61 worked flints were recovered, most were Mesolithic to Neolithic with less frequent Early Bronze Age flints, the greatest number being recovered from the sieved colluvium at Grid 2 marked on Figure 4. Other finds include prehistoric pottery, for example seven sherds of Early Neolithic pot were found within colluvium (1101) finds number (856) (Figure 5). It was notable that the thinner colluvium to the south of the site contained more recent finds, including

Early Saxon and post-medieval pottery in (1090), indicating the effects of later activity including medieval ploughing in the upper parts of the colluvial deposits. In places the colluvium was indistinguishable from the fills of features, in particular the undated probable Roman ditches. For example a series of two or three undated ditches was recorded in section (1135) (see Figures 3 and 5) and these were virtually unidentifiable due to similarity of the fills and colluvium. The undated probable Romano-British ditches were infilled with sandy soils that contain very few artefacts, implying agricultural activity which produced very rapid erosion and colluviation. Such erosion may have caused the abandonment of arable agriculture on these soils.

It was also observed that a number of downslope palaeochannels were cut into the chalky till substrate (1111) (Plate 1) and that these had a reddish clayey fill around the chalky till/solifluction deposits ('valley head' like deposits). Similar reddish clayey deposits have been studied elsewhere in solution hollows in chalky head, for example at Ashcombe Bottom, East Sussex and at Boxgrove, West Sussex (Macphail 1992).

The palaeochannels are typical periglacial features of East Anglia, although their origin is unlikely to be entirely due to freeze–thaw and solifluction (French 1996). The sand-filled channels between the chalk stripes are likely to have become reactivated in episodes of soil erosion during later periods and contain colluvial soils similar to those described above. They contain artefacts in their upper sediments which range from the Neolithic to the post-medieval. Although the dominant finds were Neolithic flint, other finds included isolated sherds of Iron Age, Romano-British, Early Saxon, and medieval pot sherds together with small fragments of mainly post-medieval CBM. Initially these 'channels' were easily confused with man-made features.

Other natural features include areas of possible tree-rooting and large areas where animals, especially rabbits and foxes, have burrowed deep holes and underground runs into the soft underlying sediments. The latter again resulted in much confusion until large areas were cleaned or when some of the more pit-like features were excavated and the base of the feature proved to be a void. An example of a large animal burrow filed with colluvial deposits over 1m below the surface is illustrated in Figure 5

Although no distinct ploughsoils apart from the modern, probable 1980s, ploughsoil were recorded there is evidence from one or two features to illustrate medieval ploughing. In section it was apparent that ploughing had truncated SFB [194]. A similar truncation below the level of the modern ploughsoil was also recorded in SFB [992]. It is likely that this arable period was short lived because the sandy soils were susceptible to erosion (Macphail 1992).

The evolution of the soil at the site is highly complex, due to the light and highly erodible nature of the underlying geology. The soil development reflects periods of agriculture, subsequent erosion, wind blow and colluviation from many periods. This has resulted in a mosaic of features of different ages and their associated soils. It is difficult to distinguish between the phases within this mosaic and most phases are reworked one into another due to later colluviation and ploughing. The Neolithic section below contains a detailed description of the earlier colluvium and the Romano-British section contains a description of the later phase of colluviation.

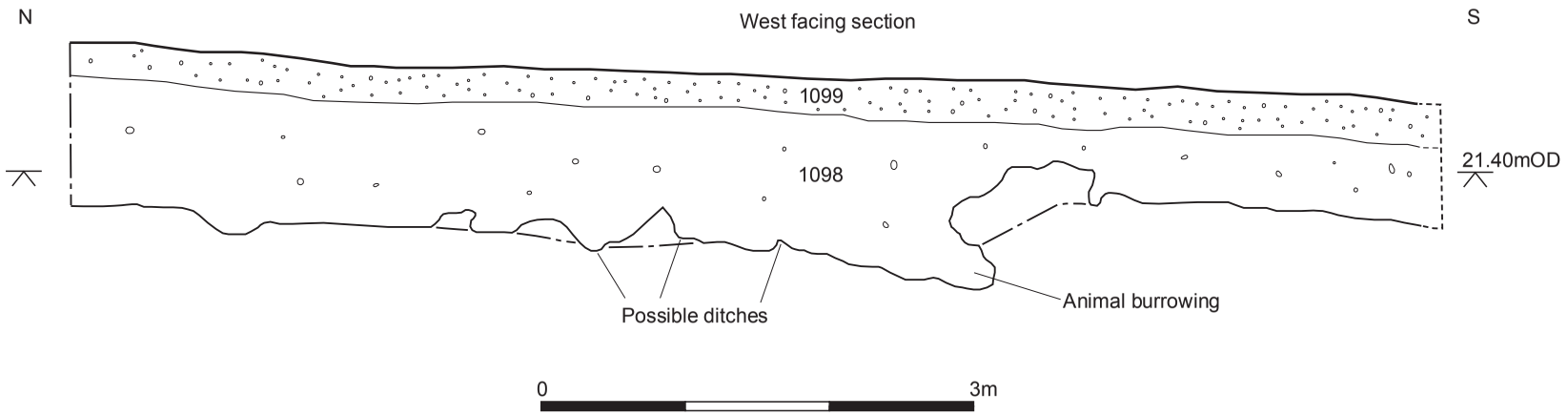


Figure 5. Section 2 (Illustrating 1m depth of colluvium sealing undated possible Romano-British ditches). Scale 1:50
For location see Figure 2

Plate 1. Example of sand-filled ‘palaeochannel’ cut into chalky til and head.

5.5 Upper Palaeolithic

Several flints indicate activity at the site during the Upper Palaeolithic, some of which appear to be residual in later contexts. These include a crested blade and a prismatic opposed platformed blade core, both recovered from Neolithic pit [818] (Figures 54 and 55), as well as a few notably large blades recovered from other contexts. These include an unstratified find from context (449) in evaluation Trench 59 just within excavation area to the south-west, another from context (451) from evaluation Trench 64, 75m to the south west of the excavation area, or a broken blade from colluvial fill (508) within the natural channels. These hint at a very competent and organized approach to reduction and are comparable to other pieces from Late Glacial and early Post-glacial industries. The core, in particular, employs a remarkably similar technology and is reminiscent to those recovered from the Carrow Road site in Norwich (P. Robbins, pers. comm.; Adams forthcoming) as well as those from Laurel Farm at Thorpe Saint Andrew, located just to the east of Norwich (Bishop forthcoming). No diagnostic pieces specifically datable to the Upper Palaeolithic were identified, however, although such industries typically contain few typologically distinct pieces and with an absence of these, such industries can be hard to detect if mixed amongst Mesolithic or Early Neolithic worked flint.

5.6 Mesolithic

The earliest evidence of occupation at the site comprises a probable micro-burin, albeit one that failed to snap properly, from pit [969]. A number of the blades from across the site had been systematically made, part of a process that enabled repeated manufacture of standardised blade shapes and sizes, and these are perhaps more likely to be of Mesolithic rather than Early Neolithic date.

5.7 Neolithic

Four concentrations of Neolithic activity were recorded on the site. The full analysis of the flint has resulted in more pits being dated to the Neolithic than in the preliminary assessment (Green 2008). The Neolithic features fall into four areas: Pit Cluster 1 to the north-east of the site, Pit Cluster 2 downslope and to the south-west of Pit Cluster 1, and two areas of soil, colluvium and associated pits in areas Grid 1 and Grid 2 (Figure 6). A single pair of pits was located to the south of the site close to the Late Neolithic Early Bronze Age pits described below. A low background of Neolithic flint was found over the entire site having been reworked into many features and deposits of later date.

5.7.1 Pit Cluster 1

The first concentration of activity comprised nine dated Neolithic pits within a group of twelve loosely scattered prehistoric pits located at the north-eastern corner of the excavated area, on the crest of a rise on the valley side (Figure 7). The earliest of these pits are likely to have been excavated in the Earlier Neolithic and continued until later in the Neolithic.

Most of these pits were relatively deep and almost cylindrical ranging in depth from 0.3m to 0.98m with nine being more than 0.65m deep. Almost all of the pits in this group showed signs of having been recut. The recuts were frequently infilled with a darker deposit, possibly originally organic-rich or derived from fire debris. The

dated pits contained worked flint and rare sherds of Early Neolithic pottery. Pit [818] had a single fill (Figure 11) and contained a large *in situ* assemblage of Mesolithic to Early Neolithic flints. Other pits in this loose cluster were not closely datable, despite several containing flint, therefore they remain as undifferentiated-prehistoric features. Five of these Early Neolithic pits were radiocarbon dated (two with multiple AMS dates), however all the dates were slightly younger or much younger than expected, only one date being Early Neolithic (see Appendix)15.

Despite the overall similarity in form of the pits in Pit Cluster 1 they fell into four classes.

5.7.1.1 Class 1

These pits were vertical-sided deep pits with multiple fills and clear recuts.

Pit [222] was 0.95m deep, vertical sided and contained two later recuts (Figure 8). The first recut was at the base of the pit where the primary fill (223), a mid-grey sandy silt 0.3m thick with no finds, was cut by a later small pit [219] which respected the base of the original pit and was infilled with two deposits (220) and (219). Deposit (220) lay at the base of this recut and was a light grey sandy silt with no finds and was sealed by a sterile yellow-brown sand with some silt. Above deposit (221) was a further recut [214] some 0.7m deep, again carefully excavated and appearing to totally re-excavate the sides of pit [222]. This, the last of the recuts recorded, contained three fills: at the base a light grey sandy silt (218) which contained a flint flake with Neolithic to Early Bronze age affinities, sealed by a light brown sand (217) with a grey sand (216) lying above (217). Three flints were found in deposit (216) and have been classified as disparate knapping waste of Mesolithic to Early Neolithic character. No other artefacts or environmental information was recovered from this feature. It is probable based on the flint evidence that this pit was dug earlier in the Neolithic.

Pit [280] was another deep pit, 0.98m deep with steep sides with some evidence of *in situ* burning at its margin, suggesting that fire had been intentionally set within the pit (Figure 8). The basal fill was 0.35m deep and was a clean pale yellow sand (281) with some silt. A plant macrofossil sample <9> from this deposit contained small amounts of fine charcoal, tarry and cokey material indicating burning at very high temperatures, perhaps consistent with pyre burning. Above this deposit was approximately 0.65m of stony sand (282), yellow-brown with no finds. A scoop-shaped recut [283], some 0.25m deep and 0.40m wide, had been carefully excavated into the top of deposit (282), not extending the entire width of the original pit. The scoop cut was infilled with a dark grey ashy sandy silt which contained frequent flint pebbles and flints. The flint had been intentionally selected for deposition, being described as a cache of blades, some of which appear to have been used and may represent a dump of used implements. It appears the flint (which was not burnt) was mixed with the residue of a fire and placed within this small recut with intent. The surface of the recut and fill (282) was truncated by modern ploughing to a depth of 0.3m. Despite the evidence of heating at the margin of the pit there was no deposit consistent with this burning remaining in the pit. This suggests the pit had been carefully cleared out prior to the deposition of sediments and selected materials within it. As with all the pits described bone preservation is poor on this site, given the acidic nature of the sandy soils therefore any bone that may have been deposited has not survived.

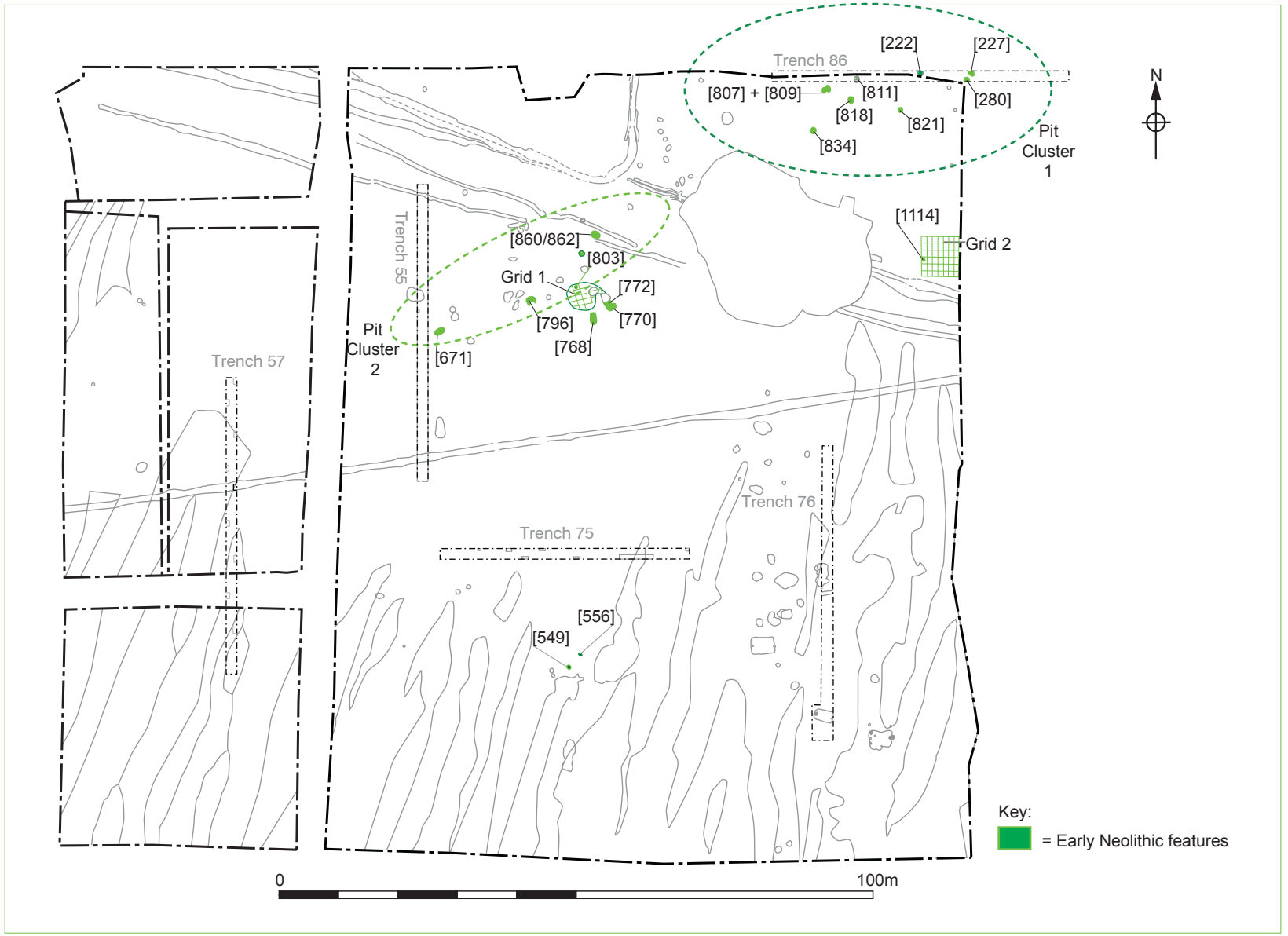


Figure 6. Early Neolithic features. Scale 1:1000

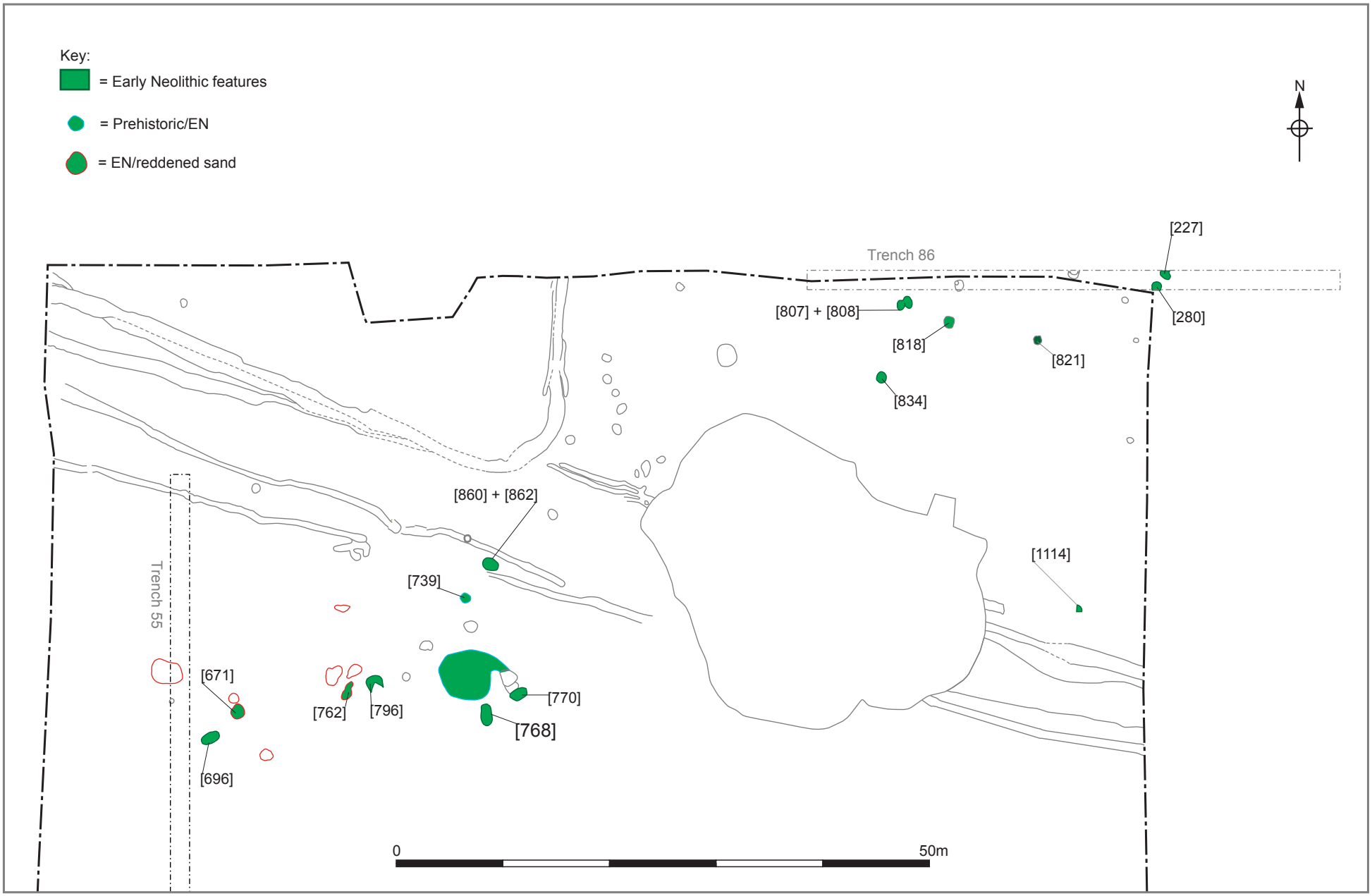


Figure 7. Early Neolithic Pit Cluster 1. Scale 1:500

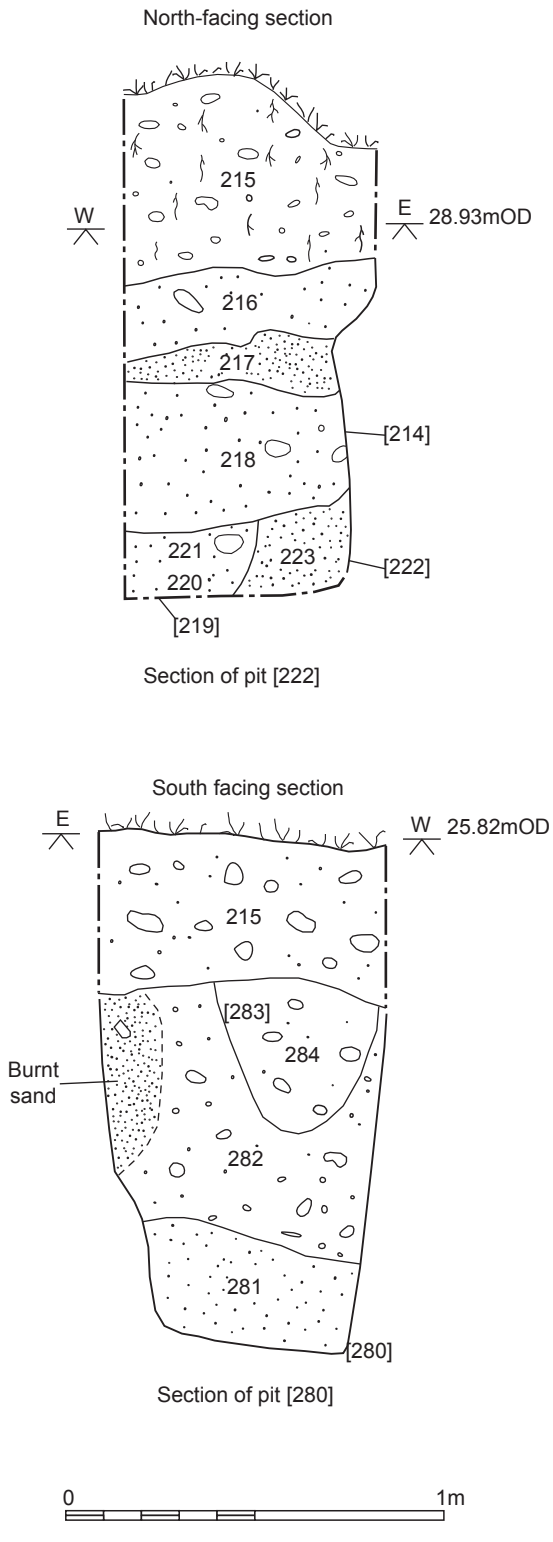


Figure 8. Pit Group 1, pits [222] and [280]. Scale 1:20

5.7.1.2 Class 2

Vertical-sided pits with a single fill and a clear recut (Figure 9).

Pit [811] was cut into sand, circular and vertical sided, 0.7m deep and 0.8m wide. It had a single fill (812), a mid-grey silty sand with light and grey-brown patches. Flint gravel was found throughout with a concentration towards the base. There were no finds in this deposit and no plant macrofossils were found in sample <104> but *Prunus* (typically hedgerow species such as hawthorn, blackthorn, etc.) charcoal was identified.

Two AMS radiocarbon dates were taken from two fragments of charcoal (charred root and stem of unidentified species and *Prunus* charcoal) from within sample <104> (812). Unfortunately there was a wide range in dates and neither was Early Neolithic. The first AMS date (charred root and stem of unidentified species) had two peaks of likely dates Cal BC 1420 to 1250 (Cal BP 3370 to 3200) and Cal BC 1240 to 1220 (Cal BP3190 to 3170) conventional radiocarbon date 3060±40 BP i.e. Middle Bronze Age (Beta 243325; 2 sigma calibrated results at 95% probability). The second sample (*Prunus* charcoal) also resulted in two peaks Cal BC 2120 to 2090 (Cal BP 4070 to 4040) and Cal BC 2040 to 1880 (Cal BP 3990 to 3830), conventional radiocarbon date 4060±40 BP, i.e. Late Neolithic–Early Bronze Age (Beta 243326; 2 sigma calibrated results at 95% probability).

These two dates were from different types of charcoal within the same deposit. It is possible the charred root and stem material may be intrusive which may explain the later date obtained for Beta 243325. The AMS date from *Prunus* is earlier and suggests a possible Late Neolithic–Early Bronze Age date. The recut [830] of this pit contained a flint assemblage which although described as Mesolithic to Neolithic in character was not distinctly Earlier Neolithic and could be Neolithic to Early Bronze Age in date. A later than Early Neolithic date is also supported by the pollen data from deposit (812). The pollen assemblage from (812) is most similar to that from deposit (823), a fill of the recut of pit [821], which contains a flint assemblage hinting a later date for this recut.

Pit [811] was recut by a second shallower pit [830]. This recut was confined within the sides of [811] and had been carefully excavated. It had a different form, having sloping sides and a rounded base. Recut [830] was 0.38m deep and 0.7m wide and was filled with (820) a dark grey sand silt with moderate amounts of flint gravel and charcoal. A relatively large number of worked flints (20) of Mesolithic to Neolithic character was found in this deposit. All of which were the waste products of flint knapping with no used or useful pieces. Only a very small proportion of what would have been produced during reduction was present, even if only a limited number of nodules had been reduced, and it would appear that the larger pieces were selected from a more extensive accumulation for intentional deposition into the pits. Significantly there was a refit between flint in this recut and flint in (228) in pit [227].

A second recut [1051] was recorded in plan only cutting to the surface of (820). This second recut was a shallow scoop-like pit, 0.2m deep and 0.4m wide. It was filled with a light brown stone-free sand (1052) from which no artefacts were recovered. It is possible this last recut may have been a post-hole into which a post was set marking the position of the pit.

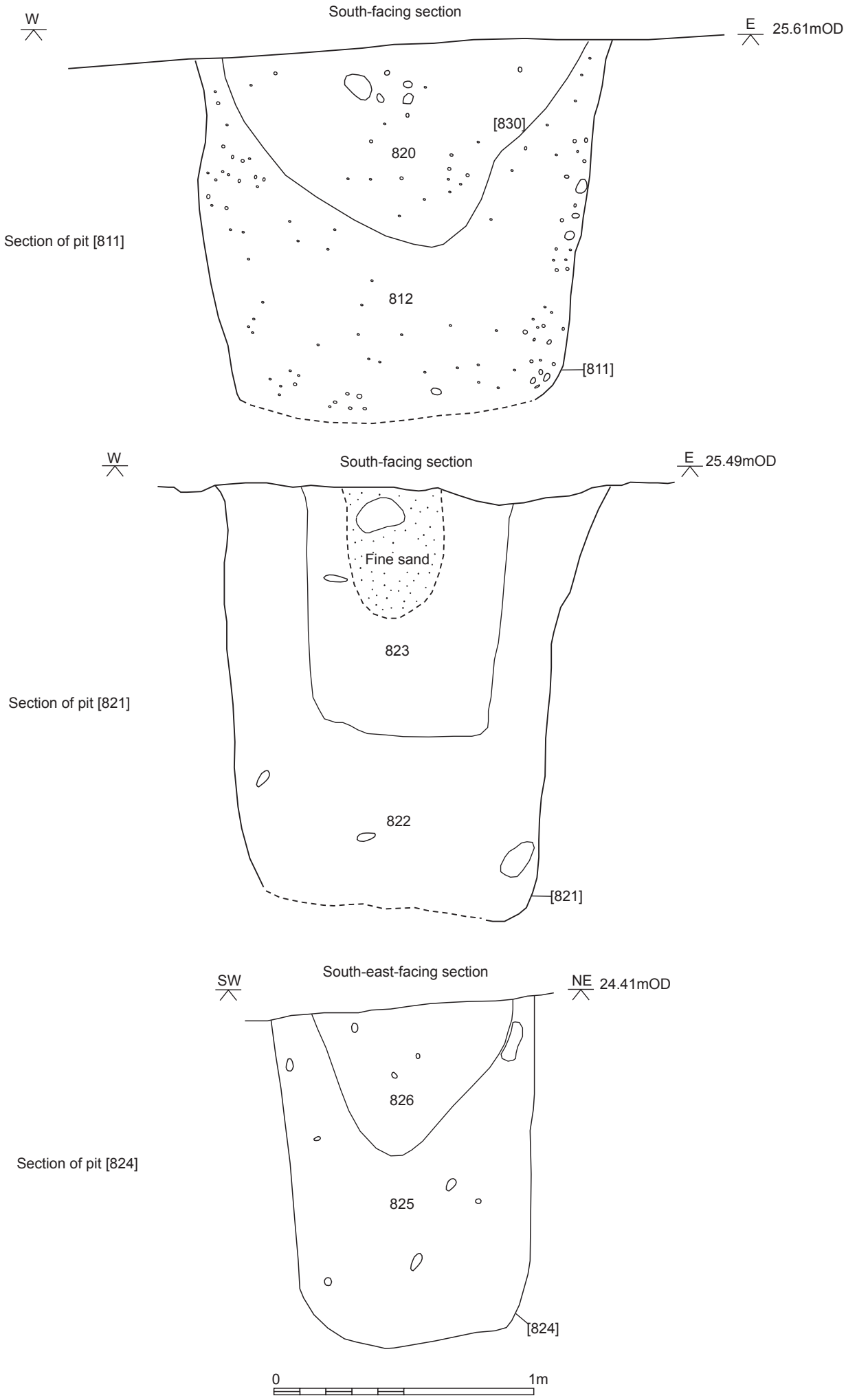


Figure 9. Pit Group 2, pits [811], [821] and [824]. Scale 1:20

Two pollen samples were taken from this pit, sample <172> from the primary fill (812) and <173> from fill (820) of the recut. The results suggest that Pit [811] was excavated in a clearing within a mixed deciduous woodland where lime was by far the dominant tree with oak and birch less important. This pit was also revisited and a small pit [830] cut into the surface of pit [811]. The pollen from the fill of this recut illustrates there had been an overall loss of woodland surrounding the Neolithic pits over time. Despite an increase in shrub (hazel) pollen the overall total tree pollen had declined from 55% to 30% total land pollen (TLP). There was also a relative increase in herbaceous pollen particularly the pollen of weedy species of open and disturbed ground, which suggests the area of open grassland had increased in the time interval between cutting the first pit [811] and its recut [830]. The trees in the woodland had also changed, lime was still important, but reduced importance and co-dominant with oak. This reduction in lime in the woodland probably reflects the preferential selection of lime by Neolithic peoples. Hazel had also expanded, probably as a result of increased woodland clearance since this is a species which grows well and flowers well in clearings where there is increased light.

As discussed above, the pollen assemblage in the primary fill of pit [811] had greater similarity to the pollen assemblage in the recut of [821], which contained a possibly later flint assemblage Mesolithic–Early Bronze Age in character. This suggests that pit [811] is likely to have been excavated at a similar time (if not a little before, due to the higher proportion of lime in the primary fill of [811] compared with the recut of [821]) to the recut of [821]. This may indicate that pit [811] was excavated during the later Neolithic.

It was noted that the fill of these pits appears to have been podzolised. To assess whether this podzolisation actually took place two magnetic samples were taken from this pit <124> and the underlying sands <125>. The results presented in the soil section of this report (Crowther, below) confirms podzolisation had occurred by indicating the underlying sediments to be depleted of iron through podzolic eluviation or gleying?

Plate 2. Pit [824] fully excavated (looking north)

Pit [824] is undated, but it is likely from its form and location to be part of the Neolithic pit cluster (Figure 9; Plate 2). Pit [824] was a deep, vertical-sided, flat-based, almost circular pit, 0.68m deep and 0.7m wide. It had a single fill (825) which was a mid-orange-brown silty sand with occasional flints some of which were large. There were two undatable worked flints in (825) both of which were unusable waste pieces. A plant macrofossil sample <110> contained no identifiable plant remains.

A recut was found centrally placed within pit [824]. This recut does not have a separate cut number and its fill was (826). Fill (826) was a mid-grey-brown silty sand from which a single undatable worked flint was recovered. No plant remains were identified in sample <111>.

Pit [821] was an almost circular, deep, vertical sided pit with a flattish base (Figure 9). It was 0.88m deep and a maximum of 0.73m wide. The single fill (822) was a mid-greyish-yellow-brown sandy silt with occasional very large flint cobbles. Worked flint from (822) was composed of potentially usable Early Neolithic flint and included two utilised blades. A pollen sample <171> from this deposit contained a few grains of grass and hazel, but too few grains were counted to make any inferences about the vegetation. No plant macrofossils were identified in sample <107>, but more than 1g of Ulex/Cytisus charcoal was found in the flots. An AMS radiocarbon date was made using this charcoal and the resultant date was at Cal AD 650 to 770 (Cal 1300 to 1180 BP) conventional radiocarbon date 1320±40 BP (Beta 243328; 2 sigma calibration). This date falls in the earlier Middle Saxon period and is much younger than the flint assemblage, therefore the Ulex/Cytisus charcoal is intrusive and is possibly derived from charred root systems.

What appears to be a later re-excavation of this pit resulted in a vertical-sided flattish-bottomed intrusion cut into the centre of fill (822). No cut number has been given to this 0.47m deep and 0.4m wide recut. Within the recut was a dark grey charcoal-rich silty sand with small stones and occasional larger fragments of charcoal (823). Four flints of Mesolithic to Early Bronze Age character were found in (823), all of which are described as unusable waste pieces.

No plant macrofossil sample was taken from this deposit, but sample <170> contained a pollen record indicating significant woodland surrounding an open grassy clearing where the pits had been excavated. It was a mixed deciduous forest where lime and oak were almost co-dominant with lime being slightly more important. Alder, birch, pine and hazel were also all present at relatively low levels in the landscape. The deposit also contained frequent fungal hyphae, which suggest the sediments were derived from a bioactive soil prior to being deposited within the pit.

This recut has the appearance of a being a post-pipe within a post-setting which had subsequently been filled with a predominantly burnt sediment. This is possible, but it is equally likely to be a carefully excavated pit within a pit. The first pit may have been marked with either a post, small cairn or mound of soil at the surface. Three magnetic samples were taken from the sediments within and surrounding this pit (<120>, <121> and <122>) to determine if they had been podzolised. The results indicate depleted iron in the sediments, particularly in the sands surrounding the pit and the lower fill indicating gleying or podzolisation had taken place, although this may have occurred during the Bronze Age.

There was an overall distinction between discarded usable flint tools and waste material from the production of these tools. Most pits seemed to contain one type of material or the other. This pit was unusual in that discarded usable tolls and been selected for deposition in the lower fill and only debitage had been selected for the fill of the later recut. The reason for this distinction is unknown, but there was clearly an intentional selection for deposition.

It is likely this pit was excavated in the Early Neolithic and revisited later in the Neolithic perhaps, if the C14 date in pit [811] is to be trusted, during the Later Neolithic–Early Bronze Age. Such an interpretation could indicate an interval of several hundred years between the initial pit digging and a later re-digging. The position of the first pit would have had to have been marked in some way for this to occur. It is of course possible that the later recut is the post-pipe of a large marker post and that when it was removed the void left by the post was filled with specifically selected material. The latter is possible, but it is questionable if a post albeit a relatively large post some 0.4m wide could have lasted very long in the soil and it is likely it would have rotted away in a few decades not the probable centuries between the events.

5.7.1.3 Class 3

Pits with multiple fills and no recut (Figure 10).

Pit [227] was only partially excavated since part was outside the evaluation trench. It was a probably circular, almost vertically sided, deep pit with a flattish to concave base. The sides were slightly waisted, with the top and the bottom being wider than the middle. It was 0.76m deep and 0.95m wide and had two fills laying almost horizontally. The lowest fill (228) was a relatively sterile yellow-brown sandy silt with small flint pebbles. A large collection of 20 Neolithic flints was found in this deposit. The flint was knapping waste from the early stages of flint reduction and therefore fell into the group of pits which contained selected unusable flint waste. A significant feature of this flint was that there were refits between this pit and the recut pit [830]. Therefore pit [227] and at least its lower fill (228) are contemporary with the recut [830] of pit [811]. The flints from both pits were not specifically Early Neolithic in date and the radiocarbon date Cal 2120–1880 BC (Beta 243326) from the fill of [811] suggests at least a Late Neolithic–Early Bronze age date rather than Early Neolithic. Above deposit (228) was approximately 0.4m of a grey sandy silt (278) with fine to medium flint gravel. No artefacts or ecofacts were recovered from this upper fill of the pit.

Pit [827] was a vertical-sided, deep, almost circular pit with a concave base (Figure 10). It was 0.98m deep and 0.85m wide. There were two fills. The basal deposit (828) was 0.33m deep and was a light grey-brown silty sand with occasional sub-angular flint and no finds. A single environmental sample <108> contained no significant plant remains, although fragments of charred hazel nut shell and a fragment of *Quercus* charcoal were identified. Since there were several undated pits of this form in this cluster this pit was selected for C14 dating since it was one of the few which contained material suitable for dating. The results of AMS dating of the charred hazel nut shell was Cal AD 620 to 690, conventional radiocarbon age 1360±40 BP, i.e. Early to Middle Saxon (Beta 243328).

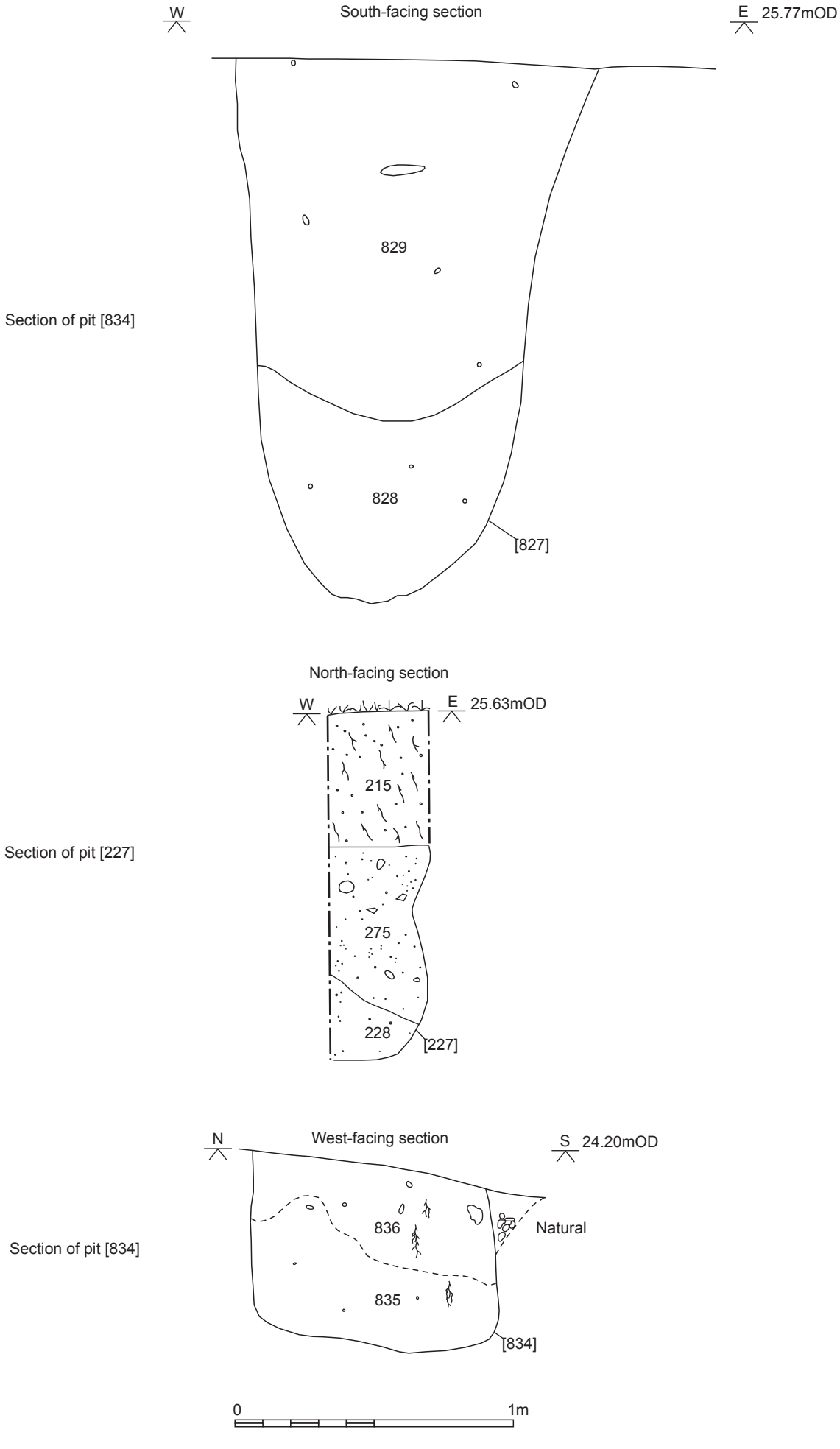
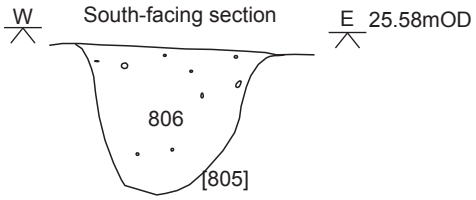
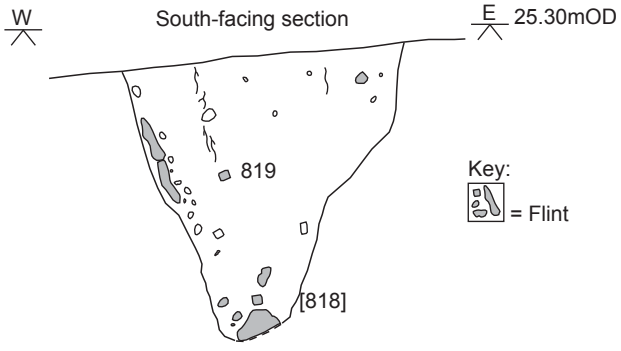


Figure 10. Pit Group 3, pits [827], [227] and [834]. Scale 1:20



Section of pit [805]

Section of pits [807] and [809]



Section of pit [818]

Figure 11. Pit Group 4, pits [805], [807] and [818]. Scale 1:20

Above deposit (828) was (829), a dark grey silty sand with occasional large flints some 0.7m wide. Again there were no finds in this deposit. An environmental sample <109> contained charred hazelnut shell, *Pomoideae* charcoal and fragments of *Ulex/Cytisus*. Two radiocarbon dates were taken from this deposit. The first was from the charred hazelnut shell Cal AD 650 to 780, conventional radiocarbon age 1310±40 BP, and is Middle Saxon (Beta 243330). The second was from a piece of the charred *Ulex/Cytisus* and resulted in an earlier date Cal BC 200 to AD 10, conventional radiocarbon age 2080±40 BP (Beta 243331). This second date is from material of Late Iron Age to Roman age and as in the date from the lower deposit is much younger than expected.

It is likely, but not proven, that the young radiocarbon dates from this pit are derived from intrusive material from late Iron Age to Roman contexts and from Early to Middle Saxon contexts. It is probable that such material could have migrated more than 1m from the surface to the bottom of this pit through burrowing and rooting in such fine soft sands and silts. It is possible, but unlikely, that this pit was indeed excavated in the Early to Middle Saxon period.

Pit [834] was a sub-circular and vertical sided with a flat base. It was 0.8m wide and 0.65m deep and contained two fills. The lower deposit (835), a 0.5m thick light grey brown fine sand with rare flint pebbles, contained no finds. Above (835) was a 0.35m deep deposit (836), a dark brown and light grey-brown mottled slightly silty sand with occasional small rounded stones. Nine flints were found in this deposit. All were likely to have been Early Neolithic waste flakes, but the condition of some suggests part of this assemblage may have been residual. No plant macros were identified in sample <112> with the exception of charcoal of the *Pomoideae/Prunus* (hedgerow trees and shrubs for example, blackthorn). Several molluscan remains were found and included tree snail and rounded snail both of which are consistent with a woodland environment.

5.7.1.4 Class 4

Pits with a single fill and no recut (Figure 11). Pit [805] was almost circular and had steeply sloping sides and a concave base. It was 0.4m in diameter and 0.4m deep. A single fill (806) was a dark brown silty sand with occasional flint pebbles. There were no finds in this deposit or ecofacts in sample <103> and in effect this feature is undated, however since it lies within Pit Cluster 1 it is likely to be Neolithic.

Pits [807] and [809] were intercutting and contained a similar mid- to dark brown mottled orange-yellow sandy fill. Pit [807] was almost circular, being 0.8m in diameter and 0.3m deep, and pit [809] was oval, 1.12m in diameter and 0.37m deep. Both had almost 45° sloping sides and were therefore different in profile to the other pits in this group. A single blade from fill (808) of pit [807] had affinities with Mesolithic to Early Neolithic flintwork. No plant macrofossils were obtained from sample <105>, but oak heartwood charcoal of was identified. Pit [809] (fill 810) contained five worked flints which were Mesolithic to Early Neolithic in character.

Pit [818] was circular and deep with steep to vertical sides. It was 0.9m wide, 0.75m deep and contained a single fill (819). Fill (819) was a mid- to dark greyish-brown silty sand with moderate amounts of sub-rounded and sub-angular flint. One or two of the large flint pieces lay at the sides and base of the pit. It is hard to

imagine how flint would end up lying in such a vertical position if it had not been pushed into a void at the edge of something in the centre of the pit. Perhaps these vertical flints were used as post-packing against a larger central post. Alternatively, perhaps they were pushed into the sides of the pit as the pit was being backfilled. This is the most likely post-hole of all the pits, but even this example is not certain.

Fill (819) contained four sherds of Early Neolithic pottery and 25 worked flints, all of which are likely to be Early Neolithic. The flint, described as a large *in situ* assemblage, was dominated by flakes and blades and included the only retouched implement recorded from these pits (Figure 56). Two flints with attributes typical of the Upper Palaeolithic were also found, a prismatically opposed platformed core and a crested blade (Figures 54 and 55). The latter two are likely to be either residual from earlier deposits used to infill the pit or intentionally selected and buried with the rest of the Early Neolithic flint. The overall character of this flint assemblage was that it contained a relatively high proportion of usable pieces and it fell into the category of pits, with pits [807], [809] and [283] (the latter a recut of pit [280]), where such flints had been intentionally selected for burial. It is notable that three of the pits containing the more useful flints were Group 4 pits. Sample <106> from (819) did not contain plant macrofossils, but charcoal of *Pomoideae* and oak were identified. The mollusca from this sample were tree snail, rounded snail and *Retinella radiatula*, indicating wooded and open habitats. This would be consistent with the pit having been excavated in a clearing in a wood.

An AMS radiocarbon date was taken from a sample of the *Pomoideae* charcoal. The resultant date had three peaks of likely dates Cal BC 2850 to 2810 (Cal BP 4800 to 4760), Cal BC 2740 to 2730 (Cal BP4690 to 4680) and Cal BC 2690 to 2480 (Cal BP 4640 to 4430), giving a conventional radiocarbon date 4060±40 BP (Beta 243327; 2 sigma calibrated results at 95% probability). These dates fall into the earlier Late Neolithic–Early Bronze Age. Despite the fact that few of the radiocarbon dates from these pits have been reliable it is possible this pit was excavated in the Late Bronze Age/Early Neolithic at a time other pits were being revisited, for example pit [811]. However, if this date is to be relied upon then both pottery sherds of Early Neolithic character and flint with Early Neolithic affinities are likely to be Later Neolithic. It is always possible that the charcoal was instructive and does not date this feature at all. In summary, the radiocarbon date from this sample does not give a conclusive date for the feature, but an Early Neolithic date is suspected.

5.7.1.5 Discussion

Typically the fills of these pits had a sandy sterile primary fill and a darker frequently artefact-rich secondary fill either as a second deposit or within a later recut. It was notable that some fills contained large numbers of flint cobbles. The sides of most of the pits were vertical and did not show any signs of weathering, suggesting they were infilled rapidly after excavation.

The fact that there was a refit of flint between the recut [830] of pit [811] in Group 1 and pit [830] in Group 3 indicates there was not a distinction in style of pit infilling over time. This suggests that the classes of pits were not characteristic of different dates, but simply of different styles of pit filling. Almost all the pits were vertical sided and fairly deep and may have all been excavated for a similar purpose. It appears the number of distinguishable fills and the numbers of recuts are likely to have been the result of a level of random selection of pits chosen for re-excavation

or burial of specific deposits. These later deposits were generally a dark sooty soil perhaps derived from a midden or from a specific event, less frequently the secondary fills were sterile sands, but they may have originally contained organic remains which have not been preserved.

The recuts are enigmatic, they all are carefully excavated in the centre of the pits and do not disturb the margins of the original pit. The fills of these recuts are almost always more charcoal-rich than the first fill of the pit and frequently contain a wider range of worked flints. It is possible these recuts are actually the position of posts that stood in the pits and as the posts were withdrawn a charcoal-rich deposit, some of which may be derived from midden material, was placed within the empty post-hole. Indeed the presence of large flint cobbles in several of the primary fills of the pits may have acted as post-packing. This is possible, but the lack of disturbance of the surrounding sediments is not consistent with the removal of a post, particularly in the more vertical-sided recuts. Also, some of the recuts have shallow-scoop form rather than being post-hole shaped, for example recut [830] in pit [811]. Pollen evidence seems to indicate a change of vegetation between the pre- and post-recut deposits in pit [811] with clearance and tree loss in the recut indicating a considerable interval of time between the two cuts. Therefore it seems more likely the 'recuts' are actually true recuts rather than post-holes and the cobbles found in some of the lower fills of pits specifically selected and placed in the pit for an unknown, but specific, reason with a specific meaning.

The most significant finds within the pits were the flints and a level of selection of material prior to deposition has been observed. There was a differentiation between fills containing purely waste flint material and those containing at least some usable flint. The pits appeared to contain debris from specific activities; the waste-dominated assemblages represent the initial decortication of cores and production of usable pieces, whilst the others represent the activities for which the tools were created. It also appears that a degree of selection was operating in deciding what was chosen for deposition and that this involved a distinction being made between production waste and discarded usable pieces.

The seven radiocarbon dates obtained from four pits from this cluster pits were disappointing. Two pits (four AMS) dates produced much younger dates than expected with predominantly Middle and Early Saxon intrusive charcoal having been dated. Only two radiocarbon dates were Neolithic, from pits [818] and [811]. Pit [818] has a radiocarbon date indicating a later Early Neolithic to Late Neolithic–Early Bronze Age date and Pit [811] had a Late Neolithic–Early Bronze Age date. Despite the lack of absolute dates for the pits in this cluster it is likely they were not excavated at the same time and, given the limited evidence available, it is possible to suggest a chronology of construction for a few pits (Figure 12). Pit [818] was the oldest dated feature with a date corresponding to the later Early Neolithic. Pit [821] may have been excavated at a similar time and the recuts in Pits [821] and [811] were excavated in the Late Neolithic Early Bronze Age. The refitting of flint between the recut [830] of Pit [811] and the primary fill of Pit [227] indicates that this was a later, but undated phase of pit digging and recutting. The refitting of flint between these pits shows that when new pits were being dug old ones were simultaneously being revisited. Based on the two Neolithic radiocarbon dates it can be estimated that the pit digging took place over a minimum of 600–970 years.

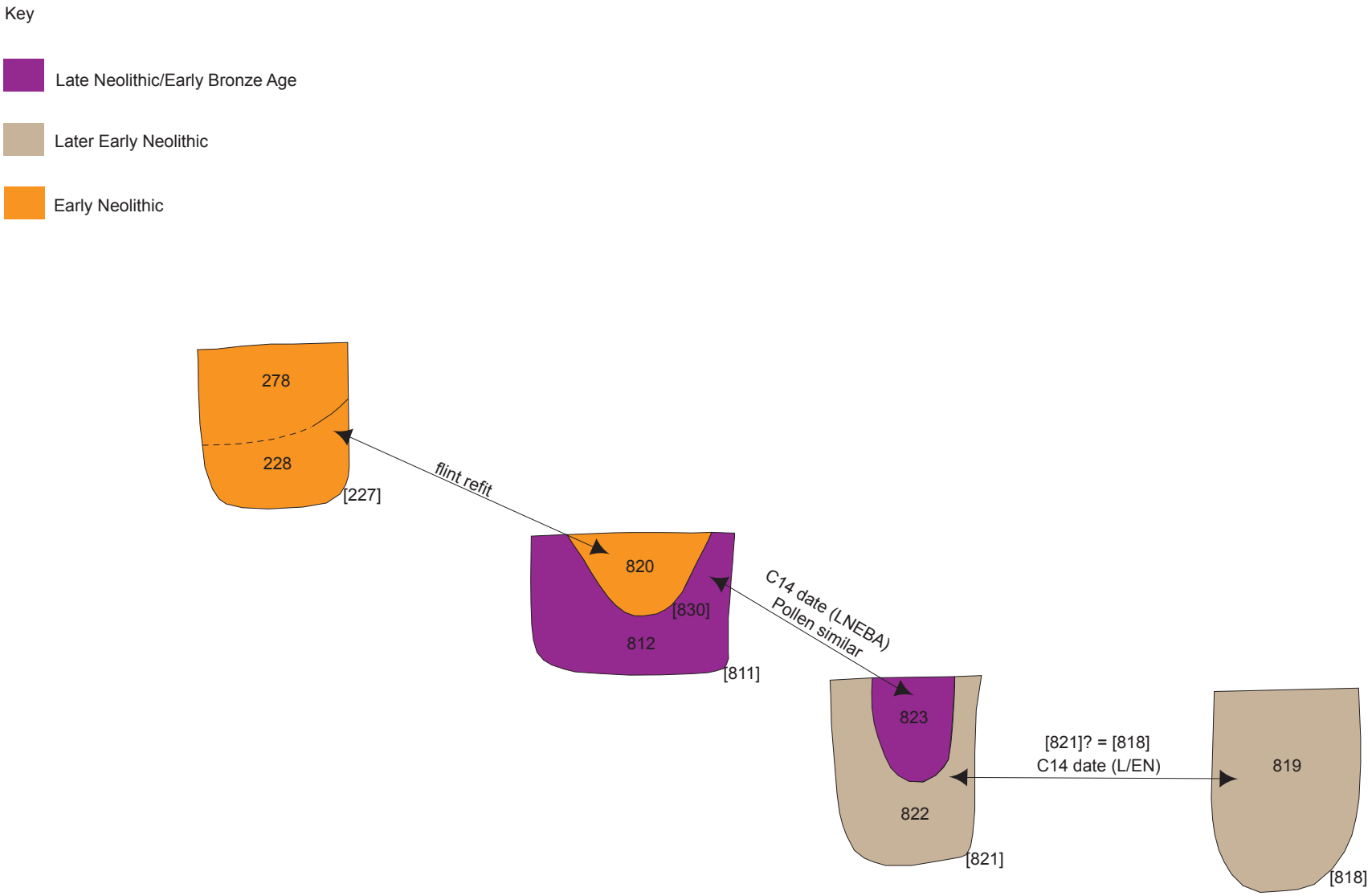


Figure 12. Chronology of some pits from Pit Group 1. Not to scale.

The pollen evidence suggest that at least some of these pits were excavated in a moderate clearing in a mixed deciduous woodland where lime was by far the dominant tree with oak and birch less important. Pollen from a later recut indicates that there had been an overall loss of woodland over time with lime less important than previously and there was an increase in hazel, probably growing in the newly cleared woodland areas.

The specific selection of flint for deposition within some of these pits and the apparent rapid backfilling of the features together with the revisiting of the pits and further burial of specific material over a long period of time is typical of many of the pits of this period. Large pit clusters of this type have been recorded in East Anglia at sites such as Kilverstone and Broome Heath (Garrow *et al.* 2005; Wainwright 1972). The selection of primary knapping waste for burial in some features and the opposed burial of useful flint for tools in other observed in the pits at Bowthorpe is recorded at these larger pit sites and is regarded as characteristic of the Neolithic. The purpose of the pit digging and specific and selected burial of materials within the pits would have had an intent and meaning and has been described as a material language perhaps conveying a message which is now lost (Thomas 1999). It is likely that this pit cluster is the consequence of some kind of ritualised activity. The pits may have been excavated to accept the symbolic burial of waste from the range of activities on the site and from occupation (Garrow 2005). It is possible that a structure (possible building) of a similar date to these pits was located 50m to the south-west down the slope and this structure may have had a connection with these pits. However, this building is rather speculative and the only other evidence of occupation of this date was a probable Neolithic building excavated 600m to the west of the site (Percival 2004).

The significance of the pits was long lived, with the same features being visited in some cases more than once and new material placed within them. The pits must have been marked, either with posts or small soil mounds, in order for their position to be known and the pits revisited.

5.7.2 Pit Cluster 2

This dispersed group or loose alignment of nine pits comprised five Neolithic pits [671], [796], [739], [860] and [862] and four undated pits [779], [721], [741] and [1058] which ran to the south-west down hill from Pit Cluster 1 over a distance of approximately 40m (Figure 6). The pits were about 4m apart although two were intercutting. Five of these pits [671], [739], [779], [1058] and [796] were oval and over 1m long, approximately 0.3m deep with an open sloping-sided form with none having the vertical sides recorded in Pit Cluster 1. A single fill was found in almost all the pits and this fill was mainly a brown-grey sterile sandy soil with rare flint and pottery sherds. A more detailed description of Pit [671] is given below. A single sherd of Early Neolithic pottery was found in Pit [671] and an Early Neolithic flint flake possible derived from axe manufacture was recovered from Pit [796].

The four other pits could possible be interpreted as post-holes in that, like Pit Cluster 1, they were deeper and relatively steep sided – [721], [741], [860] and [862], the latter two were intercutting. Three of these pits contained two fills, but not evidence of recuts. Few finds were recovered and therefore only two of these features are dated, although all are likely to be part of as similar phase of prehistoric activity.

Pit [671] was oval, 1.7m long and 0.35m wide (Figure 13). It had a concave base and sloping sides. The single fill (672) was mid-grey slightly mottled fine sand with silt with occasional flint gravel and contained a single sherd of Early Neolithic pottery (0.013g).

Pits [860] and [862] were intercutting oval features with similar mid-grey-brown lower fills which were indistinguishable (Figure 14). Each pit was approximately 0.5m wide and 0.5m deep with steep sides and concave bases. Each pit contained two fills, a lower dark grey-brown silty sand with occasional charcoal flecks. Pit [860] contained a sherd of Early Neolithic pottery weighing 9g and Pit [862] two sherds of undifferentiated prehistoric pot and an undated piece of flint. Both pits were capped with a later deposit (864) which was a pale mid-brown silty sand which contained undifferentiated building material and is likely to be significantly younger than the pits themselves. This perhaps indicates that the pits were left as open grassed-over hollows following the initial silting and backfilling.

5.7.2.1 Discussion

The open pits are likely to have been excavated to accept the burial of something that has not survived, perhaps the pits were left open for some time prior to being backfilled, allowing the sides to degrade and resulted in sloping sides. Similarly the deeper pits may like those in Pit Cluster 1, may have been excavated to accept some specific now-lost material. Equally their form is suggestive of a post-hole and they may have held a post, but there is no evidence to confirm or refute this.

Although this line of pits is broadly scattered it is possible the pits were marking a land boundary of some sort. Pollen analysis suggests that there was still substantial woodland in this area potentially into the Early Bronze Age and a route from the top of the valley to the river may have been wooded. It is therefore a possibility is this elongated cluster may have been excavated in a woodland ride which may have acted as a route to the river. The pits may have been dug to mark such a route and to accept a specific and intended deposit. Pit alignments demarking important boundaries are well documented, with those at Barleycroft (Evans and Knight 2001) and Thornborough (Harding and Less 1987) being good examples of highly ordered alignments. The pits at Bowthorpe are not the same as these alignments, being composed of a series of scatters which follow a rough line down the valley side and which may or may not be coincidental. Therefore, although it is tempting to place these loose scatters within a woodland ride it is more likely they were excavated in smaller groups, initially within clearings in the woodland and potentially later within a wider cleared landscape.

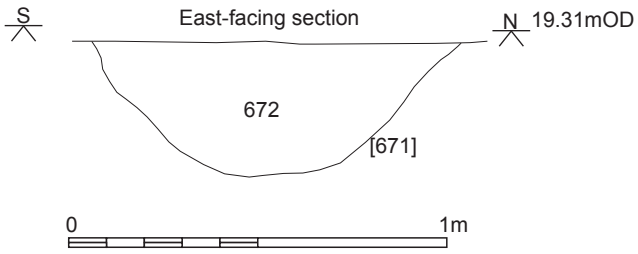


Figure 13. Pit Cluster 2, section of pit [671]. Scale 1:20

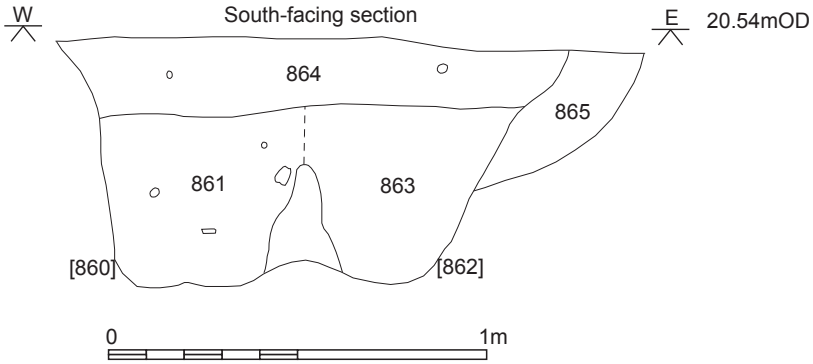


Figure 14. Pit Cluster 2, section of pits [860] and [862]. Scale 1:20

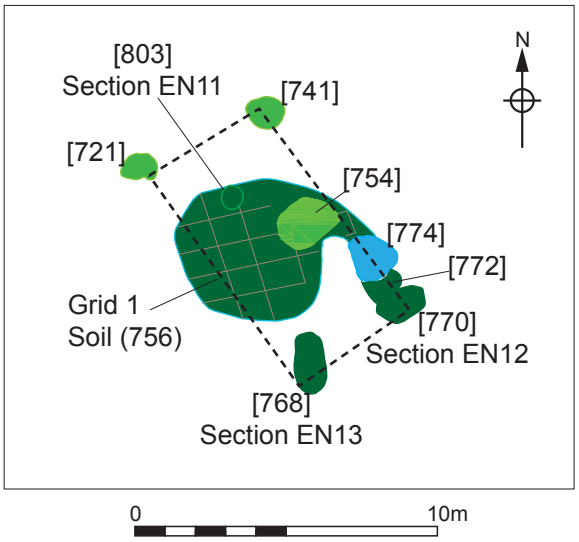


Figure 15. Detailed plan of Grid 1 soil (756) and associated pits, together with position of possible building. Scale 1:250

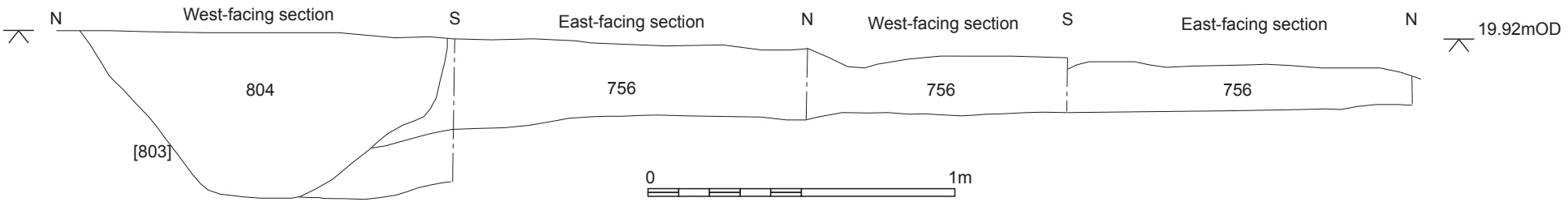


Figure 16. Section of pit [803]. Scale 1:20

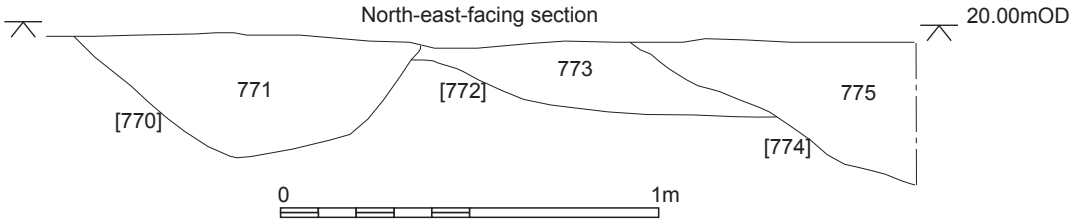


Figure 17. Section of pits [770], [772] and [774]. Scale 1:20

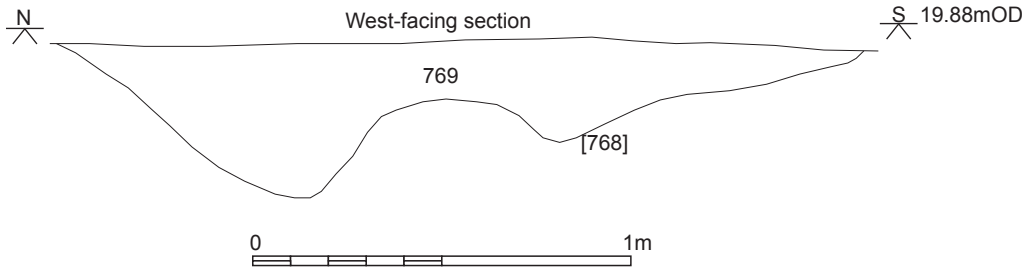


Figure 18. Section of pit [768]. Scale 1:20

5.7.3 Grid 1: Neolithic Soil and Possible Building

Sealed below the colluvium, in rare and isolated patches, a prehistoric ground surface (for example (756)) was observed (Figures 6 and 18). This buried soil seems to represent the base of the typical brown sand soil (Macphail 2005). It was a relatively unconsolidated mottled mid-brown fine silty sand with occasional small sub-angular flint pebbles. This patch of buried soil was 0.3m deep and covered an area of 6m x 5m. It was divided into five 1m^2 grid squares for the purpose of systematic excavation and recording and is likely to be Neolithic since it contained 15 worked flints which were of Mesolithic–Neolithic or in some cases Early Bronze Age character.

Probable Early Neolithic pits [803], [770], [772] and undated pits [774] and [754] all cut soil (756), which indicates this is likely to be the truncated remains of the Early Neolithic ground surface. It was obviously an undulating surface and was not recorded in other parts of the excavated area. The undulating base of (756) is clearly recorded in Figure 16 . Its absence in other parts of the site is probably caused by the similarity of this deposit to the colluvium, which had to be machined away to reveal the features buried below, and also to the fact in this area the short row of pits – [770], [772], [774], [754] and [803] – all cut through this deposit and highlighted its position.

An example of one of the dated pits cutting this patch of relict soil is [803] (Figures 15 and 16). Pit [803] was oval, 0.55m deep, 1.2m long and 1m wide with steeply sloping sides and a rounded base. It contained (804) a mid-grey-brown silty sand with occasional flints, mainly microshatter, and small blade fragments of Mesolithic to Early Neolithic date. This material was unlikely to be associated with the pit, but it does indicate that blade manufacture was occurring close by.

Pit [770] was almost oval, 1.75m long and 0.35m deep (Figures 16 and 17). It had an open concave form with sides sloping at 45°. It contained a single fill (771), which was a mid-grey-brown silty sand and contained three sharp Mesolithic to Neolithic flakes. It was therefore likely to be Neolithic.

Pit [768] was an elongated oval, 2m long and 0.5m wide and 0.3m deep (Figures 17 and 18). It had an irregular base and could well have been two separate features. The feature was filled with orange-brown fine sand (769) with rare flint pebbles and charcoal fleck, from which four flints with Mesolithic to Early Bronze Age affinities were recovered. If this feature was indeed composed of two small pits then the fills were identical. The pit has been placed with the other pits in this small group and dated to the Neolithic.

5.7.3.1 Discussion

The soil is the base of a typical brown sand soil (Macphail 2005). Fifteen worked flints (Mesolithic to Early Bronze Age in character) and nine burnt flints were found in the soil, probably moved down the profile through biological action. Such biological action would not have taken place in a podzolised soil (Macphail 2005). Therefore the soil is pre-podzolisation, which although not dated on this site is likely to be Bronze Age as this is the most common date for podzolisation in Lowland Britain (Macphail 1987). However, the soil was a palimpsest with patchy iron enrichment suggesting subsequent podzolisation (Macphail 2005). Such brown sandy soils were also present at the site of a Neolithic building at nearby Colney (Whitmore 2004).

Three of the pits – [770], [772] and [774] – were intercutting and formed a short row some 5–8m long with [754] and possibly [803]. These pits were not obvious post-holes, but it is possible they either formed or marked the position of a structure which enclosed a patch of earlier soil (756). It is of interest that undated pits [741] and [721] a few metres to the north-west did had profiles more consistent with post-holes and may have been connected with this cluster of pits surrounding the early soil. A further pit or pair of pits [768] 3m to the south-west of the short row of intercutting pits may also have formed part of this structure or marked the site of a structure.

There are too few pits to draw any real conclusions as to the form of any structure but a tentative plan is shown in Figure 15. This possible building may have been constructed of timber posts and have been 8m long x 4m wide with potentially an internal division forming two spaces 3m x 4m and 5m x 4m. Early Neolithic buildings are rare in England, but similar buildings are described by Darvill and Thomas (1996). An example of a similar, if not much larger structure would be the rectangular buildings found at Lismore Fields in Derbyshire (Garton 1991) and a smaller local example is a Neolithic building at Harford Park and Ride (Trimble 2004). Other local evidence for buildings of this period lies 500m to the west where a circular structure was excavated (Percival 2004) and at nearby Colney where part of a Neolithic building with post-holes and opposing possible beam slot trenches was excavated (Whitmore 2004). The Colney building was constructed over a flintworking surface/midden which had occupied a natural hollow. It is notable that the possible building here at Bowthorpe is also built over soil which was lying within a natural hollow.

It is also of interest that if this cluster of pits and associated former surface were in fact part of building then it lies almost at right angles to the pits in Pit Cluster 2. This suggests if the pits are marking a boundary, it is still recognised at the time the possible building was constructed.

5.7.4 Grid 2: Colluvium

Immediately downslope of Pit Cluster 1 was an area of palaeosol/colluvium some 0.1m thick covering an area of 7m x 6m which was excavated in a single spit within 1m^2 grid squares, with alternate squares being 100% sieved (Master Number (1093)=(889), (891), (894), (895), (896), (899), (900), (902), (904), (905) and (910)). The location of this grid is also shown in Figures 4 and 6 and Plate 3. The colluvium was a relatively firm light mid-brown-orange fine sand with rare rounded and sub-angular flint pebbles. In total 46 worked flints were recovered from 10 of the 21 grid squares. Of these flints 16% were undatable, 64% were Mesolithic–Neolithic and 20% were Mesolithic–Bronze Age in character. A single sherd of Neolithic pot was also recovered from (888). Below this gridded area of colluvium and cutting clean coversands (1112) was a possible pit [1114] or natural feature which contained deposit (901).

Only one-quarter of Pit [1114] was observed, much of it falling behind a baulk (Figure 19). Therefore its shape is uncertain, but it appeared to be circular. Where observed the sides were relatively steeply sloping and the base flat. It was filled with (901), a mid-brown-orange silty sand which contained four Early Neolithic flints which may possibly have been residual and one sherd (2g) of Early Neolithic pottery.

Plate 3. Colluvium Grid 2. Pit cluster on top of hill beyond gridded area (looking north)

5.7.4.1 Discussion

The colluvium (1093) developed above fine coversands (1064)=(1112) which were probably Late Glacial. Colluvium is defined as a downslope accumulation of rock, soil (Goldberg and Macphail 2006). Dating a colluvial deposit is difficult since it does not accumulate in a single event and should be regarded as a time transgressive mobile sediment which recycles material from both earlier soils, underlying geology and existing colluvium as the sediments gradually move downslope. However, the flint and pottery recovered from this lower 0.1m thick deposit suggests a probable Neolithic to Bronze Age date for at least the initiation of the accumulation of this deposit since the finds are Early Neolithic to Bronze Age with no later material included. There is a possibility that some of the flint may have been from a Mesolithic soil.

The lower deposits of this colluvium are thought to have accumulated during the Neolithic to Bronze Age as a result of soil erosion and disturbance, possibly due to tree clearance on the upper slopes. As previously noted the Neolithic pits of Pit Cluster 1 were excavated within a clearing in a lime and oak woodland and it is envisaged as woodland clearance and the cultivation of crops continued into the Bronze Age the soils became increasingly unstable and colluvium began to accumulate. As the colluvium and wind blown sands accumulated they sealed a probable later Early Neolithic Pit [1114].

5.7.5 Pair of Pits [549] and [556]

These two pits were located to the south of the site and in area of little archaeological activity (Figure 6). Pit [549] was a circular scoop-shaped pit (Figure 20). It was 0.6m in diameter and 0.45m deep with a rounded base and gently curving sides. It was filled with (548), a mid-brown to dark brown sooty sand. There were occasional fragments of burnt flint and 18 Early Neolithic flints. These flints were mostly unusable knapping waste, possibly from only a few nodules.

Pit [556] was oval, some 0.5m long and 0.16m deep, with a flattish base and shallow sloping sides (Figure 21). It was filled with (555), a mid-brown, dark grey sooty sand with occasional fragments of burnt flint and no finds.

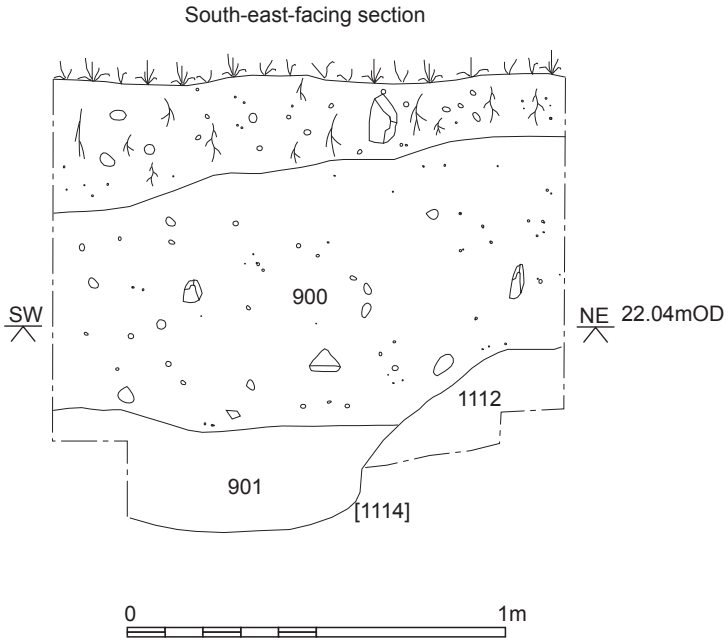


Figure 19. Section of pit [1114]. Scale 1:20

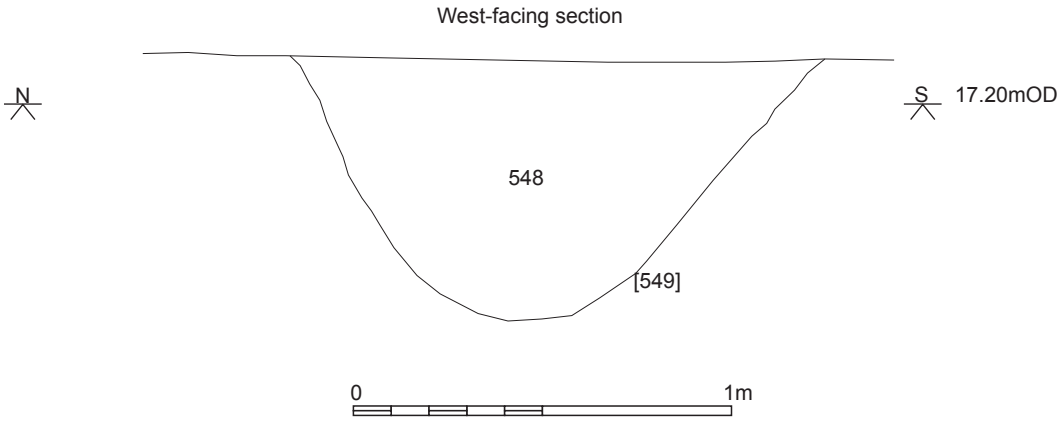


Figure 20. Section of pit [549]. Scale 1:20

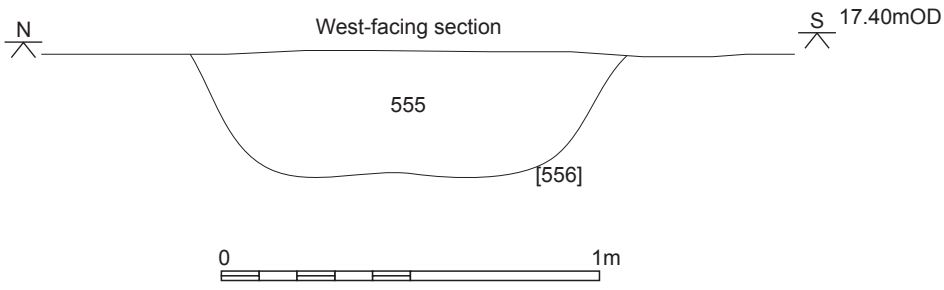


Figure 21. Section of pit [556]. Scale 1:20

5.7.5.1 Discussion.

Both of these pits were scoop shaped and contained a dark sooty fill with no evidence of *in situ* heating, but they are not interpreted as rubbish pits. They were 3.5m apart and, although [549] was dated to the Early Neolithic by the flints and pit [556] contained no dating evidence, the similar form and fill has led to the pits being grouped together.

The flint from [549] is interpreted as selected debris from a limited number of knapping episodes and as in many of the other Early Neolithic pits across this site there has been a clear distinction between waste flint selected for burial in some pits and more useful pieces in another, with pit [549] accepting the waste flint.

Probable partner pit [556] contained no artefacts, but was similarly specifically and carefully filled with sooty material either directly derived from a fire or from a stored source such as a midden. It is this careful selection of materials for filling those pits which leads to the conclusion they were dug and filled with a specific meaning. A very similar selection of waste flint material was made in the Late Neolithic–Early Bronze Age Pit [527], described below.

These two Early Neolithic pits are immediately adjacent to a pair of similar Late Neolithic–Early Bronze Age pits. This indicates a continuity of activity at this particular location, suggesting both significance to the location and that it must have been it was marked by something. The pits sit in isolation in a part of the site where the soils were relatively thin and the underlying chalky tills were cut by palaeochannels largely created during glacial and periglacial climates but probably activated in more recent times. Although these features had no representation in the modern landscape it is possible that prior to ploughing the land would have been slightly ridged in this area. This may be the reason the site was selected for the digging of these particular pits.

5.8 Late Neolithic–Early Bronze Age

The only Late Neolithic–Early Bronze Age features of note were a pair of pits, [527] and [529]. These pits were found in the central part of the site (Figure 22). It is of interest they were found adjacent to Early Neolithic pair of pits [549] and [556].

Pits [527] and [529] were both relatively small and shallow scoop-type pits, 0.2m apart and contained dark, sooty soil (Figure 23). Pit [527] was oval, 0.65m long, 0.6m wide and 0.3m deep, with a scoop-shaped profile and a concave base. It was filled with a dark brown-grey silty sand (526) with frequent fragments of burnt flint. Forty-nine (166g) sherds of Grooved Ware, both decorated and undecorated (Figures 48 and 49), were found together with 22 worked flints. Most of the flints were flakes, together with a core, all Late Neolithic–Early Bronze Age knapping waste with the exception of one flake possibly from a Palaeolithic Levallois core. Also recovered were three small fragments (6g) of unidentified mammal bone. A soil sample <100> was taken from the fill of this pit, it contained very few plant macrofossils, but fragments of charred hazelnut shell were identified. Fragments of *Pomoideae* charcoal (trees of hedgerows and open woodland) were also reported from this sample. This may indicate the use of smaller trees and shrubs from adjacent woodland for firewood rather than using the major timber-producing trees.

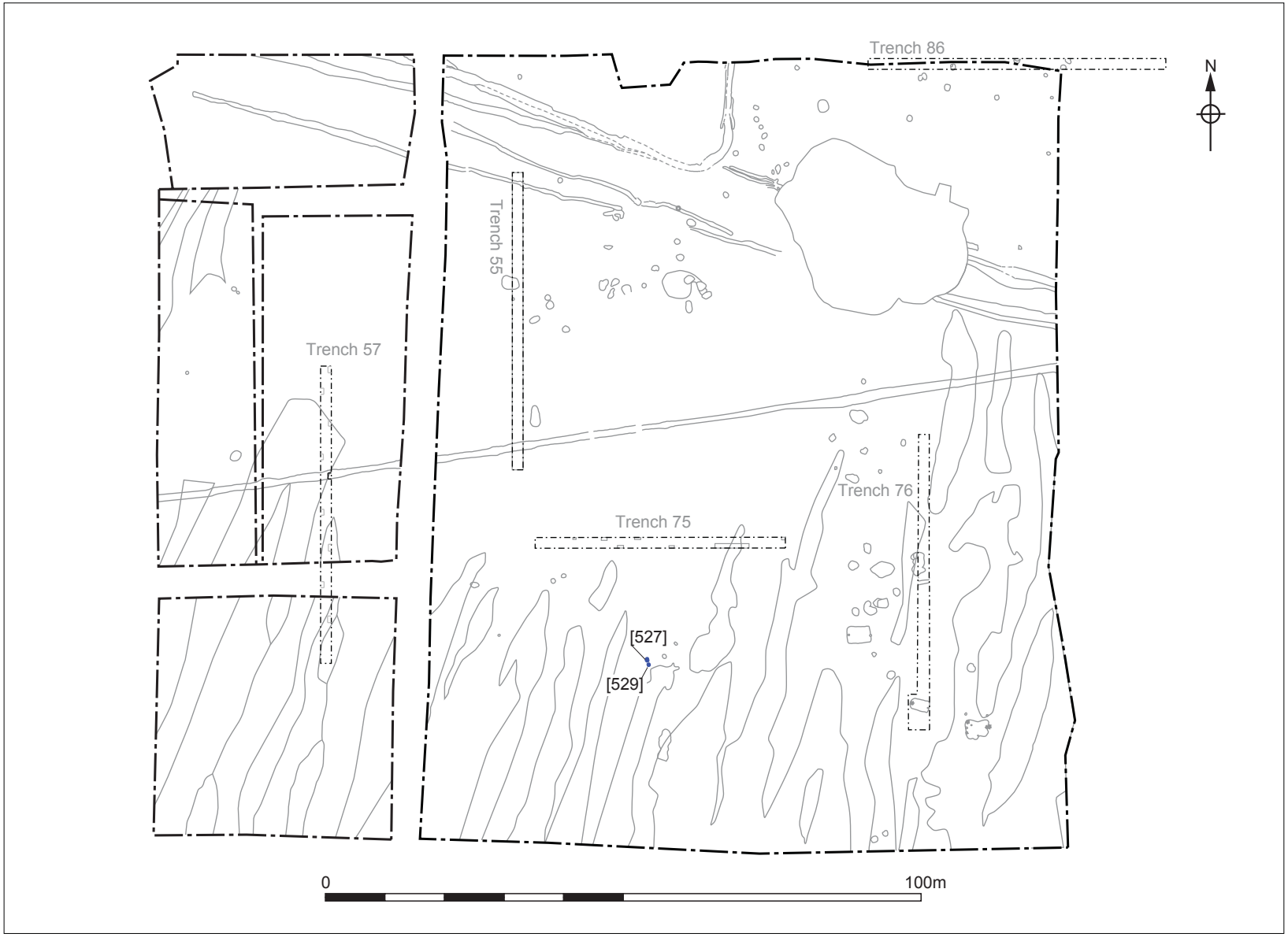


Figure 22. Late Neolithic/Early Bronze Age pits [527] and [529]. Scale 1:1000

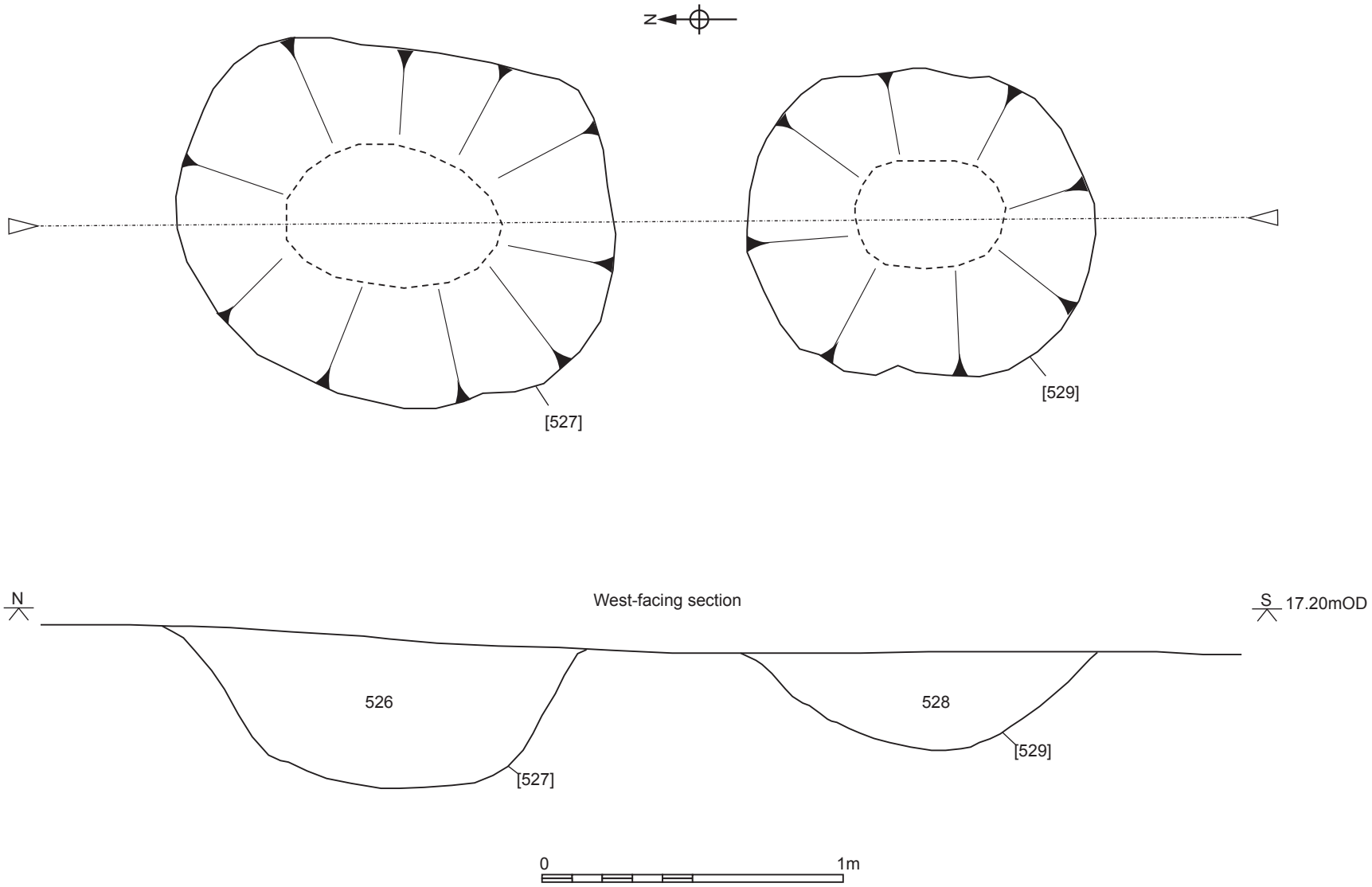


Figure 23. Plan and section of pits [527] and [529]. Scale 1:20.

Adjacent Pit [529] was slightly smaller and shallower, again oval and 0.6m long, 0.5m wide and 0.2m deep (Figure 23). This pit was filled with a dark brownish-grey silty sand (828) with occasional fragments of burnt flint. It contained two sherds (17g) of Grooved Ware. The Grooved Ware from these pits is of b-style (Longworth 1971) and is typically Late Neolithic–Early Bronze Age.

Grooved Ware is rarely found in Norfolk and therefore this assemblage is of interest, especially given it to be this close to a Beaker 'domestic' site excavated in 1999–2000 to the north-west of the site (NHER 9304; Percival 2004). The relationship between the two pottery styles is currently under review, with Garwood in particular suggesting that the 'temporal overlap for concurrent Grooved Ware and Beaker use may have been far shorter than the half-millennium period sometimes envisaged' (Garwood 1999, 161). Given the debated chronology of these pottery types two AMS radiocarbon dates were obtained from Pit [527], which contained the largest assemblage of Grooved Ware. One sample was from a fragment of hazelnut shell and the other was from *Pomoideae* charcoal. The former sample produced resulted in two peaks of likely dates Cal 2840 to 2810 (Cal BC 4790 to 4760) and Cal BC 2670 to 2480 (Cal BP4620 to 4420), that is 4050±40 BP (Beta 2433232; sigma calibrated results at 95% probability). The second sample returned a date of Cal BC 2890 to 2620 (Cal BP 4840 to 4570), that is 4170±40 BP (Beta 243324; 2 sigma calibrated results at 95% probability). Both dates were very similar and this consistency suggests this is a real date for the feature.

5.8.1.1 Discussion

Radiocarbon dates from the largest assemblage of Grooved Ware found in Norfolk came from Redgate Hill, Hunstanton (Healy *et al*. 1993) and suggest that it was in use around 2865–2405 cal BC (OxA-2310; Healy *et al*. 1993, 74). The results from Pit [527] are very similar to those from Redgate Hill. A recent review of radiocarbon determinations from around the UK suggests that the Grooved Ware tradition had an overall currency that fell within the period 3000–2000 BC (Garwood 1999, 152). The dates from [527] add to the overall database for absolute dating of Grooved Ware and indicate an earlier rather than later date for the Grooved Ware at this site.

It is likely this pair of pits was used to bury a deposit of burnt material mixed with soil. It has been observed at other sites that pairs of Neolithic and Bronze Age pits contain intentional special deposits, often with one pit containing more cultural and burnt material than the other (Percival 2004; Garrow 2006). This is also the case with this pair of pits, with Pit [527] containing a much greater proportion of pottery than [529]. The pits are likely to have been excavated for the purpose of placing specific selected materials within them and rapidly infilled with a single fill since the sides are unweathered. They are likely to have held great meaning for the excavators, but one which is now lost to us. Although these pits may have been found near occupation they are not necessarily indicators of occupation themselves. In an analysis of ten separate sites with pits containing Grooved Ware Garrow (2006) concluded that sites with few pits were not associated with other contemporary features such as post-hole structures, whereas those with a larger number of pits were associated with features. It is of note that Bowthorpe is similar to all ten sites discussed by Garrow in that they are all close to rivers on low-lying ground. It is also significant that the only features close to these pits were an Early

Neolithic pair of pits with very similar fills, strongly suggesting that there was significance to this location with a repeated pattern of burial of burnt material in these shallow-scoop pits over a period of perhaps several hundred years. Such small scoop pits were not recorded elsewhere on the site.

The only other Late Neolithic–Early Bronze Age artefact was a small sherd of Beaker pottery recovered from the fill of the naturally formed gully [789]. The sherd is decorated with an incised line and is comparable with Beaker found at nearby NHER 9304, dated by a radiocarbon determination on an associated hazelnut shell to 2500–1950 cal. BC (Wk 8870; Percival 2004, 69).

5.9 Bronze Age

Only one feature [559] was dated specifically to the Bronze Age and then only by the single sherd of pottery. However, it is likely that some of the undifferentiated-prehistoric, and even undated, pits were Bronze Age.

Pit [559] was located at the extreme southern edge of the site. It was oval with sloping sides and a concave base, 1.15m long and 0.3m deep (Figure 25). It contained (560), a mid-brown sandy silt with frequent medium and large sub-rounded and sub-angular flint. Within this fill was a single sherd (9g) of Bronze Age pottery, thought to be part of small urn or similar. Also found were three flints which were Mesolithic–Early Neolithic in character and a fragment of burnt flint.

Pit [559] was likely to be one of a pair of pits with pit [557], which was therefore also Bronze Age. It was a similar, small, circular pit some 1m to the north of [559]. It was oval, 1m wide, with sloping sides and a concave base some 0.2m deep (Figure 25). The single fill was a mid-brown sandy silt (558) with frequent flints, some of which were large. It contained seven worked flints, all flakes of mixed prehistoric date, together with ten burnt flint fragments.

5.9.1.1 Discussion

This limited evidence of Bronze Age activity is typical of the area. Despite several pottery and flint finds of this date coming from lower down the valley it is likely that the Bronze Age activity was concentrated on the higher ground above the valley (Lawson *et al.* 1986). The pair of pits recorded here are typically prehistoric, with single Early Neolithic and Late Neolithic–Early Bronze Age examples being identified elsewhere on the site.

5.10 Iron Age

No specific Iron Age features were identified in the excavation area, but it is likely that there was at least limited Iron Age activity in the vicinity and that some of the colluvium may be Iron Age. A residual sherd of Iron Age pottery was found within one of the ‘channels’ located between the chalk stripes.

During the evaluation a low density of Iron Age features and finds was identified across the site, none of which were within the excavation area. In total two Iron Age ditches and two pits were excavated. The finds included a bone needle made from a pig’s fibula (SF 19) from the fill of Iron Age Pit [188] some 50m to the south-west of the excavation area in Trench 63 (see Green 2004). A small copper-alloy terret (SF16) was recovered from an unstratified context in Trench 136 300m to the north-east of the excavation area. These artefacts are reported on below.

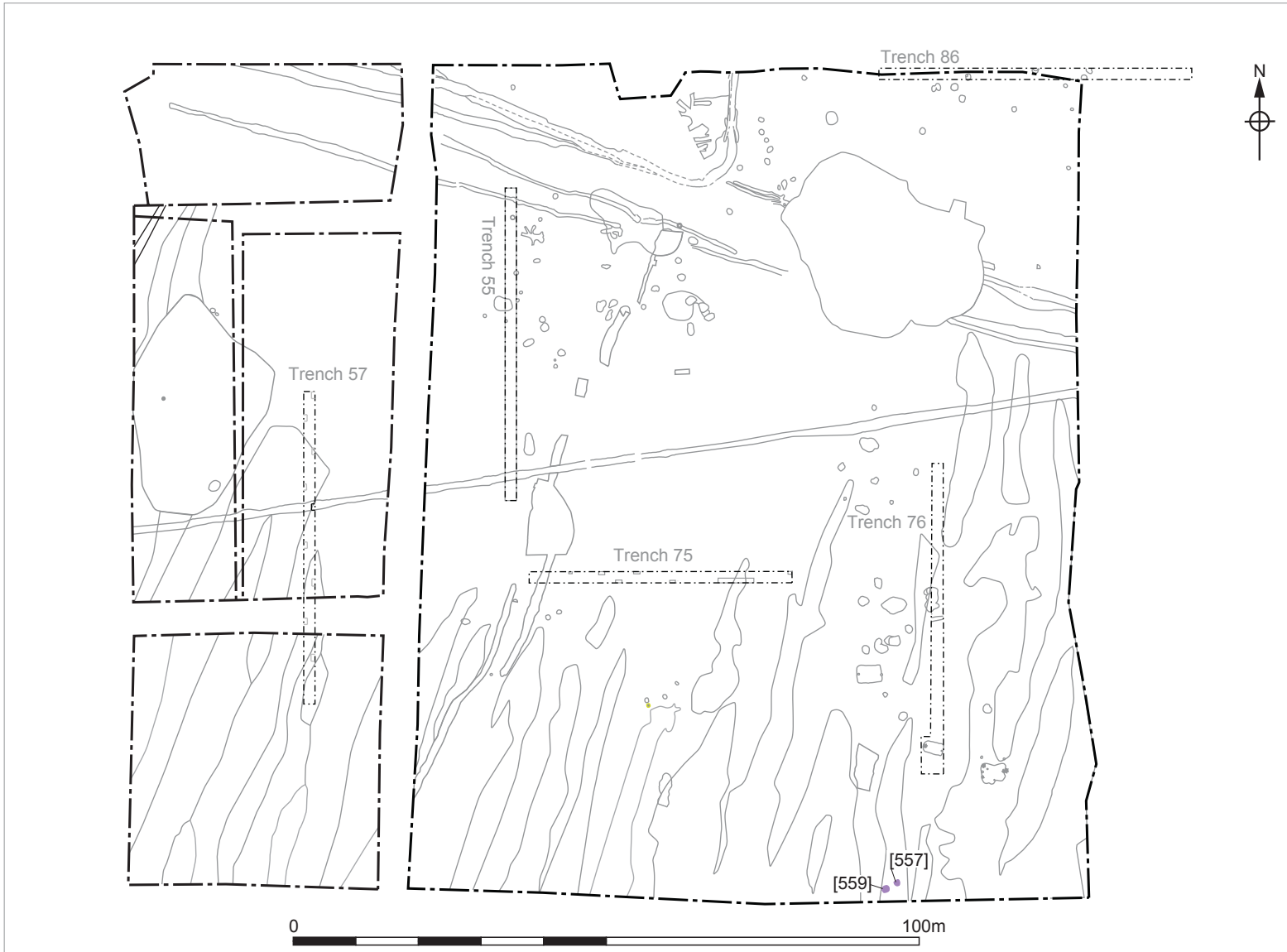


Figure 24. Bronze Age features [557] and [559]. Scale 1:1000

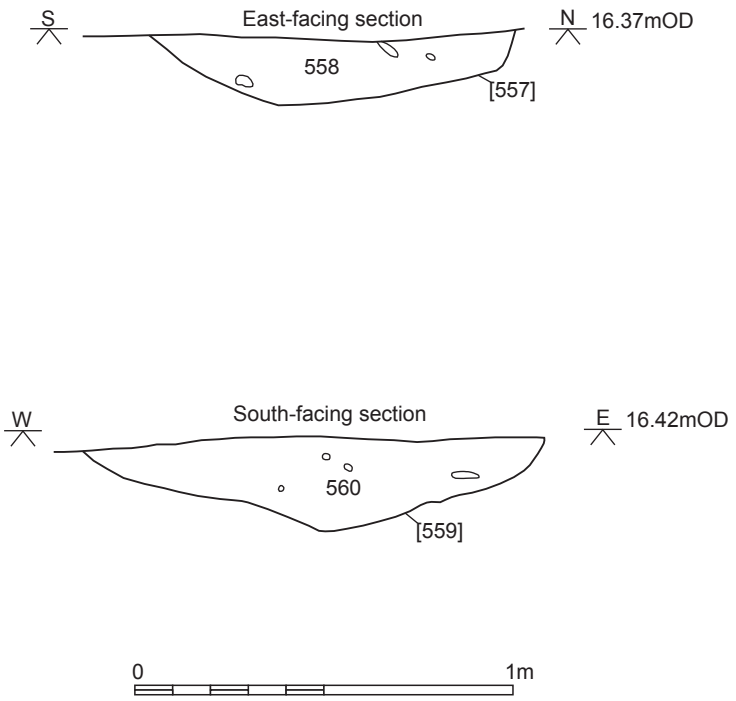


Figure 25. Sections of pits [557] and [559]. Scale 1:20

Such small terrets are difficult to date and it is not possible to suggest a date more refined for this example than 2nd century BC–1st century AD. In total 48 small sherds of Iron Age pottery were identified from the evaluation trenches and this small assemblage suggests that during the Iron Age activity on this hillside was small scale or transitory.

5.11 Undifferentiated Prehistoric

There were 17 undifferentiated prehistoric pits assigned a prehistoric date principally because of the worked flint that they contained. These pits were mostly located in the north-eastern and central areas of the site. Four of these pits are likely to be Early Neolithic and belong to Pit Group 1, described in the Early Neolithic section (see Figure 26). Other pits are either Early Neolithic, Late Neolithic–Early Bronze Age, Bronze Age or possibly Iron Age.

Apart from those associated with Pit Group 1, two other clusters of pits were also observed (Pit Groups 3 and 4; Figure 26).

5.11.1 Pit Group 3

Pit Group 3 was a line of six pits or large post-settings aligned NNW–SSE and spanning 11m and mostly spaced 1m apart (Figure 26). Pit [881] is an example of one of these pits and it was almost circular, 0.8m in diameter, with a flat base and almost vertical sides some 0.55m deep. It contained a light greyish-yellow sandy fill with rare flint gravel and a fragment of burnt flint. Pit [879] was also circular some 0.7m in diameter with a flattish base and steeply sloping sides. It contained a single light yellow-grey sand fill (880) from which both burnt flint and a single flake of Mesolithic–Early Bronze Age character were recovered. These pits contained an almost sterile sandy fill, with four containing single worked flints and up to seven burnt fragments of flint. There is no indication as to their function; it is possible they were large post-settings, but it is also possible they were pits which lay along a boundary. It is notable, but perhaps coincidental, that they lie close to and on a similar orientation to an undated probable enclosure ditch.

5.11.2 Pit Group 4

Pit Group 4 was found in the central-eastern part of the site and largely comprises six undated pits and two undifferentiated-prehistoric pits (Figure 26). A few of the pits of this group were filled with a dark, sooty fill. These pits were of different forms, some small and circular, others oval to irregular, and none were cylindrical. An example from this group was pit [935] which was almost circular, 1m wide and 0.22m deep with an irregular scoop-shaped profile. It contained a mid-grey-brown silty sand in which two worked flint of Mesolithic–Early Neolithic date were found. Pit [926] and its recut [928] were two of the undated pits in this group and they were also likely to be prehistoric. Pit [926] was an oval feature, 1m long and 0.3m deep filled with yellow-brown silty sand with flint gravel. Recut [928] was circular, 0.6m in diameter and 0.3m deep, filled with (929) a dark grey sooty sand with some burnt flint.

A further undifferentiated prehistoric pit [774] was located in the central part of the site within the area of possible Neolithic palaeosol described above. It contained no artefacts and was the latest feature to cut both the soil and the Neolithic pits.

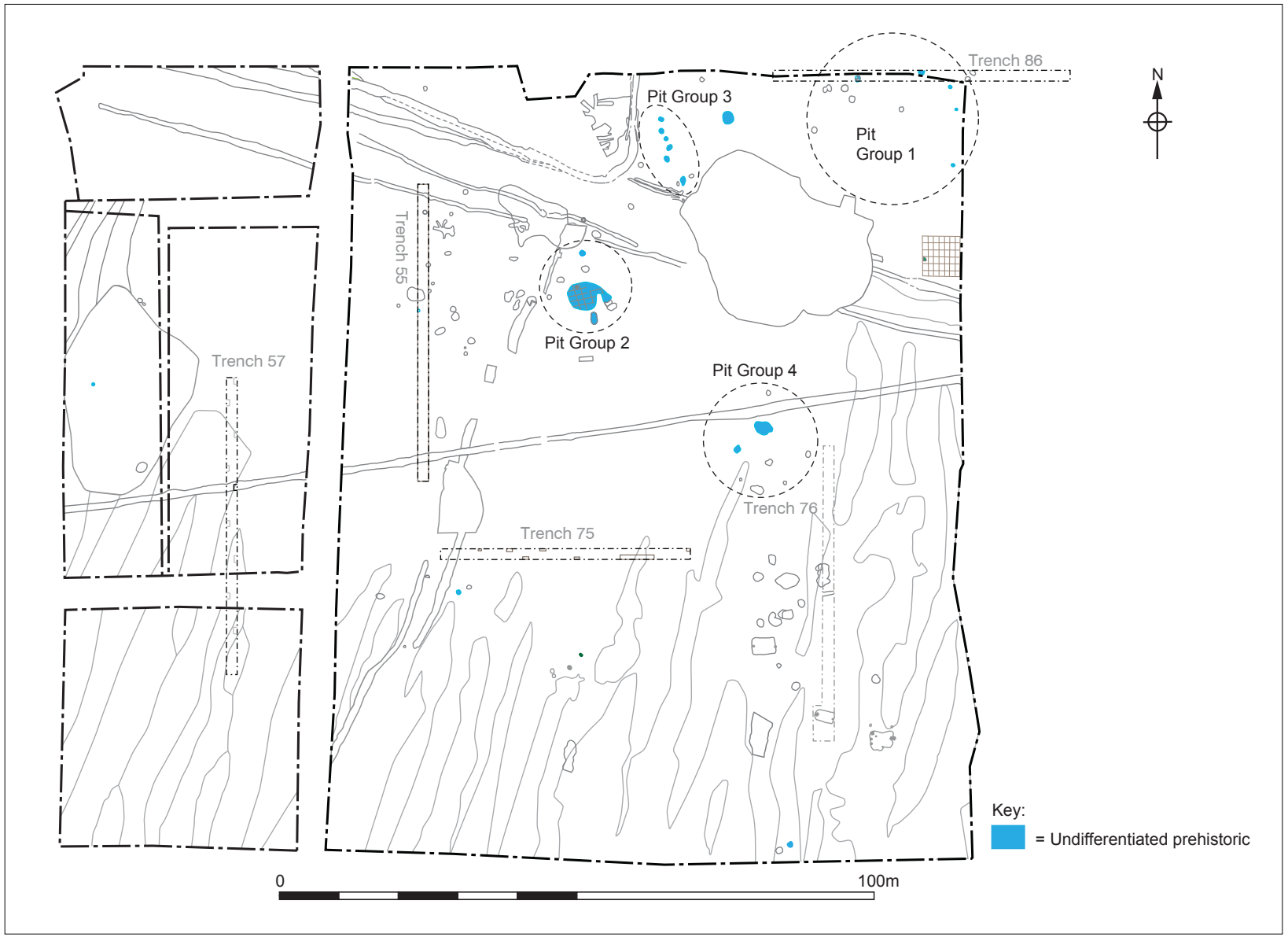


Figure 26. All undifferentiated prehistoric features. Scale 1:1000

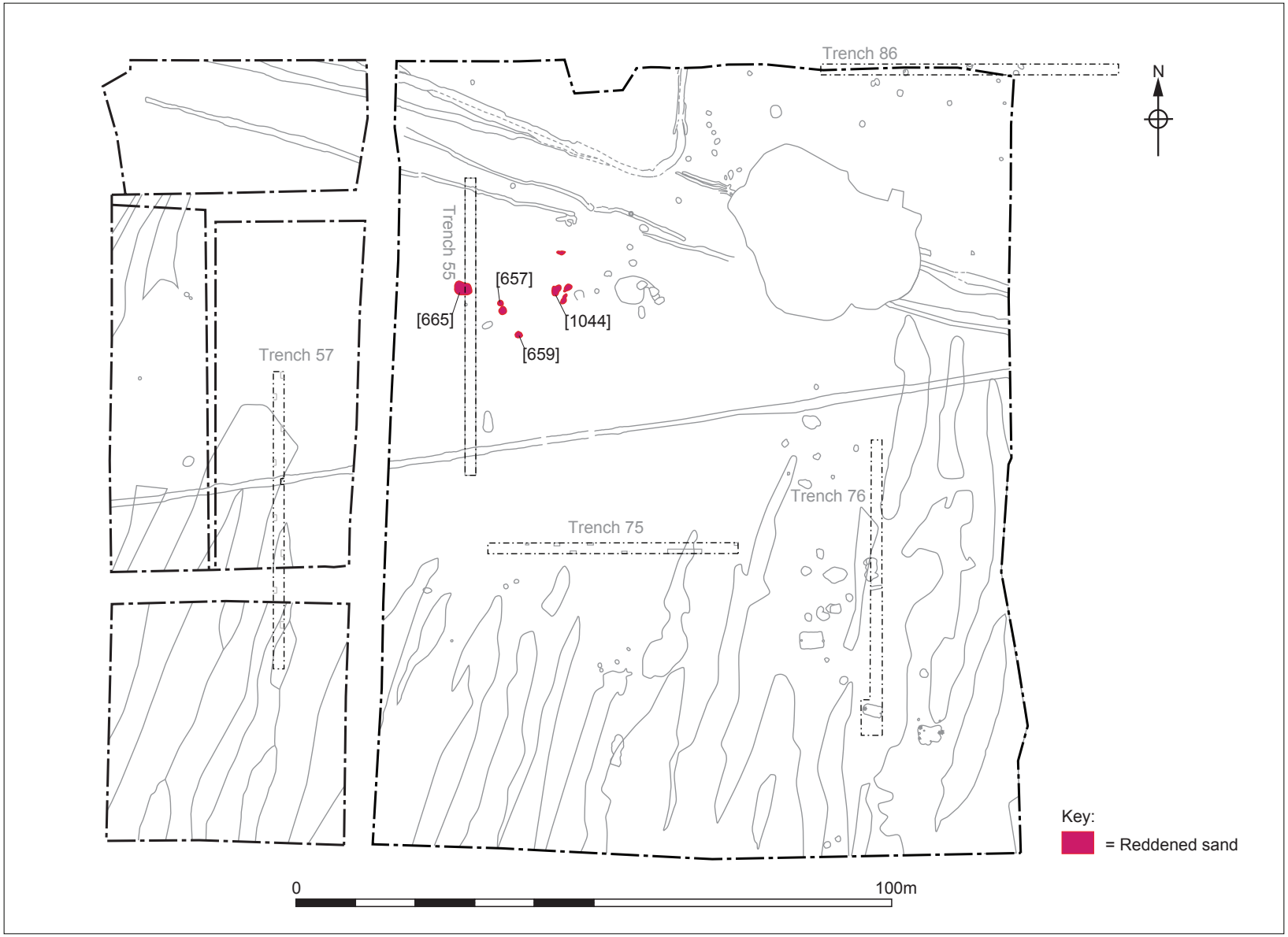


Figure 27. Patches of rubefied soil (reddened sand). Scale 1:1000

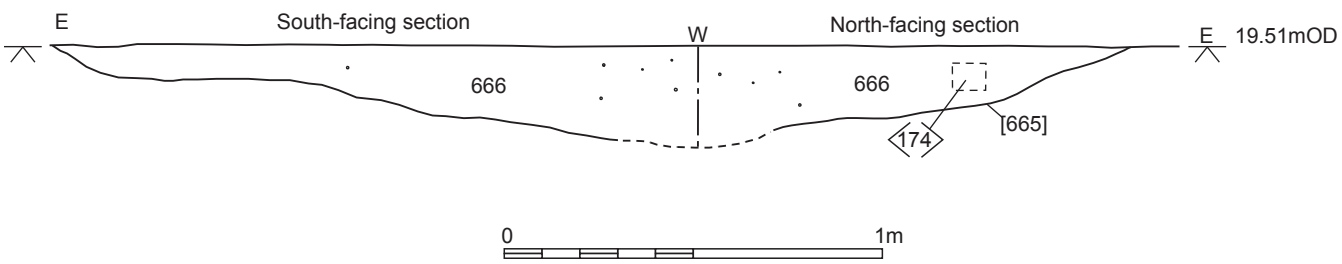


Figure 28. Section of rubefied soil [665]. Scale 1:20

Plate 4. Rubefied soil [665].

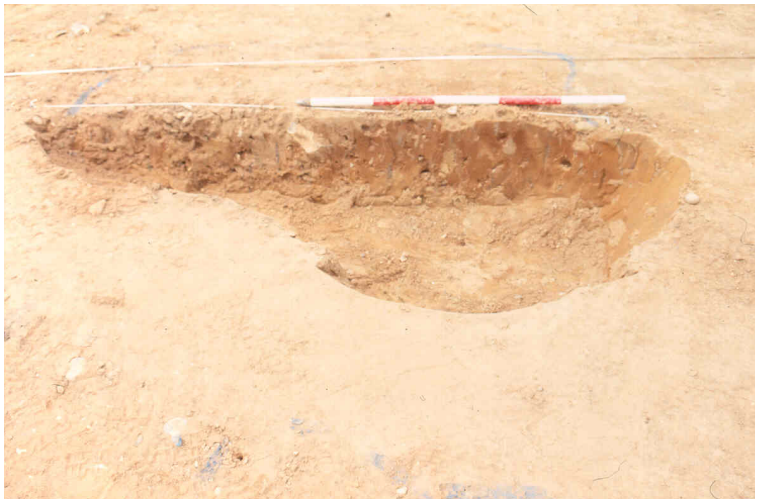


Plate 5. Rubefied soil [1044].

5.12 Rubefied Soils

Several relatively large patches of reddened (rubefied) sand were observed in the central part of the site (Figure 27). These remain undated, but are sealed below colluvium and are likely to be prehistoric. It is suggested they may be the sites of brushwood fires created following woodland clearance and are likely to be prehistoric.

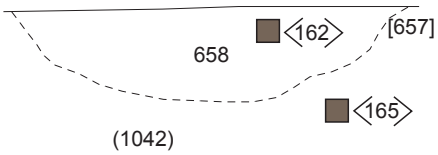
Eight of these patches of rubefied soils were excavated and no finds or charcoal were recovered from any of them. They occurred in an area of coversand, a stone-free fine to very fine sand. The largest (665) was 2.8m long, 2m wide and approximately 0.25m deep. It was an irregular squared oval and, typically of all these features, had a diffuse base and sides (Figure 28). The sand within this patch (666) was a light reddish-brown fine sand with occasional sub-angular flint pebbles. Rubefied patch (657) was oval, 1.0m long and 0.22m deep. The base and sides were hard to discern, but there was an overall irregular shallow concave form. The fill was a mid-reddish-pink, fine, stone-free sand with dark patches of orange-brown (Plate 4). Rubefied patch (1044) was oval, 2m long and 0.32m deep. It was cut into both coversands and fine gravel. The boundary between the patchy red sand and the underlying natural sands and gravel was very gradual (Plate 5).

Four of these reddened patches were selected for magnetic analyses to ascertain if the sands had been burnt, as was suggested in the field by Richard Macphail (Figure 29). The link between soil reddening with burned tree subsoil hollows and associated woodland clearance has been inferred from a number of Neolithic and Early Bronze Age sites; the effect of *in situ* burning, which produces a markedly enhanced magnetic susceptibility, being an important indicator (Barclay *et al*. 2003; Healy and Harding, forthcoming; Goldberg and Macphail 2006, 190–202; Macphail and Goldberg 1990). Overall the results of magnetic susceptibility analyses indicate, with certain reservations, that the redness observed is attributable to *in situ* burning. For example, the reddened sand (658) above (657) has an enhanced magnetic susceptibility of mean $\chi = 211 \times 10^{-8}$ m^3 kg^{-1} while the unaffected sands (1042) below (657) have a mean $\chi = 87 \times 10^{-8}$ m^3 kg^{-1}.

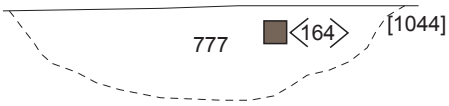
Therefore, it is likely these patches of burnt sand represent the *in situ* burning of tree throw hollows following woodland clearance of likely Neolithic or Bronze Age date. Such reddening may also occur when piles of brushwood are burnt following woodland clearance and when an intense fire burns over several days and causes a depth of sand to be heat altered. Such early prehistoric burned tree throw hollows have been identified at Raunds, Northamptonshire, and Drayton Cursus, Oxfordshire (Macphail and Goldberg 1990), and a Neolithic example on sandy soils at West Heslerton (Macphail *et al*. forthcoming). Their presence not only suggests how this hillside evolved in prehistory, but also indicates that in this part of the site the earlier soils are not highly truncated and at least part of the prehistoric land surface still exists.

5.13 Romano-British

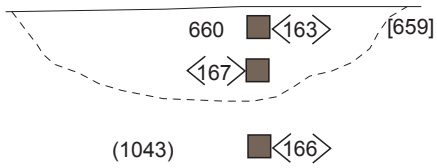
Although Romano-British pottery was found in several features, only one small pit [969] exclusively contained pottery of this date, although this single sherd may have been residual (Figure 30).



Relative positions of magnetic samples from [657]



Relative positions of magnetic samples from [1044]



Relative positions of magnetic samples from [659]

Relative positions of magnetic samples from [665]

Figure 29. Schematic representation of the relative positions of magnetic samples from rubefied soils. Not to scale.

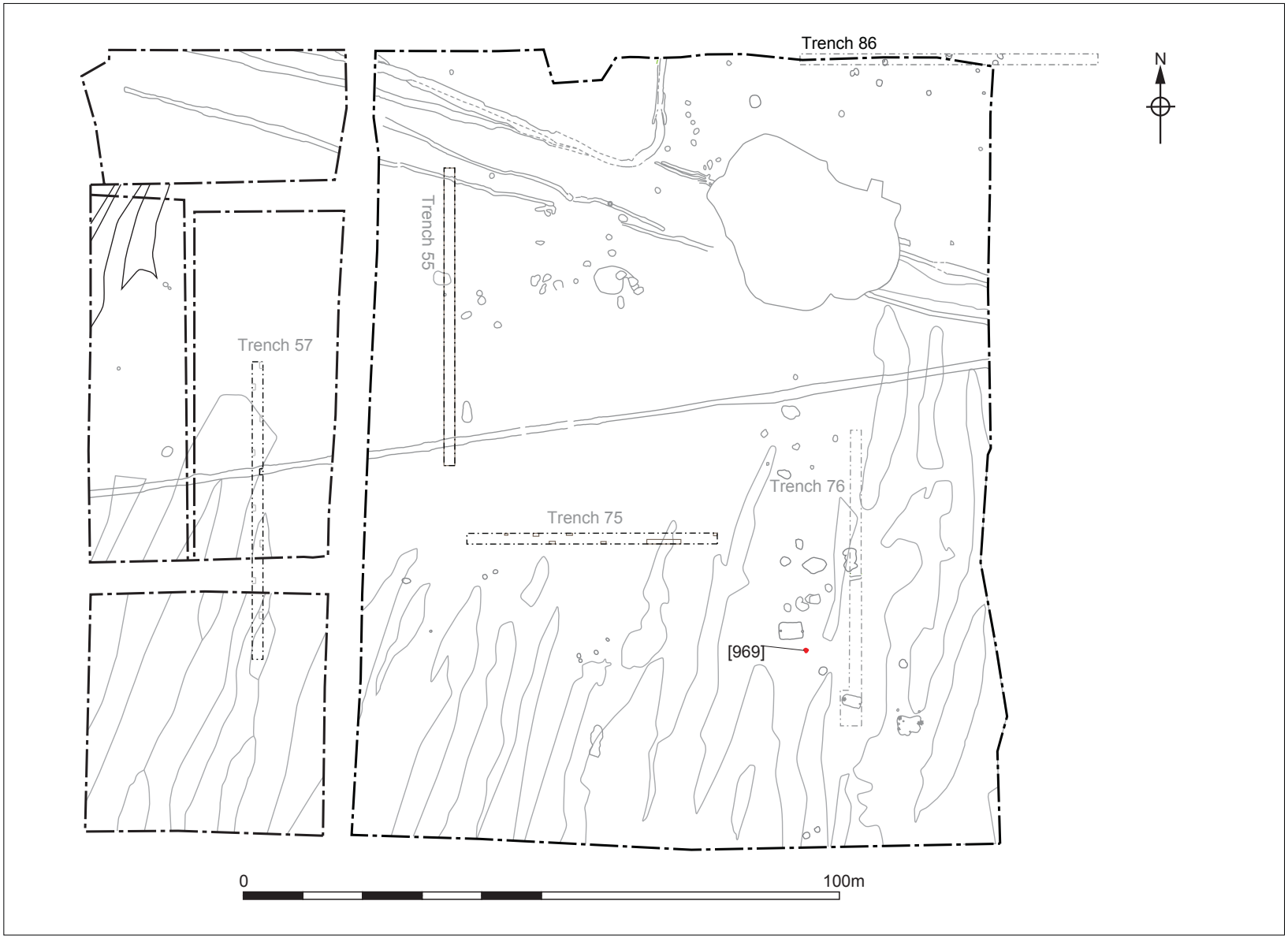


Figure 30. Romano-British feature [969]. Scale 1:1000

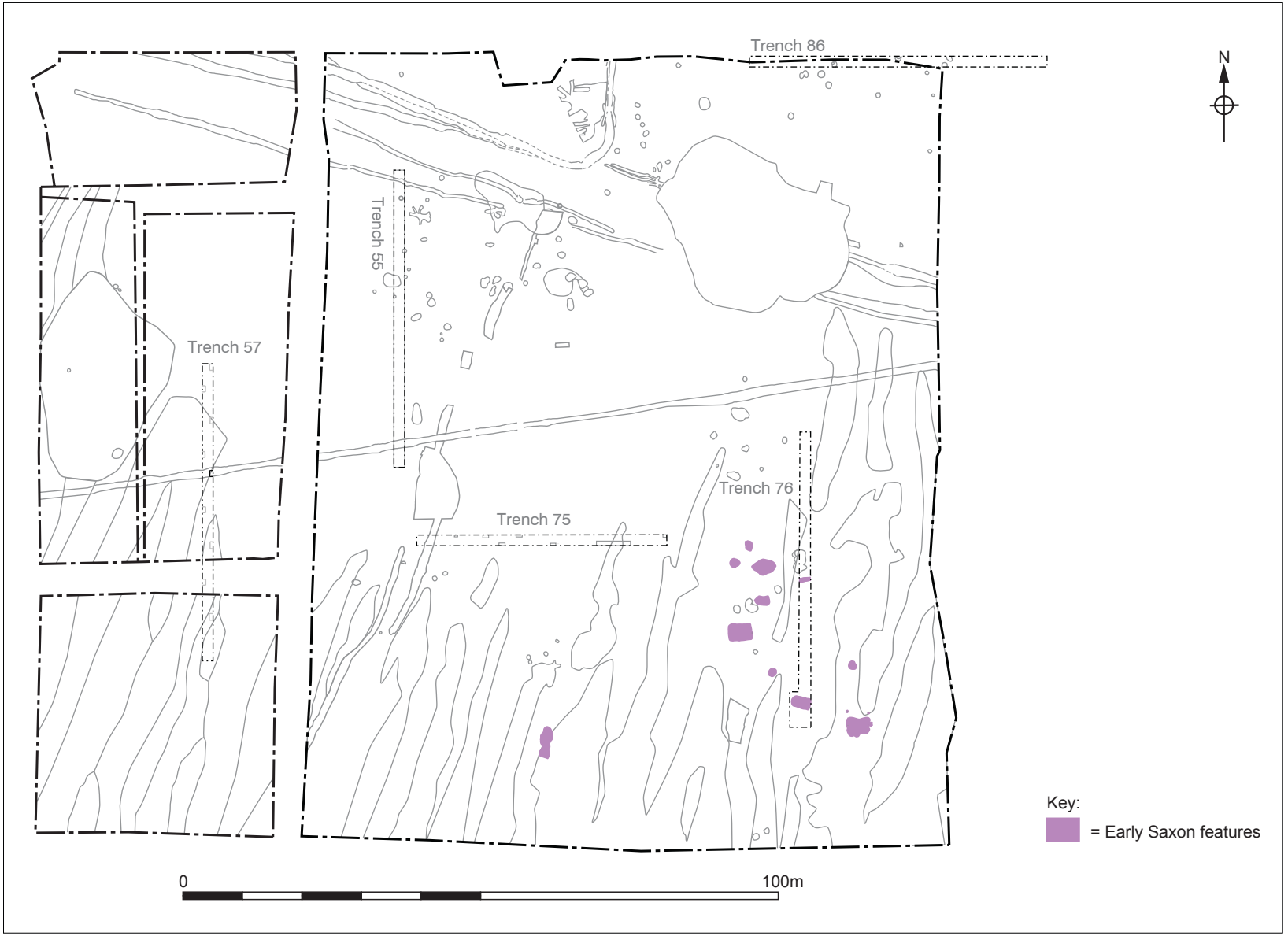


Figure 31. Plan of all Early Saxon features. Scale 1:1000

Although unproven, it is probable that some of the undated ditches observed to the north of the site were also Romano-British, as is much of the colluvium which both infills and seals the ditches. These ditches are discussed in the undated features section below. The ditches observed were, however, on the same alignment as the Romano-British field systems identified to the west by Percival (2002) and Trimble (2004). In total 31 fragments of Romano-British brick and tile fragments were recovered from 12 contexts, most of which were from the Early Saxon buildings and pits, the remainder being from colluvial deposits accumulated within what appear to be naturally formed channels.

Twenty-five Romano-British pot sherds was recovered in the excavation area. The assemblage was mostly highly abraded and although not closely datable suggests a date in the Earlier Roman period (1st–3rd centuries). Outside the excavation area two Romano-British small finds were recovered (see Green 2004). These were SF15, a dolphin-type brooch, and SF26, a coin dating from AD 337–341. These are presumed to be accidental losses.

There was no evidence for any Romano-British occupation of this hillside and only indirectly a suggestion that Roman farmers were using the landscape. There is a strong suggestion the Romano-British brick was reused by the Early Saxon population.

5.14 Early Saxon

Twenty-two features of Early Saxon date were identified within the excavation area (Figure 31). There is clear evidence for Early Saxon occupation within the excavation area, including three SFBs (one of which was found during the evaluation), and several associated pits, some of which were large and a shallow ditch which was only identified in the evaluation. This activity was concentrated on the lower slopes of the site where the SFBs and associated pits formed a small cluster. Two of the SFBs were similar, being rectangular and two posted and contained a wide range of finds. The third SFB was of a different form, with many post-holes, but was more severely truncated by subsequent ploughing. A partially excavated possible SFB [338] identified in evaluation Trench 1 some 300m to the north-west of the excavation area has not been included in this report, but is described in the evaluation report (Green 2004).

5.14.1 Sunken-featured Buildings

A small cluster of three SFBs was recorded (Figure 32). Two were oriented approximately east–west and the other north-west–south-east. None of the buildings was radiocarbon dated since the pottery provided a good date. The pottery from all of these buildings was Early Saxon and although each SFB contained pottery from a range of dates from the late 4th to the 6/7th centuries there is no strong evidence to suggest that the Saxon occupation of the site extended into the 7th century and overall the pottery indicates a 6th-century date for all three buildings.

The pottery contains a range of fabrics and forms which indicate trade and transfer of materials across the region and from further afield. For example, the presence of igneous inclusions in several sherds suggests an import to the site from production centres in Charnwood, Leicestershire. Pottery made at Charnwood was exported to a wide area covering East Yorkshire to the English Channel in the 5th–

7th centuries (Williams and Vince 1997) and has been found at several other sites in East Anglia (Anderson forthcoming). However, as Anderson points out, a piece of granite found at Flixton suggests that the stone itself may have been deliberately imported into the region, perhaps for addition to the clays used for potting (Anderson forthcoming).

5.14.1.1 SFB [194]

SFB [194] was recorded during the evaluation of the site within Trench 76 (Figure 33). It was oriented north-west–south-east and was 3.1m long, 1.8m wide and 0.25m deep. It was rectangular with rounded corners and two post-holes just slightly deeper than the base of the SFB, one at each end and within the structure of the building. This feature was the best preserved of all three excavated SFBs, being 0.25m deep and cut in part into the chalk and in part into sand. It contained a single fill (195), a dark grey silty sand with a pale orange-brown mottle, occasional small pebbles and small lumps of chalk, and a moderate amount of fine charcoal fragments. Of the two post-holes [196] contained a single fill (197) and [198] contained fill (199); both were 10–20cm deeper than the base of the SFB and located one at each end of the structure. The fills of these post-holes were similar to fill (195) being a mid-greyish-brown silty sand with occasional flecks of charcoal. The similarity of the fills of the post-holes and the main fill of the SFB suggest they were all infilled at a similar date. The feature was not radiocarbon dated, but the pottery and style of construction suggest it is 6th century.

Plant macrofossil samples were taken, but the programme of soil micromorphology was not initiated at this stage so unfortunately no soil chemistry or soil micromorphology samples to allow comparison with the other two SFBs were taken. Three environmental samples were taken from SFB [194], one from the main fill (195) <1> and one from each of the post-holes [197] <2> and [199] <3>. A wide range of domestic detritus and food residues was found in these samples, particularly the sample from the main fill of the SFB <1>. Such remains included charred wheat (*Triticum*), barley (*Hordeum*) and unidentified cereal remains, together with vetch *Vicia* or *Lathyrus*. Also recovered were frequent finely divided charcoal, fragments of bone, fish bone, small mammal bone, vitrified material and tarry and cokey material derived from high-temperature combustion. These finds are consistent with domestic refuse falling through the gaps in the floorboards during the occupation of the building, but in this case probably derived from domestic rubbish deposited in the hollow of a disused SFB or recycled from surface midden deposits (Tipper 2004).

Further evidence for Early Saxon activities and eating habits in the time of building [194] was derived from the animal bone recovered from this feature. Almost 5kg of animal bone was recovered from fill (195). This was principally butchering waste from cattle, sheep, pig and domestic fowl. The proportion of the main livestock animals (cattle, sheep and pig) recorded in this deposit as a percentage of the total number of specimens identified (NISP) indicate cattle was the most important livestock animal (71% NISP), with sheep 16% NISP and pigs 12% NISP. Fine knife cuts from skinning were noted on sheep mandibles and on a cattle mandible. There was also evidence for cattle being used for traction, for example ploughing, with several bones exhibiting worn and arthritic joints (Plate 6).

This feature contained the widest range of artefacts of the three excavated SFBs and 50% of all the Saxon pottery recovered on the site. This is probably a result of

it being the least truncated of the SFBs recorded. In total 2,273g of pottery, including the majority of all the stamped decorated sherds, was recovered. These included a minimum of 23 vessels and the remaining sherds suggest that were many more pots, often represented by a single fragment. This is consistent with the idea much of this deposit came from a larger midden. Eighteen joining fragments from a wide-mouthed biconical bowl with a 'line and groove' decoration to the neck and shoulder were recovered from this deposit (Plate 10). Similar vessels were excavated at Caistor St Edmund and at Witton which have been attributed to the late 4th–5th centuries (Myres and Green 1973; Wade 1983). This suggests a 5th-century date for the pottery recovered on this site. There are also four examples of stamped sherds. No parallels for the stamp have been found to date, but it was recognised as being similar to a group of semi-circular motifs identified at Spong Hill as Type IVd (see Goffin 2004).

Plate 6. Left: cattle proximal phalange with arthritis. Right: Normal cattle proximal phalange for comparison.

Six small finds were found within fill (195). These include an iron brooch (SF20) with a penannular frame and rolled terminals, similar to one from the Anglo-Saxon cemetery at Morningthorpe, Norfolk (Green *et al*. 1987, 297, Grave 304 F). Also recovered was a spindle whorl (SF22) with parallels in the Early Saxon textile manufacturing equipment found at West Stow (West 1985), together with two fragments of a fired clay loom weight (SF23 and SF 24) of Hurst's intermediate type used from the 5th–8th centuries (Hurst 1959). Other small finds include two honestones (SF 21 and SF25). SF21 was a broken honestone made of Norwegian Ragstone and SF25 was a triangular smoothed limestone block with no particular parallels, but is assumed to be a honestone

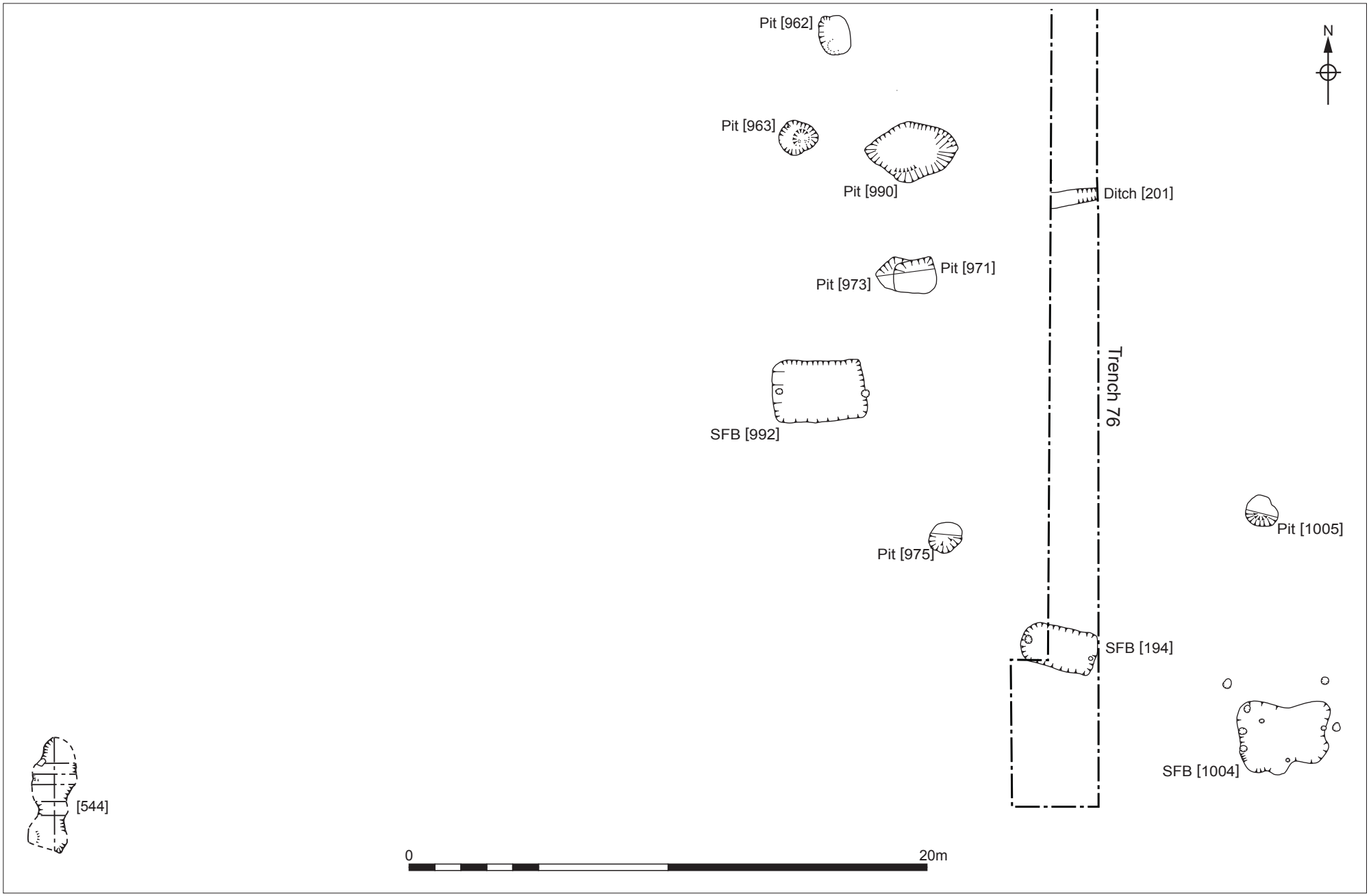


Figure 32. Three Early Saxon SFBs and associated features. Scale 1:200

The homogeneity of the single fill of this SFB, the large size of some of the finds (whole loom weights) and its similarity to the infill of the post-holes suggests the building hollow was infilled following demolition of the structure, rather than the fill being an occupation layer representing the gradual silting up of a sub-floor void. Therefore, the finds recovered within the SFB may at best reflect the activities taking place in the environs of the disused building and may post-date its occupancy. It is not uncommon for the timbers of SFBs to be removed for reuse and the resultant hollow to be subsequently used as a rubbish pit, such as was the case at Spong Hill (Rickett 1995, 54).

In section it is apparent that SFB [194] was truncated by deposit (200), a pale orange-brown, fine, silty sand with rare charcoal flecks and no finds. Although undated, this deposit is likely to be a medieval ploughsoil.

5.14.1.2 SFB [992]

The most easterly SFB [992] was rectangular with rounded corners and oriented approximately east–west (Figure 34). It was 3.8m long, 2.9m wide, approximately 0.15m deep and cut into sand and chalk. There were two post-holes [1003] and [1029] just within the structure, one each at the east and west ends of the building. These post-holes were 0.3 and 0.4m deep, extending below the base of the SFB by about 0.3m. The feature was initially investigated by quarter sectioning and finally 100% excavated.

The fill of the SFB was more complex than SFB [194] (Figure 34). In total four fills were identified. In the western half of the SFB and forming the basal deposit immediately above the chalk was (1001). This deposit was dark orange-brown firm sandy silt, 0.08m thick, with occasional small charcoal fragments. A single sherd of Romano-British pot was found in this deposit, together with 22 sherds of Early Saxon pot, a few fragments of undatable ceramic building material (CBM), and 18 worked, but abraded, flints of mixed date. In total 48 fragments of butchered and chopped animal bone were recorded from this deposit, these included sheep/goat, juvenile and adult pig and a larger proportion of undifferentiated mammal bone some of which had been burnt. Pig was the most common animal bone with sheep/goat making up the remaining material. Two small finds were recovered from this deposit: SF 104 was the tooth plate of a comb from a round- or triangular-backed composite antler comb. Such combs occur in 5th- and 6th-century contexts. This particular example showed striation marks around the teeth indicating the comb had been used, as such it is likely the comb was broken and disposed of, rather than being intentionally buried. SF 129 was a perforated metacarpal from a juvenile sheep or goat. Such objects have been reported from other Early Saxon features, for example at West Stow, but no function has been attributed to them.

There is no evidence for any compacted and trampled floor layers in SFB [992]. The lack of such floors at the base of Early Saxon SFBs is regarded as evidence for suspended wooden floors (Tipper 2004). When the entire SFB had been excavated it became apparent that the basal deposit (1001) only occurred in pockets and hollows in the areas where sand outcropped in between the chalk. The cut base of the SFB, as defined by the relatively flat cut chalk, lay above this deposit. This suggests that where the sand outcropped it was easily disturbed and due to bioturbation (rooting, burrowing) or trampling by people or animals, deposits associated with human occupation were incorporated into sandy sediments below

the base of SFB. It is likely the artefacts and ecofacts recovered from this deposit accumulated during the life of the SFB. Soil micromorphological analysis of deposit (1001) indicates it was essentially subsoil into which fine charred organic matter had been incorporated and is roughly contemporary with the occupation of building.

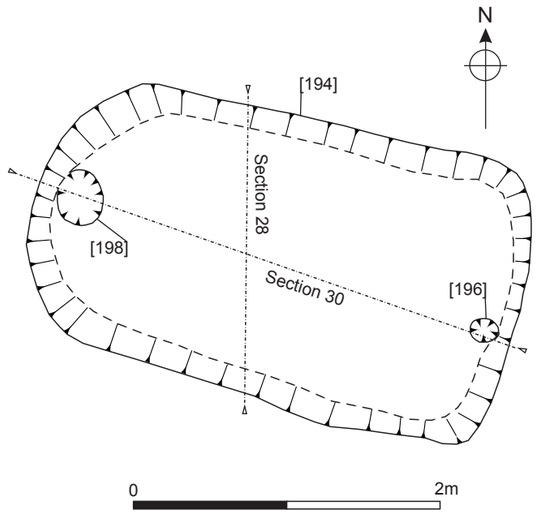
SFB 992 was likely to have had a suspended timber floor and the recovered pottery is considered small enough to drop between the floor boards. Similarly the animal bone and small finds may have also been swept into the void under floor boards and incorporated into the subsoil (1001) by bioturbation. There is no definitive reason to confirm the artefacts were incorporated within the deposit during the life of the building, but one additional line of evidence is the presence of mollusca, which differ slightly from those found in the other fills of the SFB. Four snails were recovered from this deposit representing three species. These include the chrysalis snail, a species which prefers damp places on walls, rocks or wood, the rounded snail, which is also shade loving and is found in leaf litter, buildings and logs, and the moss snail, which is found in grassy dry places. Two of these species suggest a damp, shaded place and it is possible they were living within the building and dropped below the floor boards or had taken shelter below the boards. The moss snail comes from a totally different environment and may simply have been included within the sweepings of the floor, having entered the building from the surrounding grassland. Despite the very low numbers of snails identified, the lack of the tree snail, which was extremely common in the other fills of the SFB, is of interest and may indicate that the origin of (1001) differed from that of the other fills. The tree snail comes from woodland and in a settlement is likely to be derived from either woodpiles and parts of the building where the structural wood has not been stripped of its bark. Remains of the common newt were recovered from (1001) and it has been suggested that the under-floor void of the SFB would have provided suitable daytime cover, feeding area or place for hibernation. Pollen sample <136> from this deposit produced only five grains of grass pollen from which no vegetation reconstruction can be made.

Above deposit (1001) was a possible shallow cut [1002] or simply the base of a dump of a charcoal-rich deposit (993) which lay on a slightly irregular surface. This deposit was only found in the central part of the SFB within a shallow hollow some 0.15m deep and 1m wide (Figure 34). If indeed this was a cut, it is likely to post-date the disuse and abandonment of the SFB and is related to secondary function of the building/hollow. A similar concentration of burnt material within an apparent later cut has been recorded at other SFBs, one example is from Mucking where *Grubenhaus* 126 has a central pit, much like SFB [992] at Bowthorpe, cut through later de-posits (Tipper 2004, 89). In the Mucking example the pit contained an *in situ* hearth but post-dated the use of the SFB and was probably a secondary utilisation of the hollow following abandonment and partial infilling of the SFB. However, soil micromorphological analysis of the charcoal-rich deposit (993) in SFB [992] indicates that, although it is full of charcoal and contains some burnt mineral hearth debris, it was not produced as a result of *in situ* burning and therefore cannot be part of a hearth. Similar dumps of burnt material within bowl-shaped hollows have been recorded at Mucking GH 9 (Tipper 2004, 90). Such a repeated pattern of deposition within disused SFBs suggests a similar secondary use of the SFBs

Deposit (993) is likely to be derived from dumped fire waste and perhaps midden waste. It contained *Pomoideae* charcoal, which includes trees typical of hedgerows (e.g. rowan, whitebeam, hawthorn, apple, crab apple or pear) together with oak charcoal. This deposit contained no plant macrofossils, but frequent charcoal fragments, cokey material, burnt bone, fired clay and small coal fragments were recorded. Relatively few artefacts were recovered from (993) and these included four fragments of Early Saxon pottery (including part of a small globular cup). In total 42 fragments of butchered and chopped animal bone were recorded, these included cattle, sheep/goat, a sub-adult pig, red deer and undifferentiated mammal, some of which had been burnt black. Such burning is caused by burning at low temperatures or for a short period and is likely to be the residues of cooking rather than any other process. Cattle was the most common livestock animal, with pig and sheep also contributing.

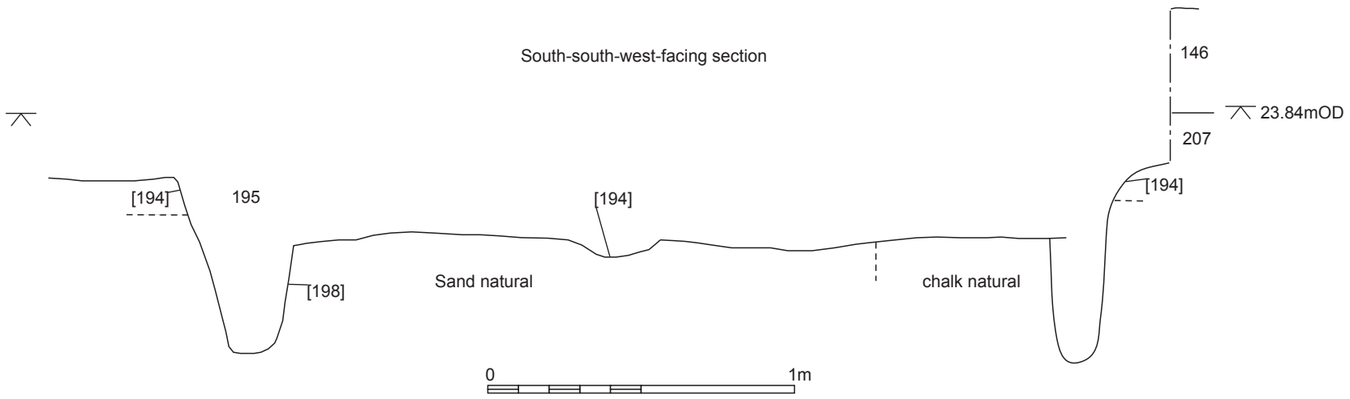
Two potential theories to explain the deposition of burnt material in the bottom of SFBs in hollows or new shallow cuts immediately following the disuse and dismantling of the building are proposed. The first is the secondary use of the hollow left by the SFB to carry out activities which involved burning and to partly bury this material at the bottom of the hollow. Such activities may be part of the general occupation of the hillside or the disposal of waste away from the main area of occupation. Alternatively, and in particular since such a burnt deposit has been recorded at several SFB s of similar date, the burnt material may be the remains of some sort of celebration of the closure of the building in which it is envisaged food was cooked and eaten. Some of the animal bone recovered was burnt at low temperatures and is consistent with cooking waste, while the charcoal is that of hedgerow shrubs and trees, with oak charcoal potentially from burning some of the waste wood from the demolition of the building.

Above (993) and in part sealing it was (996), a mid-brown silty sand, in places mottled with paler brown sand, some 0.04m–0.07m thick. This deposit was located principally on the western side of the SFB and did not extend across the whole feature. It contained occasional small flint and small lumps and fragments of charcoal. In total 17 sherds of Early Saxon pot were recovered from this deposit, together with seven worked flints, four burnt flints, fragments of undifferentiated CBM, burnt stone, animal bone and part of an Early Saxon ceramic spindle whorl (SF127). The animal bone was from chopped and butchered cattle, pig and undifferentiated mammal, with the latter being the most frequent. Only two bone fragments were identified to species, one being cattle the other pig. Some of the smaller bones were recovered from plant macro sample <132>. It is from this sample that the femur of a woodmouse was identified and, although deposit (996) is unlikely to have accumulated below the floor of the SFB, there would have been many suitable habitats in the vicinity of the building or cluster of buildings for the woodmouse. The plant macrofossil from sample <132> contained no identifiable plant remains, but frequent charcoal and other debris from fires. Identifiable charcoal from (996) included hedgerow and woodland trees *Prunus* and oak, and was likely to have been derived from domestic cooking fires. Pollen sample <135> produced only four grains of grass pollen from which no interpretation is possible. The molluscan remains were dominated by the tree snail (10 examples) with two whorl snails. The former were derived from wood, perhaps in a woodpile or even within the timbers of the Saxon buildings, the latter is more typical of open dry areas and may have lived on paths and open areas close to the buildings.

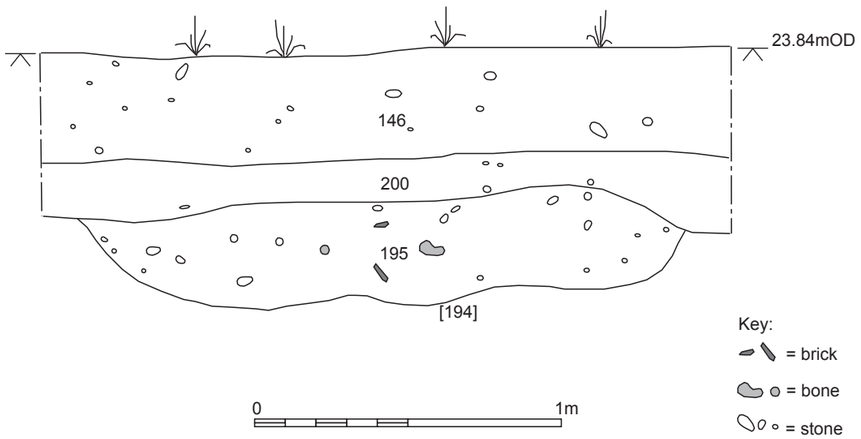


Plan of SFB [194]. Scale 1:40

Photograph of SFB [194], looking north-west.

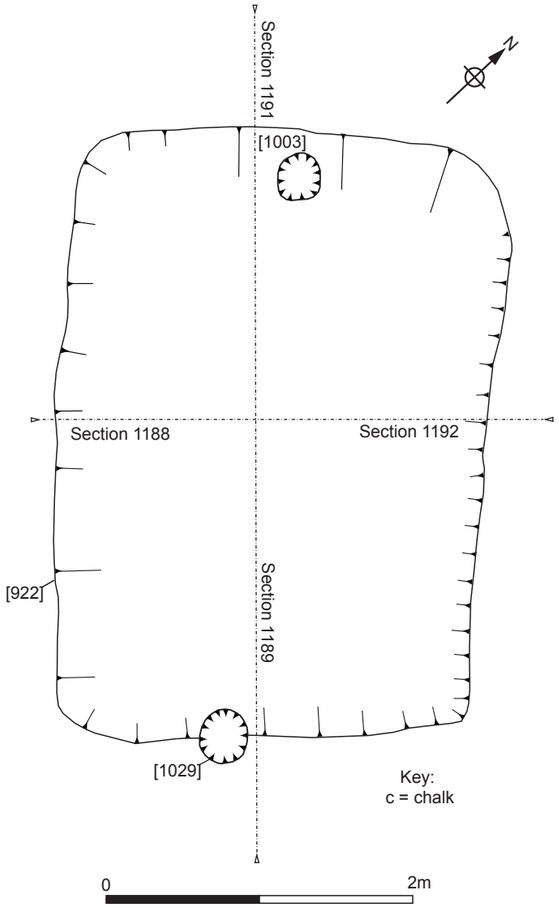


Section 30 of SFB [194]. Scale 1:20



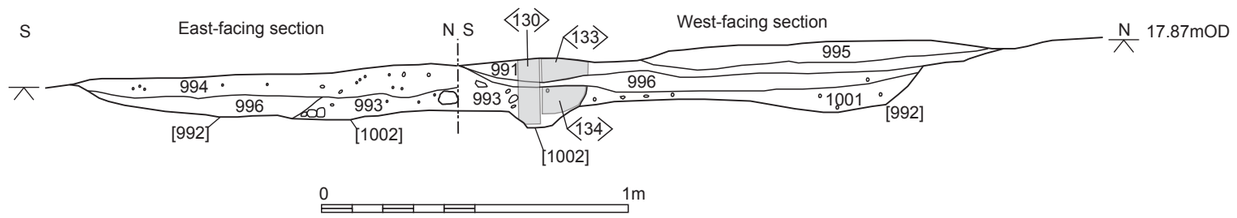
Section 28 of SFB [194]. Scale 1:20

Figure 33. Plan, sections and photograph of SFB [194]

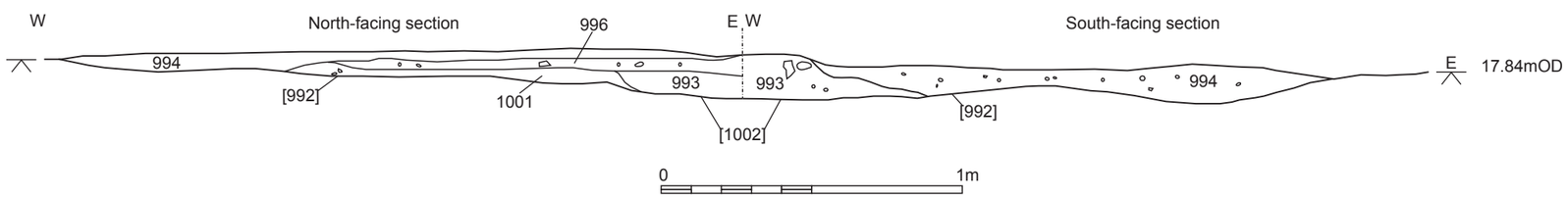


Plan of 1029 of SFB [992]. Scale 1:40

Photograph of SFB [992] looking south-east.

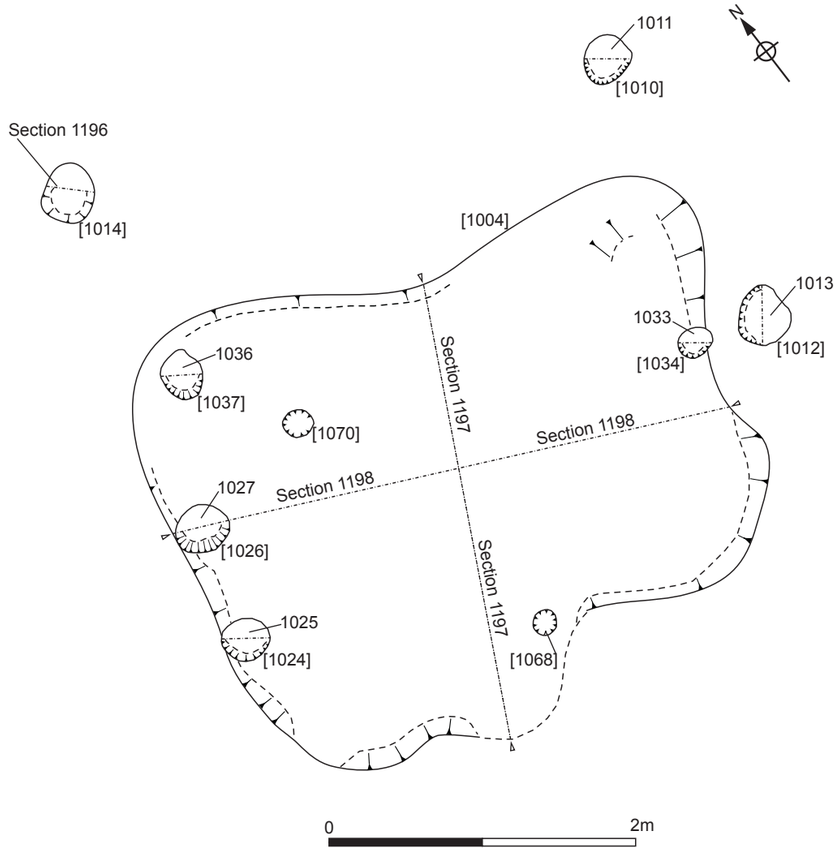


Sections 1188 and 1192 of SFB [992]. Scale 1:20



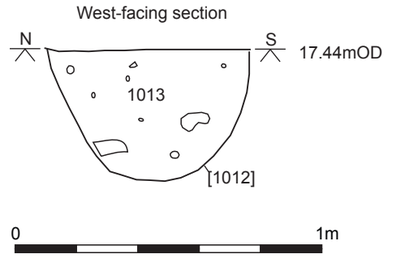
Sections 1189 and 1191 of SFB [992]. Scale 1:20

Figure 34. Plan, sections and photograph of SFB [992].

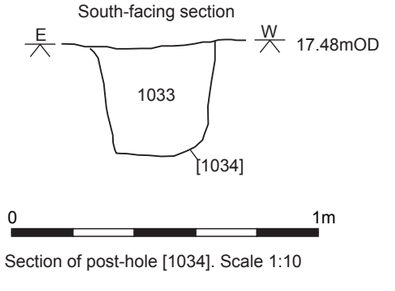


Plan 131 of SFB [1004]. Scale 1:40

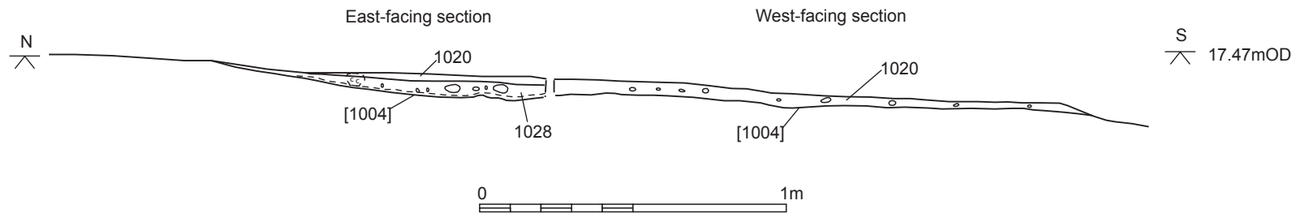
Photograph of SFB [1004] looking north-west.



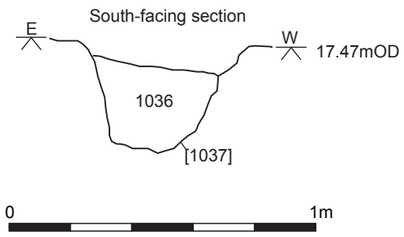
Section of post-hole [1012]. Scale 1:10



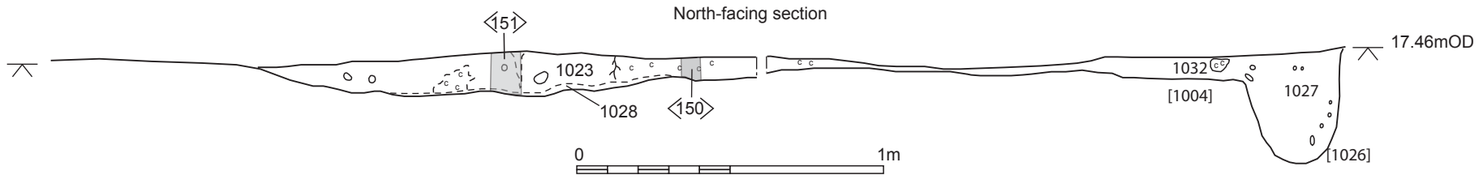
Section of post-hole [1034]. Scale 1:10



Section of SFB [1004]. Scale 1:20



Section of post-hole [1037]. Scale 1:10



Section of SFB [1004] Scale 1:20

Post-holes [1012], [1034] and [1037]. Scale 1:10

Figure 35 Plan, sections, post-holes and photograph of SFB [1004]

The soil micromorphology of deposit (996) indicates it was a sand with trace amounts of anthropogenic material and burned mineral grains and was likely to have accumulated through natural infilling with both washed-in soils and wind-blown sands. The relatively low frequency of finds, together with the micromorphology of the deposit, suggests this deposit naturally accumulated in the hollow left by the demolished SFB. There is also evidence that this deposit was burrowed by worms and calcitic soils introduced from the overlying ploughsoils.

Deposit (996) was sealed by (994), which lay across the entire SFB to a depth of 0.04–0.06m. It was a relatively firm, mid-grey-brown silty sand with a mottle of light brown and occasional rounded or angular flint. It contained fragments of undiagnostic metalworking debris, animal bone, burnt stone, 8 worked flint of mixed date, one sherd of prehistoric pot, one sherd of medieval pot, 14 sherds of Early Saxon pot, unidentifiable larva probably from a quern (SF125) and an Early Saxon buckle recovered from the flots from sample < 131> (SF146). There was a greater proportion of animal bone recovered from this deposit compared with the lower deposits, 62 fragments weighing a total of 0.325g. These were mainly unidentified mammal, but included butchered and chopped adult cattle, sheep/goat and adult pig, indicating mixed husbandry on the site. Twelve of the animal bones were identified to species, of which 41% were cattle, 33% sheep and 25% pig. Sample <131> again contained no plant macrofossils apart from charcoal and burning-related materials with only oak charcoal being recorded. The charcoal was from oak, likely to be used in domestic fires. Pollen sample <133> contained only 2 grains of pollen, both grass. The snails were once again dominated by the wood-loving tree snail, less so by the moss snail from dry open areas around the occupation site, and *Vitrea crystallina* perhaps indicating localised meadows.

The soil micromorphology of (994) indicates it was predominantly a windblown sand and that later burrowing by worms had introduced calcite material, possibly derived from liming of a medieval ploughsoil which sealed the deposit. The recovery of a wide range of finds suggests that in addition to the natural infilling of the SFB by windblown sands, waste material from local occupation was also included, either washed in from local surface dumps or thrown into the hollow as it naturally infilled. The inclusion of a sherd of medieval pot indicates there is some intrusive material probably from the overlying deposit (995).

A small remnant of deposit (995) was recorded lying above (996) at the northern end of the feature. This deposit was a friable mid-orange-brown fine sand with silt and occasional small flints. It was likely to be a more widespread laterally extensive deposit, but only a small patch some 0.06m thick and 1m long remained above SFB [992]. It contained 3 Mesolithic to Early Bronze Age worked flints, 2 burnt flints and a single sherd of Early Saxon pottery. It was similar to deposit (200), recorded truncating SFB [194] in the evaluation. Although neither of these deposits contain medieval artefacts, (995) seals deposit (994) which contains an intrusive sherd of medieval pottery, likely to be derived from (995). Deposits (995) and (200) are likely to be parts of a medieval ploughsoil and have removed the upper deposits of the SFB.

5.14.1.3 SFB [1004]

This SFB was in places highly truncated and differed from the other two SFBs in that it was associated with many post-holes (Figure 35). It was cut into sand and chalk, and had a highly irregular base and complicated edges. There were seven

post-holes surrounding and within this feature, two of which were a little uncertain. Its irregular form and unevenly spaced post-holes may suggest the feature was re-established in the same place or at least some of the post-holes were replaced or added to.

SFB [1004] was 3.3m long, 2.2m wide and a maximum of 0.17m deep, although most of the feature was less than 0.10m deep. It was cut into a dirty cream-coloured, weathered and soliflucted chalk containing rounded flint pebbles with pockets of sand lying within the hollows in its surface. The SFB was quarter-sectioned and finally 100% excavated.

There were three fills, with deposits given different numbers for each quadrant. It is possible that these were all the same deposit, the physical differences being related to their position in the SFB. Sediments overlying chalk had been diagenetically altered, while those at the surface had differentially dried due to exposure following machining.

The lowest fill (1028 (NE quadrant)=1035 (NW quadrant)) was a thin deposit less than 0.01m thick lying above the soliflucted chalk and was only found in the northern half of the SFB. It was only described in the area where the base of the SFB cut the chalky natural. It was a firm silty sand with rare flint pebbles, rare chalk and charcoal flecks. A limited quantity of animal bone was recovered, including the butchered remains of cattle, sheep/goat and undifferentiated mammals. These included the teeth of juvenile and sub-adult cattle and sheep, some of which were burnt. Only four fragments of bone were identified to livestock species and these were 25% cattle and 75% pig. Two sherds of Early Saxon pottery were found in this deposit. A grain of barley was found within sample <158> taken from this deposit.

Lying above deposit (1028)=(1035), and again only present in the northern part of the SFB, was (1023)=(1032), a mid-brown-grey silty sand with rare flint pebbles and occasional charcoal. It was a friable deposit which may be the same as both the deposit below and above. An interesting range of faunal remains was identified from this deposit, including a relatively large amount of butchered animal bone. In total 109 fragments of bone weighing 597g were recovered from (1023)=(1032), including smaller bone fragments from the flot residues of sample <160>. The majority of the bone was butchered and included cattle, sheep, juvenile pig (potentially from an autumn cull) together with roe deer. The latter lived in woodland and open fields. Other interesting animal remains include the remains of a buzzard, a species that was more common in Norfolk in the Saxon period than today and may have even been kept for falconry. Other faunal remains include the wing bone of a jay, together with part of the broken tine of a deer (both recovered from the north-west quadrant of the SFB). Of the total animal bone recovered only nine bones were identifiable to livestock species: 44% cattle, 33% sheep and 22% pig, with many being undifferentiated mammal bones. The remains of both the common toad and common frog in this deposit are likely to be incidental, with either of these species able to live in damp conditions away from water and potentially able to live in the void below the floor of the SFB. Other finds from this deposit include 18 sherds of Early Saxon pottery (undecorated body sherds) and a single intrusive post-medieval sherd, ceramic building material, including a fragment of Roman tile, fired clay and a few pieces of abraded worked flint of mixed date.

A single small find (SF30), a spindle whorl, was found in deposit (1023)=(1032). It was highly burnished and had parallels with the Early Saxon spindle whorls from West Stow (West 1985). A plant macrofossil sample <160> was processed, but the concentration of plant remains was too low to allow any individual discussion of the sample. The charcoal from sample <142> was of oak. Pollen sample <156> from this deposit was the only pollen sample processed from SFB [1004] and produced 55 pollen grains, all of which were grasses, together with several fungal bodies of *Glomus*. *Glomus* is a soil mycorrhizal fungi and is of some significance since this fungus is only found within aerobic bioactive soils (Bagyaraj and Varma 1995). Its presence indicates that part of the fill of this SFB was derived from a bioactive soil. Despite the relatively high frequency of grass pollen the lack of other pollen types indicates the sediment is oxidised and many pollen grains have been lost. Therefore although it is most likely the SFB was set in a pastoral and arable landscape the pollen record does not definitively describe this. Mollusca were identified in this sample and included the chrysalis snail, typical of damp places, the door snail (hedgerows and woods) and tree snail (trees and loose bark). These snails are consistent with the environment below the suspended floor and may have lived within the floor void, although they are equally likely to have lived in woodpiles and have been incorporated into the refuse which finally ended up in the SFB hollow. The most dominant snail, the blind snail, which can burrow up to 2m may be intrusive in this sample. Soil micromorphology and soil chemistry results from this feature were strikingly different from SFB [992]. SFB [1004] contained much higher phosphate and organic matter than SFB [992]. Such elevated values strongly suggest organic enrichment through manure or midden-type deposits. There is no evidence for *in situ* burning in any of the deposits within this feature or that significant quantities of inclusions have been burnt. This suggests that the deposits are derived from manure rather than midden deposits, since midden deposits would be expected to contain greater quantities of burnt material.

Two thin sections were made from the fills of SFB [1004]. Thin section M150 was from close to the centre of the SFB and M151 from near the margin of the hollow. Both of these thin sections were taken through deposit [1023] (with M150 including 10mm of deposit [1019]) and the results were very similar. The sections reveal the deposit that infilled most of the SFB was predominantly weakly to strongly ashy sand with phytoliths and abundant fine charcoal, suggesting much of this burnt material was from the burning of plant-processing waste and/or relict dung. It is possible that either or both the plant-processing waste and the animal dung were being used as fuel (van der Veen 1999). There were many anthropogenic inclusions, including burnt dung, fragmented chalky daub (cob), human coprolites and possible unfired clay loomweight fragments. The sample from closer to the edge of the building (M151) contained a similar range of inclusions, but with reduced ashy content and chalky daub, and more fire-cracked flint and coprolitic material. These differences between the centre and margins of the SFB are likely to be related to differences in dumps of material in the post-abandonment phase rather than a reflection of any activities within the building. It seems likely that deposit (1023) was primarily a dumped midden-type deposit with a much higher proportion of organic and cess material being deposited within the feature compared with SFB [992].

Lying above the main fill (1023) was a thin deposit, allocated context numbers (1016), (1017), (1018) and (1019), and subsequently grouped under (1020). This deposit was similar in physical appearance to (1023), but was firmer and peeled away from the deposit below. This deposit was observed in thin section M150, but was indiscernible from the lower deposit (1023). Initially it was thought that (1020) was in fact a dried-out part of (1023), but the animal bone differs from the deposit below and leads to a different interpretation.

Several sherds of Early Saxon pottery were recovered from (1020), 18 sherds and a 6th–8th-century blue glass bead (SF101) were from (1018) in the north-eastern quadrant. Other finds include a fragment of Roman tile, worked flint and butchered animal bone. The animal bone was predominantly that of butchered juvenile animals, including sheep/goat, cattle and pig, although a much larger proportion of undifferentiated mammal bone was recovered. In total 19 livestock bones were identified which comprised 47% cattle, 37% sheep and 16% pig. Other bone included that of a young pike and the remains of a woodmouse. It is tempting to describe the identifiable assemblage of animal bone from (1020) as a seasonal deposit, probably that of the autumn cull. Such a cull would result in many of the young animals of that year being butchered and either eaten or preserved to save winter fodder. The preponderance of juvenile animal bone in (1020) compared with underlying (1023) indicates there may be some stratification to this deposit which is not discernable in other ways. Charcoal was recovered from this deposit and identified as being from oak and of *Pomoideae* hedgerow trees.

Associated with SFB [1004] were eight post-holes, a ninth [1024] was later decided not to be a post-hole (Figure 35). These included five potentially structural post-holes [1012], [1026], [1010] [1014] and [1037], with three smaller and less significant internal post-holes [1034], [1068] and [1070].

Although not as clear as the other two SFBs, it is likely that SFB [1004] was initially a two-post structure and that post-holes [1026] and [1012] originally contained the opposing gable end posts. Post-hole [1026] was 0.3m wide and 0.37m deep and extended 0.25m below the base of the SFB. It was infilled with a deposit (1027), indistinguishable from (1020), and no finds were recovered from this feature. Its probable partner post-hole [1012] was approximately 0.3m wide but only 0.22m deep. This post-hole contained deposit [1013] and fragments of butchered mammal bone. Within the SFB and sealed by the infill of the hollow were three small post-holes [1034], [1068] and [1070]. All were approximately 0.2m deep and 0.2m wide; sherds of Early Saxon pottery and some butchered and burnt mammal bone were recovered from these features. It is likely these post-holes were infilled following demolition with the same midden material as the main fill of the SFB. No function can be attributed to the post-holes. They may have supported internal divisions within the building or supported structures such a looms, drying racks, etc.

There were three further main post-holes: one [1037] within the SFB hollow on its western side, almost in the corner, and two further substantial post-holes [1010] and [1014] outside the SFB to the north-east and north-west. Post-hole [1010] was 0.3m wide and 0.36m deep, post-hole [1014] was 0.3m wide and 0.3m wide and post-hole [1037] was not as large, being 0.2m wide and 0.15m deep. The only artefact from these three post-holes was a fragment of Romano-British tile in post-hole [1014]. These three posts may be remains of another unrecognised building,

perhaps predating SFB [1004], since the fill of post-hole [1037] is sealed by the fill of SFB [1004]. Alternatively these posts may have formed an original part of SFB [1004], been later replacements for broken posts or, in the case of [1010], may be an extension to the structure.

5.14.2 Other Early Saxon Features

Seven Early Saxon pits and a single short segment of ditch were clustered around the SFBs (Figure 32). The only other Saxon feature within the excavation area lay approximately 50m to the east of the main cluster. This feature [544] was a slightly ambiguous elongated area of sediment lying within an irregular 'cut', which may have been in part a natural gully, but which contained Early Saxon pottery suggesting there may have been a small unidentified pit in this area of colluvium.

5.14.2.1 Pits

Immediately north of SFB [992] was a cluster of fourteen pits, five of which were Early Saxon and may have been contemporary with at least one of the SFBs. These pits include [962], [963], [971], [973], [975], [990] and [1005]. There were other pits in this area, several of which were also likely to be Early Saxon, but which remained undated.

Lying within this northern cluster was pit [963] (Figures 32 and 36). It was found approximately 8m north of SFB [992]. Pit [963] was almost circular, 1.7m long, 1.45m wide and 0.77m deep. It had an irregular to rounded base with almost vertical sides. Its fill (964) was a dark brown silty sand with occasional sub-angular to rounded flint pebbles and occasional charcoal flecks. In total 18 sherds of pottery were found, 16 undecorated Early Saxon body and rim sherds, together with a one Romano-British sherd and one small intrusive medieval sherd. Sample <114> was processed for plant macrofossils, but contained only abundant finely divided charcoal, bone, black tarry material, intrusive coal fragments and small fragments of undifferentiated mammal bone. A range of mollusca was identified in this sample. The most common was the tree snail together with the moss snail, rounded snail and single individuals of *Retinella radiatula* and the chrysalis snail. Most of these species of snail indicate the presence of shade provided by wood, some preferring dry environments. Other snails, such as the chrysalis snail, prefer damp woody environments. Such environments may be found around buildings and areas of occupation, and particularly in woodpiles. The exception is the moss snail, which lives in open dry grassland, perhaps indicating the presence of pasture. Other finds from this deposit include two fragments of butchered pig bone. Two pieces of probable Roman floor tile were also found. A large number of worked flints (52), many of which were probably late prehistoric. The flint was battered and it is suggested much may have been derived from a ploughsoil used to backfill the pit. Three burnt flints of unknown date were also found. It is possible, but not certain, that this was a rubbish pit associated with the Early Saxon occupants.

Pit [971] was also within the northern cluster and was lay within 4m of SFB [992] and 5m to the south-east of pit [963] (Figures 32 and 37). It cut Early Saxon pit [973]. Pit [971] was 1.7m long, 1.5m wide and 0.22m deep. It was a squared oval with a flat base and sloping sides. It was filled with (972), a yellow-brown sandy silt with frequent fractured sub-angular and sub-rounded flint cobbles. Three undatable worked flint were found in this deposit. This pit cut a smaller pit [973],

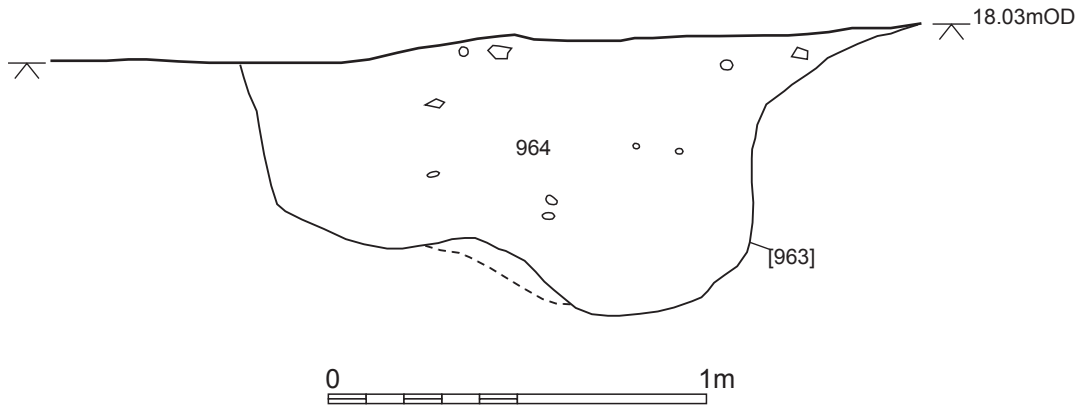


Figure 36. Section of pit [963]. Scale 1:20

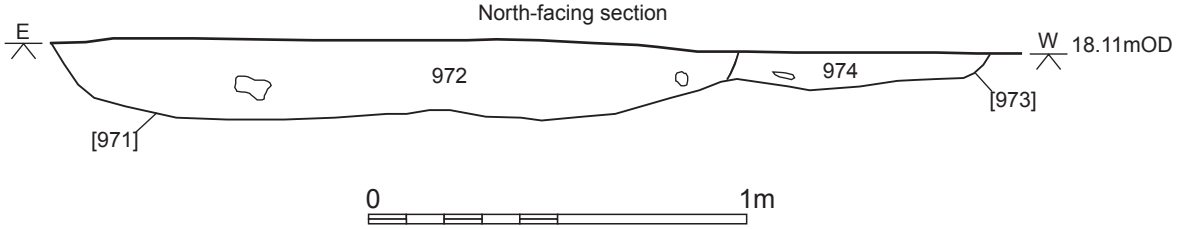


Figure 37. Section of pits [971] and [973]. Scale 1:20

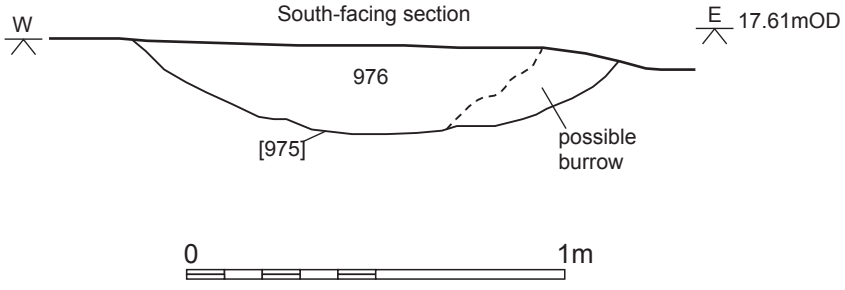


Figure 38. Section of pit [975]. Scale 1:20

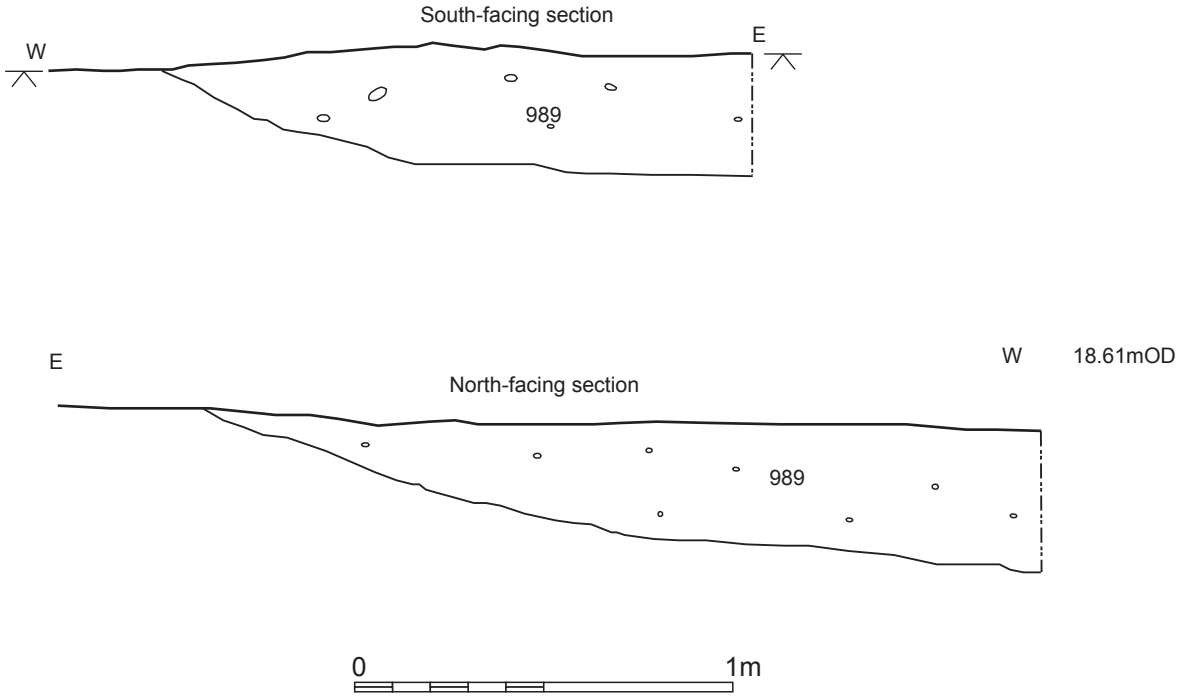


Figure 39. Sections of pit [990]. Scale 1:20

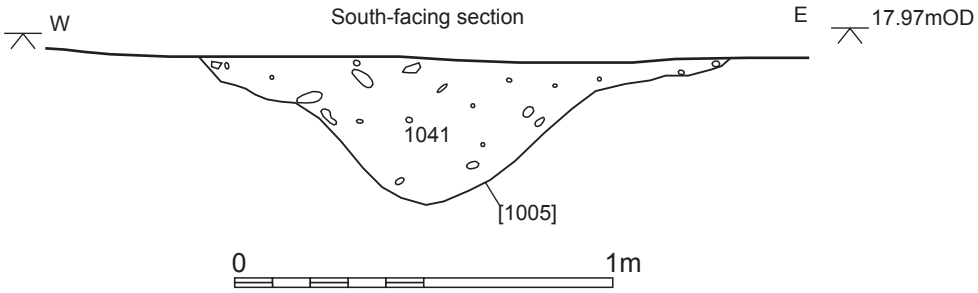


Figure 40. Section of pit [1005]. Scale 1:20

which was oval, 1.25m long and 0.1m deep (Figures 32 and 37). It had a flat base and its fill (974) was a mid-brown sandy silt and contained frequent sub-angular and sub-rounded flint cobbles, together with smaller flints. The finds included a single sherd of Early Saxon pottery, a fragment of Roman tile (probably tegula), an Iron Nail and a piece of burnt and shattered micaceous sandstone. This Early Saxon pit was cut by Pit [971].

Pit [975] was sub-circular, 1.5m wide and 0.29m deep with a concave bowl-shaped base and steeply sloping sides (Figures 32 and 38). It contained a single fill (976), which was a mid-grey-brown silty sand with occasional charcoal flecks and flint pebbles. There was some evidence for animal burrowing at the margin of this feature which had introduced a sherd of 19th-century pottery. Other finds included three residual worked flints of mixed dates and two sherds of undecorated Early Saxon pottery.

Also within this cluster of pits was a larger pit [990], located some 8m north-east of SFB [992] (Figures 32 and 39). It was an irregular oval, some 4.10m long and 2.8m wide, had gently sloping sides and a flat base. It was filled with (989), a mid- to dark orange-brown silty sand with occasional flint cobbles, together with shattered burnt flint, fine charcoal fragments and moderate number of finds.

In total 37 sherds of pottery were recovered from this feature, of which two sherds were residual prehistoric pottery. There were also eight sherds of Romano-British sandy grey ware, which were either residual or had been selected by the Saxon people from Romano-British sites and disposed of in what appears to be a rubbish pit. Also found were 25 sherds of undecorated body and rim sherds of Early Saxon pottery. Six fragments of Roman tile were found, again likely to have been reclaimed and reused from Roman sites. There was a large assemblage (77 pieces) of very abraded worked flint in this deposit, including two retouched end scrapers, but the assemblage was probably later prehistoric and derived from the ploughsoil and colluvium used to fill the pit. Nineteen fragments of butchered cattle and undifferentiated mammal bone, including some burnt pieces, were also recovered. A cylindrical glass bead (SF106; Plate 19) was also found, it had a roughly rectangular section and is similar to five from the late 5th/6th-century Early Saxon cemetery at West Stow (Evison and Cooper 1985, 74, fig. 275, 28). A single sample <169> contained mostly tree snails together with single individuals of blind snail, rounded snail and *Retinella radiatula*. The blind snail and rounded snail would be derived from shaded places and are associated with trees, bark, moss and stones, and are often found near buildings. The plant macrofossils from this sample included a single undifferentiated cereal grain, frequent charcoal, burnt bone, black cokey material and the ubiquitous intrusive coal fragments. All of the finds and the nature of the fill of this feature are consistent with general domestic debris and it is likely that this was a rubbish pit.

Pit [1005] was sub-circular, 1.5m wide and 0.4m deep (Figures 32 and 40). It had a slightly stepped margin with the upper part being gently sloping and the lower part more steeply sloping. It was filled with a mid-grey-brown silty sand with sub-rounded flint gravel (1041). It contained three small sherds of undecorated Early Saxon pottery, a fragment of cattle tooth and eight worked flints of mixed date. All were residual from the soil used to fill the pit.

A further eight pits, some of which were intercutting and were similar to these features, lay in the same cluster, but contained no dating material. It is thought that

they are also likely to be Early Saxon. The function of these pits with relatively sterile, soil-based fills is unknown.

Plate 7. Flint and charcoal-rich pit [962].

5.14.2.2 Pits with Burnt Fills

A distinctly different deposit was recorded in pit [962]. This deposit was rich in charcoal and burnt flint. Another undated pit [966] was also filled with a charcoal-rich fill, but not burnt flints. It has not been included in the following description however, since it remained undated and there is a possibility it is prehistoric.

Pit [962] was filled with burnt flint (Figures 32 and 41; Plate 7). It was the only Saxon feature which was radiocarbon dated and produced two Early Saxon AMS dates which were almost identical. The pit was oval, 1.8m long, 1.4m wide and 0.3m deep. It was cut partly into chalky till and partly into colluvial sand (953). It had sloping concave sides at the end where it cut the sand and was vertical sided at the end where it cut the chalk. The base was flat to gently concave over the sand becoming more uneven where the pit cut the chalk. The colluvial sand was not specifically dated, but much of it is likely to be later prehistoric.

The pit contained four fills, all of which lay horizontally and extended from one side to the other with almost uniform thickness. The basal fill was (968), 0.12m of a brownish-yellow silty sand with patches of highly concentrated charcoal containing very small fragments of burnt flint, together with larger spreads of burnt flint and discrete patches of clean redeposited natural. Two late prehistoric worked flints were recovered from this deposit. Two samples <177> and <118> were taken, although only sample <118> was analysed. It contained no plant macrofossils, but charcoal analysis revealed the use of hedgerow, woodland and scrub species (*Pomoideae*, *Quercus* and *Ulex/Cytisus*). A single mollusc shell of the blind snail, a burrowing intrusive species, from which no ecological affinities can be described was identified. Since the sand and chalky deposits into which the pit was cut show no signs of being reddened by heat it is thought that the burning did not take place within the pit itself, but in another location. It is envisaged that deposit (968) was derived from a fire set away from the pit and the lower deposits of the fire or burnt mound were rapidly shovelled into the pit thus incorporating discrete patches of charcoal and burnt flint with lumps of the clean underlying sand.

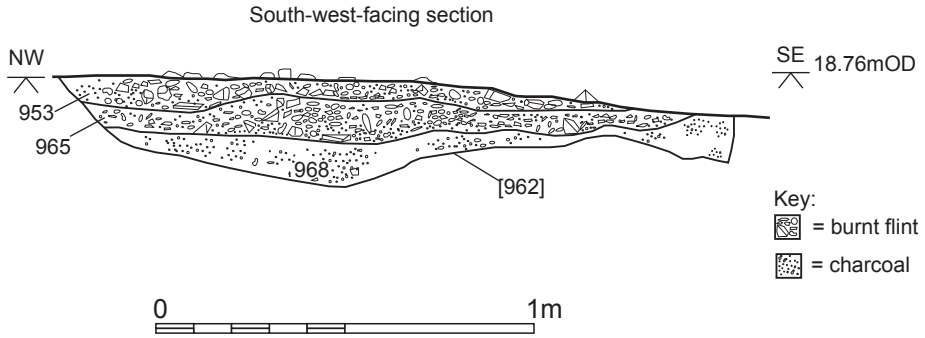


Figure 41. Section of pit [962]. Scale 1:20.

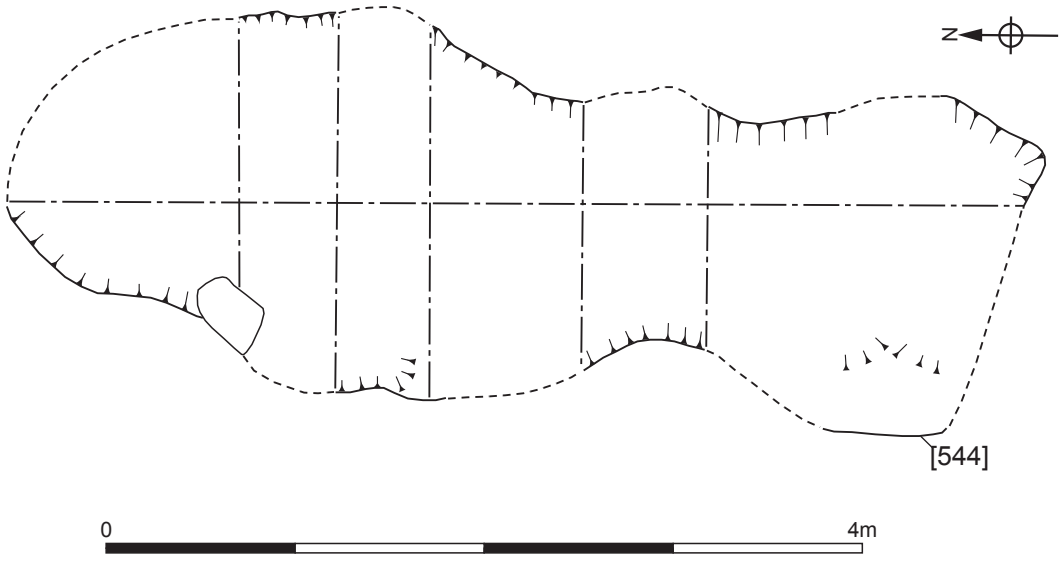


Figure 42. Plan of pit [544]. Scale 1:40

Above (968) was (965), a very dark grey deposit some 0.13m thick. It was composed of burnt and shattered flint in a black charcoal matrix with a small amount of sand. Some of the charcoal was found in large fragments up to 60mm long. No finds were recovered from this deposit, but four samples were taken, <116>, <117>, <175> and <178>. Samples <175> and <178> were not analysed and no plant macros were found in sample <117>. The only finds in sample <117> were 11 tree snails, typical of woodland, hedgerows and bark, and likely to have been derived from firewood. Charcoal was identified in sample <116> and included fast-grown roundwood of oak, together with hawthorn/*Sorbus* and gorse or broom. The most frequent charcoal identified was the hawthorn/*Sorbus* (21g) suggesting much of the wood used was derived from hedgerows, perhaps even the trimming of stock hedges. A pair of AMS radiocarbon dates was obtained from two different charcoal types within this deposit. A sample from hawthorn/*Sorbus* (*Pomoideae*) charcoal produced a calibrated AMS date Cal AD 420 to 610 (Cal BP 1530 to 1340) giving a conventional radiocarbon age of 1540±40 BP (Beta 243332; 2 sigma calibration). A sample from a sample of Ulex/Cytisus charcoal produced a calibrated AMS date of Cal AD 420 to 600 (Cal BP 1530 to 1350) giving a conventional radiocarbon age of 1550±40 BP (Beta 243333; 2 sigma calibration).

Above (965) was a further flint-rich deposit (951). Fill (951) was a maximum of 0.1m thick and contained a greater frequency of large burnt flints compared with deposit (965), but similarly they were found within a matrix of charcoal-rich sand. The only artefact from this deposit was a single undatable flint core. A single sample <148> contained no plant macrofossils, mollusca or identifiable charcoal.

In pit [962] there was no evidence that the charcoal and fire-cracked flints had been produced within the pit, that is there was no reddening of the surrounding sands and the molluscs were not burnt. Therefore, it is envisaged that these charcoal and flint sediments were deposited in this pit from the site where they were burnt. The pit was found within a few metres of the SFBs and is likely to be associated with domestic activity. The horizontal nature of the infilling of pit [962], together with the inclusion of lumps of clean natural in the lower deposit (968), suggest this pit was carefully and rapidly infilled. The lack of mixing suggests this redeposition represents a single event, or three closely related phases of deposition, with a clear intention to bury the products of the fire which produced the charcoal and fire-cracked flints. If the charcoal and hot burnt flint were still hot when placed within the pit then it may have been a cooking pit. Food would have been placed above the mass of hot flints, sealed by leaves and turves, and later dug out and removed. It is possible, given the size of the pit, that a whole carcass may have been cooked in this way.

Alternatively the nature of the fills might suggest that the fire which produced the fire-cracked flints was being replicated in the pit, with the lowest deposits of the fire being placed within the pit first, followed by the middle deposits with the greater frequency of charcoal and small flints, with the larger burnt flints from the top of the fire/burnt mound placed in the top of the pit. Such apparent attention to this ordering and the care in which each layer was deposited suggests that this pit and its contents held a very specific meaning to those who constructed it. Indeed it has characteristics which are frequently associated with prehistoric pits, such as structured and placed deposits which fulfilled a specific ritualised function.

Similar pits containing high concentrations of burnt flint have been recorded in other Early Saxon sites in East Anglia and Lincolnshire, for example at Kilverstone near Thetford (Garrow *et al*. 2006), Redcastle Furze, Thetford (Andrews 1995), and Dowesby, near Bourne, Lincolnshire (Crowson *et al*. 2005). It is notable, however, they are not recorded at every Early Saxon site and were not found at, for example, West Stow (West 1985) or at Brandon Road, Thetford (Atkins and Connor 2002). At Buxton with Lammas, Norfolk, 38 similar shallow pits containing large amounts of charcoal were excavated (Patten 2004; Bishop 2005). A radiocarbon date from one of these features produced a Middle Saxon date. As in this example at Bowthorpe, there was a lack of cultural material in these pits which, together with the fact they were not found in association with any evidence of occupation or settlement, led to the conclusion that they were produced as a result of an industrial process such as small-scale charcoal burning.

At Kilverstone seven such pits containing large amounts of burnt flint and charcoal were excavated (Garrow *et al*. 2006). They were dated to the Saxon period by their stratigraphic position, since they contained almost no artefacts except rare sherds of Roman pot and residual worked flint. They were located away from evidence for occupation and were found in a loose scatter. The Kilverstone pits were a similar size and form to pit [962] at Bowthorpe, being oval, steep sided, flat bottomed and on average 1.4m wide and 0.5m deep. A striking similarity is the sequence of deposits noted in five of the Kilverstone pits, with a lower charcoal-rich fill followed by a burnt flint and charcoal with sand and silt layer and in most cases a further sealing layer. All of these Kilverstone pits exhibited burnt sides, indicating some burning had taken place within the pits. The function of these pits at Kilverstone remains unexplained, with the reddened sides of the pits suggesting the possibility that the flint was being burnt *in situ*, but it was acknowledged there would have been a problem in getting enough oxygen into the base of the pits in order to keep the fire alight. Other functions, including the possibility they were cooking pits or the result of an unknown industrial process, were also considered.

Two other Early Saxon examples (dated by sherds of pottery in each pit) have been excavated at Hoe Hills, Dowesby, Lincolnshire (Crowson *et al*. 2005, 58). At this site two 1m by 1m pits were found filled with large burnt stones and, in one pit, frequent charcoal. These pits were found close to and in one case cutting the ploughed-out remains of a Bronze Age barrow. They were found close to two post-built dwellings and have been interpreted as cooking pits, with heated cobbles having being placed within a pit and the food placed above. In Lincolnshire such pits have previously been described as being used on special occasions, such as communal feasts, when large amounts of food were prepared.

5.14.2.3 Other Features

A short section of gully [201] was recorded in the evaluation trench some 20m to the north of SFB [194] (Figure 32). This ditch was shallow, being 0.15m deep and 0.5m wide, it was oriented east–west and was found across the width of the 1.75m wide trench. The fill (202) was a mid-grey silty sand with evidence for *in situ* burning. Six fragments of Early Saxon pottery, likely to be 5th century, were found together with the butchered remains of pig, cattle and a small quantity of Roman brick and tile.

Unfortunately this gully was not located in the excavation area, probably due to its shallow depth. Therefore, it is uncertain if this gully formed a shallow boundary

ditch. If would have been unusual if it were a boundary ditch for the settlement, since settlements of this date are usually found without enclosing ditches. The presence of pottery and bone indicates the proximity of occupation to the ditch and it is possible this ditch may have formed a small animal enclosure within a farmyard with domestic refuse being thrown into it. Alternatively, it could have had a structural function, perhaps as a beam slot.

An uncertain pit-like feature [544] was the only Saxon feature identified away from the main cluster (Figures 32 and 42). Feature [544] was found 50–60m to the south-west of the SFBs. It had an irregular elongated form some 5.4m long and 2m wide, with an undulating base cut into the chalk, and was 0.2m deep. The fill (545) was a light to mid-brown silty sand, much like the colluvium that blanketed the site. Compared with most of the pits excavated it contained a relatively large number of finds: three sherds of Romano-British pottery, 28 sherds and 12 fragments of undecorated Early Saxon pottery, 32 fragments of butchered cattle, sheep/goat, deer, undifferentiated mammal bone, and three late worked flints. All of these finds, with the exception of the building material, were found near the base of the feature in a concentrated area. It is likely that within this slightly nebulous feature was a discrete Saxon pit, but subsequent plough damage and bioturbation have made it difficult to identify. It is possible that this feature was protected by the chalk into which it was cut and may indicate the settlement was larger than the remains found in this excavation, ploughing and slope-wash having caused other features to have been lost.

5.14.2.4 Unstratified Finds

Unstratified finds from this period include a miniature cup (Plate 9) which was found in cleaning after machining. The cup is not closely datable, but is possibly derived from SFB [192]. The cup is a crudely made thumb-pot of organic and red grog-tempered fabric and has an applied handle. Such an object may be a child's toy, practice piece or possibly a votive piece. Unfortunately it is not possible to attribute a function to this piece, but two such small cups were recorded from the fills of two separate SFBs at Mucking (Hamerow 1993, fig. 154, GH145, 2; fig. 174, GH190, 3). Another example was found during excavations of the Early Saxon cemetery at Caistor by Norwich (Myers 1977, fig. 74, 1801).

One other object, a bone pin beater (SF105), is of a type known throughout the Roman and Anglo-Saxon periods (MacGregor 1985, 189). It was recovered during surface cleaning of the site (1095) in the vicinity of SFB [194]. The presence of a pin beater found close to an SFB suggests that the building might have been associated with weaving during the Early Saxon period.

5.14.2.5 Discussion

There is no clear evidence for any post-built structures at Bowthorpe and the presence of three SFBs suggests that they were being used as dwellings as well for other activities, such as weaving. A similar situation was observed at Redcastle Furze, Thetford (Andrews 1995), Aldeby (Trimble 2001) and Snetterton (Robertson 2004). Two of the SFBs, [194] and [992], are two-post structures of West's Type A (West 1985) and are the most common type of SFB to be identified at Early Saxon sites. SFB [1004] is less clear, but is likely to have also been a two-post structure which was repaired with additional posts. It is also possible that these posts represent a later post-built structure constructed over the site of an

earlier structure. Finds within the SFBs are typical of such structures, with weaving equipment found in all three, together with domestic refuse. The three SFBs were probably constructed at different times or at least demolished at different times.

Soil micromorphology suggests that SFB [992] was infilled on a greenfield site and that SFB [1004] was infilled on more developed settlement. No similar evidence was available for SFB [194], but the proportions of cattle bone from SFB [992] and SFB [194] are similar, suggesting the same phase of activity and possible date. However, SFB [194] contained the only decorated sherds on the site and it has been suggested that this building was constructed and infilled at a time of greater prosperity. Therefore, it is possible that SFB [194] and SFB [992] were contemporary, although with an apparent difference in status between the two buildings, with SFB [1004] having been constructed and demolished in a later phase. It is likely, given the suggestion that SFB [1004] was established on a more established site, that other coexistent structures have been ploughed away.

Apart from a short section of ditch, no evidence for a boundary ditch was recorded on the site, the lack of which is typical for an Early Saxon site. It is possible the ditch segment recorded may have been part of an animal enclosure.

All the pits are clustered around the SFB buildings and therefore must have been closely associated with the activities of the people in the buildings. With the exception of pits [963] and [990], which appear to have been rubbish pits and have infilled in a similar way to the SFBs, the pits with more sterile soil-based fills have no clear function. This is typical of many Saxon sites where scatters of pits with an unknown function have been described, for example West Stow (West 1985). The flatter-based rectangular features at West Stow, Mucking (Hamerow 1993) and Melford Meadows (Mudd 2002) have been identified as storage pits, with some evidence for lining evident at West Stow and Mucking. Similar features at Bowthorpe include pits [971] and [973] which, despite no evidence for any lining, may have a similar origin. Charcoal and burnt flint filled pit [962] has similarities with the sub-rectangular 'cooking' pits found at Redcastle Furze (Andrews 1995), which also have a similar shape to the lined storage pits identified at West Stow (West 1985) and Melford Meadows (Mudd 2002). Other pits with a more bowl-like profile and filled with a sterile soil, such as [975] and [1005], have parallels on other Early Saxon sites and the function of such pits remains unknown.

In summary, the Early Saxon occupation of this area of the valley was limited to perhaps one or two small dwellings. There was no evidence of any other associated post-built structures. Despite the lack of field boundaries contemporary with these buildings it is most likely that they formed the buildings of a small pastoral farm. Pigs and chickens were likely to have been reared close to the houses and surrounding fields were grazed by a mixture of cattle and sheep although there is some evidence to suggest that during latter occupation of the site sheep numbers increased. The soils were light and poor, being susceptible to wind erosion, therefore by the Saxon period it is thought that little arable activity was being carried out. The presence of charred remains of gorse or broom dating from the Early and Middle Saxon periods found intrusively within the fills of two Early Neolithic pits indicates that the soils were particular poor at this time. A similar small cluster of Early Saxon SFBs was recorded some 500m to the west (Trimble 2004), perhaps representing an adjacent farm, suggesting that on poor soils, even on south-facing valley sides, Early Saxon farming was impoverished.

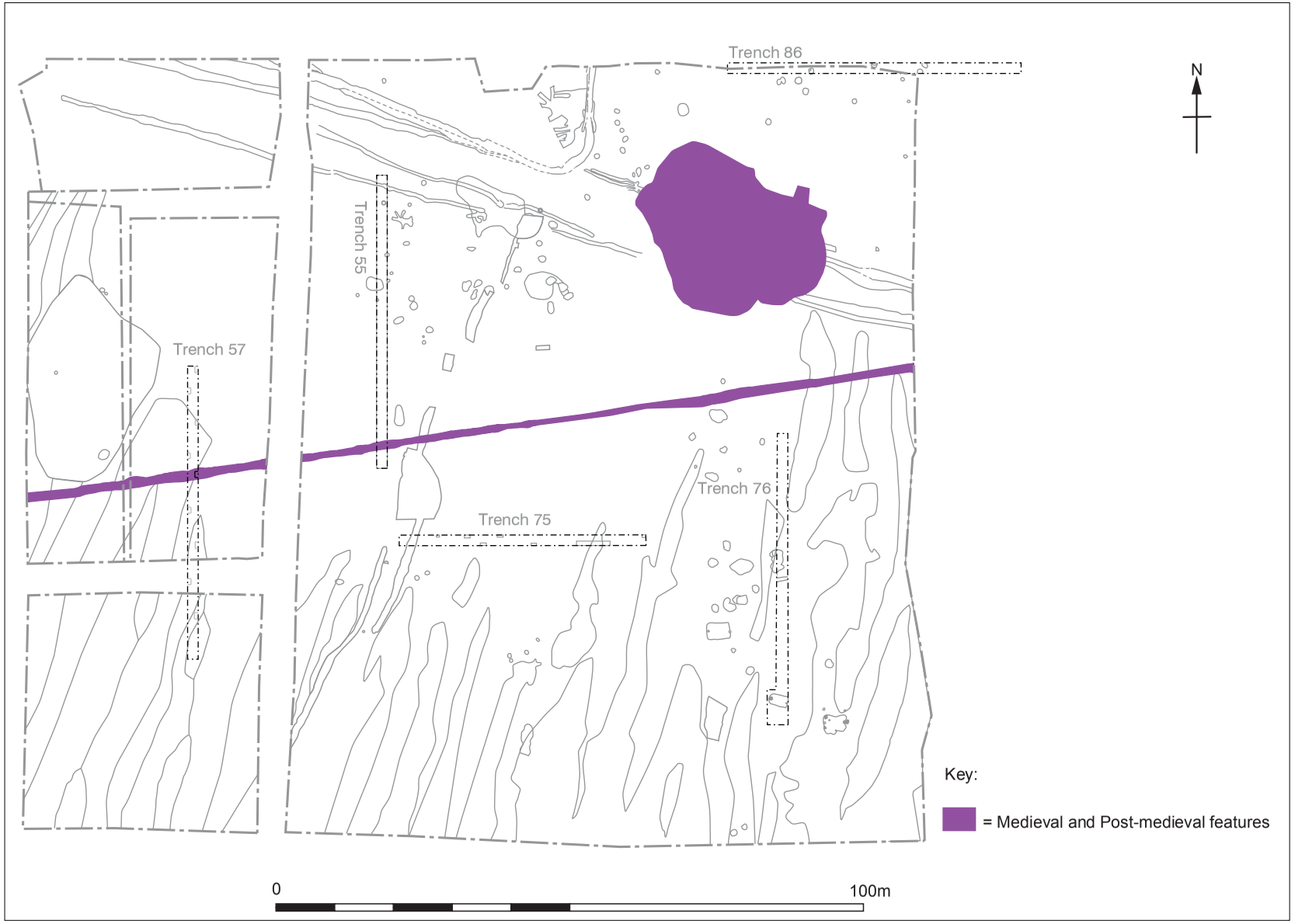


Figure 43. Medieval and Post-medieval features. Scale 1:1.000

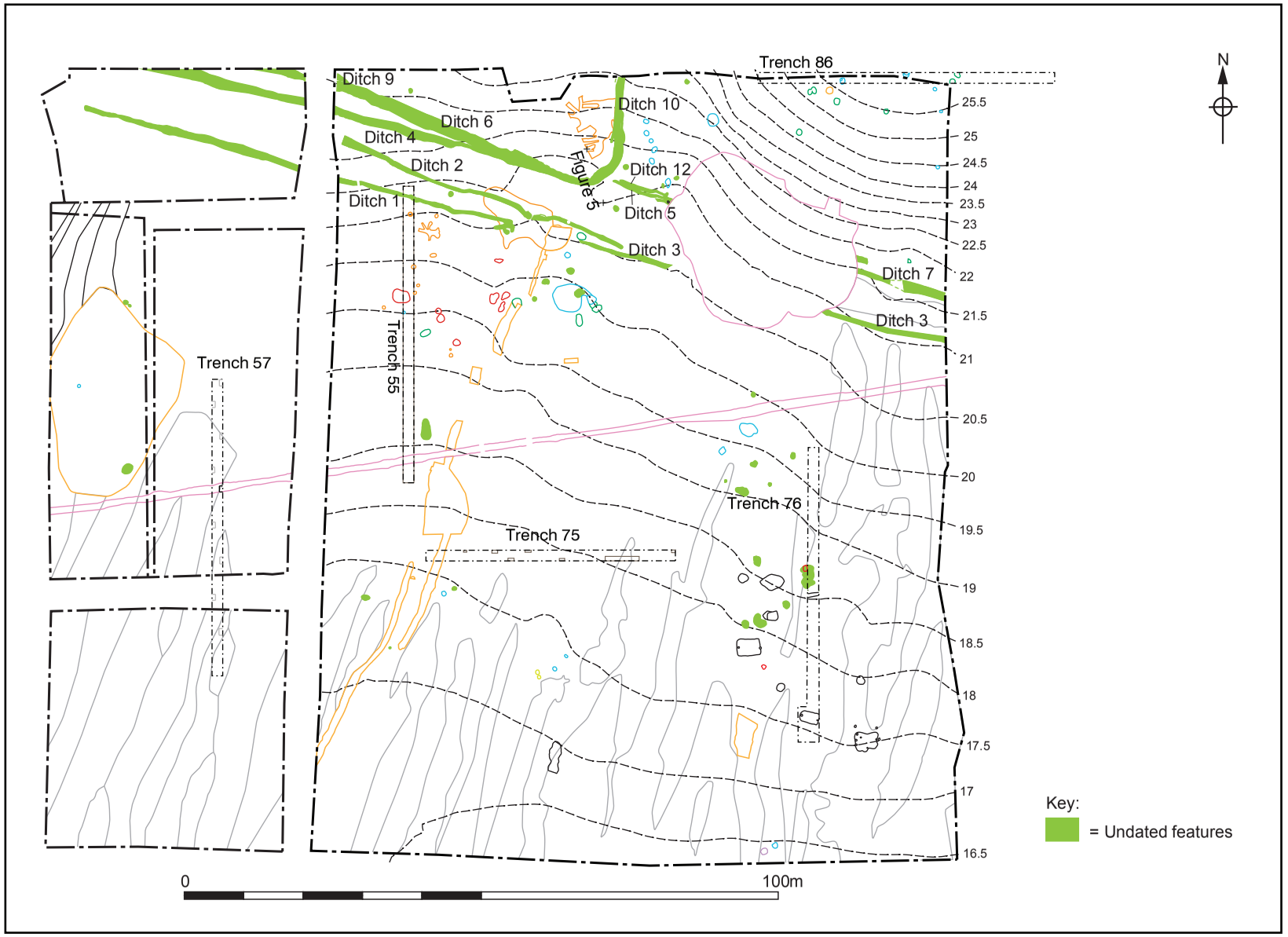


Figure 44. Plan of all Undated features. Scale 1:1000

5.15 Medieval and Post-medieval

No medieval cut features were observed on the site and there was a paucity of medieval finds (Figure 43). Only eleven medieval metal objects were found. There is, however, some evidence for a possible medieval ploughsoil. Deposits (200) and (995) both sealed SFBs and were pale orange-brown silty fine sands with rare charcoal flecks and were a maximum of 0.2m deep (Figures 33 and 34). Deposit (200) was found 0.55m below the modern surface and had 0.35m of modern ploughsoil above it. No finds were recovered from (200) and three flints and a sherd of Early Saxon pottery were found in (995). Although neither of these deposits contain medieval artefacts, (995) sealed deposit (994) which contained an intrusive sherd of medieval pottery, likely to be from (995). Deposits (995) and (200) are likely to be part of a medieval ploughsoil and ploughing would seem to have removed the upper deposits of the SFBs.

It is likely that the medieval activity was agricultural and that arable cultivation was short lived, with limited manuring of the site. This would explains the small number of medieval finds even within the soils. It is envisaged the site was utilised for pastoral activities during most of this period.

The metal finds from the later soils were dominated by post-medieval incidental losses, such as a 16th–18th-century lead toy horse (SF133), and artefacts associated with cultivation, such as horseshoes (SF131). These metal finds indicate a limited post-medieval exploitation of the site.

A single long east–west ditch (Ditch 8) crossing the site was dated to the post-medieval period by the fragments of building material it contained. There are several intercutting, medium to large, post-medieval quarry pits to the north-east of the site. The bases of these pits were not reached during the excavation and the backfill contained a single sherd of 17th–18th-century Glazed Red Earthenware. Other quarries were observed across the hillside during the evaluation, with at least one very deep quarry still visible as an open hole.

5.16 Modern

The only modern deposit observed during the excavation was the topsoil, which had been ploughed within the last 10–20 years. Local people described the site as being pasture until a short period of ploughing occurred in the 1980s.

5.17 Undated

A series of ditches was identified to the north of the site (Figure 44). Most were recut at least once, resulting in 13 identifiable ditch elements, some of which may be part of the same ditch. An example of recutting is shown in Figure 45, where Ditch 6 is composed of two ditch cuts, segments [711] and [783], which are found intercutting Ditch 4 segment [781] (Figure 45). Ditch 6 segment [711] was 0.5m deep and possibly 2m wide, with a U-shaped base and one observable sloping side. A further cut or recut [783] was similar in size and slightly deeper (0.6m deep and a minimum of 0.6m wide). It is probable that both of these ditches were steeper on their southern side than their northern side. As with all the ditches in this area, they were filled with a sterile, sandy deposit and rarely contained dating evidence, making stratigraphic relationships difficult to determine. Unfortunately, the few artefacts recovered from these features were of conflicting date, these

include prehistoric worked flint and sherds of Romano-British, Early Saxon and even medieval pottery, therefore the features remain undated. It is possible that some of the artefacts were residual from earlier deposits and some were intrusive and introduced from later deposits. Most of these ditches were, however, sealed below a maximum of 1m thickness of colluvium and are likely to be of a relatively early date.

A segment of ditch downslope from Neolithic Pit Cluster 1 was sealed by colluvial deposits containing 18 fragments of worked flint, some of which are of Neolithic character. This suggests that large-scale colluviation commenced following the disuse of the ditch. If the ditch is of a late date then the erosion which redeposited exclusively Neolithic and undated prehistoric flint must have affected only Neolithic and prehistoric features. Alternatively, and more likely, the ditch may in fact be prehistoric.

It is notable, however, that most of the ditches share the NW–SE alignment of the Romano-British ditches observed at other sites in the locality (Percival 2004; Trimble 2004). Therefore it is likely that they are, at least in part, Romano-British. The present ditches, despite having been recut on many occasions, appear to represent two distinct phases of ditch-digging, although it is uncertain which phase came first. One phase seems to have involved the cutting of an enclosure ditch (Ditch 10) of which only two sides are visible in the excavated area (Figure 46). One side was oriented NNW–SSE, with a second arm returning at right angles to this ditch and oriented NNE. Unfortunately, no part of this probable enclosure was observed in the evaluation trenches to the north. This ditch was recut on several occasions, one cut resulted in a shallow ditch [1045] (0.55m deep and 0.6m wide), the other was a larger feature [1047] (some 0.65m deep and 1.5m wide) (Figure 46). Both were filled with a sterile mid-brown silty sand with iron-rich laminae. The iron laminae may have been encouraged by water running through the ditches or, as is more likely in this case, the result of organic material within the sediments of the ditches encouraging podzolisation. There is no indication as to the function of the probable enclosure, but it was possibly part of a field system.

Immediately to the south, lying parallel and in part in the same position as the southern arm of the enclosure, were two undated ditches. These ditches are likely to be boundary ditches for a 7m wide track or droveway. In both cases, there is no evidence for the track itself, and it is inferred from the position of the ditches. The northernmost of these two ditches was only recorded in short fragments and this single ditch is likely to be represented by Ditches 9, 5 and 12 (the latter two being recuts of the same ditch) and Ditch 7 to the east end of site. They were reasonably shallow features, being approximately 0.2m deep with a shallow concave profile and infilled with a sterile mid-grey-brown silty sand. The fills were imperceptible from the fills of the ‘enclosure’ ditch so were not observed where they followed the same route as the curving enclosure Ditches 6 and 10. The southern ditch of this pair of ditches was Ditch 2, which was again a shallow concave feature 0.3m deep and approximately 0.75m wide (e.g. segment [650], Figure 47).

Another possible trackway partially overlay the first, but on a slightly different alignment (NW to SE) which might indicate a further phase. This second trackway was composed of two parallel ditches spaced 9m apart. The northernmost ditch of this pair was Ditch 4 (Figure 46), which was 0.25m deep and 0.6m wide with a concave profile with relatively steep sides. The southern ditch comprised Ditch 1

which continued as Ditch 3 to the east. It had an open concave form and was a maximum of 0.28m deep and was almost 1m wide. The fills were sterile mid-brown-grey silty sands.

There were 30 undated pits and five undated post-holes/stake-holes. The majority of these undated features are likely to be prehistoric, as many lie in the area of the prehistoric Pit Groups, although a few of the pits are probably Saxon.

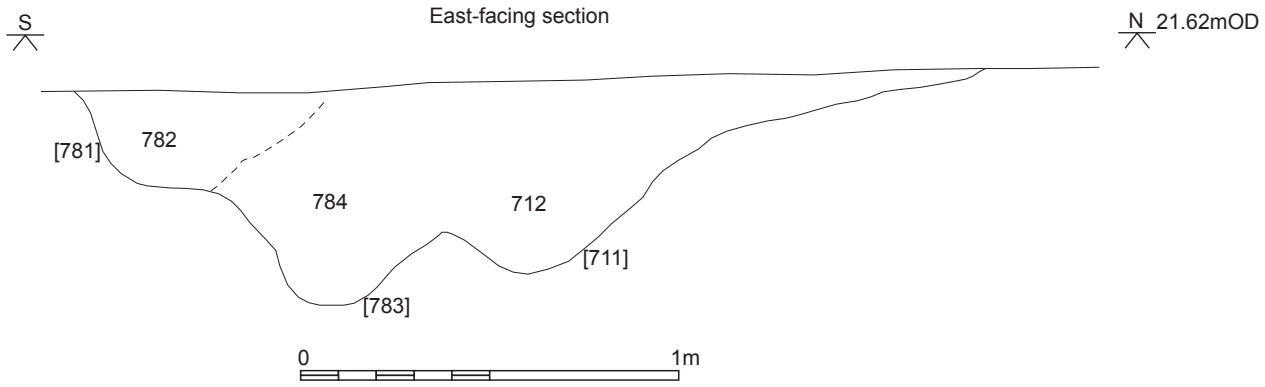


Figure 45. Section of Ditch 6. Scale 1:20

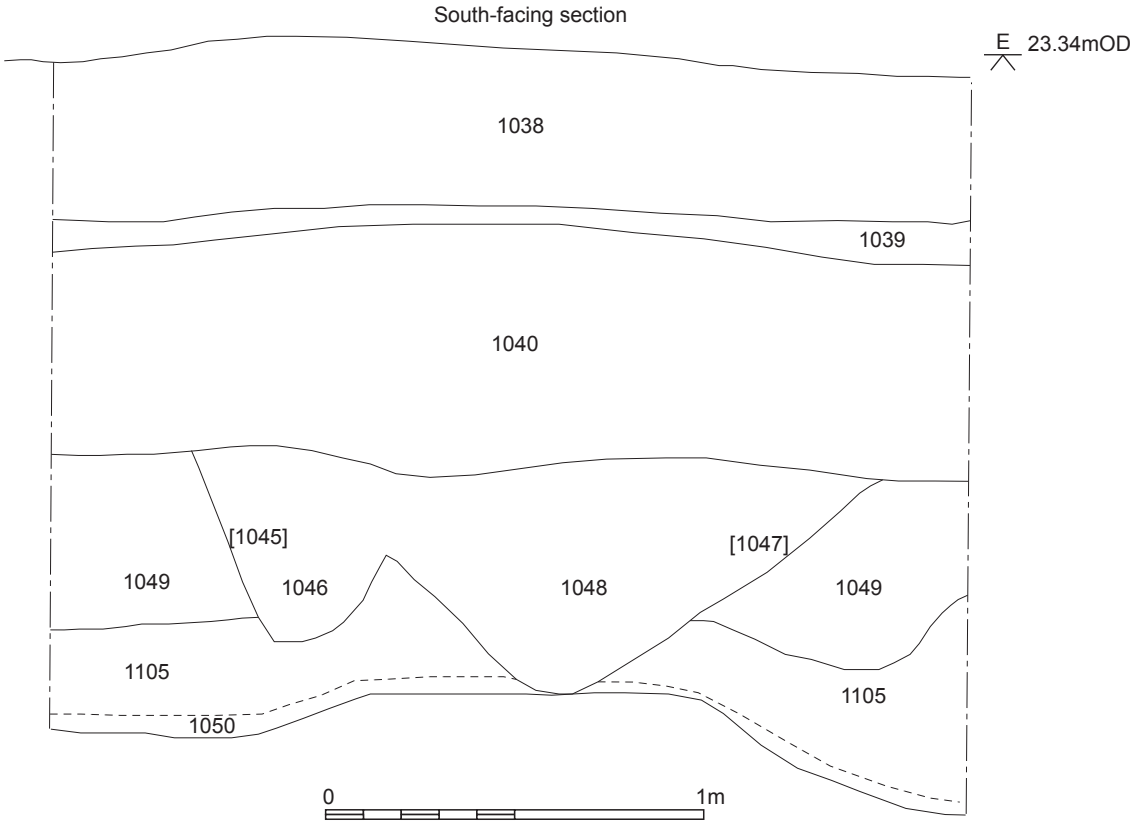


Figure 46. Section of enclosure Ditch 10. Scale 1:20

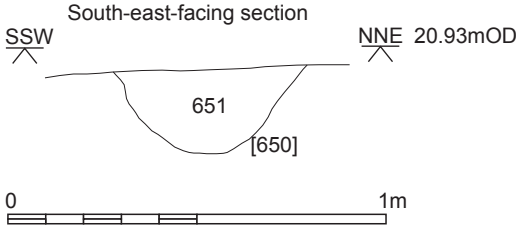


Figure 47. Section of trackway Ditch 2. Scale 1:20.

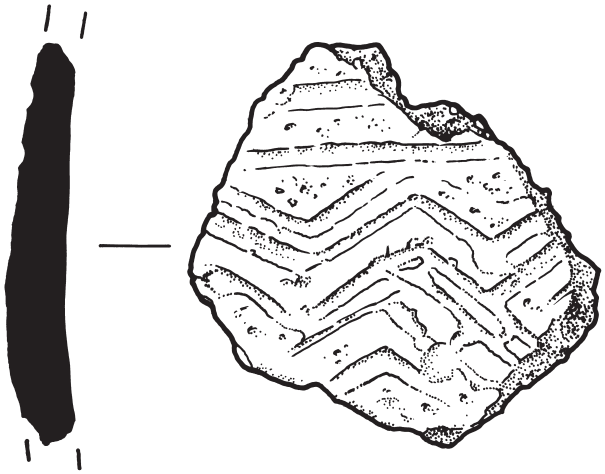


Figure 48. Grooved Ware (Fabric 2), (526), Pit [527]. Scale 4:1.

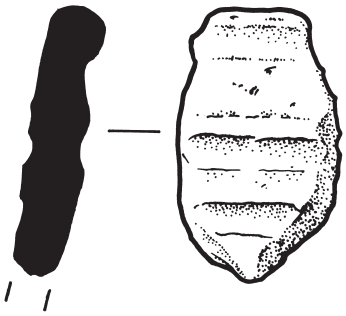


Figure 49. Grooved Ware, rim with internal thickening, (526), Pit [527]. Scale 4:1.

6.0 The Finds

This section details the artefacts recovered during the excavation. A wide range of artefacts, particularly of Early Saxon date, was also recovered during the evaluation. With the exception of the pottery, these artefacts are not described or included in the following assessment of the results because the trenches from which they came do not lie within the excavation area. For a full description of the artefacts recovered during the evaluation see Green (2004).

6.1 Prehistoric Pottery

By Sarah Percival

6.1.1 Earlier Neolithic

The earlier Neolithic assemblage contains 17 sherds (42g) (Appendix 3). The sherds are mostly small and poorly preserved, and the assemblage has a mean sherd weight of just below 3g. The majority of the sherds are made of coarse fabric tempered with angular burnt flint, though one sherd is of dense sandy fabric (Plate 8). The assemblage contains a single rolled rim typical of the round-based, undecorated bowls which characterise earlier Neolithic pottery (Plate 8; Healy 1988, fig. 67 P84).

The majority of the earlier Neolithic pottery came from a pit [818], which contained five small sherds weighing 5g and including the rolled rim. Earlier Neolithic also came from colluvium (856) which produced six small abraded sherds weighing 9g. A second pit [671], a post-hole [880], natural feature [901] and topsoil [888] each produced single sherds. Two scraps of early Neolithic pottery weighing 12g were recovered from pit [550] which formed a pair with pit [553]. Pottery of this period is frequently found in small pits with dark, often burnt fills (Healy 1995, 174; Garrow 2006, 25), though they also occur in surface accumulations or middens and natural features (Garrow 2006, 52). This small assemblage compares well with earlier Neolithic pottery from previous excavations at the site (NHER 9304) and with pottery from the John Innes Institute, Colney (Percival 2004). The assemblage broadly dates from the period 4000–2900 cal BC (Healy 1996, 113).

6.1.2 Later Neolithic–Early Bronze Age

The Later Neolithic–Early Bronze Age assemblage consists of 51 sherds of Grooved ware weighing 183g and a single sherd of Beaker weighing 4g (Appendix 3).

The small Beaker sherd was recovered from the fill of gully [789] and is made of medium-soft, grog- and quartz-sand-tempered fabric. The sherd is decorated with an incised line and is comparable with Beaker found at NHER 9304 dated by a radiocarbon determination on an associated hazelnut shell to 2500–1950 cal. BC (Wk 8870; Percival 2004, 69).

The Grooved Ware is of the Clacton sub-style (Longworth 1971). The assemblage comprises 35 undecorated sherds, 14 decorated sherds (Figure 48) and two rims. The rim first is flattened with incised decoration on both the internal and external surfaces (Figure 49; cf Healy *et al.* 1993, fig. 42), the second flat with an external lip and pinched cordon beneath. Three fabrics are present, one containing flint, one flint and grog and the third quartz sand. The decorated sherds all display

shallow incised grooving forming bands of chevrons around the body of the vessel (Brindley 1999, fig. 14.3 14). Grooved Ware was recovered from two pits, 49 sherds (166g) including both rims from pit [527] and two sherds (17g) from pit [529].

The largest assemblage of Grooved Ware found in Norfolk came from the site at Redgate Hill, Hunstanton (Healy *et al.* 1993). This assemblage is also of the Clacton sub-style, although it carries some traits associated with the Durrington Walls sub-style (Healy *et al.* 1993, 46). Radiocarbon dates for the assemblage suggest that it was in use around 2865–2405 cal BC (OxA-2310; Healy *et al.* 1993, 74). A recent review of radiocarbon determinations from around the UK suggests that the Grooved Ware tradition had an overall currency that fell within the period 3000–2000 BC (Garwood 1999, 152).

Grooved Ware is rarely found in Norfolk and therefore this assemblage is of interest, especially given its proximity to the Beaker 'domestic' site excavated in 1999–2000 (NHER 9304; Percival 2004). The relationship between the two pottery styles is currently under review, with Garwood in particular suggesting that the 'temporal overlap for concurrent Grooved Ware and Beaker use may have been far shorter than the half-millennium period sometimes envisaged' (Garwood 1999, 161). It is possible, Garwood goes on to argue, that rather than representing two contemporary cultural traditions the pottery types form a contingent sequence representing highly localised shifts in 'cultural expression and social organisation' (Garwood 1999, 161).

6.2 Romano-British Pottery

By Alice Lyons and Cathy Tester

The small Romano-British assemblage comprises 25 sherds weighing 179g (Table 2; Appendix 3). The sherds are small and often highly abraded suggesting a high degree of post-depositional disturbance.

Fabric Code	Fabric Type	Quantity	Weight (g)
MGW	Micaceous grey ware	1	7
MSGW	Micaceous sandy grey ware	2	55
SAM	Samian	3	32
SGW	Sandy grey ware	18	76
SOW	Sandy oxidised ware	1	9
Total		*25*	*179*

Table 2. Quantity and weight of Romano-British pottery by fabric.

Locally produced micaceous and sandy greywares make up the majority of the assemblage. Micaceous and sandy fabrics are typical of South Norfolk and North Norfolk and were produced at the Wattisfield group of kilns in the parishes of Hepworth, Hinderclay, Botesdale, Market Weston, Rickinghall Inferior, Rickinghall Superior and Wattisfield in north–central Suffolk (Tomber and Dore 1998, 184). A single undecorated body sherd of unsourced, but probably locally produced SOW was also found.

Three rim sherds from Samian vessels were retrieved, all severely worn and abraded. These have been provisionally dated to between the mid-1st and early

3rd centuries. Examples of Samian sherds are often found in association with Early Saxon settlement and are believed to have been collected from Romano-British contexts and curated (Hartley and Dickenson 1985).

The assemblage is not closely datable, though the presence of the Samian (and the lack of later fine wares such as Nene Valley and Pakenham colour coats or Oxfordshire red colour coat) perhaps suggests a date in the earlier Romano-British period.

Three sherds of abraded East Gaulish Samian which date from the late 2nd to mid-3rd century were recovered from three contexts. Forms identified include a Dr 38 flanged bowl (991) and a Dr 31 bowl (1085). Another rim (978) was too small to be identified.

Catalogue (All LC2-MC3)

978	SAEG	1	1g	rim	Unk
991	SAEG	1	22g	b/s	Dr 38
1085	SAEG	1	9g	rim	Dr 31

6.3 Early Saxon Pottery

By Sarah Percival

In total 329 sherds of Early Saxon pottery weighing 4,461g were recovered from 14 excavated features, principally from three SFBs, as well as pits, post-holes and ditches (Appendix 3). Pottery was also found in several natural features, colluvial deposits and unstratified surface contexts. The pottery from the SFBs is in relatively good condition and includes a partial profile and one complete vessel. Other features produced small and more abraded sherds. The mean sherd weight for the assemblage is 13g.

6.3.1 The Assemblage

The total assemblage was studied and a full catalogue was prepared. Quantification was carried out using sherd count and weight to the nearest whole gram. The minimum number of vessels (MNV) within each context was also recorded. A full quantification by fabric, context and feature is available in the archive. The sherds were examined using a binocular microscope (x20 magnification) and were divided into fabric groups, defined on the basis of major inclusion types present. All fabric codes were assigned from the Suffolk post-Roman fabric series devised by Sue Anderson, which includes Norfolk, Essex, Cambridgeshire and Midlands fabrics, as well as imported wares. Vessel form was recorded: R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. Decoration type, abrasion and sooting were also noted. Form terminology for Early Saxon pottery follows Myres (1977) and Hamerow (1993). Pottery from the evaluation was identified by Richenda Goffin.

Sixteen Early Saxon fabrics were identified in seven fabric groups (Table 3). All of the fabrics are handmade and most appear to be derived from local clay sources. The fabrics within the assemblage compare well with those from many contemporary sites in East Anglia and the Midlands (Anderson, forthcoming).

The majority of the assemblage is made from fabrics which contain fine to coarse quartz sand with small quantities of other inclusions such as flint, mica, feldspar

and ferrous pieces. These inclusions probably represent background scatters of materials which occur naturally in the local glacial clays. Deliberate additions to the fabrics include organic material such as chopped grass, which makes up the second largest fabric group present, and grog, including red grog probably derived from crushed Roman tile. Similar red tile inclusions have been found in Early Saxon pottery from Foulsham, Norfolk, where it was probably made on the site (Anderson, forthcoming). Curated and reused Roman pottery is common on many Early Saxon sites, such as West Stow (West 1985), and it is likely that a source of residual Roman material was available to the Saxon inhabitants of Bowthorpe; reused pottery, including Samian, was found in the fills of the SFBs.

Group	Description	Fabric	Qty	% qty	Wt (g)	% wt
Quartz	Early Saxon sand and grass-tempered ware with gold mica	ESOM	14	4.3%	177	4.0%
	Early Saxon coarse quartz	ESCQ	28	8.5%	331	7.4%
	Early Saxon fine sand	ESFS	43	13.1%	377	8.5%
	Early Saxon sand and mica	ESSM	78	23.7%	1078	24.2%
Organic	Early Saxon grass-tempered ware	ESO1	5	1.5%	25	0.6%
	Early Saxon sand and grass-tempered ware	ESO2	79	24.1%	977	21.8%
Grog	Early Saxon red grog and organic	ESGO	28	8.5%	699	15.7%
	Early Saxon grog and sand	ESGS	17	5.2%	159	3.6%
	Early Saxon grog (red)	ESGR	11	3.3%	69	1.5%
Granitic	Early Saxon granite and grog	ESGG	5	1.5%	218	4.9%
	Early Saxon granite and mica	ESGM	9	2.7%	189	4.2%
	Early Saxon granitic	ESCF	1	0.3%	78	1.7%
Flint	Early Saxon flint and sand	ESFL	6	1.8%	61	1.4%
	Early Saxon flint and clay pellets	ESFC	1	0.3%	10	0.2%
Shell	Early Saxon sparse shell	ESSS	2	0.6%	8	0.2%
Sandstone	Early Saxon sand and sandstone	ESSA	1	0.3%	4	0.1%
?	Early Saxon undiagnostic	U	1	0.3%	1	0.0%
Total			*329*	*100.0%*	*4461*	*100.0%*

Table 3. Quantity and weight of Early Saxon pottery by fabric.

Shell inclusions are found in less than 1% of the sherds (8g). Fossiliferous shell occurs naturally in deposits of Jurassic clays which are widely used for potting in Lincolnshire and the western Fens throughout the Iron Age and Roman period. Shell-tempered fabrics are found in Early Saxon assemblages, such as Mucking, where it is suggested the shell may have been a deliberate addition to the clay (Hamerow 1993, 31). One sherd (4g) contains sandstone inclusions similar to examples found at Spong Hill (Brisbane 1984).

The presence of granitic inclusions in several sherds is of interest, perhaps suggesting an import to the site from production centres in Charnwood, Leicestershire. Pottery made at Charnwood was exported to a wide area covering East Yorkshire to the English Channel in the 5th–7th centuries (Williams and Vince 1997) and is found at several other sites in East Anglia (Anderson, forthcoming). However, as Anderson points out, a piece of granite found at Flixton suggests that

the stone itself may have been deliberately imported into the region, perhaps for addition to the clays used for potting (Anderson, forthcoming).

Flint is found in several fabrics (Table 3). Flint is occasionally found in Early Saxon pottery, such as examples found at Litcham (Anderson, forthcoming), but the addition of flint to clay as an opening material was more common during the earlier Neolithic–Iron Age. The similarity of form and manufacturing technique between Iron Age and Early Saxon pottery often leads to uncertainty regarding the actual date of the sherds and it is possible that some of the flinty sherds from Bowthorpe may be prehistoric.

6.3.2 Form

At least 47 vessels are present within the assemblage. Most of the vessels are represented by rims and are too fragmentary to assign a vessel form.

Vessel type	Date	Number of vessels
Small handled cup	?	1
Biconical bowl	5th c	1
Biconical jar	5th c	1
Rounded carinated bowl	5th c	2
Curved globular bowl	5th–6th c	4
Curved globular bowl with everted lipped rim	5th–6th c	1
Globular bowl	5th–6th c	1
Globular jar	5th–6th c	1
Off set shoulder globular bowl	5th–6th c	1
Closed or in-turned bowl	5th–6th c	1
Closed bowl with in-turned rim	5th–6th c	2
Straight sided baggy bowl	6th c	8
Straight sided baggy bowl or cup	6th c	1
Straight sided baggy jar	6th c	1
Rim only		21
Total		*47*

Table 4. Number of Early Saxon vessels by type.

One complete vessel, a miniature handled cup was found during cleaning. The cup is a crudely made thumb-pot of organic and red grog-tempered fabric and has an applied handle (Plate 9). Parallels for the cup have been found at Mucking (Hamerow 1993, fig. 154, GH145, 2; fig. 174, GH190, 3) and at Caistor by Norwich (Myers 1977, fig. 74, 1801). The cup is not closely datable.

Eighteen joining fragments from a wide-mouthed biconical bowl with linear grooved decoration to the neck and shoulder were found in SFB [194] (Plate 10). Several similar vessels were found at Caistor by Norwich (Myers 1977, fig. 207, 1584) suggesting that the vessel may be 5th century. Rims from a possible biconical jar and two rounded carinated bowls were also found and might also suggest a 5th-century presence at the site. The remainder of the assemblage consists of intermediate forms, principally straight-sided baggy bowls, cups and jars with a smaller number of globular bowls and jars.

Decoration is rare and is only found on seven vessels. In addition to the grooved biconical bowl (Plate 10) eleven sherds are decorated. Sherds from four vessels have narrow incised decoration in various geometric designs. Stamps are found on four sherds; two from separate contexts, but perhaps from the same vessel, have outlined S-shaped stamps of Hamerow's Type H1 from Mucking between incised bands (Plate 11). Similar decoration is also found at West Stow (West 1985 fig. 86, 10). A further two sherds, again possibly from the same vessel have segmented crescents and stamped cruciform circles (Plate 12; Hamerow Types G2 and A4). It is possible that the decorated vessels are contemporary, although it is generally considered that linear decoration is slightly earlier than stamped designs, which were most prevalent in the 6th century (Hamerow 1993, 52).

6.3.3 Distribution

Seventy-six per cent of the Early Saxon assemblage came from the fills of the three SFBs, which produced 3,403g of pottery (Table 5).

Feature type	Qty	% qty	Wt (g)	% wt
Sunken-featured building	221	67.2%	3403	76.3%
Pit	76	23.1%	499	11.2%
Ditch	15	4.6%	285	6.4%
Unknown	7	2.1%	89	2.0%
Unstratified	2	0.6%	63	1.4%
Post-hole	3	0.9%	50	1.1%
Natural channel	2	0.6%	27	0.6%
Colluvial deposits	2	0.6%	21	0.5%
Topsoil	1	0.3%	24	0.5%
Total	*329*	*100.00%*	*4461*	*100.00%*

Table 5. Quantity and weight of Early Saxon pottery by feature type.

Over 50% of the assemblage came from SFB [194], a minimum of 23 vessels weighing 2,273g which included all of the stamp-decorated sherds. SFB [992] contained six vessels and SFB [1004] produced eight. This may indicate that SFB [194] was of higher status or was perhaps better preserved than the other two buildings. A plot of the distribution of datable vessel types across the three SFBs indicates that buildings [194] and [992] are probably 6th century, although each contained a single vessel of possible 5th-century form. SFB [1004] also has a single vessel of 5th-century form, but is otherwise not closely datable (Figure 50).

Pits and post-holes only produced small assemblages of less than ten sherds per feature. Pit [1005] produced a single sherd with narrow incised geometric decoration, but otherwise the pits and post-holes are not closely datable within the Early Saxon period.

No specific forms were recovered which suggest that occupation at Bowthorpe continued into the 7th century. Dating for the beginning of use of the site is uncertain. The presence of the grooved biconical bowl in SFB [194] perhaps indicates that occupation may have begun early in the period, as parallels for the grooved vessel found at Caistor by Norwich are suggested by Myers to have late 4th-century German characteristics (Myres and Green 1973, figs. 1–3; Myers 1977, fig. 207, 1584). Vessels with similar decoration have also been found at

Witton where Wade suggests a 5th-century date (Wade 1983, fig. 64, 12). However, the stamp-decorated sherds, found associated with the biconical urn and the general preference for intermediate vessel forms within the assemblage perhaps suggests that all the buildings more comfortably belong in the 6th century.

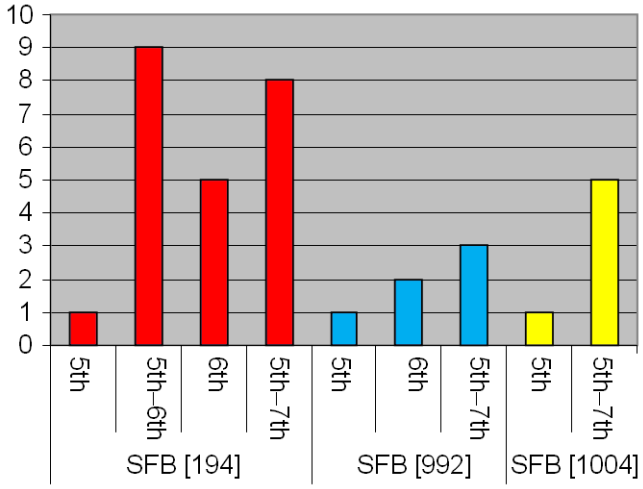


Figure 50. Number of vessels by pottery spotdate by building.

6.4 Medieval Pottery

By Alice Lyons

Twenty-three sherds (157g) of medieval pottery were found in 14 excavated contexts (Appendix 3). The majority of the sherds are unglazed body sherds from unsourced local production sites. Three sherds (15g) are of Grimston-type wares (Little 1994). All of the sherds are highly abraded and fairly small, suggesting a high degree of residuality with the assemblage. The sherds are not closely datable, falling within a general date range of the 11th–15th centuries. The assemblage does not indicate a significant medieval presence at the site and it is possible that the sherds originated from general domestic waste spread on the fields to improve the soil.

6.5 Post-medieval Pottery

By Alice Lyons

A small assemblage comprising eight sherds (91g) was recovered from nine contexts (Appendix 3). Most of the pottery was recovered from unstratified contexts, such as machined topsoil, or was intrusively within earlier contexts, such as a Early Saxon pits. One sherd was within a post-medieval ditch. The assemblage is not closely datable and includes Red Glazed Earthenware (17th–18th centuries), Late Medieval Transitional (15th–16th centuries), Terracotta and Tin-glazed Earthenware (14th–18th centuries).

6.6 Objects of Fired Clay

By Sarah Percival

One complete and two incomplete spindle whorls were recovered, one from each of the SFBs. The complete spindle whorl from SFB [194] (SF22) is of sandy fabric with occasional small quartz inclusions and is biconical or bun shaped (Plate 13;

Hamerow 1993, fig. 157, 1; Type 3b). The second spindle whorl (SF127) from SFB [992] is beehive shaped (cf West 1985, fig. 210, 9) and is made of well-fired grass-tempered fabric. The third spindle whorl [SF130] from SFB [1004] is of reduced fine sandy fabric, is plano-convex shaped and is highly burnished. All of the spindle whorls are paralleled among the assemblage of textile manufacturing equipment found at West Stow (West 1985, fig. 30, 7; fig. 60 22) and are also found in smaller numbers at Mucking (Hamerow 1993, 64).

Two fragments of a fired-clay loomweight (SF23 and SF24) of Hurst's intermediate type were found in SFB [194] (Hurst 1959, 24). The incomplete weights were made of very coarse sandy fabric with sparse angular flint inclusions. Hurst suggested that loomweights of intermediate type were current during the 7th and 8th, although at Mucking they were also found in small numbers in 5th–6th-century contexts (Hamerow 1993, 66).

6.7 Ceramic Building Material

By Lucy Talbot

The site produced 117 examples of Roman and post-medieval ceramic building material, weighing 7,956g (Appendix 4). The assemblage was quantified (counted and weighed) by form and fabric. The fabrics were identified by eye and the main inclusions noted. Fabric descriptions and dates are based on the provisional type series established by Sue Anderson.

6.7.1 Roman

The majority of the assemblage is Roman, comprising 73 fragments of brick and tile. It is worth noting that the greatest part of this group (39 fragments / 5,933g) was recovered from context [195], the fill of SFB [194]. The majority comprises fragments of *imbrex*, *tegula*, box flue tile and undiagnostic pieces (3,274g). There were 29 fragments of bonding tile with thicknesses between 32–38mm. The fabrics are very similar, well mixed fine clay, pink to pale orange, with coarse inclusions of flint, grog and ferrous pellets.

6.7.2 Post-medieval

The post-medieval material consists of 44 examples of brick, plain roof tile, pan tile, floor tile and undiagnostic pieces dating from the 16th–20th centuries. The fragments are of a medium sandy fabric, fired to various shades of orange, with varying amounts of coarse inclusions consisting of mainly flint and ferrous pellets.

6.7.3 Other

Three pieces of ceramic building material were also recovered and are either undiagnostic or undatable (311g)

6.8 Metalworking Debris

By Lucy Talbot

The site produced three pieces of undiagnostic metalworking slag weighing 31g.

Plate 8. Earlier Neolithic rolled rim in quartz sand tempered fabric context 819, pit [818]

Plate 9. Early Saxon cup, fabric ESGO, context 1086, unstratified

Plate 10. Early Saxon wide mouth biconical bowl with linear grooved decoration, fabric ESGO, context 195, SFB [194]

Plate 11. Early Saxon pot with an ‘S’ stamp, fabric ESFS, context 1006, SFB [1004]

Plate 12. Early Saxon pot with crescent and cross stamp, fabric ES02, context 195, SFB [194]

Plate 13. SF 22, biconical spindle whorl in sandy fabric with occasional small quartz inclusions, context 195 SFB [194]

Plate 14. SF16, Context 466 minature terret. Scale 1:1

Plate 15. SF 107, Context 1096 pin. Scale 1:1

Plate 16. SF20, Context 195 brooch. Scale 1:1

Plate 17. SF 105, Context 1095 pin beater. Scale 1:1

Plate 18. SF 146, Context 994 iron buckle. Scale 1:1

Plate 19. SF 104, Context 1001 antlertooth plate. Scale 1:1

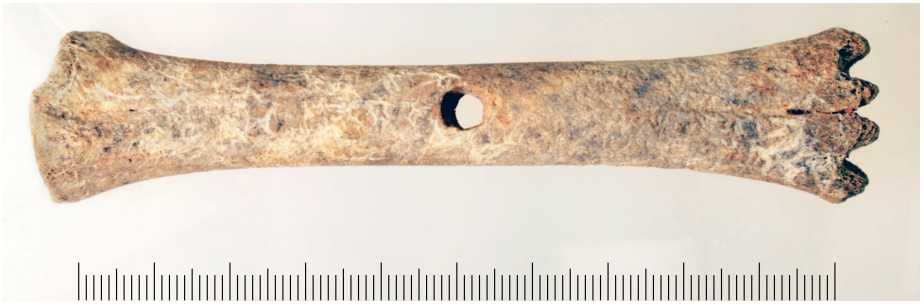


Plate 20. SF 129, Context 1001 bone artefact. Scale 1:1

Plate 22. SF 102, Context 1018 antler comb. Scale 1:1

Plate 21. (left) SF 144, Context 1019 glass bead.

Plate 23. (right) SF 106, Context 989, glass bead. Scale 2:1

6.9 Small Finds

By Julia Huddle, with Kenneth Penn and Natasha Hutcheson

6.9.1 Iron Age

Two Iron Age small finds were recovered: a bone needle (SF19) and a small terret (SF16) (Appendix 5). The bone needle, made from pig fibula perforated at its proximal end (SF19), was recovered from context (187), the fill of possible Iron Age pit [188], in evaluation Trench 63. No Iron Age parallels were found for SF19, but a similar Saxon needle from Thetford is described by Rogerson and Dallas (1984, 167, no. 36). Pit [188] was dated to the Iron Age by a single sherd of Iron Age pottery, which may have been residual. If the pottery is residual the pit and therefore the bone pin could be Saxon.

6.9.1.1 Small Terret (SF16)

By Natasha Hutcheson

SF16 was a complete cast copper-alloy miniature terret and was found in the unstratified spoil (466) from evaluation Trench 136 (Plate 14). The attachment bar on this terret is circular in section and flanked on either side with two collared mouldings. Unusually the attachment bar is U-shaped, rather than straight as is more common. The ring of the terret rises from the collars and becomes increasingly thicker as it reaches its apex. This example is also unusual as the ring is sub-circular in section; mini terrets more often are plano-convex. This terret might be better described as a small terret, rather than a mini terret.

It is not clear how terrets this small were used. An example of a plano-convex mini terret recovered from the Kirkburn cart burial in east Yorkshire was found near the head of a lynch-pin. This has led to the suggestion that it may have been used to secure the lynch-pin (Stead 1991, 46). Another example was found in the Honley hoard in West Yorkshire. This hoard had many coins, but no artefacts that were associated with horse equipment. If would seem that small terrets were used for a number of different purposes, presumably attached to straps in some way to assist in securing an item.

These terrets are difficult to date. They are not decorated and so cannot be dated on a stylistic basis. There are also few that have been recovered from dated contexts. Those from the east Yorkshire burials date to the late 2nd–early 1st century BC (Stead 1991), whereas the Honley hoard dates from the 1st century AD (Richmond 1925; Macgregor 1976, fig. 52). Another example from Thetford Castle was found in a context dated to the 2nd–early 1st century AD (Gregory 1991, 10). Given this spread of dates it is not possible to suggest a date more refined for this example that 2nd century BC–1st century AD.

6.9.2 Roman

Two Roman artefacts were recovered on site, a dress pin and a fragment of bow brooch, both of them unstratified (Appendix 5).

The a copper-alloy dress pin (SF107; Plate 15) was recovered from unstratified spoil (1096) in the vicinities of the SFBs. Roman artefacts are well known from Early Saxon SFBs, such as those at Crimplesham, Norfolk (Bates 2008), West Stow, Suffolk (West 1985) and Melford Meadows, Brettenham (Mudd 2002). According to Cool's typology (1990) this hairpin is classified as Group 1, Sub-

group E, with spherical knob heads and swollen shafts. The distribution of this type of pin appears to be widespread, with over half being from East Anglia, and they were in use during the 3rd and 4th centuries (Seeley 2004, 181, fig. 6.7 nos 75–7).

Part of an unstratified bow brooch (SF15) dates from the mid-1st century (Hattat 2000, 298) and was recovered by metal-detector during the evaluation.

6.9.3 Early Saxon

Artefacts were recovered from SFBs [194], [992] and [1004], and an associated pit [990] (Appendix 5).

6.9.3.1 SFB [194]

Those finds from SFB [194], uncovered during the evaluation, include a spindle whorl, a loomweight (discussed above in section 6.6) and two honestones (discussed below). Two other artefacts were recovered, both made of iron. The first comprised an L-shaped plate (SF128), perhaps part of a blank or an off cut. The second was a brooch (SF20) (Plate 16). This brooch, with a penannular frame with rolled terminals, is similar to one from the Anglo-Saxon cemetery at Morningthorpe, Norfolk (Green *et al*. 1987, 297, Grave 304 F).

One other object, a bone pin beater (SF105), is of a type known throughout the Roman and Anglo-Saxon periods (MacGregor 1985, 189). It was recovered during surface cleaning of the site (1095) in the vicinity of SFB [194]. The presence of a pin beater found close to an SFB suggests that the building might have been associated with weaving during the Early Saxon period.

6.9.3.2 SFB [992]

SFB [992] produced five small finds. A small oval iron buckle of Marzinzik Type I.11 was recovered from the flot of a soil sample (SF146; Plate 16). Oval buckles were worn throughout the Early Saxon period, with some being late 6th and 7th centuries (Marzinzik 2003, 32–3). An antler tooth-plate from a round- or triangular-backed composite comb was also recovered (SF104; Plate 19). Striation marks can be seen around the teeth, some resulting in small circumferential indentations referred to as ‘beading’; these are caused by the hair abrading the surface of the teeth and are indicative of use. Round-backed combs occurred in England in the 5th–6th centuries (MacGregor 1985, 83, fig. 48c–e), similarly triangular-backed combs which became the most favoured type (MacGregor 1985, 83, fig. 48f–h). A triangular-backed comb with tooth-plate of rounded out swept end was recovered from at West Stow (West 1985, 49, fig. 207, no. 9).

SFB [992] also contained a small metacarpal with a central, knife-cut, irregular perforation (SF129). Twelve similar sheep bones pierced either in the centre or at the distal ends were recovered from early 5th- and late 6th-century contexts at West Stow (West 1985, 125). No function has been suggested for these pierced bones, although it is noted that the irregularly-made holes show no signs of wear, whereas in each case the central shaft of the bone was well polished; this is not apparent on the Bowthorpe example, although this may be due to subsequent post-depositional surface deterioration. An incomplete L-shaped iron plate (SF128), apparently cut on all extant edges, may be a blank or an off cut of some kind. Finally, spindle whorl (SF127) was also recovered and is discussed above.

6.9.3.3 SFB [1004]

Five objects were recovered from SFB [1004], including a ceramic spindle whorl (SF130, discussed above in section 6.6), three glass annular beads (SF101, 144 and 145; Plate 21) and a fine example of an almost complete double-sided antler comb with incised linear and ring-and-dot decoration (SF102; Plate 22).

The beads, all made from translucent dark blue glass, are similar to Type C19 from West Stow (West 1985, fig. 275, 20) which corresponds to Guido's Group 6, ivb, pl.II No.11. This type appeared in the British Isles in the 6th Century BC and persisted until the 8th century AD (Guido 1978, 66–8). Beads from Saxon contexts are known in 5th-century graves and are very common in 7th-century graves (Evison and Cooper 1985, 71). A fine and reasonably well preserved composite double-sided antler comb (SF102) with plain, rectangular end-plates and connecting-plates decorated with ring-and-dot and incised parallel lines may be compared to three from West Stow from late 6th-century contexts (West 1985, 127, type 2Aii, fig. 252, 4). As with the comb fragment from SFB [992] 'beading' indicative of use is visible on all teeth.

6.9.3.4 Pit [990]

A cylindrical glass bead (SF106; Plate 23) was recovered from Early Saxon pit [990]. The bead has a roughly rectangular section and is similar to five from the late 5th/6th-century cemetery at West Stow (Evison and Cooper 1985, 74, fig. 275,28).

6.9.4 Discussion

The Early Saxon artefacts from the SFBs and their environs provide us with an interesting insight into the activities carried out in the SFBs, most notably textile manufacture. The combs, glass beads, pierced bone object, iron brooch and buckle make for useful comparisons with other similarly dated sites, such as West Stow.

The presence of two Roman artefacts is also of interest, in particular a dress pin from unstratified spoil in the area of the SFBs. This echoes the recovery of Romano-British material at West Stow, where its presence is interpreted as useful material being salvaged by the Early Saxons from a nearby Roman site (West 1985, 167).

6.9.5 Medieval

Only eleven objects are dated to the medieval period, comprising a vessel fragment and dress fittings, including four belt mounts, a strap-end, a buckle, a ferrule and a brooch (Appendix 5). All are closely paralleled, either from London (Egan and Pritchard 1991) or Norwich (Margeson 1993). A catalogue of other metal objects from this period not treated as Small Finds is given in Appendix 6.

6.9.6 Post-medieval

The remaining dated artefacts are post-medieval and comprise a varied assortment of finds, including a lead cloth-seal, lead shot, a horseshoe and harness fittings. Personal possessions recovered here are typical of those found elsewhere on rural sites in Norfolk and include studs, dress fittings including a shoe or knee buckle and a watch key. A full catalogue of other metal objects from this period not treated as Small Finds is provided in Appendix 6.

Plate 24. SF 25 possible honestone.

6.10 Honestones

By Frances Green

One honestone and one probable honestones were found in the fill of an SFB [194]. The first honestone (SF21) was a flattened rod with a rounded rectangular cross section, 4.5cm long, 2.5m wide and 1.5cm deep. It was smoothed on all surfaces except one end, where a rough surface indicated it was broken. The honestone was made of a very hard, fine grained and dense, mid-grey sparkly micaceous metamorphic rock with micro-laminations observed on the broken face. It is likely this honestone is made from a micaceous schist likely to be from Norwegian Ragstone from the Eidsborg quarries near Telemark in Norway. This geology is commonly used as a honestone and was widely exported across Europe in the 10th and 11th centuries as ships' ballast and its use was widespread prior to the Norman conquest (MacGregor 1982, 77–80). A honestone of similar size and shape was reported from an Early Saxon SFB 34 at West Stow (West 1985).

The second, possible honestone (SF25) is a slightly ambiguous shaped stone (Plate 24). It was a rounded triangle, 12 cm long and 6.5cm across at its widest point, tapering to a rounded point at the other end. In cross section it was rounded, rectangular (3–4cm wide) being slightly thicker (4cm) at the pointed end. It was pale cream-brown with a very slight sparkle and speckle, occasional small white shell and no obvious bedding. It was made of a hard, highly cemented, slightly fossiliferous sandy limestone. It is likely to be a fine-grained Jurassic sandy limestone. All faces of this stone were smooth, with the sides being exceptionally smooth, only the point and the outer edge were slightly rough. A small depression on one of the triangular faces suggests its use as a honestone. The triangular shape of this stone is entirely artificial. There is no obvious bedding in the limestone and it appears to have been cut into this shape on all sides. There is a possibility it was cut from a larger circular stone such a mortar or quernstone.

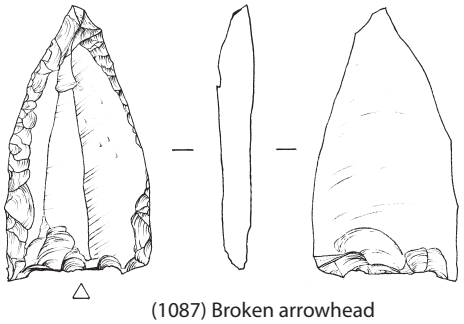


Fig. 51

(1087) Broken arrowhead

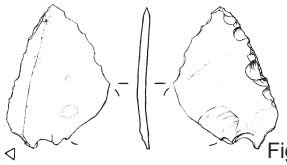


Fig. 52

(763) Attempted arrowhead

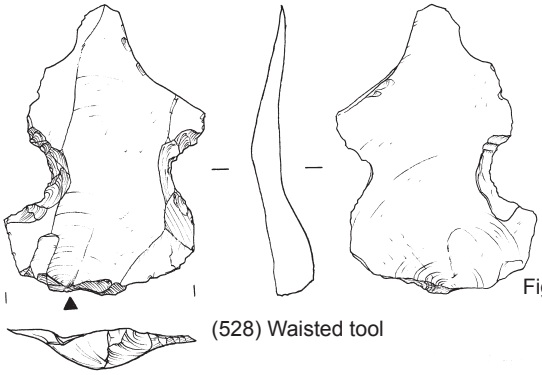


Fig. 53

(528) Waisted tool

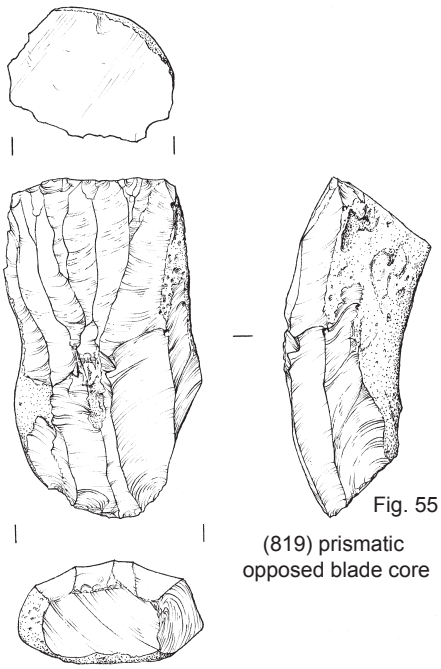


Fig. 55

(819) prismatic opposed blade core

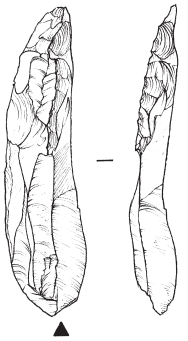


Fig. 54

(819) Crested blade

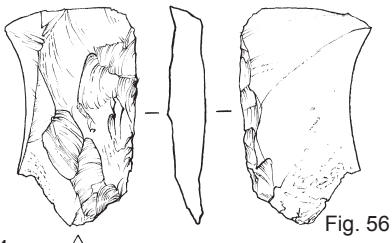


Fig. 56

(819) Bifacially trimmed flake tool

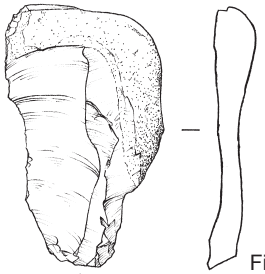


Fig. 57

(284) Early Neolithic utilised blade

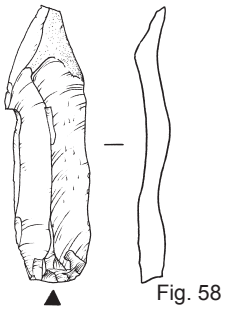


Fig. 58

(284) Early Neolithic utilised blade

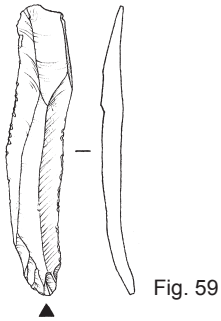


Fig. 59

(822) Early Neolithic utilised blade

Fig. 60

(822) Early Neolithic utilised blade

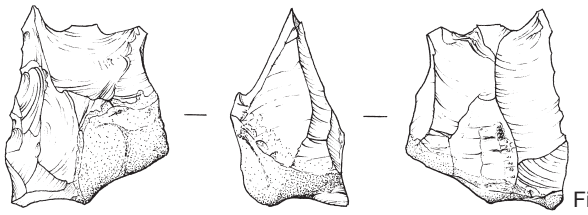


Fig. 61

(526) LNEBA Core

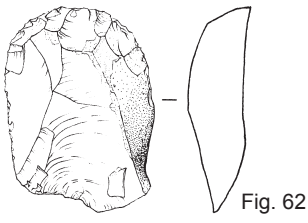


Fig. 62

(528) Scraper

Figures 51--62. Flint illustrations.
Figure 51 at Scale 1:1; Figures 52 to 62 at Scale 1:2

6.11 Flint

By Barry John Bishop

This report incorporates and builds upon the report compiled by Sarah Bates for the purposes of assessing the archaeological research potential of the material (Green 2008). Its purpose is to quantify and characterise the material, and present and discuss the chronological framework and changing nature of flint use at the site (Appendix 7).

Much of the material was recovered from topsoil and colluvium or was residual in later features, suggesting that a larger proportion of the struck flint used at the site was discarded onto the surface or within shallow features which have subsequently been ploughed out than was deposited in the identified prehistoric features.

The bulk of the assemblage was manufactured from a glassy translucent black flint containing variable quantities of light grey inclusions that become more common towards the centre of the nodules. In addition, around 10% of the pieces were made from a porcelain-like opaque grey flint. Where present, cortex was thick and yellow, but had been partially abraded and thermal facets and flaws were common. Such raw materials are present within the local glacio-fluvial deposits and would be easily available from sources such as the banks of the River Yare, where the river erodes through both the parent chalk and overlying glacial till. There were also a few large rounded river gravel cobbles present with smooth rolled and chattermarked cortex, which are likely to have derived from river Terrace Gravels.

	Decortication Flakes	Core rejuvenation Flakes	Micro-shatter	Flakes	Flake Fragments	Blades	Blade-like flakes	Conchoidal Shatter	Cores	Retouched Implements	Total
Total	174	12	46	396	64	98	23	24	30	30	897
%	19.4	1.3	5.1	44.1	7.1	11.0	2.6	2.7	3.3	3.3	100

Table 6. Quantification of Lithic Material.

Type	Arrowhead	Denticulate	Edge trimmed	Knife	Notch	Piercer	Pounder	Short End Scraper	Side Scraper	Circular Scraper	Long End Scraper	Serrate
No.	1	1	6	3	1	1	2	10	1	1	2	1
%	3.3	3.3	20.0	10.0	3.3	3.3	6.7	33.3	3.3	3.3	6.7	3.3

Table 7. Retouched Implements.

6.11.1 Characterisation

A total of 897 struck flints from the Evaluation and subsequent Excavation were examined. These included pieces representing all stages of the reduction

sequence and it was evident that raw materials were reduced and tools manufactured, used and discarded at the site (Tables 6 and 7).

The assemblage was clearly manufactured over a long period. Flakes varied considerably in the techniques of their manufacture. Blades contributed 11%, of which approximately a quarter could be considered as systematically produced, having narrow and usually carefully worked striking platforms and parallel dorsal scars and margins. Flakes varied from carefully produced narrow and thin examples to more expediently produced thick squat flakes with wide, obtuse unmodified striking platforms. Cores, which contributed 3.3% of the assemblage, also varied considerably in the techniques of their reduction. Just over one-third were multi-platformed (Clarke *et al*. 1960, Type C) closely followed, at just under one-third, by single-platformed examples (Type A2). Three had keeled platforms (Type D), two had opposed platforms (Type B1) and single example of a core with two platforms set at right angles was also present (Type B3). One-third of the cores had been either minimally reduced or were opportunistically flaked, with either only a few flakes removed or exhibiting a series of short flake-removal sequences from randomly around the core. Of the more extensively reduced cores, over half showed evidence for having produced some blades during their productive life, although only three had been carefully pre-shaped and systematically reduced. Also present were two discoidal cores, one resembling an unfinished axe but it was unlikely that it could ever have been finished.

The retouched component represented 3.3% of the assemblage and a wide range of types was identified. Scrapers were the most common type represented, most of which were short-end types, and these were followed in frequency by simple edge-retouched flakes and blades. A single arrowhead was identified, this consisting of a blade that had its bulbar end snapped off, had been bifacially blunted along the scar and had steep edge trimming accentuating its pointed distal end (Figure 51). One of the edge-trimmed flakes had inverse retouch along one of its margins and may have been an abandoned attempt to produce an arrowhead blank (Figure 52). Also of interest was the notch, which consisted of a large flake with two opposed notches on its lateral margins and resembled a waisted tool (Figure 53).

6.11.2 Periods Represented

Chronologically diagnostic pieces indicate that flint was used at the site from at least the Mesolithic to the Later Neolithic, and this is supported by the assemblage's technological traits, which indicate that both blade- and competent flake-based reduction strategies were being practised. In addition, a significant proportion of the assemblage consisted of expediently produced flakes from simple and *ad hoc* cores, which were more suggestive of later 2nd- and 1st-millennium industries.

6.11.2.1 Upper Palaeolithic

A few pieces were present that may possibly indicate activity at the site during the Upper Palaeolithic. These include a crested blade and a prismatic opposed platformed blade core measuring 92mm, both recovered from Neolithic pit [818] (Figures 54 and 55), as well as a few notably large blades recovered from other contexts, such as one measuring 152mm long from context (449), another measuring 111mm long from context (451) or a broken blade from context (508)

which would have significantly exceeded 85mm long. These hint at a very competent and organized approach to reduction and are comparable to other pieces from Late Glacial and early Post-glacial industries. The core, in particular, employs a remarkably similar technology and is reminiscent to those recovered from the Carrow Road site in Norwich (P. Robbins, pers. comm.) as well as those from Laurel Farm, Thorpe St Andrew, just to the east of Norwich (Bishop, forthcoming). No diagnostic pieces specifically datable to the Upper Palaeolithic were identified, although such industries typically contain few typologically distinct pieces and with an absence of these such industries can be hard to detect if mixed amongst Mesolithic or Early Neolithic worked flint. The presence of the two most characteristic pieces, the core and the crested blade, in an Early Neolithic pit also casts doubts on an early attribution. Yet it should be noted that the rest of the material within this pit and the other prehistoric features, whilst being blade-based, was much less systematically produced and involved the rather casual reduction of much smaller cores.

6.11.2.2 Mesolithic

The earliest attested evidence of occupation at the site comprises a probable micro-burin, albeit one that failed to snap properly, from pit [969]. A number of the blades from across the site were systematically made, part of a process that enabled repeated manufacture of standardised blade shapes and sizes, and these are perhaps more likely to be Mesolithic rather than Early Neolithic. Nevertheless, these represented less than one-quarter of all blades and only three systematic blade cores were present, including the possible Upper Palaeolithic example.

Fill	Cut	Decortication Flakes	Core rejuvenation	Micro-shatter	Flake	Flake Fragments	Systematic Blades	Unsystematic Blades	Blade-like flakes	Conchoidal Shatter	Cores	Retouched Implements	Context Total
216	P214				1			1		1			3
218	P214				1								1
228	P227	11		1	12			2					26
284	P283			1	2	1	2	2	2				10
808	P807						1						1
810	P809			1	1	1	1	1					5
819	P818	2	3		8		2	6	2		1	1	25
822	P821	1			1		1	1					4
823	P821	2			1			1					4
825	P824	1			1								2
826	P824	1											1
820	P830	10			9					1			20
836	P834	2	1		4		1	1					9

Table 8. Quantification of Lithic Material from the Neolithic Pit Groups.

6.11.2.3 Early Neolithic Pits

Twelve pits scattered across the northern part of the excavated area were dated to the Early Neolithic. Ten of these, three of which were recuts, contained struck flint in quantities ranging from between 1 and 26 pieces (Table 8).

The material from the pits was generally in a good condition, although there was some variations within the assemblages and many pieces did show some, usually slight, edge chipping and rubbing, and a few flakes had been burnt. This variation indicates a complex pre-deposition history to the pieces and it appears likely that they had been deposited via a primary source, such as a midden or accumulation of waste.

Amongst the collections from the pits, of which a total of 111 struck pieces was present, only a single retouched implement, a bifacially trimmed flake from pit [818], was identified (Figure 56). The only core present was the prismatic opposed-platformed core which may possibly substantially pre-date the pit.

The assemblage principally comprised knapping waste, much of it from the initial decortication of nodules and from core preparation and maintenance, although a number of well-made blades were present, some of them exhibiting convincing utilization traces. Although principally consisting of knapping waste and unretouched flakes and blades no significant quantities of micro-shatter were present in any fills, despite their being sampled, indicating that the knapping had not occurred in the vicinity of the pits. Only a very small proportion of what would have been produced during reduction was present, even if only a limited number of nodules had been reduced, and it would appear that the larger pieces were selected from a more extensive accumulation for deposition into the pits.

Of particular interest were the assemblages from pit [227] and recut pit [830]. These were among the largest of the assemblages and refits from across the pits were present, indicating that these two pits were filled at least broadly at the same time with material from a common source. Both assemblages comprised knapping waste from early stages in the reduction process, possibly from as few as two cores, and no evidently used or useful pieces were present. Other pits that contained only unusable waste pieces included pits [214], [810], [824] and [834], whose assemblages consisted of either thick cortical flakes or broken pieces. These may be contrasted with the other pits, which tended to have smaller assemblages, but ones that included relatively high proportions of the better-made and more useful flakes and blades, some of which showed convincing evidence of having been used. These include pits [818], [807], [809] and [283] (Figures 57–60). Pit [821] incorporated both of these trends with a primary fill dominated by potentially usable pieces and a secondary fill composed of waste.

Although no clear-cut patterns were noted and both the number of pits and the size of their contained assemblages were small, it was possible to discern between fills containing purely waste material and those containing at least some usable pieces. The pits therefore appear to contain debris from specific activities; the waste-dominated assemblages represent the initial decortication of cores and production of usable pieces, whilst the others represent the activities for which the tools were created. It also appears that a degree of selection was operating in deciding what was chosen for deposition and that this involved a distinction being made between production waste and discarded usable pieces.

6.11.2.4 Scattered Neolithic Pits

There were a number of other pits at the site that were undated, but potentially of prehistoric date. These frequently contained struck flint, sometimes in good condition, although often only a single piece or small quantities and, due to the possibility of residuality, it was impossible to establish whether the flintwork was contemporary with the pits and, even if it was, whether the flintwork represented anything more than incidentally included 'background' debris. The assemblages from two of these undated pits might be more convincingly associated with the pits described above. Pit [549] produced 18 pieces of knapping waste, probably from only two or three different nodules and of similar technological characteristics to the Early Neolithic pits, and pit [518] produced 14 pieces, including two blades and a core rejuvenation flake, that were also comparable to the other pits. These again seem to represent small groups of waste selected from the debris of a limited number of knapping episodes. A further pit, [803] contained an interesting assemblage that was dominated by small broken blade fragments. It was unlikely that this material was directly associated with the pit, but it does suggest that blade manufacture was occurring close-by.

Two adjacent pits contained Grooved Ware pottery and could be dated to the Later Neolithic. Pit [527] produced an assemblage of 25 pieces, mostly comprising decortication and core modification flakes, as well as a multi-platformed flake core, weighing 64g (Table 9; Figure 61). One of the flakes had a intricately facetted striking platform and multi-directional flake scars and it is possible this was struck from a Levallois-type core, a technique characteristic of Later Neolithic industries. Pit [529] contained a much smaller assemblage of three pieces. Two of these were flakes of limited potential and the other consisted of a competently made symmetrical end-scraper with a finely arced working edge (Figure 62). Scrapers are notoriously difficult to date, but elaborate or fancy ones, such as this, would certainly not be out of place within a Later Neolithic assemblage.

Context	Cut	Decortication Flakes	Core rejuvenation Flakes	Micro-shatter	Flakes	Flake Fragments	Systematic Blade	Unsystematic Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched Implements	Context Total
526	P527	11		1	8				1		1		22
528	P529				2							1	3

Table 9. Quantification of Lithic Material from the Later Neolithic pits.

The contents of these pits recall the oppositions noted for the Early Neolithic pits above; one was dominated by waste from the early stages of lithic reduction and the other had a much smaller assemblage, but included a retouched piece. Again, it is difficult to be certain with only two pits and very small assemblage sizes, but it is possible that the lithic material selected for inclusion highlighted a similar differentiation between waste and usable/used implements.

Further evidence of late 3rd or early 2nd millennium activity was apparent from the unstratified or residual material. This included a number of the more competently produced flakes, some of the flake cores and, in particular, the discoidal cores. No

unequivocal retouched pieces of this date were identified, although the arrowhead and the edge-trimmed flake that may have been an abandoned attempt at arrowhead manufacture are perhaps most comparable to the petit tranchet derivatives of the Later Neolithic, as were some of the more symmetrical scrapers.

6.11.2.5 Later Activity?

The presence of reasonable large numbers of irregularly reduced waste such as chunks, crudely made thick and broad flakes, and irregularly and only partially reduced cores, with no evidence for preparation and numerous incipient cones from failed removals, suggests that flint working continued at the site into the later second millennium and perhaps into the first (cf Herne 1999; Young and Humphrey 1999; Ballin 2002; Humphrey 2007). This material was present in contexts such as the palaeochannels, the colluvium and from unstratified and residual contexts. With the possible exception of some of the undated features no features from this period were identified and it appears the flintwork was casually made and deposited as a surface scatter. This may not be surprising as flintworking during this period is usually considered to have been opportunistic and flint was probably only knapped when needed, used for the specific purpose in mind and usually was discarded with little formality.

6.11.3 Conclusions

The lithic material recovered from the site represents several technological traditions and indicates that the site had been occupied, probably sporadically and perhaps not intensively, over a long period of time. Tantalizing evidence for Upper Palaeolithic activity was provided by a few pieces although some uncertainty must remain as to their precise attribution. Nevertheless, this material does at least invite the suggestion and it would fit in with the pattern seen elsewhere along the Yare Valley. During the late Glacial and Early Mesolithic periods activity does appear to largely focus along the major river valleys, and a number of such sites are becoming apparent from within the area. The most notable of these is the *in situ* working site excavated at Carrow Road (Adams 2003) and similar material has been identified at Laurel Farm, just to the east of Norwich, the latter associated with a radiocarbon date of 17,872±96 uncal bp (Bishop, forthcoming). Closer-by, possible Upper Palaeolithic material comparable to the pieces recorded here has been found at the H.H. Halls site in Bowthorpe, at Drayton, adjacent to the River Wensum to the north, and at several other sites within the river valleys of this area (Robins and Wymer 2006).

Flintwork of a more certain Mesolithic date was identified although only in small quantities and was perhaps only indicative of short-stay, possibly task-specific, visits to the site by transient groups, these being part of a more widely inhabited landscape.

Activity during the Early Neolithic is attested both by unstratified or residual material and by a number of pits that were dug at the site. Many of these contained flintwork and the analysis of this suggests a degree of formality to their filling. Pits with apparently highly structured fills are a common characteristic of many Neolithic and Bronze Age sites, often representing the sole surviving evidence for what may have been occupation sites. In East Anglia clusters of such pits can be quite extensive, sometimes running in to hundreds, such as the ‘pit sites’ at Hurst Fen, Broome Heath or Kilverstone (Clark *et al.* 1960; Wainwright

1972; Garrow *et al*. 2005). The flintwork from the pits here was comparable to these; it mostly consisted of knapping waste with a few discarded but probably used pieces also included. As noted here, the flintwork from the 'pit sites' also tends to show a complex depositional history, with material being selected from larger accumulations prior to being placed in the pits, and the flintwork from individual pits often appears to reflect the debris from specific activities. Here, an opposition between deposits of primary knapping waste and used pieces seems to have been made, and consideration of the flintwork from the Grooved Ware pits suggests that this distinction continued to be made into the Later Neolithic. Such patterning to the deposited contents has been widely noted across Neolithic Britain. Thomas (1999, 65–74) demonstrates that a wide range of materials may be included in pits and these could be arranged in an almost infinite number of ways. In some case, pits may have been dug specifically for these purposes. Sometimes pits appear to contain 'opposed' contents, and these include pits that may only contain only knapping waste juxtaposed with others containing only finished tools. It is also possible that some pits either were deliberately kept clean or were filled with materials that have not survived into the archaeological record, recalling the number of 'empty' pits at the site.

The repertoire of potential inclusions into Neolithic pits was vast and these could be and were combined and arranged in innumerable ways, but often what was included appears to have been very narrowly defined. In these cases, the contents appear to have been precisely chosen as if their meaning was intended to be specific and unambiguous, at least, to those who were party to the 'code'. In other words, the digging of pits and their infilling appear as if intended to convey some specific meaning, information or story, perhaps marking out a culturally or topographically significant place. As Thomas suggests, the materials employed as pit deposits and the details of their arrangement and interment may have acted as a material language, albeit one that was highly localized in its meaning (Thomas 1999, 69). It is also possible that the range and proportions of artefacts deposited within the pits could have reflected, however symbolically, the range of activities undertaken and the nature of the occupation associated with the pits (e.g. Garrow *et al*. 2005). In this sense, it is probable that the contents do indeed represent 'rubbish', but rubbish that had been carefully selected, arranged and deposited according to its symbolic properties and intended to actively convey information.

Finally, there are some indications that flintworking continued at the site into the latter parts of the Bronze Age or perhaps even the Iron Age. Such material is not closely datable and no certain features associated with it were identified, but its presence does fit in a general pattern of agricultural expansion and intensification noted at other sites in the Yare Valley and from southern Britain generally.

6.12 Faunal Remains

By Julie Curl

A total of 9,181g of faunal remains, consisting of 1,655 pieces, was recovered from the evaluation and excavation (Appendix 8). The bone was retrieved from a variety of pit, ditch, post-hole and SFB fills, as well as from cleaning layers. The faunal assemblage largely comprised the main food mammals: cattle, sheep/goat and pig. Remains of deer, rabbit, rodent, herpetofauna, buzzard and jay were also recorded.

All of the bone was scanned for basic information, primarily to determine species, age and elements present following recording guidelines supplied by English Heritage (Davis 1992). Bones were also examined for butchering or other modifications, gnawing and pathologies. Bones were quantified and total counts were noted for each context. The total for each species in individual contexts was also recorded, along with the total weight for each context. All information was recorded on the faunal remains recording sheets and a summary of the information is included in .

Overall, cattle was the most common species throughout the assemblage. Sheep/goat was the second-most common overall, although only slightly more common than pigs. Pig were the second-most frequent (following cattle) in the Early Saxon fills, which is something that is noted with many Saxon assemblages, such as a West Stow (Crabtree 1989) and Ipswich (Curl 2007); this is often considered a 'hallmark of Anglo-Saxon sites in Britain' (Crabtree 1989).

The greatest variety of species was recovered from the Early Saxon features, which would suggest that this was the greatest period of activity. The Saxon features were the only ones producing remains of wild bird, deer, fish, herpetofauna and rodents.

Remains of deer show both roe and red deer were utilised for skins, antler and probably meat; the presence of a fragment of sawn antler from one SFB fill indicates antler-working. Wild birds include a jay and a common buzzard. It is possible that the buzzard could have been a culled scavenger; alternatively it could have been kept for falconry. A single fish bone, a pike vertebra, was identified from the SFB fill (1019); this species is common in local rivers and would have supplemented the diet when available.

The faunal assemblage produced several bones of herpetofauna (frog, toad and newt) and rodents (mouse and vole). It is a possibility that some of these remains could be intrusive, as rodents are known to burrow and many herpetofauna will utilise an animal burrow for hibernation, although areas beneath wooden buildings would be typical habitats for all of these species, particularly during winter months when hibernating.

Just over 91% of the faunal assemblage was recovered from SFB and post-hole fills. The remainder of the bone was recovered from a variety of ditch and pit-fills, with small quantities produced from prehistoric, possible Roman, medieval and post-medieval fills. An absence of pig was seen alongside an increase in the number of sheep in later periods, which could be attributed to the increasing wool trade from the medieval period onwards.

6.12.1 Prehistoric

Three fills (two pits and one post-hole) produced a total of 25g of bone. A galliforme humerus was identified in the post-hole fill (213), otherwise the remains were only identified as mammal, were fragmentary and in poor condition with eroded surfaces.

6.12.2 Romano-British

A juvenile red deer femur was recovered from the ditch-fill (586). There is a probable knife cut around the mid–lower shaft, although this evidence has been

obscured by the extensive insect damage on the bone. Fragments of cattle and mammal bone were also noted in fills (547), (989) and (959).

6.12.3 Early Saxon

6.12.3.1 SFB Fills

The remains from the SFB fills largely consisted of the butchered remains of cattle, sheep/goat and pig/boar. Two potentially more interesting bones were recovered from SFB fill (1032), specifically a fragment of antler and a jay wingbone. It is possible that the antler is indicative of industrial activity. The jay bone is of interest as this species is not naturally associated with buildings. It is possible that this bird was eaten, Hagen (1995) mentions that 'the flesh of *smaelra fugla* (small birds) could be eaten boiled or roasted'. Magpies, blackbirds and a variety of other species were known to have been eaten in this period, so this may have been the fate of the jay, it is also possible that the colourful wing feathers of this bird may have been collected.

The fills of SFB [992] produced several pig remains. A sub-adult pig was noted in (993), this is from a fairly small, but robust animal that may suggest female boar or domestic pig. The bone shows heavy cut marks on the distal shaft from removal of the meat. A neonatal pig scapula was seen with some adult pig remain in fill (1001); the neonatal suggests on-site breeding.

Five fragments of a red deer antler tine were found in fill (1009) of SFB [1004], one fragment has been sawn, indicating its probable retention for antler-working. Fill (1019) produced remains of juvenile cattle and sheep. The sheep mandible shows an age at death of *c*.6 months, suggesting it was part of an autumn cull. There are cut marks at the front of the sheep mandible, which are likely to have occurred when the animal was skinned.

Almost 5kg of bone was produced from fill (195) of SFB [194], consisting of a variety of butchering waste from cattle, sheep, pig and domestic fowl. Fine knife cuts were noted on the front of the sheep mandibles and on the underside of one cattle mandible from skinning; a skinning cut was also seen on a cattle proximal phalange and talus. Meat waste also had been present in the same fill with butchered fragments of scapulae, humeri and radii from all three mammals. Sparse waste from domestic fowl with primary waste elements was also recovered, such as the tarsometatarsus and distal tibiotarsus, which would suggest waste from trimming the bird for cooking.

Context (195) produced numerous cattle bones, including adult and juvenile mandibles, one of which showed cut marks consistent with removal of the tongue for meat. Cattle radii, femur, tibiae, pelves and scapulae were recovered, all of which had been butchered with chops to dismember the carcass and cuts to remove the meat. Foot bones from cattle were also recorded, one proximal phalange showed a fine knife cut that indicates that the animal had been skinned. Of particular interest were one large metacarpal (male), two proximal phalanges and one astragalus which all showed various stages of arthritis (Plate 6). The presence of adult and juvenile bones would suggest a range of uses for this species; the juvenile present had been killed quite young, as there is little wear on the deciduous pre-molar, young cattle may have been killed for meat and to allow milking of the mother. Cattle with fully worn third molars are also represented, this tooth wear, along with the arthritic bones recovered, would suggest that cattle at

this site had been kept for many years and used for traction, possibly ploughing, which would have put a strain on the limbs, resulting in arthritic diseases.

A variety of both primary and secondary butchering and food waste from sheep/goat was recovered from deposit (195). Good meat-bearing bones, such as scapulae are present and cut marks on the mandibles suggest that the tongues of sheep were removed for meat too. The sheep remains included mandibles with the third molar showing a high degree of wear. As with the cattle, it would suggest that the sheep at this site had been kept for many uses beyond meat. The sheep would have provided milk, breeding animals, lanolin and wool.

Adult and juvenile pig remains were also found in fill (195) and included jaw fragments, foot bones and good meat-producing bones, such as the humerus and scapula.

Three domestic fowl bones were also recovered from fill (195) and had been cut and gnawed. Domestic fowl would have probably been kept for egg production before being killed for meat.

6.12.3.2 Other Remains in SFBs

The sample material from the SFBs' fills produced remains of herpetofauna, fish and rodents. Common frog (*Rana temporaria*) was identified from contexts (1004), (1011), (1025) and (1027). Common newt (*Triturus vulgaris*) was seen in fills (1001) and (1004). Both species are regularly found in a variety of habitats and well away from water outside the normal breeding season (March–April). The space under the floor of an SFB would make an ideal daytime cover, feeding and hibernation area for many herpetofauna. Both species could have been breeding in any water-filled ditches nearby, but would travel several hundred metres to such a water-source.

Bones of woodmouse (*Apodemus sylvaticus*) were identified from SFBs [992] and [1004] fills (996), (1019) and (1027). This is a common species in both country and urban areas, eating a range of food including insects, seeds and snails. Today this species is commonly resident in outbuildings and under sheds, so the space under the floors of an SFB would have been an ideal habitat that could provide shelter and food.

6.12.3.3 Pit and Post-hole Fills

Pit fill (545) produced a single antler tine, on which there are no obvious saw or butchering marks, but it is likely, given that it is in a pit-fill, that it was collected for working and that any butchering evidence has been eroded due to the poor conditions affecting the bone in this deposit.

A complete roe deer radius was recovered from the post-hole fill (1023); a cut mark is visible on the proximal end of the shaft that would suggest the animal was skinned and probably eaten. Roe would have been more common in the area during the Saxon period, living in woodland and open fields. A juvenile pig, with an estimated age at death of approximately 4–6 months indicated by wear on the deciduous pre-molar was also identified; it was possibly the result of an autumn cull. Post-hole fill (1023) also produced a carpometacarpus and radius that are almost certainly from a buzzard (*Buteo buteo*), but a more positive identification of the carpometacarpus is difficult due to pathology on the proximal end, where there seems to have been an infection in the bone. Buzzards would have been

commonplace in Norfolk during this period and would have regularly been seen scavenging. Such a bird could have been kept for falconry, which was practised in the Saxon period (Hagen 1995), although it is possible that the bird could have been caught in a trap intended for other prey.

Herpetofauna and rodents were identified from sample material taken from post-hole fills. A humerus from a common frog (*Rana temporaria*) and a radio-ulna from a common toad (*Bufo bufo*) were found in (1023).

Woodmouse was recovered from post-holes fills (1013) and (1022). A femur from a bank vole (*Clethrionomys glareolus*) was found in (1015); this rodent lives in a range of habitats, from hedgerows to urban areas, and may have been resident or a scavenger under buildings.

6.12.3.4 Discussion

Most of the assemblage was in good condition, although fragmentary due to butchering. A few contexts produced bone of poorer condition with eroded surfaces which would suggest acidic soil conditions, this was particularly noted in (187), (545), (996) and (989). Insect damage was evident, particularly on the deer femur in (586). A variety of butchering evidence was noted throughout the assemblage.

Canid gnawing was seen on a cattle humerus in post-hole fill (1023) and was seen on a juvenile cattle metatarsal in SFB fill (1009) and an intermediate phalange in the SFB fill (1018), suggesting food waste from a domestic dog.

Small amounts of burnt bone were recovered from pit and post-hole fills, seen in the SFB fills (993), (1001) and in the post-hole fill (1035) where the remains are burnt black from burning at a low temperature or for a short period. Some very small fragments of bone were burnt white suggesting possible cremation remains or waste from a heavily used fire.

The remains of cattle, sheep and pig in ditch fill (202) were in poor condition and fragmentary with eroded surfaces. Root damage was evident on most of the bone in (202) and canid gnawing was seen on a distal cattle radius.

6.12.4 Medieval

Three medieval ditch fills produced 62g of bone, consisting of butchering waste from cattle and sheep/goat (see Appendix 8).

6.12.5 Post-medieval

Three fills (two ditch, one quarry) yielded a total of 215g of bone. The remains were from butchered cattle and sheep/goat and included a sawn cattle metacarpal in (943); clean sawing of bones is generally a later method of butchering (see Appendix 8).

6.12.6 Conclusions

The bulk of the assemblage is derived from butchering and food waste, which formed part of the backfill dumped into the hollows of the SFBs. The fragmentary and often poor condition is typical of such assemblages, noted at such sites as Brettenham (Powell and Clark 2002) and Spong Hill (Bond 1995).

The herpetofauna are environmental indicators, requiring wetland within a fairly short distance (*c*.500m) and with a need for suitable shelter, which the area

beneath an SFB would provide. Similarly, woodmice and bank voles require shelter and hedgerows; the former also known to take advantage of stored grain.

Birds of prey are unusual in urban deposits. Red kite was found at Thetford and thought to be a scavenger (Jones 1993), which is a plausible explanation for the buzzard. An unbutchered buzzard was identified in a Saxon pit at Southampton where it was speculated that it may have sometimes attacked domestic fowl and subsequently been caught as a pest (Bourdillon and Coy 1980). The Anglo-Scandinavian deposits at Coppergate in York also yielded a buzzard, which was interpreted as an urban scavenger. If the buzzard had been used for hunting it would be expected that there would be a greater presence of smaller bones from hunted birds, which, apart from the jay, were lacking in this assemblage.

6.13 Land Molluscs

By Julie Curl

Shells of terrestrial molluscs were retrieved from the flots of bulk soil samples and examined using both hand-lenses and a microscope. All shell apices were identified to species and the shells quantified by counting apices. Tables giving quantification of each species to each sample are included in Appendix 9.

Mollusc remains were produced from 27 flots from prehistoric pit fills, Saxon pit and post-hole fills and from SFBs. The molluscs were well preserved, largely with complete or almost complete specimens. Eleven species were identified, with one species accounting for 62% of the remains (Figure 63).

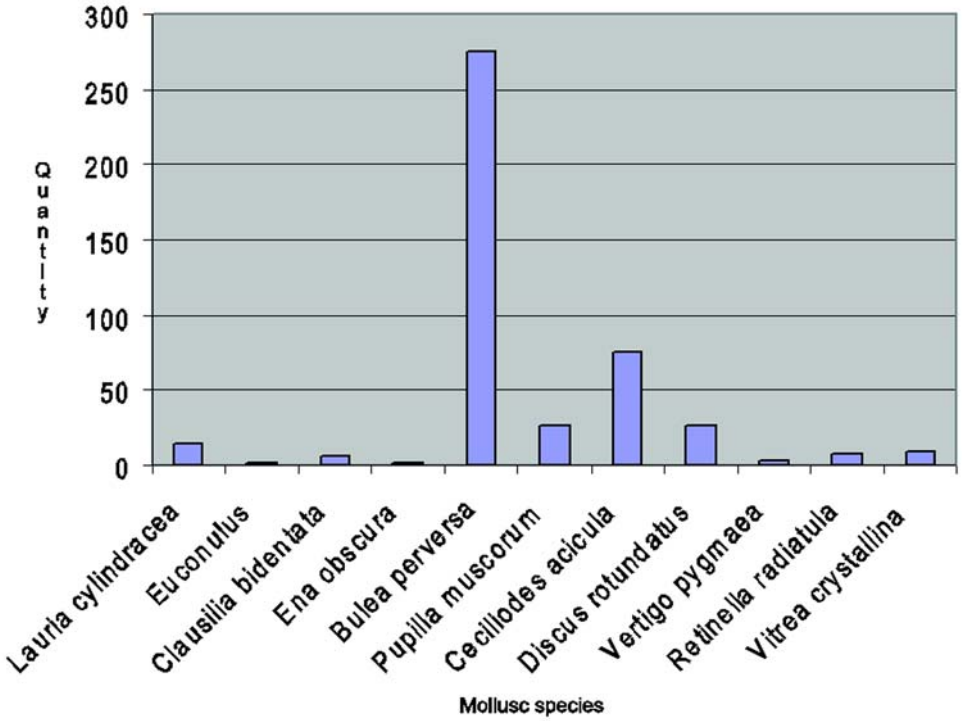


Figure 63. Graph showing quantification of each species for whole assemblage.

Eleven species of land molluscs were identified (Table 10). Two dry and open ground species were identified: the moss snail preferring grassy areas and the whorl snail more commonly found under stones in drier places. One species,

Vitrea crystalline, is more commonly found in leaf litter or damper meadows and swamps and indicates nearby water-filled ditches or pools. A single burrowing, and therefore possibly intrusive species, the blind snail, was recorded, with one SFB fill producing large numbers of this snail.

Species	Total	Habitat
Blind Snail – *Ceciliodes acicula*	75	Burrowing species, lives well below surface, in crevices, generally on calcareous soils. This species can burrow up to 2m and can be intrusive.
Chrysalis Snail – *Lauria cylindracea*	14	Damp places, gardens, walls, rocks and wood
Door Snail – *Clausilia bidentata*	6	Hedgerows, rocks, old walls, woodland
Lesser Bulin – *Ena obscura*	2	Wooded areas, hedge, scrub, rocky areas
Moss Snail – *Pupilla muscorum*	26	Open, dry areas, grassy areas
Retinella radiatula	7	Woodland
Rounded Snail – *Discus rotundatus*	26	In cover, leaf litter, stones, logs, rubble, buildings; shade-loving species
Tawny Snail – *Euconulus fulvus*	1	Widespread in variety of habitats
Tree Snail – *Bulea perversa*	275	Trees, lichens, woodland edges, hedgerow trees, with moss or loose bark for cover
Vitrea crystallina	9	In leaf litter, humid areas, meadows, swamps
Whorl Snail – *Vertigo pygmaea*	3	Dry, open ground, undersides of stones, drier areas
Total	*444*	

Table 10. Species identified from samples with quantification and their habitats.

6.13.1 Neolithic–Early Bronze Age

Six species of land mollusc were identified from prehistoric pit fills. The most frequent being the tree snail (*Bulea perversa*) and the rounded snail (*Discus rotundus*), both shade-loving species found in an environment with trees, bark, moss, stones and often drier habitats, and known around buildings. It is possible that these species could have been in a woodland soil that was used to fill open features. *Vitrea crystallina* was recorded in two pit fills, this species preferred habitat is damp meadow and swamp, which could suggest a flooded pit. A single moss snail (*Pupilla muscorum*) was noted in the Late Neolithic–Early Bronze Age pit fill, along with a single specimen of a door snail (*Clausillia bidentata*), the former preferring open grassland and the later tending to need the more sheltered environment of wood and hedgerows or walls.

Two Neolithic pit fills produced single specimens of the blind snail (*Celciliodes acicula*); this snail is known to burrow up to 2m and lives in cracks and crevices and should therefore probably intrusive.

6.13.2 Early Saxon

The number of snails present in the Saxon pit and SFB fills was dominated by the remains of tree snail (*Bulea perversa*); these are shade-loving snails that are found around wood edges, hedges, bark and moss, and this species was found in almost every fill. Two pits, (959) and (964), produced moss snail (*Pupilla muscorum*), more commonly found in open, grassy areas. Two pits and three SFB fills each produced single specimens of *Retinella radiatula*, typically a woodland species, which may, if not resident, have been brought to site on chopped wood.

The chrysalis snail (*Lauria cylindracea*), was found in five of the samples from SFB [992]. The door snail (*Clausillia bidentata*) was noted in three samples. The tawny snail (*Euconulus fulvus*) was only found in SFB fill (1013), sample 138; this is a widespread species that is found in a variety of habitats, so not unexpected.

Three Saxon pit fills produced single specimens of the blind snail (*Celciliodes acicula*); this snail is known to burrow up to 2m and lives in cracks and crevices and should probably be classed as intrusive.

6.13.3 Discussion

Overall, the species in this assemblage are indicative of a site with a close proximity to hedges, scrub and/or the edge of woodland, with some open grassland. One species (*Vitrea crystallina*) is a species of damper, humid areas, wetter meadows or swamps; the presence of this species indicates habitat such as ditches or flooding pits, with an increase in this damp area species in the Saxon period, something that is further indicated by the three species of herpetofauna from this site.

By far the most frequent species of land mollusc is the tree snail (*Bulea perversa*), which was found in 23 of the samples and from a range of Neolithic and Saxon pit fills and SFB deposits. The tree snail may have been brought to site on a supply of wood or adapted to the man-made wood environment that timber buildings would offer. Similarly, the door snail would be at home on wooden buildings, particularly on the northern side of wooden structures that tend to provide the lichen growth and possibly algae growth that this species feed upon.

The rounded snail (*Discus rotundus*) and the moss snail (*Pupilla muscorum*) are two of the most common and widespread land molluscs, occurring everywhere except the driest of habitats, with the later generally preferring more grassy and open land. The chrysalis snail (*Lauria cylindracea*) occurs throughout much of the British Isles in fairly moist sites, including wooded areas and the bases of walls; the bases of the outer walls of an SFB would provide a suitable habitat for this species.

The blind snail (*Celciliodes acicula*) cannot be seen as an environmental indicator due to the burrowing nature and ability to move up to 2m through soil and should be considered intrusive.

7.0 The Environmental Evidence

A targeted sampling strategy was employed during the excavation which was designed to characterise the soil formation processes, the nature of the occupation and the immediate environment of the site. A total of 78 samples were taken (Appendix 10). Of these 34 were taken for plant macrofossil analysis, 31 of which have been assessed. The selected samples were chosen to provide coverage of the spatial, typological and chronological distribution of the excavated features. An additional 13 plant macrofossil samples were assessed from sediments collected during the evaluation, but some of these samples were from evaluation trenches in the same area as the excavation (Green 2004). Of the 11 pollen samples six were selected for pollen analysis and 17 charcoal samples were examined. Soil analysis was carried out on four monolith sections <129>, <130>, <150> and <151>, soil chemistry was carried out on five bulk samples and magnetic studies on a further 13 samples.

7.1 Plant Macrofossils

By Val Fryer

Samples for the retrieval of the plant macrofossil assemblages were taken from fills within a number of pits/post-holes of probable Late Neolithic or Early Bronze Age date and from pits and Early Saxon SFBs (Appendix 11). A total of 31 samples was submitted for assessment. The samples were processed by manual water flotation/washover and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16. Identifications of plant macrofossils were made by comparison with modern reference specimens. Nomenclature follows Stace (1997). As the density of identifiable material was so low, quantification of the assemblages was not undertaken. However, a comparison of results is shown in Figure 64.

7.1.1 Plant macrofossils

With rare exceptions, the assemblages are all very small (<0.1 litres), and although charcoal/charred wood fragments are common throughout, other plant remains are exceedingly scarce. Preservation of the few recorded remains is generally poor, with the grains in particular being puffed and distorted, possibly as a result of combustion at very high temperatures.

Cereal grains are recorded, mostly as single specimens, within seven of the assemblages studied. All are from Early Saxon features, with the highest density occurring within the fills of SFB [1004]. It is assumed that this material is primarily derived from domestic hearth waste or culinary refuse, some of which fell through the floor of the structure and accumulated in the space below. Few of the grains are identifiable to species, although two possible small, immature barley (*Hordeum* sp.) grains are present within the assemblages from samples <140> (context (1001)) and <158> (context (1028)).

Weed seeds occur at an extremely low density and again, all but one are from fills within SFB [1004]. Sample <142> (context (1022)) contains a single indeterminate small legume (*Fabaceae*) cotyledon. A mineral replaced seed of field pansy (*Viola* sp.) type is present within sample <149> (context (1027)), and this latter assemblage also contains a small fragment of mineral-replaced sloe-type (*Prunus*

sp.) fruit stone and rare mineralised concretions, both of which are probably indicative of the presence of small quantities of human faecal material. A spike-rush (*Eleocharis* sp.) nutlet is recorded from sample <137> (context (1071)). The only seed noted within a prehistoric feature is a single specimen of black bindweed (*Fallopia convolvulus*), recovered from pit [824].

Fragments of hazel (*Corylus avellana*) nutshell are recorded at a low to moderate density within a total of five assemblages, three from prehistoric pit fills (samples <100> (context (526), <101> (context (551) and <109> (context (829)), and two from Early Saxon features (samples <131> context (994) and <160> context (1023)).

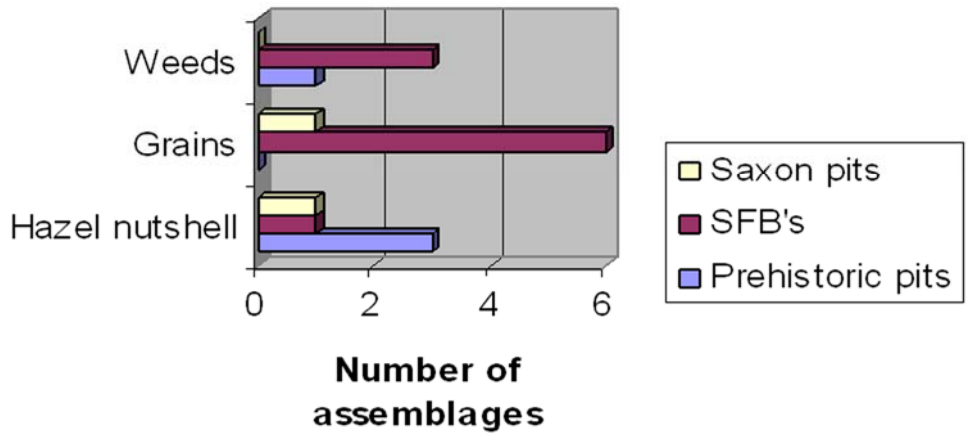


Figure 64. Comparison of the densities of weed seeds, grains and hazel nutshell fragments within the prehistoric pits, the Early Saxon SFBs and the Early Saxon pits.

7.1.2 Other remains

Fragments of black porous and tarry material are present in all but one sample <138>. Some pieces have a very open texture, and may be derived from the combustion of organic remains at very high temperatures. However, other fragments have a very even, dense texture with a distinct surface gloss, and have the appearance of modern fuel residues (for example coke). These, along with the numerous small pieces of coal, are probably indicative of either the use of steam powered agricultural implements in the recent past, or the deposition of 'night-soil' and other refuse from the nearby urban area of Norwich. Bone fragments are present throughout, but are particularly common within the fills of the SFBs. The origin of this material is unknown, although it should be noted that bone 'meal' was widely used as a fertiliser to improve agricultural soils.

7.1.3 Conclusions

The density of material within the samples is too low to enable accurate interpretation of either the assemblages or the features from which the material came. In addition to this, many of the assemblages would appear to be heavily contaminated with later intrusive materials. However, a general survey of the plant macrofossil evidence would appear to indicate that during the Late Neolithic or Early Bronze Age, those utilising the site had minimal involvement with agricultural

production. Trees and shrubs growing on or near the site probably provided small quantities of fruits/nuts, although the density of material present would appear to be indicative of 'snacking' rather than the systematic gathering of food for consumption or storage. By the Early Saxon period, cereals were almost certainly being consumed by the occupants of the SFBs, although it is unclear whether they were also involved in the production or processing of the grain.

7.2 Pollen

By Frances Green

Of the 11 samples taken for pollen analysis during the excavation eight have been processed. Six samples have been prepared from the Saxon SFBs and Neolithic pits for this report. The results have been integrated with the two samples from a Neolithic pit prepared during the assessment stage of the project.

Four samples were from two SFBs. Samples <133>, <135> and <136> were from Early Saxon SFB [992], with a single sample <156> from Early Saxon SFB [1004].

Two Neolithic samples <172> and <173> from pit [811] and its recut have been analysed. Two further Neolithic samples, <170> and <171>, were from Early Neolithic pit [821] and have been previously reported on in the assessment report (Green 2008).

7.2.1 Methodology

Since all of the deposits were very sandy a relatively large amount of material, approximately 15cm^3, was processed from the SFB samples and almost 50cm^3 from the more sterile-looking fills of the Neolithic pits. A greater volume of sediment has been processed from the Neolithic pits in this study compared with the assessment (10–20cm^3).

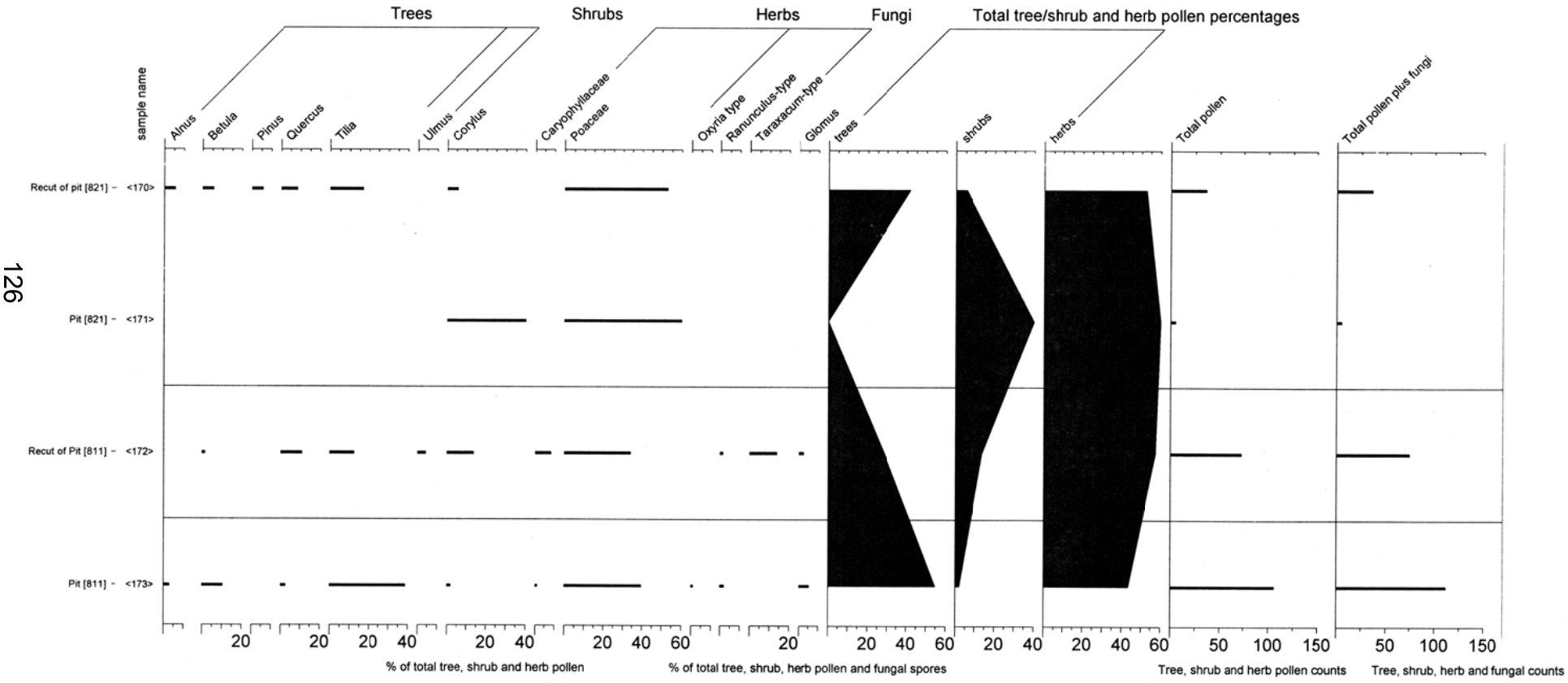
Pollen preparations used techniques based on the method of Hunt (1985). The sediments were desegregated by boiling in 5% NaOH for 5–10 minutes, sieved through 120µm and 10µm wire and nylon sieves to remove the sand and clay sized fractions. The remaining silt-sized fraction was removed by swirling (panning) on a large watch glass. The remaining material was stained and mounted on slides with a semi permanent mountant 'aquamount'. A count of a minimum of 200 non-tree pollen types per sample was attempted under a magnification of x400 and x1000. Pollen identifications were assisted by reference to Moore *et al*. (1991) and Andrew (1984).

7.2.2 Results

A very low level of corroded pollen was recovered from three of the samples from SFB [992] (<133>, <134> and <136>) with elevated counts of poorly preserved pollen from the single sample from SFB [1004] (<156>).

The two new samples from the Neolithic pit [821] contained moderately well preserved countable levels of pollen. The two samples previously processed (<170> and <171> from pit [811]) also contained sparse, and in one case, virtually uncountable levels of pollen. The greater quantity of pollen encountered in samples <172> and <173> compared with the assessment samples is due to the increased volume of sediment processed.

Figure 65. Pollen percentage data from Bowthorpe Three Score 40711CST Neolithic pits



Sample	<170> (823) Pit [821]	<171> (822) Pit [821]	<172> (820) Fill of [830]	<173> (812) Pit [811]
Trees				
Betula (birch)	2		1	11
Pinus (pine)	2			
Quercus (oak)	3		8	3
Tilia (lime)	6		9	41
Ulmus (elm)			3	
Alnus (alder)	2			3
Shrubs				
Corylus (hazel)	2	2	10	2
Non-tree pollen				
Poaceae (grasses)	19	3	25	42
Caryophyllacaea			6	1
Oxyria sp.				1
Ranunculus (buttercup)			1	2
Taraxacum (dandelion)			10	
Other Non-pollen				
Glomus			2	6
Total (Excluding Glomus)	*36*	*5*	*73*	*106*

Table 11. Total pollen and spore counts from Neolithic pits.

7.2.2.1 Neolithic pits

Two samples <170> and <171> were analysed from pit [821]. Sample <171> from the primary fill (822) and <170> from a darker fill (823) of a smaller pit recut into the surface of (822).

Sample <170> from a dark silty deposit (823) within a recut of pit [821] contained relatively sparse but countable pollen. The resultant pollen assemblage is shown in Table 11 and in Figure 65. Despite the limited number of grains counted (36) the pollen suggests the pit was excavated in an area of cleared ground, but that woodland was very close by. Tree pollen formed about 45% of the total land pollen (TLP). Pollen from shrubs contributed *c*.5% TLP and the remaining 50% TLP was from herbaceous plants. The tree pollen indicates a mixed deciduous wood containing, lime and oak, with birch and hazel growing within clearings or on the margins. It is likely there was limited pine woodland perhaps at some distance from the site. The pit was likely to have been excavated in a grassy clearing in the woodland. The deposit also contained frequent fungal hyphae, which suggests the sediments were derived from a bioactive soil prior to being deposited within the pit.

Sample <171> (822) was taken from a deposit below <170>, from the primary fill of pit [821]. This sample was from a sterile sandy deposit and the pollen recovered was extremely sparse (5). The pollen was grass and hazel but too few grains were counted to allow for a discussion of the vegetation at the time the deposits accumulated.

Two samples were processed from pit [811]. This pit contained two deposits, (820) within a scoop-shaped recut (830) in the surface of fill (812), which lay within the

lower vertical-sided pit [811]. Sample <172> was from fill (820), and <173> from (812).

Sample <173> was from a mid-grey slightly silty sand with light and brown mottle (812), the fill of pit [811]. It is the earlier of the two samples processed from this pit and its recut. The pollen was in good condition and 106 grains were counted. Tree pollen contributed 55% TLP, shrubs less than 5% TLP and herbs 45% TLP. Lime was the most frequent tree pollen, forming nearly 35% TLP. Other tree pollen include birch, with lesser frequencies of oak, alder and hazel. Grassland is indicated by almost 40% TLP grass and *Ranunculus* pollen. A low level of soil fungal bodies *Glomus* indicates the sediment was derived from a bioactive soil. The pollen assemblage suggests that pit [811] was excavated within a grassy clearing in a lime woodland with birch and lesser amounts of oak. Alder appears at a low concentration (>5% TLP) and may have been growing on the lower slopes of the valley side closer to the river.

Sample <172> was from a dark grey-brown sandy silt with occasional small rounded pebbles and burnt angular flint (820), within recut [830] of pit [811]. The pollen recovered from this feature was mostly in good condition and the slide was full of microscopic organic debris, including frequent fine charcoal fragments. In total 73 pollen and spores were recorded, together with a few fungal hyphae. Tree pollen contributed approximately 30% TLP, shrub pollen 15% TLP and herbaceous pollen 55% TLP (Table 11; Figure 65). Pollen from lime was the most frequent tree pollen, although oak was almost equally common. Other, less significant trees included elm and birch. This suggests a local lime and oak woodland with elm and birch. Hazel pollen was very frequent and the shrub must have formed an important part of the understorey or grew on the margins of the local woodland. This pit is likely to have been excavated in a grassy clearing in the wood. A relatively high proportion (15% TLP) of *Taraxacum* (dandelion family) pollen suggests the disturbed nature of the grassy clearing. Pollen of *Ranunculus* (buttercup family) occurs at low frequency and is likely to have been part of the grassy meadow.

Sample	**<133> [994] fill of SFB [992]**	**<135> [996] fill of SFB [992]**	**<136> [1001] fill of SFB [992]**	**<156> [1023] fill of SFB [1004]**
Non-tree pollen				
Poaceae (grasses)	2	4	5	55
Other Non-pollen				
Glomus				10

Table 12. Total pollen and spore counts from Saxon SFBs.

7.2.2.2 Early Saxon SFBs

The pollen record from SFBs [992] and [1004] was poor. Only grass pollen was identified and at very low frequency (2–5) in SFB [992]. A higher frequency of grass pollen (55) was recorded in the sample from SFB [1004]. Together with the soil fungi *Glomus*, indicating that part of the fill of this SFB was derived from a bioactive soil. The three samples from SFB [992] contained corroded and thin pollen and frequent amorphous organics. This is likely to be caused by oxidation of the organic material within the truncated remains of the SFB.

The single sample from SFB [1004] was in slightly better condition with the pollen less lacy and the organic content less amorphous. The elevated organic content in this SFB probably resulted in more conducive conditions for pollen preservation compared with SFB [992]. However, the losses of other taxa from both SFBs is likely to have been considerable and no real significance can be attached to these results except that it is unlikely tree pollen was ever present.

7.2.3 Discussion and Conclusions

7.2.3.1 Early Neolithic Pits

It is likely, given the relatively high values of lime in the pollen record at Bowthorpe, that it was a significant presence in the local woodland and that this wood was mixed deciduous with lime. Lime is a heavy pollen grain and is poorly dispersed (Godwin 1975), therefore the presence of its pollen indicates the local presence of the tree. Lime is a thermophilous species and dramatically expanded through Britain during the warm Atlantic period of the Holocene between approximately 7–5k BP (Godwin 1975). Reaching its maximum extent and quantity during the same period and declining during the Neolithic. The reason for this decline in the pollen record is likely to be the selection of this tree for leaf fodder and its easily worked timber, the former likely to reduce the pollen production, but without the loss of the tree. In the remnants of natural European woodland today lime is co-dominant with oak and there is a suggestion in Denmark that lime was the dominant tree (Iversen 1973). Many of the published pollen records from Norfolk do not particularly show lime forming significant proportion of the local woodland for example, Hockham Mere (Bennett 1983) and Riverside, Norwich (Wiltshire and Emery 2000). But these records are frequently from lakes and floodplain locations and reflect the immediate landscape with a greater emphasis on the marginal wetland alder carr woodland (Waller 1994). The Bowthorpe pollen record is not from such a waterlogged site and appears to represent a dry woodland very close to the site.

The two pits sampled ([821] and [811]) contain a broadly similar pollen record. Both pits appear to have been dug within a small to moderate clearing in the forest. These clearings were grassy with areas of more disturbed ground, perhaps as a consequence of pit digging. There is, however, evidence to suggest the pits were not excavated at the same time. Potentially this pollen record suggests that some pit recuts were being excavated at the same time other pits were being dug for the first time.

Unfortunately, there was not enough pollen in the primary fill of pit [821] to fully describe the vegetation surrounding it at this time. This pit was revisited and a further small pit excavated into its surface and filled with a dark charcoal deposit, some of which was derived from local soils. This recut contained a pollen record showing at this time there was still significant woodland surrounding the open grassy site. The evidence suggests it was a mixed deciduous forest where lime and oak were almost co-dominant with lime being slightly more important. Alder, birch, pine and hazel were all present at relatively low levels in the landscape.

Pit [811] appears to have been excavated in a clearing within a mixed deciduous woodland where lime was by far the dominant tree with oak and birch less important. Alder and pine were perhaps present in other parts of the landscape, with alder in the valley floor and pine in small stands away from the site. This pit

was also revisited, a small pit [830] cut into pit [811] and again filled with a dark grey deposit, some of which was derived from local soils. The pollen from the fill of this recut illustrates there had been an overall loss of woodland surrounding the Neolithic pits over time. Despite an increase in shrub (hazel) pollen the overall total tree pollen had declined from 55% to 30% TLP. These, together with a relative increase in herbaceous pollen, particularly the pollen of weedy species of open and disturbed ground such as dandelions (*Taraxacum*), suggest the area of open grassland had increased in the time interval between cutting the first pit [811] and its recut. The trees in the woodland had also changed, lime was still important, but of reduced importance and co-dominant with oak. This reduction in lime in the woodland probably reflects the preferential selection of lime by Neolithic peoples. Hazel had also expanded, probably as a result of increased woodland clearance since this is a species which grows well and flowers well in clearings where there is increased light.

Since the pollen assemblage in the primary fill of pit [811] had greater similarity to the pollen assemblage in the recut of [821] it suggests that pit [811] is likely to have been excavated at a similar time, if not a little before, as the recut of [821].

7.2.3.2 Early Saxon Buildings

A very poor pollen record was obtained from SFBs [992] and [1004]. Oxidizing soil conditions are likely to have caused the loss of many pollen types. The only pollen type identified was grass. In SFB [992] this pollen occurred at too low a level to be considered, whereas, the grass pollen in SFB [1004] although occurring at higher levels is part of an incomplete record. The grass pollen in SFB [1004] is, however, likely to have come from the surrounding grassland and the presence of soil fungi *Glomus* shows that some of sediment was derived from a bioactive soil. Although it is unlikely tree pollen was ever present at SFB [1004] at high levels, the loss of other pollen types due to oxidation distorts the record obtained from SFB [1004] and results in a very limited interpretation of the surrounding vegetation.

7.3 Charcoal Identification

By Rowena Gale and Frances Green

Seventeen charcoal samples were examined (see Appendix 12). The samples were small and some consisted of fragments measuring less than 2mm in radial cross-section. Identification was undertaken to isolate suitable charcoal for C14 dating.

The samples were prepared using standard methods (Gale and Cutler 2000). Anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to x400 and matched to prepared reference slides of modern wood. When possible, the maturity of the wood was assessed (i.e. heartwood/sapwood).

The taxa identified, together with charcoal recommended for dating, are shown in Appendix 12. All bar one of the samples included suitable charcoal for AMS.

The seventeen samples analysed included several from the Early Neolithic Pit Cluster 1. These included five pits dated to the Early Neolithic: pit [550] sample <101>, pit [812] sample <104>, pit [807] sample <105>, pit [818] sample <106>, pit [821] sample <107>, pit [834] sample <112>. Charcoal was also recovered

from an undated prehistoric pit within the area of Pit Cluster 1: pit [827] sample <108> and sample <109>. A single sample of charcoal from a late Neolithic Bronze Age pit [527] sample <100> was also analysed. The remaining samples were from Early Saxon features: pit [962] samples <116> and <118>, SFB [993] samples <126>, <131> and <132>, SFB [1004] samples <139>, <142> and <159>.

The charcoal from Early Neolithic features included a few fragments from forest trees oak (*Quercus*) but the most important contributors were those from open woodland and the edges of woodland and included species which prefer an open relatively unshaded environment. For example charcoal was identified which may have been apple, pear, rowan, whitebeam, blackthorn and or hawthorn (Pomoideae and *Prunus*), hazel (*Corylus*), *Rosa/Rubus,* possibly bramble and buckthorn (*Rhamnus cathartica*). Charcoal from gorse or broom (*Ulex/Cytisus*) found in two of these Early Neolithic samples were later found to be intrusive from Saxon contexts.

The charcoal from the Late Neolithic/Early Bronze Age pit [524] sample <100> was exclusively that of Pomoideae and may have been from fruit trees apple or pear rowan, whitebeam or hawthorn. This indicates that no forest trees were being used for burning in this sample at least.

These prehistoric contexts indicate that forest trees were not largely being used for firewood, but the clearings which had been made within the woodland were being maintained by constantly removing the faster growing trees and shrubs which grew in and on their margins. It is interesting that no lime wood was found as charcoal despite the fact that the pollen record indicates this was the dominant tree. This is probably due to the fact the wood from this tree makes very poor firewood.

The Saxon contexts contained a much larger quantity of oak (*Quercus*) charcoal with this species being found in all features. It is possible oak was being used specifically for burning, but it is also likely it was used in the construction of the buildings and that this timber was being burnt when no longer serviceable. The large pit [962] filled with burnt flint and charcoal contained much larger quantities of hawthorn and this indicates the probable use of hedgerow trimmings for firewood. Hawthorn in hedges also suggests the presence of cattle or sheep, since hawthorn is a species frequently found in stock hedges. Charcoal of gorse or broom was also found in pit [962], indicating the use as firewood of a scrubby shrub typical of poor acidic soils.

Charcoal of blackthorn and probably hawthorn were found in smaller quantities in four other samples of this date.

7.4 Soil Micromorphology, Chemistry and Magnetic Susceptibility

By Richard Macphail and John Crowther

The site is composed of high ground that slopes down to the River Yare, some 500m to the south. The archaeology includes probable Neolithic pits (at the top of the site) and other features, later prehistoric features (e.g. ditch fills), Saxon SFBs (base of the slope) and medieval and post-medieval features, as well as Pleistocene periglacial drift and blown sand, and colluvium. As recommended in the soil evaluation, soil micromorphology, chemistry and magnetic susceptibility

analyses were applied to two Early Saxon SFBs [992] and [1004], and loss on ignition (LOI) and magnetic susceptibility studies were employed to aid the interpretation of Neolithic pit fills and feature fills that may have been a burned tree hole.

7.4.1 Methods

7.4.1.1 Chemistry and magnetic susceptibility

Analysis was undertaken on the fine-earth fraction (i.e. <2mm) of the samples. LOI (loss-on-ignition) was determined by ignition at 375°C for 16hr (Ball 1964), previous experimental studies having shown that there is no significant breakdown of carbonate at this temperature. Phosphate-Pi (inorganic phosphate) and phosphate-Po (organic phosphate) were determined using a two-stage adaptation of the procedure developed by Dick and Tabatabai (1977). The phosphate concentration of a sample is measured first without oxidation of organic matter (P_i), using 1N HCl as the extractant, with a slight excess of HCl being added to neutralise any carbonate prior to extraction; and then on the residue following alkaline oxidation with sodium hypobromite (P_o), using 1N H_2SO_4 as the extractant. Carbonate content estimated by observing the reaction when 10% HCl was added to the sample (Hodgson 1974).

In addition to χ (low-frequency mass-specific magnetic susceptibility), determinations were made of χ_{max} (maximum potential magnetic susceptibility) by subjecting a sample to optimum conditions for susceptibility enhancement in the laboratory. χ_{conv} (fractional conversion), which is expressed as a percentage, is a measure of the extent to which the potential susceptibility has been achieved in the original sample, viz: (χ/χ_{max}) x 100 (Tite 1972; Scollar *et al*. 1990). In many respects this is a better indicator of magnetic susceptibility enhancement than raw χ data, particularly in cases where soils have widely differing χ_{max} values (Crowther and Barker 1995; Crowther 2003) – with a χ_{conv} of ≥5.00% often being taking to be indicative of burning under UK conditions. A Bartington MS2 meter was used for magnetic susceptibility measurements. χ_{max} was achieved by heating samples at 650°C in reducing, followed by oxidizing conditions. The method used broadly follows that of Tite and Mullins (1971), except that household flour was mixed with the soils and lids placed on the crucibles to create the reducing environment (after Graham and Scollar 1976; Crowther and Barker 1995).

7.4.1.2 Soil micromorphology

Kubiena box samples 150 and 151, and column samples 129 and 130 (Appendix 13, Figs 13.1–4) were impregnated with a clear polyester resin-acetone mixture; samples were then topped up with resin, ahead of curing and slabbing for 75x50mm-size thin section manufacture by Spectrum Petrographics, Vancouver, Washington, USA (Goldberg and Macphail 2006; Murphy 1986). On receipt from the manufacturer, thin sections were given an extra clean and polished with 1,000 grit paper, and then digitally scanned (Appendix 13, 13.3–4). They were then analysed using a petrological microscope under plane polarised light (PPL), crossed polarised light (XPL), oblique incident light (OIL) and using fluorescent microscopy (blue light – BL), at magnifications ranging from x1 to x200/400; for example BL was useful in identifying extant roots and assessing their state of preservation. Thin sections were described, ascribed soil microfabric types (MFTs) and microfacies types (MFTs), and counted according to established methods

(Bullock *et al*. 1985; Courty 2001; Courty *et al*. 1989; Goldberg and Macphail 2006; Macphail and Cruise 2001; Stoops 2003). In addition, comparable investigations of the field characteristics, micromorphology and chemistry of Early Saxon SFBs from England and Europe were consulted (Grimm 1968; Guélat and Federici-Schenardi 1999; Gustavs 1998; Macphail and Cruise 1996; Macphail *et al*. 2006; Tipper 2001 and forthcoming; West 1985).

7.4.2 Results

The analytical data are presented in Appendix 13, with key features of the individual samples, particularly in relation to evidence of anthropogenic influence, being highlighted.

7.4.2.1 Chemistry and magnetic susceptibility of SFBs

The soils at Bowthorpe are developed on chalky till and glaciofluvial drift, which are locally very sandy and well-drained. As would be anticipated, therefore, the fills are largely minerogenic and contain detectable amounts of carbonate. The contexts sampled from SFB [1004] are distinctly more organic-rich (LOI: 1.62 and 1.74%) than those from SFB [992] (LOI range: 0.680–0.951%), and are also more carbonate-rich. Equally striking is the contrast in phosphate-P, with SFB [1004] having concentrations of 1.94 and 2.20 mg g^{-1} (here categorised as 'enriched' and 'strongly enriched', respectively), compared with what must be regarded as background concentrations of 0.426–0.527 mg g^{-1} in SFB [992]. As is commonly the case in archaeological contexts, the majority of the phosphate is present in an inorganic form (as a consequence of mineralisation of organic phosphate inputs through decomposition), and this is especially the case where contexts are clearly phosphate-enriched. Here, phosphate-P_i:P ratios in SFB [1004] are 86.1% and 85.9%, compared with 61.5–68.6% in SFB [992] (Appendix 13). Assuming that the differences between the two sets of samples are not simply a reflection of topsoil material being sampled in SFB [1004] and subsoil in SFB [992], then the much higher phosphate and organic matter concentrations recorded in SFB [1004] strongly suggest some form of organic enrichment, e.g. manure, midden-type deposits, etc. None of the samples from either SFB show clear signs of magnetic susceptibility enhancement (χ_{conv} range: 2.64–4.05%), i.e. there is no evidence that the fills have been subject to *in situ* burning, or contain significant quantities of inclusions that have been affected in this way. This finding perhaps suggests that the phosphate enrichment identified in SFB [1004] is more likely attributable to manure rather than midden deposits (which characteristically include burnt materials from hearths, etc.).

The analytical data have revealed much higher concentrations of organic matter (LOI), carbonate and phosphate in the fills of SFB [1004] than SFB [992]. Assuming that these differences are not simply a reflection of topsoil material being sampled in SFB [1004] and subsoil in SFB [992], then they are likely to be attributable to anthropogenic effects, such as contrasts in use.

7.4.2.2 Chemistry and magnetic susceptibility of Neolithic pits and natural

As noted above, magnetic susceptibility and LOI analyses were undertaken on these various contexts in the hope of establishing whether the pronounced redness that some of them display has been caused by burning. The results of the magnetic susceptibility analysis clearly suggest that this is the case. All seven contexts that are described as reddened or directly underlie such contexts have

χ_{conv} values (range: 7.58–35.4%), with four of the samples having values ≥30.0%, which have here been categorised as 'very strongly enhanced' (Appendix 13). These figures contrast markedly with the other pit fills and associated natural (χ_{conv} range: 0.28–3.45%), and also with the data from the SFBs (2.64–4.05%). Similar contrasts are also evident in χ values recorded, with seven reddened contexts having values in the range 49.1–355 x 10^{-8} m^3 Kg^{-1} compared with 0.9–7.7 x 10^{-8} m^3 Kg^{-1} in the other pit fills and natural. These observed levels of enhancement are very likely to be attributable to *in situ* heating/burning. It should be noted, however, that the χ_{max} values of the reddened contexts are consistently higher (range: 502–1140 x 10^{-8} m^3 Kg^{-1}) than the non-reddened samples, five of which are in the range (range: 175–472 x 10^{-8} m^3 Kg^{-1}) and the remaining sample (context (1008): natural cut by Early Neolithic pit [811]) has an unusually low value of 29.0 x 10^{-8} m^3 Kg^{-1}. Since χ_{max} largely reflects the overall iron (Fe) content, it is possible that the reddening observed in the soils is attributable to the presence of locally greater Fe concentrations. If the 'additional' Fe is in a mineralogical form that has a naturally higher susceptibility, then this could account for the observed levels of enhancement. The fact that the χ_{max} values recorded in the SFBs have a similar range (660–903 x 10^{-8} m^3 Kg^{-1}) as the reddened samples, but yet show sign of enhancement, perhaps suggests that this is not the case, but detailed mineralogical analysis and a much fuller programme of magnetic investigations would be needed to establish this with some degree of certainty. On balance, therefore, the results seem to indicate that the redness is attributable to burning, but further analysis is needed to confirm this.

Unfortunately, because of the highly minerogenic nature of the samples (12 of the 13 samples have LOI in the range: 0.425–0.756%), organic matter concentrations provide no useful additional insight into burning. One sample (context (823)) stands out has having a somewhat higher LOI (1.15%), and this perhaps merits further investigation.

The magnetic susceptibility analyses undertaken on the patches of rubefied soil and associated natural seem likely to indicate that the redness observed in some of the contexts is attributable to *in situ* burning. Unfortunately, because of the consistently higher χ_{max} values recorded in the reddened contexts (which is likely to indicate a higher Fe content, some of which may be in a mineralogical form that has a higher susceptibility), the results need to be interpreted with caution.

7.4.2.3 Soil micromorphology of SFBs [992] and [1004]

Findings are reported in Appendix 13 and illustrated in Figs 13.1–13.18.

SFB 992 (thin section M129) (Appendix 13, Fig. 13.1)

Context (1001) is mainly medium sandy subsoil material, with fine charred organic matter mixed in by biological activity, contaminating the natural Bw horizon subsoil. Context (996) is a weakly anthropogenic fill (cf fill in M130) containing rare charcoal and burned mineral grains, along with examples of coarse flint and examples of rounded chalk, relict soil (Bt(s)) fragments and clayey soil (Appendix 13, Figs 13.5–13.8). This is a weakly anthropogenic fill probably reflecting mainly natural soil infilling of this SFB compared to lateral sample M130.

Context (994), like context 1001, is also a dominantly medium sandy fill, but with enigmatic examples of calcitic burrow soils and an earthworm granule. Here, a

suspected blown sand fill is now influenced by more later soil amelioration (liming?) of the area or spread of calcitic fills from SFB [1004].

SFB 992 (thin section M129)

Context (1002) is again mainly composed of natural medium sands with few mixed-in fine anthropogenic inclusions (e.g. charcoal) and fragments of relict subsoil Bt(s) horizon soil. This is moderately disturbed natural subsoil with coarse inclusions of earlier-formed subsoils that show relict argillic and later podzolic soil formation at the site.

Context (996) is an anthropogenic fill of sands with small gravel, burned mineral grains, possible burned ironpan fragments and small fragments of clayey soil, with overall very abundant charcoal (but with no significant LOI, phosphate-P or magnetic susceptibility signal, apart from slight magnetic susceptibility enhancement; see Appendix 13, Table 1 and Figs 13.9–13.10). The fill was affected by post-depositional burrowing, including mixing-in of calcareous soil (and including a large earthworm granule) that buries the site (see M129). Here the anthropogenic fill records the marked presence of charcoal and some burned mineral hearth debris and possible trace amounts of building/manufactured daub/loomweight (clayey soil).

Context (994) is made up of sands with trace amounts of fine anthropogenic material (as in (996)). There also rare burrow-fills of calcitic soil (from overburden? or occupation soil spreads – see M150 – possibly from medieval ploughing). Context (994) may therefore be mainly a late fill of blown sand.

SFB 1004 (Thin section M150)

Context (1023) is a moderately heterogeneous mix of mainly weakly calcitic (ashy) sands with frequent strongly calcitic (ash-rich) sands, which include much fine charcoal and occasional phytoliths (Appendix 13, Figs 13.11–13.12). There are also examples of small aggregates of ash. Other anthropogenic materials include very abundant patches of chalky soil (daub/'cob'?) that embeds sand (Appendix 13, Figs 13.13–13.14), and sometimes show past rooting and decalcification; human coprolites (with embedded cereal and plant material) that are autofluorescent under blue light (and inferring, like bone, an 'apatite' mineralogy; see Appendix 13, Figs 13.17–13.18), burned (calcined) flint and clayey soil (~unfired loomweight fragments?) also occur. There are both very abundant very thin (acidophyle) and broad (earthworm – also biogenic granules) excrements as evidence of biological working of this fill.

This context is strongly anthropogenic in character (see Appendix 13, Table 1 for LOI, estimated carbonate and phosphate-P) with evidence of fills containing ashy plant processing waste and/or relict burned dung, much fragmented chalky daub (cob?), human coprolites and possible clayey unburned loomweight fragments.

Context (1019) is not clearly distinguishable in thin section sample M150.

SFB 1004 (Thin section M151)

Contexts (1019/1023) in M151 are highly similar to these contexts in M150, but contain less calcitic ashy fine material and chalky soil (daub/'cob'?). They do contain a few more angular fire-cracked(?) coarse flint, and here coprolitic material mainly occurs as very fine bone and coprolites, although one coarse bone

fragment is present (Appendix 13, Figs 13.15–13.18). The deposit also contains traces of Bt(s) horizon material and an example of micaceous sediment. One large chalk clast displays decalcification and weak phosphatisation (Appendix 13, Fig. 13.4). Burrowing by both acidophyle mesofauna and earthworms is recorded. Again, this is a strongly anthropogenic fill with similar characteristics and inclusions as in M150.

7.4.3 Discussion

The soil micromorphology, chemistry and magnetic susceptibility studies of thin section and bulk samples from these two Early Saxon SFBs provide data on the natural soil landscape and Early Saxon activities, which can be also extrapolated to aid the understanding of the earlier soils associated with Neolithic features.

The site occurs on chalky till and glaciofluvial drift with a 'mapped' cover of stagnogleyic argillic brown earths (Burlingham 1 soil association; Hodge *et al*. 1983), but the local soils are best termed typical brown sands (Newport soil series) and vary in depth from *c*.30 cm (eroded/deflated once-ploughed) pasture soils to >1m thick colluvial soils. The evaluation (Macphail 2005) describes the possible earlier presence of podzols and podzolisation at the site on sandy substrates – and that this pedological process could have affected earlier (Neolithic) fills. Although no *in situ* buried soils were investigated, soil inclusions in the SFB fills suggest that Holocene pedogenesis had produced an initial argillic brown sand soil (at least in places), with a lower subsoil Bt horizon characterised by void and grain clay coatings. As soils continued to acidify upper horizons became more strongly leached (bleached) and the downward movement of sesquioxides (illuviation) coated the previously-developed argillic Bt microfabric (forming a Bt(s) 'lessived podzol' horizon; Duchaufour 1982, 300); some subsoil sands also became iron-humus (spodic) cemented and ironpans formed in places (Appendix 13, Figs 13.5, 13.6 and 13.9). These processes are typical on impoverished sandy substrates, and likely occurred at Bowthorpe (cf LBA–EIA Hengistbury Head, Hampshire; Macphail 1992; Scaife 1992). The SFB fills contain fragmentary evidence of these soil types once being present. In East Anglia, brown sandy soils were still extant during Neolithic times but many had become podzolised by later prehistoric times (Macphail and Crowther 2002; Murphy 1984; Perrin *et al*. 1964; Wainwright 1972). Clearly, Neolithic activity probably took place in an area of sandy and sandy argillic brown soils, with sandy soils and some sandy feature fills becoming more acidified later – the flint and fire-cracked flint present in the SFBs show no iron staining, inferring bleaching, and moreover because they are not iron-stained they have produced little in the way of magnetic susceptibility enhancement even when burned.

The magnetic susceptibility study of Neolithic feature fills, including suspected burned (reddened) soils, is therefore considered in the light of this interpretation of the Neolithic soil cover and later pedogenesis. The link between soil reddening with burned tree subsoil hollows and associated woodland clearance has been inferred from a number of Neolithic and Early Bronze Age sites; the effect of *in situ* burning which produces a markedly enhanced magnetic susceptibility being an important indicator (Barclay *et al*. 2003; Healy and Harding, forthcoming; Goldberg and Macphail 2006, 190–202; Macphail and Goldberg 1990).

By Saxon and recent times soil instability had led to aeolian activity – deflation and sand-duning – to produce a general brown sand soil cover (Mikkelsen *et al*. 2007; Murphy 1984; Radley and Simms 1967).

7.4.3.1 Early Saxon occupation

Excavation and construction of SFBs [992] and [1004] disturbed the *in situ* sandy soils fragmenting the underlying Bt(s) soil horizon, and rarely also thin ironpans (Appendix 13, Figs 13.2, 13.5, 13.6 and 13.9). Chalky till underlying the sand and non-calcareous clay (from palaeochannel fills?), however, was probably purposely extracted and used for constructing chalky daub ('cob'?) or surfaces, and possibly (unfired) loomweights, respectively (Figs 13.7, 13.8, 13.13 and 13.14). Chalky daub was identified at Middle Saxon West Heslerton, North Yorkshire (blown sand site abutting the Yorkshire Wolds; Macphail *et al*., forthcoming; Tipper, forthcoming), and is also present at a number of Suffolk and Bedfordshire sites. The investigation of unfired loomweights in SFB fills at West Heslerton, and Clapham and Harrold, Bedfordshire (Macphail 2000; Macphail and Crowther 2004) indicates that local clay was utilised, including that from palaeochannels (rather than local sands or chalky deposits).

An inferred relationship between the intensity of the anthropogenic signal in SFB fills and phase of occupation has been suggested from the study of 22 Early–Middle Saxon SFBs from English and Swedish sites (Goldberg and Macphail 2006, 242–4; Macphail *et al*. 2006). Fills that closely resemble the local soil and show no phosphate-P enrichment and no magnetic susceptibility enhancement (cf SFB [992]) may result from the construction and use of an SFB at a greenfield site during the first phase of occupation, or at the edge of a settlement. In contrast, fills that are strongly phosphate-P enriched and have an enhanced magnetic susceptibility signal, and include many anthropogenic materials (cf SFB [1004]) more likely occur within an established settlement. At SFB [1004], although magnetic susceptibility enhancement is not recorded, phosphate-P is enriched to strongly enriched, and the fill contains many anthropogenic inclusions.

It can be suggested at SFB [992] that the charcoal-rich fill (Appendix 13, Figs 13.3 and 13.10) is not an *in situ* hearth, because there is little burned mineral material to permit the identification of a fireplace, nor is there sufficient magnetic susceptibility enhancement to indicate this. Tipper (2001) challenged West's (1985) identification of *in situ* hearths in SFBs except as possible secondary use features, because suspended plank floors are now universally envisaged for these Early Saxon Period SFBs (Macphail *et al*. 2006). Instead, this charcoal-rich fill may more likely reflect very local burning, and debris being swept or blown into a deconstructed SFB; χ_{conv} values of 2.73–4.05 % simply record the inclusion of rare burned mineral grains. For the reasons discussed above, it can be suggested that SFB [992] was constructed and utilised at a greenfield site possibly during the earliest phase of the Bowthorpe Early Saxon settlement.

In contrast, the presence of very abundant chalky soil (daub/'cob'?), fine to coarse coprolitic bone and probable human coprolites, fragments of clayey soil (unfired loomweight material), and fine microfabrics containing much fine charcoal, with ash, phytoliths and amorphous organic matter, along with an enriched to strongly enriched phosphate-P content, all indicate SFB [1004] was constructed and utilised in an established settlement (Appendix 13, Figs 13.11, 13.12, 13.15 and 13.18). Nevertheless, the lack of burned mineral material (apart from burned non-

iron stained flint) and any associated magnetic susceptibility signal, is enigmatic. Given that only two SFBs have been analysed from Bowthorpe, it is difficult to say more about the possible phasing and morphology of this settlement.

It can be suggested that the anthropogenic debris (and associated phosphate-P enrichment) is associated with local soils and occupation material infilling a deconstructed SFB, along with blown sand that tends to dilute the fill. In addition, it is clear that ashy deposits and included amorphous organic matter, wood charcoal and probable charcoal of straw, reflect local activities; for example, the burning of crop processing waste and dung is indicative of mixed farming practices (with cattle?) at Middle Saxon Stratton (Biggleswade; Cruise and Macphail 1998; Macphail and Cruise 1998) and Harrold, Bedfordshire, at West Heslerton (with sheep) and at Svågertorps, Malmö, south Sweden (with cattle). The scatter of included coprolitic bone and coprolites containing plant (cereal) material at Bowthorpe supports this view; ashy inputs (e.g. from burned dung) into SFBs are also common. Chalky soil (daub/'cob') may also have been used for constructing surfaces (associated with no-longer extant rectangular buildings?; cf West Heslerton); examples of this material show rooting and the effects of decalcification and sometimes phosphatisation before entering the SFB.

Unlike some Middle Saxon SFB fills from Europe (e.g. the Swiss Jura), England and Scandinavia, the fills at Bowthorpe show no evidence of *in situ* dumping of liquid cess, or the relatively higher amounts of organic matter and phosphate (6.2–7.0% LOI and 3.16–5.04 mg g^{-1} P) and strongly enhanced magnetic susceptibility found at these sites (Guélat and Federici-Schenardi 1999; Macphail *et al*. 2006). This may reflect a lower intensity/more short-lived Early Saxon occupation at Bowthorpe compared to Middle Saxon sites, but again, only two SFBs were analysed so this must remain conjecture.

Post-depositional processes that have affected the site include both working by acidophyle small invertebrate mesofauna and earthworms. The latter may be linked to medieval ploughing that probably spread the calcitic Early Saxon occupation soil across the site, and/or possibly also to any soil amendment practices (e.g. liming) that may have been carried out.

7.5 Clast Lithological Analysis

During fieldwork the composition of the underlying sands and gravels was observed to contain clasts from a wide range of geological sources: igneous, metamorphic and sedimentary rocks, including sandstone and gritstone (Appendix 14). They are likely to be glaciofluvial outwash gravels and glacial tills with sources from a wide geographic area. Such wide ranges of different lithologies indicate the gravels have not been subjected to prolonged periods of recycling and reworking.

Almost all of the stones recovered from features were heat affected, their subsequent inclusion within archaeological features was due in some cases accidental and in others perhaps more intentional. There does seem to be some preference for quartzite and sandstone. The burning of vein-quartz pebbles may have some as yet unattributed significance.

8.0 Scientific Dating

8.1 Radiocarbon Dating

Six features have been selected for dating. Four probable Neolithic pits [811], [818], [827] and [821], a pit with grooved ware pottery [527] and a probable Saxon pit [962] filled with burnt flint.

Most of these samples have replicates in order to refine the dating within each feature, although samples <106> and <107> and <108> only have enough material for a single date.

Early Neolithic pits				
Sample	Beta No.	Context number	Material for dating	No. of AMS dates
<106>	243327	Fill 819 of pit [818]	1.Pomoideae charcoal	1
<104>	243325 243326	Fill 812 of pit [811]	1.Charred root and stem 2.Prunus charcoal	2
<108>	243329	Fill 828 of pit [827]	1.Corylus charcoal	1
<109>	243330 243331	Fill 829 of pit [827]	1.Corylus charcoal 2.Ulex/Cytisus charcoal	2
<107>	243328	Fill 822 of pit [821]	2.Ulex/Cytisus charcoal	1
Late Neolithic Early Bronze Age pit				
<100>	243323 243324	Fill 526 of pit [527]	1.Hazel nut shell 2.pomoideae charcoal	2
Undated possible Saxon pit filled with burnt flint				
<116>	243332 243333	Fill 965 of pit [962]	1.Hawthorn/Sorbus 2.Pomoideae charcoal	2

Table 13. Summary of samples taken for radiocarbon dating.

The full results of the radiocarbon dating and associated calibration curves are presented in Appendix 15 and summarised in Table 14.

Beta Sample	**Date**
243323	Cal BC 2840 to 2810 (Cal BP 4790 to 4760) AND Cal BC 2670 to 2480 (Cal BP 4620 to 4420)
243324	Cal BC 2890 to 2620 (Cal BP 4840 to 4570)
243325	Cal BC 1420 to 1250 (Cal BP 3370 to 3200) AND Cal BC 1240 to 1220 (Cal BP 3190 to 3170)
243326	Cal BC 2120 to 2090 (Cal BP 4070 to 4040) AND Cal BC 2040 to 1880 (Cal BP 3990 to 3830)
243327	Cal BC 2850 to 2810 (Cal BP 4800 to 4760) AND Cal BC 2740 to 2730 (Cal BP 4690 to 4680) AND Cal BC 2690 to 2480 (Cal BP 4640 to 4430)
243328	Cal AD 650 to 770 (Cal BP 1300 to 1180)
243329	Cal AD 620 to 690 (Cal BP 1330 to 1260)
243330	Cal AD 650 to 780 (Cal BP 1300 to 1170)
243331	Cal BC 200 to Cal AD 10 (Cal BP 2150 to 1940)
243332	Cal AD 420 to 610 (Cal BP 1530 to 1340)
243333	Cal AD 420 to 600 (Cal BP 1530 to 1350)

Table 14. Summary of radiocarbon dates

9.0 Conclusions

The archaeological excavations undertaken at Bowthorpe Three Score on the south-facing slopes of the valley over looking the meandering River Yare, 20m below and a few hundred metres to the south, have revealed evidence of human activity in the area during the entire Holocene.

A great influence on the later activities and occupation of the site is the underlying geology. This part of the Yare valley is underlain by Pleistocene deposits of chalky tills, glaciofluvial sands and gravels and wind blown coversands. Periglacial activity has resulted in patterned ground of gravels and clays on the most elevated parts of the site with numerous 'palaeochannels' filled with sands running down the slope. The possible late glacial (13–10k years BP) coversands have masked what was a more undulating landscape and appear to be banked up in the north/central part of the site against a possible terrace edge, cut into the lower glaciofluvial sands and gravels. Such Pleistocene sandy drift has been shown to be very vulnerable to deflation and Aeolian movement, even in modern times (Radley and Simms 1967). It is these coversands which are responsible for the large-scale movement of the sandy soils which developed into its surface in subsequent periods.

The main periods of activity on this hillside were Neolithic and Early Saxon, but several flints dating from the Upper Palaeolithic and Mesolithic were found either in unstratified contexts or redeposited within later features. During the Late Glacial and earlier Mesolithic there was a concentration of activity in the major river valleys with the evidence from several local valley sites being reported on by Robbins and Wymer (2006). The presence of probable Upper Palaeolithic flints at Bowthorpe fits in well with evidence from other parts of the Yare valley, for example an *in situ* working site at Carrow Road (Adams, forthcoming) next to the river Wensum and Laurel Farm to the east of Norwich (Bishop, forthcoming). Although the landscape would have been more densely populated in the Mesolithic, small quantities of Mesolithic flint suggests activity from this period to be of a short stay, task-specific nature perhaps by transient groups.

Mesolithic activity, like that of the Upper Palaeolithic, is frequently concentrated in river valleys. Although there is no direct evidence from this site, the vegetation in the immediate post glacial (10–9k years BP) was likely to have been initially an open birch and pine woodland (typical of lowland England for example; Waller 1994) becoming a dense pine woodland with birch, oak and hazel later in the Mesolithic (9–4k years BP) with increasing amounts of alder from the beginning of the Atlantic period (7–8k years BP). This is the type of vegetation during the Mesolithic in the Wensum valley described from Riverside in Norwich (Wiltshire and Emery 2000). Pollen evidence from Bowthorpe indicates that, unlike at Riverside in Norwich and Hockham Mere, Norfolk (Bennett 1983), where the Atlantic forest was dominated by pine (Riverside) and elm (Hockham), there was a mixed deciduous forest dominated by lime with oak and birch a lesser components. Such woodland is typical of natural European woodland today, where lime is co-dominant with oak. It is likely, however, that Mesolithic peoples were having an impact on this wild wood with evidence for example from sites in the fens (French and Pryor 1993) and Hockham Mere (Sims 1973) that by the Late Mesolithic there was at least some disruption to woodland cover

By the Early Neolithic pollen evidence indicates that small grassy clearings were being created in the lime-dominated deciduous woodland at Bowthorpe. Molluscan evidence is consistent with this interpretation with, but also suggests some wetter areas in the immediate vicinity of some of the pits. Several patches of burnt and reddened (rubefied) soils with enhance magnetic signals are likely to be Early Neolithic and provide evidence of woodland clearance and subsequent burning of the brush over several days either in big piles or in tree hollows. Similar evidence of Neolithic tree clearance has been inferred from a number of other Neolithic and Bronze Age sites, for example at Raunds, Northamptonshire, and Drayton Cursus, Oxfordshire (Goldberg and Macphail 2006, 190–202).

The first archaeological features recorded are from this period and although there is no clear evidence of occupation at this time there is a tantalising suggestion of a rectangular post built structure which may have been a building. A rough alignment of pits running down the valley (Pit Cluster 2) may have marked some sort of land boundary off which the possible building may have been constructed. Possibly preserved within the structure or small collection of pits/post-holes was a small area of probable Neolithic ground surface. This relict Neolithic soil was the base of a brown sand soil (Macphail 2008) typical of the woodland soils in this area and recorded locally from the same period at Colney (Whitmore 2004). This activity coincides with the initiation of widespread construction of monuments and mortuary structures downstream in the Yare valley, particularly at the confluence with the Tas valley, and fits into a landscape increasingly occupied and regarded as important during this period (Ashwin and Bates 2000).

The most significant Early Neolithic activity was the digging of special pits in Pit Cluster 1, where a loose cluster of 12 pits (nine of which were Neolithic, but not necessarily Early Neolithic), located on the highest point of the site on a small bluff overlooking the river. It is important to realise that prior to subsequent soil erosion the topography of the site was much more undulating and these pits would have been on a distinct hillock with the land dropping away steeply in all directions. Many of the pits had been revisited after significant period of time, perhaps a few hundred years, and new cuts carefully excavated within them therefore, each one of the pits must have been marked, perhaps with an earthen mound or post.

These pits were predominantly vertical-sided deep pits some in excess of 1m deep. Most did not show any signs of weathering, suggesting they were infilled rapidly after excavation. The initial fills were frequently sterile sandy or stony fills, but subsequent deposits were often sooty and contained negligible amounts of pottery and more frequently worked flint. It is the deposition of flint which is distinctive and Bishop concludes that the flint had been carefully selected prior to deposition with some pits accepting entirely primary knapping waste and that others containing useful flint for tools.

Any organic remains have been lost and there is no bone preservation in these acid soils, therefore it is only the flints which allow the conclusion that similar to evidence from an increasing number of pits of this period from other sites in East Anglia for example Kilverstone, and Broome Heath (Garrow *et al.* 2005; Wainwright 1972) that these were dug specifically to accept selected material and they probably held great meaning top those who excavated them. It is likely that this pit cluster is the consequence of some sort of ritualised activity. The pits may have been excavated to accept the symbolic burial of waste from the range of

activities on the site and from occupation (Garrow 2005). The purpose of the pit digging and specific and selected burial of materials within the pits would have had an intent and meaning and has been described as a material language perhaps conveying a message which is now lost to us (Thomas 1999).

A series of seven AMS radiocarbon dates were obtained from four of these pits but of these only two dates were reliable. The oldest date was from the later Early Neolithic and the other AMS date from another pit fell within the Late Neolithic–Early Bronze Age. These dates and the presence of distinctive Early Neolithic flint suggests they were excavated over a minimum of 600 to 970 years i.e. from the Early Neolithic into the Early Bronze Age (LNEBA).

The continuation of the deposition of selected deposits in specially excavated pits is demonstrated into the Late Neolithic–Early Bronze Age. At this time a pair of shallow scoop pits was excavated away from the main focus of pit digging at the top of the hill. The pits were shallow and infilled with a sooty sand which in one pit contained a large quantity of Grooved Ware and worked flint. The location of these pits, close to a river on low lying ground, is typical of features containing Grooved Ware (Garrow 2006).

Grooved Ware is rarely found in Norfolk therefore two AMS radiocarbon dates were obtained from the pit which contained the largest assemblage. The resultant dates were consistent and provided conventional dates of 4170±40 BP. These results are very similar to these from Redgate Hill, Hunstanton (Healy *et al*. 1993) where the largest assemblage of Grooved Ware found in Norfolk suggest that it was in use around 2865–2405 cal BC (OxA-2310; Healy *et al*. 1993, 74). A recent review of radiocarbon determinations from around the UK suggests that the Grooved Ware tradition had an overall currency that fell within the period 3000–2000 BC (Garwood 1999, 152). The dates indicate an earlier rather than later date for the Grooved Ware at Bowthorpe.

Pollen evidence from the one of the recuts in Pit Cluster 1 indicates that by the Later Neolithic–Early Bronze Age there had been a further reduction in woodland cover. Although significant woodland still existed it was much more open and perhaps occurred in isolated stands. Lime was still a very important part of the Early Bronze Age woodland, but oak had relatively increased in importance. The presence of large amount of open woodland right into the Late Bronze Age was a feature recorded at Riverside Norwich (Wiltshire and Emery 2000). Evidence from the charcoal used in the Early Neolithic pits and into the Late Neolithic–Early Bronze Age does not reflect any specific change in resource with the principal charcoal being used. Little oak charcoal was identified with most being that of small trees (*Pomoideae* and *Prunus*) perhaps suggesting the utilisation of trees growing in the open light areas at the edges of the woodland; such trees may have included hawthorn, wild cherry trees and blackthorn. Lime the most important forest tree at this time is not found as charcoal probably since it is does not burn well and is regarded as poor firewood.

The initiation of woodland clearance in the Early Neolithic and into the Early Bronze Age was likely to have caused a limited movement of these friable soils and there is evidence downslope from Pit Cluster 1, in Grid 2, of 0.1m of colluvium which may have been initiated in the Late Neolithic–Early Bronze Age. It seems likely the larger-scale erosion commences when the land is ploughed on a big scale.

During the Bronze Age there is no evidence of any specific land use with very little activity corresponding to this period being recognised. The pollen record at Riverside, Norwich (Wiltshire and Emery 2000) indicates that in the local region there was still a reasonable woodland cover even if substantially thinned. However, the presence of cereal grains suggests the increasing use of land for arable use associated with increased soil erosion and the development of heathland on the acidic sandy soils in the catchment. A similar situation was likely at Bowthorpe and with this spread of heathland came soil impoverishment and the initiation of podzolisation. Evidence of podzolisation of probable Bronze Age date was found affecting the earlier fills of the Early Neolithic pits in Pit Cluster 1. Limited erosion and colluviation of the soils is likely to have taken place at this time with evidence that following further woodland clearance colluvium continued to accumulate in the hollow below the knoll where Pit Cluster 1 was dug. However, evidence of widespread colluviation at this time is limited. This may indicate that during the Later Bronze Age and probably into the Iron Age this valley side was likely to have been pasture. By the Late Bronze Age the evidence from Riverside (Wiltshire and Emery 2000) suggests that much of the woodland in the Wensum valley and been cleared, all the lime trees had been removed leaving only oaks. It is considered that by the Late Bronze Age virtually all of the lime trees had been removed in Norfolk.

The Iron Age activity on the valley side is limited and no features of this date were found in the excavation area. A low level of Iron Age pottery and a terret were found in unstratified contexts during the evaluation of the wider hillside. It is likely there was only small-scale activity during the Iron Age and the land was probably used for pasture. There is evidence from Riverside that in the Wensum catchment by the end of the Iron Age there was a general reduction in arable activity and an increase in animal husbandry (Wiltshire and Emery 2000). Whether there was any major arable use of this land at Bowthorpe at any time in the Iron Age is in fact debatable.

The Romano-British period in Norfolk is one where the land is largely cleared and farmed (Gurney 2005). With the final major woodland clearance taking place at this time the landscape was probably largely open with the exception of small woods, hedges and hedgerow trees. Rackham (1990) suggests that at this time woodland cover was low, much of it consumed for firewood for making bricks, pottery, iron and glass, heating water, etc.

At Bowthorpe there are few finds of this date apart from stray fragments of building material and occasional pottery found in Saxon features and some of the palaeochannels fills. The pottery all dates from the earlier Romano-British period (1st–3rd centuries AD) indicating that by the Late Roman period the area was not used in the same way. There is no evidence of any occupation on the hillside at this time and the land was almost certainly put to arable use. There was an emphasis at this time to utilise light soils (Murphy 1997) and there was an emphasis on the production of spelt wheat.

The most likely features of this date are a series of undated ditches which share a common alignment with the Romano-British field systems identified to the west by Percival (2002) and Trimble (2004). These ditches may have had had an earlier origin since they have been recut on numerous occasions, although it is likely when cut into the soft soils below they infilled very rapidly and were required to be

re-established on a regular basis. The ditches form two sides of a probable enclosure together with two trackways at the northern end of the site. The two trackways are of different dates with the later one re-establishing its route on a slightly different alignment to the earlier one.

The fact most of these ditches were infilled with sandy soils and very few artefacts implies the agricultural activity produced very rapid erosion and colluviation. Most of the probable Roman features were sealed below at least 1m of colluvium suggesting the Romano-British farming ended in disaster with massive soil movement and deflation following the large scale ploughing of the soils. In fact it is not unlikely that at this time the palaeochannels of probable periglacial origin lower down the slope were reactivated perhaps producing an almost 'Badlands' topography with rainfall causing rechanneling of these earlier features and incorporating Early Neolithic, and occasional Romano-British deposits into their sandy fills. The light sands would have been very vulnerable to deflation and aeolian movement and the overall effect of the wind blow was to bank the colluvium up slope into the hollows in the existing topography. This resulted in a very thin soils cover over the chalky till at the base of the slope and a thicker colluvium deposited against the slight hollow in the hillside half way up the hill. The concentration of Early Neolithic flints in much of this colluvium is a consequence of this being the principal period of activity prior to the Romano-British use of the site.

It is probable that the arable phase ended rapidly and pasture was able to re-establish itself on these light soils. Williamson suggesting that during the Early Saxon period in north Essex the lighter soils went out of cultivation (Williamson 1986) possibly with woodland establishing itself on former Romano-British arable land particularly on the interfluve soils. At Bowthorpe the return to pasture probably predated the breakdown of the large ordered towns and centralised agrarian economy in the early 5th century following the withdrawal of Roman rule and occurred late in the Romano-British period which would explain the lack of any late Roman finds on the site.

Following this probable reversion of the land to pasture a small farmstead occupied the central lower slopes of the site during the Early Saxon (6th century AD). Settlement depended upon a water supply and the pattern of Early Saxon settlement near rivers on light often gravelly soils is observed frequently in Norfolk (Penn 2005). Such sites were favoured also by Neolithic peoples so it is not a surprise that the two periods are frequently found at the same site for example at Kilverstone (Garrow *et al*. 2006).

The Early Saxon occupation of this area of the valley side was limited to a small farmstead. Three SFBs were identified in a small cluster; all were the two-post variety recorded as Type A at West Stow (West 1985). These SFBs were likely to have acted as dwellings as no post structures were identified. A similar situation was observed at Redcastle Furze, Thetford (Andrews 1995), Aldeby (Trimble 2001) and Snetterton (Robertson 2004), and is likely to indicate a poor rural settlement. The buildings were not all contemporary, with one or possibly two standing at any one time. This chronology is established by soil micromorphology which indicates the first SFB [992] was established on a greenfield site and that a later SFB [1004] was infilled on more developed settlement. Following abandonment the SFB hollows appear to have been infilled with layers of waste and backfilled soil. Some of the domestic waste was probably standing in surface

rubbish heaps prior to being used as backfill. The refuse contained the full range of finds associated with Saxon life, including weaving equipment as well as food and fire waste together with lost and broken finer items such as brooches, beads and combs. Within these features and their spoil was a small amount of Roman building material and two Roman artefacts which echoes the recovery of Romano-British material at West Stow for example, where it is viewed as being useful material salvaged from a nearby Roman site (West 1985, 167).

Associated with this small cluster of SFBs were a series of pits of largely unknown function typical of Saxon sites for example at West Stow (West 1985). A pit filled with burnt flint and charcoal which may well have been a cooking pit although other industrial or even ritual options are suggested was similar to those described at Kilverstone (Garrow *et al.* 2006) and Redcastle Furze (Andrews 1995). It produced two Early Saxon AMS dates.

Despite the fact the soils were light, poor, susceptible to wind blow and erosion the presence of burnt plant processing waste and/or relict dung recorded from thin sections in the infill of the SFBs, together with occasional grains of wheat and barley indicates some limited arable activity was being carried out, although it is always possible the cereals were imported. Cattle were used for traction, possibly for ploughing. Evidence for this was seen in the arthritic damage to joints of cattle likely to be caused by such an activity. Although some of the soils must have been ploughed such ploughing must have been limited since the Saxon buildings do not cut through a great depth of colluvium indicating much of the colluvium post-dates the Early Saxon period.

There was a lack of significant field boundaries contemporary with any these buildings, but it is most probable they were part of a small mixed pastoral and arable farm. The lack of ditches is characteristic of an earlier phase of the Earlier Saxon for example at Redcastle Furze (Andrews 1995) and West Stow where boundary ditches appear to develop in the 7th century (West 1985).

Pigs and chickens were likely to have been reared close to the dwelling and surroundings fields grazed initially by a mix of cattle and sheep although there is some evidence to suggest that during latter occupation of the site sheep numbers increased relative to cattle. This increase in sheep numbers is observed at other Early Saxon sites, for example at Redcastle Furze, where cattle are also important in the Early Saxon period (6th–7th centuries AD), but by the Later Saxon period sheep were equal in numbers to cattle. This is thought to represent an increase in the commercial importance of wool in this later period and in particular the importance of the wool trade with the continent (Wilson 1995, 128). At Bowthorpe the increase in sheep numbers probably predates this expansion of the wool trade and could be a consequence of soils becoming less productive for cattle.

The extent of woodland at this time is much debated (Wade 1997). However, it is thought that following the withdrawal of Roman rule tree cover started to re-establish at least on marginal land and Early Saxon land left unused would have been invaded by trees (Rackham 1990). The wider landscape was likely to have been fairly open at this time, but with woodland encroaching of former arable land (Williamson 1986). It is possible that some of the pastoral activity was being carried out in wood pasture and grazed woodland (Rackham 1990). Such woodland pasture would have widely set trees plus grass and would have supported cattle and sheep. The existence of limited woodland of oak and possibly

beech to provide pannage for the autumn feeding of pigs on acorns and beech mast is also a possibility. There is little evidence from the Saxon settlement to determine woodland cover at this time, but the presence of roe deer bones in one the SFBs suggests at least some woodland nearby. The presence of probable stock hedges of hawthorn and blackthorn are indicated by large proportions of particularly hawthorn charcoal in the Saxon features. It is possible that trimmings from hedge cutting were used for charcoal production and burnt for cooking and heating. Hedgerows are also indicated by the presence of the woodmouse and the bank vole. Oak was still an important tree both in the landscape and for its uses in construction with its charcoal being found in all features. Gorse scrub grew on the poor pasture on the dry sandy soils, which may have occasionally been burnt to remove it. The charred roots of gorse or broom was found intrusively within the fills of two Early Neolithic pits of and radiocarbon dates show they were Early to Middle Saxon. Gorse charcoal was found within the fills of the some of the pits of this date. Molluscan evidence also suggests a site close to hedges, scrub or the edge of woodland with some open grassland and damp areas such a water meadow or water filled ditches. The environment indicated by the mollusca is very similar to that during the Early Neolithic. A situation which may reflect the colonisation of the Saxon timber structures by mollusca that are usually found in woodland. There is a suggestion of increased aquatic and wet habitats in the Saxon period indicated by the presence of frogs, newts and toads. These herpetofauna would have come from the marshes by the river and perhaps sheltered in and around the buildings. The use of the river as a food resource is indicated by the presence of a pike bone.

A similar small cluster of Early Saxon SFBs and an associated post-hole building was recorded some 500m to the west (Trimble 2004), which perhaps represents an adjacent small farmstead or small holding. Suggesting that on poor soils even on south facing valley sides Early Saxon farming was impoverished with small dwellings areas.

There is no excavated Middle or Late Saxon evidence of occupation on the site, but a scatter of Middle and Late Saxon finds suggests settlement became centred on the area of Chapel Break almost 1km to the west (Beazley and Ayers 2001). This lack of continuity between the Early and Middle Saxon periods is typical of the period (Rogerson 1996) and there is a ubiquitous evidence of this settlement shift in Norfolk and Suffolk (Wade 1997). The Break or Brek of Chapel Break may be defined as ‘a large division of open corn field.’ (Forby 1830, cited in Beazley and Ayers 2001) although Beazley and Ayers add to this definition the fact the soil is poor and ploughed infrequently. This is a good indication of the way the soil was regarded perhaps in the Late Saxon period when the name was established. It is probable that the hillside reverted entirely to pasture in the Later Saxon period.

The expansion of population in the medieval period particularly in the 12th–13th centuries required that even marginal land was used for cultivation (Wade 1997). There is evidence at Bowthorpe of such medieval cultivation where fragments of a ploughsoil were observed cutting two of the Early Saxon buildings. This possible medieval cultivation may have been associated within an open-field system since no field boundaries of this date were recognised and a very faint trace of ridge and furrow was observed in the fields to the south of Bowthorpe Hall to the west. These fields would have been attached to the village of Bowthorpe 1km to the

west and north which was well established at this time having at least a Late Saxon origin, being mentioned in Domesday Book.

Soil micromorphological work identifies possible liming of these probable medieval soils in an attempt to improve them. In the areas where this medieval ploughsoil was tentatively identified it was found below a further depth of soils which indicates further soil erosion, deflation and colluviation in the post-Saxon period. Few medieval metal finds were found in any of the soils, suggesting limited manuring and indicating the medieval ploughing was relatively short lived.

The contraction in population in the 14th century caused by the Black Death may account for once more this marginal land returning to rough pasture. The metal-detected finds suggest the likelihood of piecemeal cultivation being carried out sporadically during the later post-medieval period and into modern times with the last known ploughing occurring within the last 10–20 years.

This valley site with its south-facing position overlooking the River Yare was physically an ideal location for settlement and in early prehistory was part of a busy and particularly important landscape, where Neolithic peoples lived surrounded by a wealth of funerary and ceremonial activities (Ashwin and Bates 2000). However, the light sandy soils were to prove unsuitable for anything other than pasture and during the successive periods whenever cultivation took place it appears that the poor acidic soils underwent large scale deflation and erosion. This erosion and soil movement has however had some benefits in that many of the features which may have been lost to subsequent ploughing were buried below colluvium and preserved allowing a fascinating insight into the activities on this hillside over the last 6000 years.

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Lucy Talbot cleaned and processed the finds. The prehistoric and Early Saxon pottery and fired clay was examined by Sarah Percival and Richenda Goffin, the small finds and metalwork by Julia Huddle. Alice Lyons and Cathy Tester reported on the Roman pottery. Lucy Talbot identified the iron nails and ceramic building material. The flint was examined by Barry Bishop and Sarah Bates. The plant macrofossil samples were processed by Robert Fryer and the analysis carried out by Val Fryer. Pollen analyses were carried out by Frances Green and the charcoal identifications made by Rowena Gale. The animal bone was examined by Julie Curl.

A field assessment of the soils was carried out by Richard Macphail. Subsequent soil analyses and reporting was carried out by Richard Macphail (University College London) and soil chemistry by John Crowther (University of Wales, Lampeter).

This report was illustrated by Julie Curl and David Dobson, with additional flint drawings by Giles Emery. The report was edited by Richard Hoggett.

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Appendix 1a: Context Summary

Evaluation trenches within the excavation area (sorted by trench)

Context	Trench	Category	Description	Period
30	57	Deposit	Mid-brown sandy silt (topsoil)	Modern
31	57	Deposit	Light brown sand (natural)	Geological (Quaternary)
71	55	Deposit	Mid-brown sandy silt (topsoil)	Modern
72	55	Deposit	Light brown sand (natural)	Geological (Quaternary)
73	75	Deposit	Mid-brown sandy silt (topsoil)	Modern
74	75	Deposit	Light brown sand (natural)	Geological (Quaternary)
83	75	Deposit	Light-to-reddish brown silty sand. Earlier ploughsoil/colluvium	Medieval to post-medieval?
84	55	Deposit	Mid-brownish orange silty sand (subsoil). Earlier ploughsoil/colluvium	Medieval to post-medieval?
85	55	Deposit	Pale brownish orange (? buried soil)	Prehistoric
86	55	Deposit	Mid-orange brown silty sand	Geological (Quaternary)
87	55	Deposit	Natural chalk	Geological
88	55	Cut	Sondage east-facing section	-
89	55	Cut	Sondage east-facing section	-
90	55	Cut	Sondage east-facing section	-
91	75	Deposit	Pale brownish orange silty sand (buried soil?)	Neolithic?
92	75	Cut	Sondage south-facing section	-
144	82	Deposit	Mid-brown sandy silt (topsoil)	Modern
146	76	Deposit	Mid-brown sandy silt (topsoil)	Modern
147	76	Deposit	Light brown sand (natural)	Geological (Quaternary)
169	55	Cut	Sondage through ? buried soil	-
170	55	Cut	Sondage through ? buried soil	-
171	55	Cut	Sondage through ? buried soil	-
172	55	Cut	Sondage through ? buried soil	-
173	55	Cut	Sondage through ? buried soil	-
174	55	Cut	Sondage through ? buried soil	-
175	55	Cut	Sondage through ? buried soil	-
176	55	Cut	Sondage through ? buried soil	-
177	55	Cut	Sondage through ? buried soil	-
178	55	Cut	Sondage through ? buried soil	-
194	76	Cut	Sunken-featured building	Early Saxon
195	76	Deposit	Single fill of SFB [194]	Early Saxon
196	76	Cut	Post-hole within SFB [194]	Early Saxon
197	76	Deposit	Fill of post-hole [196]	Early Saxon
198	76	Cut	Post-hole within SFB [194]	Early Saxon
199	76	Deposit	Fill of post-hole [198]	Early Saxon

Context	Trench	Category	Description	Period
200	76	Deposit	Earlier ploughsoil sealing SFB [194]	Medieval to post-medieval?
201	76	Cut	NNE-SSW ditch	Early Saxon
202	76	Deposit	Fill of [201]	Early Saxon
203	83	Deposit	Topsoil	Modern
204	83	Deposit	Natural sand and gravel	Geological (Quaternary)
205	75	Cut	Sondage through ? buried soil	-
206	75	Cut	Sondage through ? buried soil	-
207	75	Cut	Sondage through ? buried soil	-
208	75	Cut	Sondage through ? buried soil	-
209	75	Cut	Sondage through ? buried soil	-
214	83	Cut	Pit	Undated prehistoric
215	83	Deposit	Mid-brown sandy silt (topsoil)	Modern
216	83	Deposit	Fill of pit [214], grey sandy silt.	Undated prehistoric
217	83	Deposit	Fill of pit [214], light brown stony sand.	Undated prehistoric
218	83	Deposit	Fill of pit [214]light grey silty sand.	Undated prehistoric
219	83	Cut	Pit (circular)	Undated prehistoric?
220	83	Deposit	Fill of pit [219] light grey sandy silt.	Undated prehistoric?
221	83	Deposit	Fill of pit [219] stony yellow brown sand.	Undated prehistoric?
222	83	Cut	Elongated pit?	Neolithic to Early Bronze Age
223	83	Deposit	Fill of [222] mid-grey sandy silt with frequent gravel.	Neolithic to Early Bronze Age
224	57	Cut	E-W ditch	Post-medieval or modern?
225	57	Deposit	Fill of ditch [224]. A dark brown sand and silt.	Post-medieval or modern?
227	83	Cut	Circular pit.	Neolithic?
228	83	Deposit	Fill of pit [227] yellow brown sandy silt.	Neolithic?
229	57	Deposit	Dark brown sandy silt (topsoil)	Modern
230	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
231	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
232	57	Deposit	Dark brown sandy silt (topsoil)	Modern
233	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
234	57	Deposit	Light brown sand	Possible buried soil (Prehistoric?)
235	57	Deposit	Dark brown sandy silt (topsoil)	Modern
236	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
237	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
238	57	Deposit	Dark brown sandy silt (topsoil)	Modern
239	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?

Context	Trench	Category	Description	Period
240	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
241	57	Deposit	Dark brown sandy silt (topsoil)	Modern
242	55	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
243	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
244	57	Deposit	Dark brown sandy silt (topsoil)	Modern
245	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
246	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
247	57	Deposit	Dark brown sandy silt (topsoil)	Modern
248	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
249	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
250	57	Deposit	Dark brown sandy silt (topsoil)	Modern
251	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
252	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
253	57	Deposit	Dark brown sandy silt (topsoil)	Modern
254	57	Deposit	Mid-brown ginger sand (earlier ploughsoil)	Medieval to post-medieval?
255	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
256	57	Deposit	Dark brown sandy silt (topsoil)	Modern
257	57	Deposit	Mid-brown ginger sand (earlier ploughsoil?)	Medieval to post-medieval?
258	57	Deposit	Light brown sand (firm and probably silty)	Possible buried soil (Prehistoric?)
266	75	Deposit	Topsoil	Modern
267	75	Deposit	Subsoil (mid-reddish brown sandy silt, probable earlier ploughsoil)	Medieval to post-medieval?
268	75	Deposit	Pale yellow sandy silty, very firm with occasional large flints.	Probable Neolithic buried soil
269	75	Deposit	Reddish silty clayey sand	Geological (Quaternary)
270	75	Deposit	Mid-reddish brown sandy silt, probable earlier ploughsoil	Medieval to post-medieval?
271	75	Deposit	Pale yellow sandy silty, very firm with occasional large flints.	Probable Neolithic buried soil
272	75	Deposit	Mid-reddish brown sandy silt, probable earlier ploughsoil	Medieval to post - medieval?
273	75	Deposit	Pale yellow sandy silty, very firm with occasional large flints.	Probable Neolithic buried soil
274	75	Deposit	Mid-reddish brown sandy silt, probable earlier ploughsoil	Medieval to post-medieval?

Context	Trench	Category	Description	Period
275	75	Deposit	Pale yellow sandy silty, very firm with occasional large flints.	Probable Neolithic buried soil
276	75	Deposit	Mid-reddish brown sandy silt, probable earlier ploughsoil	Medieval to post-medieval?
277	75	Deposit	Pale yellow sandy silty, very firm with occasional large flints.	Probable Neolithic buried soil
278	83	Deposit	Fill of [227]	Possibly Neolithic
280	83	Cut	Pit, circular with vertical sides, evidence of in situ burning.	Neolithic
281	83	Deposit	Fill of pit [280] light yellow silty sand with frequent flint gravel.	Neolithic
282	83	Deposit	Fill of pit [280] yellow brown sandy silt, patches of reddened sand?	Neolithic
283	83	Deposit	Pit, small and circular with steep sides	Neolithic
284	83	Deposit	Fill of pit [283]dark grey sandy silt	Neolithic
446	55		unstratified finds from spoil from entire trench	
447	57		unstratified finds from spoil from entire trench	
458	83		unstratified finds from spoil from entire trench	

Excavation Contexts

Ctxt	Type	Category	Period
500	Deposit	Natural fill of [501]	Natural feature infilled during Quaternary to post-medieval
501	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
502	Deposit	Natural fill of [501]	Natural feature infilled during Quaternary to post-medieval
503	Deposit	Topsoil	Modern
504	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
505	Deposit	Natural fill of [504]	Natural feature infilled during Quaternary to post-medieval
506	Deposit	Fill of natural channel [1117]	Natural feature infilled during Quaternary to post-medieval
507	Deposit	Topsoil	Modern
508	Deposit	General number for colluvial deposits found natural channels	Natural feature infilled during Quaternary to post-medieval
509	Cut	Ditch/natural feature	Natural feature infilled during Quaternary to post-medieval
510	Deposit	Fill of ditch/natural feature [509]	Natural feature infilled during Quaternary to post-medieval
511	Cut	Ditch/natural feature 1	Natural feature infilled during Quaternary to post-medieval
512	Deposit	Fill of ditch/natural feature [511]	Natural feature infilled during Quaternary to post-medieval
513	Cut	Ditch/natural feature 1	Natural feature infilled during Quaternary to post-medieval

Ctxt	Type	Category	Period
514	Deposit	Fill of ditch /natural feature [513]	Natural feature infilled during Quaternary to post-medieval
515	Deposit	Subsoil/ploughsoil	Medieval–post-medieval?
516	Cut	Ditch	Post-medieval
517	Deposit	Fill of ditch [516]	Post-medieval
518	Cut	Pit	Undifferentiated prehistoric
519	Deposit	Fill of pit [518]	Undifferentiated prehistoric
520	Cut	Pit	Undifferentiated prehistoric
521	Deposit	Fill of pit [520]	Undifferentiated prehistoric
522	Cut	Pit	Undated
523	Deposit	Fill of pit [522]	Undated
524	Cut	Pit	Undated
525	Deposit	Fill of pit [524]	Undated
526	Deposit	Fill of pit [527]	Late Neolithic – Early Bronze Age
527	Cut	Pit	Late Neolithic – Early Bronze Age
528	Deposit	Fill of pit [529]	Late Neolithic – Early Bronze Age
529	Cut	Pit	Late Neolithic – Early Bronze Age
530	Cut	Ditch terminus/natural feature 2	Natural feature infilled during Quaternary to post-medieval
531	Deposit	Fill of ditch/natural feature 2 [531]	Natural feature infilled during Quaternary to post-medieval
532	Cut	Post-hole	Undated
533	Deposit	Fill of post-hole [532]	Undated
534	Deposit	Fill of post-hole [532]	Undated
535	Cut	Pit	Undated
536	Deposit	Fill of pit [535]	Undated
537	Deposit	Fill of pit [535]	Undated
538	Cut	Ditch/natural feature 1	Natural feature infilled during Quaternary to post-medieval
539	Deposit	Fill of ditch/natural feature 1 [538]	Natural feature infilled during Quaternary to post-medieval
540	Deposit	Fill of ditch/natural feature 1 [538]	Natural feature infilled during Quaternary to post-medieval
541	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
542	Deposit	Fill of ditch/natural feature 2 [541]	Natural feature infilled during Quaternary to post-medieval
543	Deposit	Fill of ditch/natural feature 2 [541]	Natural feature infilled during Quaternary to post-medieval
544	Cut	Pit	Early Saxon
545	Deposit	Fill of pit [544]	Early Saxon
546	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
547	Deposit	Natural fill of [547]	Natural feature infilled during Quaternary to post-medieval
548	Deposit	Fill of pit [549]	Early Neolithic
549	Cut	Pit	Early Neolithic
550	Cut	Pit	Undifferentiated prehistoric

Ctxt	Type	Category	Period
551	Deposit	Fill of pit [550]	Undifferentiated prehistoric
552	Deposit	Fill of pit [550]	Undifferentiated prehistoric
553	Cut	Pit	Undated
554	Deposit	Fill of pit [553]	Undated
555	Deposit	Fill of pit [556]	Undifferentiated prehistoric
556	Cut	Pit	Undifferentiated prehistoric
557	Cut	Pit	Undifferentiated prehistoric
558	Deposit	Fill of pit [557]	Undifferentiated prehistoric
559	Cut	Pit	Undifferentiated prehistoric
560	Deposit	Fill of pit [559]	Undifferentiated prehistoric
561	Cut	Pit	Undated
562	Deposit	Fill of pit [561]	Undated
563	Deposit	Fill of pit [561]	Undated
564	Deposit	Fill of pit [565]	Undated
565	Cut	Pit	Undated
566	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
567	Deposit	Fill of ditch/natural feature 2 [566]	Natural feature infilled during Quaternary to post-medieval
568	Cut	Ditch/natural feature 1	Natural feature infilled during Quaternary to post-medieval
569	Deposit	Fill of ditch/natural feature 1 [568]	Natural feature infilled during Quaternary to post-medieval
570	Cut	Ditch/natural feature 1	Natural feature infilled during Quaternary to post-medieval
571	Deposit	Fill of ditch/natural feature 1 [570]	Natural feature infilled during Quaternary to post-medieval
572	Cut	Ditch m8	Post-medieval
573	Deposit	Fill of ditch [572]	Post-medieval
574	Cut	Ditch m8	Post-medieval
575	Deposit	Fill of ditch [574]	Post-medieval
576	Deposit	Fill of ditch [572]	Post-medieval
577	Cut	Pit	Undated
578	Deposit	Fill of pit [577]	Undated
579	Deposit	Fill of pit [577]	Undated
580	Cut	Ditch m8	Post-medieval
581	Deposit	Fill of ditch [580]	Post-medieval
582	Deposit	Fill of ditch [580]	Post-medieval
583	Cut	Ditch m8	Post-medieval
584	Deposit	Fill of ditch [583]	Post-medieval
585	Cut	Ditch m8	Post-medieval
586	Deposit	Fill of ditch [585]	Post-medieval
587	Cut	Ditch m8	Post-medieval
588	Deposit	Fill of ditch [587]	Post-medieval
589	Deposit	Fill of ditch [587]	Post-medieval
590	Cut	Ditch m8	Post-medieval
591	Deposit	Fill of ditch [590]	Post-medieval

Ctxt	Type	Category	Period
592	Deposit	Fill of ditch [590]	Post-medieval
593	Cut	Ditch m4	Undated (prob. pre-med)
594	Deposit	Fill of ditch [593]	Undated
595	Deposit	Fill of ditch [593]	Undated
596	Deposit	Topsoil	Modern
597	Cut	Ditch m6	Undated but prob RB
598	Deposit	Fill of ditch [597]	Undated but prob RB
599	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
600	Deposit	Fill of ditch/natural feature 2 [599]	Natural feature infilled during Quaternary to post-medieval
601	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
602	Deposit	Fill of ditch/natural feature 2 [601]	Natural feature infilled during Quaternary to post-medieval
603	Deposit	Topsoil	Modern
604	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
605	Deposit	Fill of ditch/natural feature 2 [604]	Natural feature infilled during Quaternary to post-medieval
606	Cut	Probable rabbit burrow	Animal burrow
607	Deposit	Fill rabbit burrow [606]	Animal burrow
608	Cut	Rabbit burrow	Animal burrow
609	Deposit	Fill rabbit burrow [608]	Animal burrow
610	Deposit	Red sand within [638]	Animal burrow
611	Cut	Probable rabbit burrow	Animal burrow
612	Deposit	Fill rabbit burrow [611]	Animal burrow
613	Cut	Probable rabbit burrow	Animal burrow
614	Deposit	Fill rabbit burrow [613]	Animal burrow
615	Cut	Probable rabbit burrow	Animal burrow
616	Deposit	Fill rabbit burrow [615]	Animal burrow
617	Cut	Probable rabbit burrow	Animal burrow
618	Deposit	Fill rabbit burrow [617]	Animal burrow
619	Deposit	Finds from spoil heap	Unstratified (all periods)
620	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
621	Deposit	Fill of channel [620]	Natural feature infilled during Quaternary to post-medieval
622	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
623	Deposit	Fill of channel [622]	Natural feature infilled during Quaternary to post-medieval
624	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
625	Deposit	Fill of channel [624]	Natural feature infilled during Quaternary to post-medieval
626	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval

Ctxt	Type	Category	Period
627	Deposit	Fill of channel [626]	Natural feature infilled during Quaternary to post-medieval
628	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
629	Deposit	Fill of channel [628]	Natural feature infilled during Quaternary to post-medieval
630	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
631	Deposit	Fill of channel [630]	Natural feature infilled during Quaternary to post-medieval
632	Cut	Pit/rabbit burrow	Animal burrow
633	Deposit	Fill of pit/burrow [632]	Animal burrow
634	Cut	Rabbit burrow	Animal burrow
635	Deposit	Fill of burrow [634]	Animal burrow
636	Cut	Ditch/natural feature 1	Natural feature infilled during Quaternary to post-medieval
637	Deposit	Fill of ditch/natural feature 1 [636]	Natural feature infilled during Quaternary to post-medieval
638	Cut	Base of red sand 610	Undated
639	Deposit	Ditch m1	Undated
640	Deposit	Fill of ditch [639]	Undated
641	Cut	Pit	Undated
642	Cut	Ditch m4	Undated
643	Deposit	Fill of ditch [642]	Undated
644	Cut	Ditch m14	Undated
645	Deposit	Fill of ditch [644]	Undated
646	Cut	Ditch m6	Undated
647	Deposit	Fill of ditch [646]	Undated
648	Cut	Ditch m2	Undated
649	Deposit	Fill of ditch [648]	Undated
650	Cut	Ditch m2	Undated
651	Deposit	Fill of ditch [650]	Undated
652	Cut	Possible pit/natural	Undated
653	Deposit	Fill of pos pit [652]	Undated
654	Deposit	Fill of pit [641]	Undated
655	Cut	Ditch same as [639] m1	Undated
656	Deposit	Fill of ditch [656]	Undated
657	Cut	Base of reddened sand	Undated but probably prehistoric
658	Deposit	Reddened sand above [657]	Undated but probably prehistoric
659	Cut	Base of reddened sand	Undated but probably prehistoric
660	Deposit	Reddened sand above [659]	Undated but probably prehistoric
661	Cut	Rabbit burrow?	Animal burrow
662	Deposit	Fill of burrow [661]	Animal burrow
663	Cut	Rabbit burrow?	Animal burrow
664	Deposit	Fill of burrow [663]	Animal burrow
665	Cut	Base of reddened sand	Undated but probably prehistoric
666	Deposit	Reddened sand in [665]	Undated but probably prehistoric

Ctxt	Type	Category	Period
667	Cut	Ditch m6	Undated
668	Deposit	Fill of ditch [667]	Undated
669	Cut	Possible pit	Undated
670	Deposit	Fill of possible pit [669]	Undated
671	Cut	Pit	Early Neolithic
672	Deposit	Fill of pit [671]	Early Neolithic
673	Cut	Pit	Undifferentiated prehistoric
674	Deposit	Fill of pit [673]	Undifferentiated prehistoric
675	Cut	Quarry	Post-medieval
676	Cut	Ditch/natural feature 1	Natural feature infilled during Quaternary to post-medieval
677	Deposit	Fill of ditch/natural feature 1 [676]	Natural feature infilled during Quaternary to post-medieval
678	Cut	Post-hole	Undifferentiated prehistoric
679	Deposit	Fill of post-hole [676]	Undifferentiated prehistoric
680	Deposit	Natural-glacial outwash?	Quaternary
681	Cut	Ditch m9	Undated
682	Deposit	Fill of ditch [681]	Undated
683	Cut	Ditch m6	Undated
684	Deposit	Fill of ditch [683]	Undated
685	Cut	Ditch m4	Undated
686	Deposit	Fill of ditch [686]	Undated
687	Cut	Ditch m4	Undated
688	Deposit	Fill of ditch [688]	Undated
689	Cut	Ditch m1	Possibly Romano-British
690	Deposit	Fill of ditch [690]	Possibly Romano-British
691	Cut	Ditch m1	Undated
692	Deposit	Fill of ditch [691]	Undated
693	Cut	Ditch m1	Undated
694	Deposit	Fill of ditch [693]	Undated
695	Deposit	Nat-coversand/colluvium	Quaternary
696	Cut	Pit	Undifferentiated prehistoric
697	Deposit	Fill of pit [696]	Undifferentiated prehistoric
698	Deposit	Fill of pit [696]	Undifferentiated prehistoric
699	Cut	Ditch m9	Undated
700	Deposit	Fill of ditch [699]	Undated
701	Cut	Ditch m1	Undated
702	Deposit	Fill of ditch [701]	Undated
703	Deposit	Fill of quarry [675]	Undated
704	Deposit	Fill of quarry [675]	Post-medieval
705	Deposit	Topsoil above quarry	Modern
706	Cut	Ditch m4	Undated
707	Deposit	Fill of ditch [706]	Undated
708	Deposit	Fill of ditch [706]	Undated
709	Cut	Ditch m1	Undated
710	Deposit	Fill of ditch [709]	Undated

Ctxt	Type	Category	Period
711	Cut	Ditch m6	Undated
712	Deposit	Fill of ditch [711]	Undated
713	Cut	Ditch/natural feature 2 (filled with [750] and [751]	Natural feature infilled during Quaternary to post-medieval
714	Cut	Ditch m2	Undated
715	Deposit	Fill of ditch [714]	Undated
716	Cut	Ditch m2	Undated
717	Deposit	Fill of ditch [716]	Undated
718	Deposit	Fill of quarry [675]	Post-medieval
719	Cut	Ditch m2	Undated
720	Deposit	Fill of ditch [719]	Undated
721	Cut	Post-hole?	Undated
722	Deposit	Fill of post-hole [721]	Undated
723	Cut	Ditch m1	Undated
724	Deposit	Fill of ditch [723]	Undated
725	Cut	Ditch m15	Undated
726	Deposit	Fill of ditch [725]	Undated
727	Cut	Ditch m2	Undated
728	Deposit	Fill of ditch [727]	Undated
729	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
730	Deposit	Fill of ditch/natural feature 2 [729]	Natural feature infilled during Quaternary to post-medieval
731	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
732	Deposit	Fill of ditch/natural feature 2 [731]	Natural feature infilled during Quaternary to post-medieval
733	Cut	Ditch m6	Undated
734	Deposit	Fill of ditch [733]	Undated
735	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
736	Deposit	Fill of ditch/natural feature 2 [735]	Natural feature infilled during Quaternary to post-medieval
737	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
738	Deposit	Fill of ditch/natural feature 2 [737]	Natural feature infilled during Quaternary to post-medieval
739	Cut	Pit	Undifferentiated prehistoric
740	Deposit	Fill of pit [739]	Undifferentiated prehistoric
741	Cut	Pit/post-hole	Undated
742	Deposit	Fill pit/post-hole [741]	Undated
743	Deposit	Fill pit/post-hole [741]	Undated
744	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
745	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval
746	Cut	Ditch/natural feature 2	Natural feature infilled during Quaternary to post-medieval

Ctxt	Type	Category	Period
747	Deposit	Fill of ditch/natural feature 2 [744]	Natural feature infilled during Quaternary to post-medieval
748	Deposit	Fill of ditch/natural feature 2 [745]	Natural feature infilled during Quaternary to post-medieval
749	Deposit	Fill of ditch/natural feature 2 [746]	Natural feature infilled during Quaternary to post-medieval
750	Deposit	Fill of ditch/natural feature 2 [713]	Natural feature infilled during Quaternary to post-medieval
751	Deposit	Fill of ditch/natural feature 2 [723]	Natural feature infilled during Quaternary to post-medieval
752	Cut	Sondage	Natural feature infilled during Quaternary to post-medieval
753	Deposit	Colluvium within [752]	Natural feature infilled during Quaternary to post-medieval
754	Cut	Pit	Undated
755	Deposit	Fill of pit [754]	Undated
756	Deposit	Buried soil/coversand	Undifferentiated prehistoric
757	Deposit	Worked flint (on surface)	Undifferentiated prehistoric
758	Deposit	Worked flint (on surface)	Undifferentiated prehistoric
759	Deposit	Worked flint (on surface)	Undifferentiated prehistoric
760	Cut	Ditch m1	Undated
761	Deposit	Fill of ditch [760]	Undated
762	Cut	Pit?	Undifferentiated prehistoric
763	Deposit	Fill of pit [762]	Undifferentiated prehistoric
764	Cut	Channel/natural feature 2	Natural feature infilled during Quaternary to post-medieval
765	Deposit	Fill of natural feature 2 [764]	Natural feature infilled during Quaternary to post-medieval
766	Cut	Ditch m4	Undated
767	Deposit	Fill of ditch [766]	Undated
768	Cut	Pit	Undifferentiated prehistoric
769	Deposit	Fill of pit [768]	Undifferentiated prehistoric
770	Cut	Pit	Neolithic
771	Deposit	Fill of pit [770]	Neolithic
772	Cut	Pit	Undifferentiated prehistoric
773	Deposit	Fill of pit [772]	Undifferentiated prehistoric
774	Cut	Pit	Undifferentiated prehistoric
775	Deposit	Fill of pit [774]	Undifferentiated prehistoric
776	Deposit	Reddened sand	Undated but probably. prehistoric
777	Deposit	Reddened sand	Undated but probably. prehistoric
778	Deposit	Reddened sand	Undated but probably. prehistoric
779	Cut	Pit	Undated
780	Deposit	Fill of pit [779]	Undated
781	Cut	Ditch m4	Undated
782	Deposit	Fill of ditch [781]	Undated
783	Cut	Ditch m14	Undated
784	Deposit	Fill of ditch [783]	Undated

Ctxt	Type	Category	Period
785	Cut	Ditch m14	Undated
786	Deposit	Fill of ditch [785]	Undated
787	Cut	Ditch m4	Undated
788	Deposit	Fill of ditch [787]	Undated
789	Cut	Natural gully cut into chalk	Natural feature infilled during Quaternary and reactivated in prehistory
790	Deposit	Fill of natural gully [789]	Natural feature infilled during Quaternary and reactivated in prehistory
791	Deposit	Fill of natural gully [789]	Natural feature infilled during Quaternary and reactivated in prehistory
792	Deposit	Worked flint (surface find) in colluvium	Undifferentiated prehistoric
793	Deposit	Worked flint (surface find) in colluvium	Undifferentiated prehistoric
794	Cut	Pit	Undated
795	Deposit	Fill of pit [794]	Undated
796	Cut	Pit	Undated
797	Deposit	Fill of pit [796]	Neolithic
798	Deposit	Grid 1.a1 buried soil (756)	Undifferentiated prehistoric
799	Deposit	Grid 1.a3 buried soil (756)	Undifferentiated prehistoric
800	Deposit	Grid 1.b2 buried soil (756)	Undifferentiated prehistoric
801	Deposit	Grid 1.c3 (756)top 5cm	Undifferentiated prehistoric
802	Deposit	Grid 1.c3 (756)bottom 5cm	Undifferentiated prehistoric
803	Cut	Pit	Neolithic
804	Deposit	Fill of pit [803]	Neolithic
805	Cut	Post-hole/pit	Undifferentiated prehistoric
806	Deposit	Fill of post-hole/pit [805]	Undifferentiated prehistoric
807	Cut	Pit	Neolithic
808	Deposit	Fill of pit [807]	Neolithic
809	Cut	Pit	Neolithic
810	Deposit	Fill of pit [809]	Neolithic
811	Cut	Pit	Neolithic
812	Deposit	Fill of pit [811]	Neolithic
813	Cut	Ditch m2	Undated
814	Deposit	Primary fill ditch [813]	Rabbit disturbance
815	Deposit	Fill of ditch [813]	Rabbit disturbance
816	Deposit	Fill of ditch [813]	Undated
817	Deposit	Rabbit burrow	Rabbit disturbance
818	Cut	Pit	Early Neolithic
819	Deposit	Fill of pit [818]	Early Neolithic
820	Deposit	Fill of probable recut [830] of pit [811]	Neolithic
821	Cut	Post-hole/pit	Neolithic
822	Deposit	Fill of post-hole/pit [821]	Neolithic
823	Deposit	Fill of recut of [821]	Neolithic
824	Cut	Pit	Undifferentiated prehistoric
825	Deposit	Fill of pit [824]	Undifferentiated prehistoric

Ctxt	Type	Category	Period
826	Deposit	Fill of pit [824]	Undifferentiated prehistoric
827	Cut	Post-hole/pit	Undifferentiated prehistoric
828	Deposit	Fill of post-hole/pit [827]	Undifferentiated prehistoric
829	Deposit	Fill of post-hole/pit [827]	Undifferentiated prehistoric
830	Cut	Recut of pit [811]	Neolithic
831	Cut	Probable position of tree	Undated tree rooting
832	Deposit	Fill of root holes [831]	Undated tree rooting
833	Deposit	Fill of root holes [831]	Undated tree rooting
834	Cut	Pit	Early Neolithic
835	Deposit	Fill of pit [834]	Early Neolithic
836	Deposit	Fill of pit [834]	Early Neolithic
837	Cut	Ditch m3	Undated
838	Deposit	Fill of ditch [837]	Undated
839	Deposit	Fill of ditch [837]	Undated
840	Deposit	Topsoil	Modern
841	Deposit	Subsoil/early ploughsoil	Poss. medieval
842	Deposit	Worked flint within pit [897]	Undifferentiated prehistoric
843	Deposit	Worked flint within pit [897]	Undifferentiated prehistoric
844	Deposit	Worked flint within pit [897]	Undifferentiated prehistoric
845	Cut	Rabbit burrow	Rabbit disturbance
846	Deposit	Fill of rabbit burrow [845]	Rabbit disturbance
847	Cut	Ditch m2	Undated
848	Deposit	Fill of ditch [847]	Undated
850	Cut	Ditch m2	Undated
851	Deposit	Fill of ditch [850]	Undated
852	Cut	Ditch m11	Undated
853	Deposit	Fill of ditch [852]	Undated
854	Cut	Quarry	Post-medieval
855	Deposit	Fill of quarry [854]	Post-medieval
856	Deposit	Colluvium/coversand	Prehistoric or even RB
857	Cut	Ditch m7	Undated
858	Deposit	Fill of ditch [857]	Undated
859	Deposit	Fill of ditch [857]	Undated
860	Cut	Post-hole/pit	Early Neolithic
861	Deposit	Fill of post-hole/pit [860]	Early Neolithic
862	Cut	Post-hole/pit	Early Neolithic
863	Deposit	Fill of post-hole/pit [862]	Early Neolithic
864	Deposit	Deposit lying above pit/post-holes [860]/[862]	Undated
865	Deposit	Disturbed nat. Cut by [862]	Natural/Quaternary
866	Cut	Ditch m7	Undated
867	Deposit	Fill of ditch [866]	Undated
868	Deposit	Finds from colluvium	Possibly prehistoric
869	Cut	Ditch m11	Undated
870	Deposit	Fill of ditch [869]	Undated
871	Cut	Ditch m7	Undated

Ctxt	Type	Category	Period
872	Deposit	Fill of ditch [871]	Undated
873	Cut	Ditch m7	Undated
874	Deposit	Fill of ditch [873]	Undated
875	Cut	Pit	Undifferentiated prehistoric
876	Deposit	Fill of pit [875]	Undifferentiated prehistoric
877	Cut	Pit	Undifferentiated prehistoric
878	Deposit	Fill of pit [877]	Undifferentiated prehistoric
879	Cut	Pit	Undifferentiated prehistoric
880	Deposit	Fill of pit [879]	Undifferentiated prehistoric
881	Cut	Pit	Undifferentiated prehistoric
882	Deposit	Fill of pit [881]	Undifferentiated prehistoric
883	Cut	Pit	Undifferentiated prehistoric
884	Deposit	Fill of pit [883]	Undifferentiated prehistoric
885	Deposit	Colluvium	Undated
886	Cut	Ditch m6	Undated
887	Deposit	Fill of ditch [886]	Undated
888	Deposit	Grid 2.c1 top 10cm (1093)	Probably Neolithic
889	Deposit	Grid 2.a1 top 10cm (1093)	Probably Neolithic
890	Deposit	Grid 2.e1 top 10cm (1093)	Probably Neolithic
891	Deposit	Grid 2.b2 top 10cm (1093)	Probably Neolithic
892	Deposit	Grid 2.d2 top 10cm (1093)	Probably Neolithic
893	Deposit	Grid 2.f2 top 10cm (1093)	Probably Neolithic
894	Deposit	Grid 2.a3 top 10cm (1093)	Probably Neolithic
895	Deposit	Grid 2.c3 top 10cm (1093)	Probably Neolithic
896	Deposit	Grid 2.e3 top 10cm (1093)	Probably Neolithic
897	Cut	Pit	Early Neolithic
898	Deposit	Fill of [897]	Early Neolithic
899	Deposit	Grid 2.f4 top 10cm (1093)	Probably Neolithic
900	Deposit	Grid 2.a5 top 60cm (1093)	Probably Neolithic
901	Deposit	Grid 2.a5 fill of pit or nat feature [1114]	Early Neolithic
902	Deposit	Grid 2.b6 top 10cm (1093)	Probably Neolithic
903	Deposit	Grid 2.b4 top 10cm (1093)	Probably Neolithic
904	Deposit	Grid 2 d4 top 10cm (1093)	Probably Neolithic
905	Deposit	Grid 2.c5 top 10cm (1093)	Probably Neolithic
906	Deposit	Grid 2.e5 top 10cm (1093)	Probably Neolithic
907	Deposit	Grid 2 d6 top 10cm (1093)	Probably Neolithic
908	Deposit	Grid 2.f6 top 10cm (1093)	Probably Neolithic
909	Deposit	Grid 2.a7 top 10cm (1093)	Probably Neolithic
910	Deposit	Grid 2.c7 top 10cm (1093)	Probably Neolithic
911	Deposit	Grid 2.e7 top 10cm (1093)	Probably Neolithic
912	Cut	Pit/post-hole	Undated
913	Deposit	Fill of pit/post-hole [913]	Undated
914	Cut	Pit	Undifferentiated prehistoric
915	Deposit	Fill of pit [914]	Undifferentiated prehistoric
916	Cut	Pit	Undated

Ctxt	Type	Category	Period
917	Deposit	Fill of pit [916]	Undated
918	Cut	Ditch m12	Undated
919	Deposit	Fill of ditch [918]	Undated
920	Cut	Ditch m3	Undated
921	Deposit	Fill of ditch [920]	Undated
922	Deposit	Fill of ditch [920]	Undated
923	Deposit	Fill of ditch [920]	Undated
924	Cut	Pit	Undated
925	Deposit	Fill of pit [924]	Undated
926	Cut	Pit	Undated
927	Deposit	Fill of pit [926]	Undated
928	Cut	Pit	Undated
929	Deposit	Fill of pit [928]	Undated
930	Cut	Pit	Undated
931	Deposit	Fill of pit [930]	Undated
932	Cut	Ditch m*	Post-medieval
933	Deposit	Fill of ditch [932]	Post-medieval
934	Deposit	Fill of ditch [932]	Post-medieval
935	Cut	Pit	Undifferentiated prehistoric
936	Deposit	Fill of pit [936]	Undifferentiated prehistoric
937	Cut	Ditch m8	Post-medieval
938	Deposit	Fill of ditch [937]	Post-medieval
939	Cut	Ditch m8	Post-medieval
940	Deposit	Fill of ditch [940]	Post-medieval
941	Deposit	Fill of ditch [940]	Post-medieval
942	Cut	Ditch m8	Post-medieval
943	Deposit	Fill of ditch [942]	Post-medieval
944	Deposit	Subsoil	Undated
945	Cut	Pit	Undated
946	Deposit	Fill of pit [946]	Undated
947	Cut	Post-hole	Undated
948	Deposit	Fill of post-hole [947]	Undated
949	Cut	Pit	Undated
950	Deposit	Fill of pit [949]	Undated
951	Deposit	Fill of pit [962]	Undated
952	Deposit	Fill of pit [962]	Undated
953	Deposit	Colluvium? Cut by [962]	Undifferentiated prehistoric
954	Deposit	Finds from (962)	Undated
955	Cut	Pit	Undated
956	Deposit	Fill of pit [955]	Undated
957	Deposit	Coversands	Natural/Devensian or Holocene
958	Cut	Pit	Undated (poss. Saxon)
959	Deposit	Fill of pit [958]	Undated (poss. Saxon)
960	Cut	Pit	Undated (poss. Saxon)
961	Deposit	Fill of pit [960]	Undated (poss. Saxon)

Ctxt	Type	Category	Period
962	Cut	Pit	Undated (poss. Saxon)
963	Cut	Pit	Early Saxon
964	Deposit	Fill of pit [963]	Early Saxon
965	Deposit	Fill of pit [962]	Early Saxon
966	Cut	Pit	Undated (poss. Saxon)
967	Deposit	Fill of pit [966]	Undated (poss. Saxon)
968	Deposit	Fill of pit [962]	Undated (poss. Saxon)
969	Cut	Pit	Romano-British
970	Deposit	Fill of pit [969]	Romano-British
971	Cut	Pit	Early Saxon
972	Deposit	Fill of pit [971]	Early Saxon
973	Cut	Pit	Early Saxon
974	Deposit	Fill of pit [973]	Early Saxon
975	Cut	Pit	Early Saxon
976	Cut	Fill of pit [975]	Early Saxon
977	Cut	Pit	Early Saxon
978	Deposit	Fill of pit [977]	Romano-British
979	Cut	Pit	Romano-British
980	Deposit	Fill of pit [979]	Undated
981	Cut	Pit	Undated
982	Deposit	Fill of pit [981]	Undated
983	Cut	Pit	Undated
984	Deposit	Fill of pit [983]	Undated
985	Cut	Pit	Undifferentiated prehistoric
986	Deposit	Fill of pit [985]	Undifferentiated prehistoric
987	Deposit	Fill of pit [985]	Undifferentiated prehistoric
988	Deposit	Natural, ne corner site	Natural/Devensian or Holocene
989	Deposit	Fill of pit [990]	Early Saxon
990	Cut	Pit	Early Saxon
991	Deposit	Finds from cleaning [992]	Early Saxon
992	Cut	SFB.	Early Saxon
993	Deposit	Charcoal fill SFB	Early Saxon
994	Deposit	Fill of SFB [992]	Early Saxon
995	Deposit	Fill of SFB [992]	Early Saxon
996	Deposit	Fill of SFB [992]	Early Saxon
997	Deposit	Topsoil	Modern
998	Deposit	Subsoil	Undated but possibly Med ploughsoil
999	Deposit	Subsoil	Probably prehistoric colluvium
1000	Deposit	Chalk	Natural/Cretaceous
1001	Deposit	Fill of SFB [992]	Early Saxon
1002	Cut	Hearth? in SFB [992]	Early Saxon
1003	Cut	Post-hole in SFB [992]	Early Saxon
1004	Cut	SFB.	Early Saxon
1005	Cut	Pit	Early Saxon
1006	Deposit	Finds, cleaning eval SFB	Early Saxon

Ctxt	Type	Category	Period
1007	Deposit	Nat. Cut by [821]	Natural/Devensian or Holocene
1008	Deposit	Nat. Cut by [811]	Natural/Devensian or Holocene
1009	Deposit	Finds, cleaning SFB [1004]	Early Saxon
1010	Cut	Post-hole	Early Saxon
1011	Deposit	Fill of post-hole [1010]	Early Saxon
1012	Cut	Post-hole	Early Saxon
1013	Deposit	Fill of post-hole [1012]	Early Saxon
1014	Cut	Post-hole	Early Saxon
1015	Deposit	Fill of post-hole [1014]	Early Saxon
1016	Deposit	NW quadrant SFB [1004]	Early Saxon
1017	Deposit	SW quadrant SFB [1004]	Early Saxon
1018	Deposit	NE quadrant SFB [1004]	Early Saxon
1019	Deposit	SE quadrant SFB [1004]	Early Saxon
1020	Deposit	Master no fill SFB [1004]	Early Saxon
1021	Cut	Probably same as ph 1003 in SFB 992	
1022	Deposit	Probably same as 1104 fill of ph1003	
1023	Cut	Fill of SFB [1004]	Early Saxon
1024	Cut	Post-hole	Early Saxon
1025	Deposit	Fill of post-hole [1024]	Early Saxon
1026	Cut	Post-hole	Early Saxon
1027	Deposit	Fill of post-hole [1026]	Early Saxon
1028	Deposit	Fill of SFB [1004]	Early Saxon
1029	Cut	Post-hole in SFB [992]	Early Saxon
1030	Deposit	Fill of post-hole [1029]	Early Saxon
1031	Deposit	Natural/chalk	Natural/Cretaceous
1032	Deposit	Fill of SFB. [1004]	Early Saxon
1033	Deposit	Fill of post-hole [1037]	Early Saxon
1034	Cut	Post-hole	Early Saxon
1035	Deposit	Fill of post-hole [1034]	Early Saxon
1036	Deposit	Fill of post-hole [1035]	Early Saxon
1037	Cut	Post-hole	Early Saxon
1038	Deposit	Topsoil section 1205	Modern
1039	Deposit	Chalky natural sect. 1205	Natural/Cretaceous
1040	Deposit	Subsoil section 1205	Undated
1041	Deposit	Fill of pit [1005]	Early Saxon
1042	Deposit	Nat below red sand [657]	Natural/Devensian or Holocene
1043	Deposit	Nat below red sand [659]	Natural/Devensian or Holocene
1044	Cut	Base reddened sand (777)	Undated probably prehistoric
1045	Cut	Ditch m10	Undated
1046	Deposit	Fill of ditch [1045]	Undated
1047	Cut	Ditch m6	Undated
1048	Deposit	Fill of ditch [1047]	Undated
1049	Deposit	Subsoil	Early colluvium pos. Roman
1050	Deposit	Chalk	Natural/Cretaceous

Ctxt	Type	Category	Period
1051	Cut	Pit/post-hole in [811]	Undated
1052	Deposit	Fill pit/post-hole [1051]	Undated
1053	Deposit	Finds in subsoil [1041]	Undated
1054	Cut	Ditch m3	Undated
1055	Deposit	Fill of ditch [1054]	Undated
1056	Cut	Rabbit burrows	Rabbit disturbance
1057	Deposit	Fill rabbit burrow [1056]	Rabbit disturbance
1058	Cut	Base of reddened sand	Undated probably prehistoric
1059	Deposit	Reddened sand within [1058]	Undated probably prehistoric
1060	Cut	Ditch m12	Undated
1061	Deposit	Fill of ditch [1060]	Undated
1062	Cut	Ditch m5	Undated
1063	Deposit	Fill of ditch [1062]	Undated
1064	Deposit	Colluvium	Undated prehistoric but likely to be Neolithic
1065	Deposit	Metal-detector finds spoil	U/S all dates
1066	Cut	Ditch m13	Undated
1067	Deposit	Fill of ditch [1066]	Undated
1068	Cut	Post-hole	Early Saxon
1069	Deposit	Fill of post-hole [1068]	Early Saxon
1070	Cut	Post-hole	Early Saxon
1071	Deposit	Fill of post-hole [1068]	Early Saxon
1072	Deposit	Fill of stake-hole [1073]	Undated
1073	Cut	Stake-hole	Undated
1074	Deposit	Fill of stake-hole [1075]	Undated
1075	Cut	Stake-hole	Undated
1076	Deposit	Fill of stake-hole [1075]	Undated
1077	Cut	Stake-hole	Undated
1078	Deposit	Fill of stake-hole [1077]	Undated
1079	Cut	Stake-hole	Undated
1080	Cut	Ditch m6	Undated
1081	Deposit	Fill of ditch [1080]	Undated
1082	Cut	Pit	Undated
1083	Deposit	Fill of pit [1082]	Undated
1084	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
1085	Deposit	U/s machining finds	U/S all dates
1086	Deposit	U/s topsoil finds	U/S all dates
1087	Deposit	U/s under powerline finds	Undated but possibly Med ploughsoil
1088	Deposit	Colluvium, se corner site	Undated
1089	Deposit	Fill nat. Channel [1084]	Natural feature infilled during Quaternary to post-medieval
1090	Deposit	Colluvium, s end of site	Undated
1091	Cut	Natural channel	Natural feature infilled during Quaternary to post-medieval
1092	Deposit	Fill nat. Channel [1091]	Natural feature infilled during Quaternary to post-medieval

Ctxt	Type	Category	Period
1093	Deposit	Colluvium master no.gr.2	Undated prehistoric
1094	Deposit	Coversand master no.gr. 2	Natural/Devensian or Holocene
1095	Deposit	U/s finds cleaning eval SFB [194]	Early Saxon
1096	Deposit	U/S FROM SPOIL IN AREA OF SFBs	U/S all dates
1097	Deposit	U/s metal-detected finds	U/S all dates
1098	Deposit	Colluvium/coversand in section 1135	Undated
1099	Deposit	Modern plough soil in sect. 1135	Modern
1100	Deposit	Natural - orange outwash sands s.1135	Natural/Quaternary
1101	Deposit	Fills of indistinguishable ditches s1135 =m6	Undated
1102	Deposit	Colluvium/e.ploughsoil s1139 s/a 885	Undated
1103	Deposit	Modern ploughsoil s1139	Modern
1104	Cut	Fill of post-hole [1003] within SFB [992]	Early Saxon?
1105	Deposit	Natural sandy gravel in section 1212	Natural/Quaternary
1106	Deposit	Coversand/ploughsoil in section 1215	Undated
1107	Deposit	Ploughsoil section 1213	Modern
1108	Deposit	Natural - gravel section 1213	Natural/Quaternary
1109	Deposit	Natural - coversands section 1213	Natural/Devensian/Holocene
1110	Deposit	Natural - lower gravel section 1213	Natural/Quaternary
1111	Deposit	Natural - chalk section 1213	Natural/Cretaceous
1112	Deposit	Natural - coversands grid 2 a5	Natural/Devensian/Holocene
1113	Deposit	Grid 2 f4 lower 35cm (1094) coversand	Natural/Devensian/Holocene
1114	Cut	Pit or nat feature in grid 2 a5 fill 901	Early Neolithic
1115	Deposit	Grid 2 d2 lower deposit - coversand	Natural/Devensian/Holocene
1116	Deposit	Grid 2 c1 lower deposit - coversand	Natural/Devensian/Holocene
1117	Cut	Natural channel filled with 506 tst'd	Natural feature infilled during Quaternary to post-medieval
1118	Deposit	U/s metal-detected ferrous finds	All dates
1119	Deposit	Weathered red clay above chalk	Natural/Devensian

Appendix 1b: OASIS feature summary table

Period	Feature type	Quantity
Unknown	Pits	14
	Ditches	30
	Post-holes	5
	Rubefied soil	8
	Earlier soil/colluvium	1
Prehistoric (500000 BC to AD 42)	Pits	17
	Earlier soil/colluvium	1
Early Neolithic (4000 to 3001 BC)	Pits	16
	Earlier soil/colluvium	1
Beaker (2300 to 1700 BC)	Pits	2
Bronze Age (2500 to 701 BC)	Pits	2
Iron Age (800 BC to AD 42)	Earlier soil/colluvium	1?
Roman (AD 42 to 409)	Pits	1
	Earlier soil/colluvium	1?
Early Saxon (AD 410 to 650)	Pits	6
	Ditches	1
	Post-holes	12
	SFB	3
	Earlier soil/colluvium	1
Medieval (AD 1066 to 1539)	Earlier soil/colluvium	1
Post-medieval (AD 1540 to 1900)	Ditches	1
	Quarry	3
	Earlier soil/colluvium	1
Modern (AD 1900 to 2050)	Topsoil	1

Appendix 2a: Finds by Context

Finds from evaluation trenches within excavation area

Ctxt	Material	Qty	Wt(kg)	Date
85	Flint	2		Prehistoric
86	Flint	4		Prehistoric
91	Flint	5		Prehistoric
173	Flint	7		Prehistoric
175	Flint	2		Prehistoric
195	Pottery	103	2.034	Saxon
195	CBM	39	3.102	Roman
195	Fired clay	6	0.120	
195	Iron (SF20)	1		Saxon
195	Stone (SFs 21 and 25)	2		Saxon
195	Ceramic (SFs 22, 23 and 24)	3		Saxon
195	Flint	10	0.041	Prehistoric
195	Animal bone		4.956	
197	Pottery	1	0.044	Roman
197	Animal bone		0.004	
202	Pottery	14	0.286	Saxon
202	CBM	2	0.040	Roman
202	Flint	1		Prehistoric
202	Animal bone		0.327	
216	Flint		6	Mesolithic to Early Neolithic
218	Flint		1	Neolithic to Early Bronze Age
228	Flint	27		Neolithic
234	Pottery	1	0.003	Medieval
266	Flint	1	0.004	Prehistoric
273	Flint	2	-	Prehistoric
284	Flint	10	-	Mesolithic to Early Neolithic
445	Copper alloy	1	-	Post-medieval
446	Copper alloy	2	-	Modern
446	Flint	1	-	Prehistoric
447	Pottery	1	0.007	Roman
447	Copper alloy	5	-	Post-medieval
447	Flint	4	-	Prehistoric
458	Flint	2	-	Prehistoric

Finds from excavation area

Ctxt	Material	Qty	Wt(kg)	Period
502	Flint - worked	3	-	Prehistoric
505	Pottery	1	0.008	Early Saxon
505	CBM	2	0.009	Post-medieval
505	Flint - worked	4	-	Prehistoric
506	CBM	2	0.162	Romano-British
506	Flint - worked	4	-	Prehistoric
507	Pottery	3	0.079	Romano-British and E. Saxon
507	Flint - worked	1	-	Prehistoric
508	Pottery	1	0.020	Early Saxon
508	Flint - worked	2	-	Prehistoric
517	CBM	4	0.356	Post-medieval
517	Flint - worked	1	-	Prehistoric
517	Animal bone	-	0.110	-
519	Flint - worked	15	-	Prehistoric
521	Flint - worked	8	-	Prehistoric
526	Pottery	44	0.159	Neolithic/E.Bronze Age (Grooved Ware)
526	Flint - worked	22	-	Prehistoric
526	Flint - burnt	>100	1.773	Prehistoric
526	Animal bone	-	0.006	-
528	Pottery	2	0.017	Late Neolithic Early Bronze Age
528	Flint - worked	3	-	Prehistoric
528	Flint - burnt	31	0.348	Prehistoric
528	Animal bone	-	0.002	-
545	Pottery	31	0.161	Romano-British and E. Saxon
545	CBM	12	1.442	Roman
545	Flint - worked	3	-	Prehistoric
545	Animal bone	-	0.201	-
547	Pottery	12	0.028	Prehistoric, Romano-British and Early Saxon
547	Animal bone	-	0.028	-
548	Flint - worked	20	-	Prehistoric
548	Flint - burnt	23	0.278	Prehistoric
551	Flint - worked	1	-	Prehistoric
555	Flint - worked	5	-	Prehistoric
555	Flint - burnt	4	0.063	Prehistoric
558	Flint - worked	7	-	Prehistoric
558	Flint - burnt	10	0.342	Prehistoric
559	Same as 560 Pottery	1	0.009	Bronze Age
559	Same as 560 Flint - worked	2	-	Prehistoric
560	Flint - worked	2	-	Prehistoric
560	Flint - burnt	1	0.036	Prehistoric
575	CBM	1	0.007	Post-medieval
575	Flint - worked	1	-	Prehistoric
575	Animal bone	-	0.031	-

Ctxt	Material	Qty	Wt(kg)	Period
576	Pottery	1	0.002	Medieval
576	CBM	1	0.007	Post-medieval
576	Animal bone	-	0.020	-
582	CBM	1	0.008	Post-medieval
582	Animal bone	-	0.031	-
584	Pottery	1	0.002	Medieval
584	CBM	1	0.017	Post-medieval
584	Flint - burnt	1	0.004	Prehistoric
584	Animal bone	-	0.028	-
584	Shell – oyster cockle, land snail	-	0.005	-
586	Pottery	1	0.007	Romano-British (1st–2nd century)
586	CBM	6	0.513	Post-medieval
586	Iron nail	1	-	-
586	Flint - worked	1	-	Prehistoric
586	Animal bone	-	0.072	-
588	Pottery	1	0.006	Medieval
614	Flint - worked	1	-	Prehistoric
619	Pottery	5	0.049	Prehistoric Romano-British and Post-medieval
619	Flint - worked	41	-	Prehistoric
621	Pottery	1	0.005	Medieval
621	CBM	1	0.020	Post-medieval
621	Flint - worked	2	-	Prehistoric
623	Pottery	1	0.008	Prehistoric (Iron Age)
623	CBM	2	0.084	Post-medieval
623	Flint - worked	5	-	Prehistoric
625	Pottery	1	0.013	Late Saxon-medieval
625	CBM	2	0.030	?Roman/ Post-medieval
625	Flint - worked	6	-	Prehistoric
625	Flint - burnt	1	0.033	Prehistoric
627	CBM	1	0.024	Post-medieval
627	Flint - worked	1	-	Neolithic ?
627	Flint - burnt	1	0.036	Prehistoric
629	Metal Working Debris	2	0.022	-
629	Flint - worked	7	-	Prehistoric
631	Pottery	1	0.011	Medieval
631	Flint - worked	2	-	Neolithic?
635	Animal bone	-	0.001	-
647	Pottery	1	0.002	Early Saxon
647	Flint - worked	1	-	Prehistoric
664	Flint - burnt	6	0.088	Prehistoric
672	Pottery	1	0.013	Earlier Neolithic
674	Flint - worked	1	-	Prehistoric
679	Flint - worked	1	-	Prehistoric
684	Pottery	2	0.009	Romano-British and medieval
684	Animal bone	-	0.140	-

Ctxt	Material	Qty	Wt(kg)	Period
690	Animal bone	-	0.041	-
697	Flint - worked	1	-	Prehistoric
703	CBM	1	0.010	Post-medieval
704	Pottery	1	0.006	Post-medieval
704	CBM	6	0.154	Post-medieval
704	Animal bone	-	0.123	-
730	Flint - worked	1	-	Prehistoric
740	Flint - worked	1	-	Prehistoric
756	Pottery	1	0.003	Prehistoric
757	Flint - worked	1	-	Prehistoric
758	Flint - worked	2	-	Prehistoric
759	Flint - worked	1	-	Prehistoric
761	Iron nail	1	-	-
761	Flint - worked	1	-	Prehistoric
763	Flint - worked	1	-	Prehistoric
765	Flint - worked	2	-	Prehistoric
769	Flint - worked	4	-	Prehistoric
771	Flint - worked	4	-	Mesolithic to Neolithic
775	Flint - worked	1	-	Prehistoric
791	Pottery	3	0.006	Late Neolithic Early Bronze Age
791	Flint - worked	3	-	Prehistoric
792	Flint - worked	1	-	Prehistoric
793	Flint - worked	1	-	Prehistoric
797	Flint - worked	2	-	Neolithic
798	Flint - worked	2	-	Prehistoric
798	Flint - burnt	6	0.078	Prehistoric
799	Flint - worked	5	-	Prehistoric
799	Flint - burnt	5	0.108	Prehistoric
799	Stone - burnt	2	0.020	-
800	Flint - worked	8	-	Prehistoric
801	Flint - worked	2	-	Prehistoric
801	Flint - burnt	2	0.012	Prehistoric
802	Flint - worked	1	-	Prehistoric
804	Flint - worked	9	-	Mesolithic to Early Neolithic
804	Flint - burnt	7	0.017	Prehistoric
808	Flint - worked	1	-	Mesolithic to Neolithic
810	Flint - worked	5	-	Mesolithic to Neolithic
816	Flint - worked	4	-	Prehistoric
816	Animal bone	-	0.001	-
817	Flint - worked	4	-	Prehistoric
819	Pottery	5	0.005	Early Neolithic
819	Flint - worked	26	-	Two flints Neolithic and Early Neolithic
820	Flint - worked	14	-	Neolithic
822	Flint - worked	4	-	Early Neolithic
823	Flint - worked	4	-	Mesolithic to Early Bronze Age

Ctxt	Material	Qty	Wt(kg)	Period
825	Flint - worked	2	-	Prehistoric
826	Flint - worked	1	-	Prehistoric
836	Flint - worked	10	-	Early Neolithic
836	Stone	1	0.634	-
842	Flint - worked	1	-	Prehistoric
843	Flint - worked	1	-	Prehistoric
844	Flint - worked	1	-	Prehistoric
851	Flint - worked	1	-	Prehistoric
856	Pottery	7	0.009	Early Neolithic
861	Pottery	1	0.009	Early Neolithic
863	Pottery	2	<0.001	Prehistoric
863	Flint - worked	1	-	Prehistoric
864	CBM	1	0.001	Post-medieval
867	Flint - worked	1	-	Prehistoric
867	Stone	1	0.141	-
868	Flint - worked	2	-	Prehistoric
876	Flint - burnt	1	0.004	Prehistoric
878	Flint - worked	1	-	Prehistoric
878	Flint - burnt	7	0.090	Prehistoric
880	Flint - worked	1	-	Prehistoric
880	Flint - burnt	2	0.044	Prehistoric
884	Flint - worked	1	-	Prehistoric
885	Flint - worked	18	-	Neolithic and probably Neolithic
888	Pottery	1	0.003	Early Neolithic
889	Flint - worked	4	-	Prehistoric
891	Flint - worked	9	-	Prehistoric
894	Flint - worked	3	-	Prehistoric
895	Flint - worked	4	-	Prehistoric
896	Flint - worked	1	-	Prehistoric
899	Flint - worked	4	-	Prehistoric
900	Flint - worked	3	-	Prehistoric
900	Flint - burnt	1	0.006	Prehistoric
901	Pottery	1	0.002	Early Neolithic
901	Flint - worked	4	-	Prehistoric
901	Flint - burnt	1	0.002	Prehistoric
902	Flint - worked	3	-	Prehistoric
904	Flint - worked	4	-	Prehistoric
904	Flint - burnt	1	0.056	Prehistoric
905	Flint - worked	8	-	Prehistoric
910	Flint - worked	7	-	Prehistoric
910	Flint - burnt	1	0.034	Prehistoric
915	Flint - worked	1	-	Prehistoric
915	Animal bone	-	0.001	-
922	CBM	1	0.017	Post-medieval
923	CBM	1	0.045	Post-medieval

Ctxt	Material	Qty	Wt(kg)	Period
934	CBM	2	0.227	Post-medieval
934	Flint - worked	2	-	Prehistoric
936	Flint - worked	2	-	Prehistoric
941	CBM	2	0.088	Post-medieval
941	Flint - worked	1	-	Prehistoric
943	Pottery	1	0.013	Post-medieval
943	CBM	1	0.035	Post-medieval
943	Animal bone	-	0.081	-
953	Flint - worked	2	-	Prehistoric
951	Flint - burnt	>100	11.000	Prehistoric
954	Flint - worked	1	-	Prehistoric
954	Flint - burnt	>100	0.314	Prehistoric
959	Pottery	2	0.006	Medieval and Romano-British
959	CBM	1	0.224	Roman
959	Flint - worked	4	-	Prehistoric
959	Flint - burnt	1	0.008	Prehistoric
959	Stone - burnt	1	0.055	-
959	Animal bone	-	0.136	-
961	Flint - worked	2	-	Prehistoric
964	Pottery	20	0.182	Romano-British, Early Saxon and Medieval
964	CBM	2	0.322	?Roman/ Post -medieval
964	Flint - worked	58	-	Prehistoric
964	Flint - burnt	9	0.113	Prehistoric
964	Animal bone	-	0.018	-
968	Flint - worked	2	-	Prehistoric
968	Flint - burnt	5	0.015	Prehistoric
970	Pottery	1	0.002	Romano-British (1st–2nd century)
970	Flint - worked	9	-	Prehistoric
970	Flint - burnt	2	0.056	Prehistoric
970	Stone - burnt	1	0.008	-
972	Flint - worked	3	-	Prehistoric
974	Pottery	1	0.004	Saxon
974	CBM	1	0.060	Roman
974	Iron nail	1	-	-
974	Stone - burnt	1	0.013	-
976	Pottery	3	0.029	Early Saxon/ Post-medieval
967	Flint - worked	3	-	Prehistoric
978	Pottery	1	0.001	Romano-British (mid 1st–early 3rd)
986	Flint - worked	2	-	Prehistoric
987	Flint - worked	2	-	Prehistoric
987	Flint - burnt	1	0.011	Prehistoric
987	Stone	1	0.035	-
989	Pottery	37	0.242	Bronze Age/Romano-British/ Early Saxon
989	CBM	6	0.309	Roman/ Post-medieval

Ctxt	Material	Qty	Wt(kg)	Period
989	Flint - worked	82	-	Prehistoric
989	Flint - burnt	19	0.233	Prehistoric
989	Animal bone	-	0.151	-
991	Pottery	2	0.028	Romano-British (2nd century)/ Early Saxon
991	CBM	1	0.173	Roman
991	Flint - worked	1	-	Prehistoric
991	Animal bone	-	0.127	-
993	Pottery	4	0.030	Early Saxon
993	CBM	2	0.098	Roman/Post-medieval
993	Flint - worked	1	-	Prehistoric
993	Flint - burnt	3	0.026	Prehistoric
993	Animal bone	-	0.199	-
994	Pottery	26	0.207	Prehistoric/Romano-British/ Early Saxon/Medieval
994	Metalworking Debris	1	0.009	-
994	Flint - worked	19	-	Prehistoric
994	Flint - burnt	18	0.280	Prehistoric
994	Stone - burnt	6	0.402	-
994	Animal bone	-	0.325	-
995	Pottery	2	0.005	Early Saxon
995	Flint - worked	3	-	Prehistoric
995	Flint - burnt	2	0.014	Prehistoric
996	Pottery	17	0.109	Prehistoric/Early Saxon
996	CBM	1	0.006	-
996	Flint - worked	7	-	Prehistoric
996	Flint - burnt	4	0.051	Prehistoric
996	Stone - burnt	2	0.041	-
996	Animal bone	-	0.142	-
1001	Pottery	23	0.161	Romano-British/ Early Saxon
1001	CBM	1	0.019	Post-medieval
1001	Flint - worked	18	-	Prehistoric
1001	Flint - burnt	3	0.099	Prehistoric
1006	Pottery	4	0.069	Early Saxon
1006	Animal bone	-	0.004	-
1009	Pottery	11	0.232	Early Saxon/ Medieval and post-medieval
1009	Flint - worked	2	-	Prehistoric
1009	Stone - burnt	1	0.093	-
1009	Animal bone	475	-	-
1013	Animal bone	-	0.005	-
1015	CBM	1	0.062	Romano-British
1017	Pottery	1	0.002	Early Saxon
1017	CBM	1	0.179	Roman
1017	Flint - worked	2	-	Prehistoric
1017	Flint - burnt	1	0.005	Prehistoric

Ctxt	Material	Qty	Wt(kg)	Period
1017	Animal bone	-	0.071	-
1018	Pottery	18	0.407	Early Saxon
1018	Iron nail	1	-	-
1018	Flint - worked	1	-	Prehistoric
1018	Flint - burnt	4	0.060	Prehistoric
1018	Animal bone	-	0.188	-
1019	Pottery	4	0.024	Romano-British/Early Saxon
1019	Flint - worked	5	-	Prehistoric
1019	Animal bone	-	0.409	-
1020	Pottery	2	0.005	Early Saxon
1022	Flint - worked	1	-	Prehistoric
1022	Animal bone	-	0.014	-
1023	Pottery	10	0.104	Early Saxon
1023	Flint - worked	4	-	Prehistoric
1023	Flint - burnt	1	0.001	Prehistoric
1023	Animal bone	-	0.492	-
1028	Animal bone	-	0.018	-
1032	Pottery	9	0.109	Early Saxon/Post-medieval
1032	CBM	3	0.077	Roman/Post-medieval
1032	Fired clay	2	0.054	-
1032	Flint - worked	4	-	Prehistoric
1032	Animal bone	-	0.058	Prehistoric
1033	Pottery	1	0.038	Early Saxon
1033	Animal bone	-	0.001	-
1035	Pottery	2	0.012	Early Saxon
1035	Animal bone	-	0.010	-
1041	Pottery	3	0.002	Early Saxon
1041	Flint - worked	8	-	Prehistoric
1041	Animal bone	-	0.001	-
1053	Flint - worked	1	-	Prehistoric
1055	Pottery	1	0.002	Romano-British
1055	Flint - worked	5	-	One knife probably Neolithic
1061	Flint - worked	5	-	Prehistoric
1064	Flint - worked	1	-	One flake probably Neolithic
1085	Pottery	6	0.080	Romano-British (mid 1st–Early 3rd century)/ Early Saxon/ Medieval and Post-medieval
1085	CBM	2	0.018	Post-medieval
1085	Flint - worked	5	-	Two Neolithic blades
1085	Animal bone	-	0.007	-
1086	Pottery	1	0.046	Early Saxon
1087	Flint - worked	1	-	Neolithic?
1088	Flint - worked	9	-	Two Neolithic blades
1089	Flint - worked	1	-	Prehistoric
1090	Pottery	2	0.002	Early Saxon and post-medieval
1092	CBM	1	0.030	Post-medieval

Ctxt	Material	Qty	Wt(kg)	Period
1092	Flint - worked	4	-	Prehistoric
1092	Animal bone	-	0.001	-
1104	Pottery	2	0.006	Romano-British/ Early Saxon
1104	Animal bone	-	0.009	-

Appendix 2b: NHER finds summary table

Period	Material	Quantity
Unknown	Pottery	3
	Flint	103
Prehistoric (500000 BC to AD 42)	Pottery	76
	Flint	589
	Animal bone	8
Upper Palaeolithic (40000 to 10001 BC)	Flint	5
Mesolithic (10000 to 4001 BC)	Flint	1 (possibly 100+)
Neolithic (4000 to 2201 BC)	Flint	38
Early Neolithic (4000 to 3001 BC)	Pottery	17
	Flint	64
Late Neolithic (2700 to 2201 BC)	Flint	8
Beaker (2300 to 1700 BC)	Pottery	52
	Flint	27
Bronze Age (2500 to 701 BC)	Pottery	2
Iron Age (800 BC to AD 42)	Terret	1
	Bone needle	1
Roman (AD 42 to 409)	Pottery	25
	Ceramic Building Material	73
	Brooch bow type	1
	Coin	1
	Cu alloy pin	1
Early Saxon (AD 410 to 650)	Pottery	329
	Brooch penannular	1
	Glass bead	4
	Bone comb	2
	Pin beater	1
	Iron off cut	1
	Perforated bone artefact	1
	Buckle	1
	Loom weight fragment	1
	Spindle whorl	3
	Honestone fragments	2
	Animal bone	368
Medieval (AD 1066 to 1539)	Pottery	18
	Belt fitting	4
	Strap end	1
	Buckle	3
	Ferrule	1

Period	Material	Quantity
	Vessel	1
	Mount	3
	Button	1
	Weight	1
	Stud Cu alloy	1
Post-medieval (AD 1540 to 1900)	Pottery	8
	Ceramic Building Material	44
	Cloth seal	1
	Buckle	3
	Fitting (Cu alloy)	5
	Belt fitting	1
	Mount	4
	Watch key	1
	Lead shot	2
	Horse shoe	1
	Ring	2
	Toy horse	1
	Cu alloy artefact	2
	Cu alloy buttons	28
	Animal bone	101
Modern (AD 1900 to 2050)	Coin (1803)	1
	Fitting Cu alloy	1
	Seed distributor arm	1
	Nail	1
	Lead shot	6
	Coins 1799, 1946, 1973	3
	Cu alloy Peg or finial	1
	Tethering ring	1
	Chain	1
	Cartridge cases	7
	Animal bone	4

Appendix 3: Pottery

Ctxt	Fabric	Hand/wheel-made	Description	Qty	Wt(kg)	Date
234	Medieval	Wheel-made	Undecorated body sherd	1	0.003	Medieval
505	Q10	Handmade	Undecorated body sherd	1	0.008	Early Saxon
507	MSGW	Wheel-made	Rim	1	0.030	Romano-British
507	MSGW	Wheel-made	Undecorated body sherd	1	0.025	Romano-British
507	Q10	Handmade	Rim	1	0.024	Early Saxon
508	Q10	Handmade	Undecorated body sherd	1	0.020	Early Saxon
526	F2 Grooved Ware	Handmade	Undecorated body sherd	30	0.088	Prehistoric
526	Grooved Ware grog fabric	Handmade	Undecorated body sherd found in flot sample	1	0.004	Prehistoric
526	F2 Grooved Ware	Handmade	Decorated body sherd	5	0.040	Prehistoric
526	Grooved Ware grey fabric	Handmade	Rim	1	0.003	Prehistoric
526	F2 Grooved Ware	Handmade	Rim found in flot sample	1	0.002	Prehistoric
526	Grooved ware	Handmade	Scraps found in flot sample	3	0.001	Prehistoric
526	F3 Grooved Ware	Handmade	Undecorated body sherd	1	0.005	Prehistoric
526	Q1 Grooved Ware	Handmade	Decorated body sherd	7	0.023	Prehistoric
528	F2 Grooved Ware	Handmade	Decorated body sherd	2	0.017	Prehistoric
545	M1	Handmade	Undecorated body sherd	16	0.084	Early Saxon
545	Q11	Handmade	Undecorated body sherd	4	0.033	Early Saxon
545	Q12	Handmade	Undecorated body sherd	8	0.032	Early Saxon
545	SGW	Wheel-made	Undecorated body sherd	3	0.012	Romano-British
547	SGW	Wheel-made	Undecorated body sherd	10	0.008	?Romano-British
547	F1	Handmade	Undecorated body sherd	1	0.001	Prehistoric
547	Q12	Handmade	Rim	1	0.019	Early Saxon
551	F4	Handmade	scraps	2	0.001	Neolithic
559	G1	Handmade	Undecorated body sherd	1	0.009	Prehistoric (Bronze Age)
576	LMU	Wheel-made	Undecorated body sherd	1	0.002	Medieval

Ctxt	Fabric	Hand/wheel-made	Description	Qty	Wt(kg)	Date
584	LMU	Wheel-made	Undecorated body sherd	1	0.002	Medieval
586	MGW	Wheel-made	Rim	1	0.007	Romano-British (1st–2nd century)
588	Medieval unglazed ware	Wheel-made	Rim	1	0.006	Medieval
619	F1	Handmade	Undecorated body sherd	2	0.016	Prehistoric
619	SGW	Wheel-made	Undecorated body sherd	1	0.002	Romano-British
619	GRE	Wheel-made	Rim	1	0.007	Post-medieval
619	Terracotta	Wheel-made	Rim	1	0.024	Post-medieval
621	SGW	Wheel-made	Undecorated body sherd	1	0.005	Medieval
623	F1	Handmade	Decorated body sherd	1	0.008	Prehistoric (Iron Age)
625	SGW	Wheel-made	Undecorated body sherd	1	0.013	Late Saxon to medieval
631	Grimston-type ware	Wheel-made	Rim	1	0.011	Medieval
647	Q10	Handmade	Undecorated body sherd	1	0.002	Early Saxon
672	F4	Handmade	Undecorated body sherd	1	0.013	Prehistoric (earlier Neolithic)
684	SGW	Wheel-made	Undecorated body sherd	1	0.004	Romano-British
684	Medieval unglazed ware	Wheel-made	Undecorated body sherd	1	0.005	Medieval
704	GRE	Wheel-made	Undecorated body sherd	1	0.006	Post-medieval
756	F1	Handmade	Undecorated body sherd	1	0.003	Prehistoric
791	F1	Handmade	Undecorated body sherd	2	0.002	Prehistoric
791	Q1	Handmade	Decorated body sherd	1	0.004	Later Neolithic Early Bronze Age
819	F4	Handmade	Undecorated body sherd	4	0.003	Prehistoric (earlier Neolithic)
819	Q2	Handmade	Rim	1	0.002	Prehistoric (earlier Neolithic)
856	F1	Handmade	Undecorated body sherd	6	0.009	Prehistoric (earlier Neolithic)
861	F1	Handmade	Undecorated body sherd	1	0.009	Prehistoric (earlier Neolithic)
863	U	Handmade	Undecorated body sherd	2	0.001	Prehistoric
888	F1	Handmade	Undecorated body sherd	1	0.003	Prehistoric (earlier Neolithic)
901	F1	Handmade	Undecorated body sherd	1	0.002	Prehistoric (earlier Neolithic)
943	GRE	Wheel-made	Base	1	0.013	Post-medieval

Ctxt	Fabric	Hand/wheel-made	Description	Qty	Wt(kg)	Date
959	LMU	Wheel-made	Undecorated body sherd	1	0.003	Medieval
959	SGW	Wheel-made	Undecorated body sherd	1	0.003	Romano-British
964	O1	Handmade	Undecorated body sherd	2	0.054	Early Saxon
964	Q12	Handmade	Undecorated body sherd	6	0.052	Early Saxon
964	Q11	Handmade	Rim	1	0.009	Early Saxon
964	Q13	Handmade	Undecorated body sherd	4	0.050	Early Saxon
964	F20	Handmade	Rim	1	0.006	Early Saxon
964	U	Handmade	Undecorated body sherd	1	0.001	Early Saxon
964	SGW	Wheel-made	Undecorated body sherd	1	0.002	Romano-British
964	LMU	Wheel-made	Undecorated body sherd	1	0.001	Medieval
964	F20	Handmade	Undecorated body sherd	1	0.004	Early Saxon
970	SGW	Handmade	Decorated body sherd	1	0.002	Romano-British (1st to 2nd century)
974	Q10	Handmade	Undecorated body sherd	1	0.002	Early Saxon
976	O1	Handmade	Undecorated body sherd	2	0.020	Early Saxon
976	B+W	Wheel-made	Rim	1	0.009	Post-medieval
978	SAM	Wheel-made	Rim	1	0.001	Roman (mid 1st–early 3rd century)
989	SGW	Wheel-made	Undecorated body sherd	7	0.039	Romano-British
989	SGW	Wheel-made	Rim	1	0.004	Romano-British
989	O1	Handmade	Undecorated body sherd	11	0.034	Early Saxon
989	Q10	Handmade	Undecorated body sherd	4	0.041	Early Saxon
989	Q11	Handmade	Undecorated body sherd	7	0.035	Early Saxon
989	Q11	Handmade	Rim	1	0.025	Early Saxon
989	M1	Handmade	Rim	1	0.010	Early Saxon
989	F1	Handmade	Undecorated body sherd	1	0.006	Prehistoric
989	Q13	Handmade	Rim	1	0.002	Early Saxon
989	G1	Handmade	Base	1	0.007	Prehistoric (Bronze Age)
991	Q11	Handmade	Undecorated body sherd	1	0.006	Early Saxon

Ctxt	Fabric	Hand/wheel-made	Description	Qty	Wt(kg)	Date
991	SAM	Wheel-made	Rim	1	0.022	Roman (2nd century)
993	Q10	Handmade	Undecorated body sherd	4	0.030	Early Saxon
994	F1	Handmade	Undecorated body sherd	1	0.001	Prehistoric
994	Grimston-type ware	Wheel-made	Undecorated body sherd	1	0.002	Medieval
994	Grimston-type ware	Wheel-made	Undecorated body sherd	1	0.001	Medieval
994	Q9	Handmade	Undecorated body sherd	2	0.008	Early Saxon
994	Q10	Handmade	Undecorated body sherd	1	0.051	Early Saxon
994	Q10	Handmade	Rim	1	0.043	Early Saxon
994	Q14	Handmade	Undecorated body sherd	6	0.052	Early Saxon
994	O2	Handmade	Undecorated body sherd	2	0.014	Early Saxon
994	F1	Handmade	Undecorated body sherd	3	0.002	not closely datable
994	Q11	Handmade	Undecorated body sherd	1	0.003	Early Saxon
994	Q12	Handmade	Undecorated body sherd	6	0.021	Early Saxon
994	O2	Handmade	Rim	1	0.009	Early Saxon
995	Q13	Handmade	Undecorated body sherd	1	0.001	Early Saxon
995	O1	Handmade	Rim	1	0.004	Early Saxon
996	Q14	Handmade	Undecorated body sherd	4	0.025	Early Saxon
996	M1	Handmade	Undecorated body sherd	1	0.007	Early Saxon
996	Q12	Handmade	Undecorated body sherd	1	0.017	Early Saxon
996	F1	Handmade	Undecorated body sherd	1	0.001	Prehistoric
996	M1	Handmade	Rim	1	0.002	Early Saxon
996	Q10	Handmade	Rim	1	0.005	Early Saxon
996	Q10	Handmade	Undecorated body sherd	8	0.052	Early Saxon
1001	SOW	Wheel-made	Undecorated body sherd	1	0.009	Romano-British
1001	SGW	Handmade	Rim	1	0.004	Early Saxon
1001	SGW	Handmade	Rim	1	0.003	Early Saxon
1001	SGW	Handmade	Undecorated body sherd	1	0.001	Early Saxon

Ctxt	Fabric	Hand/wheel-made	Description	Qty	Wt(kg)	Date
1001	O1	Handmade	Undecorated body sherd	5	0.068	Early Saxon
1001	O1	Handmade	B	1	0.028	Early Saxon
1001	M2	Handmade	Undecorated body sherd	2	0.018	Early Saxon
1001	Q11	Handmade	Rim	1	0.005	Early Saxon
1001	Q10	Handmade	Undecorated body sherd	9	0.013	Early Saxon
1001	Q12	Handmade	Undecorated body sherd	1	0.012	Early Saxon
1006	Q12	Handmade	Decorated body sherd	1	0.010	Early Saxon
1006	M1	Handmade	Rim	1	0.011	Early Saxon
1006	Q11	Handmade	Undecorated body sherd	1	0.043	Early Saxon
1006	Q14	Handmade	Rim	1	0.003	Early Saxon
1009	O1	Handmade	Undecorated body sherd	1	0.043	Early Saxon
1009	Q12	Handmade	Rim	1	0.028	Early Saxon
1009	Q10	Handmade	Undecorated body sherd	3	0.038	Early Saxon
1009	Q13	Handmade	Undecorated body sherd	3	0.096	Early Saxon
1009	Q14	Handmade	Undecorated body sherd	1	0.007	Early Saxon
1009	Grimston-type ware	Wheel-made	Undecorated body sherd	1	0.013	Medieval
1009	Terracotta	Wheel-made	Undecorated body sherd	1	0.007	Post-medieval
1017	Q10	Handmade	Undecorated body sherd	1	0.002	Early Saxon
1018	Q12	Handmade	Rim	1	0.007	Early Saxon
1018	Q12	Handmade	Undecorated body sherd	4	0.071	Early Saxon
1018	Q14	Handmade	Rim	1	0.057	Early Saxon
1018	Q14	Handmade	Undecorated body sherd	2	0.015	Early Saxon
1018	O1	Handmade	Undecorated body sherd	1	0.003	Early Saxon
1018	Q10	Handmade	Undecorated body sherd	8	0.084	Early Saxon
1018	Q10	Handmade	Base	1	0.170	Early Saxon
1019	Q10	Handmade	Rim	1	0.006	Early Saxon
1019	Q10	Handmade	Rim	1	0.009	Early Saxon

Ctxt	Fabric	Hand/wheel-made	Description	Qty	Wt(kg)	Date
1019	M2	Handmade	Undecorated body sherd	1	0.003	Early Saxon
1019	SGW	Wheel-made	Undecorated body sherd	1	0.006	Romano-British
1020	Q12	Handmade	Undecorated body sherd	1	0.003	Early Saxon
1020	M2	Handmade	Decorated body sherd	1	0.002	Early Saxon
1023	Q10	Handmade	Undecorated body sherd	1	0.073	Early Saxon
1023	Q14	Handmade	Undecorated body sherd	1	0.005	Early Saxon
1023	Q12	Handmade	Undecorated body sherd	1	0.003	Early Saxon
1023	O1	Handmade	Undecorated body sherd	3	0.014	Early Saxon
1023	F20	Handmade	Undecorated body sherd	1	0.002	Early Saxon
1023	Q12	Handmade	Decorated body sherd	3	0.007	Early Saxon
1032	TGE	Wheel-made	Undecorated body sherd	1	0.009	Post-medieval
1032	Q10	Handmade	Rim	1	0.069	Early Saxon
1032	Q12	Handmade	Rim	2	0.015	Early Saxon
1032	Q12	Handmade	Undecorated body sherd	3	0.012	Early Saxon
1032	Q14	Handmade	Undecorated body sherd	1	0.002	Early Saxon
1032	M2	Handmade	Undecorated body sherd	1	0.002	Early Saxon
1033	Q11	Handmade	Rim	1	0.038	Early Saxon
1035	Q10	Handmade	Undecorated body sherd	1	0.006	Early Saxon
1035	Q12	Handmade	Rim	1	0.006	Early Saxon
1041	Q10	Handmade	Undecorated body sherd	1	0.001	Early Saxon
1041	F20	Handmade	Decorated body sherd	2	0.001	Early Saxon
1055	SGW	Wheel-made	Decorated body sherd	1	0.002	Romano-British
1085	Q10	Handmade	Undecorated body sherd	1	0.017	Early Saxon
1085	SAM	Wheel-made	Rim	1	0.009	Roman (mid-1st–early 3rd century)
1085	LMT	Wheel-made	Rim	1	0.016	Post-medieval
1085	LMU	Wheel-made	Rim	1	0.024	Medieval
1085	LMU	Wheel-made	Undecorated body sherd	2	0.014	Medieval

Ctxt	Fabric	Hand/wheel-made	Description	Qty	Wt(kg)	Date
1086	Q10	Handmade		1	0.046	Early Saxon
1090	Q10	Handmade	Undecorated body sherd	1	0.001	Early Saxon
1090	LMU	Wheel-made	Undecorated body sherd	1	0.001	Medieval

Appendix 4: Ceramic Building Material

(including CBM from evaluation trenches within excavation area)

Ctxt	Form	Qty	Wt(kg)	Period
195	Brick and tile	39	3.102	Roman
202	Brick and tile	2	0.040	Roman
505	Undiagnostic	2	0.009	Post-medieval
506	Tile	2	0.162	Roman
517	Brick	3	0.296	Post-medieval
517	Roof tile	1	0.060	Post-medieval
545	Tile	12	1.442	Roman
547	Tile	2	0.021	Roman
575	Roof tile	1	0.007	Post-medieval
576	Roof tile	1	0.007	Post-medieval
582	Floor tile (Glazed)	1	0.008	Post-medieval
584	Tile (probably Floor tile)	1	0.017	Post-medieval
586	Brick	5	0.501	Post-medieval
586	Roof tile	1	0.012	Post-medieval
621	Brick	1	0.020	Post-medieval
623	Roof tile	2	0.084	Post-medieval
625	?Brick/ Tile	1	0.020	?Roman/ ?Medieval
625	Roof tile	1	0.010	Roman
627	Undiagnostic	1	0.024	Post-medieval
703	Roof tile	1	0.010	Post-medieval
704	Brick	4	0.077	Post-medieval
704	Roof tile	2	0.077	Post-medieval
864	Undiagnostic	1	0.001	Post-medieval
922	Roof tile	1	0.017	Post-medieval
923	Brick	1	0.045	Post-medieval
934	Brick	1	0.158	Post-medieval
934	Roof tile	1	0.069	Post-medieval
941	Brick	1	0.059	Post-medieval
941	Roof tile	1	0.029	Post-medieval
943	Roof tile	1	0.035	Post-medieval
959	Tile	1	0.224	Roman
964	Tile	1	0.285	?Roman
964	Floor tile	1	0.037	Post-medieval
974	Tile (probably tegula)	1	0.060	Roman
989	Tile	5	0.305	Roman
989	Roof tile	1	0.004	Post-medieval?
991	Tile	1	0.173	Roman
993	Tile	1	0.087	Roman
993	Undiagnostic	1	0.011	Post-medieval
996	Undiagnostic	1	0.006	Undated
1001	Brick	1	0.019	Post-medieval
1015	Tile	1	0.062	Roman

Ctxt	Form	Qty	Wt(kg)	Period
1017	Tile	1	0.179	Roman
1032	Tile	2	0.076	Roman
1032	Brick	1	0.001	Post-medieval
1085	Roof tile	2	0.018	Post-medieval
1092	Brick	1	0.030	Post-medieval
TOTAL		*117*	*7.956*	

Appendix 5: Small Finds

Finds from evaluation trenches within the excavation area, SFB [194] and the excavated Early Saxon features are highlighted in grey.

SF	Ctxt	Period	Object	Description	Period	Material
1	100	MD EVAL	Belt fitting	Bar mount with central lobe with hole; terminal lobes pierced for rivets, one missing. Bars with terminal lobes and centrally perforated lobes are well known from medieval deposits elsewhere see for example those from London from mid-12th to mid-14th century contexts (Egan 1991, fig. 134 nos 1154–1158).	Medieval	Copper Alloy
2	100	MD EVAL	Buckle	Incomplete rectangular double-looped shoe buckle frame (Read 1993, 144, no. 955)	17th–18th c.	Copper Alloy
3	100	MD EVAL	Cloth seal	Stamped on one side with letters LH.	16th–17th c.	Lead
4	100	MD EVAL	Fitting	Bi-conical in shape, with pedestal base expanding at centre and tapering at pointed top. Possible drawer handle or similar.	Post-medieval	Copper Alloy
5	100	MD EVAL	Strap end	Plain strap-end folded widthways with four rivet holes at attachment edge (Egan 1991, 158).	Medieval+	Copper Alloy
6	100	MD EVAL	Brooch	With small quatrefoil annular frame and wire pin (Egan and Pritchard 1991, 256, no. 1342).	14th/15th c.	Copper Alloy
7	100	MD EVAL	Coin	George III half-penny	1806	Copper Alloy
8	100	MD EVAL	Buckle	Cast single loop oval frame, pin missing. Three knops, central one with circumferential groove for pin rest; offset and narrowed bar for missing buckle plate. Those from London are dated from the late 12th–late 14th centuries (Egan 1991, 76, fig. 46).	L.12th–14th c.	Copper Alloy
9	100	MD EVAL	Fitting	Domed circular cap with radial mouldings around top and central hole. ?Lid for small vessel.	Post-medieval	Copper Alloy
10	100	MD EVAL	Vessel	Incomplete vessel rim, lathe finished.	15th–17th c.	Copper Alloy
11	100	MD EVAL	Ferrule	Incomplete and distorted conical sheet ?ferrule.	?Med+	Silver
12	100	MD EVAL	Plate	Sub-rectangular plate with rounded corners and pierced at one end. Possible a weight.	Undated	Lead
13	100	MD EVAL	Belt fitting	Asymmetrical mount with pointed lugs on reverse. (Read 2001, 28, no. 298).	16th–17th c.	Copper Alloy

SF	Ctxt	Period	Object	Description	Period	Material
14	100	MD EVAL	Mount	Scalloped-shaped cast mount with incomplete integral shank on reverse. Medieval	Med	Copper Alloy
15	100	MD EVAL	Brooch	Colchester bow brooch. Wings, spring, pin and part of catch plate missing. Dolphin type with sprung mechanism (Hattat 2000, 298) mid 1st century.	Mid 1st century	Copper Alloy
16	100	MD EVAL	Terret	Miniature with two simple collars. Iron Age	Iron age	Copper Alloy
17	100	MD EVAL	Button	Cast solid domed button with wire attached loop on reverse. 16th to 17th centuries	16th to 17th	Copper Alloy
18	100	MD EVAL	Weight	Unofficial discoidal lead weight.	Med +	Lead
19	187	IRON AGE?	Needle	Pig fibula needle perforated at proximal end.	Saxon	Bone
20	195	EARLY SAXON	Brooch	Penannular frame with rolled terminals; pin missing. (Green, B,. Rogerson, A. and White S.A. 1987, EAA 36, The Anglo-Saxon Cemetery at Morning Thorpe, Norfolk. Vol. II 297, Grave 304 F). Early Saxon	Early Saxon	Iron
21	195	EARLY SAXON	Honestone	Fragment.	Early Saxon	Stone
22	195	EARLY SAXON	Spindle whorl	Incomplete	Early Saxon	Ceramic
23	195	EARLY SAXON	Loom weight	Fragment	Early Saxon	Ceramic
25	195	EARLY SAXON	Honestone	Wedge-shaped smooth stone. Possible honestone?	Early Saxon	Stone
26	454	UNSTRATIFIED	Coin	Romano-British	Romano-British	Copper Alloy
101	1018	EARLY SAXON	Bead	Dark blue annular bead. Cf C19, fig. 275, 20 from West Stow (West 1985) which corresponds to Guido's Group 6, ivb, pl.II No.11. This type appears in the British Isles about the 6th Century BC, and persists until the eighth century AD (Guido 1978, 66-8). According to Guido Saxon beads of this group are very common in 7th-century graves.	Early Saxon	Glass

SF	Ctxt	Period	Object	Description	Period	Material
102	1018	EARLY SAXON	Comb	Double-sided comb with incised paralleled edge lines around two to three rows of ring-and-dot on connecting plates which are held together with eleven iron rivets. Many teeth have broken off but one half of an end plate survives with teeth cut short at end and gradually increasing in length towards connecting plates. Tooth cutting marks visible on edges of connecting plates. This comb is similar to three recovered at West Stow (with parallel lines and ring-and-dot) from late 6th century contexts (West 1985, Vol I, 127, type 2Aii, & Vol 2, Fig. 252,4).	Early Saxon	Antler
104	1001	EARLY SAXON	Comb	Fragment of round-backed or possible triangular-backed comb with teeth cut at an angle from rounded end; hole for missing rivet.	Early Saxon	Antler
105	1095	EARLY SAXON U/S finds cleaning EVAL SFB [194]	Pin beater	Cigar-shaped, ovate in section and tapering to a point at both ends. This type is known throughout the Roman and Anglo-Saxon periods (MacGregor 1985, 189)	Roman/Anglo-Saxon	Bone
106	989	EARLY SAXON	Bead	Cylindrical, with slightly uneven profile. Hole slightly bigger at one end Diam. of hole 2.5/1mm Iridescent ?pale green glass.	Early Saxon	Glass
107	1096	U/S all dates in area of SFBs	Pin	With hipped shaft and spherical head, shaft bent and cracked just below head.	Roman	Copper Alloy
108	1097	MD U/S all dates	Knife	With incomplete blade and broken whittle tang.	Undated	Iron
109	1097	MD U/S all dates	Artefact	Cast strip fragment with linear moulding on ?both sides.	Undated	Copper Alloy
110	944	UNDATED	Strip	Fragment, curved.	Undated	Iron
111	1097	MD U/S all dates	Cloth seal	Two part cloth seal, one face folded back on itself the other folded on the top. Letters (illegible) around hole. (Would need cleaning for positive ID).	Undated	Lead
112	1097	MD U/S all dates	Mount	x 2; one septfoil mount with screw thread on reverse; the other a sixteen petalled flower with integral rivet on reverse.	18th/19th c.	Copper Alloy
113	1097	MD U/S all dates	Watch	Key	18th/19th c.	Copper Alloy
114	1097	MD U/S all dates	Buckle	With square frame (angled profile) and separate spindle and double-spiked chape. Late 17th/18th century. Shoe or knee buckle	Late 17th/18th c.	Copper Alloy
115	1097	MD U/S all dates	Shot		Post-medieval	Lead
116	1097	MD U/S all dates	Fitting	?Strap-end with two shield-shaped plates and central spacer plate; rivet at top & remains of ?leather from strap in situ.	Post-medieval	Copper Alloy
117	1097	MD U/S all dates	Artefact	C-shaped rod of D-shaped section one pointed end opposite splayed end with triangular shaped splayed end and moulding at top.	Undated	Copper Alloy

SF	Ctxt	Period	Object	Description	Period	Material
118	500	NATURAL	Artefact	Cast strip fragment with hatched linear border on one side. One end broken, the other has thin tapering projection which is bent and twisted.	Post-med	Copper Alloy
119	507	MODERN	Weight	Official weight, stamped crown over initials. (Illegible to me). 13g	Undated	Lead
120	515	MED/POST-MED	Shot	11g	Pm	Lead
121	703	UNDATED	Artefact	Bar or possible knife blade fragment	Undated	Iron
122	703	UNDATED	Rod	Fragments x 2	Undated	Iron
123	817	UNDATED	Artefact	?Knife blade fragment (no sign of a tang though, but with slightly V-shaped section	Undated	Iron
124	586	POST-MED	Rod	Cylindrical fragment	Undated	Iron
125	994	UNDATED	Splinters	Many pieces, too small to determine whether any worked surfaces survive.	Undated	Lava
126	1086	U/S	Handle	Made from sawn antler tine. The very tip of the tine has been sawn off and slightly ?shaved here. The hole runs from end to end with iron tang inserted at widest end with small fragment protruding. ?knife handle.	Undated	Antler
127	996	EARLY SAXON	Spindle whorl	Almost half of an originally hemispherical spindle whorl. Estimated diam.: 35, estimated diam. of perforation: 10.5, Height 23mm's	Early Saxon	Ceramic
128	1006	EARLY SAXON	Artefact	L-shaped plate ?fragment. Perhaps an off cut, appears to be cut on all edges.	Early Saxon	Iron
129	1001	EARLY SAXON	Artefact	Bone centrally perforated with transverse hole, unknown function. Juvenile metacarpal. Sheep/goat	Early Saxon	Bone
130	1032	EARLY SAXON	Spindle whorl	Small piece remaining of an originally hemispherical whorl.	Early Saxon	Ceramic
131	505	NATURAL	Horseshoe	One half of a horseshoe with six rectangular nail holes all with remains of (broken) nails and calkin on side.	PM	Iron
132	1092	NATURAL	Ring	Oval ring, perhaps part of a chain link.	PM	Iron
133	619	U/S	Toy	Horse, with front legs, rear legs broken off below knees, head and ?rider missing, moulding on both sides, originally free standing. Would need to be cleaned to date closer (either 16th century or 18th century or later).	PM	Lead
134	619	U/S	Ring	Simple annular ring of hexagonal cross-section these are well known from late medieval and post-medieval contexts and are thought to be suspension rings or simple annular buckle frames.	LMT	Copper Alloy

SF	Ctxt	Period	Object	Description	Period	Material
135	619	U/S	Mount	Shield-shaped plate with bar mount, notch on each side of plate, both rivets have roves; bar-mount has arched section. Almost identical to one from a mid to late 14th-century context in London (Egan 1991, 157, fig. 103, no. 735).	Med	Copper Alloy
136	619	U/S	Artefact	Object fragments x 2, both unidentified.	Undated	Lead
137	1065	U/S	Bar	Tapering bar of rectangular section. Perhaps part of a chisel head or similar.	Undated	Iron
138	1065	U/S	Buckle	Incomplete D-shaped buckle frame with moulded decoration and stylised human hands at each end; bar and pin missing. Some gilding remains. ?13th century	Med	Copper Alloy
139	1065	U/S	Artefact	Incomplete flat circular disc with part of ?inscription on front and border of semi-circular lines; lump on reverse for attachment.	PM	Copper Alloy
140	1065	U/S	Stud	Or mount with decorative repoussé head and long ?integral rivet. Head distorted and shank bent over. ? Late medieval (check X-ray)	Med+	Copper Alloy
141	619	U/S	Mount	Ring mount with repoussé circumferential mouldings and two holes on inner flat. This may be compared to a larger ring mount or 'mounting ring' from a 15th-century context in Norwich (Margeson 1993, 94, fig. 60, no. 580).	15th-century	Copper Alloy
142	1097	MD U/S all dates	Buckle	Incomplete D-shaped buckle frame, indented pin rest, broken at pin bar. Although incomplete this buckle is almost identical to one dated to the 14th century from Norwich (Margeson 1993, 28, fig. 14 no. 143).	14th century	Copper Alloy
143	1065	MD U/S finds	Mount	Circular mount with circumferential mouldings around central domed boss. No visible means of attachment (check x-ray) ?Early post-medieval	Early post-medieval	Copper Alloy
144	994	Fill of SFB [994]	Buckle	Iron buckle, oval frame, of circular section, with traces of an iron tongue. L:10; W: 20; T: 4mm.	Early Saxon	Iron
145	1019	Fill of SFB [1004]	Glass bead	Translucent dark blue annular glass bead. L: 4.5; Diam: 9.6; Hole diam: 4/5mm	Early Saxon	Glass
146	1028	Fill of SFB [1004]	Glass bead	Translucent dark blue annular glass bead. L: 3; Diam: 7; Hole diam: 3.8/3.6mm	Early Saxon	Glass

Appendix 6: Other Metal Objects

Ctxt	Material	Object	Qty	Description
1097	Lead	Waste	5	60g. Undiagnostic
1097	Tin	Scrap	3	3g. Undiagnostic
1097	Copper alloy	Buttons	11	Late post-medieval
1097	Copper alloy	Ring	2	annular rings. Suspension rings or simple buckle frames. Undated
1097	Copper alloy	Fitting	1	Decorative fitting, waisted bar with expanded rounded ends engraved decorative motif on front and iron stub on reverse. Late post-medieval
1097	Lead	Binding	1	Folded strip with punched linear mouldings. Undiagnostic
1065	Copper alloy	Fitting	1	Repoussé sheet fragment with ribbed linear mouldings. Undiagnostic
1097	Copper alloy	Fitting	1	Part of a ?mechanical fitting with screw thread and funnel-shaped top. (Perhaps variant of one below). Modern
1097	Copper alloy	Seed distributor	1	Arm. Modern
1065	Copper alloy	Nail	1	Modern
619	Lead	Shot	1	40g. Post-medieval - Modern
1097	Copper alloy	Coin	1	George IV penny (1946)
1097	Copper alloy	Artefact	1	Cast peg or finial with moulded collar and round ‘thumb’-shaped head. Modern
1065	Iron	Bar	1	Fragment. Undiagnostic
619	Copper alloy	Fitting	1	Cast perforated plate fragment with chamfered sides. Undiagnostic
1065	Iron	Buckle	1	Large D-shaped buckle; pin missing. Horse harness buckle. Late post-medieval
1065	Lead	Shot	5	Post-medieval - Modern
1065	Iron	Ring	1	of circular section, ?tethering ring. ?Modern
619	Copper alloy	Coin	1	George III coin (1799)
1065	Copper alloy	Chain	1	Incomplete, for sink plug or similar. Modern
619	Copper alloy	Sheet	6	/bar and strip fragments. Undiagnostic
1065	Copper alloy	Sheet	13	/bar and strip fragments. Undiagnostic
1097	Copper alloy	Fitting	1	Cast semi oval-shaped mount with slotted, hooked end and three attachment holes. Late post-medieval
1097	Copper alloy	Cartridge cases	2	Twelve bore. Modern

Ctxt	Material	Object	Qty	Description
1097	Copper alloy	Mount	1	Cast mount in the shape of a cross-patée, iron staining on reverse from missing rivet/stud. Late post-medieval
1097	Copper alloy	Stud	1	Or rivet. Undiagnostic
1097	Copper alloy	Plate	1	Cast plate fragment, originally ?circular with engraved circumferential lines and part of hole in centre. Late post-medieval
1097	Copper alloy	Nails	2	?upholstery nails. Undiagnostic
1097	Copper alloy	Artefacts	2	Incomplete; one conical ?ferrule, the other part of a ?lid. Undiagnostic
1097	Copper alloy	Strip	1	Made from rolled sheet ?binding. Undiagnostic
1065	Copper alloy	Buttons	17	the majority with attachment holes; some are livery buttons. Late post-medieval
1097	Iron	Bar	1	?metal-working debris. Undiagnostic
619	Lead	Sheet	3	17g. Undiagnostic
619	Lead	Rod	1	Perhaps part of a cylindrical plumb-bob. 29g. Undiagnostic
1097	Copper alloy	Artefact	1	Rounded knob ?finial. Undiagnostic
1065	Copper alloy	Ferrule	1	Made from folded rectangular sheet. Undiagnostic
1065	Lead	Strips/bars/ rods	8	Waste. 58g. Undiagnostic
619	Copper and Nickel alloy	Coin	1	One new penny (1974)
1065	Copper alloy	Artefacts	11	Assorted miscellaneous object fragments all undiagnostic or modern
1065	Copper alloy	Cartridge cases	5	Twelve bore. Modern
1097	Copper alloy	Mount	1	Letter ‘A’ Late post-medieval

Appendix 7: Flint

Ud = undated, M=Mesolithic, N=Neolithic, EN=Early Neolithic, LN=Later Neolithic, BA=Bronze Age, etc. ?late means Middle Bronze Age or later, Mix are pieces that appear from more than one industry.

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
212	-	1				1							2	Ud	
439	-				7			1					8	M-EBA	
1085	+				1	1	1	3					6	M-EN	Nice collection of blades but unstratified!
1087	+											1	1	Lneo	
442	+ Tr 48				1						1		2	M-EN	
614	Bur613			1									1	Ud	
817	Burr	1						2					3	Ud	
1064	Coll				1								1	Ud	
792	Coll											1	1	EN	Large EN scraper
793	Coll										1		1	En	Typical EN blade core
868	Coll				2								2	M-EBA	Poss. core tablet
953	Coll							2					2	M-N	
885	Coll	2	1		9			4				2	18	EN	Ret are scraper and piercer on blade, all good condition.
1088	Coll	1			4	1	1	1			1		9	Mix	Blade prob. utilized, core cf a wedge?
1055	D1054	2			1							1	4	Mix	Ret is cf L. Neo scraper
1061	D1060				2	2							4	?late	

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
517	D516	1											1	Ud	
575	D574				1								1	Ud	
586	D585	1											1	Ud	
647	D646			1									1	Ud	
761	D760				1								1	Ud	
816	D813	1			2			1					4	UD	
851	D850				1								1	M-EBA	
867	D866							1					1	M-N	
934	D932				2								2	Ud	Both Poss. retouched but very battered
941	D940				1								1	M-EBA	
791	G789				3								3	M-EBA	
1041	P1005				6			1	1				8	Mix	
901	P1114				2			1	1				4	EN	Res?
216	P214				1			1		1			3	M-EN	Disparate knapping waste
218	P214				1								1	N-EBA	
228	P227	11		1	12			2					26	N	Knapping waste, mostly from early stages
284	P283			1	2	1	2	2	2				10	M-EN	Nice 'cache' of blades, some of the pieces may have been utilized, possibly a dump of used implements
519	P518	3	2	2	2	2		2		1			14	EN	Unusable knapping waste: CRF transverse and longitudinal from SP. One flake from a keeled core
521	P520	1			5	1			1				8	Ud	Prob mostly N

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
526	P527	11		1	8				1		1		22	LN-EBA	Mostly knapping waste. One narrow F with faceted SP from Levallois core?
528	P529				2							1	3	LN	Scraper very typical of LN examples
545	P544				1					1		1	3	?late	Scraper on thermal flake and A2 crude core
548	P549	1			11	1		2	1	2			18	EN	Mostly unusable knapping waste, Poss. from limited no of nodules; One CC has nicely trimmed edge – cf scraper edge but possibly abandoned core preparation?
551	P550				1								1	Ud	
558	P557	2	1		3	1							7	Mix	CRF in longitudinal from SP
559	P559			1									1	Ud	
560	P559				1			1					2	M-EN	
697	P696				1								1	N-BA	
740	P739								1				1	M-N	
755	P754				1								1	Ud	Poss. nat
763	P762											1	1	N	?arrowhead blank
769	P768	1			2					1			4	M-EBA	
771	P770				3								3	M-N	Sharp
797	P796				2								2	M-EN	One flake cf axe manuf
804	P803	1		8	2								11	M-EN	Lots of micro-shatter, much consisting of small blade fragments
808	P807						1						1	M-EN	
810	P809			1	1	1	1	1					5	M-EN	

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
819	P818	2	3		8		2	6	2		1	1	25	M-EN	Large in situ assemblage
822	P821	1			1		1	1					4	M-EN	Both blades well made and show evidence of utilization, one had recorticated
823	P821	2			1			1					4	M-EBA	
825	P824	1			1								2	Ud	
826	P824	1											1	Ud	
820	P830	2			3					1			6	M-N	<> Disparate knapping waste
820	P830	8			6								14	M-N	Primary waste, from c.2 cores
836	P834	2	1		4		1	1					9	M-N	Eneo waste flakes although condition suggests at least some residual; CRF Poss. ETed
863	P862			1									1	Ud	
878	P877			1									1	Ud	
880	P879				1								1	M-EBA	
884	P883				1								1	Ud	
842	P897	1											1	Ud	
843	P897							1					1	M-EBA	
844	P897				1								1	Ud	
915	P914	1											1	Ud	
936	P936						1	1					2	M-EN	
959	P958	2			1			1					4	Ud	
961	P960	1			1								2	Ud	

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
951	P962										1		1	Ud	Very burnt core
954	P962				1								1	Ud	
968	P962				1	1							2	?late	
964	P963	3		8	18	15		1	1	4	1	1	52	Mix lots ?late	Large collection but very battered – from plough-zone?
970	P969	3	1			2	1						7	M-EN	Blade is possible 'failed' micro-burin; one DF is large blade with a few flakes removed from distal
972	P971	1			2								3	Ud	
976	P975				1		2						3	mix	F cf with Martingell's 'bulbar retouched squat flakes'
986	P985				1			1					2	Ud	
987	P985				1								1	M-EBA	
989	P990	14	1		37	16		4	1	2		2	77	Mix	Large assem but v abraded, both retouched are end-scrapers, many others may be ret but condition too bad. Generally quite late looking
1089	PC1084							1					1	M-EN	
1092	PC1091				4								4	?late	
506	PC1117	1			2								3	Ud	
505	PC504				3					1			4	?late	
508	PC504				1			1					2	M-BA	Large blade
621	PC620				1								1	N-BA	
623	PC622				4								4	?late	Mostly rather crude
625	PC624	3			2							1	6	Mix	Most pieces crude, ret is a LN knife

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
627	PC626				1								1	Ud	Large flake, some chipping (?ret) on part on one side
629	PC628	3			2	1							6	?late	Mixed condit but flakes thick and crude
631	PC630							1	1				2	M-EN	?Crested blade; BLF is large
730	PC729				1								1	Ud	
765	PC764	1			1								2	M-N	
679	PH676				1								1	Ud	
1009	SFB1004				2								2	Ud	
1017	SFB1004			1	1								2	M-EBA	
1018	SFB1004				1								1	Ud	
1032	SFB1004				2	1		1					4	M-EN	Very abraded
1019	SFB1004				1	3		1					5	Mix	
1023	SFB1004				4								4	Mix	
994	SFB992	8			5	2	1	1	1				18	Mix	
996	SFB992	1		1	4	1							7	Mix	
1001	SFB992	5		1	9			2			1		18	Mix	Very abraded
991	SFB992				1								1	Ud	
993	SFB992	1											1	Ud	
995	SFB992				3								3	M-EBA	
889	Soil grid	1			1								2	Ud	
891	Soil grid	1		1	4			1					7	M-BA	

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
894	Soil grid			1	1								2	Ud	
895	Soil grid	1		1		1			1				4	M-N	
896	Soil grid				1								1	M-N	
899	Soil grid			4		1			1				6	M-N	
900	Soil grid	1			1	1							3	Ud	
902	Soil grid						3						3	M-EN	Not refitting but from same core
904	Soil grid				1					1	1		3	N	Nice core
905	Soil grid	2		2	3	1							8	N	
910	Soil grid	1		1	2	1		1				1	7	M-N	
798	Soil grid				1			1					2	M-N	
799	Soil grid	2			2							1	5	?	Waisted tool
801	Soil grid			1									1	Ud	Poss. natural
800	Soil grid	1		3	3								7	M-EBA	
802	Soil grid					1							1	Ud	Poss. natural
1053	SS				1								1	M-EBA	Poss. ret distal
507	TS				1								1	Ud	Very battered
619	Unstrat	6	1		19	1		2	2		2	4	37	Mix	From spoilheap: CRF is large plunged flake from blade core
757	Unstrat				1								1	M-EBA	
758	Unstrat				1								1	Ud	
759	Unstrat	1											1	Ud	

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
85		1			1								2	Ud	
86					3								3	Ud	
91					1	1		1			1	1	5	Mix	Serrate
158		1											1	Ud	
171					1								1	Ud	
173					2	1		2			2		7	M-EBA	One core is core tool?
175					1					1			2	Ud	
195		4			1			1			1	1	8	EN	
260		3			1						1	1	6	Mix	A few DFs may be natural
265		3								1			4	Ud	CC has nicely trimmed edge – cf scraper edge but possibly abandoned core preparation
273		1							1				2	N-BA	
296					1								1	Ud	
309									1				1	M-EN	
327		1		2	4								7	Mix	
363		1			1								2	Ud	
372								1					1	M-EN	
375										1			1	Ud	Shattered core
390								1					1	M-EN	
435					2								2	Mix	
436											1		1	N-BA	

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
437		2			2							1	5	Mix	
438		3			2			1					6	Mix	
440		1			1							1	3	?late	2 of the 3 burnt
441		2			4								6	Mix	Some ?late
442		1			1								2	Mix	
443					3					2			5	Ud	
444		1			1							2	4	LN	
446											1		1	N_BA	
447		2			2								4	Mix	
448		1			1						1		3	M-EN	
449		1			2			1		1	1	1	7	Mix	Blade is huge
450		3			7				1		2		13	Mix	
451		2			5					1	1	2	11	Mix	
452		4			8			1			1		14	Mix	Mostly late
453		1			9		1			3			14	Mix	Mostly very later looking, all in very chipped condition
454		2			4			2			2		10	Mix	Lots late
455		1			4								5	?late	
456		1			1							1	3	Ud	
457					2			2			1		5	M-EN	
458					1	1							2	Ud	F large and probably retouched around edges

Context	Cut	Decort Flake	Core rejuve flake	Micro-shatter	Flake	Flake Frag	Syst Blade	Unsyst Blade	Blade-like flake	Conchoidal Shatter	Cores	Retouched	Context Total	Suggested Date	Comments
459					2						1		3	Ud	
460								1			1		2	M-EN	
461		1			5			2	2				10	Mix	
462		2			4		1						7	Mix	Mostly late
463		1					2						3	M-EN	Poss. mixed, one blade very sharp, the other either chipped or utilized
464					1								1	N-BA	
466					3								3	Mix	
467			1					1					2	M-EN	CRF is transverse (cf crested flake), the blade may have been utilized
468		1			3								4	?late	

Appendix 8: Faunal Remains

Ctxt	Sample	Ttl Qty	Wt(g)	Spp.	Spp. Qty	Age	Butchering	Comments
187		6	0.016	Pig	3	Juvenile		Metapodial, phalange
187				Mammal	3			Fragments, poor condition, eroded and root damage
195		140	4.956	Cattle	35		Chopped/Cut	Inc scapula, mandible and foot bones, skinning waste
195				Sheep/Goat	8		Chopped/Cut	Inc scapula, humeri and mandibles
195				Pig	6		Butchered	
195				Bird - Galliforme	4	Adult	Cut	Cut tibiotarsus, tarsometatarsus, ulna,
195				Mammal	85		Butchered	
195				Bird	2			Shaft fragments
197		1	0.004	Mammal	1			
202		34	0.327	Cattle	2	Adult	Chopped/Cut	Radius (gnawed), humerus shaft
202				Pig	9	Sub-adult		Mandible fragments, isolated teeth
202				Sheep/Goat	1			Radius shaft
202				Mammal	22			Fragmentary and poor condition, root damage
213		8	0.017	Bird - Galliforme	1	Adult	Cut	Humerus
213				Mammal	7			Fragmentary
455		1	0.012	Mammal	1			Burnt, blackened
517		26	0.011	Sheep/Goat	7	Adult	Cut/Chopped	Pelvis, metapodial, scapula, humerus, radius
517				Mammal	19		Butchered	Small fragments, probably sheep/goat
526		3	0.006	Mammal	3			Small fragments
528		5	0.002	Mammal	5			Small fragments, poor condition, eroded surfaces
545		32	0.201	Cattle	2	Adult	Cut/Chopped	Metatarsal - skinned and chopped, worn third molar
545				Sheep/Goat	1	Adult	Chopped	Radius
545				Deer	1	Adult	None Visible	Antler tine, poor condition

Ctxt	Sample	Ttl Qty	Wt(g)	Spp.	Spp. Qty	Age	Butchering	Comments
545				Mammal	28		Butchered	Small fragments, poor condition, eroded surfaces
547		3	0.028	Mammal	3			
551	101	3	0.001	Mammal	3			Small fragments, burnt white
575		5	0.031	Cattle	2	Adult		Molars
575				Sheep/Goat	1	Adult	Chopped	Femur
575				Mammal	1			
576		2	0.02	Cattle	1		Chopped	Pelvis
576				Mammal	1			
582		4	0.031	Sheep/Goat	3	Adult	Cut	Humerus in three pieces, cut at distal end
582				Mammal	1			Rib fragment
584		50	0.028	Sheep/Goat	15	Adult	Cut/Chopped	Proximal phalange, hoof, carpals, rib fragments
584				Mammal	35		Butchered	Small fragments, most rib, probably sheep/goat
586		586	0.072	Deer	1	Juvenile	Cut	Juvenile femur, red deer
635		4	0.001	Mammal	4			
684		3	0.014	Cattle	3	Adult	Cut/Chopped	Radius/ulna in three pieces
690		3	0.041	Mammal	3			Large mammal shaft fragments
704		1	0.123	Cattle	1	Adult	Chopped	Humerus
816		1	0.001	Rabbit	1	Juvenile		Tibia, small juvenile
915		1	0.001	Rabbit	1	Juvenile	Cut	Femur
943		1	0.081	Cattle	1	Adult	Sawn	Metatarsal, sawn at distal shaft
959		7	0.136	Cattle	3	Adult	Butchered	Humerus, talus, scapula
959				Pig	1	Juvenile	Chopped	Tibia
959				Mammal	3		Butchered	Quite poor condition
964		2	0.018	Pig	1	Adult	Butchered	Humerus shaft
964				Mammal	1			
964	114	3	0.003	Mammal	3			

Ctxt	Sample	Ttl Qty	Wt(g)	Spp.	Spp. Qty	Age	Butchering	Comments
989		19	0.151	Cattle	4	Adult	Butchered	Humerus fragments, molar, v. poor condition
989				Mammal	15			Poor condition, 2 pieces of burnt bone
989		169	0.001	Mammal	1			
991		17	0.127	Mammal	17		Butchered	Large mammal fragments, quite poor condition
993		28	0.199	Cattle	4	Adult	Butchered	Scapula, mandible, molar
993				Sheep/Goat	1	Adult	Cut	Proximal phalange
993				Pig	1	Sub-adult	Cut/Chopped	Tibia - fuse-line visible. Heavy cuts on distal shaft
993	126			Mammal	22			Small pieces
993	126	16	0.015	Deer - Red	2	Juvenile		Metatarsal condyle, proximal phalange
993				Mammal	14			Small fragments of large mammal, 3 burnt black
994		62	0.325	Cattle	5	Adult	Butchered	Scapula, humerus, molars and premolar
994				Sheep/Goat	4		Cut/Chopped	Tibia, metatarsal, radius shaft fragments
994				Pig	3	Adult	Butchered	Scapula, vertebrae and metapodial
994				Mammal	50			
996		11	0.142	Cattle	1	Adult	Chopped	Metatarsal, chopped for marrow
996				Pig	1	Adult	Chopped	Scapula
996				Mammal	9		Butchered	Fragments, many quite poor condition and eroded
996	132	5	0.004	Mammal	5			
996	132			Rodent - Mouse	1	Adult		Femur, Woodmouse
1001		45	0.145	Sheep/Goat	1	Adult	Chopped	Skull fragment, proximal metatarsal, humerus, carpal
1001				Pig	12	Range	Butchered	Neonatal scapula, juv metapodial, adult teeth, humerus
1001				Mammal	32			(Found with sheep/goat worked bone), 2 burnt black
1001	140	3	0.024	Pig	2	Sub-adult		Premolar
1001	140			Mammal	2			
1001	140			Herpetofauna	1	Adult		Common Newt femur
1002				Mammal	1			

Ctxt	Sample	Ttl Qty	Wt(g)	Spp.	Spp. Qty	Age	Butchering	Comments
1006		3	0.004	Mammal	3			
1009		30	0.475	Cattle	5	Adult	Cut/Chopped	Metatarsals x 2 - skinning cuts, pelvis,
1009				Pig	1	Juvenile	Cut/Chopped	Metapodial, vertebrae, large juvenile
1009				Deer	5	Adult	Sawn X 1	Large branch/tine, Red Deer, 1 piece sawn, poor cond.
1009				Mammal	19		Butchered	Large mammal fragments
1011	137	3	0.002	Mammal	2			
1011	137			Herpetofauna	1			Common Frog femur
1013		1	0.005	Mammal	1		Butchered	
1013	132	1	0.001	Rodent - Mouse	1	Adult		Metapodial, Woodmouse?
1015	141	1	0.001	Rodent - Vole	1	Adult		Femur, Bank Vole
1017		20	0.071	Sheep/Goat	1	Adult	Chopped	Tibia
1017				Mammal	19		Cut/Chopped	Including cut/chopped rib fragments
1018	139	10	0.002	Mammal	8			Small fragments of large mammal
1018	139			Herpetofauna	2			Common Newt tibia, Common Frog humerus
1018		47	0.188	Cattle	5	Juvenile		Intermediate phalange (gnawed), teeth
1018				Sheep/Goat	4	Juvenile	Cut	Proximal phalange, femur head, rib
1018				Pig	1	Juvenile		Small tusk
1018				Mammal	37		Butchered	Including numerous rib fragments, some gnawing
1019		38	0.409	Cattle	3	Juvenile	Cut	Proximal phalange, calcaneus, carpal
1019				Sheep/Goat	2	Juvenile	Butchered	Mandibles, one with worn Dp4, est. age 6 months
1019				Pig	2	Juvenile		Proximal phalange and carpal
1019				Mammal	31		Butchered	
1019	159		0.045	Cattle	1	Juvenile	Chopped	Vertebrae
1019	159			Fish - Pike	1	Juvenile		Small vertebrae
1019	159			Rodent - Mouse	1	Adult		Vertebrae, Woodmouse
1019	159			Mammal	17			Small fragments of large mammal

Ctxt	Sample	Ttl Qty	Wt(g)	Spp.	Spp. Qty	Age	Butchering	Comments
1022		2	0.014	Cattle	1	Adult		Incisor
1022		5	0.002	Rodent - Mouse	1	Adult		Mandible - Apodemus sylvaticus - Woodmouse
1022				Mammal	4			Small fragments of large mammal
1023		46	0.492	Cattle	4	Adult	Butchered	Scapula, tibia, foot bones
1023				Sheep/Goat	2	Adult		Humerus, vertebrae, molar
1023				Pig	2	Juvenile	Butchered	Mandible with well-worn Dp4, est. age 4- 6 months
1023				Deer - Roe	1	Adult	Cut	Complete radius
1023				Bird	2	Adult		Includes a pathological bone
1023				Herpetofauna	1	Adult		Large and robust, radio-ulna - Bufo bufo
1023				Mammal	35		Butchered	Including an odd mammal vertebrae
1023	160	42	0.029	Sheep/Goat	1	Adult		Carpal
1023	160			Herpetofauna	1	Adult		Humerus from Common Toad
1023	160			Bird	1	Adult		Ulna from passerine sp. No species id possible
1023	160			Mammal	39			Small fragments of large mammal
1025	160	8	0.002	Herpetofauna	2	Adult		Tibiotarsus fragments from Common Frog (Rana temp.)
1025	160			Mammal	6			Small fragments of medium - large size mammal
1027	149	8	0.005	Mammal	5			
1027	149			Rodent - Mouse	1	Adult		Tibia, Woodmouse
1027	149			Herpetofauna	2	Adult		Humerus and femur, Common Frog
1028		8	0.018	Mammal	8		Butchered	
1028	158	32	0.023	Cattle	1	Juvenile		Tooth
1028	158			Sheep/Goat	3	Sub-adult	Butchered	Chopped vertebrae, teeth
1028	158			Mammal	28			
1032		21	0.058	Cattle	1	Adult	Chopped	Vertebrae
1032				Deer	1	Adult		Tine, broken rather than chopped/cut
1032				Bird - Jay	1	Adult		Coracoid

Ctxt	Sample	Ttl Qty	Wt(g)	Spp.	Spp. Qty	Age	Butchering	Comments
1032				Mammal	18		Butchered	
1033		2	0.001	Mammal	2			
1035		9	0.001	Mammal	9		Butchered	Including two burnt pieces, one black one white
1041		1	0.001	Cattle	1			Molar fragment
1085		1	0.007	Mammal	1			
1092		1	0.001	Mammal	1			
1104		5	0.009	Mammal	5			

Appendix 9: Mollusca

Table 1. Land molluscs identified from fills and post-holes from SFB fills and post-holes.

Context:	**1004**	**1019**	**1001**	**1022**		**993**	**994**	**996**	**1011**	**1013**	**1015**	**1023**	**1027**	**1028**
Sample no:	139	139	140	142		126	131	132	137	138	141	160	149	158
Context type	Saxon SFB [1004] fills					Saxon SFB [992] fills and post-holes								
Chrysalis Snail – *Lauria cylindracea*			1						3	2	3	2		2
Tawny Snail – *Euconulus*										1				
Door Snail – *Clausilia bidentata*									1			3		1
Lesser Bulin – *Ena obscura*									2					
Tree Snail – *Bulea perversa*	25	30		19		9	17	10	21	13	15	7	21	27
Moss Snail – *Pupilla muscorum*			2	2			1		6	3	4			2
Blind Snail – *Ceciliodes acicula*	5											62	2	
Rounded Snail – *Discus rotundatus*		2	1						4		2	1	4	1
Whorl Snail – *Vertigo pygmaea*								2						1
Retinella radiatula	1									1		1		
Vitrea crystallina	1	1					2				1		1	1

Table 2. Land mollusca identified from other samples.

Context:	**526**	**551**	**558**	**819**	**825**	**826**	**829**	**836**	**959**	**964**	**964**	**965**	**968**	**989**
Sample no.	100	101	102	106	110	111	109	112	113	114	119	117	118	169
Context type	LNEBA pit	Neo pit	Preh. pit	Neo pit	?Neo pit	?Neo pit	Neo pit	Neo pit	Pit	Sax pit	Sax pit	Sax pit	Sax pit	Sax pit
Chrysalis Snail – *Lauria cylindracea*										1				
Tawny Snail – *Euconulus*														
Door Snail – *Clausilia bidentata*	1													
Lesser Bulin – *Ena obscura*														
Tree Snail – *Bulea perversa*	5	7	6	1	1	1		2	14	5	4	11		4
Moss Snail – *Pupilla muscorum*	1								2	3				
Blind Snail – *Ceciliodes acicula*							1	1			2		1	1
Rounded Snail – *Discus rotundatus*		1	1	2	1	1		1	1	2				1
Whorl Snail – *Vertigo pygmaea*														
Retinella radiatula			1	1						1				1
Vitrea crystallina		1				1								

Appendix 10: Environmental Samples

*this column is also list of all flot samples recovered from plant macro processing in archive.

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
100	526	Fill of LNEBA pit [527]	Plant macros	Yes	Scanned	Charcoal ID and AMS dating (hazel nut shell)	Yes	Moderate to high	40711CST100A 40711CST100B	Yes
101	551	Fill of undifferentiated prehistoric pit [550] not part of E. Neo cluster but one of a pair of pits with [553].	Plant macros	Yes (2 bags)	Scanned	Charcoal ID and AMS dating (hazel nut shell)	Yes	Moderate		Yes
102	558	Fill of undifferentiated prehistoric pit [557] (far south of excavated area)	Plant macros	Yes	Scanned					Yes
103	806	Fill of post-hole/pit [805] undifferentiated prehistoric in cluster of Early Neolithic pits	Plant macros	Yes	Scanned					

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
104	812	Fill of undifferentiated prehistoric pit [811] part of Early Neo cluster	Plant macros	Yes	Scanned	Charcoal ID and AMS dating (charred root/stem)	Yes	Low/moderate	40711CST104A 40711CST104B	
105	808	Fill of undifferentiated prehistoric pit [807] part of Early Neo cluster	Charcoal identification			Charcoal ID	Yes			
106	819	Fill of Early Neolithic pit [818]	Plant macros	Yes	Yes		Yes		40711CST106	Yes
107	822	Fill of Neolithic pit/post-hole [821]	Plant macros	Yes	Yes		Yes		40711CST107	
108	828	Fill of undated prehistoric pit/post-hole [827] in cluster of Early Neolithic pits.	Plant macros	Yes	Scanned		Yes		40711CST108	
109	829	Fill of undated prehistoric pit/post-hole [827] in cluster of Early Neolithic pits.	Plant macros	Yes	Yes	Charcoal ID and AMS dating (Hazelnut shell and charred root/stem)	Yes	Low/moderate	40711CST109A 40711CST109B	

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
110	825	Fill of undated prehistoric pit [824] Possibly Early Neolithic.	Plant macros	Yes	Scanned					Yes
111	826	Fill of undated prehistoric pit [824] Possibly Early Neolithic.	Plant macros	Yes	Scanned					Yes
112	836	Fill of undated prehistoric pit [834] part of Early Neo cluster	Plant macros	Yes	Scanned	Nothing suitable for dating or charcoal ID	Yes			Yes
113	959	Fill of undated pit [959]	Plant macros	Yes	Scanned					Yes
114	964	Fill of Saxon pit [963]	Plant macros	Yes	Yes	Charcoal ID				Yes
115	964	Fill of Saxon pit [963]	Charcoal identification			Charcoal ID				
116	965	Fill of Undated possibly Saxon pit [962]	Charcoal identification			Charcoal provided suitable material for dating	Yes	good	40711CST116B 40711CST116B	
117	965	Fill of undated possibly Saxon pit [962]	Plant macros	Yes	Scanned					Yes
118	968	Fill of undated possibly Saxon pit [962]	Plant macros	Yes	Scanned		Yes			Yes

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
119	967	Fill of undated possibly Saxon pit [966]	Plant macros	Yes	Scanned					Yes
120	823	Fill of the recut of Neolithic pit [821]	Magnetics (Test to see if sediment podzolised)							
121	822	Fill of Neolithic pit [821]	Magnetics (Test to see if sediment podzolised)							
122	1007	Natural cut by pit [821]	Magnetics (Background magnetics for pit podzolisation study)							
123	820	Fill of Early Neolithic pit [830] recut into pit[811]	Magnetics (Test to see if sediment podzolised)							
124	812	Fill of undated pit [811] within Early Neolithic pit cluster	Magnetics (Test to see if sediment podzolised)							
125	1008	Natural cut by Early Neolithic pit [811]	Magnetics (Background magnetics for pit podzolisation study).							
126	993	Fill of Early Saxon SFB [992]	Plant macros	Yes	Yes	Charcoal ID and Cereal for AMS	Yes	Low/contamination		Yes

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
127	996	Fill of Early Saxon SFB [992]	Charcoal identification							
128	996	Fill of Early Saxon SFB [992]	Possible coprolite							
129	[992]	Monolith through fills of Early Saxon SFB [992]	Soil Micromorphology (Elucidate activities within and immediately outside SFB)							
130	[992]	Monolith through fills of Early Saxon SFB [992]	Soil Micromorphology (Elucidate activities within and immediately outside SFB)							
131	994	Fill of Early Saxon SFB [992]	Plant macros	Yes	Yes	Charcoal ID. Cereal and hazelnut shell for AMS	Yes	Low/contamination		Yes
132	996	Fill of Early Saxon SFB [992]	Plant macros	Yes	Yes	Charcoal ID. Cereal and hazelnut shell for AMS	Yes	Low/contamination		Yes

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
133	994	Fill of Early Saxon SFB [992]	Pollen (Environmental reconstruction)	No	Yes					
134	993	Charcoal rich fill of Early Saxon SFB [992]	Pollen (Environmental reconstruction)	No	No					
135	996	Fill of Early Saxon SFB [992]	Pollen (Environmental reconstruction)	No	Yes					
136	1001	Fill of Early Saxon SFB [992]	Pollen (Environmental reconstruction)	No	Yes					
137	1011	Fill of Saxon post-hole [1010] assoc with SFB [1004]	Plant macros	Yes	Scanned					Yes
138	1013	Fill of Saxon post-hole [1012] assoc with SFB [1004]	Plant macros	Yes	Yes	Charcoal ID.				Yes
139	1018	Fill of NE quadrant of Early Saxon SFB [1004]	Plant macros	Yes	Scanned	Charcoal ID. Cereal and charred root/stem for AMS	Yes	Low/contamination		Yes
140	1001	Fill of Early Saxon SFB [992]	Plant macros	Yes	Scanned					Yes

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
141	1015	Fill of Saxon post-hole [1014] assoc with SFB [1004]	Plant macros	Yes	Scanned					Yes
142	1023	Fill of Early Saxon SFB [1004]	Plant macros	Yes	Yes	Charcoal ID and pos. AMS Pulses and cereals for AMS	Yes	Low/contamination		Yes
143	993	Fill of Early Saxon SFB [992]	Soil chemistry in association with monolith <129>/<130> Elucidate activities within and immediately outside SFB							
144	994	Fill of Early Saxon SFB [992]	Soil chemistry in association with monolith <129>/<130> Elucidate activities within and immediately outside SFB							

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
145	995	Fill of Early Saxon SFB [992]	Soil chemistry in association with monolith <129>/<130> Elucidate activities within and immediately outside SFB							
146	996	Fill of Early Saxon SFB [992]	Soil chemistry in association with monolith <129>/<130> Elucidate activities within and immediately outside SFB							
147	1001	Fill of Early Saxon SFB [992]	Soil chemistry in association with monolith <129>/<130> Elucidate activities within and immediately outside SFB							
148	951	Fill of undated pos Saxon pit [962]	Plant macros	Yes none.	No Flots					.
149	1027	Fill of Saxon post-hole [1026] assoc with SFB [1004]	Plant macros	Yes	Scanned					Yes

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
150	1004	Monolith through fills of Early Saxon SFB [1004] section 1198	Soil Micromorphology (Elucidate activities within and immediately outside SFB)							
151	1004	Monolith through fills of Early Saxon SFB [1004] section 1198	Soil Micromorphology (Elucidate activities within and immediately outside SFB)							
152	1019	Fill of SE quadrant of Early Saxon SFB [1004]	Soil chemistry in association with monolith <150>/<151> (Elucidate activities within and immediately outside SFB)							Yes
153	1023	Fill of Early Saxon SFB [1004]	Soil chemistry in association with monolith <150>/<151> (Elucidate activities within and immediately outside SFB)							

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
154	1028	Fill of SE quadrant of Early Saxon SFB [1004]	Soil chemistry in association with monolith <150>/<151> (Elucidate activities within and immediately outside SFB)							
155	1020	Fill of Early Saxon SFB [1004]	Pollen (Environmental reconstruction)	No	No					
156	1023	Fill of SE quadrant of Early Saxon SFB [1004]	Pollen (Environmental reconstruction)	No	Yes					
157	1028	Fill of Early Saxon SFB [1004]	Pollen (Environmental reconstruction)	No	No					
158	1028	Fill of Early Saxon SFB [1004]	Plant macros	Yes	Scanned					Yes
159	1019	Fill of SE quadrant of Early Saxon SFB [1004]	Plant macros	Yes	Scanned	Charcoal ID and separation of material for C14 if possible)	Yes	Possible AMS dates		
160	1023	Fill of Early Saxon SFB [1004]	Plant macros	Yes (2 bags)	Scanned					Yes

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
161	1025	Fill of Saxon post-hole [1024] assoc with SFB [1004]	Plant macros	Yes	No Flots					
162	658	Reddened sand above [657]	Magnetics (is the reddening of sands caused by burning?)							
163	660	Upper reddened sand above [659]	Magnetics (is the reddening of sands caused by burning?)							
164	777	Reddened sand	Magnetics (is the reddening of sands caused by burning?)							
165	1042	Natural sands below reddened sands [657]	Magnetics (is the reddening of sands caused by burning?)							
166	1043	Natural sands below reddened sands [659]	Magnetics (is the reddening of sands caused by burning?)							
167	660	Lower reddened sand above [659]	Magnetics (is the reddening of sands caused by burning?)							
168	964	Fill of Early Saxon pit [963]	Charcoal identification							

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
169	989	Fill of Early Saxon pit [989]	Plant macros	Yes	Yes	Charcoal ID and Cereal grains for AMS		Possible AMS dates		Yes
170	823	Fill of recut of Neolithic pit/post-hole [821]	Pollen (Environmental reconstruction)	Yes	Yes					
171	822	Fill of Neolithic pit/post-hole [821]	Pollen (Environmental reconstruction)	Yes	Yes					
172	820	Fill of Neolithic pit/post-hole [818]	Pollen (Environmental reconstruction)	No	Yes					
173	812	Fill of probable Neolithic pit/post-hole [811]	Pollen (Environmental reconstruction)	No	Yes					
174	666	Reddened sand above [665]	Magnetics (is the reddening of sands caused by burning?)							
175	965	Charcoal and flint rich deposit within undated but possibly Saxon pit [962]	Possible OSL dating of burnt flint							
176	953	Colluvium cut by possible Saxon pit	Possible OSL dating of burnt flint							

Spl	Ctxt	Feature Date and Type	Sample Type	Proc. for macros or pollen*	Macros or pollen analysed	Further use of material	Charcoal ID	C14 Potential	C14 dating	Molluscan Analysis
177	968	Lower fill of undated but possibly Saxon pit [962]	Charcoal identification							
178	965	Charcoal and flint rich deposit within undated but possibly Saxon pit [962]	Possible OSL dating of sediment associated with burnt flint							

Appendix 11: Macrofossils

x = 1–10 specimens xx = 10–50 specimens xxx = 50+ specimens

b = burnt ss = sub-sample SFB = Sunken-featured building ph = post-hole

E.Neo = Early Neolithic E.Sax = Early Saxon

Sample No.	106	107	109	114	126	131	132	138	142	169
Context No.	819	823	829	964	993	994	996	1013	1022	989
Feature No.	818	821	827	963	992	992	992	1012	1004	990
Feature type	Pit	Pit	Pit	Pit	SFB	SFB	SFB	ph	SFB	Pit
Date	E.Neo	E.Neo	?E.Neo	E.Sax.	E.Sax.	E.Sax.	E.Sax.	E.Sax.	E.Sax.	E.Sax.
Plant macrofossils										
Cereal indet. (grains)									x	x
Corylus avellana L. (nutshell)			x							
Charcoal <2mm	x	xx	xx	xxx	xxx	xxx	xxx	xx	xx	xx
Charcoal >2mm	x	x	x	xx	xx	x	x		xx	x
Charred root/stem		x	x							
Other materials										
Black porous 'cokey' material	x	xx	xx		x	x	x		x	x
Black tarry material	x	x	xx	x			x		x	
Bone		x		x	xx xxb	x	x	x	xx	xxb
Burnt/fired clay					x	x				
Small coal frags.	x	x	x	x	x	x	x	x	x	x
Small mammal/amphibian bone							x	x	x	
Vitrified material		x					x			
Sample volume (litres)	10	20	10	20	30ss	20	20	10	20	20
Volume of flot (litres)	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	50%	100%	100%	100%	100%	100%

Appendix 12: Charcoal Identification

h = heartwood; s = sapwood (diameter unknown). Charcoal suitable for dating is indicated in bold type.

Spl	Ctxt	Description	*Corylus*	*Pomoideae*	*Prunus*	*Pomoideae / Prunus*	*Quercus*	*Rhamnus cathartica*	*Rosa/ Rubus*	*Ulex/ Cytisus*
100	526	Fill of LNEBA pit [524]	-	**2 (<1g)**	-	-	-	-	-	-
101	551	Fill of pit [550] Early Neolithic	-	**13 (2g)**	**3 (1g)**	-	-	**1 (<1g)**	**Cf.1 (<1g)**	-
104	812	Fill of pit [811] Early Neolithic	-	-	**5 (<1g)**	-	-	-	-	-
105	808	Fill of pit [807] Early Neolithic	-	-	-	-	2h	-	-	-
106	819	Fill of pit [818] Early Neolithic	-	**2 (<1g)**	-	-	1	-	-	-
107	822	Fill of pit/post-hole [821] Early Neolithic	-	-	-	-	-	-	-	**2 (<1g)**
108	828	Fill of pit/post-hole [827] Undif prehistoric	**1 (<1g)**	-	-	-	1	-	-	-
109	829		**1 (<1g)**	**1 (<1g)**	-	-	-	-	-	**2 (<1g)**
112	836	Fill of pit [834] Early Neolithic	-	-	-	**1 (<1g)**	-	-	-	-
116	965	Fill of Early Saxon pit [962]		**21g (hawthorn) roundwood**			3g			1g
118	968	Fill of pit [962] Saxon	-	**1 (<1g)**	-	-	2 roundwood	-	-	2 (<1g)
126	993	Fill of SFB [992] Early Saxon	-	**1 (<1g)**	-	-	**2s (<1g), 6**	-	-	-
131	994		-	-	-	-	**2s (<1g), 1**	-	-	-
132	996		-	-	**1 (<1g)**	-	**2s (<1g)m, 4**	-	-	-
139	1018	Fill of NE quadrant of SFB [1004] Early Saxon	-	**1 (<1g)**	-	-	**2s (<1g)**	-	-	-
142	1023	Fill of SFB [1004] Early Saxon	-	-	-	-	**2s (<1g), 1h**	-	-	-
158	1019	Fill of SFB [1004] Early Saxon				<1g Prunus spinosa Blackthorn	**<1g h <1g roundwood**			

Appendix 13: Soil Micromorphology

Chemical (excluding phosphate fractionation) and magnetic susceptibility data

[a] **LOI:** Samples highlighted in bold have higher organic matter concentrations: * = 1.00–1.99%

[b] **CO_3:** Samples highlighted in bold have higher carbonate concentrations: * = 'calcareous' 5.00–9.99%

[c] **Phosphate-P:** Figures highlighted in bold show likely phosphate enrichment: * = enriched (1.00–1.99 mg g^{-1}), ** = strongly enriched (2.00-2.99 mg g^{-1})

[d] χ_{conv}**:** Figures highlighted in bold show likely susceptibility enhancement: * = enhanced (5.00–9.99%), ** = strongly enhanced (10.0–29.9%), *** = very strongly enhanced (30.0–49.9%)

Sample	Context	Date and type of feature	LOI[a] (%)	Est CO_3[b] (%)	Phos.-P[c] (mg g^{-1})	χ (10^{-8} m^3 Kg^{-1}	χ_{max} (10^{-8} m^3 Kg^{-1})	χ_{conv}[d] (%)
Early Saxon sunken-featured buildings								
144	994	Fill of Early Saxon SFB [992]	0.951	1	0.512	21.9	734	2.98
146	996	Fill of Early Saxon SFB [992]	0.843	2	0.527	20.1	736	2.73
147	1001	Fill of Early Saxon SFB [992]	0.680	0.5	0.426	26.7	660	4.05
152	1019	Fill of SE quadrant of Early Saxon SFB [1004]	**1.74***	**5***	**2.20****	32.6	903	3.61
153	1023	Fill of Early Saxon SFB [1004]	**1.62***	**5***	**1.94***	23.6	894	2.64
Neolithic pit fills and associated natural								
120	823	Fill of the recut of Neolithic pit [821]	**1.15***			5.8	329	1.76
121	822	Fill of Neolithic pit [821]	0.503			1.8	175	1.03
122	1007	Natural cut by pit [821]	0.425			0.9	322	0.28
123	820	Fill of Early Neolithic pit [818]	0.676			6.9	423	1.63
124	812	Fill of undated pit [811] in E Neolithic pit cluster	0.709			7.7	472	1.63
125	1008	Natural cut by Early Neolithic pit [811]	0.445			1.0	29.0	3.45
162	658	Reddened sand above [657]	0.561			211	613	**34.4*****
163	660	Upper reddened sand above [659]	0.714			273	772	**35.4*****
164	777	Reddened sand	0.756			355	1140	**31.1*****
165	1042	Natural sands below reddened sands [657]	0.486			87	502	**17.3****

Sample	Context	Date and type of feature	LOI[a] (%)	Est CO_3[b] (%)	Phos.-P[c] (mg g^{-1})	χ (10^{-8} m^3 Kg^{-1}	χ_{max} (10^{-8} m^3 Kg^{-1})	χ_{conv}[d] (%)
166	1043	Natural sands below reddened sands [659]	0.487			49.1	648	**7.58***
167	660	Lower reddened sand above [659]	0.645			254	779	**32.6*****
174	666	Fill 666 of reddened patch 665	0.517			62.2	590	**10.5****

Phosphate fractionation data for the samples from the Saxon sunken featured buildings

Sample	Context	Date and type of feature	Phosphate-Pi (mg g^{-1})	Phosphate-Po (mg g^{-1})	Phosphate-P (mg g^{-1})	Phosphate-P_i:P (%)	Phosphate-P_o:P (%)
144	994	Fill of Early Saxon SFB [992]	0.351	0.161	0.512	68.6	31.4
146	996	Fill of Early Saxon SFB [992]	0.336	0.191	0.527	63.8	36.2
147	1001	Fill of Early Saxon SFB [992]	0.262	0.164	0.426	61.5	38.5
152	1019	Fill of SE quadrant of Early Saxon SFB [1004]	1.89	0.305	2.20	86.1	13.9
153	1023	Fill of Early Saxon SFB [1004]	1.67	0.273	1.94	85.9	14.1

Bowthorpe; Samples and micromorphological counts

Thin section Sample	Relative Depth	Bulk Sample	Context	Microfacies	SMT	Voids	Gravel	Chalk	Burned mineral	Charcoal
SFB 992										
M129	35–55 mm	144	994	A4	1a (3a)	40%	*			
M129	55–80 mm	146	996	A5	1a	40%	f	a-2		a
M129	80–110 mm	147	1001	A6	1a	40%				
M130	55–70 mm	144	994	A1	1a (3a)	40%	*		a*	aa
M130	70–120 mm	146	996	A2	1b	30%	f		a	aaaaa
M130	120–130 mm		1002	A3	1a (2a)	40%	*			a
SFB 1004										
M150	0–75 mm	152	1019	B1	3b(3c)	35%	*	*	a	a
M150	0–75 mm	153	1023	B1	3b, 3c	35%	f	f	a	a
M151	0–75 mm	152	1019/1023	B2	3b (3c)	40%	ff	*	a	aa

Thin section Sample	Context	Calcite ash	Ironpan Fragment	Clayey soil	Chalky soil	Bone/ Coprolites	Earthworm granules	50-100um excrements	Broad Calcitic burrows	Broad Calcitic excrements
SFB 992										
M129	994						a-1	aaa	a	a
M129	996							aaa		
M129	1001							aaa		
M130	994							aa	a*	
M130	996		a-2	a*			a-1	aaa		aa
M130	1002							aa		
SFB 1004										
M150	1019	aaa		a*	aaa	a-1	a*	aaaaa	aaaaa	aaaaa
M150	1023	aaaa		a*	aaaaa	a-4		aaaaa	aaaaa	aaaaa
M151	1019/1023	aa			aa	a		aaaaa	aaaaa	aaaaa

* - very few 0–5%, f - few 5–15%, ff - frequent 15–30%, fff - common 30–50%, ffff - dominant 50–70%,
a - rare <2% (a-*1%; a-1, single occurrence), aa - occasional 2–5%, aaa - many 5–10%, aaaa - abundant 10–20%,
aaaaa - very abundant >20%

Bowthorpe SFBs 992 and 1004: Soil Micromorphology (Descriptions and preliminary interpretations)

Microfacies type (MFT)/Soil microfabric type (SMT)	**Sample**	**Depth (relative depth) Soil Micromorphology (SM)**	**Preliminary Interpretation and Comments**
			SFB 992
MFT A4/SMT 1a (3a) MFT A5/SMT 1a MFT A6/SMT 1a	M129	35–110 mm. SM: broadly layered (by context); Microstructure: massive and coarse subangular blocky, 40% voids throughout, complex packing voids, fine poorly accommodated curved planar medium (0.5-1 mm) voids; Coarse Mineral: C:F, 75:25, as M130; with few flint (max 15mm); Coarse Organic and Anthropogenic: rare charcoal (max 3mm), few coarse flint, two examples of rounded chalk (max 2.5mm); trace amounts of rubefied grains and example of sand-size aggregate composed of sand and charcoal; example of large 2mm-size earthworm calcite granule; Fine Fabric: SMT 1a and 2a (burrows); Pedofeatures: Fabric: rare broad (2mm) burrows and examples of very broad (30 mm) burrows; Excrements: many very thin (50-100 µm) organo-mineral excrements; burrow fills of occasional thin (1mm) organo-mineral excrements of SMT 3a.	994 Dominantly sandy fill with examples of calcitic burrow soil and earthworm granule. Blown sand fill now influenced by more recent soil amelioration (liming?) of the area, or spread of calcitic fills from SFB 1004. 996 Weakly anthropogenic fill containing rare charcoal and burned mineral grains, but examples of coarse flint and examples of rounded chalk. Weakly anthropogenic fill probably reflecting mainly natural soil infilling of the SFB 1001 Mixed sandy subsoil, but without relict Bt(s) horizon material. Partially mixed subsoil Bw horizon.
MFT A1/SMT 1a (and 3a) MFT A2/SMT 1b (3a)	M130	55-130 mm SM: layered (3 contexts); Microstructure: massive and coarse subangular blocky, patch of fine crumb; 40-30-40% upwards; complex packing voids, medium poorly accommodated curved planar medium (1-2 mm) voids; Coarse Mineral: C:F, 80:20-60:40-80:20 upwards, poorly sorted coarse silt, fine, medium, coarse and very coarse sand-size quartz (with quartzite, flint and opaque minerals); very few-few-very few gravel size (2 mm) flint and ironstone; Coarse Organic and Anthropogenic: root traces with fine calcitic inclusions and earthworm calcite granules; 1002: rare charcoal, 996: very abundant coarse (max 2.5mm) charcoal, rare amount of rubefied/burned grains and examples of 2mm-size possible rubefied ironpan fragments; trace of 1 mm-size pale yellow clayey soil (embedding sand grains); 994: occasional	994 Sands with trace amounts of fine anthropogenic material (as in 996); rare burrow-fills of calcitic soil (from overburden? or occupation soils – see M150) Mainly a late fill of blown sand. 996 Anthropogenic fill of sands with small gravel, burned mineral grains, possible burned ironpan fragments and clayey soil with very abundant charcoal; post-depositional burrowing, Including calcareous soil that buries the site(?). Anthropogenic fill recording charcoal and some burned mineral hearth debris and possible trace of building/manufactured daub/loomweight that was mainly blown-in(?). 1002

Microfacies type (MFT)/Soil microfabric type (SMT)	Sample	Depth (relative depth) Soil Micromorphology (SM)	Preliminary Interpretation and Comments
MFT A3/SMT 1a (2a)		charcoal, trace amount of rubefied grains Including flint; Fine Fabric: 1002: SMT 1a: brown, very dark brown and black (PPL), anisotropic (single grain, coated grain and intergrain, undifferentiated b-fabric, XPL), pale yellowish orange (OIL); thin humic staining and occasional very fine charcoal; 1002: very few SMT 2a (Bt(s)): reddish brown (PPL), low interference colours (porphyric and coated grain, speckled b-fabric, XPL), orange (OIL); 996: SMT1b – as SMT 1a, with many fine charcoal (traces of SMT 2a in 996); 994 – SMT 1a with very few SMT 3a: finely speckled very dark brown (PPL), moderately high interference colours (porphyric, crystallitic b-fabric, XPL), orange (OIL);traces of fungal material, rare very fine charcoal; Pedofeatures: Textural: rare grain and void clay coatings (SMT 2a); Amorphous: weak sesquioxide staining of SMT 2a; Fabric: rare broad (2mm) burrows and examples of very broad (30 mm) burrows; Excrements: many very thin (50-100 µm) organo-mineral excrements; patch of occasional thin (1mm) organo-mineral excrements of SMT 3a.	Mainly natural sands with few mixed-in fine anthropogenic inclusions (e.g. charcoal); relict patches of subsoil Bt(s) horizon soil. Moderately disturbed natural subsoil with coarse inclusions of earlier-formed subsoils that show relict argillic and later podzolic soil formation at the site.
			SFB 1004
MFT B/SMT 3b(3c) MFT B/SMT 3b and 3c	M150	0-75 mm SM: moderately heterogeneous (dominant SMT 3b and frequent 3c), but with a variety of included material and fine fabrics; Microstructure: massive, poorly formed coarse sub-angular blocky and burrowed, 35% voids, fine to medium (1-2 mm) poorly accommodated curved planar voids and channels, complex packing voids; Coarse Mineral: C:F, 60:40, as M129, with few gravel-size rounded and angular flint (max 8mm) and example of ironstone and coarse anthropogenic inclusions; Coarse Organic and Anthropogenic: few gravel, Including occasional coarse angular burned flint, rare charcoal (max 3mm), Including both wood and Poaceae (straw?); rare (e.g. four) probable human coprolites (max 1 mm) – included cereal material and other	1019 Essentially as below 1023 Moderately heterogeneous mix of mainly weakly calcitic (ashy) sands with frequent strongly calcitic (ash-rich) sands, that include much fine charcoal and occasional phytoliths, and examples of ash aggregates, with very abundant patches of chalky daub (cob) that embeds sand, and sometimes shows past rooting and decalcification; human coprolites (with embedded cereal and plant material), burned (calcined) flint and clayey soil (~unfired loomweight fragments?) also occur; both very abundant very thin (acidophyle) and broad (earthworm – also biogenic granules) excrements. Strongly anthropogenic (see Table 1 for LOI, estimated

Microfacies type (MFT)/Soil microfabric type (SMT)	Sample	Depth (relative depth) Soil Micromorphology (SM)	Preliminary Interpretation and Comments
		plant remains ('apatite' mineralogy can be inferred from the coprolite (like bone) being autofluorescent under blue light); traces of very fine ash aggregates; occasional ash and amorphous organic matter-rich aggregates (excrements) that contain phytoliths (burned dung?/cereal processing waste); very abundant chalky daub/cob (chalk, chalk matrix embedding sand) up to 15mm in size; examples showing decalcification/rooting in earlier location; trace of clayey soil (loomweight?); rare traces of biogenic calcite/earthworm aggregates in upper part, with traces of mollusc shell; Fine Fabric: SMT 3b: blackish brown (PPL), moderately low interference colours (intergrain aggregate, crystallitic b-fabric, XPL), brownish orange (OIL), humic staining, occasional amorphous very fine organic matter and charcoal; SMT 3c: speckled and dotted darkish brown (PPL), moderately high interference colours (porphyric, crystallitic b-fabric, XPL), blackish brown (OIL); moderately humic with abundant very fine charcoal and calcite ash (with very fine ash aggregates), and occasional phytoliths; Pedofeatures: Fabric: very abundant broad (1-2mm) burrows; Excrements: very abundant very thin (50-100 µm) and many broad organo-mineral excrements.	carbonate and phosphate-P) with evidence of fills containing ashy plant processing waste and/ or relict burned dung, much fragmented chalky daub (cob?), human coprolites and possible clayey unburned loomweight fragments.
MFT B2/SMT 3b (3c)	M151	0-75 mm SM: moderately heterogeneous (very dominant SMT 3b and very few 3c), but with a variety of included material and fine fabrics; Microstructure: massive with sub-angular blocky, with channels and burrowed, 40% voids, fine to medium (1-2 mm) channels, complex packing voids; Coarse Mineral: C:F, 75:25; as M129, with few coarse (max 13mm) angular flint; Coarse Organic and Anthropogenic: rare fine coprolites and, fine bone and example of 8mm-size iron-stained coprolitic bone; occasional chalky daub and chalk, Including 5mm-size chalk clast showing marked decalcification and weak	1019/1023 Similar to M150, but containing less calcitic ashy fine material and chalky daub (cob), but with a few more angular fire-cracked(?) coarse flint, and coprolitic material mainly as very fine bone and coprolites (one coarse bone fragment); coarse chalk fragment is present that shows decalcification and weak phosphatisation); includes traces of Bt(s) horizon material and example of micaceous sediment; example of chalk clast displays decalcification. Burrowing by both acidophyle mesofauna and earthworms. Strongly anthropogenic (see Table 1 for LOI, estimated

Microfacies type (MFT)/Soil microfabric type (SMT)	Sample	Depth (relative depth) Soil Micromorphology (SM)	Preliminary Interpretation and Comments
		phosphatisation (autofluorescent under blue light); occasional charcoal (max 1mm); occasional burned/fire-cracked (and some calcined) flint; trace inclusions of ashy SMT 3c aggregates; fine traces of SMT 2a (Bt(s)); Fine Fabric: SMT 3b and 3c; Pedofeatures: Fabric: very abundant broad (1-2mm) burrows; Excrements: very abundant very thin (50-100 µm) and many broad organo-mineral excrements.	carbonate and phosphate-P) with evidence of fills containing small amounts of ashy plant processing waste and/ or relict burned dung, fragmented chalky daub (cob?), decalcifying chalk and human coprolites.

Fig. 13.1: Scan of resin-impregnated block 129 (SFB 992) showing burrowed mixture of brown sands and dark occupation soil; note occasional burned red mineral grains. Width is ~70mm.

Fig. 13.2: Scan of impregnated block 130 (SFB 992)(see Figs 3 and 10); dark charcoal-rich Contexts 994 and 996, and lower fill 1002; note coarse burned flint (BF) and fragment of relict subsoil Bt(s). Width is ~70mm.

Fig. 13.3: Scan of M130, with whitish burned flint and very dark charcoal-rich burrow mixed fill (arrow). Width is ~50mm.

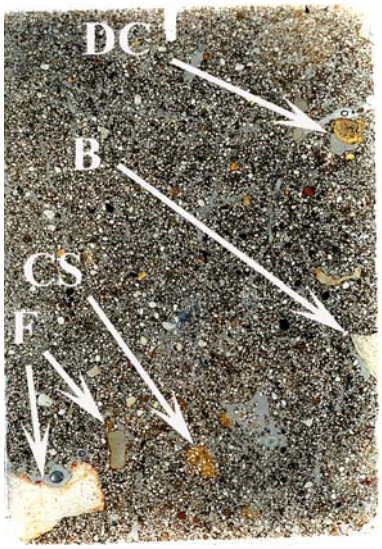


Fig. 13.4: Scan of M151; note decalcified (and weakly phosphatised chalk clast (DC), bone (B), chalky soil (CS) and coarse flints (F). Width is ~50mm.

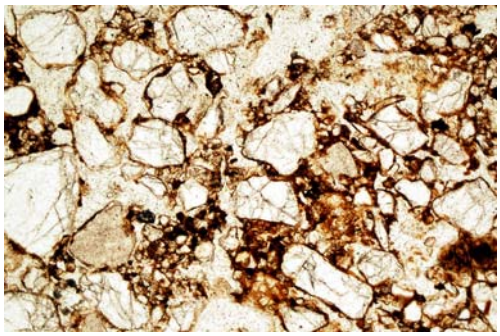


Fig. 13.5: Photomicrograph of M129; fragment of relict Bt(s) horizon soil (centre) with sesquioxides partially obscuring earlier-formed clay coatings of argillic ('forest') soil. Plane polarised light (PPL), frame width is ~2.38mm.

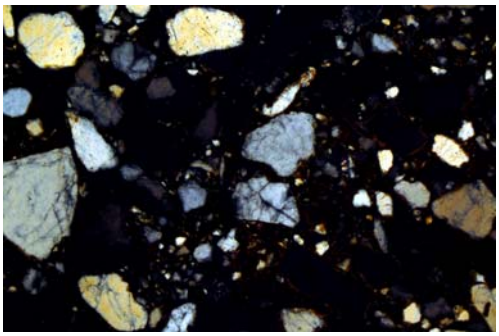


Fig. 13.6: As Fig. 13.5, under crossed polarised light (XPL); note very low interference colours of sesquioxide-(Fe_2O_3+Al_2O_3) coated argillic soil.

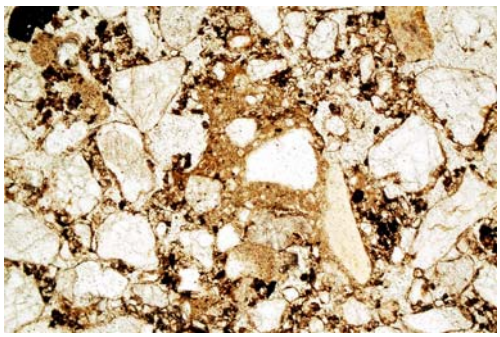


Fig. 13.7: Clayey soil in M129, the kind of material possibly employed to make unfired loomweights. PPL, frame width is ~2.38mm.

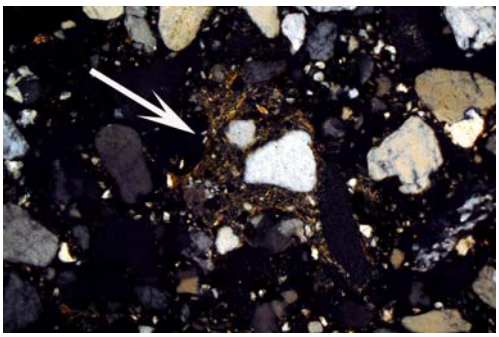


Fig. 13.8: As Fig. 13.7, under XPL; note moderately high interference colours of this clay (arrow).

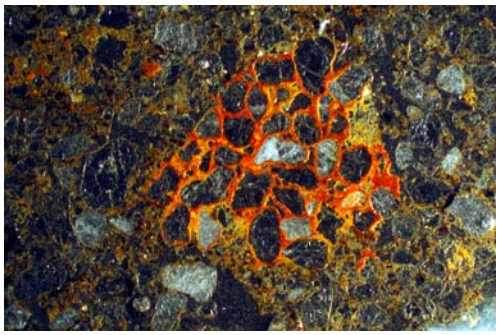


Fig. 13.9: burned ironpan fragment in M130. Oblique incident light (OIL), frame width is ~4.62mm.

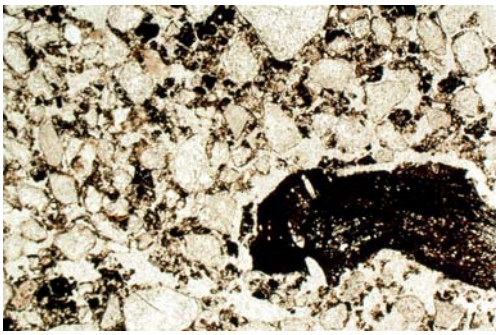


Fig. 13.10: Charcoal-rich burrow fill in M130 (see Fig. 13.2), including possibly charred woody root?; note medium sand-size quartz. PPL, frame width is ~4.62mm.

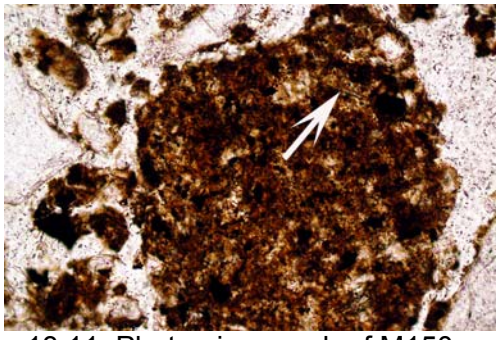


Fig. 13.11: Photomicrograph of M150; detail of fine soil containing amorphous organic matter, fine charcoal, ash (see Fig. 13.12) and phytoliths (arrow). PPL, frame width is 0.90mm.

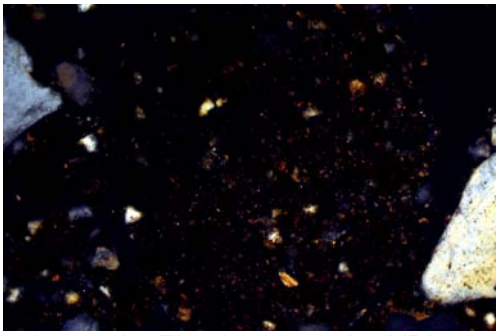


Fig. 13.12: As Fig. 13.11, under XPL; note scatter of birefringent calcite ash crystals.

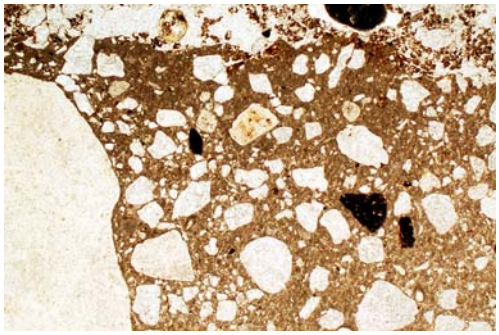


Fig. 13.13: M150, large fragment of poorly sorted chalky soil, with gravel and sand inclusions, possibly dug out from till to produce daub ('cob') or create surfaces. PPL, frame width is ~4.62mm.

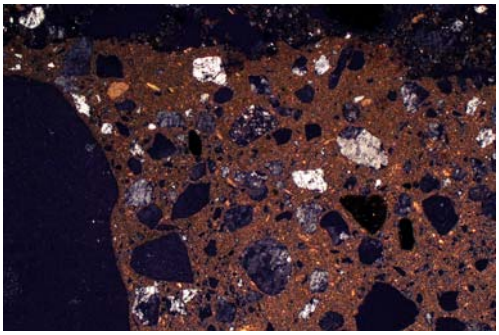


Fig. 13.14: As Fig. 13.13, under XPL.

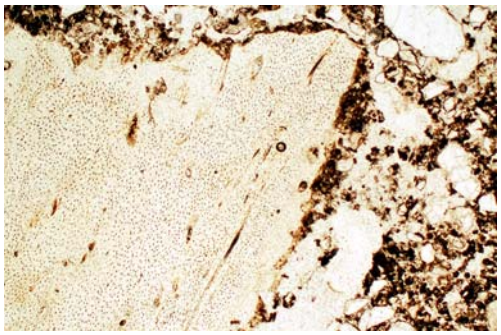


Fig. 13.15: M151 with weakly iron-stained coprolitic bone; this has lower interference colours than normal because it has been part-digested.

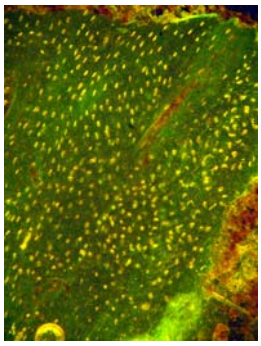


Fig. 13.16: Detail of Fig. 13.15 under blue light; top right hand corner of bone; with general moderate autofluorescence of part-digested bone apatite and autofluorescent ‘pores’. Frame width is ~0.83mm.

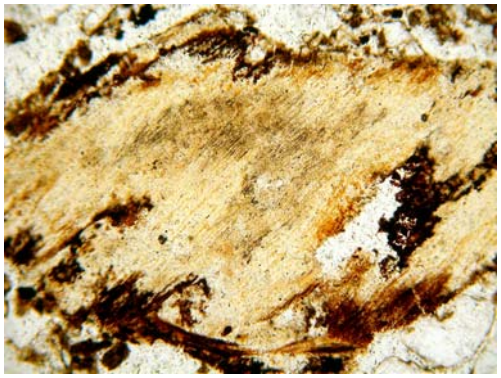


Fig. 13.17: M151; probable human coprolite, now partially iron-stained; calcium phosphate (which is isotropic under XPL) is embedding phytoliths sheets, possibly from cereal bran. PPL, frame width is ~1.1mm.

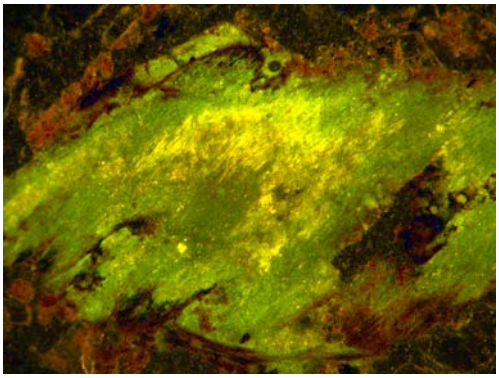


Fig. 13.18: As Fig. 13.17, under BL; note green and bright yellowish green probable hydroxyapatite concentrations.

Appendix 14: Clast Lithological Analysis

Ctxt	Type	Context Description	Lithological Description
799	Deposit	Grid 1.A3 Buried Soil(756)	Two small angular fragments of reddened fine sandstone, burnt
802	Deposit	Grid 1.C3 (756) Bottom 5cm	1 small flint pebble discarded. One, 4 cm almost spherical pebble of sandstone. One side slightly flattened surface smooth with exception of one side where surface rough as if surface eroded away, slight pinking of the light brown stone in this eroded area may suggest the stone had been burnt.
836	Deposit	Fill Of Pit [834]	Large sub-rounded pebble 10 cm long with a very rough pitted surface, small black and transparent polished and rounded grits (some quartzite) together with black platy mica within the possibly calcareous very hard matrix. Possibly, the imprints of small fragments of shell are also observed, which seem to have been affected by differential dissolution to produce this pitted surface. A red-brown colour on one side suggests this stone had been affected by fire but it has not been worked or utilised in any way.
859	Deposit	Fill Of Ditch [857]	1 angular fragment of quartzite. Shatter from rounded pebble. Pink-brown in colour, burnt.
869	Cut	Ditch	Flat almost circular pebble, hard limey sandstone.
887	Deposit	Fill Of Ditch [886]	
959	Deposit	Fill Of Pit [958]	5cm long angular fragment of a heat-affected rounded quartzite pebble. Reddened-brown, slightly shiny .
964	Deposit	Fill Of Pit [963]	4cm angular fragment of fine limestone, shattered fragment of larger rounded pebble, light grey fawn in colour with dark grey patch on one side. Crackle marks on smooth surface possibly this pebble shattered on heating. One angular fragment of a rounded pebble of vein quartz (3cm long), pink on surface, shiny grey white on the shatter surfaces. One 1.5cm shattered angular fragment from a rounded pebble of a fine grained sandstone/mudstone, probably fragmented during heating.
970	Deposit	Fill Of Pit [969]	1–2cm long angular fragment of mudstone with occasional fine shell fragments. The bright red orange colour on one side indicates this fragment was heated.
974	Deposit	Fill Of Pit [973]	2cm long angular fragment of originally a larger pebble of a micaceous fine sandstone. Slightly pink brown, therefore possibly fractured when heated.
986	Deposit	Fill Of Pit [985]	Two small angular fragments of gritstone, burnt.
987	Deposit	Fill Of Pit [985]	5cm long fractured flattened circular pebble pink orange on one side brown cream on the other. A hard well cemented coarse sandstone. Possibly heated but not clearly so.
991	Deposit	Finds From Cleaning [992]	Angular fragment of white pink vein quartz, 8cm long the reddish colour is not evenly distributed and may be the reselect of heating. The surface of the specimen was fragile particularly where most reddened with small crystalline fragments of the quartz falling away- perhaps the affect of heat.
994	Deposit	Fill Of SFB [992]	1 angular fragment from rounded quartzite pebble, pink in colour and probably shattered during heating. 1 angular fragment of heat affected pebble of vein quartz. Pink grey white in colour (6cm long)

Ctxt	Type	Context Description	Lithological Description
995	Deposit	Fill Of SFB [992]	Two fragments of hard fine-grained calcareous fine sandstone both fragments from larger rounded fluvial pebbles shattered perhaps when heated. The stones were both grey with a slight pinkish hue.
996	Deposit	Fill Of SFB [992]	2 small angular fragments of a fine-grained mudstone/sandstone no evidence of heating or utilisation.
1009	Deposit	Finds, Cleaning SFB [1004]	6cm long sub-angular fragment of a relatively fragile fine sand stone. Originally, a rounded pebble but fractured probably as a result of being heated. The surface of the original pebble was light brown, cracks in and through the specimen allowed the grey colour of the original pebble to be observed. The inner face of the fractured pebble was dark grey to black, and appeared to be charcoal stained.

Appendix 15: Radiocarbon Dates

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 243323	4050 +/- 40 BP	-25.3 o/oo	4050 +/- 40 BP
SAMPLE : 40711CST100A			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 2840 to 2810 (Cal BP 4790 to 4760) AND Cal BC 2670 to 2480 (Cal BP 4620 to 4420)			
Beta - 243324	4170 +/- 40 BP	-24.7 o/oo	4170 +/- 40 BP
SAMPLE : 40711CST100B			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 2890 to 2620 (Cal BP 4840 to 4570)			
Beta - 243325	3070 +/- 40 BP	-25.4 o/oo	3060 +/- 40 BP
SAMPLE : 40711CST104A			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 1420 to 1250 (Cal BP 3370 to 3200) AND Cal BC 1240 to 1220 (Cal BP 3190 to 3170)			
Beta - 243326	3640 +/- 40 BP	-26.9 o/oo	3610 +/- 40 BP
SAMPLE : 40711CST104B			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 2120 to 2090 (Cal BP 4070 to 4040) AND Cal BC 2040 to 1880 (Cal BP 3990 to 3830)			
Beta - 243327	4050 +/- 40 BP	-24.3 o/oo	4060 +/- 40 BP
SAMPLE : 40711CST106			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 2850 to 2810 (Cal BP 4800 to 4760) AND Cal BC 2740 to 2730 (Cal BP 4690 to 4680) Cal BC 2690 to 2480 (Cal BP 4640 to 4430)			

Dr. Frances M.L. Green

Report Date: 5/2/2008

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 243328	1300 +/- 40 BP	-23.7 o/oo	1320 +/- 40 BP
SAMPLE : 40711CST107			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 650 to 770 (Cal BP 1300 to 1180)			
Beta - 243329	1400 +/- 40 BP	-27.3 o/oo	1360 +/- 40 BP
SAMPLE : 40711CST108			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 620 to 690 (Cal BP 1330 to 1260)			
Beta - 243330	1340 +/- 40 BP	-27.0 o/oo	1310 +/- 40 BP
SAMPLE : 40711CST109A			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 650 to 780 (Cal BP 1300 to 1170)			
Beta - 243331	2080 +/- 40 BP	-25.2 o/oo	2080 +/- 40 BP
SAMPLE : 40711CST109B			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 200 to Cal AD 10 (Cal BP 2150 to 1940)			
Beta - 243332	1550 +/- 40 BP	-25.6 o/oo	1540 +/- 40 BP
SAMPLE : 40711CST116A			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 420 to 610 (Cal BP 1530 to 1340)			

Dr. Frances M.L. Green

Report Date: 5/2/2008

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 243333	1540 +/- 40 BP	-24.3 o/oo	1550 +/- 40 BP

SAMPLE : 40711CST116B
ANALYSIS : AMS-Standard delivery
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid
2 SIGMA CALIBRATION : Cal AD 420 to 600 (Cal BP 1530 to 1350)

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.3:lab. mult=1)

Laboratory number: **Beta-243323**

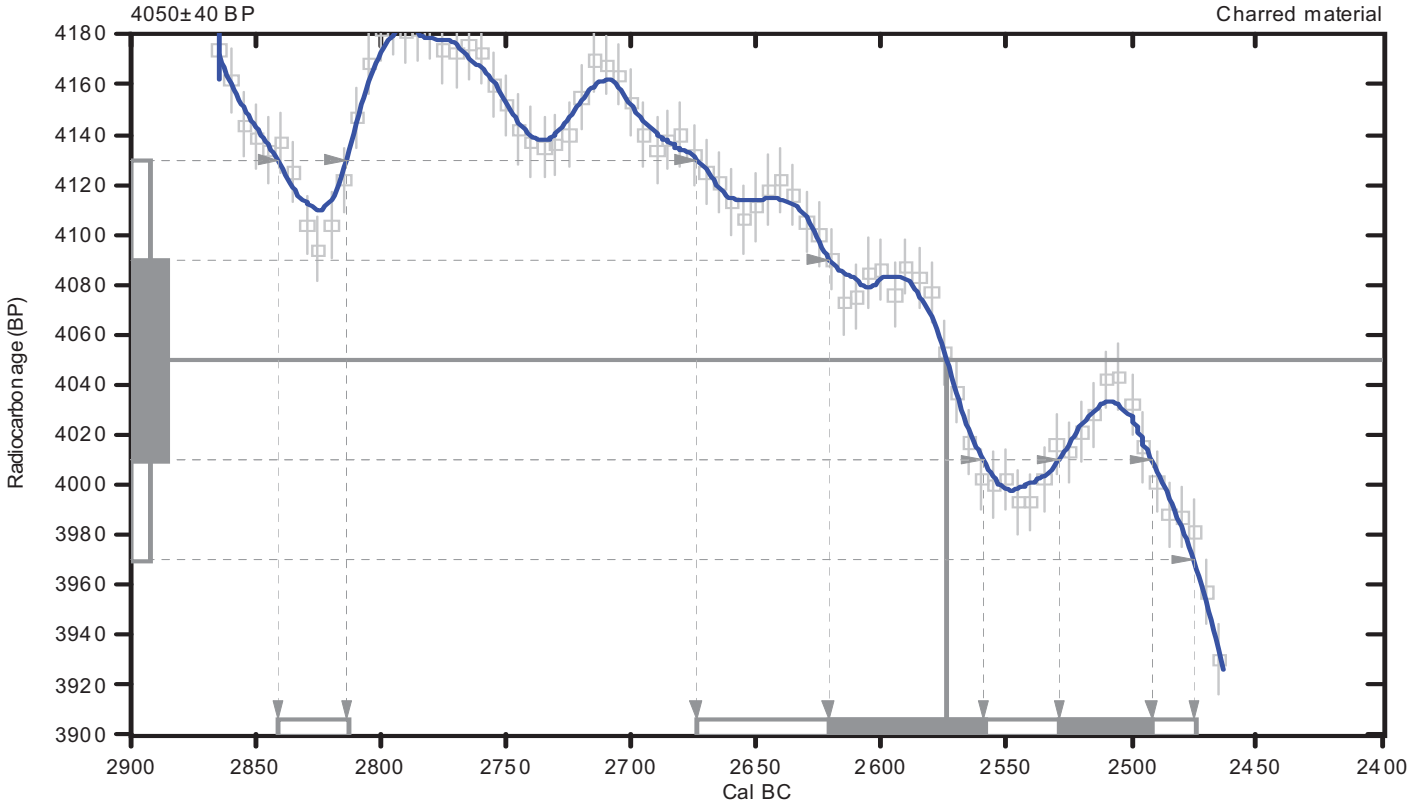
Conventional radiocarbon age: **4050±40 BP**

2 Sigma calibrated results: (95% probability) **Cal BC 2840 to 2810 (Cal BP 4790 to 4760) and Cal BC 2670 to 2480 (Cal BP 4620 to 4420)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 2570 (Cal BP 4520)

1 Sigma calibrated results: (68% probability) Cal BC 2620 to 2560 (Cal BP 4570 to 4510) and Cal BC 2530 to 2490 (Cal BP 4480 to 4440)



References:

Database used

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Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.7:lab. mult=1)

Laboratory number: **Beta-243324**

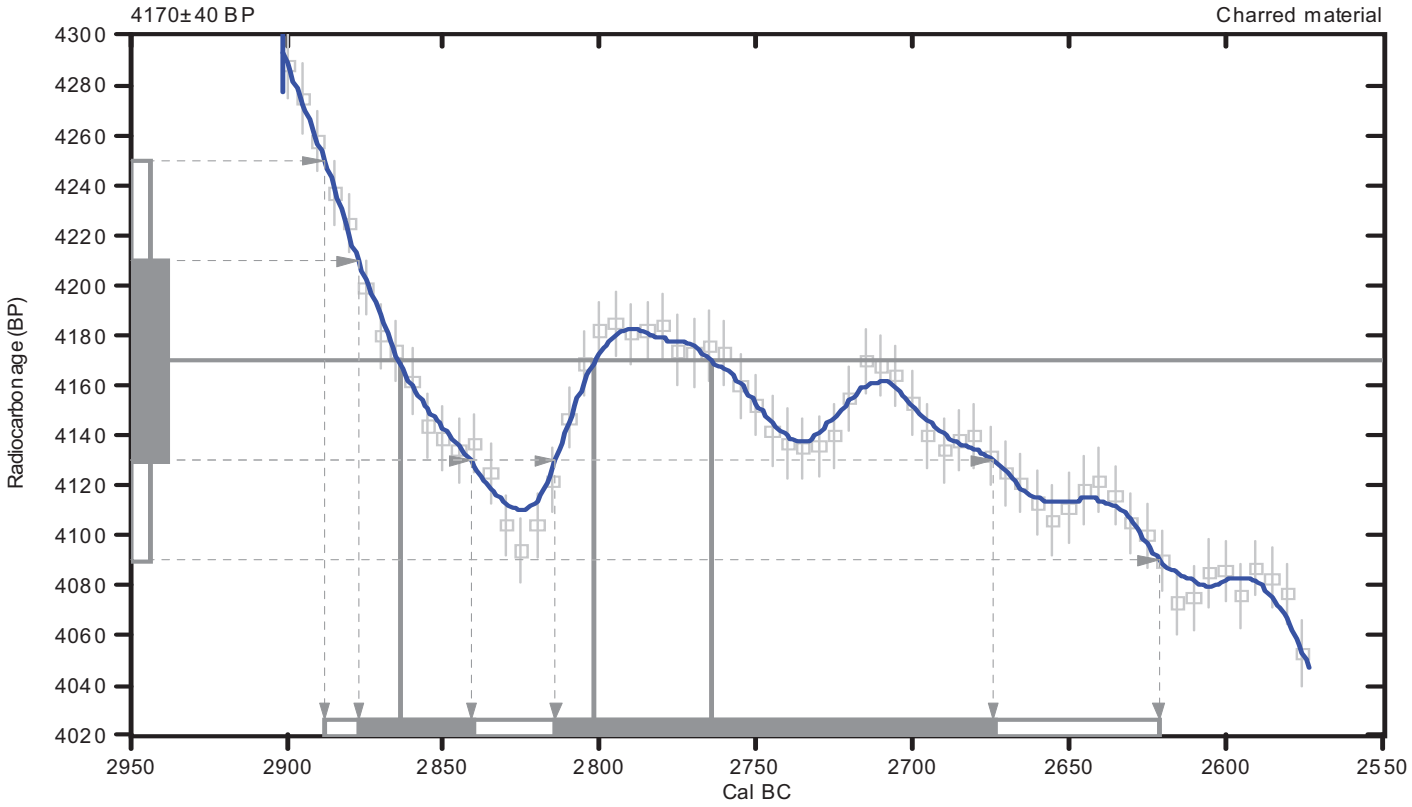
Conventional radiocarbon age: **4170±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 2890 to 2620 (Cal BP 4840 to 4570)**

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal BC 2860 (Cal BP 4810) and Cal BC 2800 (Cal BP 4750) and Cal BC 2760 (Cal BP 4710)

1 Sigma calibrated results: (68% probability) Cal BC 2880 to 2840 (Cal BP 4830 to 4790) and Cal BC 2810 to 2670 (Cal BP 4760 to 4620)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.4:lab. mult=1)

Laboratory number: **Beta-243325**

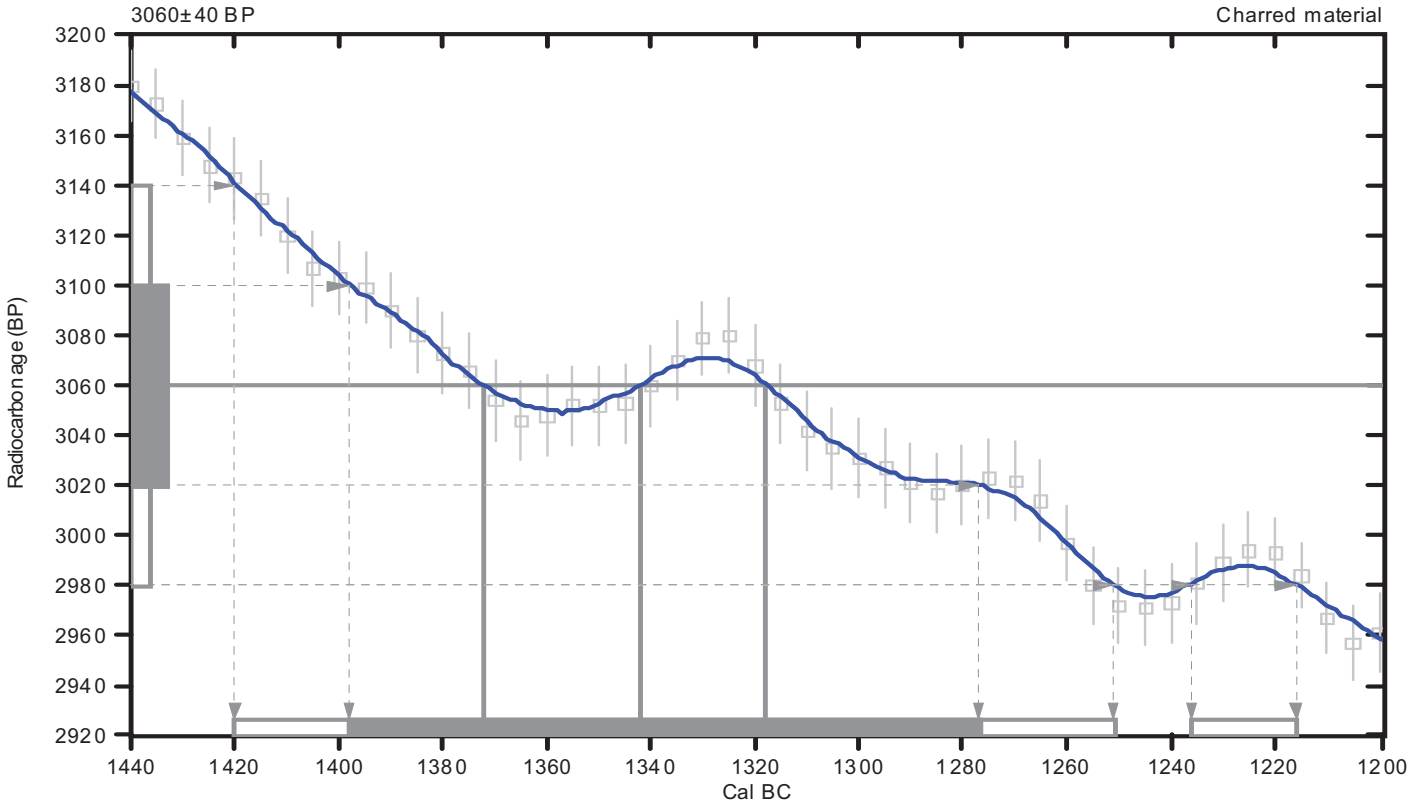
Conventional radiocarbon age: **3060±40 BP**

2 Sigma calibrated results: (95% probability) **Cal BC 1420 to 1250 (Cal BP 3370 to 3200) and Cal BC 1240 to 1220 (Cal BP 3190 to 3170)**

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal BC 1370 (Cal BP 3320) and Cal BC 1340 (Cal BP 3290) and Cal BC 1320 (Cal BP 3270)

1 Sigma calibrated result: (68% probability) Cal BC 1400 to 1280 (Cal BP 3350 to 3230)



References:

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.9:lab. mult=1)

Laboratory number: **Beta-243326**

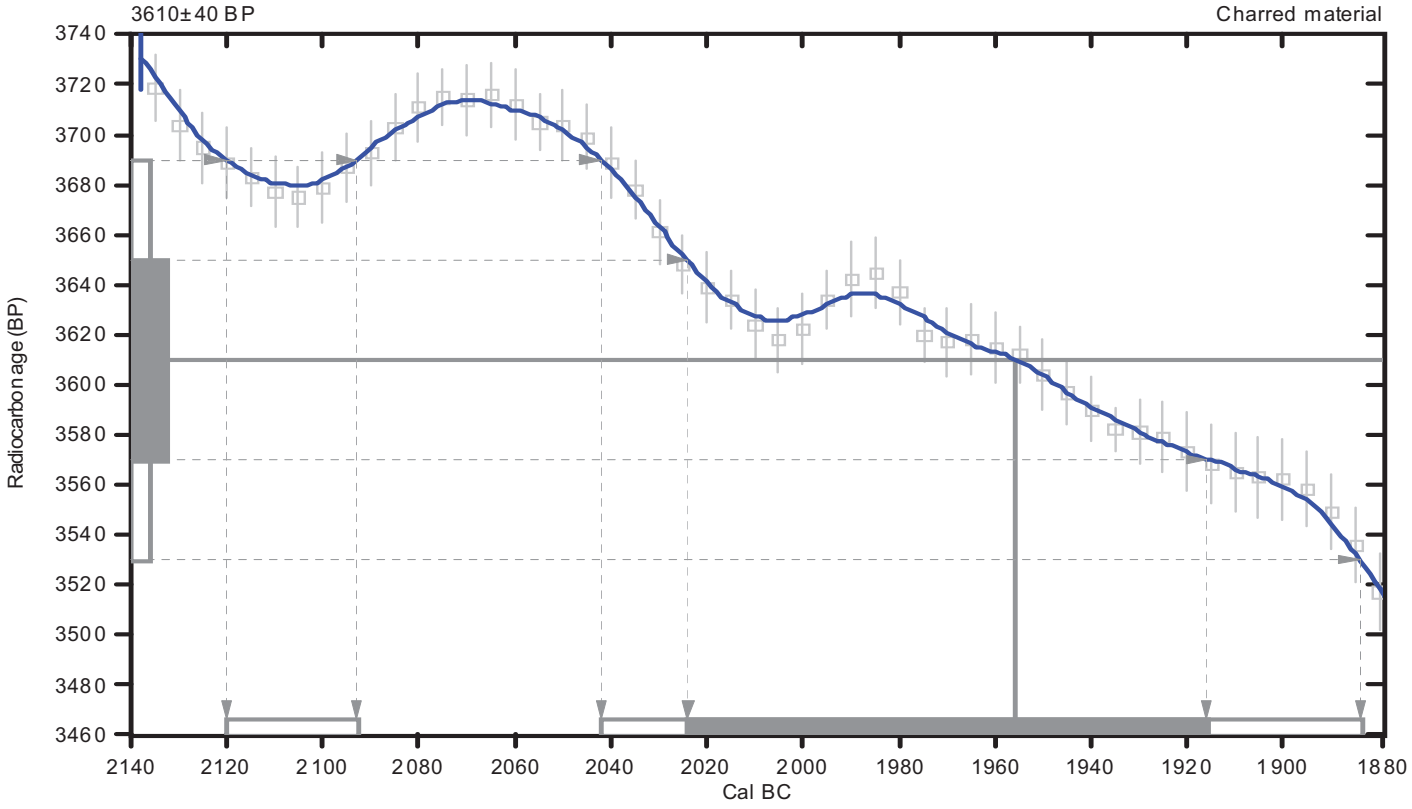
Conventional radiocarbon age: **3610±40 BP**

2 Sigma calibrated results: (95% probability) **Cal BC 2120 to 2090 (Cal BP 4070 to 4040) and Cal BC 2040 to 1880 (Cal BP 3990 to 3830)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1960 (Cal BP 3910)

1 Sigma calibrated result: (68% probability) Cal BC 2020 to 1920 (Cal BP 3970 to 3870)



References:

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.3:lab. mult=1)

Laboratory number: **Beta-243327**

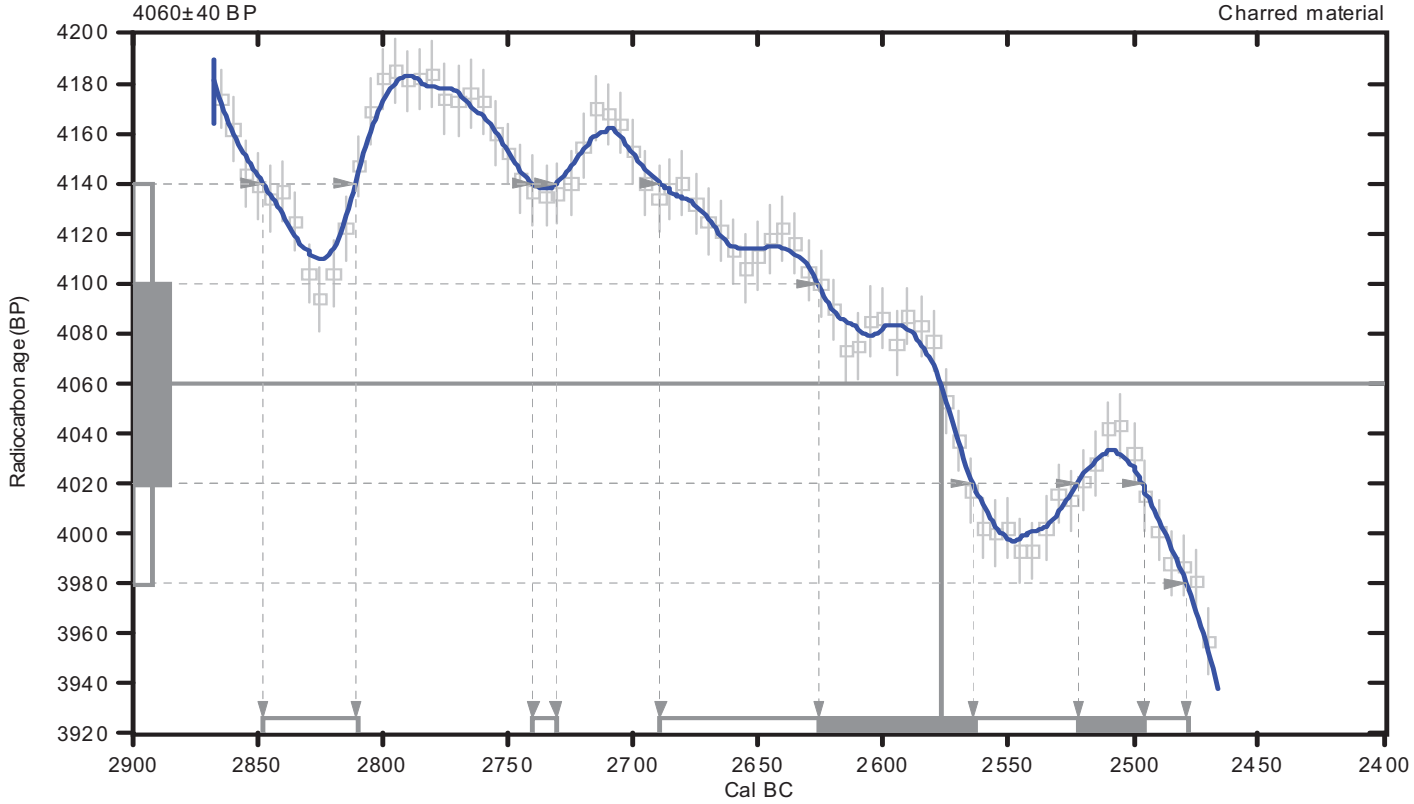
Conventional radiocarbon age: **4060±40 BP**

2 Sigma calibrated results: **Cal BC 2850 to 2810 (Cal BP 4800 to 4760) and**
(95% probability) **Cal BC 2740 to 2730 (Cal BP 4690 to 4680) and**
Cal BC 2690 to 2480 (Cal BP 4640 to 4430)

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 2580 (Cal BP 4530)

1 Sigma calibrated results: Cal BC 2630 to 2560 (Cal BP 4580 to 4510) and
(68% probability) Cal BC 2520 to 2500 (Cal BP 4470 to 4450)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-23.7:lab. mult=1)

Laboratory number: **Beta-243328**

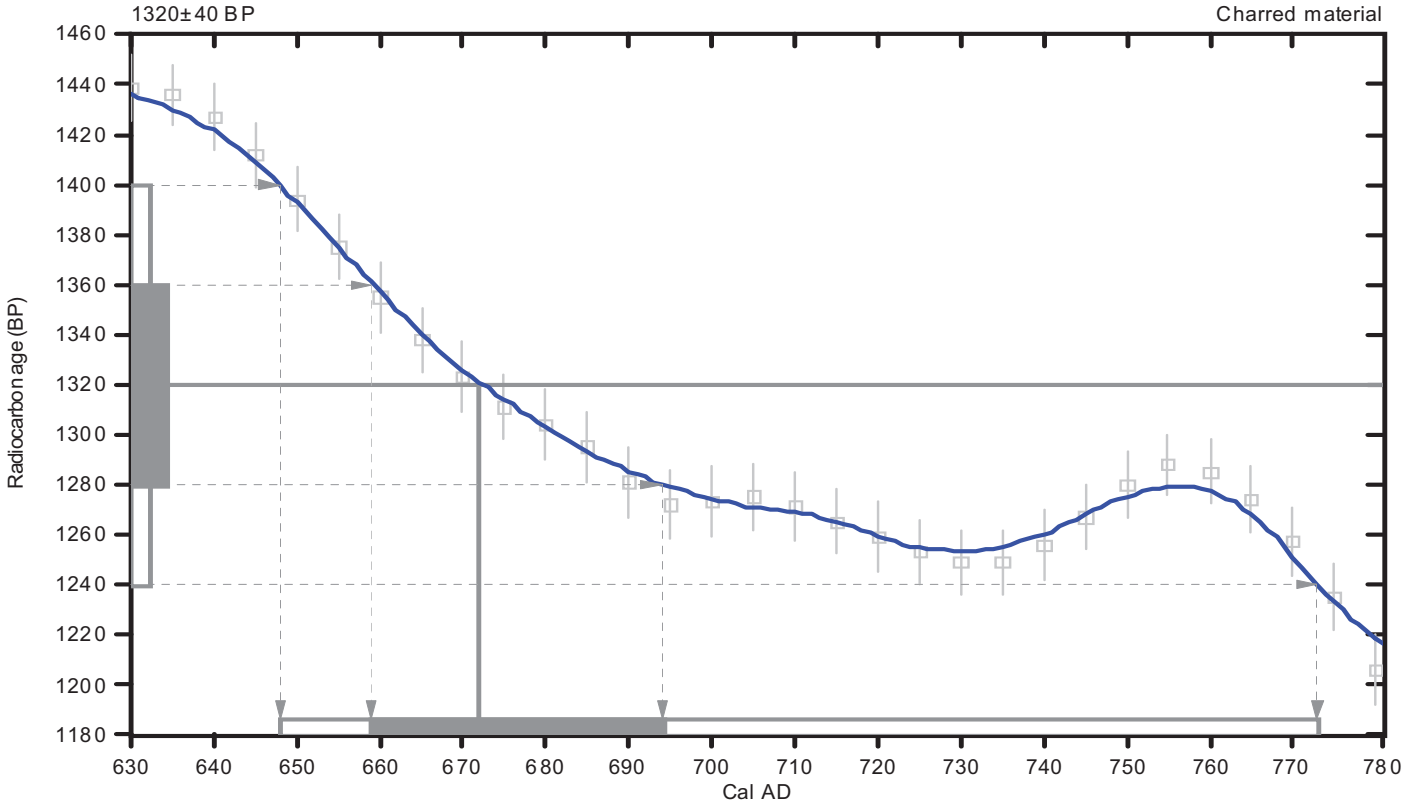
Conventional radiocarbon age: **1320±40 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 650 to 770 (Cal BP 1300 to 1180)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 670 (Cal BP 1280)

1 Sigma calibrated result: (68% probability) Cal AD 660 to 690 (Cal BP 1290 to 1260)



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(Variables: C13/C12=-27.3:lab. mult=1)

Laboratory number: **Beta-243329**

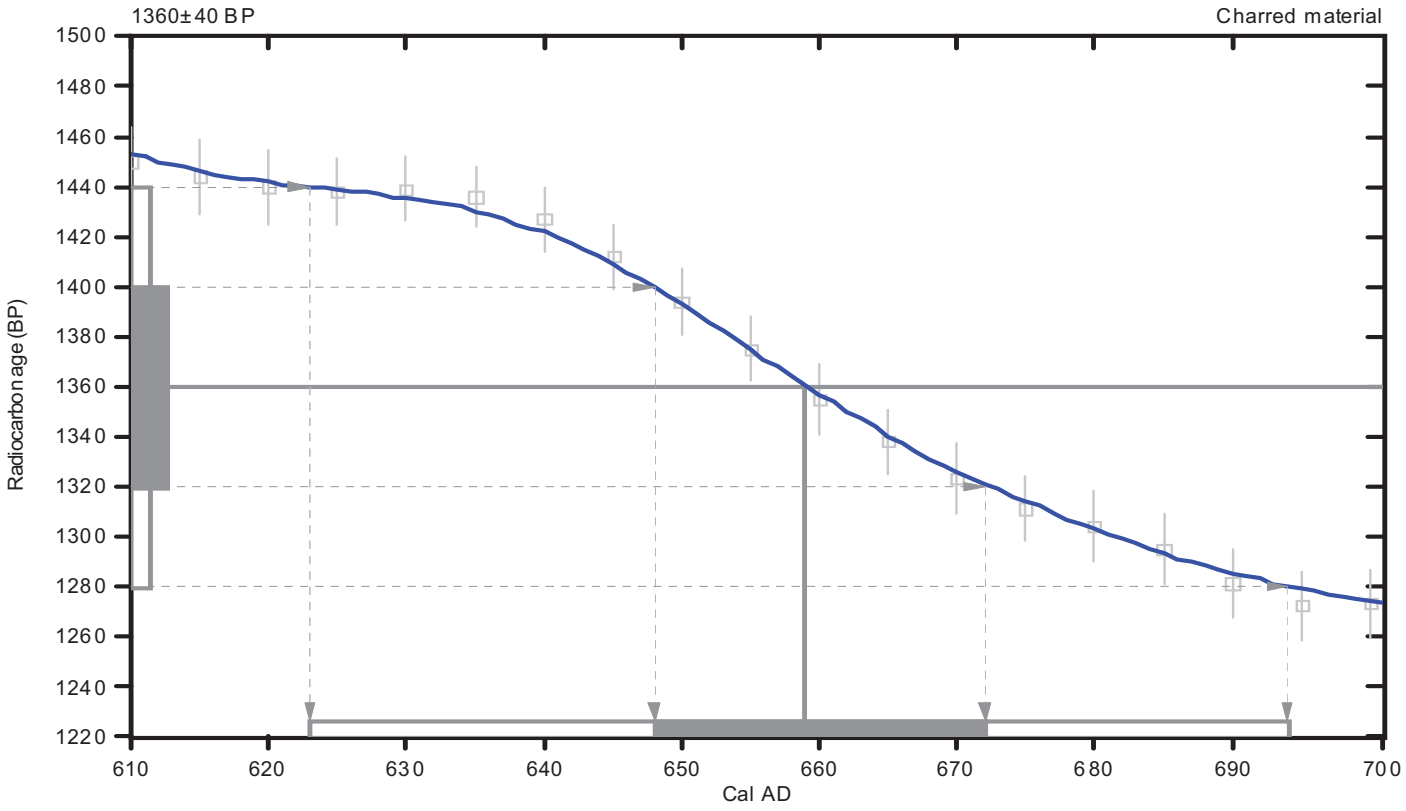
Conventional radiocarbon age: **1360±40 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 620 to 690 (Cal BP 1330 to 1260)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 660 (Cal BP 1290)

1 Sigma calibrated result: (68% probability) Cal AD 650 to 670 (Cal BP 1300 to 1280)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-27:lab. mult=1)

Laboratory number: **Beta-243330**

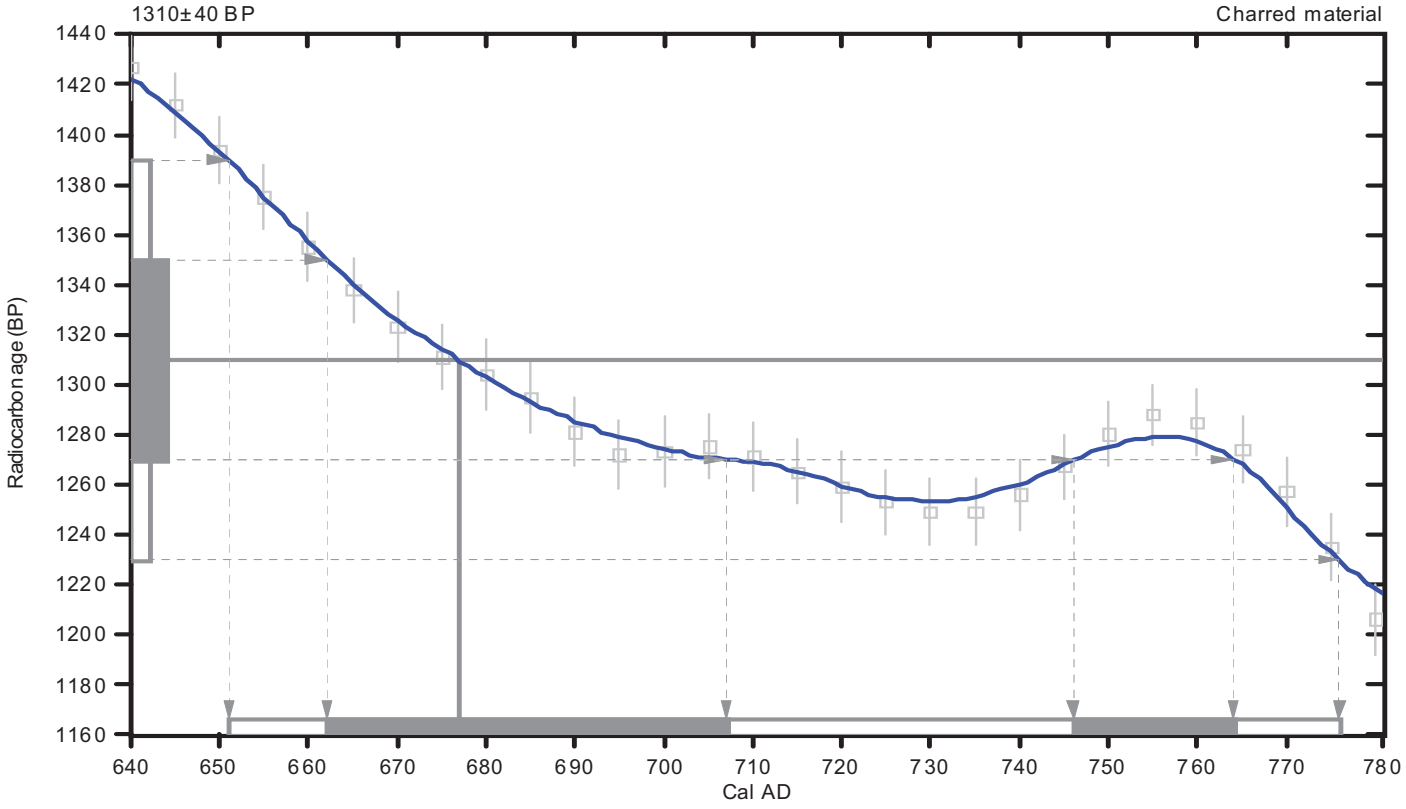
Conventional radiocarbon age: **1310±40 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 650 to 780 (Cal BP 1300 to 1170)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 680 (Cal BP 1270)

1 Sigma calibrated results: (68% probability) Cal AD 660 to 710 (Cal BP 1290 to 1240) and Cal AD 750 to 760 (Cal BP 1200 to 1190)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.2:lab. mult=1)

Laboratory number: **Beta-243331**

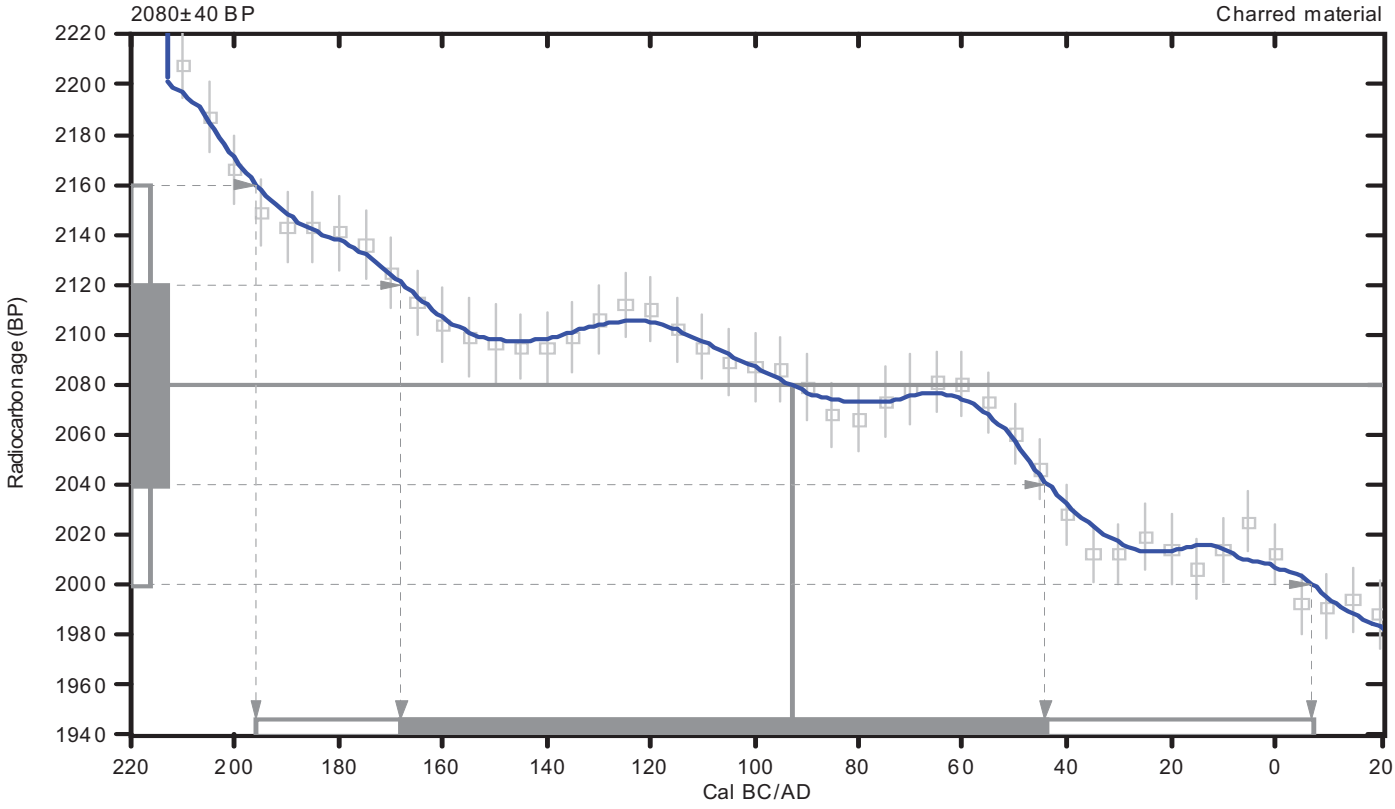
Conventional radiocarbon age: **2080±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 200 to Cal AD 10 (Cal BP 2150 to 1940)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 90 (Cal BP 2040)

1 Sigma calibrated result: (68% probability) Cal BC 170 to 40 (Cal BP 2120 to 1990)



References:

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.6:lab. mult=1)

Laboratory number: **Beta-243332**

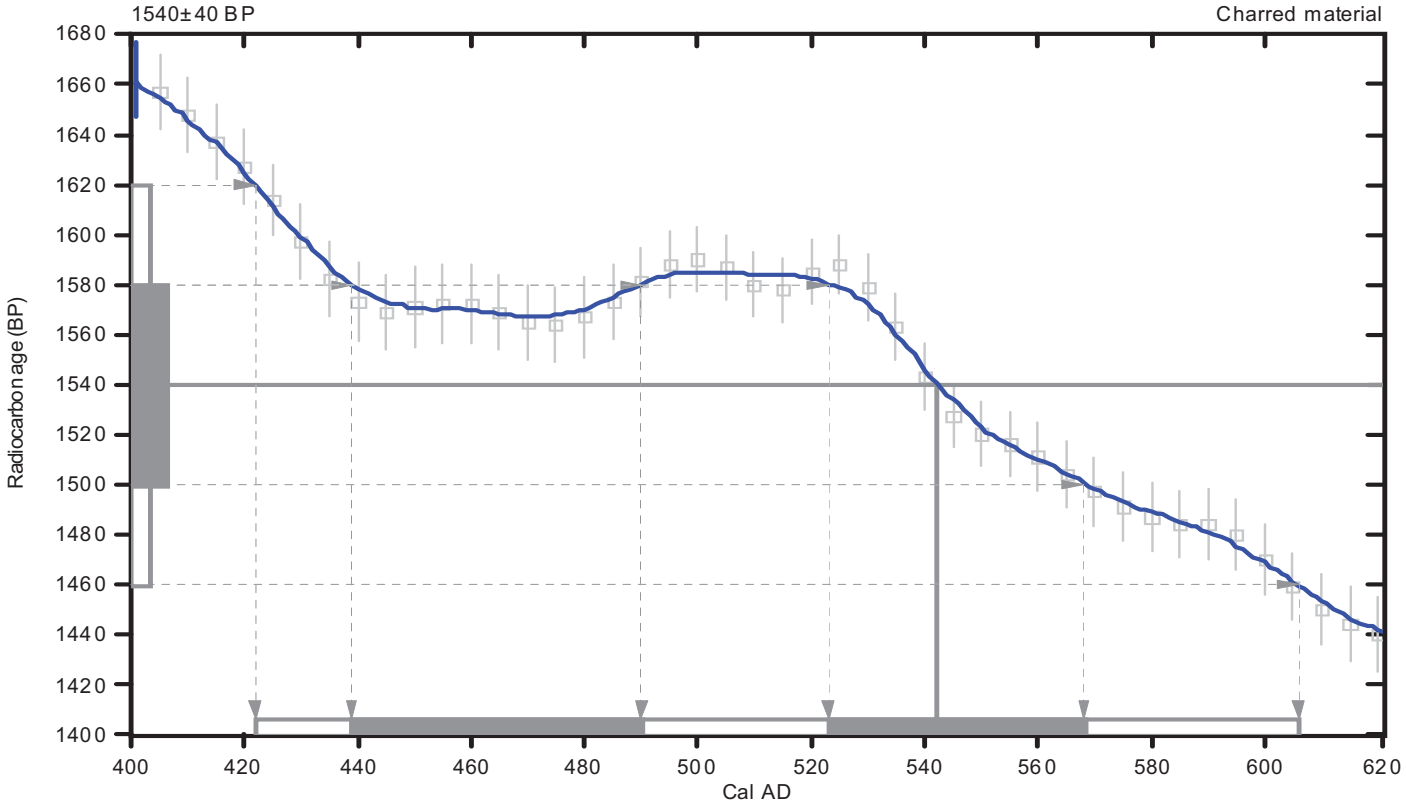
Conventional radiocarbon age: **1540±40 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 420 to 610 (Cal BP 1530 to 1340)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 540 (Cal BP 1410)

1 Sigma calibrated results: (68% probability) Cal AD 440 to 490 (Cal BP 1510 to 1460) and Cal AD 520 to 570 (Cal BP 1430 to 1380)



References:

Database used

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.3:lab. mult=1)

Laboratory number: **Beta-243333**

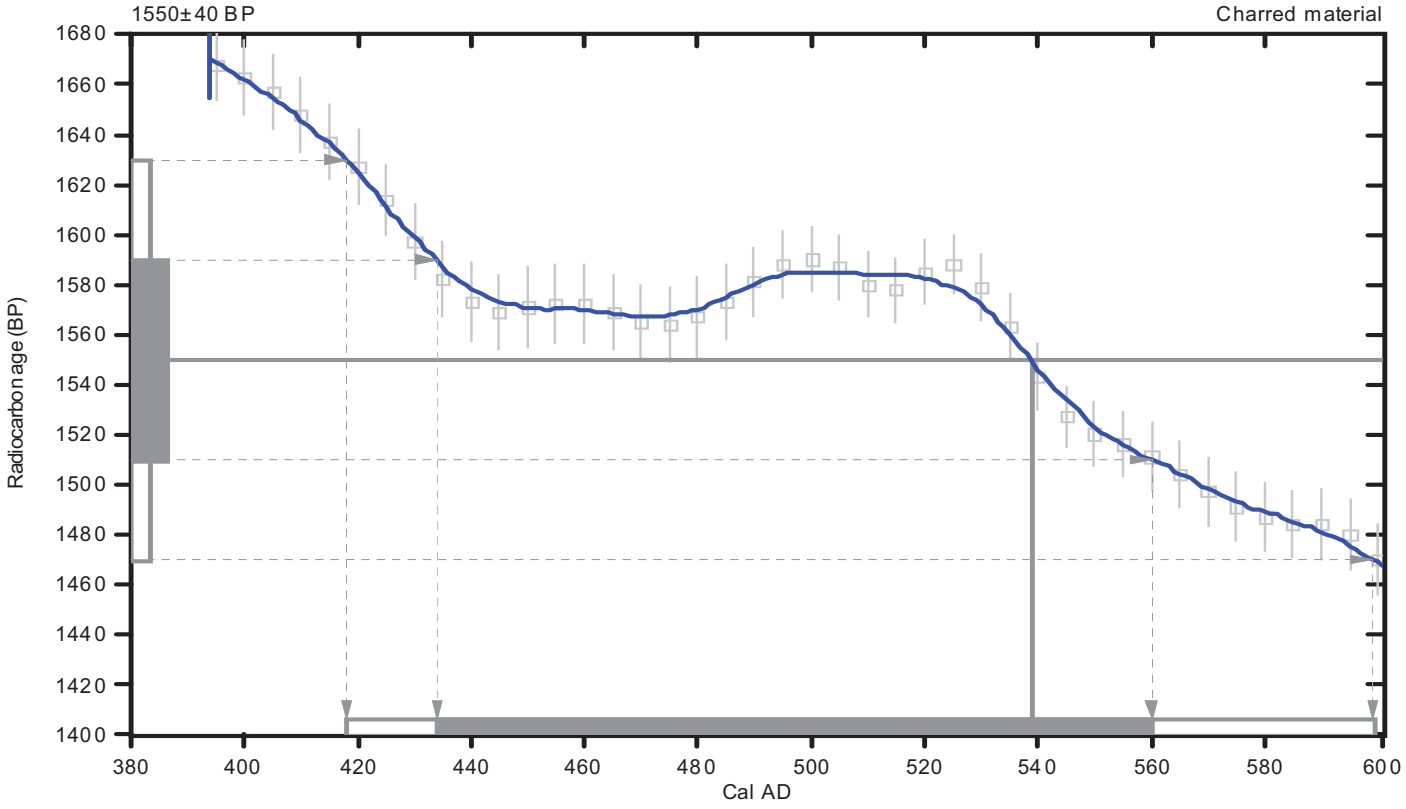
Conventional radiocarbon age: **1550±40 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 420 to 600 (Cal BP 1530 to 1350)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 540 (Cal BP 1410)

1 Sigma calibrated result: (68% probability) Cal AD 430 to 560 (Cal BP 1520 to 1390)



References:

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Mathematics

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